



# OPTIBELT TECHNICAL MANUAL V-BELT DRIVES

**MORO** *dal 1984*  
**INDUSTRIAL FORNITURE**

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**INCL. PULLEYS  
AND BUSHES**





This technical manual contains all important technical information and methods for the design and calculation of drives with Optibelt V-belts and V-grooved pulleys for industrial applications.

Our Application Technology experts offer you free support service regarding the application of our products and also help solve your drive problems.

Especially regarding large volumes you should make use of this service. We offer you the optimum solution using state-of-the-art programmes, the CAP drive calculation software.



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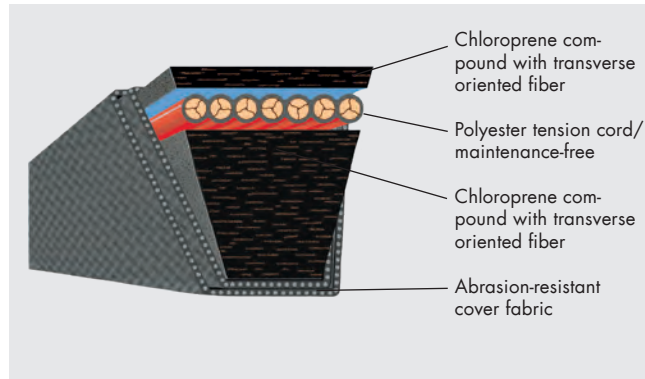
# PRODUCT DESCRIPTION

## optibelt RED POWER 3 HIGH PERFORMANCE WEDGE BELTS



### Structure

optibelt RED POWER 3 wedge belts:



The tension cord consists of a special polyester cord. Due to the special processing of the tension cord the optibelt RED POWER 3 wedge belt is very low-stretch and maintenance-free, so that re-tensioning is not necessary.

The transverse fibre mixture on top of and under the tension cord guarantees a high dynamic load of the belt and ensures great flexibility. The cover fabric is highly flexible and abrasion-proof.

### Properties

The optibelt RED POWER 3 is maintenance-free due to the high quality components and the special production method. The production processes are continuously monitored using state-of-the-art static and dynamic testing devices. The optibelt RED POWER 3 is suitable for the application in drives with idler pulleys due to its special construction.

The optibelt RED POWER 3 has the following properties:

- Maintenance-free
- Powerful
- Cost-effective
- S=C Plus usable in sets
- Environmentally friendly
- Electrically conductive according to ISO 1813
- Oil-resistant
- Heat-resistant
- Dust-protected as standard

On request with acceptance test certificate according to EN 1020 "3.1.B".

### V-belt tensioning

For the initial installation of optibelt RED POWER 3 V-belts, the same methods are used as for standard Optibelt V-belts. The tension values are to be calculated on the same basis or to be taken from the table on page 147. Once correctly tensioned optibelt RED POWER 3 V-belts need no re-tensioning.

### Application areas

optibelt RED POWER 3 wedge belts were especially developed for mechanical engineering. The application areas include compressors, pumps, presses, fans and other heavy duty drives.

### Standardisation/Dimensions

optibelt RED POWER 3 wedge belts in the profiles SPZ, SPA, SPB, SPC, 3V/9N, 5V/15N and 8V/25N are standardised according to DIN 7753 Part 1, ISO 4184 and ARPM/MPTA.

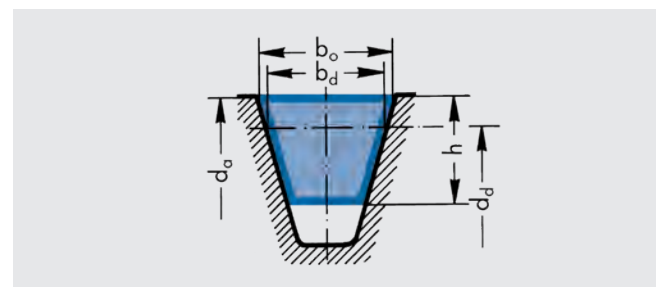


Table 1

| Profile                                   |                      | SPZ   | SPA   | SPB   | SPC   |
|-------------------------------------------|----------------------|-------|-------|-------|-------|
| Belt top width                            | $b_o \approx$        | 9.7   | 12.7  | 16.3  | 22    |
| Datum width                               | $b_d \approx$        | 8.5   | 11    | 14    | 19    |
| Belt height                               | $h \approx$          | 8     | 10    | 13    | 18    |
| Recommended minimum datum pulley diameter | $d_{d \min}$         | 63    | 90    | 140   | 224   |
| Weight per meter (kg/m)                   | $\approx$            | 0.074 | 0.123 | 0.195 | 0.377 |
| Flex rate ( $s^{-1}$ )                    | $f_{B \max} \approx$ | 100   |       |       |       |
| Belt speed (m/s)                          | $v_{\max} \approx$   | 55*   |       |       |       |

\* $v > 55$  m/s. Please consult our Application Engineering Department.

Table 2

| Profile                                     |                      | 3V/9N | 5V/15N | 8V/25N |
|---------------------------------------------|----------------------|-------|--------|--------|
| Datum width                                 | $b_o \approx$        | 9     | 15     | 25     |
| Belt height                                 | $h \approx$          | 8     | 13     | 23     |
| Recommended minimum outside pulley diameter | $d_{a \min}$         | 67    | 151    | 315    |
| Weight per meter (kg/m)                     | $\approx$            | 0.074 | 0.195  | 0.575  |
| Flex rate ( $s^{-1}$ )                      | $f_{B \max} \approx$ | 100   |        |        |
| Belt speed (m/s)                            | $v_{\max} \approx$   | 55*   |        |        |

\* $v > 55$  m/s. Please consult our Application Engineering Department.



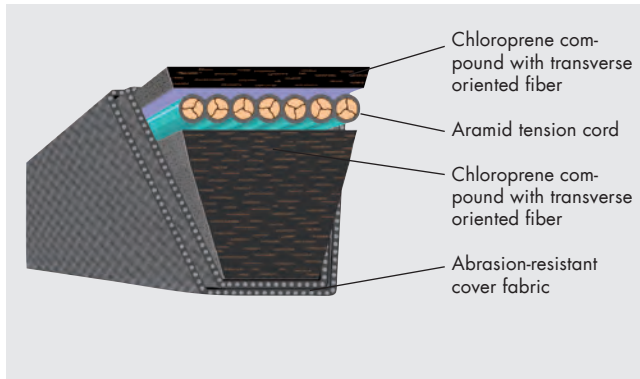
# PRODUCT DESCRIPTION

## optibelt BLUE POWER HIGH PERFORMANCE WEDGE BELTS



### Structure/Properties

optibelt BLUE POWER wedge belts:



The aramid tension cord has extremely low stretch compared to common materials such as polyester. The breaking strength is almost twice as high with the same cord diameter. Nevertheless, the fibre is extremely flexible. The high quality specially prepared aramid tension cord is embedded in a rubber compound. It is supported by the top and bottom structures. These consist of a polychloroprene rubber compound with transverse fibres. The abrasion-proof cover fabric is coated with a special rubber compound and covers the whole belt. The V-belt is electrically conductive according to ISO 1813

### Application areas

optibelt BLUE POWER belts are mainly used when

- highest power transmission levels are required
- there are limited design dimensions
- there is only little installation and tensioning space
- high temperature influences occur

This way, a much better performance is guaranteed e.g. with the same number of belts. Even the operation of once critical drives is now largely free of risk. Higher load limits are now safety zones. Thus optibelt BLUE POWER belts are mainly implemented in heavily loaded drives:

- in critical drives in mechanical engineering
- in special machines
- in agricultural machinery

### Application

Attention: When retro-fitting existing drives please let Optibelt check the tension. As part of this description not all criteria can be dealt with. Please consult our Application Engineering Department.

### Standardisation/Dimensions

optibelt BLUE POWER wedge belts in the profiles SPZ, SPA, SPB, SPC, 3V/9N, 5V/15N and 8V/25N are standardised according to DIN 7753 Part 1, ISO 4184 and ARPM/MPTA.

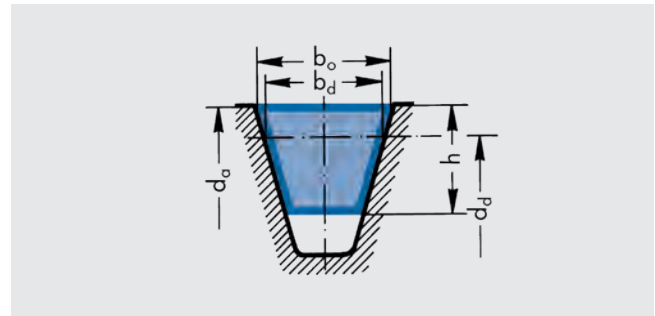


Table 3

| Profile                                   |                      | SPB   | SPC   |
|-------------------------------------------|----------------------|-------|-------|
| Belt top width                            | $b_o \approx$        | 16.3  | 22    |
| Datum width                               | $b_d \approx$        | 14    | 19    |
| Belt height                               | $h \approx$          | 13    | 18    |
| Distance                                  | $h_d \approx$        | 3.5   | 4.8   |
| Recommended minimum datum pulley diameter | $d_{d \min}$         | 180   | 280   |
| Weight per meter (kg/m)                   | $\approx$            | 0.206 | 0.389 |
| Flex rate ( $s^{-1}$ )                    | $f_{B \max} \approx$ | 100   |       |
| Belt speed (m/s)                          | $v_{\max} \approx$   | 50*   |       |

\* $v > 50$  m/s. Please consult our Application Engineering Department.

Table 4

| Profile                                     |                      | 5V/15N | 8V/25N |
|---------------------------------------------|----------------------|--------|--------|
| Datum width                                 | $b_o \approx$        | 15     | 25     |
| Belt height                                 | $h \approx$          | 13     | 23     |
| Recommended minimum outside pulley diameter | $d_{a \min}$         | 191    | 315    |
| Weight per meter (kg/m)                     | $\approx$            | 0.204  | 0.603  |
| Flex rate ( $s^{-1}$ )                      | $f_{B \max} \approx$ | 100    |        |
| Belt speed (m/s)                            | $v_{\max} \approx$   | 50*    |        |

\* $v > 50$  m/s. Please consult our Application Engineering Department.

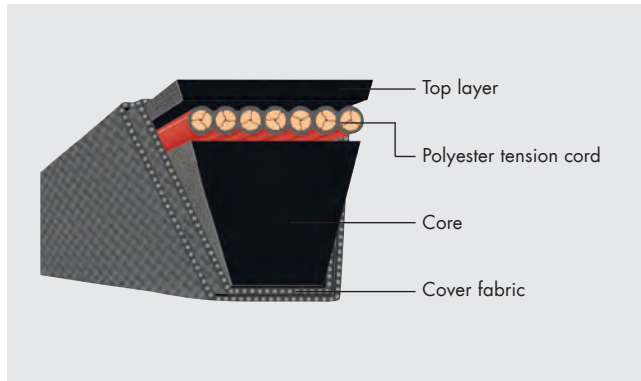
# PRODUCT DESCRIPTION

## optibelt **SK** HIGH PERFORMANCE WEDGE BELTS DIN 7753 PART 1 / ISO 4184



### Structure

optibelt SK high performance wedge belts consist of:



The polyester tension cord is standard for all profiles and cross sections, with cord constructions matching the requirements of each profile. The cord is specially impregnated and then embedded in a special rubber compound homogeneously bonding with the top layer and the core.

Due to special processing, the optibelt SK wedge belt is extremely low-stretch. Thus we were able to reduce our recommendation values for minimum axial distance significantly – even dropping below the DIN/ISO requirements. The fabric cover is treated with a wear-resistant rubber compound. This makes the belt resistant to oil, hot and cold temperatures and to the effects of dust.

### Properties

The use of the best materials and the most advanced production methods result in this high performance drive element, the optibelt SK wedge belt. The production processes are continuously monitored using state-of-the-art static and dynamic testing devices.

optibelt SK high power wedge belts exceed classic V-belts according to DIN 2215 thanks to the following characteristics:

- Substantially lower width compared to classic V-belt drives that have the same power rating (height to width ratio of approximately 1 : 1.2). Due to the available space gained by this, the costs for a complete drive with optibelt SK high performance wedge belts are lower than a design with DIN 2215 V-belts.
- Bigger friction surface lowers the centrifugal force and permits belt speeds of up to 42 m/sec.
- Much more elastic, therefore bigger flex rate allowed.
- Little deformation of the belt cross-section when running in grooves, therefore balanced pressure on the belt edges.

These characteristics allow for a significantly better performance than V-belts DIN 2212 with approximately the same top widths. Therefore, we recommend equipping all new drives with optibelt SK wedge belts.

### Application areas

optibelt SK wedge belts in the profiles SPZ, SPA, SPB and SPC were specially developed for all industrial applications from lightly loaded drives, such as those for pumps, up to heavily loaded mills and even stone crusher drives.

### Standardisation/Dimensions

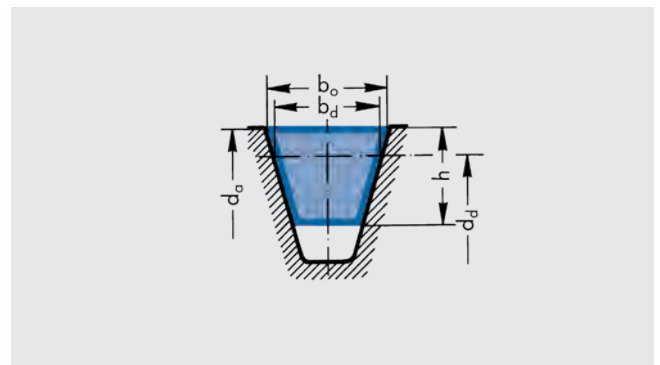
optibelt SK wedge belts SPZ, SPA, SPB and SPC comply with the standards of DIN 7753 and ISO 4184.

The ISO standards specify the datum width as a basis for the standardisation of V-belts and grooves.

The staggering of the datum lengths is implemented according to DIN 7753 Part 1 corresponding to the standard number sequence R 40. In exceptional cases also corresponding to standard number sequence R 20.

For many years, our product range has comprised serial production datum lengths of standard number sequence R 40 and beyond.

**Note:** Electrically conductive according to ISO 1813.



**Table 5**

| Profile                                   |                    | SPZ   | SPA   | SPB   | SPC   |
|-------------------------------------------|--------------------|-------|-------|-------|-------|
| Belt top width                            | $b_o \approx$      | 9.7   | 12.7  | 16.3  | 22    |
| Datum width                               | $b_d \approx$      | 8.5   | 11    | 14    | 19    |
| Belt height                               | $h \approx$        | 8     | 10    | 13    | 18    |
| Recommended minimum datum pulley diameter | $d_{dmin}$         | 63    | 90    | 140   | 224   |
| Weight per meter (kg/m)                   | $\approx$          | 0.074 | 0.123 | 0.195 | 0.377 |
| Flex rate ( $s^{-1}$ )                    | $f_{Bmax} \approx$ | 100   |       |       |       |
| Belt speed (m/s)                          | $v_{max} \approx$  | 42*   |       |       |       |

\* $v > 42$  m/s. Please consult our Application Engineering Department.

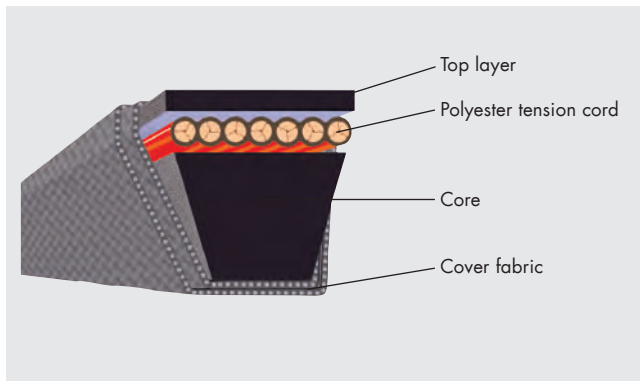
# PRODUCT DESCRIPTION

## optibelt SK HIGH PERFORMANCE WEDGE BELTS ARPM/MPTA



### Structure/Properties

optibelt SK high performance wedge belts according to ARPM/MPTA have the same structure and properties as wedge belts according to DIN 7753 Part 1.



### Standardisation/Dimensions

The three wedge belt profiles standardised in the USA are 3V/9N, 5V/15N and 8V/25N. The cross section dimensions of these belts and the according length only partially conform to the profiles and lengths of the wedge belts DIN 7753 Part 1.

The profile 3V/9N roughly corresponds to SPZ; and 5V/15N to profile SPB. There is no comparable DIN/ISO wedge belt profile for 8V/25N. It is possible to use belts in profile 3V/9N and 5V/15N in SPZ-Z/10 or SPB-B/17 pulleys, respectively; but the use of SPZ or SPB belts in ARPM/MPTA standard pulleys is not generally recommended. The top width of the American pulley grooves is smaller than that of the corresponding DIN/ISO pulleys. This can cause wear on the upper edges of SPZ and SPB belts and can lead to premature failure.

Due to its cross section, the optibelt SK wedge belt in SPB profile is also suitable for 5V/15N pulleys.

**Note:** Electrically conductive according to ISO 1813.

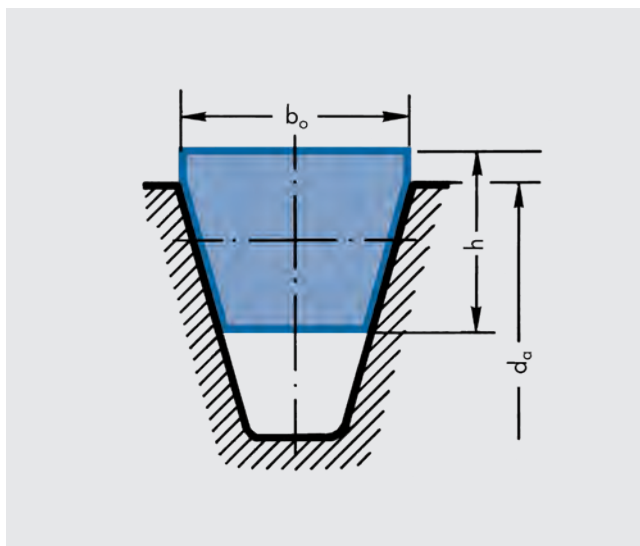


Table 6

| Profile                                     |                      | 3V/9N | 5V/15N | 8V/25N |
|---------------------------------------------|----------------------|-------|--------|--------|
| Belt top width                              | $b_o \approx$        | 9     | 15     | 25     |
| Belt height                                 | $h \approx$          | 8     | 13     | 23     |
| Recommended minimum pulley outside diameter | $d_{a \min}$         | 67    | 151    | 315    |
| Belt weight (kg/m)                          | $\approx$            | 0.074 | 0.195  | 0.575  |
| Flex rate ( $s^{-1}$ )                      | $f_{B \max} \approx$ | 100   |        |        |
| Belt speed (m/s)                            | $v_{\max} \approx$   | 55*   |        |        |

\* $v > 55$  m/s. Please contact our Application Engineering Department.

The belt length designation refers to the effective outside length.

Example:

| Inch designation                                      | Metric designation                |
|-------------------------------------------------------|-----------------------------------|
| 3V 750                                                | 9N 1905                           |
| 3V = profile 3/8" top width                           | 9 $\approx$ 9 mm top width        |
| 750 = outside length in inches: 10 (1 inch = 25.4 mm) | N = designation for single V-belt |
| Outside length in mm:                                 | 1905 = effective outside length   |
| $L_a = \frac{750 \cdot 25.4}{10}$                     |                                   |
| $L_a = 1905 \text{ mm}$                               |                                   |

### Application examples

The use of optibelt SK wedge belt drives in profiles 3V/9N and 5V/15N is recommended for machines exported to countries such as the USA and Canada where these belt profiles are standardised and predominantly used. Profile 8V/25N is primarily employed in very heavy duty drives such as mills or stone crushers. As these wedge belts transmit very high levels of power, they can sometimes form a more compact drive than the SPC profile.

For this reason, the 8V/25N profile has continued to be used in Europe for such applications. A further advantage is the fact that single wedge belts can be replaced by kraft-bands, without changing the pulley geometry, in case unexpected belt vibration problems develop.

### Drive calculation

Drive calculations follow the procedures described in this manual. The power value of the SPZ applies for drives with the 3V/9N profile. The value of the SPB profile applies for 5V/15N. The datum diameters of the SPZ and SPB wedge belts have to be the same as the external diameters of the 3V/9N and 5V/15N. Slight mathematical differences in the rotational frequency and transmission have no practical influence. Slight differences in the theoretical drive speed and the speed ratio are not significant in practice.

# PRODUCT DESCRIPTION

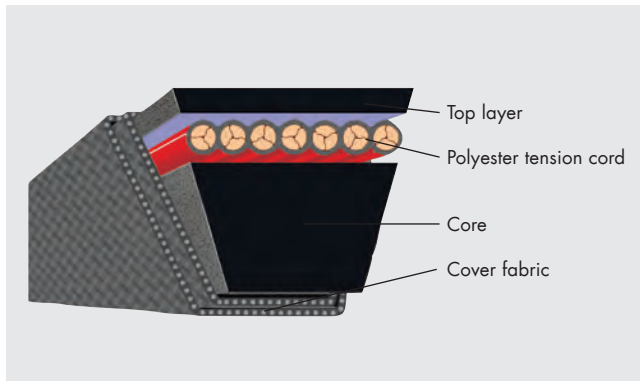
## optibelt VB CLASSIC V-BELTS

### DIN 2215 / ISO 4184



#### Structure/Properties

optibelt VB classic V-belts are manufactured using the same production processes as those for optibelt SK high performance wedge belts.



The components used are perfectly suited to the power ratings  $P_N$ . These values are far above those given by DIN 2218. Thus the operational safety in existing drives is increased and overloading is avoided.

- optibelt VB classic V-belts have a height-width ratio of 1:1.6.
- The maximum belt speed  $v_{\max} = 30 \text{ m/s}$  should not be exceeded.
- The allowed flexibility rate is far below that of wedge belts. It is  $f_{B \max} = 80 \text{ s}^{-1}$ .

#### Application areas

optibelt VB classic V-belts are mainly employed as replacement parts for industrial drives. For new drives, the use of high performance wedge belts is almost always recommended due to reasons of space and cost. However, special drives such as V-flat drives can often only be operated with classic V-belts. In special constructions, optibelt VB classic V-belts tackle difficult drives in the gardening sector and in agricultural machinery.

For these applications special belt constructions and calculation methods are required which are not included in this manual. In these cases we ask you to give us the according drive data.

#### Standardisation/Dimensions

optibelt VB classic V-belts in the profiles Y/6, Z/10, A/13, B/17, C/22, D/32 and E/40 are standardised according to DIN 2215 and ISO 4184.

Further, non-standardised ISO profiles 5, 8, 20 and 25 are available. These profiles should however not be used due to reasons of exchangeability and rationalisation.

**The ISO standard 4184 specifies the datum length for measuring the belt length. The former belt designation of the inside length  $L_i$  is replaced by the datum length  $L_d$ . For the conversion factors from pitch to inside length, please see page 167.**

**Note:** Electrically conductive according to ISO 1813.

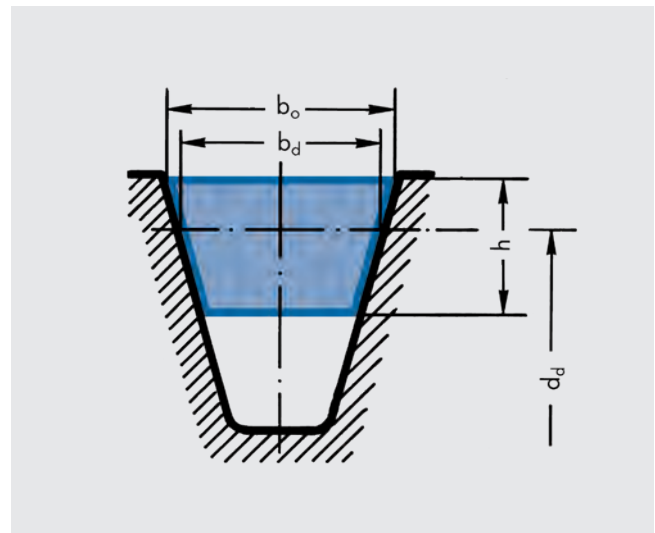


Table 7

| Profile                                   | DIN 2215             | (5)   | 6     | (8)   | 10    | 13    | 17    | (20)  | 22    | (25)  | 32    | 40    |
|-------------------------------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                           | ISO 4184             | –     | Y     | –     | Z     | A     | B     | –     | C     | –     | D     | E     |
| Belt top width                            | $b_o \approx$        | 5     | 6     | 8     | 10    | 13    | 17    | 20    | 22    | 25    | 32    | 40    |
| Datum width                               | $b_d$                | 4.2   | 5.3   | 6.7   | 8.5   | 11    | 14    | 17    | 19    | 21    | 27    | 32    |
| Belt height                               | $h \approx$          | 3     | 4     | 5     | 6     | 8     | 11    | 12.5  | 14    | 16    | 20    | 25    |
| Recommended minimum pulley datum diameter | $d_{d \min}$         | 20    | 28    | 40    | 50    | 71    | 112   | 160   | 200   | 250   | 355   | 500   |
| Belt weight (kg/m)                        | $\approx$            | 0.018 | 0.026 | 0.042 | 0.064 | 0.109 | 0.190 | 0.266 | 0.324 | 0.420 | 0.690 | 0.958 |
| Flex rate ( $\text{s}^{-1}$ )             | $f_{B \max} \approx$ | 80    |       |       |       |       |       |       |       |       |       |       |
| Belt speed (m/s)                          | $v_{\max} \approx$   | 30    |       |       |       |       |       |       |       |       |       |       |



# PRODUCT DESCRIPTION

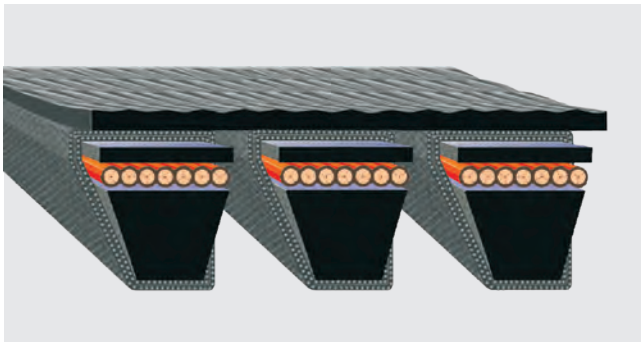
## optibelt KB KRAFTBANDS



### Product characteristics

optibelt KB kraftbands are characterised by the following properties:

- High level of uniform power transmission
- Favourable running behaviour especially regarding vibration
- Excellent flexibility
- High centre distances with small pulley datum diameters
- V-flat drives
- Vertical drives
- Clutched drives and conveyance drives



optibelt KB kraftbands consist of individual V-belts that are connected to one another via a top surface. Depending on the application the kraftbands will be fitted with two, three, four or five ribs.

On special request, kraftbands can also be delivered with more than five ribs.

When using multiple kraftbands per drive, combinations of sets are required.

### Order example

The drive is to be equipped with a 5V 1600/15J 4064 kraftband with 18 ribs.

Kraftbands: Installation combination with 5/4/4/5 ribs

### The order is as follows:

A KB set, consisting of:

2 pieces optibelt KB kraftbands 4-5V 1600/15J 4064 and

2 pieces optibelt KB kraftbands 5-5V 1600/15J 4064

4 or 5 = quantity of ribs

5V/15J = profile

1600 = belt number or 160 inch belt length

4064 = outside length in mm

### Standardisation/Dimensions

#### optibelt KB wedge belts

optibelt KB kraftbands with high power wedge belts are manufactured in SPZ, SPA, SPB, SPC profiles as well as in 3V/9J, 5V/15J, 8V/25J in compliance with international conventions.

SPZ, SPA, SPB and SPC kraftbands can be used with V-grooved pulleys according to DIN 2211 and ISO 4183.

3V/9J, 5V/15J, 8V/25J kraftbands can be used with V-grooved pulleys according to ISO 5290 and ARPM/MPTA IP 22.

#### optibelt KB classic V-belts

optibelt KB kraftbands with classic V-belts are manufactured in AJ/HA, BJ/HB, CJ/HC, DJ/HD profiles in compliance with international conventions.

The ISO 5291 standard and the ARPM/MPTA IP 20 standard are applied to kraftbands in machine construction. The ASAE S211. ... USA standard is applied to kraftbands used in agricultural machine construction.

**Note:** Electrically conductive according to ISO 1813.

# PRODUCT DESCRIPTION

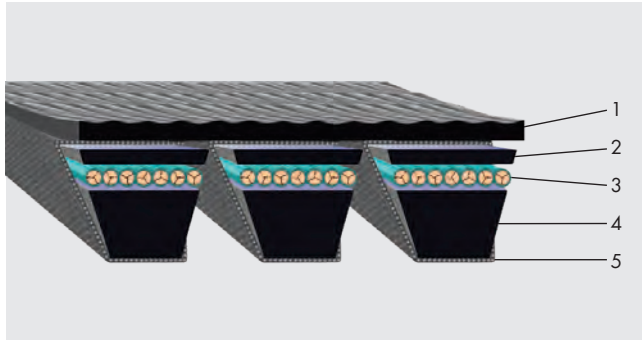
## optibelt KB KRAFTBANDS



### Product design

The optibelt KB kraftbands are used in the most varied constructions according to the technical requirements and applications.

### Wrapped kraftbands



- 1 Top surface
- 2 Top layer
- 3 Polyester tension cord
- 4 Core
- 5 Cover fabric

### Profiles

3V/9J; 5V/15J; 8V/25J;  
SPZ; SPA; SPB; SPC;  
A/HA; B/HB; C/HC; D/HD

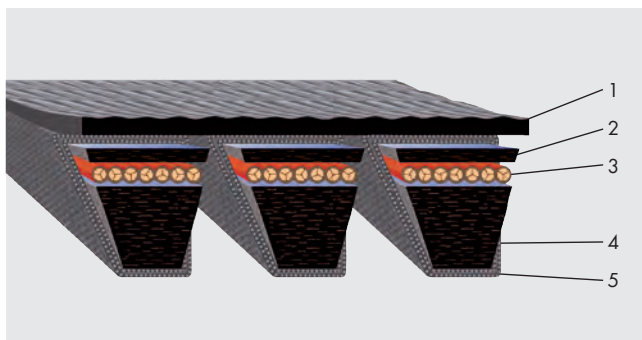
### Dimensions

1200 mm to 12.000 mm  
standard range

### Application areas

Optibelt wrapped KB kraftbands are primarily used in mechanical engineering and agricultural machines.

### optibelt RED POWER 3 high performance kraftbands – wrapped



- 1 Top surface
- 2 Chloroprene compound with transverse oriented fiber
- 3 Polyester tension cord. maintenance-free
- 4 Chloroprene compound with transverse oriented fiber
- 5 Abrasion-resistant cover fabric

### Profiles

3V/9J; 5V/15J; 8V/25J;  
SPB; SPC

### Dimensions

1270 mm to 12.000 mm  
standard range

### Application areas

This compact drive element is primarily used for special problem solutions in mechanical engineering and commercial vehicle construction.

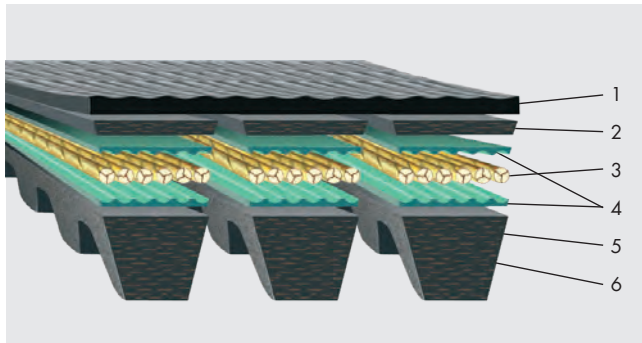
We recommend the use of optibelt KB RED POWER 3 for maintenance-free drives and for the use with back bend tension idlers.

# PRODUCT DESCRIPTION

## optibelt KB KRAFTBANDS



### High performance kraftbands – raw edge optibelt SUPER KBX-POWER



- 1 Top surface
- 2 Upper belt structure
- 3 Polyester tension cord, low maintenance
- 4 Embedding compound
- 5 Belt base
- 6 Moulded cogs

#### Profiles

3VX/9JX; 5VX/15JX;  
XPB  
XPZ; XPA on request

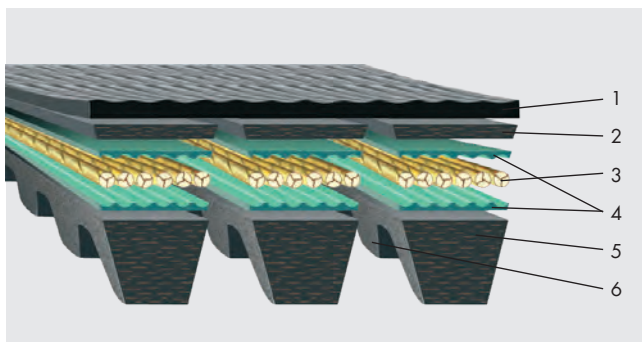
#### Dimensions

1270 mm to 3556 mm  
standard range

#### Application areas

The use of optibelt SUPER KBX-POWER kraftbands is recommended when dealing with compact drive solutions with high power requirements, small pulley datum diameters and for many more special applications in mechanical engineering and vehicle construction.

### Kraftbands with aramid cord – wrapped and raw edge



- 1 Top surface
- 2 Upper belt structure
- 3 Aramid tension cord, low maintenance
- 4 Embedding compound
- 5 Belt base
- 6 Moulded cogs

#### Profiles

3V/9J; 5V/15J; 8V/25J;  
SPB; SPC; 5VX/15JX;  
A/HA; B/HB; C/HC

#### Dimensions

1270 mm up to 12.000 mm wrapped kraftbands  
1270 mm up to 3556 mm raw edge kraftbands  
standard range

#### Application areas

The advantages of the optibelt KB kraftbands with aramid tension cords become obvious when dealing with heavy loaded drives in mechanical engineering and in the agricultural machine industry. These kraftbands provide the highest possible level of reliability wherever high temperature impacts and low adjustment ranges are present.

# PRODUCT DESCRIPTION

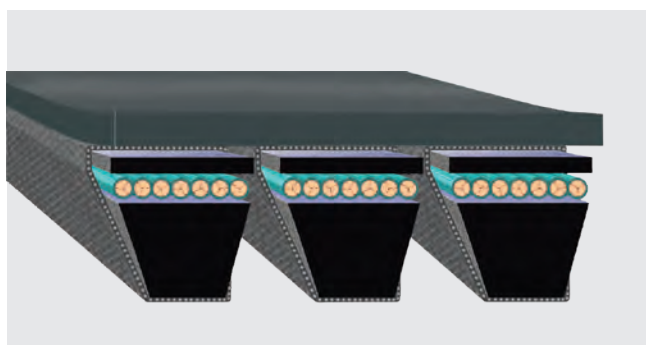
## optibelt KB KRAFTBANDS



### Kraftbands with top coatings



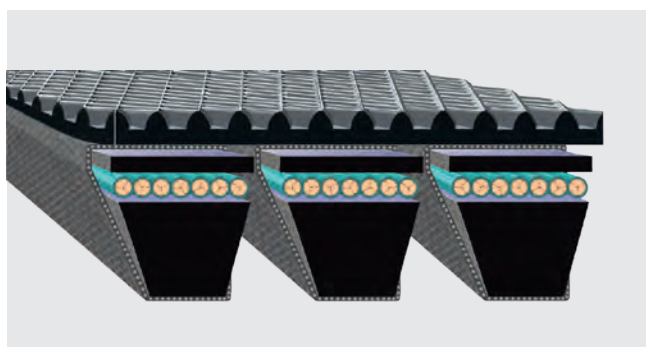
- 1 PKR top surface
- 2 Top layer
- 3 Polyester tension cord
- 4 Core
- 5 Cover fabric



Kraftband  
with PKR 0 coating



Kraftband  
with PKR 1 coating



Kraftband  
with PKR 2 coating



Kraftband  
with PKR 3 coating

### Application areas

When dealing with conveyance applications, the optibelt KB kraftbands can be provided with an additional coating.

With patterned top surfaces, these kraftbands are suitable for the conveyance of containers, heavy cargo and for diverse transport and shipment equipment.

Further details see chapter "Conveyor elements".

### Drive calculation

Drives with optibelt KB kraftbands in mechanical engineering have to be designed according to the stated drive calculation example found on pages 83 to 85 in this manual as well as according to the power values for the according products and profiles.

**Special power and tension values apply for Optibelt kraftbands with aramid constructions. Agricultural machine drives will be dimensioned according to special calculation methods. Therefore we request the submission of the technical data.**

# PRODUCT DESCRIPTION

## optibelt **SUPER X-POWER M=S**

### RAW EDGE, COGGED – DIN/ISO, ARPM/MPTA



#### Advantages

optibelt SUPER X-POWER M=S wedge belts are perfectly suited for applications with

- extremely small pulley diameters
- high rotational speeds
- high and low ambient temperatures

optibelt SUPER X-POWER M=S wedge belts offer

- high power transmission
- extremely low stretch
- improved maintenance intervals – low maintenance
- optimised running characteristics – smooth running
- excellent heat and oil resistance
- M=S, for set matching
- electrically conductive according to ISO 1813

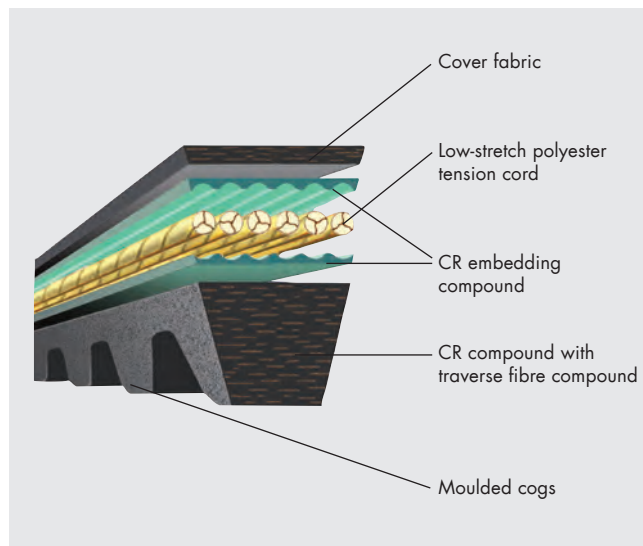
Drive ratios  $i = 1 : 12$  are possible with optibelt SUPER X-POWER.

Multi-stage drives can be eliminated.

optibelt SUPER X-POWER M=S wedge belts in profiles XPZ, XPA, XPB, XPC, 3VX/9NX and 5VX/15NX, offer the best technical and economic solutions due to their harmonised premium materials.

#### Structure/Properties

optibelt SUPER X-POWER M=S consist of:



1. The special polyester tension cord of optibelt SUPER X-POWER M=S is extremely low-stretch and allows for maintenance-free drives.

The number of re-tensioning processes is reduced and the drive becomes less expensive in the long term.

2. The structure of the cover fabric supports the tension cord and this is how the optibelt SUPER X-POWER M=S achieves its high level of flexibility.

3. The belt base structure consists of a high performance chloroprene compound, reinforced with a traverse fibre compound.

The special tension cord and the optimum tooth shape allow for higher dynamic power transmissions, improved bending stress and a higher temperature resistance.



As high power transmission is possible, even with small pulley diameters and high engine speed, weight and space can be reduced thus also substantially reducing costs.

#### Application areas Machines:

- compressors
- fans
- compactors
- pumps
- wood working machines
- high performance saws
- special machines

#### Machine tools:

- lathes and drilling machines
- grinding machines

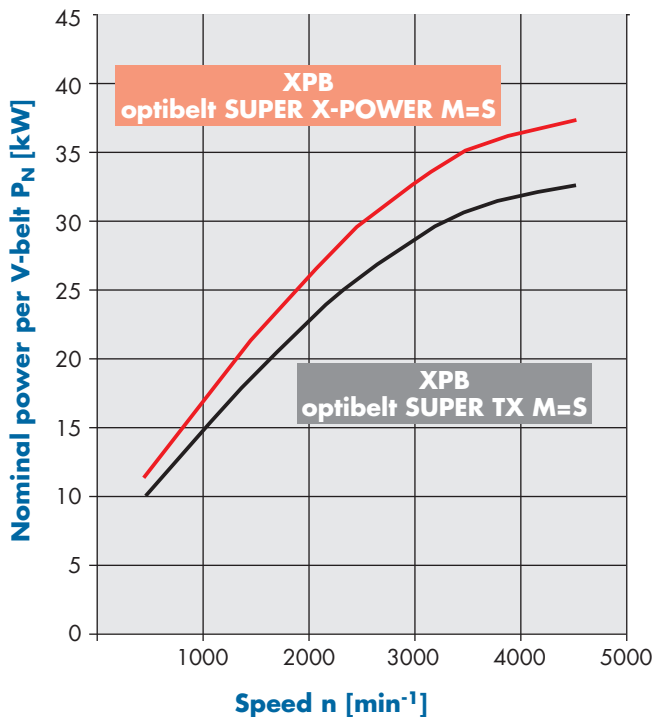
optibelt SUPER X-POWER M=S V-belts are recommended for mechanical engineering applications wherever wrapped V-belts are likely to reach their performance limits.



# PRODUCT DESCRIPTION

## optibelt **SUPER X-POWER M=S**

### RAW EDGE, COGGED – DIN/ISO, ARPM/MPTA



#### Belt tension / Static shaft load

Belt tension and static shaft load are calculated in the same way as for wrapped belts. When dealing with the same geometric ratios, the shaft load does not exceed that of wrapped belts although the quantity of the belts is often less. Therefore, only the individual V-belt requires higher tension than wrapped belts.

The precise edges of the optibelt SUPER X-POWER M=S V-belt ensure uniform seating in the pulley grooves, resulting in smoother running.

#### Drive calculation

Drive design using optibelt SUPER X-POWER M=S belts should be carried out according to the examples given on pages 83 to 85. The higher power ratings given in the relevant tables, apply. These are based on a theoretical laboratory running time of 25.000 hours.

#### Standardisation/Dimensions

The cross sections and dimensions of optibelt SUPER X-POWER M=S V-belts are in accordance with DIN 7753 Part 1, DIN 2215, ISO 4184 and ARPM/MPTA.

The basis for the length measurement is the datum length ( $L_d$ ) to DIN/ISO.

Table 8

| Profile  | Top belt width<br>$b_o \approx$ | Datum width<br>$b_d$ | Belt height<br>$h \approx$ | Meter weight<br>[kg/m] $\approx$ |
|----------|---------------------------------|----------------------|----------------------------|----------------------------------|
| XPZ      | 9.7                             | 8.5                  | 8                          | 0.065                            |
| XPA      | 12.7                            | 11.0                 | 10                         | 0.105                            |
| XPB      | 16.3                            | 14.0                 | 13                         | 0.183                            |
| XPC      | 22.0                            | 19.0                 | 18                         | 0.340                            |
| 3VX/9NX  | 9.0                             | —                    | 8                          | 0.065                            |
| 5VX/15NX | 15.0                            | —                    | 13                         | 0.183                            |

#### V-grooved pulleys

optibelt SUPER X-POWER M=S are used with pulleys according to DIN 2211, DIN 2217, ISO 4183 and ARPM/MPTA. Considerably smaller minimum pulley datum diameters are allowed.

Table 9

| Recommended minimum pulley diameter [mm]<br>wedge belt |                     |         |         |
|--------------------------------------------------------|---------------------|---------|---------|
| Profile                                                | Raw edge.<br>cogged | Profile | Wrapped |
| XPZ                                                    | 56                  | SPZ     | 63      |
| XPA                                                    | 71                  | SPA     | 90      |
| XPB                                                    | 112                 | SPB     | 140     |
| XPC                                                    | 180                 | SPC     | 224     |
| 3VX/9NX                                                | 56                  | 3V/9N   | 67      |
| 5VX/15NX                                               | 112                 | 5V/15N  | 151     |

# PRODUCT DESCRIPTION

optibelt **SUPER XE-POWER PRO M=S**

**RAW EDGE, COGGED – DIN/ISO, ARPM/MPTA**

**EPDM**



## Advantages

The optibelt SUPER XE-POWER PRO M=S is used in demanding applications that require maximum load-bearing capacity under the most demanding conditions, such as

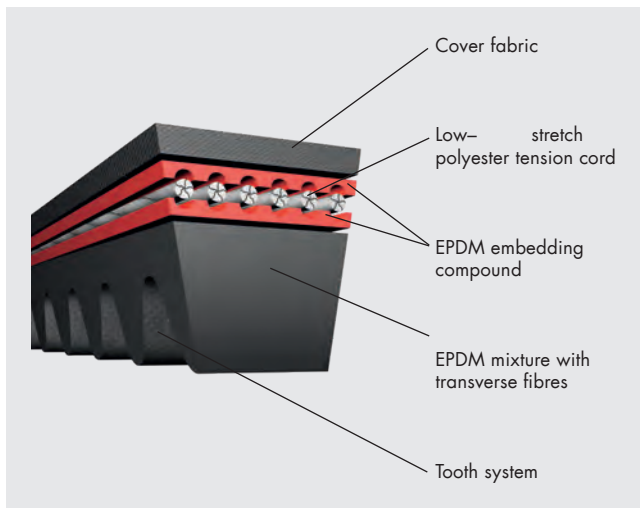
- Use of back bend idlers
- Extremely small pulley diameters
- High speeds
- High and low ambient temperatures

The optibelt SUPER XE-POWER PRO M=S V-belt stands for

- Capacity increase of 20% compared to optibelt SUPER X-POWER
- Maximum load-bearing capacity with extremely low elongation
- Exceptionally smooth running
- Compatible with back bend idlers
- Maintenance-free
- Extended temperature resistance from  $-40^{\circ}\text{C}$  to  $+120^{\circ}\text{C}$
- For use in sets without further measurement, M=S
- Electrically conductive to ISO 1813

## Structure/Properties

optibelt SUPER XE-POWER PRO M=S



1. The low-stretch polyester tension cord of the optibelt SUPER XE-POWER PRO M=S has a very low elongation and thus allows for maintenance-free drives.

2. The red embedding compound ensures optimum adhesion of the tension cord.

3. The belt base structure consists of a high performance EPDM compound, reinforced with transverse fibres.

This substructure in combination with a special tension cord as well as the optimised tooth shape allow for higher power transmission, low bending stress and higher temperature resistance.

## optibelt **SUPER XE-POWER PRO M=S**



The use of the optibelt SUPER XE-POWER PRO M=S allows for high power transmission, both with small pulley diameters and high engine speeds as well as with high torques. This saves space and weight when dimensioning drives and thus also reduces costs.

## Application areas Machines:

- ventilators
- fans
- pumps
- compressors
- wood working machines
- high performance saws
- compactors
- machine tools
- special machines

In mechanical engineering, wrapped V-belts often work at their performance limit and can wear out quickly. In order to permanently prevent downtimes, we recommend using optibelt SUPER XE-POWER PRO M=S.

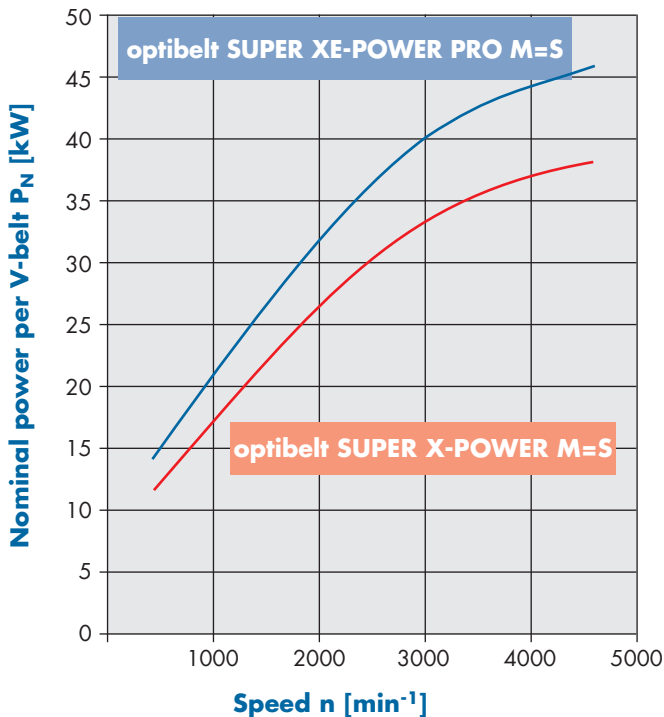
# PRODUCT DESCRIPTION

optibelt **SUPER XE-POWER PRO M=S**

**RAW EDGE, COGGED – DIN/ISO, ARPM/MPTA**



**Power diagram for profile XPB**



## Belt tension / Static shaft load

The belt tension and static axis force are designed according to the example (page 83f.). The optibelt SUPER XE-POWER PRO M=S must be brought to the required belt tension after the running-in process. This ensures maintenance-free operation of the belt.

Due to improved performance values, optibelt SUPER XE-POWER PRO M=S enables higher power transmission compared to standard V-belts. This allows a reduction in the number of belts that are required.

The low manufacturing tolerances of the optibelt SUPER XE-POWER PRO M=S ensure a uniform fit in the pulley grooves and improve the running characteristics of the belt.

## Drive calculation

Drive design using optibelt SUPER XE-POWER PRO M=S belts should be carried out according to Optibelt's drive calculations. The stated performance values are based on a theoretical laboratory running time of 25,000 hours.

## Standardisation/Dimensions

The cross sections and dimensions of optibelt SUPER XE-POWER PRO M=S are in accordance with DIN 7753 Part 1, DIN 2215, ISO 4148 and ARPM/MPTA. The basis for the length measurement is the datum length ( $L_d$ ) to DIN/ISO.

**Table 10**

| Profile  | Top belt width $b_o$ [mm] | Belt height $h$ [mm] | Metre weight [kg/m] |
|----------|---------------------------|----------------------|---------------------|
| XPZ      | ~9.7                      | ~8.5                 | ~0.058              |
| XPA      | ~12.7                     | ~9.0                 | ~0.089              |
| XPB      | ~16.3                     | ~13.0                | ~0.156              |
| XPC      | ~22.0                     | ~16.5                | ~0.274              |
| 3VX/9NX  | ~9.0                      | ~8.5                 | ~0.055              |
| 5VX/15NX | ~15.0                     | ~13.0                | ~0.152              |

## V-grooved pulleys

optibelt SUPER XE-POWER PRO M=S are used with pulleys to DIN 2211, DIN 2217, ISO 4183 and ARPM/MPTA. Considerably smaller minimum pulley datum diameters are allowed.

The outer roller must be dimensioned so that it does not fall below 1.35 times the minimum pulley diameter, depending on the profile (see table 11, p. 18).

**Table 11**

| Recommended minimum pulley diameter [mm]<br>wedge belt |                 |         |         |
|--------------------------------------------------------|-----------------|---------|---------|
| Profile                                                | Raw edge, coggd | Profile | Wrapped |
| XPZ                                                    | 56              | SPZ     | 63      |
| XPA                                                    | 71              | SPA     | 90      |
| XPB                                                    | 112             | SPB     | 140     |
| XPC                                                    | 180             | SPC     | 224     |
| 3VX/9NX                                                | 56              | 3V/9N   | 67      |
| 5VX/15NX                                               | 112             | 5V/15N  | 151     |

# PRODUCT DESCRIPTION

## optibelt **SUPER TX M=S** V-BELTS

### RAW EDGE, COGGED – DIN/ISO, ARPM/MPTA



The advantages of optibelt SUPER TX M=S V-belts can best be seen when dealing with

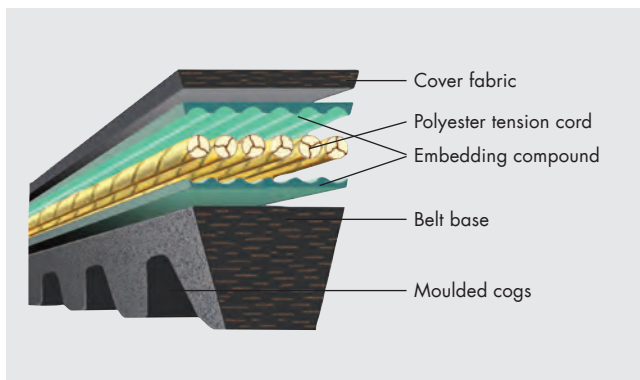
- extremely small pulley diameters
- high rotational speeds
- extremely high power requirements
- higher ambient temperatures

In these cases the use of wrapped V-belts is uneconomic and not recommended.

optibelt SUPER TX M=S V-belts in profiles ZX/X10, AX/X13, BX/X17 and CX/X22 offer the best technical and economic solutions under these conditions due to their high quality perfectly harmonised materials.

#### Structure/Properties

optibelt SUPER TX M=S consist of:



The belt base consists of a polychloroprene rubber compound with traverse fibres which support the tension cord.

This results in

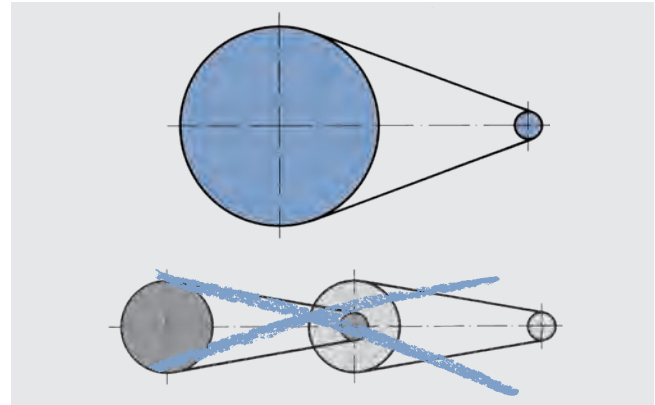
- significant flexing rate
- extreme traverse stability
- significantly improved wear resistance and slip resistance
- electrically conductive according to DIN 1813
- low stretch

The specially prepared tension cord is embedded in a special compound. Even with high dynamic loads a perfect adhesion between all components is assured.

The fabric layers of the upper structure support the tension cord. The fibre-reinforced substructure combined with the Optibelt tension cord and the moulded cogs allows for a higher dynamic power transmission.

The moulded cogs decrease the flexing resistance, resulting in an excellent flexing rate. Thus, much smaller pulleys can be used compared to common wrapped V-belts.

optibelt SUPER TX M=S allows for drive ratios  $i = 1:12$ . Multi-stage drives can be eliminated.



Due to the use of high quality polychloroprene rubber compounds, the optibelt SUPER TX M=S has a higher oil and heat-resistance than wrapped V-belts.

As high power transmission is possible, even with small pulley diameters and high engine speed, weight and space can be reduced thus also substantially reducing costs.

#### Drive calculation

Drive design using optibelt SUPER TX M=S belts should be carried out according to the examples given on pages 83 to 85. The higher power ratings given in the relevant tables, apply. These are based on a theoretical laboratory running time of 25.000 hours.

#### V-grooved pulleys

optibelt SUPER TX M=S are used with pulleys to DIN 2211, DIN 2217, ISO 4183 and ARPM/MPTA. Considerably smaller minimum pulley datum diameters are allowed.

**Table 12**

| Recommended minimum pulley diameter [mm]<br>V-belts |                     |             |         |
|-----------------------------------------------------|---------------------|-------------|---------|
| Profile                                             | Raw edge.<br>cogged | Profile     | Wrapped |
| <b>ZX/X10</b>                                       | 40                  | <b>Z/10</b> | 50      |
| <b>AX/X13</b>                                       | 63                  | <b>A/13</b> | 71      |
| <b>BX/X17</b>                                       | 90                  | <b>B/17</b> | 112     |
| <b>CX/X22</b>                                       | 140                 | <b>C/22</b> | 180     |

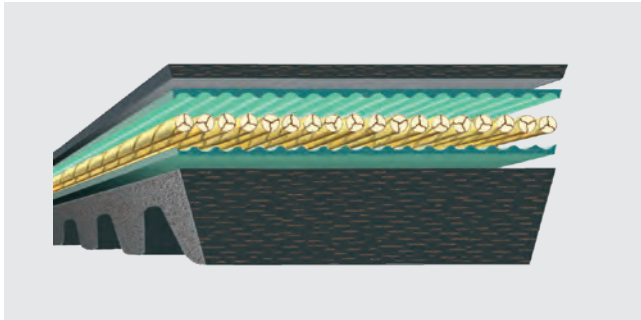
| Profile       | Top belt<br>width<br>$b_o \approx$ | Datum<br>width<br>$b_d$ | Belt<br>height<br>$h \approx$ | Meter<br>weight<br>[kg/m] $\approx$ |
|---------------|------------------------------------|-------------------------|-------------------------------|-------------------------------------|
| <b>ZX/X10</b> | 10                                 | 8.5                     | 6                             | 0.062                               |
| <b>AX/X13</b> | 13                                 | 11                      | 8                             | 0.099                               |
| <b>BX/X17</b> | 17                                 | 14                      | 11                            | 0.165                               |
| <b>CX/X22</b> | 22                                 | 19                      | 14                            | 0.276                               |

# PRODUCT DESCRIPTION

## optibelt **VARIO POWER** VARIABLE SPEED BELTS RAW EDGE, COGGED / DOUBLE-SIDED – DIN 7719 / ISO 1604



### optibelt **VARIO POWER** variable speed belts – raw edge, coggod



Increasing demands on variable speed belts due to the continuous increase of power transmission levels initiated the development of the raw edge, coggod variable speed belts.

The base compound consists of a polychloroprene rubber compound with traverse fibres. The high quality and extremely low-stretch polyester or aramid tension cord is embedded in a rubber compound. It is effectively supported by an upper and substructure. The special characteristics of the raw edge, coggod variable speed belt are:

- high power transmission
- excellent flexibility in running direction
- high traverse stability
- exceptionally smooth running
- wear and slip resistance
- long operational life
- electrically conductive according to ISO 1813

#### Profiles

Belt widths of up to 100 mm

Belt heights of 5-25 mm

#### Dimensions

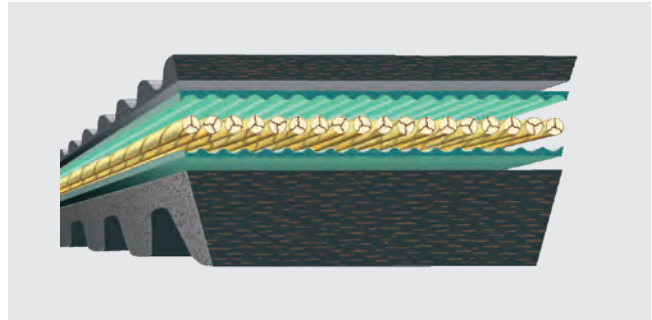
Lengths up to 5000 mm

Standardised dimensions to BS/DIN/ISO  
and ARPM/MPTA

#### Application areas

|                         |                               |
|-------------------------|-------------------------------|
| Industrial machinery:   | special drives                |
| Variable speed drives:  | compact units                 |
| Printing machinery:     | multi-colour offset drives    |
| Gearboxes:              | variable diameter pulley sets |
| Agricultural machinery: | thresher drum drives          |
| Textile machinery:      | winding machinery             |
| Machine tools:          | lathes                        |
| Automotive technology:  | snowmobile drives             |

### optibelt **VARIO POWER** variable speed belts – raw edge, Double-sided



Further increases in demand on the performance of drive elements and the trend towards designing ever smaller, space saving drive units, led to the development of the Double-sided, raw edge optibelt VARIO POWER variable speed belt.

Double-sided Optibelt variable speed belts allow for the smallest pulley diameters, even below standard recommendations. The Double-sided design improves heat emission, thereby significantly reducing the belt running temperature. The production methods and the structure of the belt have been derived from the raw edge optibelt VARIO POWER variable speed belt. Depending upon the application and application range, this belt can also be equipped with layers of special cross-cord material in the base compound. The belt is Double-sided, with the depth and spacing of the cogs matching with the specific belt profile. The polyester or aramid tension cord ensures ideal power transmission, increased service life, and extremely low-stretch characteristics. The features of the optibelt VARIO POWER variable speed belt can be summarised as follows:

- extremely high acceptance of axial loads
- high flexibility and flexing rate
- better heat emission
- use with small pulley diameters
- high running smoothness with high belt speeds
- long operational life
- electrically conductive according to ISO 1813

#### Profiles

Belt widths of 20-85 mm

Belt heights of 10-30 mm

#### Dimensions

Length ranges from 600-3500 mm

Profiles and dimensions following DIN/ISO  
and ARPM/MPTA

### optibelt **VS** variable speed belts – wrapped

The optibelt VS is the first generation of variable speed belts. Its structure complies with the standard constructions of wrapped, classic V-belts or wedge belts.

**Profiles and dimensions:** on request



# PRODUCT DESCRIPTION

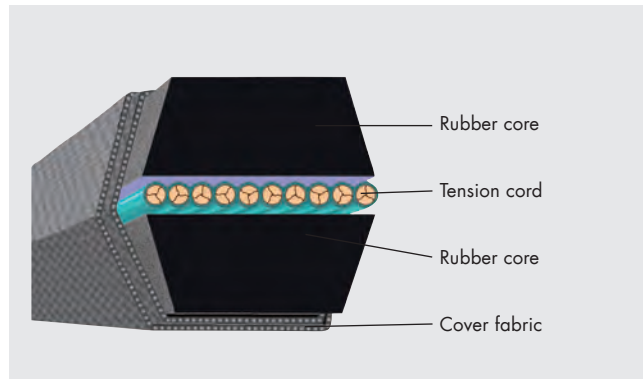
## optibelt DK DOUBLE-SIDED V-BELTS



### Structure

A cross section of the optibelt DK double-sided V-belt reveals a hexagon made up of two congruent trapeziums. The neutral axis containing the tension cord is exactly half way up the belt profile.

optibelt DK double-sided V-belts consist of:



### Properties/Application areas

The tension cord positioned at the centre of the belt gives the optibelt DK double-sided V-belts extreme flexibility and low-stretch properties. Thus, the belt is particularly suitable for flexing in different directions in the same plane. optibelt DK double-sided V-belts are used when several pulleys are arranged in one plane and the direction of one or more of the driven pulleys has to be changed without crossing the belts. Due to the position of the tension cord in the neutral axis and the special shape of the double-sided V-belt, the tension cord is not subjected to any force other than tension unlike standard V-belts bent around an outside idler. The optibelt DK double-sided V-belt comes up to typical serpentine arrangements. Special constructions with different top surfaces are possible. Mainly, double-sided V-belts are used in agricultural machinery but also in mechanical engineering.

### Standardisation

The cross dimensions of the optibelt DK double-sided V-belts comply with DIN 7722 and ISO 5289.

This applies to the profiles HAA, HBB, HCC and HDD, in accordance with the USA standard ASAE S 211. ....

thereby ensuring an international interchange.

The reference/nominal length of the optibelt DK double-sided V-belt is measured on the effective/outside diameter of the measuring pulley. This length equates to the middle length of the belt.

Conversion factors are as follows:

Profile AA/HAA reference length  $\approx$  centre length – 4 mm

Profile BB/HBB reference length  $\approx$  centre length – 8 mm

Profile CC/HCC reference length  $\approx$  centre length + 3 mm

Profile DD/HDD reference length = centre length!

Experience has shown that in practical use/ordering these conversion factors can be ignored.

**Note:** Electrically conductive according to ISO 1813.

### V-grooved pulleys

No special pulleys are required for optibelt DK double-sided V-belts. Pulleys conforming to ISO 4183. DIN 2211.

DIN 2217 and ASAE S 211. ... are suitable.

Profile AA/HAA in grooved pulleys for profile A/13-SPA

Profile BB/HBB in grooved pulleys for profile B/17-SPB

Profile CC/HCC in grooved pulleys for profile C/22-SPC

Profile DD/HDD in grooved pulleys for profile D/32

### Special profiles

For special applications. we also supply double-sided V-belts in profiles 22 x 22 and 25 x 22. These are not standardised.

### Drive calculation

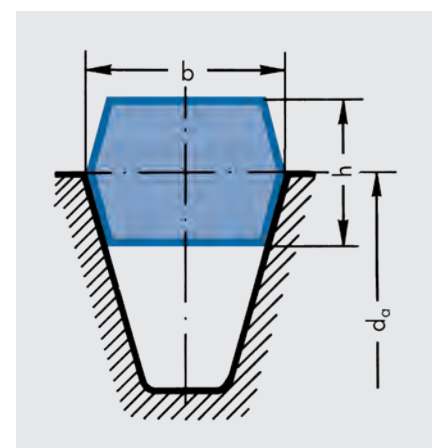
Drive calculations for optibelt DK double-sided V-belts differ from those given in this manual for two pulley drives. Multi pulley calculations are so complicated that they cannot be presented here.

Reference lengths. rotational speeds. transmission ratios and belt speeds are determined by the reference/outside pulley diameters.

Our Application Engineering Department will be pleased to assist you in the design of drives using optibelt DK double-sided V-belts.

Table 13

| Profile                             | DIN/ISO designation |           | HAA   | HBB   | HCC   | HDD   | —       | —       |
|-------------------------------------|---------------------|-----------|-------|-------|-------|-------|---------|---------|
|                                     | Designation         |           | AA    | BB    | CC    | DD    | 22 x 22 | 25 x 22 |
| Belt width                          | b                   | $\approx$ | 13    | 17    | 22    | 32    | 22      | 25      |
| Belt height                         | h                   | $\approx$ | 10    | 13    | 17    | 25    | 22      | 22      |
| Recommended minimum pulley diameter | $d_{a \min}$        |           | 80    | 125   | 224   | 355   | 280     | 280     |
| Belt weight [kg/m]                  |                     | $\approx$ | 0.150 | 0.250 | 0.440 | 0.935 | 0.511   | 0.625   |
| Belt speed [m/s]                    | $v_{\max}$          | $\approx$ | 30    |       |       |       |         |         |



**All Optibelt V-belts are manufactured using carefully selected basic materials and continuously updated technical procedures. Regular routine checks during production, extensive laboratory tests and careful testing of the raw materials used guarantee the consistently high level of quality that can be expected from every Optibelt drive element. Reliability and service life are considered the most important criteria.**

## Oil resistance

The limited oil resistance prevents the damaging effects of mineral oils and greases, as long as these substances are not in permanent contact with the timing belt and/or are not present in large quantities. Animal and vegetable fats as well as water-soluble cooling and cutting oils result in a reduction of the service life. For higher concentrations, we recommend the use of our optibelt RED POWER 3 V-belts or special version optibelt SUPER TX.

## Heat resistance

Standard V-belts allow ambient temperatures of up to +70 °C. Temperatures exceeding this range lead to premature ageing and hardening of V-belts. In such cases, we recommend the use of our special constructions optibelt RED POWER 3 or optibelt SUPER XE-POWER PRO M=S or optibelt SUPER TX M=S. For details see page 23.

## Dust protection

Dust enormously reduces the service life of V-belts. Wear-resistant fabric covers make Optibelt V-belts resistant to dust. This is demonstrated by their continuous application in cement factories, mills, in the stone processing industries, and in the mining industry.

## M=S "Matched Sets"

optibelt SUPER XE-POWER PRO M=S and optibelt SUPER TX M=S are raw edge, cogged V-belts that can be used in sets without measuring. DUE TO SPECIAL PRODUCTION PROCESSES the narrowest tolerances can be achieved so that V-belts of a given nominal length can be combined without further measurement. The precise edging of the belt results in smooth running. The even power transmission of all belts ensures a high efficiency and saves energy. Set code numbers are not necessary, there is no set bundling. As a consequence, storage and costs can be reduced.

## S=C Plus "SetConstant"

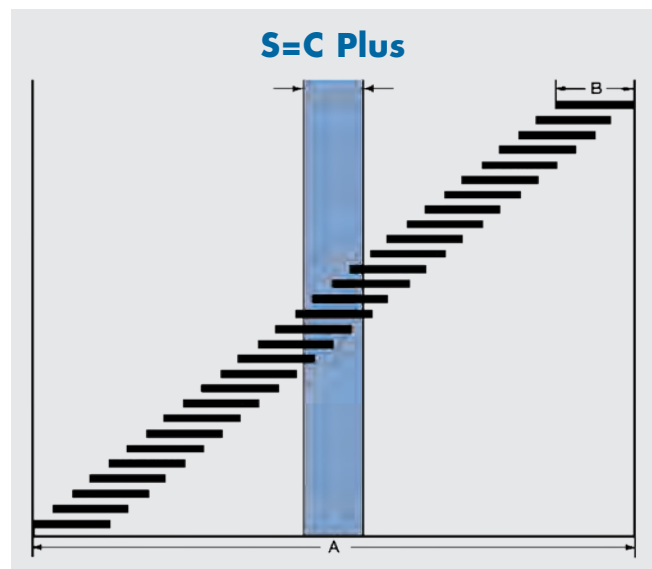
This stands for wrapped V-belts that can be used in a set without measuring.

The tight set tolerances are achieved by the Optibelt rotational vulcanisation process ORV. In this process, which is optimal for wrapped V-belts, the shaping and vulcanisation takes place in the curvature. This also results in a length stabilisation of the tension cords. During the final, separate length stabilisation, the tight S=C Plus tolerances are ensured.

### And here are the advantages:

- + saves energy, efficiency of up to 97 %
- + consistent power transmission
- + incorporates the world famous S=C Plus tolerances: always at nominal length
- + extremely low-stretch
- + longer service life
- + set code numbers are not required
- + reduces vibrations with resultant smooth running
- + requires only minimal adjustment space
- + reduces self-heating, thus ageing resistant
- + longer maintenance intervals
- + simple storage
- + significant cost reductions

Example of S=C Plus length tolerances in a high performance wedge belt with 5000 mm datum length:



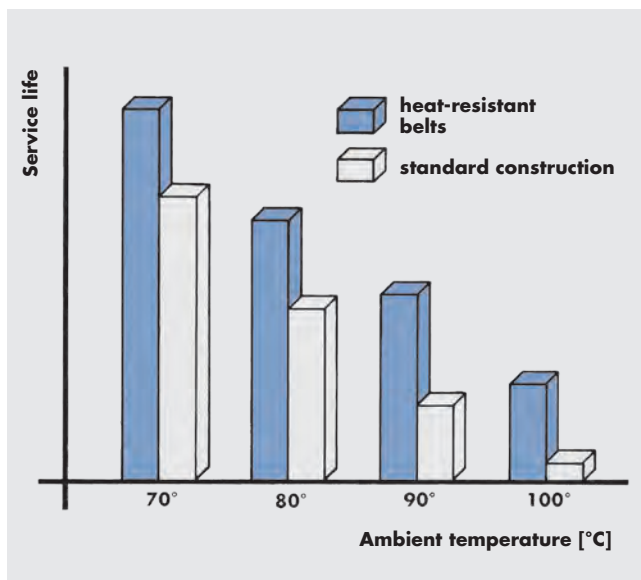
The dimension (A) is the tolerance allowed according to DIN of an individual V-belt with a length of 5000 mm. If you want to install sets for multi-groove drives, the individual elements in a set should not deviate more than 6 mm (B). optibelt S=C Plus V-belts meet considerably closer tolerances than those specified by the industry standard for sets. optibelt S=C Plus V-belts are always in the nominal length.

## Extra heat-resistant V-belts

The service life of standard Optibelt V-belts can be massively reduced due to the effects of temperature. In case of ambient temperatures that constantly vary between +70 °C and +90 °C we recommend optibelt RED POWER 3, optibelt SUPER XE-POWER PRO M=S or optibelt SUPER TX M=S belts. Special rubber compounds largely prevent premature ageing and brittleness. In borderline cases, trials are recommended, as individual drive parameters such as belt speed and pulley diameter may influence the operational life. The diagram below illustrates the great impact of ambient temperature on the operational life of belts. It also presents the optimised operational life of special constructions in high temperature ranges compared to standard constructions. However, you cannot expect the same service life as under normal conditions.

## Smooth-running selected V-belts

Drives that require smooth running – that is variations of shaft centre distances – such as lathes and grinders, and are supposed to guarantee vibration free operation, should be equipped with Optibelt V-belts with “smooth-running selected”. Fluctuations in the shaft centre distance are electronically measured on testing machines. The measurements comply with the Optibelt standards or the conditions agreed upon with our customers.



## Mining industry

optibelt SK wedge belts and optibelt VB classic V-belts can be used in underground mining as well as in areas above ground that are exposed to explosion and fire risks. For these areas, different national and international testing specifications and standards apply. Optibelt “Mining Belts” comply with all requirements of “DIN 22100-7”.

## Applications with other special constructions

For special applications e.g. in general mechanical engineering, agricultural machinery and horticulture, further special constructions are also available in intermediate sizes for

- special drives with tension, back bend and guide idlers
- clutching drives
- shock loads
- extreme operating conditions

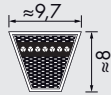
These Optibelt V-belts in special constructions have different tension cord types and structures with a variety of rubber compounds, different fabric qualities and a differing number of fabric covers and top surfaces.

All special constructions and intermediate lengths must be ordered in sets or in multiples thereof.

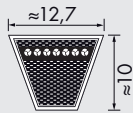
It is not possible to go into the entire range of criteria in this manual. For further information please contact our Applications Engineering Department.

# STANDARD RANGE

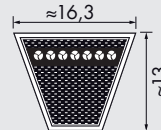
optibelt **RED POWER 3** HIGH PERFORMANCE WEDGE BELTS  
DIN 7753 PART 1 / ISO 4184



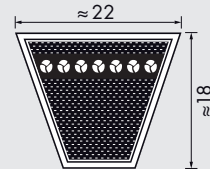
**SPZ**



**SPA**



**SPB**



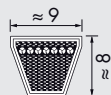
**SPC**

| Profile SPZ                                                               |      |      | Profile SPA                             |      |      |      | Profile SPB                             | Profile SPC                             |
|---------------------------------------------------------------------------|------|------|-----------------------------------------|------|------|------|-----------------------------------------|-----------------------------------------|
| Datum length ISO<br>[mm] L <sub>d</sub>                                   |      |      | Datum length ISO<br>[mm] L <sub>d</sub> |      |      |      | Datum length ISO<br>[mm] L <sub>d</sub> | Datum length ISO<br>[mm] L <sub>d</sub> |
| 1202                                                                      | 1587 | 2137 | 1207                                    | 1700 | 2282 | 3082 | 1250                                    | 2000                                    |
| 1212                                                                      | 1600 | 2187 | 1232                                    | 1707 | 2300 | 3150 | 1320                                    | 2120                                    |
| 1237                                                                      | 1612 | 2240 | 1250                                    | 1732 | 2307 | 3182 | 1400                                    | 2240                                    |
| 1250                                                                      | 1637 | 2287 | 1257                                    | 1757 | 2332 | 3282 | 1500                                    | 2360                                    |
| 1262                                                                      | 1662 | 2360 | 1282                                    | 1782 | 2360 | 3350 | 1600                                    | 2500                                    |
| 1287                                                                      | 1687 | 2500 | 1307                                    | 1800 | 2382 | 3382 | 1700                                    | 2650                                    |
| 1312                                                                      | 1700 | 2650 | 1320                                    | 1807 | 2432 | 3550 | 1800                                    | 2800                                    |
| 1320                                                                      | 1737 | 2800 | 1332                                    | 1832 | 2482 | 3750 | 1900                                    | 3000                                    |
| 1337                                                                      | 1762 | 3000 | 1357                                    | 1857 | 2500 | 4000 | 2000                                    | 3150                                    |
| 1362                                                                      | 1787 | 3150 | 1382                                    | 1882 | 2532 |      | 2120                                    | 3350                                    |
| 1387                                                                      | 1800 | 3350 | 1400                                    | 1900 | 2582 |      | 2240                                    | 3550                                    |
| 1400                                                                      | 1837 | 3550 | 1407                                    | 1907 | 2607 |      | 2360                                    | 3750                                    |
| 1412                                                                      | 1862 |      | 1432                                    | 1932 | 2632 |      | 2500                                    | 4000                                    |
| 1437                                                                      | 1887 |      | 1457                                    | 1957 | 2650 |      | 2650                                    | 4250                                    |
| 1462                                                                      | 1900 |      | 1482                                    | 1982 | 2682 |      | 2800                                    | 4500                                    |
| 1487                                                                      | 1937 |      | 1500                                    | 2000 | 2732 |      | 3000                                    | 4750                                    |
| 1500                                                                      | 1987 |      | 1507                                    | 2032 | 2782 |      | 3150                                    | 5000                                    |
| 1512                                                                      | 2000 |      | 1532                                    | 2057 | 2800 |      | 3350                                    | 5300                                    |
| 1537                                                                      | 2037 |      | 1557                                    | 2082 | 2832 |      | 3550                                    | 5600                                    |
| 1562                                                                      | 2120 |      | 1582                                    | 2120 | 2847 |      | 3750                                    | 6000                                    |
|                                                                           |      |      | 1600                                    | 2132 | 2882 |      | 4000                                    | 6300                                    |
|                                                                           |      |      | 1607                                    | 2182 | 2932 |      | 4250                                    | 6700                                    |
|                                                                           |      |      | 1632                                    | 2207 | 2982 |      | 4500                                    | 7100                                    |
|                                                                           |      |      | 1657                                    | 2232 | 3000 |      | 4750                                    | 7500                                    |
|                                                                           |      |      | 1682                                    | 2240 | 3032 |      | 5000                                    | 8000                                    |
|                                                                           |      |      |                                         |      |      |      | 5300                                    | 8500                                    |
|                                                                           |      |      |                                         |      |      |      | 5600                                    | 9000                                    |
|                                                                           |      |      |                                         |      |      |      | 6000                                    | 9500                                    |
|                                                                           |      |      |                                         |      |      |      | 6300                                    | 10000                                   |
|                                                                           |      |      |                                         |      |      |      | 6700                                    |                                         |
|                                                                           |      |      |                                         |      |      |      | 7100                                    |                                         |
|                                                                           |      |      |                                         |      |      |      | 7500                                    |                                         |
|                                                                           |      |      |                                         |      |      |      | 8000                                    |                                         |
| Maximum production length: 4000 mm                                        |      |      | Maximum production length: 4000 mm      |      |      |      | Maximum production length: 12 500 mm    | Maximum production length: 12 500 mm    |
| Non-standard length ranges on request                                     |      |      | Non-standard length ranges on request   |      |      |      | Non-standard length ranges on request   | Non-standard length ranges on request   |
| Weight: ≈ 0.074 kg/m                                                      |      |      | Weight: ≈ 0.123 kg/m                    |      |      |      | Weight: ≈ 0.195 kg/m                    | Weight: ≈ 0.377 kg/m                    |
| Datum length L <sub>d</sub> ≙ Pitch length L <sub>w</sub> /L <sub>p</sub> |      |      |                                         |      |      |      |                                         |                                         |

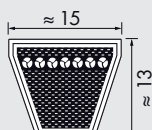
Lengths in **bold** type are in S=C Plus (SetConstant).

# STANDARD RANGE

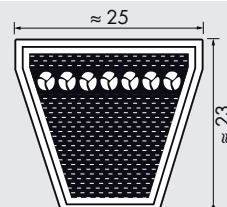
## optibelt **RED POWER 3** HIGH PERFORMANCE WEDGE BELTS ARPM/MPA



**3V/9N**



**5V/15N**



**8V/25N**

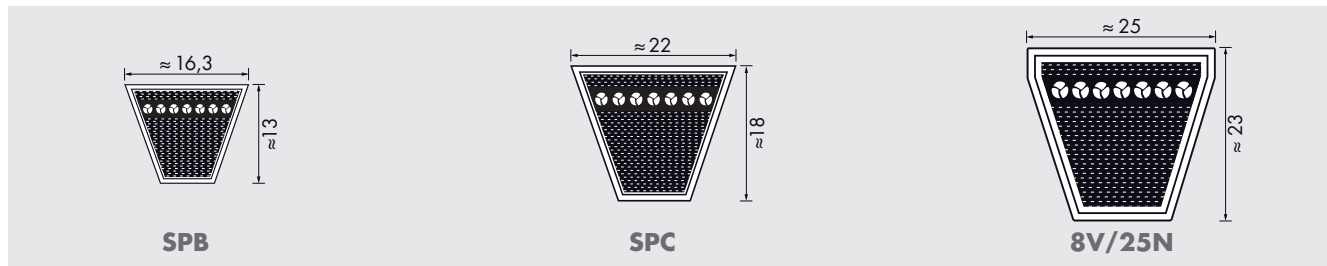
| Profile 3V/9N                                                                                                      |                                              | Profile 5V/15N                                                                                                      |                                              | Profile 8V/25N                                                                                                      |                                              |
|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Belt designation                                                                                                   |                                              | Belt designation                                                                                                    |                                              | Belt designation                                                                                                    |                                              |
| Profile, length code                                                                                               | Profile, outside length, L <sub>a</sub> [mm] | Profile, length code                                                                                                | Profile, outside length, L <sub>a</sub> [mm] | Profile, length code                                                                                                | Profile, outside length, L <sub>a</sub> [mm] |
| 3V 475                                                                                                             | 9N 1206                                      | 5V 530                                                                                                              | 15N 1346                                     | 8V 1000                                                                                                             | 25N 2540                                     |
| 3V 500                                                                                                             | 9N 1270                                      | 5V 560                                                                                                              | 15N 1422                                     | 8V 1120                                                                                                             | 25N 2845                                     |
| 3V 530                                                                                                             | 9N 1346                                      | 5V 600                                                                                                              | 15N 1524                                     | 8V 1180                                                                                                             | 25N 2997                                     |
| 3V 560                                                                                                             | 9N 1422                                      | 5V 630                                                                                                              | 15N 1600                                     | 8V 1250                                                                                                             | 25N 3175                                     |
| 3V 600                                                                                                             | 9N 1524                                      | 5V 670                                                                                                              | 15N 1702                                     | 8V 1320                                                                                                             | 25N 3353                                     |
| 3V 630                                                                                                             | 9N 1600                                      | 5V 710                                                                                                              | 15N 1803                                     | 8V 1400                                                                                                             | 25N 3556                                     |
| 3V 670                                                                                                             | 9N 1702                                      | 5V 750                                                                                                              | 15N 1905                                     | 8V 1500                                                                                                             | 25N 3810                                     |
| 3V 710                                                                                                             | 9N 1803                                      | 5V 800                                                                                                              | 15N 2032                                     | 8V 1600                                                                                                             | 25N 4064                                     |
| 3V 750                                                                                                             | 9N 1905                                      | 5V 850                                                                                                              | 15N 2159                                     | 8V 1700                                                                                                             | 25N 4318                                     |
| 3V 800                                                                                                             | 9N 2032                                      | 5V 900                                                                                                              | 15N 2286                                     | 8V 1800                                                                                                             | 25N 4572                                     |
| 3V 850                                                                                                             | 9N 2159                                      | 5V 950                                                                                                              | 15N 2413                                     | 8V 1900                                                                                                             | 25N 4826                                     |
| 3V 900                                                                                                             | 9N 2286                                      | 5V 1000                                                                                                             | 15N 2540                                     | 8V 2000                                                                                                             | 25N 5080                                     |
| 3V 950                                                                                                             | 9N 2413                                      | 5V 1060                                                                                                             | 15N 2692                                     | 8V 2120                                                                                                             | 25N 5385                                     |
| 3V 1000                                                                                                            | 9N 2540                                      | 5V 1120                                                                                                             | 15N 2845                                     | 8V 2240                                                                                                             | 25N 5690                                     |
| 3V 1060                                                                                                            | 9N 2692                                      | 5V 1180                                                                                                             | 15N 2997                                     | 8V 2360                                                                                                             | 25N 5994                                     |
| 3V 1120                                                                                                            | 9N 2845                                      | 5V 1250                                                                                                             | 15N 3175                                     | 8V 2500                                                                                                             | 25N 6350                                     |
| 3V 1180                                                                                                            | 9N 2997                                      | 5V 1320                                                                                                             | 15N 3353                                     | 8V 2650                                                                                                             | 25N 6731                                     |
| 3V 1250                                                                                                            | 9N 3175                                      | 5V 1400                                                                                                             | 15N 3556                                     | 8V 2800                                                                                                             | 25N 7112                                     |
| 3V 1320                                                                                                            | 9N 3353                                      | 5V 1500                                                                                                             | 15N 3810                                     | 8V 3000                                                                                                             | 25N 7620                                     |
| 3V 1400                                                                                                            | 9N 3556                                      | 5V 1600                                                                                                             | 15N 4064                                     | 8V 3150                                                                                                             | 25N 8001                                     |
|                                                                                                                    |                                              | 5V 1700                                                                                                             | 15N 4318                                     | 8V 3350                                                                                                             | 25N 8509                                     |
|                                                                                                                    |                                              | 5V 1800                                                                                                             | 15N 4572                                     | 8V 3550                                                                                                             | 25N 9017                                     |
|                                                                                                                    |                                              | 5V 1900                                                                                                             | 15N 4826                                     | 8V 3750                                                                                                             | 25N 9525                                     |
|                                                                                                                    |                                              | 5V 2000                                                                                                             | 15N 5080                                     | 8V 4000                                                                                                             | 25N 10160                                    |
|                                                                                                                    |                                              | 5V 2120                                                                                                             | 15N 5385                                     | 8V 4250                                                                                                             | 25N 10795                                    |
|                                                                                                                    |                                              | 5V 2240                                                                                                             | 15N 5690                                     | 8V 4500                                                                                                             | 25N 11430                                    |
|                                                                                                                    |                                              | 5V 2360                                                                                                             | 15N 5994                                     | 8V 4750                                                                                                             | 25N 12065                                    |
|                                                                                                                    |                                              | 5V 2500                                                                                                             | 15N 6350                                     |                                                                                                                     |                                              |
|                                                                                                                    |                                              | 5V 2650                                                                                                             | 15N 6731                                     |                                                                                                                     |                                              |
|                                                                                                                    |                                              | 5V 2800                                                                                                             | 15N 7112                                     |                                                                                                                     |                                              |
|                                                                                                                    |                                              | 5V 3000                                                                                                             | 15N 7620                                     |                                                                                                                     |                                              |
|                                                                                                                    |                                              | 5V 3150                                                                                                             | 15N 8001                                     |                                                                                                                     |                                              |
| Maximum production length: 4000 mm L <sub>a</sub><br>Non-standard length ranges on request<br>Weight: ≈ 0.074 kg/m |                                              | Maximum production length: 12500 mm L <sub>a</sub><br>Non-standard length ranges on request<br>Weight: ≈ 0.195 kg/m |                                              | Maximum production length: 12500 mm L <sub>a</sub><br>Non-standard length ranges on request<br>Weight: ≈ 0.575 kg/m |                                              |

Lengths in **bold** type are in S=C Plus (SetConstant).



# STANDARD RANGE

optibelt **BLUE POWER** HIGH PERFORMANCE WEDGE BELTS



DIN 7753 Part 1 / ISO 4184 / BS 3790

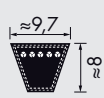
ARPM/MPTA

| Profile SPB                                                                                                                                                       |      | Profile SPC                                                                                                                   |      | Profile 8V/25N                                                                                                                            |                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Datum length ISO<br>$L_d$ [mm]                                                                                                                                    |      | Datum length ISO<br>$L_d$ [mm]                                                                                                |      | Belt designation                                                                                                                          |                                           |
|                                                                                                                                                                   |      |                                                                                                                               |      | Profile,<br>length code                                                                                                                   | Profile,<br>outside length,<br>$L_a$ [mm] |
| 1500                                                                                                                                                              | 4750 | 2000                                                                                                                          | 6300 | 8V 1600                                                                                                                                   | 25N 4064                                  |
| 1600                                                                                                                                                              | 5000 | 2120                                                                                                                          | 6700 | 8V 1700                                                                                                                                   | 25N 4318                                  |
| 1700                                                                                                                                                              | 5300 | 2240                                                                                                                          | 7100 | 8V 1800                                                                                                                                   | 25N 4572                                  |
| 1800                                                                                                                                                              | 5600 | 2360                                                                                                                          | 7500 | 8V 1900                                                                                                                                   | 25N 4826                                  |
| 1900                                                                                                                                                              | 6000 | 2500                                                                                                                          | 8000 | 8V 2000                                                                                                                                   | 25N 5080                                  |
| 2000                                                                                                                                                              | 6300 | 2650                                                                                                                          | 8500 | 8V 2120                                                                                                                                   | 25N 5385                                  |
| 2120                                                                                                                                                              | 6700 | 2800                                                                                                                          | 9000 | 8V 2240                                                                                                                                   | 25N 5690                                  |
| 2240                                                                                                                                                              | 7100 | 3000                                                                                                                          |      | 8V 2360                                                                                                                                   | 25N 5994                                  |
| 2360                                                                                                                                                              | 7500 | 3150                                                                                                                          |      | 8V 2500                                                                                                                                   | 25N 6350                                  |
| 2500                                                                                                                                                              | 8000 | 3350                                                                                                                          |      | 8V 2650                                                                                                                                   | 25N 6731                                  |
| 2650                                                                                                                                                              |      | 3550                                                                                                                          |      | 8V 2800                                                                                                                                   | 25N 7112                                  |
| 2800                                                                                                                                                              |      | 3750                                                                                                                          |      | 8V 3000                                                                                                                                   | 25N 7620                                  |
| 3000                                                                                                                                                              |      | 4000                                                                                                                          |      | 8V 3150                                                                                                                                   | 25N 8001                                  |
| 3150                                                                                                                                                              |      | 4250                                                                                                                          |      | 8V 3350                                                                                                                                   | 25N 8509                                  |
| 3350                                                                                                                                                              |      | 4500                                                                                                                          |      | 8V 3550                                                                                                                                   | 25N 9017                                  |
| 3550                                                                                                                                                              |      | 4750                                                                                                                          |      |                                                                                                                                           |                                           |
| 3750                                                                                                                                                              |      | 5000                                                                                                                          |      |                                                                                                                                           |                                           |
| 4000                                                                                                                                                              |      | 5300                                                                                                                          |      |                                                                                                                                           |                                           |
| 4250                                                                                                                                                              |      | 5600                                                                                                                          |      |                                                                                                                                           |                                           |
| 4500                                                                                                                                                              |      | 6000                                                                                                                          |      |                                                                                                                                           |                                           |
| Maximum production length: 18000 mm<br>Minimum order quantity:<br>1500 mm – 1800 mm =<br>25 pieces<br>Over 1800 mm =<br>23 pieces<br>Weight: $\approx 0.206$ kg/m |      | Maximum production length: 18000 mm<br>Minimum order quantity:<br>from 2000 mm =<br>16 pieces<br>Weight: $\approx 0.389$ kg/m |      | Maximum production length: 18000 mm $L_a$<br>Minimum order quantity:<br>from 4064 mm $L_a$ =<br>14 pieces<br>Weight: $\approx 0.603$ kg/m |                                           |

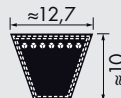
# STANDARD RANGE

optibelt **SK** HIGH PERFORMANCE WEDGE BELTS

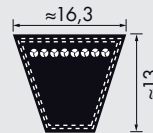
DIN 7753 PART 1 / ISO 4184



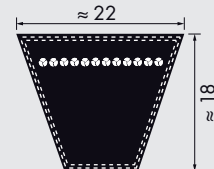
**SPZ**



**SPA**



**SPB**



**SPC**

| Profile SPZ                                                                                                                                                                                              |             |              | Profile SPA                                                                                                                                                                                              |             |             |             | Profile SPB                                                                                                                                                                                                  |              | Profile SPC                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Datum length ISO<br>$L_d$ [mm]                                                                                                                                                                           |             |              | Datum length ISO<br>$L_d$ [mm]                                                                                                                                                                           |             |             |             | Datum length ISO<br>$L_d$ [mm]                                                                                                                                                                               |              | Datum length ISO<br>$L_d$ [mm]                                                                                                                                                                            |
| 487                                                                                                                                                                                                      | 1047        | <b>1662</b>  | 732                                                                                                                                                                                                      | <b>1382</b> | <b>2120</b> | <b>3350</b> | 1250                                                                                                                                                                                                         | <b>3650</b>  | <b>2000</b>                                                                                                                                                                                               |
| 512                                                                                                                                                                                                      | 1060        | <b>1687</b>  | 757                                                                                                                                                                                                      | <b>1400</b> | <b>2132</b> | <b>3382</b> | 1320                                                                                                                                                                                                         | <b>3750</b>  | <b>2120</b>                                                                                                                                                                                               |
| 562                                                                                                                                                                                                      | 1077        | <b>1700</b>  | 782                                                                                                                                                                                                      | <b>1407</b> | <b>2182</b> | <b>3550</b> | 1400                                                                                                                                                                                                         | <b>3800•</b> | <b>2240</b>                                                                                                                                                                                               |
| 587                                                                                                                                                                                                      | 1087        | <b>1737</b>  | 800                                                                                                                                                                                                      | <b>1432</b> | <b>2207</b> | <b>3750</b> | 1450                                                                                                                                                                                                         | <b>4000</b>  | <b>2360</b>                                                                                                                                                                                               |
| 612                                                                                                                                                                                                      | 1112        | <b>1762</b>  | 807                                                                                                                                                                                                      | <b>1457</b> | <b>2232</b> | <b>4000</b> | 1500                                                                                                                                                                                                         | <b>4050•</b> | <b>2500</b>                                                                                                                                                                                               |
| 630                                                                                                                                                                                                      | 1120        | <b>1787</b>  | 832                                                                                                                                                                                                      | <b>1482</b> | <b>2240</b> | <b>4250</b> | 1600                                                                                                                                                                                                         | <b>4250</b>  | <b>2650</b>                                                                                                                                                                                               |
| 637                                                                                                                                                                                                      | 1137        | <b>1800</b>  | 850                                                                                                                                                                                                      | <b>1500</b> | <b>2282</b> | <b>4500</b> | 1700                                                                                                                                                                                                         | <b>4300•</b> | <b>2800</b>                                                                                                                                                                                               |
| 662                                                                                                                                                                                                      | <b>1162</b> | <b>1812</b>  | 857                                                                                                                                                                                                      | <b>1507</b> | <b>2300</b> |             | 1750                                                                                                                                                                                                         | <b>4500</b>  | <b>3000</b>                                                                                                                                                                                               |
| 670                                                                                                                                                                                                      | <b>1180</b> | <b>1837</b>  | 882                                                                                                                                                                                                      | <b>1532</b> | <b>2307</b> |             | 1800                                                                                                                                                                                                         | <b>4560•</b> | <b>3150</b>                                                                                                                                                                                               |
| 687                                                                                                                                                                                                      | <b>1187</b> | <b>1850</b>  | 900                                                                                                                                                                                                      | <b>1557</b> | <b>2332</b> |             | 1850                                                                                                                                                                                                         | <b>4750</b>  | <b>3350</b>                                                                                                                                                                                               |
| 710                                                                                                                                                                                                      | <b>1202</b> | <b>1862</b>  | 907                                                                                                                                                                                                      | <b>1582</b> | <b>2360</b> |             | 1900                                                                                                                                                                                                         | <b>4820•</b> | <b>3550</b>                                                                                                                                                                                               |
| 722                                                                                                                                                                                                      | <b>1212</b> | <b>1887</b>  | 932                                                                                                                                                                                                      | <b>1600</b> | <b>2382</b> |             | 2000                                                                                                                                                                                                         | <b>5000</b>  | <b>3750</b>                                                                                                                                                                                               |
| 737                                                                                                                                                                                                      | <b>1237</b> | <b>1900</b>  | 950                                                                                                                                                                                                      | <b>1607</b> | <b>2432</b> |             | 2020•                                                                                                                                                                                                        | <b>5070•</b> | <b>4000</b>                                                                                                                                                                                               |
| 750                                                                                                                                                                                                      | <b>1250</b> | <b>1937</b>  | 957                                                                                                                                                                                                      | <b>1632</b> | <b>2482</b> |             | 2060                                                                                                                                                                                                         | <b>5300</b>  | <b>4250</b>                                                                                                                                                                                               |
| 762                                                                                                                                                                                                      | <b>1262</b> | <b>1987</b>  | 982                                                                                                                                                                                                      | <b>1657</b> | <b>2500</b> |             | 2120                                                                                                                                                                                                         | <b>5600</b>  | <b>4500</b>                                                                                                                                                                                               |
| 772                                                                                                                                                                                                      | <b>1287</b> | <b>2000</b>  | 1000                                                                                                                                                                                                     | <b>1682</b> | <b>2532</b> |             | 2150•                                                                                                                                                                                                        | <b>6000</b>  | <b>4750</b>                                                                                                                                                                                               |
| 787                                                                                                                                                                                                      | <b>1312</b> | <b>2037</b>  | 1007                                                                                                                                                                                                     | <b>1700</b> | <b>2582</b> |             | 2180                                                                                                                                                                                                         | <b>6300</b>  | <b>5000</b>                                                                                                                                                                                               |
| 800                                                                                                                                                                                                      | <b>1320</b> | <b>2120</b>  | 1032                                                                                                                                                                                                     | <b>1707</b> | <b>2607</b> |             | 2240                                                                                                                                                                                                         | <b>6700</b>  | <b>5300</b>                                                                                                                                                                                               |
| 812                                                                                                                                                                                                      | <b>1337</b> | <b>2137</b>  | 1060                                                                                                                                                                                                     | <b>1732</b> | <b>2632</b> |             | 2280•                                                                                                                                                                                                        | <b>7100</b>  | <b>5600</b>                                                                                                                                                                                               |
| 825                                                                                                                                                                                                      | <b>1347</b> | <b>2150•</b> | 1082                                                                                                                                                                                                     | <b>1757</b> | <b>2650</b> |             | 2360                                                                                                                                                                                                         | <b>7500</b>  | <b>6000</b>                                                                                                                                                                                               |
| 837                                                                                                                                                                                                      | <b>1362</b> | <b>2187</b>  | 1107                                                                                                                                                                                                     | <b>1782</b> | <b>2682</b> |             | 2391                                                                                                                                                                                                         | <b>8000</b>  | <b>6300</b>                                                                                                                                                                                               |
| 850                                                                                                                                                                                                      | <b>1387</b> | <b>2240</b>  | 1120                                                                                                                                                                                                     | <b>1800</b> | <b>2732</b> |             | 2400•                                                                                                                                                                                                        |              | <b>6700</b>                                                                                                                                                                                               |
| 862                                                                                                                                                                                                      | <b>1400</b> | <b>2287</b>  | 1132                                                                                                                                                                                                     | <b>1807</b> | <b>2782</b> |             | 2500                                                                                                                                                                                                         |              | <b>7100</b>                                                                                                                                                                                               |
| 875                                                                                                                                                                                                      | <b>1412</b> | <b>2360</b>  | 1157                                                                                                                                                                                                     | <b>1832</b> | <b>2800</b> |             | 2650                                                                                                                                                                                                         |              | <b>7500</b>                                                                                                                                                                                               |
| 887                                                                                                                                                                                                      | <b>1437</b> | <b>2500</b>  | 1180                                                                                                                                                                                                     | <b>1857</b> | <b>2832</b> |             | 2680•                                                                                                                                                                                                        |              | <b>8000</b>                                                                                                                                                                                               |
| 900                                                                                                                                                                                                      | <b>1462</b> | <b>2540•</b> | 1207                                                                                                                                                                                                     | <b>1882</b> | <b>2847</b> |             | 2800                                                                                                                                                                                                         |              | <b>8500</b>                                                                                                                                                                                               |
| 912                                                                                                                                                                                                      | <b>1487</b> | <b>2650</b>  | 1232                                                                                                                                                                                                     | <b>1900</b> | <b>2882</b> |             | 2840•                                                                                                                                                                                                        |              | <b>9000</b>                                                                                                                                                                                               |
| 925                                                                                                                                                                                                      | <b>1500</b> | <b>2690•</b> | 1250                                                                                                                                                                                                     | <b>1907</b> | <b>2932</b> |             | 2850                                                                                                                                                                                                         |              | <b>9500</b>                                                                                                                                                                                               |
| 937                                                                                                                                                                                                      | <b>1512</b> | <b>2800</b>  | 1257                                                                                                                                                                                                     | <b>1932</b> | <b>2982</b> |             | 2900                                                                                                                                                                                                         |              | <b>10000</b>                                                                                                                                                                                              |
| 950                                                                                                                                                                                                      | <b>1537</b> | <b>2840•</b> | 1272                                                                                                                                                                                                     | <b>1957</b> | <b>3000</b> |             | 3000                                                                                                                                                                                                         |              | <b>10600</b>                                                                                                                                                                                              |
| 962                                                                                                                                                                                                      | <b>1562</b> | <b>3000</b>  | 1282                                                                                                                                                                                                     | <b>1982</b> | <b>3032</b> |             | 3150                                                                                                                                                                                                         |              | <b>11200</b>                                                                                                                                                                                              |
| 987                                                                                                                                                                                                      | <b>1587</b> | <b>3150</b>  | 1307                                                                                                                                                                                                     | <b>2000</b> | <b>3082</b> |             | 3250                                                                                                                                                                                                         |              | <b>12500</b>                                                                                                                                                                                              |
| 1000                                                                                                                                                                                                     | <b>1600</b> | <b>3350</b>  | 1320                                                                                                                                                                                                     | <b>2032</b> | <b>3150</b> |             | 3350                                                                                                                                                                                                         |              |                                                                                                                                                                                                           |
| 1012                                                                                                                                                                                                     | <b>1612</b> | <b>3550</b>  | 1332                                                                                                                                                                                                     | <b>2057</b> | <b>3182</b> |             | 3450                                                                                                                                                                                                         |              |                                                                                                                                                                                                           |
| 1024                                                                                                                                                                                                     | <b>1637</b> |              | 1357                                                                                                                                                                                                     | <b>2082</b> | <b>3282</b> |             | 3550                                                                                                                                                                                                         |              |                                                                                                                                                                                                           |
| 1037                                                                                                                                                                                                     | <b>1650</b> |              |                                                                                                                                                                                                          |             |             |             |                                                                                                                                                                                                              |              |                                                                                                                                                                                                           |
| Maximum production length: 4500 mm $L_d$<br>Minimum order quantity:<br>Over 1800 mm =<br>20 pieces for non-standard length ranges<br>60 pieces for special constructions<br>Weight: $\approx 0.074$ kg/m |             |              | Maximum production length: 4500 mm $L_d$<br>Minimum order quantity:<br>Over 1800 mm =<br>31 pieces for non-standard length ranges<br>93 pieces for special constructions<br>Weight: $\approx 0.123$ kg/m |             |             |             | Maximum production length:<br>18000 mm $L_d$<br>Minimum order quantity:<br>Over 1800 mm =<br>25 pieces for non-standard length ranges<br>75 pieces for special constructions<br>Weight: $\approx 0.195$ kg/m |              | Maximum production length: 21000 mm $L_d$<br>Minimum order quantity:<br>Over 2000 mm =<br>16 pieces for non-standard length ranges<br>48 pieces for special constructions<br>Weight: $\approx 0.377$ kg/m |

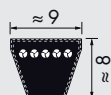
Datum length  $L_d \triangleq$  Pitch length  $L_w/L_p$

• Non stock items

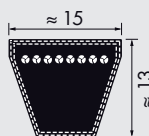
Lengths in **bold** type are in S=C Plus (SetConstant).

# STANDARD RANGE

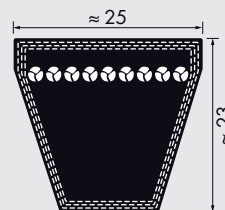
## optibelt **SK** HIGH PERFORMANCE WEDGE BELTS ARPM/MPTA



**3V/9N**



**5V/15N**



**8V/25N**

| Profile 3V/9N                                                                                                                                                                                                                |                                              | Profile 5V/15N                                                                                                                                                                                                                |                                              | Profile 8V/25N                                                                                                                                                                                                                                                             |                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Belt designation                                                                                                                                                                                                             |                                              | Belt designation                                                                                                                                                                                                              |                                              | Belt designation                                                                                                                                                                                                                                                           |                                              |
| Profile, length code                                                                                                                                                                                                         | Profile, outside length, L <sub>a</sub> [mm] | Profile, length code                                                                                                                                                                                                          | Profile, outside length, L <sub>a</sub> [mm] | Profile, length code                                                                                                                                                                                                                                                       | Profile, outside length, L <sub>a</sub> [mm] |
| 3V 250                                                                                                                                                                                                                       | 9N 635                                       | 5V 530                                                                                                                                                                                                                        | 15N 1346                                     | 8V 1000                                                                                                                                                                                                                                                                    | 25N 2540                                     |
| 3V 265                                                                                                                                                                                                                       | 9N 673                                       | 5V 560                                                                                                                                                                                                                        | 15N 1422                                     | 8V 1120                                                                                                                                                                                                                                                                    | 25N 2845                                     |
| 3V 280                                                                                                                                                                                                                       | 9N 711                                       | 5V 600                                                                                                                                                                                                                        | 15N 1524                                     | 8V 1180                                                                                                                                                                                                                                                                    | 25N 2997                                     |
| 3V 300                                                                                                                                                                                                                       | 9N 762                                       | 5V 630                                                                                                                                                                                                                        | 15N 1600                                     | 8V 1250                                                                                                                                                                                                                                                                    | 25N 3175                                     |
| 3V 315                                                                                                                                                                                                                       | 9N 800                                       | 5V 670                                                                                                                                                                                                                        | 15N 1702                                     | 8V 1320                                                                                                                                                                                                                                                                    | 25N 3353                                     |
| 3V 335                                                                                                                                                                                                                       | 9N 851                                       | 5V 710                                                                                                                                                                                                                        | 15N 1803                                     | 8V 1400                                                                                                                                                                                                                                                                    | 25N 3556                                     |
| 3V 355                                                                                                                                                                                                                       | 9N 902                                       | 5V 750                                                                                                                                                                                                                        | 15N 1905                                     | 8V 1500                                                                                                                                                                                                                                                                    | 25N 3810                                     |
| 3V 375                                                                                                                                                                                                                       | 9N 952                                       | 5V 800                                                                                                                                                                                                                        | 15N 2032                                     | 8V 1600                                                                                                                                                                                                                                                                    | 25N 4064                                     |
| 3V 400                                                                                                                                                                                                                       | 9N 1016                                      | 5V 850                                                                                                                                                                                                                        | 15N 2159                                     | 8V 1700                                                                                                                                                                                                                                                                    | 25N 4318                                     |
| 3V 425                                                                                                                                                                                                                       | 9N 1079                                      | 5V 900                                                                                                                                                                                                                        | 15N 2286                                     | 8V 1800                                                                                                                                                                                                                                                                    | 25N 4572                                     |
| 3V 450                                                                                                                                                                                                                       | 9N 1143                                      | 5V 950                                                                                                                                                                                                                        | 15N 2413                                     | 8V 1900                                                                                                                                                                                                                                                                    | 25N 4826                                     |
| 3V 475                                                                                                                                                                                                                       | 9N 1206                                      | 5V 1000                                                                                                                                                                                                                       | 15N 2540                                     | 8V 2000                                                                                                                                                                                                                                                                    | 25N 5080                                     |
| 3V 500                                                                                                                                                                                                                       | 9N 1270                                      | 5V 1060                                                                                                                                                                                                                       | 15N 2692                                     | 8V 2120                                                                                                                                                                                                                                                                    | 25N 5385                                     |
| 3V 530                                                                                                                                                                                                                       | 9N 1346                                      | 5V 1120                                                                                                                                                                                                                       | 15N 2845                                     | 8V 2240                                                                                                                                                                                                                                                                    | 25N 5690                                     |
| 3V 560                                                                                                                                                                                                                       | 9N 1422                                      | 5V 1180                                                                                                                                                                                                                       | 15N 2997                                     | 8V 2360                                                                                                                                                                                                                                                                    | 25N 5994                                     |
| 3V 600                                                                                                                                                                                                                       | 9N 1524                                      | 5V 1250                                                                                                                                                                                                                       | 15N 3175                                     | 8V 2500                                                                                                                                                                                                                                                                    | 25N 6350                                     |
| 3V 630                                                                                                                                                                                                                       | 9N 1600                                      | 5V 1320                                                                                                                                                                                                                       | 15N 3353                                     | 8V 2650                                                                                                                                                                                                                                                                    | 25N 6731                                     |
| 3V 670                                                                                                                                                                                                                       | 9N 1702                                      | 5V 1400                                                                                                                                                                                                                       | 15N 3556                                     | 8V 2800                                                                                                                                                                                                                                                                    | 25N 7112                                     |
| 3V 710                                                                                                                                                                                                                       | 9N 1803                                      | 5V 1500                                                                                                                                                                                                                       | 15N 3810                                     | 8V 3000                                                                                                                                                                                                                                                                    | 25N 7620                                     |
| 3V 750                                                                                                                                                                                                                       | 9N 1905                                      | 5V 1600                                                                                                                                                                                                                       | 15N 4064                                     | 8V 3150                                                                                                                                                                                                                                                                    | 25N 8001                                     |
| 3V 800                                                                                                                                                                                                                       | 9N 2032                                      | 5V 1700                                                                                                                                                                                                                       | 15N 4318                                     | 8V 3350                                                                                                                                                                                                                                                                    | 25N 8509                                     |
| 3V 850                                                                                                                                                                                                                       | 9N 2159                                      | 5V 1800                                                                                                                                                                                                                       | 15N 4572                                     | 8V 3550                                                                                                                                                                                                                                                                    | 25N 9017                                     |
| 3V 900                                                                                                                                                                                                                       | 9N 2286                                      | 5V 1900                                                                                                                                                                                                                       | 15N 4826                                     | 8V 3750                                                                                                                                                                                                                                                                    | 25N 9525                                     |
| 3V 950                                                                                                                                                                                                                       | 9N 2413                                      | 5V 2000                                                                                                                                                                                                                       | 15N 5080                                     | 8V 4000                                                                                                                                                                                                                                                                    | 25N 10160                                    |
| 3V 1000                                                                                                                                                                                                                      | 9N 2540                                      | 5V 2120                                                                                                                                                                                                                       | 15N 5385                                     | 8V 4250                                                                                                                                                                                                                                                                    | 25N 10795                                    |
| 3V 1060                                                                                                                                                                                                                      | 9N 2692                                      | 5V 2240                                                                                                                                                                                                                       | 15N 5690                                     | 8V 4500                                                                                                                                                                                                                                                                    | 25N 11430                                    |
| 3V 1120                                                                                                                                                                                                                      | 9N 2845                                      | 5V 2360                                                                                                                                                                                                                       | 15N 5994                                     | 8V 4750                                                                                                                                                                                                                                                                    | 25N 12065                                    |
| 3V 1180                                                                                                                                                                                                                      | 9N 2997                                      | 5V 2500                                                                                                                                                                                                                       | 15N 6350                                     | 8V 5000                                                                                                                                                                                                                                                                    | 25N 12700                                    |
| 3V 1250                                                                                                                                                                                                                      | 9N 3175                                      | 5V 2650                                                                                                                                                                                                                       | 15N 6731                                     |                                                                                                                                                                                                                                                                            |                                              |
| 3V 1320                                                                                                                                                                                                                      | 9N 3353                                      | 5V 2800                                                                                                                                                                                                                       | 15N 7112                                     |                                                                                                                                                                                                                                                                            |                                              |
| 3V 1400                                                                                                                                                                                                                      | 9N 3556                                      | 5V 3000                                                                                                                                                                                                                       | 15N 7620                                     |                                                                                                                                                                                                                                                                            |                                              |
|                                                                                                                                                                                                                              |                                              | 5V 3150                                                                                                                                                                                                                       | 15N 8001                                     |                                                                                                                                                                                                                                                                            |                                              |
|                                                                                                                                                                                                                              |                                              | 5V 3350                                                                                                                                                                                                                       | 15N 8509                                     |                                                                                                                                                                                                                                                                            |                                              |
|                                                                                                                                                                                                                              |                                              | 5V 3550                                                                                                                                                                                                                       | 15N 9017                                     |                                                                                                                                                                                                                                                                            |                                              |
| Maximum production length: 4500 mm L <sub>a</sub><br>Minimum order quantity:<br>Over 1800 mm L <sub>a</sub> =<br>20 pieces for non-standard length ranges<br>60 pieces for special constructions<br><br>Weight: ≈ 0.074 kg/m |                                              | Maximum production length: 18000 mm L <sub>a</sub><br>Minimum order quantity:<br>Over 1800 mm L <sub>a</sub> =<br>25 pieces for non-standard length ranges<br>75 pieces for special constructions<br><br>Weight: ≈ 0.195 kg/m |                                              | Maximum standard production length:<br>21000 mm L <sub>a</sub><br>Over 18000 to 21000 mm on request<br>Minimum order quantity:<br>Over 2540 mm L <sub>a</sub> =<br>11 pieces for non-standard length ranges<br>33 pieces for special constructions<br>Weight: ≈ 0.575 kg/m |                                              |

Lengths in **bold** type are in S=C Plus (SetConstant).

# STANDARD RANGE

## optibelt **VB** CLASSIC V-BELTS

### DIN 2215 / ISO 4184



5



Y/6



8



Z/10

| Profile 5*                                             |                                                        | Profile Y/6*                                           |                                                                                                                                                                                            | Profile 8                               |                                      | Profile Z/10 |                                         |                                      |             |                                         |                                      |              |                                         |                                      |
|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------------------------------|--------------|-----------------------------------------|--------------------------------------|-------------|-----------------------------------------|--------------------------------------|--------------|-----------------------------------------|--------------------------------------|
| Datum length ISO<br>L <sub>d</sub> [mm]                | Inside length<br>L <sub>i</sub> [mm]                   | Datum length ISO<br>L <sub>d</sub> [mm]                | Inside length<br>L <sub>i</sub> [mm]                                                                                                                                                       | Datum length ISO<br>L <sub>d</sub> [mm] | Inside length<br>L <sub>i</sub> [mm] | Belt no.     | Datum length ISO<br>L <sub>d</sub> [mm] | Inside length<br>L <sub>i</sub> [mm] | Belt no.    | Datum length ISO<br>L <sub>d</sub> [mm] | Inside length<br>L <sub>i</sub> [mm] | Belt no.     | Datum length ISO<br>L <sub>d</sub> [mm] | Inside length<br>L <sub>i</sub> [mm] |
| 200                                                    | 190                                                    | 295                                                    | 280                                                                                                                                                                                        | 335*                                    | 315*                                 | Z 11         | 312*                                    | 290*                                 | Z 38½       | 997                                     | 975                                  | <b>Z 68</b>  | <b>1747</b>                             | <b>1725</b>                          |
| 239                                                    | 229                                                    | 315                                                    | 300                                                                                                                                                                                        | 375*                                    | 355*                                 | Z 12½        | 337*                                    | 315*                                 | Z 39        | 1022                                    | 1000                                 | <b>Z 69</b>  | <b>1772</b>                             | <b>1750</b>                          |
| 270                                                    | 260                                                    | 350                                                    | 335                                                                                                                                                                                        | 420*                                    | 400*                                 | Z 14         | 397*                                    | 375*                                 | Z 40        | 1038                                    | 1016                                 | <b>Z 70</b>  | <b>1797</b>                             | <b>1775</b>                          |
| 290                                                    | 280                                                    | 415                                                    | 400                                                                                                                                                                                        | 445*                                    | 425*                                 | Z 15         | 422*                                    | 400*                                 | Z 40½       | 1052                                    | 1030                                 | <b>Z 71</b>  | <b>1822</b>                             | <b>1800</b>                          |
| 310                                                    | 300                                                    | 440                                                    | 425                                                                                                                                                                                        | 470*                                    | 450*                                 | Z 16         | 447*                                    | 425*                                 | Z 41        | 1063                                    | 1041                                 | <b>Z 73</b>  | <b>1872</b>                             | <b>1850</b>                          |
| 325                                                    | 315                                                    | 465                                                    | 450                                                                                                                                                                                        | 495*                                    | 475*                                 | Z 17         | 472*                                    | 450*                                 | Z 41½       | 1072                                    | 1050                                 | <b>Z 75</b>  | <b>1922</b>                             | <b>1900</b>                          |
| 332                                                    | 322                                                    | 515                                                    | 500                                                                                                                                                                                        | 510*                                    | 490*                                 | Z 18         | 497*                                    | 475*                                 | Z 42        | 1082                                    | 1060                                 | <b>Z 78</b>  | <b>1997</b>                             | <b>1975</b>                          |
| 345                                                    | 335                                                    | 555                                                    | 540                                                                                                                                                                                        | 550*                                    | 530*                                 | Z 19         | 502*                                    | 480*                                 | Z 43        | 1102                                    | 1080                                 | <b>Z 79</b>  | <b>2022</b>                             | <b>2000</b>                          |
| 385                                                    | 375                                                    | 615                                                    | 600                                                                                                                                                                                        | 580*                                    | 560*                                 | Z 19¾        | 522*                                    | 500*                                 | Z 43¼       | 1122                                    | 1100                                 | <b>Z 83½</b> | <b>2142</b>                             | <b>2120</b>                          |
| 435                                                    | 425                                                    | 865                                                    | 850                                                                                                                                                                                        | 595*                                    | 575*                                 | Z 20         | 537*                                    | 515*                                 | Z 44        | 1142                                    | 1120                                 | <b>Z 88</b>  | <b>2262</b>                             | <b>2240</b>                          |
| 485                                                    | 475                                                    |                                                        |                                                                                                                                                                                            | 620*                                    | 600*                                 | Z 20½        | 547*                                    | 525*                                 | Z 45        | 1172                                    | 1150                                 | <b>Z 93</b>  | <b>2382</b>                             | <b>2360</b>                          |
| 510                                                    | 500                                                    |                                                        |                                                                                                                                                                                            | 650*                                    | 630*                                 | Z 21         | 552*                                    | 530*                                 | Z 46        | 1187                                    | 1165                                 | <b>Z 98</b>  | <b>2522</b>                             | <b>2500</b>                          |
| 540                                                    | 530                                                    |                                                        |                                                                                                                                                                                            | 690*                                    | 670*                                 | Z 21¼        | 562*                                    | 540*                                 | Z 46½       | 1202                                    | 1180                                 |              |                                         |                                      |
| 564                                                    | 554                                                    |                                                        |                                                                                                                                                                                            | 720*                                    | 700*                                 | Z 22         | 582*                                    | 560*                                 | Z 47        | 1216                                    | 1194                                 |              |                                         |                                      |
| 610                                                    | 600                                                    |                                                        |                                                                                                                                                                                            | 730*                                    | 710*                                 | Z 23         | 597                                     | 575                                  | Z 48        | 1237                                    | 1215                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 770*                                    | 750*                                 | Z 24         | 622                                     | 600                                  | Z 48½       | 1247                                    | 1225                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 795*                                    | 775*                                 | Z 25         | 652                                     | 630                                  | Z 49        | 1272                                    | 1250                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 820*                                    | 800*                                 | Z 26         | 672                                     | 650                                  | Z 50        | 1292                                    | 1270                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 845                                     | 825                                  | Z 27         | 692                                     | 670                                  | Z 51        | 1317                                    | 1295                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 870                                     | 850                                  | Z 27½        | 722                                     | 700                                  | Z 52        | 1342                                    | 1320                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 895                                     | 875                                  | Z 28         | 732                                     | 710                                  | Z 53        | 1368                                    | 1346                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 920                                     | 900                                  | Z 28½        | 747                                     | 725                                  | Z 54        | 1393                                    | 1371                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 970                                     | 950                                  | Z 29         | 752                                     | 730                                  | Z 55        | 1422                                    | 1400                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 1020                                    | 1000                                 | Z 29½        | 772                                     | 750                                  | Z 56        | 1444                                    | 1422                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 1040                                    | 1020                                 | Z 30         | 787                                     | 765                                  | Z 57        | 1472                                    | 1450                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 1070                                    | 1050                                 | Z 31         | 797                                     | 775                                  | Z 58        | 1497                                    | 1475                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 1095                                    | 1075                                 | Z 31½        | 822                                     | 800                                  | Z 59        | 1522                                    | 1500                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 1140                                    | 1120                                 | Z 32         | 842                                     | 820                                  | Z 60        | 1546                                    | 1524                                 |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 1220                                    | 1200                                 | Z 33         | 847                                     | 825                                  | <b>Z 61</b> | <b>1572</b>                             | <b>1550</b>                          |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            | 1270                                    | 1250                                 | Z 33½        | 872                                     | 850                                  | <b>Z 62</b> | <b>1597</b>                             | <b>1575</b>                          |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            |                                         |                                      | Z 34         | 887                                     | 865                                  | <b>Z 63</b> | <b>1622</b>                             | <b>1600</b>                          |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            |                                         |                                      | Z 35         | 897                                     | 875                                  | <b>Z 64</b> | <b>1648</b>                             | <b>1626</b>                          |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            |                                         |                                      | Z 36         | 922                                     | 900                                  | <b>Z 65</b> | <b>1673</b>                             | <b>1651</b>                          |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            |                                         |                                      | Z 37         | 947                                     | 925                                  | <b>Z 66</b> | <b>1697</b>                             | <b>1675</b>                          |              |                                         |                                      |
|                                                        |                                                        |                                                        |                                                                                                                                                                                            |                                         |                                      | Z 38         | 972                                     | 950                                  | <b>Z 67</b> | <b>1722</b>                             | <b>1700</b>                          |              |                                         |                                      |
| Further sizes<br>on request<br>Weight:<br>≈ 0.018 kg/m | Further sizes<br>on request<br>Weight:<br>≈ 0.026 kg/m | Further sizes<br>on request<br>Weight:<br>≈ 0.042 kg/m | Maximum production length: 4500 mm<br>Minimum order quantity:<br>Over 1800 mm =<br>20 pieces for non-standard length ranges<br>60 pieces for special constructions<br>Weight: ≈ 0.064 kg/m |                                         |                                      |              |                                         |                                      |             |                                         |                                      |              |                                         |                                      |

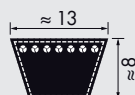
Datum length L<sub>d</sub> ± Pitch length L<sub>w</sub>/L<sub>p</sub> \* Raw edge, cogged V-belts Further sizes on request

Lengths in **bold** type are in S=C Plus (SetConstant).

# STANDARD RANGE

## optibelt **VB** CLASSIC V-BELTS

### DIN 2215 / ISO 4184



**A/13**

**Profile A/13**

| Belt no. | Datum length<br>ISO<br>$L_d$ [mm] | Inside<br>length<br>$L_i$ [mm] | Belt no.     | Datum length<br>ISO<br>$L_d$ [mm] | Inside<br>length<br>$L_i$ [mm] | Belt no.     | Datum length<br>ISO<br>$L_d$ [mm] | Inside<br>length<br>$L_i$ [mm] | Belt no.     | Datum length<br>ISO<br>$L_d$ [mm] | Inside<br>length<br>$L_i$ [mm] |
|----------|-----------------------------------|--------------------------------|--------------|-----------------------------------|--------------------------------|--------------|-----------------------------------|--------------------------------|--------------|-----------------------------------|--------------------------------|
| A 16     | 437                               | 407                            | A 41         | 1071                              | 1041                           | <b>A 69</b>  | <b>1780</b>                       | <b>1750</b>                    | <b>A 105</b> | <b>2697</b>                       | <b>2667</b>                    |
| A 18     | 487                               | 457                            | A 41½        | 1080                              | 1050                           | <b>A 70</b>  | <b>1805</b>                       | <b>1775</b>                    | <b>A 107</b> | <b>2755</b>                       | <b>2725</b>                    |
| A 19     | 510                               | 480                            | A 42         | 1090                              | 1060                           | <b>A 71</b>  | <b>1830</b>                       | <b>1800</b>                    | <b>A 108</b> | <b>2773</b>                       | <b>2743</b>                    |
| A 20     | 538                               | 508                            | A 42½        | 1105                              | 1075                           | <b>A 72</b>  | <b>1855</b>                       | <b>1825</b>                    | <b>A 110</b> | <b>2830</b>                       | <b>2800</b>                    |
| A 21     | 565                               | 535                            | A 43         | 1130                              | 1100                           | <b>A 73</b>  | <b>1884</b>                       | <b>1854</b>                    | <b>A 112</b> | <b>2875</b>                       | <b>2845</b>                    |
| A 22     | 590                               | 560                            | A 43½        | 1135                              | 1105                           | <b>A 74</b>  | <b>1910</b>                       | <b>1880</b>                    | <b>A 114</b> | <b>2926</b>                       | <b>2896</b>                    |
| A 23     | 605                               | 575                            | A 44         | 1150                              | 1120                           | <b>A 75</b>  | <b>1930</b>                       | <b>1900</b>                    | <b>A 116</b> | <b>2976</b>                       | <b>2946</b>                    |
| A 23½    | 630                               | 600                            | A 45         | 1173                              | 1143                           | <b>A 76</b>  | <b>1960</b>                       | <b>1930</b>                    | <b>A 118</b> | <b>3030</b>                       | <b>3000</b>                    |
| A 24     | 640                               | 610                            | A 45½        | 1180                              | 1150                           | <b>A 77</b>  | <b>1986</b>                       | <b>1956</b>                    | <b>A 120</b> | <b>3078</b>                       | <b>3048</b>                    |
| A 25     | 660                               | 630                            | <b>A 46</b>  | <b>1198</b>                       | <b>1168</b>                    | <b>A 78</b>  | <b>2010</b>                       | <b>1980</b>                    | <b>A 124</b> | <b>3180</b>                       | <b>3150</b>                    |
| A 26     | 680                               | 650                            | <b>A 46½</b> | <b>1210</b>                       | <b>1180</b>                    | <b>A 79</b>  | <b>2030</b>                       | <b>2000</b>                    | <b>A 128</b> | <b>3280</b>                       | <b>3250</b>                    |
| A 26½    | 700                               | 670                            | <b>A 47</b>  | <b>1230</b>                       | <b>1200</b>                    | <b>A 80</b>  | <b>2062</b>                       | <b>2032</b>                    | <b>A 132</b> | <b>3380</b>                       | <b>3350</b>                    |
| A 27     | 716                               | 686                            | <b>A 47½</b> | <b>1245</b>                       | <b>1215</b>                    | <b>A 81</b>  | <b>2090</b>                       | <b>2060</b>                    | <b>A 136</b> | <b>3484</b>                       | <b>3454</b>                    |
| A 27½    | 730                               | 700                            | <b>A 48</b>  | <b>1250</b>                       | <b>1220</b>                    | <b>A 82</b>  | <b>2113</b>                       | <b>2083</b>                    | <b>A 140</b> | <b>3580</b>                       | <b>3550</b>                    |
| A 28     | 740                               | 710                            | <b>A 48½</b> | <b>1255</b>                       | <b>1225</b>                    | <b>A 83</b>  | <b>2130</b>                       | <b>2100</b>                    | <b>A 144</b> | <b>3688</b>                       | <b>3658</b>                    |
| A 29     | 760                               | 730                            | <b>A 49</b>  | <b>1280</b>                       | <b>1250</b>                    | <b>A 83½</b> | <b>2150</b>                       | <b>2120</b>                    | <b>A 148</b> | <b>3780</b>                       | <b>3750</b>                    |
| A 29½    | 780                               | 750                            | <b>A 50</b>  | <b>1300</b>                       | <b>1270</b>                    | <b>A 84</b>  | <b>2164</b>                       | <b>2134</b>                    | <b>A 158</b> | <b>4030</b>                       | <b>4000</b>                    |
| A 30     | 797                               | 767                            | <b>A 51</b>  | <b>1330</b>                       | <b>1300</b>                    | <b>A 84½</b> | <b>2180</b>                       | <b>2150</b>                    | <b>A 167</b> | <b>4280</b>                       | <b>4250</b>                    |
| A 31     | 805                               | 775                            | <b>A 52</b>  | <b>1350</b>                       | <b>1320</b>                    | <b>A 85</b>  | <b>2190</b>                       | <b>2160</b>                    | <b>A 187</b> | <b>4780</b>                       | <b>4750</b>                    |
| A 31½    | 830                               | 800                            | <b>A 53</b>  | <b>1380</b>                       | <b>1350</b>                    | <b>A 86½</b> | <b>2230</b>                       | <b>2200</b>                    | <b>A 197</b> | <b>5030</b>                       | <b>5000</b>                    |
| A 32     | 843                               | 813                            | <b>A 54</b>  | <b>1405</b>                       | <b>1375</b>                    | <b>A 87</b>  | <b>2240</b>                       | <b>2210</b>                    |              |                                   |                                |
| A 32½    | 855                               | 825                            | <b>A 55</b>  | <b>1430</b>                       | <b>1400</b>                    | <b>A 88</b>  | <b>2270</b>                       | <b>2240</b>                    |              |                                   |                                |
| A 33     | 871                               | 841                            | <b>A 56</b>  | <b>1452</b>                       | <b>1422</b>                    | <b>A 89</b>  | <b>2291</b>                       | <b>2261</b>                    |              |                                   |                                |
| A 34     | 880                               | 850                            | <b>A 57</b>  | <b>1480</b>                       | <b>1450</b>                    | <b>A 90</b>  | <b>2316</b>                       | <b>2286</b>                    |              |                                   |                                |
| A 34½    | 905                               | 875                            | <b>A 58</b>  | <b>1505</b>                       | <b>1475</b>                    | <b>A 91</b>  | <b>2341</b>                       | <b>2311</b>                    |              |                                   |                                |
| A 35     | 919                               | 889                            | <b>A 59</b>  | <b>1530</b>                       | <b>1500</b>                    | <b>A 92</b>  | <b>2367</b>                       | <b>2337</b>                    |              |                                   |                                |
| A 35½    | 930                               | 900                            | <b>A 60</b>  | <b>1555</b>                       | <b>1525</b>                    | <b>A 93</b>  | <b>2390</b>                       | <b>2360</b>                    |              |                                   |                                |
| A 36     | 944                               | 914                            | <b>A 61</b>  | <b>1580</b>                       | <b>1550</b>                    | <b>A 94</b>  | <b>2418</b>                       | <b>2388</b>                    |              |                                   |                                |
| A 37     | 955                               | 925                            | <b>A 62</b>  | <b>1605</b>                       | <b>1575</b>                    | <b>A 95</b>  | <b>2443</b>                       | <b>2413</b>                    |              |                                   |                                |
| A 37½    | 980                               | 950                            | <b>A 63</b>  | <b>1630</b>                       | <b>1600</b>                    | <b>A 96</b>  | <b>2468</b>                       | <b>2438</b>                    |              |                                   |                                |
| A 38     | 995                               | 965                            | <b>A 64</b>  | <b>1655</b>                       | <b>1625</b>                    | <b>A 97</b>  | <b>2494</b>                       | <b>2464</b>                    |              |                                   |                                |
| A 38½    | 1005                              | 975                            | <b>A 65</b>  | <b>1680</b>                       | <b>1650</b>                    | <b>A 98</b>  | <b>2530</b>                       | <b>2500</b>                    |              |                                   |                                |
| A 39     | 1030                              | 1000                           | <b>A 66</b>  | <b>1706</b>                       | <b>1676</b>                    | <b>A 100</b> | <b>2570</b>                       | <b>2540</b>                    |              |                                   |                                |
| A 40     | 1046                              | 1016                           | <b>A 67</b>  | <b>1730</b>                       | <b>1700</b>                    | <b>A 102</b> | <b>2621</b>                       | <b>2591</b>                    |              |                                   |                                |
| A 40½    | 1060                              | 1030                           | <b>A 68</b>  | <b>1755</b>                       | <b>1725</b>                    | <b>A 104</b> | <b>2680</b>                       | <b>2650</b>                    |              |                                   |                                |

Maximum production length: 10000 mm  $L_i$   
 Minimum order quantity:  
 Over 1800 mm =  
 31 pieces for non-standard length ranges  
 93 pieces for special constructions  
 Weight:  $\approx 0.109$  kg/m

Datum length  $L_d \triangleq$  Pitch length  $L_w/L_p$  Further sizes on request

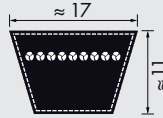
Lengths in **bold** type are in S=C Plus (SetConstant).



# STANDARD RANGE

## optibelt **VB** CLASSIC V-BELTS

### DIN 2215 / ISO 4184



**B/17**

**Profile B/17**

| Belt no. | Datum length<br>ISO<br>$L_d$ [mm] | Inside<br>length<br>$L_i$ [mm] | Belt no. | Datum length<br>ISO<br>$L_d$ [mm] | Inside<br>length<br>$L_i$ [mm] | Belt no. | Datum length<br>ISO<br>$L_d$ [mm] | Inside<br>length<br>$L_i$ [mm] | Belt no. | Datum length<br>ISO<br>$L_d$ [mm] | Inside<br>length<br>$L_i$ [mm] |
|----------|-----------------------------------|--------------------------------|----------|-----------------------------------|--------------------------------|----------|-----------------------------------|--------------------------------|----------|-----------------------------------|--------------------------------|
| B 23     | 610                               | 570                            | B 51     | 1340                              | 1300                           | B 87     | 2250                              | 2210                           | B 140    | 3590                              | 3550                           |
| B 24     | 655                               | 615                            | B 52     | 1360                              | 1320                           | B 88     | 2280                              | 2240                           | B 142    | 3640                              | 3600                           |
| B 25     | 670                               | 630                            | B 52½    | 1375                              | 1335                           | B 89     | 2301                              | 2261                           | B 144    | 3698                              | 3658                           |
| B 26     | 690                               | 650                            | B 53     | 1390                              | 1350                           | B 90     | 2326                              | 2286                           | B 146    | 3740                              | 3700                           |
| B 26½    | 710                               | 670                            | B 53½    | 1400                              | 1360                           | B 91     | 2340                              | 2300                           | B 148    | 3790                              | 3750                           |
| B 27     | 726                               | 686                            | B 54     | 1412                              | 1372                           | B 92     | 2377                              | 2337                           | B 150    | 3850                              | 3810                           |
| B 28     | 750                               | 710                            | B 55     | 1440                              | 1400                           | B 93     | 2400                              | 2360                           | B 151    | 3890                              | 3850                           |
| B 29     | 765                               | 725                            | B 56     | 1462                              | 1422                           | B 94     | 2428                              | 2388                           | B 152    | 3901                              | 3861                           |
| B 30     | 790                               | 750                            | B 57     | 1490                              | 1450                           | B 94½    | 2440                              | 2400                           | B 154    | 3952                              | 3912                           |
| B 31     | 815                               | 775                            | B 58     | 1513                              | 1473                           | B 95     | 2453                              | 2413                           | B 155    | 3990                              | 3950                           |
| B 32     | 840                               | 800                            | B 59     | 1540                              | 1500                           | B 96     | 2478                              | 2438                           | B 156    | 4002                              | 3962                           |
| B 32½    | 865                               | 825                            | B 60     | 1565                              | 1525                           | B 96½    | 2490                              | 2450                           | B 158    | 4040                              | 4000                           |
| B 33     | 876                               | 836                            | B 61     | 1590                              | 1550                           | B 97     | 2505                              | 2465                           | B 160    | 4104                              | 4064                           |
| B 34     | 890                               | 850                            | B 62     | 1615                              | 1575                           | B 98     | 2540                              | 2500                           | B 162    | 4155                              | 4115                           |
| B 34½    | 915                               | 875                            | B 63     | 1640                              | 1600                           | B 99     | 2555                              | 2515                           | B 165    | 4240                              | 4200                           |
| B 35     | 929                               | 889                            | B 64     | 1665                              | 1625                           | B 100    | 2580                              | 2540                           | B 167    | 4290                              | 4250                           |
| B 36     | 940                               | 900                            | B 65     | 1690                              | 1650                           | B 101    | 2605                              | 2565                           | B 173    | 4434                              | 4394                           |
| B 37     | 965                               | 925                            | B 66     | 1716                              | 1676                           | B 102    | 2640                              | 2600                           | B 175    | 4490                              | 4450                           |
| B 37½    | 990                               | 950                            | B 67     | 1740                              | 1700                           | B 103    | 2656                              | 2616                           | B 177    | 4540                              | 4500                           |
| B 38     | 1005                              | 965                            | B 68     | 1765                              | 1725                           | B 104    | 2690                              | 2650                           | B 180    | 4612                              | 4572                           |
| B 38½    | 1015                              | 975                            | B 69     | 1790                              | 1750                           | B 105    | 2707                              | 2667                           | B 187    | 4790                              | 4750                           |
| B 39     | 1040                              | 1000                           | B 69½    | 1801                              | 1761                           | B 106    | 2740                              | 2700                           | B 195    | 4993                              | 4953                           |
| B 40     | 1056                              | 1016                           | B 70     | 1815                              | 1775                           | B 107    | 2758                              | 2718                           | B 197    | 5040                              | 5000                           |
| B 40½    | 1070                              | 1030                           | B 71     | 1840                              | 1800                           | B 108    | 2790                              | 2750                           | B 208    | 5340                              | 5300                           |
| B 41     | 1080                              | 1040                           | B 72     | 1869                              | 1829                           | B 110    | 2840                              | 2800                           | B 210    | 5374                              | 5334                           |
| B 41½    | 1090                              | 1050                           | B 73     | 1890                              | 1850                           | B 112    | 2885                              | 2845                           | B 220    | 5640                              | 5600                           |
| B 42     | 1100                              | 1060                           | B 74     | 1920                              | 1880                           | B 114    | 2940                              | 2900                           | B 236    | 6040                              | 6000                           |
| B 42½    | 1115                              | 1075                           | B 75     | 1940                              | 1900                           | B 115    | 2961                              | 2921                           | B 240    | 6136                              | 6096                           |
| B 43     | 1130                              | 1090                           | B 76     | 1970                              | 1930                           | B 116    | 2990                              | 2950                           | B 248    | 6340                              | 6300                           |
| B 43¼    | 1140                              | 1100                           | B 77     | 1990                              | 1950                           | B 118    | 3040                              | 3000                           | B 264    | 6740                              | 6700                           |
| B 44     | 1160                              | 1120                           | B 78     | 2021                              | 1981                           | B 120    | 3088                              | 3048                           | B 276    | 7040                              | 7000                           |
| B 45     | 1190                              | 1150                           | B 79     | 2040                              | 2000                           | B 122    | 3139                              | 3099                           | B 280    | 7140                              | 7100                           |
| B 45½    | 1203                              | 1163                           | B 80     | 2072                              | 2032                           | B 124    | 3190                              | 3150                           |          |                                   |                                |
| B 46     | 1215                              | 1175                           | B 81     | 2100                              | 2060                           | B 126    | 3240                              | 3200                           |          |                                   |                                |
| B 46½    | 1220                              | 1180                           | B 82     | 2123                              | 2083                           | B 128    | 3290                              | 3250                           |          |                                   |                                |
| B 47     | 1240                              | 1200                           | B 83     | 2140                              | 2100                           | B 130    | 3342                              | 3302                           |          |                                   |                                |
| B 48     | 1255                              | 1215                           | B 83½    | 2160                              | 2120                           | B 132    | 3390                              | 3350                           |          |                                   |                                |
| B 48½    | 1265                              | 1225                           | B 84     | 2174                              | 2134                           | B 134    | 3444                              | 3404                           |          |                                   |                                |
| B 49     | 1290                              | 1250                           | B 85     | 2200                              | 2160                           | B 136    | 3490                              | 3450                           |          |                                   |                                |
| B 50     | 1315                              | 1275                           | B 86     | 2240                              | 2200                           | B 138    | 3545                              | 3505                           |          |                                   |                                |

Maximum production length: 21 000 mm  $L_i$   
 Minimum order quantity:  
 Over 1800 mm =  
 21 pieces for non-standard length ranges  
 63 pieces for special constructions  
 Weight:  $\approx 0.196$  kg/m

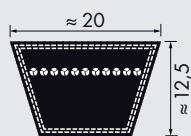
Datum length  $L_d \triangleq$  Pitch length  $L_w/L_p$  Further sizes on request

Lengths in **bold** type are in S=C Plus (SetConstant).

# STANDARD RANGE

## optibelt **VB** CLASSIC V-BELTS

### DIN 2215 / ISO 4184



**20**



**C/22**

| Profile 20                        |                             | Profile C/22       |                                   |                             |                    |                                   |                             |          |                                   |                             |
|-----------------------------------|-----------------------------|--------------------|-----------------------------------|-----------------------------|--------------------|-----------------------------------|-----------------------------|----------|-----------------------------------|-----------------------------|
| Datum length<br>ISO<br>$L_d$ [mm] | Inside length<br>$L_i$ [mm] | Belt no.           | Datum length<br>ISO<br>$L_d$ [mm] | Inside length<br>$L_i$ [mm] | Belt no.           | Datum length<br>ISO<br>$L_d$ [mm] | Inside length<br>$L_i$ [mm] | Belt no. | Datum length<br>ISO<br>$L_d$ [mm] | Inside length<br>$L_i$ [mm] |
| 950                               | 900                         | C 43               | 1148                              | 1090                        | C 84               | 2192                              | 2134                        | C 134    | 3462                              | 3404                        |
| 1050                              | 1000                        | C 47               | 1258                              | 1200                        | C 85               | 2217                              | 2159                        | C 136    | 3508                              | 3450                        |
| 1170                              | 1120                        | C 48               | 1273                              | 1215                        | C 86               | 2242                              | 2184                        | C 138    | 3563                              | 3505                        |
| 1230                              | 1180                        | C 49               | 1308                              | 1250                        | C 87               | 2268                              | 2210                        | C 140    | 3608                              | 3550                        |
| 1300                              | 1250                        | C 51               | 1353                              | 1295                        | C 88               | 2298                              | 2240                        | C 142    | 3665                              | 3607                        |
| 1370                              | 1320                        | C 52               | 1378                              | 1320                        | C 89               | 2319                              | 2261                        | C 144    | 3716                              | 3658                        |
| 1450                              | 1400                        | C 53               | 1408                              | 1350                        | C 90               | 2344                              | 2286                        | C 146    | 3758                              | 3700                        |
| 1550                              | 1500                        | C 54               | 1433                              | 1375                        | C 92               | 2395                              | 2337                        | C 148    | 3808                              | 3750                        |
| 1650                              | 1600                        | C 55               | 1458                              | 1400                        | C 93               | 2418                              | 2360                        | C 150    | 3868                              | 3810                        |
| 1750                              | 1700                        | C 56               | 1483                              | 1425                        | C 94               | 2446                              | 2388                        | C 158    | 4058                              | 4000                        |
| 1850                              | 1800                        | C 57               | 1508                              | 1450                        | C 95               | 2471                              | 2413                        | C 162    | 4158                              | 4100                        |
| 1950                              | 1900                        | C 58               | 1533                              | 1475                        | C 96               | 2496                              | 2438                        | C 166    | 4274                              | 4216                        |
| 2050                              | 2000                        | C 59               | 1558                              | 1500                        | C 96 $\frac{1}{2}$ | 2508                              | 2450                        | C 167    | 4308                              | 4250                        |
| 2170                              | 2120                        | C 60               | 1582                              | 1524                        | C 97               | 2522                              | 2464                        | C 168    | 4325                              | 4267                        |
| 2290                              | 2240                        | C 61               | 1608                              | 1550                        | C 98               | 2558                              | 2500                        | C 170    | 4376                              | 4318                        |
| 2410                              | 2360                        | C 62               | 1632                              | 1574                        | C 99               | 2583                              | 2525                        | C 173    | 4452                              | 4394                        |
| 2550                              | 2500                        | C 63               | 1658                              | 1600                        | C 100              | 2598                              | 2540                        | C 175    | 4503                              | 4445                        |
| 2700                              | 2650                        | C 65               | 1708                              | 1650                        | C 101              | 2618                              | 2560                        | C 177    | 4558                              | 4500                        |
| 2850                              | 2800                        | C 66               | 1734                              | 1676                        | C 102              | 2649                              | 2591                        | C 180    | 4630                              | 4572                        |
| 3050                              | 3000                        | C 67               | 1758                              | 1700                        | C 104              | 2700                              | 2642                        | C 187    | 4808                              | 4750                        |
| 3200                              | 3150                        | C 68               | 1785                              | 1727                        | C 105              | 2725                              | 2667                        | C 190    | 4884                              | 4826                        |
| 3400                              | 3350                        | C 69               | 1808                              | 1750                        | C 106              | 2750                              | 2692                        | C 195    | 5011                              | 4953                        |
| 3600                              | 3550                        | C 70               | 1836                              | 1778                        | C 108              | 2808                              | 2750                        | C 197    | 5058                              | 5000                        |
| 3800                              | 3750                        | C 71               | 1858                              | 1800                        | C 110              | 2858                              | 2800                        | C 208    | 5358                              | 5300                        |
| 4050                              | 4000                        | C 72               | 1887                              | 1829                        | C 112              | 2903                              | 2845                        | C 210    | 5392                              | 5334                        |
| 4550                              | 4500                        | C 73               | 1912                              | 1854                        | C 114              | 2954                              | 2896                        | C 220    | 5658                              | 5600                        |
| 5050                              | 5000                        | C 74               | 1938                              | 1880                        | C 115              | 2979                              | 2921                        | C 225    | 5773                              | 5715                        |
| 6050                              | 6000                        | C 75               | 1958                              | 1900                        | C 116              | 3008                              | 2950                        | C 236    | 6058                              | 6000                        |
|                                   |                             | C 76               | 1988                              | 1930                        | C 117              | 3023                              | 2965                        | C 240    | 6154                              | 6096                        |
|                                   |                             | C 77               | 2014                              | 1956                        | C 118              | 3058                              | 3000                        | C 248    | 6358                              | 6300                        |
|                                   |                             | C 78               | 2039                              | 1981                        | C 120              | 3106                              | 3048                        | C 264    | 6758                              | 6700                        |
|                                   |                             | C 79               | 2058                              | 2000                        | C 122              | 3157                              | 3099                        | C 270    | 6916                              | 6858                        |
|                                   |                             | C 80               | 2090                              | 2032                        | C 124              | 3208                              | 3150                        | C 280    | 7158                              | 7100                        |
|                                   |                             | C 81               | 2118                              | 2060                        | C 126              | 3258                              | 3200                        | C 295    | 7558                              | 7500                        |
|                                   |                             | C 82               | 2141                              | 2083                        | C 128              | 3308                              | 3250                        | C 300    | 7678                              | 7620                        |
|                                   |                             | C 83               | 2166                              | 2108                        | C 130              | 3360                              | 3302                        | C 315    | 8058                              | 8000                        |
|                                   |                             | C 83 $\frac{1}{2}$ | 2178                              | 2120                        | C 132              | 3408                              | 3350                        |          |                                   |                             |

Maximum production length:  
10000 mm  $L_i$   
Minimum order quantity:  
Over 1800 mm =  
18 pieces for non-standard  
length ranges  
54 pieces for special  
constructions  
Weight:  $\approx 0.266$  kg/m

Maximum standard production length: 21 000 mm  $L_i$   
Over 18 000 to 21 000 mm on request  
Minimum order quantity:  
Over 1800 mm =  
16 pieces for non-standard length ranges  
48 pieces for special constructions  
Weight:  $\approx 0.324$  kg/m

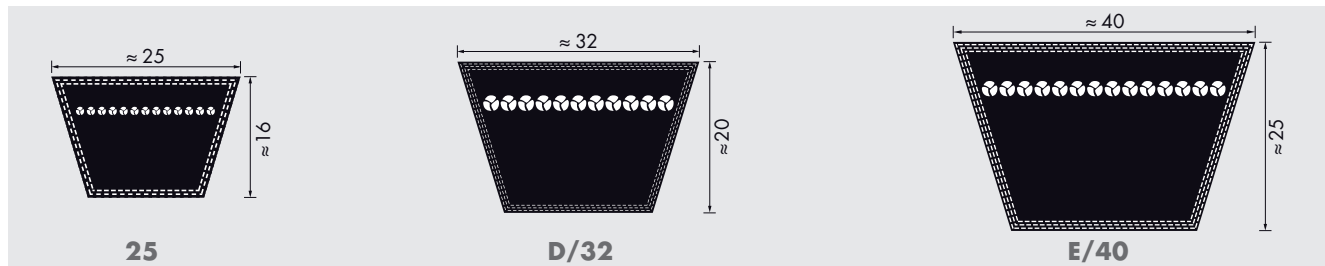
Datum length  $L_d \triangleq$  Pitch length  $L_w/L_p$  Further sizes on request

Lengths in **bold** type are in S=C Plus (SetConstant).

# STANDARD RANGE

## optibelt **VB** CLASSIC V-BELTS

### DIN 2215 / ISO 4184



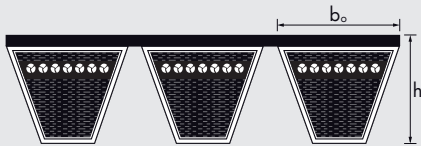
| Profile 25                                                                                                                                                                                                                                                             |                                      | Profile D/32                                                                                                                                                                                                                                                        |                                         |                                      | Profile E/40                                                                                                                                                                                                           |                                         |                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------------------------------|
| Datum length ISO<br>L <sub>d</sub> [mm]                                                                                                                                                                                                                                | Inside length<br>L <sub>i</sub> [mm] | Belt no.                                                                                                                                                                                                                                                            | Datum length ISO<br>L <sub>d</sub> [mm] | Inside length<br>L <sub>i</sub> [mm] | Belt no.                                                                                                                                                                                                               | Datum length ISO<br>L <sub>d</sub> [mm] | Inside length<br>L <sub>i</sub> [mm] |
| 1460                                                                                                                                                                                                                                                                   | 1400                                 | D 79                                                                                                                                                                                                                                                                | 2075                                    | 2000                                 | E 118                                                                                                                                                                                                                  | 3080                                    | 3000                                 |
| 1560                                                                                                                                                                                                                                                                   | 1500                                 | D 98                                                                                                                                                                                                                                                                | 2575                                    | 2500                                 | E 158                                                                                                                                                                                                                  | 4080                                    | 4000                                 |
| 1660                                                                                                                                                                                                                                                                   | 1600                                 | D 104                                                                                                                                                                                                                                                               | 2725                                    | 2650                                 | E 197                                                                                                                                                                                                                  | 5080                                    | 5000                                 |
| 1760                                                                                                                                                                                                                                                                   | 1700                                 | D 110                                                                                                                                                                                                                                                               | 2875                                    | 2800                                 | E 220                                                                                                                                                                                                                  | 5680                                    | 5600                                 |
| 1860                                                                                                                                                                                                                                                                   | 1800                                 | D 118                                                                                                                                                                                                                                                               | 3075                                    | 3000                                 | E 236                                                                                                                                                                                                                  | 6080                                    | 6000                                 |
| 1960                                                                                                                                                                                                                                                                   | 1900                                 | D 120                                                                                                                                                                                                                                                               | 3123                                    | 3048                                 | E 248                                                                                                                                                                                                                  | 6380                                    | 6300                                 |
| 2060                                                                                                                                                                                                                                                                   | 2000                                 | D 124                                                                                                                                                                                                                                                               | 3225                                    | 3150                                 | E 280                                                                                                                                                                                                                  | 7180                                    | 7100                                 |
| 2180                                                                                                                                                                                                                                                                   | 2120                                 | D 128                                                                                                                                                                                                                                                               | 3326                                    | 3251                                 | E 295                                                                                                                                                                                                                  | 7580                                    | 7500                                 |
| 2300                                                                                                                                                                                                                                                                   | 2240                                 | D 132                                                                                                                                                                                                                                                               | 3425                                    | 3350                                 | E 315                                                                                                                                                                                                                  | 8080                                    | 8000                                 |
| 2420                                                                                                                                                                                                                                                                   | 2360                                 | D 135                                                                                                                                                                                                                                                               | 3500                                    | 3425                                 | E 354                                                                                                                                                                                                                  | 9080                                    | 9000                                 |
| 2560                                                                                                                                                                                                                                                                   | 2500                                 | D 136                                                                                                                                                                                                                                                               | 3529                                    | 3454                                 | E 394                                                                                                                                                                                                                  | 10080                                   | 10000                                |
| 2710                                                                                                                                                                                                                                                                   | 2650                                 | D 140                                                                                                                                                                                                                                                               | 3625                                    | 3550                                 | E 441                                                                                                                                                                                                                  | 11280                                   | 11200                                |
| 2760                                                                                                                                                                                                                                                                   | 2700                                 | D 144                                                                                                                                                                                                                                                               | 3733                                    | 3658                                 | E 492                                                                                                                                                                                                                  | 12580                                   | 12500                                |
| 2860                                                                                                                                                                                                                                                                   | 2800                                 | D 148                                                                                                                                                                                                                                                               | 3825                                    | 3750                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 3060                                                                                                                                                                                                                                                                   | 3000                                 | D 154                                                                                                                                                                                                                                                               | 4000                                    | 3925                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 3210                                                                                                                                                                                                                                                                   | 3150                                 | D 158                                                                                                                                                                                                                                                               | 4075                                    | 4000                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 3410                                                                                                                                                                                                                                                                   | 3350                                 | D 162                                                                                                                                                                                                                                                               | 4190                                    | 4115                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 3610                                                                                                                                                                                                                                                                   | 3550                                 | D 167                                                                                                                                                                                                                                                               | 4325                                    | 4250                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 3810                                                                                                                                                                                                                                                                   | 3750                                 | D 173                                                                                                                                                                                                                                                               | 4469                                    | 4394                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 4060                                                                                                                                                                                                                                                                   | 4000                                 | D 177                                                                                                                                                                                                                                                               | 4575                                    | 4500                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 4310                                                                                                                                                                                                                                                                   | 4250                                 | D 180                                                                                                                                                                                                                                                               | 4647                                    | 4572                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 4560                                                                                                                                                                                                                                                                   | 4500                                 | D 187                                                                                                                                                                                                                                                               | 4825                                    | 4750                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 4810                                                                                                                                                                                                                                                                   | 4750                                 | D 195                                                                                                                                                                                                                                                               | 5028                                    | 4953                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 5060                                                                                                                                                                                                                                                                   | 5000                                 | D 197                                                                                                                                                                                                                                                               | 5075                                    | 5000                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 5360                                                                                                                                                                                                                                                                   | 5300                                 | D 208                                                                                                                                                                                                                                                               | 5375                                    | 5300                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 5660                                                                                                                                                                                                                                                                   | 5600                                 | D 210                                                                                                                                                                                                                                                               | 5409                                    | 5334                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 6060                                                                                                                                                                                                                                                                   | 6000                                 | D 220                                                                                                                                                                                                                                                               | 5675                                    | 5600                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 6360                                                                                                                                                                                                                                                                   | 6300                                 | D 225                                                                                                                                                                                                                                                               | 5790                                    | 5715                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 6760                                                                                                                                                                                                                                                                   | 6700                                 | D 236                                                                                                                                                                                                                                                               | 6075                                    | 6000                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 7160                                                                                                                                                                                                                                                                   | 7100                                 | D 240                                                                                                                                                                                                                                                               | 6171                                    | 6096                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 7560                                                                                                                                                                                                                                                                   | 7500                                 | D 248                                                                                                                                                                                                                                                               | 6375                                    | 6300                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 8060                                                                                                                                                                                                                                                                   | 8000                                 | D 264                                                                                                                                                                                                                                                               | 6775                                    | 6700                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 8560                                                                                                                                                                                                                                                                   | 8500                                 | D 270                                                                                                                                                                                                                                                               | 6933                                    | 6858                                 |                                                                                                                                                                                                                        |                                         |                                      |
| 9060                                                                                                                                                                                                                                                                   | 9000                                 | D 280                                                                                                                                                                                                                                                               | 7175                                    | 7100                                 |                                                                                                                                                                                                                        |                                         |                                      |
|                                                                                                                                                                                                                                                                        |                                      | D 295                                                                                                                                                                                                                                                               | 7575                                    | 7500                                 |                                                                                                                                                                                                                        |                                         |                                      |
|                                                                                                                                                                                                                                                                        |                                      | D 300                                                                                                                                                                                                                                                               | 7695                                    | 7620                                 |                                                                                                                                                                                                                        |                                         |                                      |
|                                                                                                                                                                                                                                                                        |                                      | D 315                                                                                                                                                                                                                                                               | 8075                                    | 8000                                 |                                                                                                                                                                                                                        |                                         |                                      |
|                                                                                                                                                                                                                                                                        |                                      | D 330                                                                                                                                                                                                                                                               | 8457                                    | 8382                                 |                                                                                                                                                                                                                        |                                         |                                      |
|                                                                                                                                                                                                                                                                        |                                      | D 335                                                                                                                                                                                                                                                               | 8575                                    | 8500                                 |                                                                                                                                                                                                                        |                                         |                                      |
|                                                                                                                                                                                                                                                                        |                                      | D 354                                                                                                                                                                                                                                                               | 9075                                    | 9000                                 |                                                                                                                                                                                                                        |                                         |                                      |
|                                                                                                                                                                                                                                                                        |                                      | D 374                                                                                                                                                                                                                                                               | 9575                                    | 9500                                 |                                                                                                                                                                                                                        |                                         |                                      |
|                                                                                                                                                                                                                                                                        |                                      | D 394                                                                                                                                                                                                                                                               | 10075                                   | 10000                                |                                                                                                                                                                                                                        |                                         |                                      |
|                                                                                                                                                                                                                                                                        |                                      | D 441                                                                                                                                                                                                                                                               | 11275                                   | 11200                                |                                                                                                                                                                                                                        |                                         |                                      |
| Maximum standard production length:<br>21 000 mm L <sub>i</sub><br>Over 18 000 to 21 000 mm on request<br>Minimum order quantity:<br>Over 1800 mm =<br>14 pieces for non-standard length ranges<br>42 pieces for certain special constructions<br>Weight: ≈ 0.420 kg/m |                                      | Maximum standard production length: 21 000 mm L <sub>i</sub><br>Over 18 000 to 21 000 mm on request<br>Minimum order quantity:<br>Over 2000 mm =<br>11 pieces for non-standard length ranges<br>33 pieces for certain special constructions<br>Weight: ≈ 0.668 kg/m |                                         |                                      | Maximum production length: 21 000 mm L <sub>i</sub><br>Minimum order quantity:<br>Over 3000 mm =<br>7 pieces for non-standard length ranges<br>21 pieces for certain special constructions<br><br>Weight: ≈ 0.958 kg/m |                                         |                                      |
| Datum length L <sub>d</sub> ≙ Pitch length L <sub>w</sub> /L <sub>p</sub>                                                                                                                                                                                              |                                      | Further sizes on request                                                                                                                                                                                                                                            |                                         |                                      |                                                                                                                                                                                                                        |                                         |                                      |

Lengths in **bold** type are in S=C Plus (SetConstant).

# STANDARD RANGE

optibelt **RED POWER 3** KRAFTBANDS

WITH HIGH PERFORMANCE WEDGE BELTS DIN/ISO



| Profile                   | SPB  | SPC  |
|---------------------------|------|------|
| $b_o \approx [\text{mm}]$ | 16.5 | 22.0 |
| $h \approx [\text{mm}]$   | 15.6 | 22.6 |

| Profile SPB                                                                                                                           | Profile SPC                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Datum length ISO<br>$L_d [\text{mm}]$                                                                                                 | Datum length ISO<br>$L_d [\text{mm}]$                                                                                                 |
| 2000                                                                                                                                  | 3000                                                                                                                                  |
| 2120                                                                                                                                  | 3150                                                                                                                                  |
| 2240                                                                                                                                  | 3350                                                                                                                                  |
| 2360                                                                                                                                  | 3550                                                                                                                                  |
| 2500                                                                                                                                  | 3750                                                                                                                                  |
| 2650                                                                                                                                  | 4000                                                                                                                                  |
| 2800                                                                                                                                  | 4250                                                                                                                                  |
| 3000                                                                                                                                  | 4500                                                                                                                                  |
| 3150                                                                                                                                  | 4750                                                                                                                                  |
| 3350                                                                                                                                  | 5000                                                                                                                                  |
| 3550                                                                                                                                  | 5300                                                                                                                                  |
| 3750                                                                                                                                  | 5600                                                                                                                                  |
| 4000                                                                                                                                  | 6000                                                                                                                                  |
| 4250                                                                                                                                  | 6300                                                                                                                                  |
| 4500                                                                                                                                  | 6700                                                                                                                                  |
| 4750                                                                                                                                  | 7100                                                                                                                                  |
| 5000                                                                                                                                  | 7500                                                                                                                                  |
| 5300                                                                                                                                  | 8000                                                                                                                                  |
| 5600                                                                                                                                  | 8500                                                                                                                                  |
| 6000                                                                                                                                  | 9000                                                                                                                                  |
| 6300                                                                                                                                  | 9500                                                                                                                                  |
| 6700                                                                                                                                  | 10000                                                                                                                                 |
| 7100                                                                                                                                  |                                                                                                                                       |
| 7500                                                                                                                                  |                                                                                                                                       |
| 8000                                                                                                                                  |                                                                                                                                       |
| Maximum production length: 10000 mm $L_d$<br>Non-standard length ranges on request<br>Weight:<br>per rib $\approx 0.261 \text{ kg/m}$ | Maximum production length: 10000 mm $L_d$<br>Non-standard length ranges on request<br>Weight:<br>per rib $\approx 0.555 \text{ kg/m}$ |

Datum length  $L_d \triangleq$  Pitch length  $L_w/L_p$  Further sizes on request

# STANDARD RANGE

optibelt **RED POWER 3** KRAFTBANDS

WITH HIGH PERFORMANCE WEDGE BELTS ARPM/MPTA



| Profile                   | 3V/9J | 5V/15J | 8V/25J |
|---------------------------|-------|--------|--------|
| $b_o \approx [\text{mm}]$ | 9.0   | 15.0   | 25.0   |
| $h \approx [\text{mm}]$   | 9.9   | 15.1   | 25.5   |

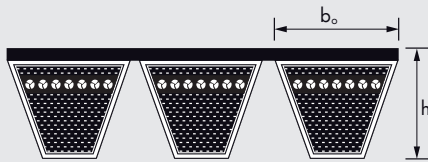
| Profile 3V/9J                                                                                                                |                                     | Profile 5V/15J                                                                                                                |                                     | Profile 8V/25J                                                                                                                |                                     |
|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Belt designation                                                                                                             |                                     | Belt designation                                                                                                              |                                     | Belt designation                                                                                                              |                                     |
| Profile, length code                                                                                                         | Profile, outside length, $L_o$ [mm] | Profile, length code                                                                                                          | Profile, outside length, $L_o$ [mm] | Profile, length code                                                                                                          | Profile, outside length, $L_o$ [mm] |
| 3V 500                                                                                                                       | 9J 1270                             | 5V 560                                                                                                                        | 15J 1422                            | 8V 1000                                                                                                                       | 25J 2540                            |
| 3V 530                                                                                                                       | 9J 1346                             | 5V 600                                                                                                                        | 15J 1524                            | 8V 1060                                                                                                                       | 25J 2692                            |
| 3V 560                                                                                                                       | 9J 1422                             | 5V 630                                                                                                                        | 15J 1600                            | 8V 1120                                                                                                                       | 25J 2845                            |
| 3V 600                                                                                                                       | 9J 1524                             | 5V 670                                                                                                                        | 15J 1702                            | 8V 1180                                                                                                                       | 25J 2997                            |
| 3V 630                                                                                                                       | 9J 1600                             | 5V 710                                                                                                                        | 15J 1803                            | 8V 1250                                                                                                                       | 25J 3175                            |
| 3V 670                                                                                                                       | 9J 1702                             | 5V 750                                                                                                                        | 15J 1905                            | 8V 1320                                                                                                                       | 25J 3353                            |
| 3V 710                                                                                                                       | 9J 1803                             | 5V 800                                                                                                                        | 15J 2032                            | 8V 1400                                                                                                                       | 25J 3556                            |
| 3V 750                                                                                                                       | 9J 1905                             | 5V 850                                                                                                                        | 15J 2159                            | 8V 1500                                                                                                                       | 25J 3810                            |
| 3V 800                                                                                                                       | 9J 2032                             | 5V 900                                                                                                                        | 15J 2286                            | 8V 1600                                                                                                                       | 25J 4064                            |
| 3V 850                                                                                                                       | 9J 2159                             | 5V 950                                                                                                                        | 15J 2413                            | 8V 1700                                                                                                                       | 25J 4318                            |
| 3V 900                                                                                                                       | 9J 2286                             | 5V 1000                                                                                                                       | 15J 2540                            | 8V 1800                                                                                                                       | 25J 4572                            |
| 3V 950                                                                                                                       | 9J 2413                             | 5V 1060                                                                                                                       | 15J 2692                            | 8V 1900                                                                                                                       | 25J 4826                            |
| 3V 1000                                                                                                                      | 9J 2540                             | 5V 1120                                                                                                                       | 15J 2845                            | 8V 2000                                                                                                                       | 25J 5080                            |
| 3V 1060                                                                                                                      | 9J 2692                             | 5V 1180                                                                                                                       | 15J 2997                            | 8V 2120                                                                                                                       | 25J 5385                            |
| 3V 1120                                                                                                                      | 9J 2845                             | 5V 1250                                                                                                                       | 15J 3175                            | 8V 2240                                                                                                                       | 25J 5690                            |
| 3V 1180                                                                                                                      | 9J 2997                             | 5V 1320                                                                                                                       | 15J 3353                            | 8V 2360                                                                                                                       | 25J 5994                            |
| 3V 1250                                                                                                                      | 9J 3175                             | 5V 1400                                                                                                                       | 15J 3556                            | 8V 2500                                                                                                                       | 25J 6350                            |
| 3V 1320                                                                                                                      | 9J 3353                             | 5V 1500                                                                                                                       | 15J 3810                            | 8V 2650                                                                                                                       | 25J 6731                            |
| 3V 1400                                                                                                                      | 9J 3556                             | 5V 1600                                                                                                                       | 15J 4064                            | 8V 2800                                                                                                                       | 25J 7112                            |
|                                                                                                                              |                                     | 5V 1700                                                                                                                       | 15J 4318                            | 8V 3000                                                                                                                       | 25J 7620                            |
|                                                                                                                              |                                     | 5V 1800                                                                                                                       | 15J 4572                            | 8V 3150                                                                                                                       | 25J 8001                            |
|                                                                                                                              |                                     | 5V 1900                                                                                                                       | 15J 4826                            | 8V 3350                                                                                                                       | 25J 8509                            |
|                                                                                                                              |                                     | 5V 2000                                                                                                                       | 15J 5080                            | 8V 3550                                                                                                                       | 25J 9017                            |
|                                                                                                                              |                                     | 5V 2120                                                                                                                       | 15J 5385                            | 8V 3750                                                                                                                       | 25J 9525                            |
|                                                                                                                              |                                     | 5V 2240                                                                                                                       | 15J 5690                            | 8V 4000                                                                                                                       | 25J 10160                           |
|                                                                                                                              |                                     | 5V 2360                                                                                                                       | 15J 5994                            | 8V 4250                                                                                                                       | 25J 10795                           |
|                                                                                                                              |                                     | 5V 2500                                                                                                                       | 15J 6350                            | 8V 4500                                                                                                                       | 25J 11430                           |
|                                                                                                                              |                                     | 5V 2650                                                                                                                       | 15J 6731                            | 8V 4750                                                                                                                       | 25J 12065                           |
|                                                                                                                              |                                     | 5V 2800                                                                                                                       | 15J 7112                            |                                                                                                                               |                                     |
|                                                                                                                              |                                     | 5V 3000                                                                                                                       | 15J 7620                            |                                                                                                                               |                                     |
|                                                                                                                              |                                     | 5V 3150                                                                                                                       | 15J 8001                            |                                                                                                                               |                                     |
| Maximum production length: 4000 mm $L_o$<br>Non-standard length ranges on request<br>Weight:<br>per rib $\approx 0.122$ kg/m |                                     | Maximum production length: 10000 mm $L_o$<br>Non-standard length ranges on request<br>Weight:<br>per rib $\approx 0.252$ kg/m |                                     | Maximum production length: 18000 mm $L_o$<br>Non-standard length ranges on request<br>Weight:<br>per rib $\approx 0.693$ kg/m |                                     |

Further sizes on request



# STANDARD RANGE

optibelt **BLUE POWER** KRAFTBANDS  
WITH HIGH PERFORMANCE WEDGE BELTS  
DIN 7753 PART 1 / ISO 4184



| Profile                   | SPB  | SPC  |
|---------------------------|------|------|
| $b_o \approx [\text{mm}]$ | 16.5 | 22.0 |
| $h \approx [\text{mm}]$   | 15.6 | 22.6 |

| Profile SPB                                                                                                                                                                                                                                                                                                                    | Profile SPC                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Datum length ISO<br>$L_d [\text{mm}]$                                                                                                                                                                                                                                                                                          | Datum length ISO<br>$L_d [\text{mm}]$                                                                                                                                                                                                                                                                   |
| 2000                                                                                                                                                                                                                                                                                                                           | 3000                                                                                                                                                                                                                                                                                                    |
| 2120                                                                                                                                                                                                                                                                                                                           | 3150                                                                                                                                                                                                                                                                                                    |
| 2240                                                                                                                                                                                                                                                                                                                           | 3350                                                                                                                                                                                                                                                                                                    |
| 2360                                                                                                                                                                                                                                                                                                                           | 3550                                                                                                                                                                                                                                                                                                    |
| 2500                                                                                                                                                                                                                                                                                                                           | 3750                                                                                                                                                                                                                                                                                                    |
| 2650                                                                                                                                                                                                                                                                                                                           | 4000                                                                                                                                                                                                                                                                                                    |
| 2800                                                                                                                                                                                                                                                                                                                           | 4250                                                                                                                                                                                                                                                                                                    |
| 3000                                                                                                                                                                                                                                                                                                                           | 4500                                                                                                                                                                                                                                                                                                    |
| 3150                                                                                                                                                                                                                                                                                                                           | 4750                                                                                                                                                                                                                                                                                                    |
| 3350                                                                                                                                                                                                                                                                                                                           | 5000                                                                                                                                                                                                                                                                                                    |
| 3550                                                                                                                                                                                                                                                                                                                           | 5300                                                                                                                                                                                                                                                                                                    |
| 3750                                                                                                                                                                                                                                                                                                                           | 5600                                                                                                                                                                                                                                                                                                    |
| 4000                                                                                                                                                                                                                                                                                                                           | 6000                                                                                                                                                                                                                                                                                                    |
| 4250                                                                                                                                                                                                                                                                                                                           | 6300                                                                                                                                                                                                                                                                                                    |
| 4500                                                                                                                                                                                                                                                                                                                           | 6700                                                                                                                                                                                                                                                                                                    |
| 4750                                                                                                                                                                                                                                                                                                                           | 7100                                                                                                                                                                                                                                                                                                    |
| 5000                                                                                                                                                                                                                                                                                                                           | 7500                                                                                                                                                                                                                                                                                                    |
| 5300                                                                                                                                                                                                                                                                                                                           | 8000                                                                                                                                                                                                                                                                                                    |
| 5600                                                                                                                                                                                                                                                                                                                           | 8500                                                                                                                                                                                                                                                                                                    |
| 6000                                                                                                                                                                                                                                                                                                                           | 9000                                                                                                                                                                                                                                                                                                    |
| 6300                                                                                                                                                                                                                                                                                                                           | 9500                                                                                                                                                                                                                                                                                                    |
| 6700                                                                                                                                                                                                                                                                                                                           | 10000                                                                                                                                                                                                                                                                                                   |
| 7100                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                         |
| 7500                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                         |
| 8000                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                         |
| Maximum production length: 10000 mm $L_d$<br>Non-standard length ranges from 2000 mm $L_d$<br>Minimum order quantity:<br>from 2000 mm $L_d$<br>4 pieces with 5 ribs or<br>5 pieces with 4 ribs or<br>7 pieces with 3 ribs or<br>11 pieces with 2 ribs<br>or a multiple thereof<br>Weight: per rib $\approx 0.283 \text{ kg/m}$ | Maximum production length: 10000 mm $L_d$<br>Non-standard length ranges from 3000 mm $L_d$<br>Minimum order quantity:<br>3 pieces with 5 ribs or<br>4 pieces with 4 ribs or<br>5 pieces with 3 ribs or<br>8 pieces with 2 ribs<br>or a multiple thereof<br>Weight: per rib $\approx 0.567 \text{ kg/m}$ |

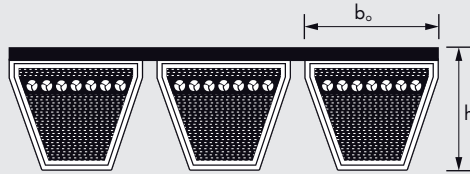
Datum length  $L_d \triangleq$  Pitch length  $L_w/L_p$  Further sizes on request

# STANDARD RANGE

optibelt **BLUE POWER** KRAFTBANDS

WITH HIGH PERFORMANCE WEDGE BELTS

ARPM/MPA



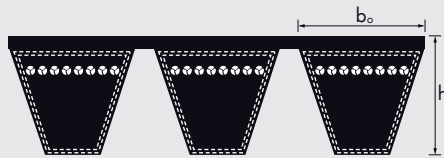
| Profile                   | 5V/15J | 8V/25J |
|---------------------------|--------|--------|
| $b_o \approx [\text{mm}]$ | 15.0   | 25.0   |
| $h \approx [\text{mm}]$   | 15.1   | 25.5   |

| Profile 5V/15J                                                                                                                                                                                                                                                                                         |                                     | Profile 8V/25J                                                                                                                                                                                                                                                                                       |                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Belt designation                                                                                                                                                                                                                                                                                       |                                     | Belt designation                                                                                                                                                                                                                                                                                     |                                     |
| Profile, length code                                                                                                                                                                                                                                                                                   | Profile, outside length, $L_d$ [mm] | Profile, length code                                                                                                                                                                                                                                                                                 | Profile, outside length, $L_d$ [mm] |
| 5V 800                                                                                                                                                                                                                                                                                                 | 15J 2032                            | 8V 1000                                                                                                                                                                                                                                                                                              | 25J 2540                            |
| 5V 850                                                                                                                                                                                                                                                                                                 | 15J 2159                            | 8V 1060                                                                                                                                                                                                                                                                                              | 25J 2692                            |
| 5V 900                                                                                                                                                                                                                                                                                                 | 15J 2286                            | 8V 1120                                                                                                                                                                                                                                                                                              | 25J 2845                            |
| 5V 950                                                                                                                                                                                                                                                                                                 | 15J 2413                            | 8V 1180                                                                                                                                                                                                                                                                                              | 25J 2997                            |
| 5V 1000                                                                                                                                                                                                                                                                                                | 15J 2540                            | 8V 1250                                                                                                                                                                                                                                                                                              | 25J 3175                            |
| 5V 1060                                                                                                                                                                                                                                                                                                | 15J 2692                            | 8V 1320                                                                                                                                                                                                                                                                                              | 25J 3353                            |
| 5V 1120                                                                                                                                                                                                                                                                                                | 15J 2845                            | 8V 1400                                                                                                                                                                                                                                                                                              | 25J 3556                            |
| 5V 1180                                                                                                                                                                                                                                                                                                | 15J 2997                            | 8V 1500                                                                                                                                                                                                                                                                                              | 25J 3810                            |
| 5V 1250                                                                                                                                                                                                                                                                                                | 15J 3175                            | 8V 1600                                                                                                                                                                                                                                                                                              | 25J 4064                            |
| 5V 1320                                                                                                                                                                                                                                                                                                | 15J 3353                            | 8V 1700                                                                                                                                                                                                                                                                                              | 25J 4318                            |
| 5V 1400                                                                                                                                                                                                                                                                                                | 15J 3556                            | 8V 1800                                                                                                                                                                                                                                                                                              | 25J 4572                            |
| 5V 1500                                                                                                                                                                                                                                                                                                | 15J 3810                            | 8V 1900                                                                                                                                                                                                                                                                                              | 25J 4826                            |
| 5V 1600                                                                                                                                                                                                                                                                                                | 15J 4064                            | 8V 2000                                                                                                                                                                                                                                                                                              | 25J 5080                            |
| 5V 1700                                                                                                                                                                                                                                                                                                | 15J 4318                            | 8V 2120                                                                                                                                                                                                                                                                                              | 25J 5385                            |
| 5V 1800                                                                                                                                                                                                                                                                                                | 15J 4572                            | 8V 2240                                                                                                                                                                                                                                                                                              | 25J 5690                            |
| 5V 1900                                                                                                                                                                                                                                                                                                | 15J 4826                            | 8V 2360                                                                                                                                                                                                                                                                                              | 25J 5994                            |
| 5V 2000                                                                                                                                                                                                                                                                                                | 15J 5080                            | 8V 2500                                                                                                                                                                                                                                                                                              | 25J 6350                            |
| 5V 2120                                                                                                                                                                                                                                                                                                | 15J 5385                            | 8V 2650                                                                                                                                                                                                                                                                                              | 25J 6731                            |
| 5V 2240                                                                                                                                                                                                                                                                                                | 15J 5690                            | 8V 2800                                                                                                                                                                                                                                                                                              | 25J 7112                            |
| 5V 2360                                                                                                                                                                                                                                                                                                | 15J 5994                            | 8V 3000                                                                                                                                                                                                                                                                                              | 25J 7620                            |
| 5V 2500                                                                                                                                                                                                                                                                                                | 15J 6350                            | 8V 3150                                                                                                                                                                                                                                                                                              | 25J 8001                            |
| 5V 2650                                                                                                                                                                                                                                                                                                | 15J 6731                            | 8V 3350                                                                                                                                                                                                                                                                                              | 25J 8509                            |
| 5V 2800                                                                                                                                                                                                                                                                                                | 15J 7112                            | 8V 3550                                                                                                                                                                                                                                                                                              | 25J 9017                            |
| 5V 3000                                                                                                                                                                                                                                                                                                | 15J 7620                            | 8V 3750                                                                                                                                                                                                                                                                                              | 25J 9525                            |
| 5V 3150                                                                                                                                                                                                                                                                                                | 15J 8001                            | 8V 4000                                                                                                                                                                                                                                                                                              | 25J 10160                           |
|                                                                                                                                                                                                                                                                                                        |                                     | 8V 4250                                                                                                                                                                                                                                                                                              | 25J 10795                           |
|                                                                                                                                                                                                                                                                                                        |                                     | 8V 4500                                                                                                                                                                                                                                                                                              | 25J 11430                           |
|                                                                                                                                                                                                                                                                                                        |                                     | 8V 4750                                                                                                                                                                                                                                                                                              | 25J 12065                           |
| Maximum production length: 18 000 mm $L_d$<br>Non-standard length ranges from 2032 mm $L_d$<br>Minimum order quantity:<br>6 pieces with 5 ribs or<br>7 pieces with 4 ribs or<br>10 pieces with 3 ribs or<br>15 pieces with 2 ribs<br>or a multiple thereof<br><br>Weight: per rib $\approx 0.253$ kg/m |                                     | Maximum production length: 18 000 mm $L_d$<br>Non-standard length ranges from 2540 mm $L_d$<br>Minimum order quantity:<br>3 pieces with 5 ribs or<br>3 pieces with 4 ribs or<br>5 pieces with 3 ribs or<br>7 pieces with 2 ribs<br>or a multiple thereof<br><br>Weight: per rib $\approx 0.738$ kg/m |                                     |

Further sizes on request

# STANDARD RANGE

optibelt **KB** KRAFTBANDS WITH WEDGE BELTS  
DIN/ISO



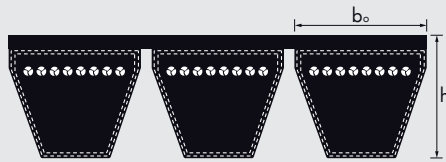
| Profile                   | SPZ  | SPA  | SPB  | SPC  |
|---------------------------|------|------|------|------|
| $b_o \approx [\text{mm}]$ | 9.7  | 12.7 | 16.5 | 22.0 |
| $h \approx [\text{mm}]$   | 10.5 | 12.5 | 15.6 | 22.6 |

| Profile SPZ                                                                                                                                                                                                                                                                                                                                                                                                   | Profile SPA                                                                                                                                                                                                                                                                                                                                                                                              | Profile SPB                                                                                                                                                                                                                                                                                                                                                                                                  | Profile SPC                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Datum length ISO<br>$L_d$ [mm]                                                                                                                                                                                                                                                                                                                                                                                | Datum length ISO<br>$L_d$ [mm]                                                                                                                                                                                                                                                                                                                                                                           | Datum length ISO<br>$L_d$ [mm]                                                                                                                                                                                                                                                                                                                                                                               | Datum length ISO<br>$L_d$ [mm]                                                                                                                                                                                                                                                                                                                                                                          |
| 1250                                                                                                                                                                                                                                                                                                                                                                                                          | 1250                                                                                                                                                                                                                                                                                                                                                                                                     | 2000                                                                                                                                                                                                                                                                                                                                                                                                         | 3000                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1400                                                                                                                                                                                                                                                                                                                                                                                                          | 1400                                                                                                                                                                                                                                                                                                                                                                                                     | 2120                                                                                                                                                                                                                                                                                                                                                                                                         | 3150                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1500                                                                                                                                                                                                                                                                                                                                                                                                          | 1500                                                                                                                                                                                                                                                                                                                                                                                                     | 2240                                                                                                                                                                                                                                                                                                                                                                                                         | 3350                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1600                                                                                                                                                                                                                                                                                                                                                                                                          | 1600                                                                                                                                                                                                                                                                                                                                                                                                     | 2360                                                                                                                                                                                                                                                                                                                                                                                                         | 3550                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1700                                                                                                                                                                                                                                                                                                                                                                                                          | 1700                                                                                                                                                                                                                                                                                                                                                                                                     | 2500                                                                                                                                                                                                                                                                                                                                                                                                         | 3750                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1800                                                                                                                                                                                                                                                                                                                                                                                                          | 1800                                                                                                                                                                                                                                                                                                                                                                                                     | 2650                                                                                                                                                                                                                                                                                                                                                                                                         | 4000                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1900                                                                                                                                                                                                                                                                                                                                                                                                          | 1900                                                                                                                                                                                                                                                                                                                                                                                                     | 2800                                                                                                                                                                                                                                                                                                                                                                                                         | 4250                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2000                                                                                                                                                                                                                                                                                                                                                                                                          | 2000                                                                                                                                                                                                                                                                                                                                                                                                     | 3000                                                                                                                                                                                                                                                                                                                                                                                                         | 4500                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2120                                                                                                                                                                                                                                                                                                                                                                                                          | 2120                                                                                                                                                                                                                                                                                                                                                                                                     | 3150                                                                                                                                                                                                                                                                                                                                                                                                         | 4750                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2240                                                                                                                                                                                                                                                                                                                                                                                                          | 2240                                                                                                                                                                                                                                                                                                                                                                                                     | 3350                                                                                                                                                                                                                                                                                                                                                                                                         | 5000                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2360                                                                                                                                                                                                                                                                                                                                                                                                          | 2360                                                                                                                                                                                                                                                                                                                                                                                                     | 3550                                                                                                                                                                                                                                                                                                                                                                                                         | 5300                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2500                                                                                                                                                                                                                                                                                                                                                                                                          | 2500                                                                                                                                                                                                                                                                                                                                                                                                     | 3750                                                                                                                                                                                                                                                                                                                                                                                                         | 5600                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2650                                                                                                                                                                                                                                                                                                                                                                                                          | 2650                                                                                                                                                                                                                                                                                                                                                                                                     | 4000                                                                                                                                                                                                                                                                                                                                                                                                         | 6000                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2800                                                                                                                                                                                                                                                                                                                                                                                                          | 2800                                                                                                                                                                                                                                                                                                                                                                                                     | 4250                                                                                                                                                                                                                                                                                                                                                                                                         | 6300                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3000                                                                                                                                                                                                                                                                                                                                                                                                          | 3000                                                                                                                                                                                                                                                                                                                                                                                                     | 4500                                                                                                                                                                                                                                                                                                                                                                                                         | 6700                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3150                                                                                                                                                                                                                                                                                                                                                                                                          | 3150                                                                                                                                                                                                                                                                                                                                                                                                     | 4750                                                                                                                                                                                                                                                                                                                                                                                                         | 7100                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3350                                                                                                                                                                                                                                                                                                                                                                                                          | 3350                                                                                                                                                                                                                                                                                                                                                                                                     | 5000                                                                                                                                                                                                                                                                                                                                                                                                         | 7500                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3550                                                                                                                                                                                                                                                                                                                                                                                                          | 3550                                                                                                                                                                                                                                                                                                                                                                                                     | 5300                                                                                                                                                                                                                                                                                                                                                                                                         | 8000                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                               | 3750                                                                                                                                                                                                                                                                                                                                                                                                     | 5600                                                                                                                                                                                                                                                                                                                                                                                                         | 8500                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                               | 4000                                                                                                                                                                                                                                                                                                                                                                                                     | 6000                                                                                                                                                                                                                                                                                                                                                                                                         | 9000                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                               | 4250                                                                                                                                                                                                                                                                                                                                                                                                     | 6300                                                                                                                                                                                                                                                                                                                                                                                                         | 9500                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                               | 4500                                                                                                                                                                                                                                                                                                                                                                                                     | 6700                                                                                                                                                                                                                                                                                                                                                                                                         | 10000                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                          | 7100                                                                                                                                                                                                                                                                                                                                                                                                         | 10600                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                          | 7500                                                                                                                                                                                                                                                                                                                                                                                                         | 11200                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                          | 8000                                                                                                                                                                                                                                                                                                                                                                                                         | 11800                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                              | 12500                                                                                                                                                                                                                                                                                                                                                                                                   |
| Maximum production length:<br>4500 mm $L_d$<br>Non-standard length ranges from 1800 mm $L_d$<br>Minimum order quantity for<br>special length ranges:<br>8 pieces with 5 ribs or<br>10 pieces with 4 ribs or<br>14 pieces with 3 ribs or<br>21 pieces with 2 ribs<br>or a multiple thereof<br>Weight: per rib $\approx 0.120$ kg/m<br>Minimum order quantity for design with<br>aramid tension cord on request | Maximum production length:<br>4500 mm $L_d$<br>Non-standard length ranges from 1800 mm $L_d$<br>Minimum order quantity for<br>all length ranges:<br>6 pieces with 5 ribs or<br>8 pieces with 4 ribs or<br>11 pieces with 3 ribs or<br>16 pieces with 2 ribs<br>or a multiple thereof<br>Weight: per rib $\approx 0.166$ kg/m<br>Minimum order quantity for design with<br>aramid tension cord on request | Maximum production length:<br>10000 mm $L_d$<br>Non-standard length ranges from 2000 mm $L_d$<br>Minimum order quantity for<br>special length ranges:<br>4 pieces with 5 ribs or<br>5 pieces with 4 ribs or<br>7 pieces with 3 ribs or<br>11 pieces with 2 ribs<br>or a multiple thereof<br>Weight: per rib $\approx 0.261$ kg/m<br>Minimum order quantity for design with<br>aramid tension cord on request | Maximum production length:<br>12500 mm $L_d$<br>Non-standard length ranges from 3000 mm $L_d$<br>Minimum order quantity for<br>all length ranges:<br>3 pieces with 5 ribs or<br>4 pieces with 4 ribs or<br>5 pieces with 3 ribs or<br>8 pieces with 2 ribs<br>or a multiple thereof<br>Weight: per rib $\approx 0.555$ kg/m<br>Minimum order quantity for design with<br>aramid tension cord on request |

Datum length  $L_d \triangleq$  Pitch length  $L_w/L_p$  Further sizes on request

# STANDARD RANGE

## optibelt **KB** KRAFTBANDS WITH WEDGE BELTS ARPM/MPTA



| Profile                   | 3V/9J | 5V/15J | 8V/25J |
|---------------------------|-------|--------|--------|
| $b_o \approx [\text{mm}]$ | 9.0   | 15.0   | 25.0   |
| $h \approx [\text{mm}]$   | 9.9   | 15.1   | 25.5   |

| Profile 3V/9J                                                                                                                                                                                                                                                                                                                                                                                                |                                     | Profile 5V/15J                                                                                                                                                                                                                                                                                                                                                                                                |                                     | Profile 8V/25J                                                                                                                                                                                                                                                                                                                                                                                                       |                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Belt designation                                                                                                                                                                                                                                                                                                                                                                                             |                                     | Belt designation                                                                                                                                                                                                                                                                                                                                                                                              |                                     | Belt designation                                                                                                                                                                                                                                                                                                                                                                                                     |                                     |
| Profile, length code                                                                                                                                                                                                                                                                                                                                                                                         | Profile, outside length, $L_o$ [mm] | Profile, length code                                                                                                                                                                                                                                                                                                                                                                                          | Profile, outside length, $L_o$ [mm] | Profile, length code                                                                                                                                                                                                                                                                                                                                                                                                 | Profile, outside length, $L_o$ [mm] |
| 3V 500                                                                                                                                                                                                                                                                                                                                                                                                       | 9J 1270                             | 5V 560                                                                                                                                                                                                                                                                                                                                                                                                        | 15J 1422                            | 8V 1000                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 2540                            |
| 3V 530                                                                                                                                                                                                                                                                                                                                                                                                       | 9J 1346                             | 5V 600                                                                                                                                                                                                                                                                                                                                                                                                        | 15J 1524                            | 8V 1060                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 2692                            |
| 3V 560                                                                                                                                                                                                                                                                                                                                                                                                       | 9J 1422                             | 5V 630                                                                                                                                                                                                                                                                                                                                                                                                        | 15J 1600                            | 8V 1120                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 2845                            |
| 3V 600                                                                                                                                                                                                                                                                                                                                                                                                       | 9J 1524                             | 5V 670                                                                                                                                                                                                                                                                                                                                                                                                        | 15J 1702                            | 8V 1180                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 2997                            |
| 3V 630                                                                                                                                                                                                                                                                                                                                                                                                       | 9J 1600                             | 5V 710                                                                                                                                                                                                                                                                                                                                                                                                        | 15J 1803                            | 8V 1250                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 3175                            |
| 3V 670                                                                                                                                                                                                                                                                                                                                                                                                       | 9J 1702                             | 5V 750                                                                                                                                                                                                                                                                                                                                                                                                        | 15J 1905                            | 8V 1320                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 3353                            |
| 3V 710                                                                                                                                                                                                                                                                                                                                                                                                       | 9J 1803                             | 5V 800                                                                                                                                                                                                                                                                                                                                                                                                        | 15J 2032                            | 8V 1400                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 3556                            |
| 3V 750                                                                                                                                                                                                                                                                                                                                                                                                       | 9J 1905                             | 5V 850                                                                                                                                                                                                                                                                                                                                                                                                        | 15J 2159                            | 8V 1500                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 3810                            |
| 3V 800                                                                                                                                                                                                                                                                                                                                                                                                       | 9J 2032                             | 5V 900                                                                                                                                                                                                                                                                                                                                                                                                        | 15J 2286                            | 8V 1600                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 4064                            |
| 3V 850                                                                                                                                                                                                                                                                                                                                                                                                       | 9J 2159                             | 5V 950                                                                                                                                                                                                                                                                                                                                                                                                        | 15J 2413                            | 8V 1700                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 4318                            |
| 3V 900                                                                                                                                                                                                                                                                                                                                                                                                       | 9J 2286                             | 5V 1000                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 2540                            | 8V 1800                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 4572                            |
| 3V 950                                                                                                                                                                                                                                                                                                                                                                                                       | 9J 2413                             | 5V 1060                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 2692                            | 8V 1900                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 4826                            |
| 3V 1000                                                                                                                                                                                                                                                                                                                                                                                                      | 9J 2540                             | 5V 1120                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 2845                            | 8V 2000                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 5080                            |
| 3V 1060                                                                                                                                                                                                                                                                                                                                                                                                      | 9J 2692                             | 5V 1180                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 2997                            | 8V 2120                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 5385                            |
| 3V 1120                                                                                                                                                                                                                                                                                                                                                                                                      | 9J 2845                             | 5V 1250                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 3175                            | 8V 2240                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 5690                            |
| 3V 1180                                                                                                                                                                                                                                                                                                                                                                                                      | 9J 2997                             | 5V 1320                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 3353                            | 8V 2360                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 5994                            |
| 3V 1250                                                                                                                                                                                                                                                                                                                                                                                                      | 9J 3175                             | 5V 1400                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 3556                            | 8V 2500                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 6350                            |
| 3V 1320                                                                                                                                                                                                                                                                                                                                                                                                      | 9J 3353                             | 5V 1500                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 3810                            | 8V 2650                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 6731                            |
| 3V 1400                                                                                                                                                                                                                                                                                                                                                                                                      | 9J 3556                             | 5V 1600                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 4064                            | 8V 2800                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 7112                            |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 1700                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 4318                            | 8V 3000                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 7620                            |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 1800                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 4572                            | 8V 3150                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 8001                            |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 1900                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 4826                            | 8V 3350                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 8509                            |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 2000                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 5080                            | 8V 3550                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 9017                            |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 2120                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 5385                            | 8V 3750                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 9525                            |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 2240                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 5690                            | 8V 4000                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 10160                           |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 2360                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 5994                            | 8V 4250                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 10795                           |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 2500                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 6350                            | 8V 4500                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 11430                           |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 2650                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 6731                            | 8V 4750                                                                                                                                                                                                                                                                                                                                                                                                              | 25J 12065                           |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 2800                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 7112                            |                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 3000                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 7620                            |                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 3150                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 8001                            |                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 3350                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 8509                            |                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                     | 5V 3550                                                                                                                                                                                                                                                                                                                                                                                                       | 15J 9017                            |                                                                                                                                                                                                                                                                                                                                                                                                                      |                                     |
| Maximum production length: 4250 mm $L_o$<br>Non-standard length ranges from 1800 mm $L_o$<br>Minimum order quantity for special length ranges:<br>9 pieces with 5 ribs or<br>12 pieces with 4 ribs or<br>16 pieces with 3 ribs or<br>24 pieces with 2 ribs or<br>a multiple thereof<br>Weight: per rib $\approx 0.102 \text{ kg/m}$<br>Minimum order quantity for design with aramid tension cord on request |                                     | Maximum production length: 10 000 mm $L_o$<br>Non-standard length ranges from 1800 mm $L_o$<br>Minimum order quantity for special length ranges:<br>6 pieces with 5 ribs or<br>7 pieces with 4 ribs or<br>10 pieces with 3 ribs or<br>15 pieces with 2 ribs or<br>a multiple thereof<br>Weight: per rib $\approx 0.252 \text{ kg/m}$<br>Minimum order quantity for design with aramid tension cord on request |                                     | Maximum standard production length: 15 000 mm $L_o$<br>Over 15 000 to 18 000 mm on request<br>Non-standard length ranges from 2540 mm $L_o$<br>Minimum order quantity for all sizes:<br>2 pieces with 5 ribs or<br>2 pieces with 4 ribs or<br>3 pieces with 3 ribs or<br>a multiple thereof<br>Weight: per rib $\approx 0.693 \text{ kg/m}$<br>Minimum order quantity for design with aramid tension cord on request |                                     |

Further sizes on request

# STANDARD RANGE

optibelt **KB** KRAFTBANDS WITH CLASSIC V-BELTS  
DIN/ISO, ASAE



| Profile                   | A/HA | B/HB | C/HC | D/HD | E*   |
|---------------------------|------|------|------|------|------|
| $b_o \approx [\text{mm}]$ | 13.0 | 17.0 | 22.0 | 32.0 | 40.0 |
| $h \approx [\text{mm}]$   | 9.9  | 13.0 | 16.2 | 22.4 | 25.0 |

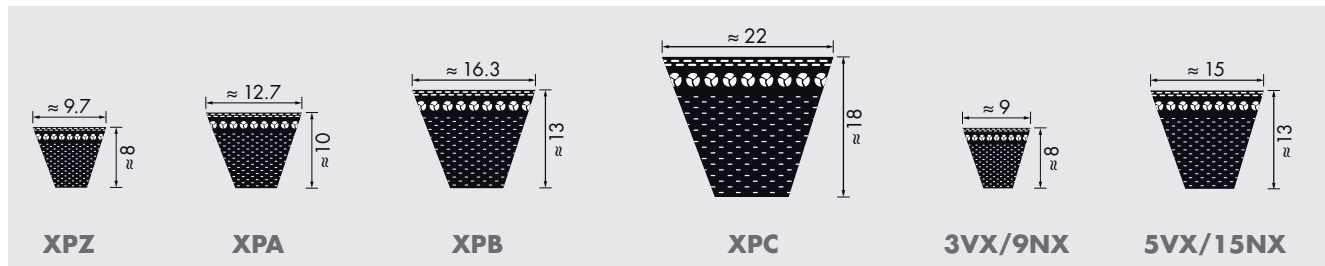
\* Available on request

| Profile A/HA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                                              | Profile B/HB                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                              |                              |            |                                              | Profile C/HC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                                              | Profile D/HD                                                                                                                                                                                                                                                                                                                                                                                                |            |                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------|------------------------------|------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------|
| (Profile A)<br>Inside length                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            | (Profile HA)<br>Outside length<br>$L_o$ [mm] | (Profile B)<br>Inside length                                                                                                                                                                                                                                                                                                                                                                                               |            | (Profile HB)<br>Outside length<br>$L_o$ [mm] | (Profile B)<br>Inside length |            | (Profile HB)<br>Outside length<br>$L_o$ [mm] | (Profile C)<br>Inside length                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            | (Profile HC)<br>Outside length<br>$L_o$ [mm] | (Profile D)<br>Inside length                                                                                                                                                                                                                                                                                                                                                                                |            | (Profile HD)<br>Outside length<br>$L_o$ [mm] |
| Belt no.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | $L_i$ [mm] |                                              | Belt no.                                                                                                                                                                                                                                                                                                                                                                                                                   | $L_i$ [mm] |                                              | Belt no.                     | $L_i$ [mm] |                                              | Belt no.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | $L_i$ [mm] |                                              | Belt no.                                                                                                                                                                                                                                                                                                                                                                                                    | $L_i$ [mm] |                                              |
| 47                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1200       | 1236                                         | 47                                                                                                                                                                                                                                                                                                                                                                                                                         | 1200       | 1262                                         | 146                          | 3700       | 3762                                         | 90                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2286       | 2361                                         | 98                                                                                                                                                                                                                                                                                                                                                                                                          | 2500       | 2611                                         |
| 51                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1300       | 1336                                         | 51                                                                                                                                                                                                                                                                                                                                                                                                                         | 1300       | 1362                                         | 148                          | 3750       | 3812                                         | 98                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2500       | 2575                                         | 110                                                                                                                                                                                                                                                                                                                                                                                                         | 2800       | 2911                                         |
| 56                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1422       | 1458                                         | 55                                                                                                                                                                                                                                                                                                                                                                                                                         | 1400       | 1462                                         | 158                          | 4000       | 4062                                         | 108                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2750       | 2825                                         | 120                                                                                                                                                                                                                                                                                                                                                                                                         | 3048       | 3159                                         |
| 57                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1450       | 1486                                         | 59                                                                                                                                                                                                                                                                                                                                                                                                                         | 1500       | 1562                                         | 167                          | 4250       | 4312                                         | 120                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3048       | 3123                                         | 128                                                                                                                                                                                                                                                                                                                                                                                                         | 3250       | 3361                                         |
| 59                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1500       | 1536                                         | 61                                                                                                                                                                                                                                                                                                                                                                                                                         | 1550       | 1612                                         | 177                          | 4500       | 4562                                         | 128                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3250       | 3325                                         | 144                                                                                                                                                                                                                                                                                                                                                                                                         | 3658       | 3769                                         |
| 64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1625       | 1661                                         | 63                                                                                                                                                                                                                                                                                                                                                                                                                         | 1600       | 1662                                         | 187                          | 4750       | 4812                                         | 140                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3550       | 3625                                         | 158                                                                                                                                                                                                                                                                                                                                                                                                         | 4000       | 4111                                         |
| 67                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1700       | 1736                                         | 64                                                                                                                                                                                                                                                                                                                                                                                                                         | 1625       | 1687                                         | 197                          | 5000       | 5062                                         | 146                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3700       | 3775                                         | 162                                                                                                                                                                                                                                                                                                                                                                                                         | 4115       | 4226                                         |
| 71                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1800       | 1836                                         | 67                                                                                                                                                                                                                                                                                                                                                                                                                         | 1700       | 1762                                         | 208                          | 5300       | 5362                                         | 151                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3850       | 3925                                         | 173                                                                                                                                                                                                                                                                                                                                                                                                         | 4394       | 4505                                         |
| 75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1900       | 1936                                         | 71                                                                                                                                                                                                                                                                                                                                                                                                                         | 1800       | 1862                                         | 220                          | 5600       | 5662                                         | 167                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4250       | 4325                                         | 180                                                                                                                                                                                                                                                                                                                                                                                                         | 4572       | 4683                                         |
| 79                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2000       | 2036                                         | 73                                                                                                                                                                                                                                                                                                                                                                                                                         | 1850       | 1912                                         |                              |            |                                              | 177                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4500       | 4575                                         | 195                                                                                                                                                                                                                                                                                                                                                                                                         | 4953       | 5064                                         |
| 88                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2240       | 2276                                         | 75                                                                                                                                                                                                                                                                                                                                                                                                                         | 1900       | 1962                                         |                              |            |                                              | 187                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4750       | 4825                                         | 210                                                                                                                                                                                                                                                                                                                                                                                                         | 5334       | 5445                                         |
| 98                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2500       | 2536                                         | 79                                                                                                                                                                                                                                                                                                                                                                                                                         | 2000       | 2062                                         |                              |            |                                              | 197                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 5000       | 5075                                         | 225                                                                                                                                                                                                                                                                                                                                                                                                         | 5715       | 5826                                         |
| 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2540       | 2576                                         | 83                                                                                                                                                                                                                                                                                                                                                                                                                         | 2100       | 2162                                         |                              |            |                                              | 208                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 5300       | 5375                                         | 240                                                                                                                                                                                                                                                                                                                                                                                                         | 6096       | 6207                                         |
| 104                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2650       | 2686                                         | 88                                                                                                                                                                                                                                                                                                                                                                                                                         | 2240       | 2302                                         |                              |            |                                              | 220                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 5600       | 5675                                         | 255                                                                                                                                                                                                                                                                                                                                                                                                         | 6477       | 6588                                         |
| 112                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2845       | 2881                                         | 91                                                                                                                                                                                                                                                                                                                                                                                                                         | 2300       | 2362                                         |                              |            |                                              | 236                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 6000       | 6075                                         | 270                                                                                                                                                                                                                                                                                                                                                                                                         | 6858       | 6969                                         |
| 120                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3048       | 3084                                         | 94 1/2                                                                                                                                                                                                                                                                                                                                                                                                                     | 2400       | 2462                                         |                              |            |                                              | 248                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 6300       | 6375                                         | 285                                                                                                                                                                                                                                                                                                                                                                                                         | 7239       | 7350                                         |
| 128                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3250       | 3286                                         | 98                                                                                                                                                                                                                                                                                                                                                                                                                         | 2500       | 2562                                         |                              |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 300                                                                                                                                                                                                                                                                                                                                                                                                         | 7620       | 7731                                         |
| 144                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3658       | 3694                                         | 102                                                                                                                                                                                                                                                                                                                                                                                                                        | 2600       | 2662                                         |                              |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 315                                                                                                                                                                                                                                                                                                                                                                                                         | 8000       | 8111                                         |
| 158                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4000       | 4036                                         | 106                                                                                                                                                                                                                                                                                                                                                                                                                        | 2700       | 2762                                         |                              |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 330                                                                                                                                                                                                                                                                                                                                                                                                         | 8382       | 8493                                         |
| 167                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4250       | 4286                                         | 112                                                                                                                                                                                                                                                                                                                                                                                                                        | 2845       | 2907                                         |                              |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 345                                                                                                                                                                                                                                                                                                                                                                                                         | 8763       | 8874                                         |
| 187                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4750       | 4786                                         | 118                                                                                                                                                                                                                                                                                                                                                                                                                        | 3000       | 3062                                         |                              |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 360                                                                                                                                                                                                                                                                                                                                                                                                         | 9144       | 9255                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 120                                                                                                                                                                                                                                                                                                                                                                                                                        | 3048       | 3110                                         |                              |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 390                                                                                                                                                                                                                                                                                                                                                                                                         | 9906       | 10017                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 128                                                                                                                                                                                                                                                                                                                                                                                                                        | 3250       | 3312                                         |                              |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 420                                                                                                                                                                                                                                                                                                                                                                                                         | 10668      | 10779                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 132                                                                                                                                                                                                                                                                                                                                                                                                                        | 3350       | 3412                                         |                              |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 450                                                                                                                                                                                                                                                                                                                                                                                                         | 11430      | 11541                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 140                                                                                                                                                                                                                                                                                                                                                                                                                        | 3550       | 3612                                         |                              |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 480                                                                                                                                                                                                                                                                                                                                                                                                         | 12200      | 12311                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                                              |                              |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 540                                                                                                                                                                                                                                                                                                                                                                                                         | 13716      | 13827                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                                              |                              |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 600                                                                                                                                                                                                                                                                                                                                                                                                         | 15240      | 15351                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                                              |                              |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 660                                                                                                                                                                                                                                                                                                                                                                                                         | 16764      | 16875                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                                              |                              |            |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                              | 700                                                                                                                                                                                                                                                                                                                                                                                                         | 17780      | 17891                                        |
| Maximum production length:<br>10000 mm $L_i$<br>Non-standard length ranges<br>from 1800 mm<br>Minimum order quantity<br>for special length ranges from:<br>1200 to 2000 mm<br>6 pieces with 5 ribs or<br>8 pieces with 4 ribs or<br>10 pieces with 3 ribs or<br>16 pieces with 2 ribs<br>or a multiple thereof<br>2001 to 8000 mm<br>6 pieces with 5 ribs or<br>8 pieces with 4 ribs or<br>11 pieces with 3 ribs or<br>16 pieces with 2 ribs<br>or a multiple thereof<br>Weight: per rib $\approx 0.163 \text{ kg/m}$<br>Minimum order quantity for<br>design with aramid tension cord<br>on request |            |                                              | Maximum production length:<br>18000 mm $L_i$<br>Non-standard length ranges<br>from 1800 mm<br>Minimum order quantity<br>for special length ranges from:<br>5 pieces with 5 ribs or<br>6 pieces with 4 ribs or<br>9 pieces with 3 ribs or<br>13 pieces with 2 ribs<br>or a multiple thereof<br><br>Weight: per rib $\approx 0.266 \text{ kg/m}$<br>Minimum order quantity for design with<br>aramid tension cord on request |            |                                              |                              |            |                                              | Maximum production length:<br>18000 mm $L_i$<br>Non-standard length ranges<br>from 2286 mm<br>Minimum order quantity<br>for special length ranges from:<br>2286 to 10000 mm<br>4 pieces with 5 ribs or<br>5 pieces with 4 ribs or<br>6 pieces with 3 ribs or<br>10 pieces with 2 ribs<br>or a multiple thereof<br>10001 to 12000 mm<br>3 pieces with 5 ribs or<br>4 pieces with 4 ribs or<br>5 pieces with 3 ribs or<br>8 pieces with 2 ribs<br>or a multiple thereof<br>Weight: per rib $\approx 0.447 \text{ kg/m}$<br>Minimum order quantity for<br>design with aramid tension cord<br>on request |            |                                              | Maximum production length:<br>18000 mm $L_i$<br>Non-standard length ranges<br>from 2500 mm<br>Minimum order quantity<br>for all sizes:<br>2 pieces with 5 ribs or<br>2 pieces with 4 ribs or<br>3 pieces with 3 ribs or<br>5 pieces with 2 ribs<br>or a multiple thereof<br><br>Weight: per rib $\approx 0.798 \text{ kg/m}$<br>Minimum order quantity for<br>design with aramid tension cord<br>on request |            |                                              |

Further sizes on request

# STANDARD RANGE

optibelt **SUPER XE-POWER PRO M=S** WEDGE BELTS –  
RAW EDGE, COGGED  
DIN 7753 PART 1 / ISO 4184 AND ARPM/MPTA



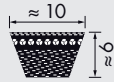
| Profile XPZ                    |      |      | Profile XPA                    |      | Profile XPB                    |      | Profile XPC                    | Profile 3VX/9NX         |                                           | Profile 5VX/15NX        |                                           |
|--------------------------------|------|------|--------------------------------|------|--------------------------------|------|--------------------------------|-------------------------|-------------------------------------------|-------------------------|-------------------------------------------|
| Datum length ISO<br>$L_d$ [mm] |      |      | Datum length ISO<br>$L_d$ [mm] |      | Datum length ISO<br>$L_d$ [mm] |      | Datum length ISO<br>$L_d$ [mm] | Belt designation        |                                           | Belt designation        |                                           |
|                                |      |      |                                |      |                                |      |                                | Profile,<br>length code | Profile,<br>outside length,<br>$L_o$ [mm] | Profile,<br>length code | Profile,<br>outside length,<br>$L_o$ [mm] |
| 587                            | 1112 | 1900 | 707                            | 1432 | 1250                           | 2000 |                                | <b>3VX 250</b>          | 9NX 635                                   | <b>5VX 500</b>          | 15NX 1270                                 |
| 612                            | 1120 | 1950 | 732                            | 1450 | 1320                           | 2120 |                                | <b>3VX 265</b>          | 9NX 673                                   | <b>5VX 530</b>          | 15NX 1346                                 |
| 630                            | 1137 | 2000 | 757                            | 1457 | 1400                           | 2240 |                                | <b>3VX 280</b>          | 9NX 711                                   | <b>5VX 560</b>          | 15NX 1422                                 |
| 637                            | 1162 | 2120 | 782                            | 1482 | 1500                           | 2360 |                                | <b>3VX 300</b>          | 9NX 762                                   | <b>5VX 600</b>          | 15NX 1524                                 |
| 662                            | 1180 | 2150 | 800                            | 1500 | 1600                           | 2500 |                                | <b>3VX 315</b>          | 9NX 800                                   | <b>5VX 630</b>          | 15NX 1600                                 |
| 670                            | 1187 | 2240 | 807                            | 1507 | 1700                           | 2650 |                                | <b>3VX 335</b>          | 9NX 851                                   | <b>5VX 670</b>          | 15NX 1702                                 |
| 687                            | 1202 | 2360 | 832                            | 1532 | 1750                           | 2800 |                                | <b>3VX 355</b>          | 9NX 902                                   | <b>5VX 710</b>          | 15NX 1803                                 |
| 710                            | 1212 | 2500 | 850                            | 1557 | 1800                           | 3000 |                                | <b>3VX 375</b>          | 9NX 952                                   | <b>5VX 750</b>          | 15NX 1905                                 |
| 730                            | 1237 | 2540 | 857                            | 1582 | 1850                           | 3150 |                                | <b>3VX 400</b>          | 9NX 1016                                  | <b>5VX 800</b>          | 15NX 2032                                 |
| 737                            | 1250 | 2650 | 882                            | 1600 | 1900                           | 3350 |                                | <b>3VX 425</b>          | 9NX 1079                                  | <b>5VX 850</b>          | 15NX 2159                                 |
| 750                            | 1262 | 2690 | 900                            | 1607 | 2000                           | 3550 |                                | <b>3VX 450</b>          | 9NX 1143                                  | <b>5VX 900</b>          | 15NX 2286                                 |
| 762                            | 1287 | 2800 | 907                            | 1632 | 2020                           |      |                                | <b>3VX 475</b>          | 9NX 1206                                  | <b>5VX 950</b>          | 15NX 2413                                 |
| 772                            | 1312 | 2840 | 932                            | 1650 | 2120                           |      |                                | <b>3VX 500</b>          | 9NX 1270                                  | <b>5VX 1000</b>         | 15NX 2540                                 |
| 787                            | 1320 | 3000 | 950                            | 1682 | 2150                           |      |                                | <b>3VX 530</b>          | 9NX 1346                                  | <b>5VX 1060</b>         | 15NX 2692                                 |
| 800                            | 1337 | 3150 | 957                            | 1700 | 2240                           |      |                                | <b>3VX 560</b>          | 9NX 1422                                  | <b>5VX 1120</b>         | 15NX 2845                                 |
| 812                            | 1362 | 3350 | 982                            | 1732 | 2280                           |      |                                | <b>3VX 600</b>          | 9NX 1524                                  | <b>5VX 1180</b>         | 15NX 2997                                 |
| 825                            | 1387 | 3550 | 1000                           | 1750 | 2360                           |      |                                | <b>3VX 630</b>          | 9NX 1600                                  | <b>5VX 1250</b>         | 15NX 3175                                 |
| 837                            | 1400 |      | 1007                           | 1757 | 2400                           |      |                                | <b>3VX 670</b>          | 9NX 1702                                  | <b>5VX 1320</b>         | 15NX 3353                                 |
| 850                            | 1412 |      | 1030                           | 1782 | 2500                           |      |                                | <b>3VX 710</b>          | 9NX 1803                                  | <b>5VX 1400</b>         | 15NX 3556                                 |
| 862                            | 1437 |      | 1060                           | 1800 | 2650                           |      |                                | <b>3VX 750</b>          | 9NX 1905                                  |                         |                                           |
| 875                            | 1462 |      | 1082                           | 1832 | 2680                           |      |                                | <b>3VX 800</b>          | 9NX 2032                                  |                         |                                           |
| 887                            | 1487 |      | 1107                           | 1850 | 2800                           |      |                                | <b>3VX 850</b>          | 9NX 2159                                  |                         |                                           |
| 900                            | 1500 |      | 1120                           | 1882 | 2840                           |      |                                | <b>3VX 900</b>          | 9NX 2286                                  |                         |                                           |
| 912                            | 1512 |      | 1132                           | 1900 | 3000                           |      |                                | <b>3VX 950</b>          | 9NX 2413                                  |                         |                                           |
| 925                            | 1537 |      | 1157                           | 1932 | 3150                           |      |                                | <b>3VX 1000</b>         | 9NX 2540                                  |                         |                                           |
| 937                            | 1562 |      | 1180                           | 1950 | 3350                           |      |                                | <b>3VX 1060</b>         | 9NX 2692                                  |                         |                                           |
| 950                            | 1587 |      | 1207                           | 1982 | 3550                           |      |                                | <b>3VX 1120</b>         | 9NX 2845                                  |                         |                                           |
| 962                            | 1600 |      | 1232                           | 2000 |                                |      |                                | <b>3VX 1180</b>         | 9NX 2997                                  |                         |                                           |
| 987                            | 1612 |      | 1250                           | 2120 |                                |      |                                | <b>3VX 1250</b>         | 9NX 3175                                  |                         |                                           |
| 1000                           | 1662 |      | 1257                           | 2240 |                                |      |                                | <b>3VX 1320</b>         | 9NX 3353                                  |                         |                                           |
| 1012                           | 1700 |      | 1272                           | 2360 |                                |      |                                | <b>3VX 1400</b>         | 9NX 3556                                  |                         |                                           |
| 1037                           | 1750 |      | 1282                           | 2500 |                                |      |                                |                         |                                           |                         |                                           |
| 1060                           | 1762 |      | 1307                           | 2650 |                                |      |                                |                         |                                           |                         |                                           |
| 1077                           | 1800 |      | 1320                           | 2800 |                                |      |                                |                         |                                           |                         |                                           |
| 1087                           | 1850 |      | 1332                           | 3000 |                                |      |                                |                         |                                           |                         |                                           |
|                                |      |      | 1357                           | 3150 |                                |      |                                |                         |                                           |                         |                                           |
|                                |      |      | 1382                           | 3350 |                                |      |                                |                         |                                           |                         |                                           |
|                                |      |      | 1400                           | 3550 |                                |      |                                |                         |                                           |                         |                                           |
| Weight:<br>≈ 0.058 kg/m        |      |      | Weight:<br>≈ 0.089 kg/m        |      | Weight:<br>≈ 0.156 kg/m        |      | Weight:<br>≈ 0.274 kg/m        | Weight:<br>≈ 0.055 kg/m |                                           | Weight:<br>≈ 0.152 kg/m |                                           |

Datum length  $L_d \triangleq$  Pitch length  $L_w/L_p$  Further sizes on request

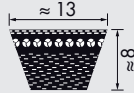


# STANDARD RANGE

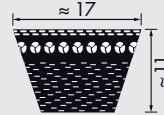
optibelt **SUPER TX M=S** V-BELTS –  
RAW EDGE, COGGED  
DIN 2215 / ISO 4184



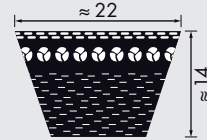
**ZX/X10**



**AX/X13**



**BX/X17**



**CX/X22**

| Profile ZX/X10                                                                                                          |                                         | Profile AX/X13       |                                         |          |                                         | Profile BX/X17       |                                         |          |                                         | Profile CX/X22       |                                         |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------------|-----------------------------------------|----------|-----------------------------------------|----------------------|-----------------------------------------|----------|-----------------------------------------|----------------------|-----------------------------------------|
| Belt no.                                                                                                                | Datum length ISO<br>L <sub>d</sub> [mm] | Belt no.             | Datum length ISO<br>L <sub>d</sub> [mm] | Belt no. | Datum length ISO<br>L <sub>d</sub> [mm] | Belt no.             | Datum length ISO<br>L <sub>d</sub> [mm] | Belt no. | Datum length ISO<br>L <sub>d</sub> [mm] | Belt no.             | Datum length ISO<br>L <sub>d</sub> [mm] |
| ZX 23                                                                                                                   | 597                                     | AX 23                | 605                                     | AX 62    | 1605                                    | BX 23                | 610                                     | BX 67    | 1740                                    | CX 39                | 1058•                                   |
| ZX 24                                                                                                                   | 622                                     | AX 23½               | 630                                     | AX 63    | 1630                                    | BX 25                | 670                                     | BX 69    | 1790                                    | CX 43                | 1148•                                   |
| ZX 25                                                                                                                   | 652                                     | AX 24                | 640                                     | AX 67    | 1730                                    | BX 26                | 690                                     | BX 71    | 1840                                    | CX 49                | 1308•                                   |
| ZX 26                                                                                                                   | 672                                     | AX 25                | 660                                     | AX 70    | 1805                                    | BX 28                | 750                                     | BX 73    | 1890                                    | CX 52                | 1378•                                   |
| ZX 27                                                                                                                   | 692                                     | AX 26½               | 700                                     | AX 71    | 1830                                    | BX 29                | 765                                     | BX 75    | 1940                                    | CX 55                | 1458•                                   |
| ZX 28                                                                                                                   | 732                                     | AX 27                | 716                                     | AX 75    | 1930                                    | BX 30                | 790                                     | BX 79    | 2040                                    | CX 59                | 1558•                                   |
| ZX 29                                                                                                                   | 752                                     | AX 28                | 740                                     | AX 79    | 2030                                    | BX 31                | 815                                     | BX 88    | 2280                                    | CX 62                | 1632•                                   |
| ZX 29½                                                                                                                  | 772                                     | AX 29                | 760                                     | AX 88    | 2270                                    | BX 32                | 840                                     | BX 93    | 2400                                    | CX 67                | 1758•                                   |
| ZX 31½                                                                                                                  | 822                                     | AX 30                | 797                                     | AX 93    | 2390                                    | BX 33                | 876                                     | BX 98    | 2540                                    | CX 68                | 1785•                                   |
| ZX 32                                                                                                                   | 842                                     | AX 31                | 805                                     | AX 98    | 2530•                                   | BX 34                | 890                                     | BX 103   | 2656•                                   | CX 71                | 1858•                                   |
| ZX 33                                                                                                                   | 847                                     | AX 32                | 843                                     | AX 104   | 2680•                                   | BX 34½               | 915                                     | BX 104   | 2690•                                   | CX 75                | 1958•                                   |
| ZX 33½                                                                                                                  | 872                                     | AX 33                | 871                                     | AX 110   | 2830•                                   | BX 35                | 929                                     | BX 110   | 2840•                                   | CX 79                | 2058•                                   |
| ZX 35                                                                                                                   | 897                                     | AX 34                | 880                                     | AX 118   | 3030•                                   | BX 36                | 940                                     | BX 118   | 3040•                                   | CX 81                | 2118•                                   |
| ZX 36                                                                                                                   | 922                                     | AX 35                | 919                                     | AX 124   | 3180•                                   | BX 37                | 965                                     | BX 124   | 3190•                                   | CX 85                | 2217•                                   |
| ZX 37                                                                                                                   | 947                                     | AX 35½               | 930                                     | AX 132   | 3380•                                   | BX 38                | 1005                                    | BX 132   | 3390•                                   | CX 88                | 2298•                                   |
| ZX 38                                                                                                                   | 972                                     | AX 36                | 944                                     |          |                                         | BX 39                | 1040                                    |          |                                         | CX 90                | 2344•                                   |
| ZX 40                                                                                                                   | 1038•                                   | AX 37                | 955                                     |          |                                         | BX 40                | 1056                                    |          |                                         | CX 93                | 2418•                                   |
| ZX 42                                                                                                                   | 1082•                                   | AX 37½               | 980                                     |          |                                         | BX 41                | 1080                                    |          |                                         | CX 96                | 2496•                                   |
| ZX 46½                                                                                                                  | 1202•                                   | AX 38                | 995                                     |          |                                         | BX 42                | 1100                                    |          |                                         | CX 98                | 2558•                                   |
| ZX 52                                                                                                                   | 1342•                                   | AX 39                | 1030                                    |          |                                         | BX 43                | 1130                                    |          |                                         | CX 110               | 2858•                                   |
| ZX 55                                                                                                                   | 1422•                                   | AX 40                | 1046                                    |          |                                         | BX 44                | 1160                                    |          |                                         | CX 118               | 3058•                                   |
| ZX 59                                                                                                                   | 1522•                                   | AX 41½               | 1080                                    |          |                                         | BX 45                | 1190                                    |          |                                         | CX 124               | 3208•                                   |
|                                                                                                                         |                                         | AX 42                | 1090                                    |          |                                         | BX 45½               | 1203                                    |          |                                         | CX 132               | 3408•                                   |
|                                                                                                                         |                                         | AX 43                | 1130                                    |          |                                         | BX 46                | 1215                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 44                | 1150                                    |          |                                         | BX 46½               | 1220                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 45½               | 1180                                    |          |                                         | BX 47                | 1240                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 46                | 1198                                    |          |                                         | BX 48                | 1255                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 47                | 1230                                    |          |                                         | BX 49                | 1290                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 48                | 1250                                    |          |                                         | BX 50                | 1315                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 49                | 1280                                    |          |                                         | BX 51                | 1340                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 50                | 1300                                    |          |                                         | BX 52                | 1360                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 51                | 1330                                    |          |                                         | BX 53                | 1390                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 52                | 1350                                    |          |                                         | BX 54                | 1412                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 53                | 1380                                    |          |                                         | BX 55                | 1440                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 54                | 1405                                    |          |                                         | BX 57                | 1490                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 55                | 1430                                    |          |                                         | BX 58                | 1513                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 56                | 1452                                    |          |                                         | BX 59                | 1540                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 57                | 1480                                    |          |                                         | BX 61                | 1590                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 58                | 1505                                    |          |                                         | BX 62                | 1615                                    |          |                                         |                      |                                         |
|                                                                                                                         |                                         | AX 59                | 1530                                    |          |                                         | BX 63                | 1640                                    |          |                                         |                      |                                         |
| Weight: ≈ 0.062 kg/m                                                                                                    |                                         | Weight: ≈ 0.099 kg/m |                                         |          |                                         | Weight: ≈ 0.165 kg/m |                                         |          |                                         | Weight: ≈ 0.276 kg/m |                                         |
| Datum length L <sub>d</sub> ± Pitch length L <sub>w</sub> /L <sub>p</sub> Further sizes on request    • Non stock items |                                         |                      |                                         |          |                                         |                      |                                         |          |                                         |                      |                                         |

# STANDARD RANGE

optibelt **VARIO POWER** VARIABLE SPEED BELTS –  
RAW EDGE, COGGED  
DIN 7719 / ISO 1604



| Profile/<br>inside length<br>L <sub>i</sub> [mm] | ISO<br>designation<br>(datum length) L <sub>d</sub> | Profile/<br>inside length<br>L <sub>i</sub> [mm] | ISO<br>designation<br>(datum length) L <sub>d</sub> | Profile/<br>inside length<br>L <sub>i</sub> [mm] | ISO<br>designation<br>(datum length) L <sub>d</sub> | Profile/<br>inside length<br>L <sub>i</sub> [mm] | ISO<br>designation<br>(datum length) L <sub>d</sub> | Profile/<br>inside length<br>L <sub>i</sub> [mm] | ISO<br>designation<br>(datum length) L <sub>d</sub> |
|--------------------------------------------------|-----------------------------------------------------|--------------------------------------------------|-----------------------------------------------------|--------------------------------------------------|-----------------------------------------------------|--------------------------------------------------|-----------------------------------------------------|--------------------------------------------------|-----------------------------------------------------|
| <b>13 x 5</b>                                    |                                                     | <b>26 x 8</b>                                    |                                                     | <b>32 x 10</b>                                   |                                                     | <b>47 x 13</b>                                   |                                                     | <b>70 x 18</b>                                   |                                                     |
| 468                                              |                                                     | 655                                              | W 25 690                                            | 750                                              | W 31.5 800                                          | 1000                                             |                                                     | 1600                                             |                                                     |
| 500                                              |                                                     | 672                                              | W 25 710                                            | 790                                              | W 31.5 840                                          | 1060                                             |                                                     | 1700                                             |                                                     |
|                                                  |                                                     | 710                                              | W 25 750                                            | 820                                              | W 31.5 870                                          | 1120                                             |                                                     | 1800                                             |                                                     |
| <b>17 x 5</b>                                    |                                                     | 750                                              | W 25 790                                            | 850                                              | W 31.5 900                                          | 1180                                             |                                                     | 1900                                             |                                                     |
| 426                                              | W 16 450                                            | 762                                              | W 25 800                                            | 900                                              | W 31.5 950                                          | 1250                                             |                                                     | 2000                                             |                                                     |
| 476                                              | W 16 500                                            | 800                                              | W 25 840                                            | 950                                              | W 31.5 1000                                         | 1320                                             |                                                     | 2240                                             |                                                     |
| 536                                              | W 16 560                                            | 862                                              | W 25 900                                            | 1000                                             | W 31.5 1050                                         | 1400                                             |                                                     | 2500                                             |                                                     |
| 570                                              | W 16 600                                            | 962                                              | W 25 1000                                           | 1073                                             | W 31.5 1120                                         | 1500                                             |                                                     |                                                  |                                                     |
| 606                                              | W 16 630                                            | 1082                                             | W 25 1120                                           | 1120                                             | W 31.5 1170                                         | 1600                                             |                                                     |                                                  |                                                     |
| 776                                              | W 16 800                                            |                                                  |                                                     | 1180                                             | W 31.5 1230                                         | 1700                                             |                                                     |                                                  |                                                     |
|                                                  |                                                     | <b>28 x 8</b>                                    |                                                     | 1200                                             | W 31.5 1250                                         | 1800                                             |                                                     |                                                  |                                                     |
| <b>21 x 6</b>                                    |                                                     | 600                                              |                                                     | 1353                                             | W 31.5 1400                                         |                                                  |                                                     |                                                  |                                                     |
| 530                                              | W 20 560                                            | 650                                              |                                                     |                                                  |                                                     | <b>52 x 16</b>                                   |                                                     |                                                  |                                                     |
| 600                                              | W 20 630                                            | 700                                              |                                                     | <b>37 x 10</b>                                   |                                                     | 1180                                             | W 50 1250                                           |                                                  |                                                     |
| 610                                              | W 20 640                                            | 750                                              |                                                     | 660                                              |                                                     | 1250                                             | W 50 1320                                           |                                                  |                                                     |
| 675                                              | W 20 710                                            | 800                                              |                                                     | 800                                              |                                                     | 1325                                             | W 50 1400                                           |                                                  |                                                     |
| 770                                              | W 20 800                                            | 850                                              |                                                     | 850                                              |                                                     | 1400                                             | W 50 1480                                           |                                                  |                                                     |
| 870                                              | W 20 900                                            | 900                                              |                                                     | 900                                              |                                                     | 1525                                             | W 50 1600                                           |                                                  |                                                     |
| 970                                              | W 20 1000                                           | 950                                              |                                                     | 950                                              |                                                     | 1600                                             | W 50 1680                                           |                                                  |                                                     |
| 1220                                             | W 20 1250                                           | 1000                                             |                                                     | 1000                                             |                                                     | 1725                                             | W 50 1800                                           |                                                  |                                                     |
|                                                  |                                                     | 1060                                             |                                                     | 1020                                             |                                                     | 1925                                             | W 50 2000                                           |                                                  |                                                     |
| <b>22 x 8</b>                                    |                                                     | 1120                                             |                                                     | 1060                                             |                                                     | 2165                                             | W 50 2240                                           |                                                  |                                                     |
| 485                                              |                                                     | 1180                                             |                                                     | 1120                                             |                                                     | 2240                                             | W 50 2320                                           |                                                  |                                                     |
| 525                                              |                                                     | 1250                                             |                                                     | 1180                                             |                                                     |                                                  |                                                     |                                                  |                                                     |
| 565                                              |                                                     | 1320                                             |                                                     | 1250                                             |                                                     | <b>55 x 16</b>                                   |                                                     |                                                  |                                                     |
| 650                                              |                                                     | 1400                                             |                                                     | 1320                                             |                                                     | 1400                                             |                                                     |                                                  |                                                     |
| 700                                              |                                                     | 1500                                             |                                                     | 1400                                             |                                                     | 1500                                             |                                                     |                                                  |                                                     |
| 750                                              |                                                     |                                                  |                                                     | 1500                                             |                                                     | 1600                                             |                                                     |                                                  |                                                     |
| 800                                              |                                                     | <b>30 x 10</b>                                   |                                                     | 1600                                             |                                                     | 1700                                             |                                                     |                                                  |                                                     |
| 850                                              |                                                     | 650                                              |                                                     | 1700                                             |                                                     | 1800                                             |                                                     |                                                  |                                                     |
| 900                                              |                                                     | 665                                              |                                                     | 1800                                             |                                                     |                                                  |                                                     |                                                  |                                                     |
| 950                                              |                                                     | 700                                              |                                                     | <b>41 x 13</b>                                   |                                                     | <b>65 x 20</b>                                   |                                                     |                                                  |                                                     |
| 1000                                             |                                                     | 800                                              |                                                     | 925                                              | W 40 990                                            | 1706                                             | W 63 1800                                           |                                                  |                                                     |
| 1060                                             |                                                     | 850                                              |                                                     | 1000                                             | W 40 1060                                           | 1906                                             | W 63 2000                                           |                                                  |                                                     |
| 1185                                             |                                                     | 875                                              |                                                     | 1040                                             | W 40 1100                                           |                                                  |                                                     |                                                  |                                                     |
|                                                  |                                                     | 900                                              |                                                     | 1060                                             | W 40 1120                                           |                                                  |                                                     |                                                  |                                                     |
|                                                  |                                                     | 950                                              |                                                     | 1120                                             | W 40 1180                                           |                                                  |                                                     |                                                  |                                                     |
|                                                  |                                                     | 1000                                             |                                                     | 1180                                             | W 40 1240                                           |                                                  |                                                     |                                                  |                                                     |
|                                                  |                                                     | 1035                                             |                                                     | 1190                                             | W 40 1250                                           |                                                  |                                                     |                                                  |                                                     |
|                                                  |                                                     | 1120                                             |                                                     | 1250                                             | W 40 1310                                           |                                                  |                                                     |                                                  |                                                     |
|                                                  |                                                     | 1200                                             |                                                     | 1340                                             | W 40 1400                                           |                                                  |                                                     |                                                  |                                                     |
|                                                  |                                                     | 1340                                             |                                                     | 1440                                             | W 40 1500                                           |                                                  |                                                     |                                                  |                                                     |
|                                                  |                                                     | 1500                                             |                                                     | 1600                                             | W 40 1660                                           |                                                  |                                                     |                                                  |                                                     |
|                                                  |                                                     | 1600                                             |                                                     | 1740                                             | W 40 1800                                           |                                                  |                                                     |                                                  |                                                     |
|                                                  |                                                     |                                                  |                                                     | 1940                                             | W 40 2000                                           |                                                  |                                                     |                                                  |                                                     |

## Standard production data

Belt length up to 5000 mm L<sub>i</sub>

Belt top width up to 100 mm

Belt height 5 to 25 mm

24° angle for profile 13 x 5; 17 x 5

30° angle for profile 52 x 16; 55 x 16; 65 x 20 and 70 x 18

27° angle for all other profiles. Sizes according to ARPM/MPTA as well as variable speed belts with angles from 22° to 42° can be produced on request. Minimum order quantities are required.

Further sizes as well as Double-sided variable speed belts on request

## Tolerances

Length tolerance ± 1 % of the belt nominal length

Angle tolerance ± 1.5° of the nominal angle

Height tolerance ≤ 8 mm = ± 0.8 mm

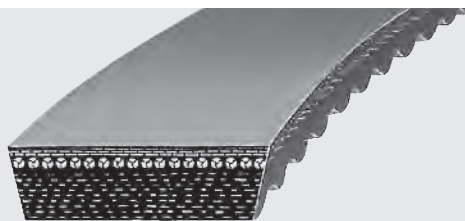
> 8 to 20 mm = ± 1.0 mm

> 20 mm = ± 1.5 mm

Width tolerance ± 0.75 mm

# STANDARD RANGE

optibelt **VARIO POWER** VARIABLE SPEED BELTS –  
RAW EDGE, COGGED  
ARPM/MPTA



| ARPM/MPTA designation | ARPM/MPTA designation | ARPM/MPTA designation | ARPM/MPTA designation |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 1422 V 235•           | 1922 V 751•           | 2530 V 934•           | 3230 V 630•           |
| 1422 V 240•           | 1922 V 756•           | 2530 V 990•           | 3230 V 670•           |
| 1422 V 270•           |                       |                       | 3230 V 710•           |
| 1422 V 290•           | 1926 V 250•           | 2830 V 337•           | 3230 V 723•           |
| 1422 V 300•           | 1926 V 275•           | 2830 V 363•           | 3230 V 750•           |
|                       | 1926 V 290•           | 2830 V 366•           |                       |
| 1422 V 330•           | 1926 V 407•           | 2830 V 367•           | 3230 V 800•           |
| 1422 V 340•           | 1926 V 415•           | 2830 V 393•           | 3230 V 850•           |
| 1422 V 360•           |                       |                       |                       |
| 1422 V 400•           | 1926 V 427•           | 2830 V 396•           | 3432 V 450•           |
| 1422 V 420•           |                       | 2830 V 422•           | 3432 V 456•           |
|                       |                       |                       | 3432 V 480•           |
| 1422 V 440•           | 2230 V 266•           | 2926 V 471•           | 3432 V 528•           |
| 1422 V 460•           | 2230 V 273•           | 2926 V 486•           | 3432 V 534•           |
| 1422 V 470•           | 2230 V 275•           | 2926 V 521•           |                       |
| 1422 V 480•           | 2230 V 326•           | 2926 V 546•           | 4036 V 541•           |
| 1422 V 540•           | 2230 V 375•           | 2926 V 574•           | 4036 V 574•           |
|                       |                       |                       |                       |
| 1422 V 600•           | 2322 V 329•           | 2926 V 586•           | 4430 V 530•           |
| 1422 V 660•           | 2322 V 347•           | 2926 V 606•           | 4430 V 548•           |
|                       | 2322 V 364•           | 2926 V 616•           | 4430 V 555•           |
| 1430 V 215•           | 2322 V 396•           | 2926 V 636•           | 4430 V 560•           |
|                       | 2322 V 421•           | 2926 V 646•           | 4430 V 570•           |
| 1922 V 277•           | 2322 V 434•           | 2926 V 666•           | 4430 V 578•           |
| 1922 V 282•           | 2322 V 441•           | 2926 V 686•           | 4430 V 600•           |
| 1922 V 298•           | 2322 V 461•           | 2926 V 726•           | 4430 V 610•           |
| 1922 V 321•           | 2322 V 481•           | 2926 V 750•           | 4430 V 630•           |
| 1922 V 332•           | 2322 V 486•           | 2926 V 776•           | 4430 V 652•           |
|                       |                       | 2926 V 786•           | 4430 V 660•           |
| 1922 V 338•           | 2322 V 521•           |                       | 4430 V 670•           |
| 1922 V 363•           | 2322 V 541•           | 3226 V 392•           | 4430 V 690•           |
| 1922 V 381•           | 2322 V 601•           | 3226 V 400•           | 4430 V 700•           |
| 1922 V 386•           | 2322 V 661•           | 3226 V 433•           | 4430 V 710•           |
| 1922 V 403•           | 2322 V 681•           | 3226 V 450•           | 4430 V 730•           |
|                       |                       | 3226 V 505•           | 4430 V 750•           |
| 1922 V 426•           | 2322 V 701•           | 3226 V 545•           | 4430 V 790•           |
| 1922 V 443•           | 2322 V 801•           | 3226 V 585•           | 4430 V 800•           |
| 1922 V 454•           |                       | 3226 V 603•           | 4430 V 850•           |
| 1922 V 460•           | 2426 V 353•           | 3226 V 650•           |                       |
| 1922 V 484•           | 2426 V 363•           | 3226 V 663•           | 4436 V 525•           |
|                       |                       |                       | 4436 V 551•           |
| 1922 V 526•           |                       | 3226 V 723•           | 4436 V 561•           |
| 1922 V 544•           | 2530 V 500•           | 3226 V 783•           | 4436 V 576•           |
| 1922 V 604•           | 2530 V 530•           | 3226 V 843•           | 4436 V 646•           |
| 1922 V 630•           | 2530 V 560•           |                       |                       |
| 1922 V 646•           | 2530 V 600•           | 3230 V 419•           | 4436 V 750•           |
|                       | 2530 V 630•           | 3230 V 528•           |                       |
| 1922 V 666•           |                       | 3230 V 560•           |                       |
| 1922 V 686•           | 2530 V 670•           | 3230 V 585•           |                       |
| 1922 V 706•           | 2530 V 710•           | 3230 V 600•           |                       |
| 1922 V 721•           | 2530 V 750•           |                       |                       |
| 1922 V 726•           | 2530 V 790•           |                       |                       |
|                       | 2530 V 800•           |                       |                       |

Explanation (e.g. 1422 V 235)

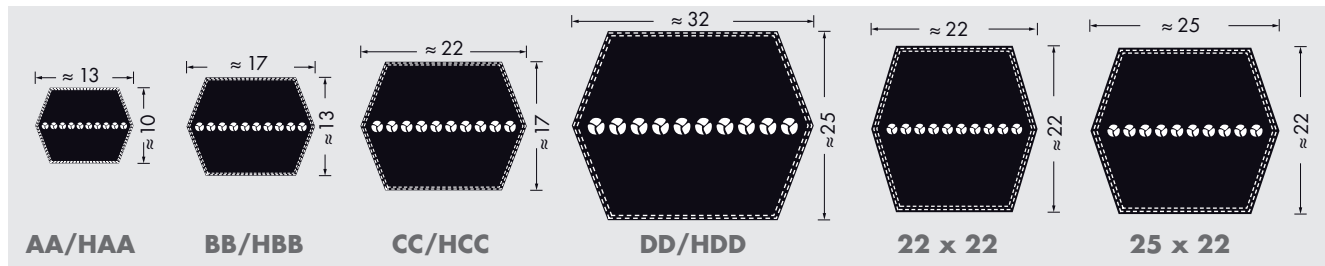
14 = top width 14/16"  
22 = angle  
V = variable speed  
235 = pitch length in 1/10"

• Non stock items – Minimum order quantity on request. Further sizes as well as Double-sided variable speed belts on request.

# STANDARD RANGE

## optibelt **DK** DOUBLE-SIDED V-BELTS

### DIN/ISO, ASAE



| Profile AA/HAA        |          | Profile BB/HBB        |          |                       |          | Profile CC/HCC        |          | Profile DD/HDD        |          |
|-----------------------|----------|-----------------------|----------|-----------------------|----------|-----------------------|----------|-----------------------|----------|
| Reference length [mm] | Belt no. | Reference length [mm] | Belt no. | Reference length [mm] | Belt no. | Reference length [mm] | Belt no. | Reference length [mm] | Belt no. |
| 2000                  | 77       | 1980                  | 75       | 4040                  | 156      | 2280                  | 86       | on request            |          |
| 2032                  | 78       | 2180                  | 83       | 4200                  | 162      | 2500                  | 94       |                       |          |
| 2370                  | 91       | 2300                  | 88       | 4470                  | 173      | 2800                  | 106      |                       |          |
| 2500                  | 96       | 2370                  | 90       | 4500                  | 174      | 3200                  | 122      |                       |          |
| 2650                  | 102      | 2500                  | 95       | 4750                  | 184      | 3310                  | 126      | Weight: ≈ 0.935 kg/m  |          |
| 2667                  | 103      | 2540                  | 97       | 5000                  | 194      | 3765                  | 144      |                       |          |
| 2800                  | 108      | 2600                  | 99       | 5639                  | 221      | 4000                  | 153      |                       |          |
| 3300                  | 128      | 2650                  | 101      |                       |          | 4216                  | 162      |                       |          |
| 3920                  | 152      | 2740                  | 105      |                       |          | 4300                  | 165      | Profile 22 x 22       |          |
|                       |          | 2800                  | 107      |                       |          | 4500                  | 173      |                       |          |
|                       |          | 2850                  | 109      |                       |          | 5000                  | 193      |                       |          |
|                       |          | 2920                  | 112      |                       |          | 5300                  | 204      |                       |          |
|                       |          | 3000                  | 115      |                       |          | 5340                  | 206      | Weight: ≈ 0.511 kg/m  |          |
|                       |          | 3030                  | 116      |                       |          | 5750                  | 224      |                       |          |
|                       |          | 3150                  | 121      |                       |          |                       |          |                       |          |
|                       |          | 3250                  | 125      |                       |          |                       |          |                       |          |
|                       |          | 3280                  | 126      |                       |          |                       |          | Profile 25 x 22       |          |
|                       |          | 3325                  | 128      |                       |          |                       |          |                       |          |
|                       |          | 3390                  | 131      |                       |          |                       |          |                       |          |
|                       |          | 3450                  | 133      |                       |          |                       |          |                       |          |
|                       |          | 3500                  | 135      |                       |          |                       |          | Weight: ≈ 0.625 kg/m  |          |
|                       |          | 3550                  | 137      |                       |          |                       |          |                       |          |
|                       |          | 3730                  | 144      |                       |          |                       |          |                       |          |
|                       |          | 3750                  | 145      |                       |          |                       |          |                       |          |
|                       |          | 4010                  | 155      |                       |          |                       |          | on request            |          |
|                       |          |                       |          |                       |          |                       |          |                       |          |
|                       |          |                       |          |                       |          |                       |          |                       |          |
|                       |          |                       |          |                       |          |                       |          |                       |          |
| Weight: ≈ 0.150 kg/m  |          | Weight: ≈ 0.250 kg/m  |          |                       |          | Weight: ≈ 0.440 kg/m  |          | Weight: ≈ 0.625 kg/m  |          |

Non-standard length ranges and special constructions:

Profile AA/HAA 1350 to 6000 mm  
 Profile BB/HBB 1350 to 12700 mm  
 Profile CC/HCC 1600 to 19500 mm  
 Profile DD/HDD on request  
 Profile 22 x 22 on request  
 Profile 25 x 22 on request

**Minimum order quantity for special constructions on request**

Conversion factors from the belt number to the reference length:

**Profile AA/HAA** – Belt no. x 25.4 = mm + 53 mm

**Profile BB/HBB** – (up to belt no. 210)  
 Belt no. x 25.4 = mm + 74 mm  
 (over belt no. 210)  
 Belt no. x 25.4 = mm + 36 mm

**Profile CC/HCC** – (up to belt no. 210)  
 Belt no. x 25.4 = mm + 107 mm  
 (over belt no. 210)  
 Belt no. x 25.4 = mm + 56 mm

**Profile DD/HDD** – (up to belt no. 210)  
 Belt no. x 25.4 = mm + 132 mm  
 (over belt no. 210)  
 Belt no. x 25.4 = mm + 69 mm

## PRODUCT DESCRIPTION

optibelt **KS** V-GROOVED PULLEYS – optibelt **TB** TAPER-BUSHES



### **optibelt KS V-grooved pulleys**

optibelt KS V-grooved pulleys are available with pilot bore and for taper bushes in all common belt profiles.

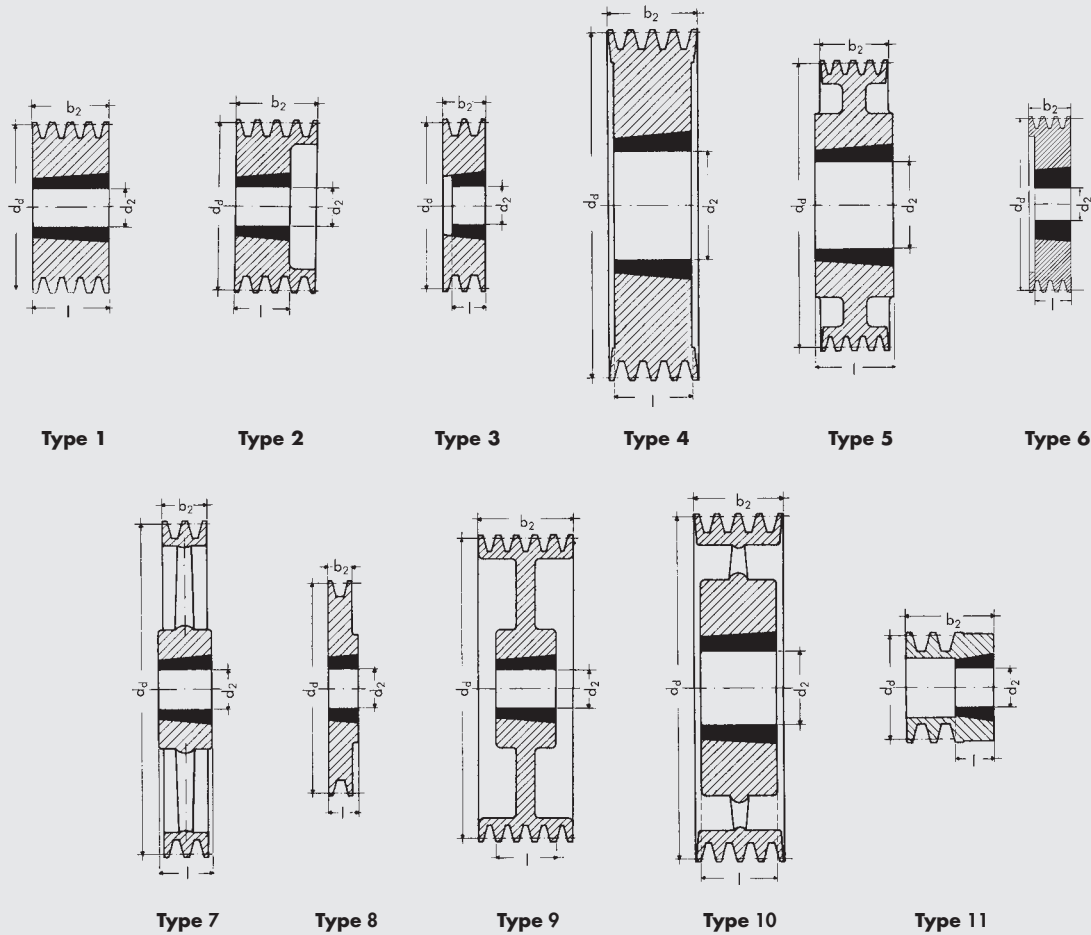


### **optibelt TB taper bushes**

optibelt TB taper bushes are used for easy installations of pulleys on shafts with or without keyway.

# PRODUCT DESCRIPTION

## optibelt **KS** V-GROOVED PULLEYS, TYPES



We reserve the right to technical modifications.

### Balancing

V-grooved pulleys are statically balanced in accordance with the guidelines in VDI 2060, as standard:  
Quality level G 16; for dia.  $d_d \leq 400$  mm at  $n = 1500$  rpm;  
for dia.  $d_d > 400$  mm at  $v = 30$  m/s.

The pulleys are balanced without keys on smooth balancing spindles. Machines whose runners are balanced with a keyway in the shaft end should be ordered as follows:  
"Balanced with pilot bore and empty keyway on smooth balancing spindles without key".

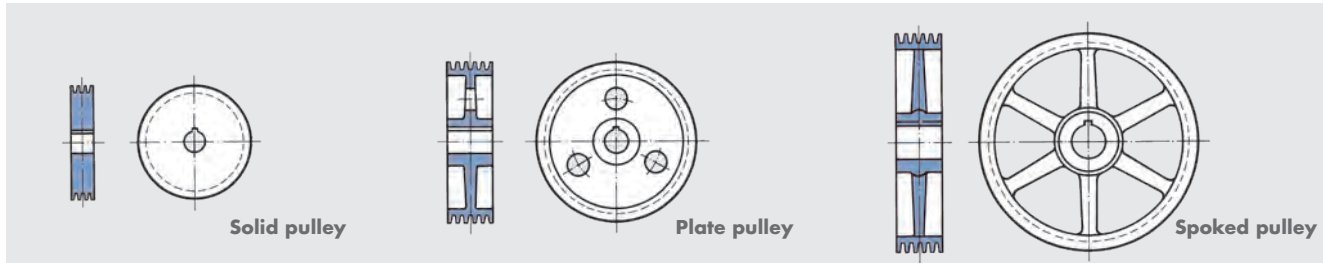
Balancing in one plane to quality level G 6.3 on request.  
We recommend balancing in two planes according to quality level G 6.3, or finer when  $v > 30$  m/s or the ratio of datum diameter to face width  $d_d : b_2$  is  $< 4$  at  $v > 20$  m/s. In such cases, the operational speed of the pulley must be given.

Special pulleys and customised pulleys on request



# PRODUCT DESCRIPTION

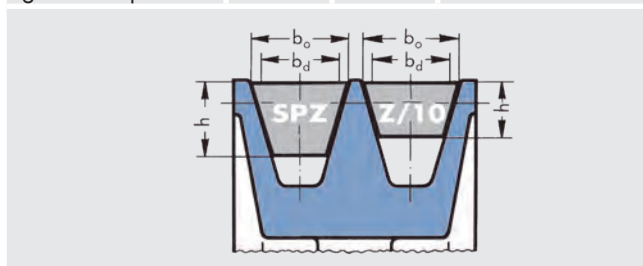
## optibelt **KS** V-GROOVED PULLEYS, STANDARDS – DESIGN CRITERIA – TYPES



An essential component in V-belt drive systems is the V-belt pulley, or in short V-pulley. They are primarily manufactured from cast iron EN-GJL-200-DIN EN 1561 and are available with a pilot hole, pre-fabricated hole or with a clamping bush system. The DIN standard as well as the most important national pulley standards of all industrial nations are based upon the ISO 4183 standard "Grooved Pulleys for Classic V-Belts and Wedge Belts". V-belt pulleys with grooves for wedge belts according to DIN 7753 Part 1 are also suitable for classic V-belts with the same datum width  $b_d$  according to DIN 2215. These are known as dual duty pulleys.

### Example

|                              | Belt              |                  | Grooved pulleys   |
|------------------------------|-------------------|------------------|-------------------|
| Profile                      | SPZ               | Z/10             | SPZ – Z/10        |
| Top width                    | $b_o \approx 9.7$ | $b_o \approx 10$ | $b_1 \approx 9.7$ |
| Datum width                  | $b_d = 8.5$       |                  | $b_d = 8.5$       |
| Belt height/<br>groove depth | $h \approx 8$     | $h \approx 6$    | $t_{min} = 11$    |



When selecting a pulley, the following criteria should be taken into account:

- Use standard pulley diameters.  
If design considerations make this impossible, a standard diameter should, as a minimum requirement, be selected for the largest pulley in the drive.
- Do not select a pulley smaller than the recommended size to ensure a longer operational life and overall drive efficiency.
- If manufacturing your own pulleys, the overall shape and processing must conform to the relevant standards.
- Grooved pulleys are generally balanced in one plane (statically) to quality level Q 16 as in VDI 2060.

- Balancing in two planes (dynamically), quality level Q 6.3 becomes necessary if:
  1.  $v > 30$  m/s or
  2. the ratio of datum diameter to pulley face width  $d_d : b_2 < 4$  at  $v > 20$  m/s.

**Note:** The timely replacement of pulleys damaged by corrosion or erosion prevents premature failure of the belts. Furthermore, it is important to prevent the belt basis from direct contact with the groove basis as this can quickly lead to damage and premature failure (exception: special drives such as V-flat drives).

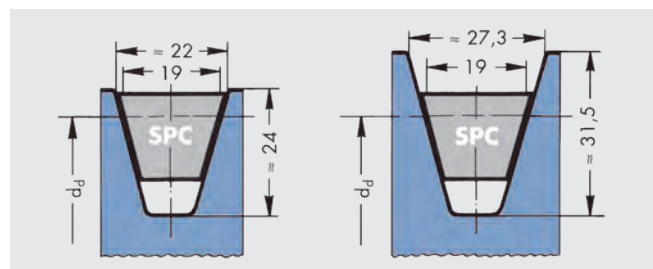
### Deep grooved pulleys

Deep grooved pulleys are employed for special drive situations such as

- The use of guide idlers.
- Twist drives or.
- Drives subject to severe vibration.

The increased groove top width " $b_1$ " and depth " $t$ " of deep grooved pulleys improves the running characteristics of the belt, particularly when entering the groove. Turning over and running out of the belt are prevented.

**Deep grooved pulleys are not suitable for the use with kraftbands.**

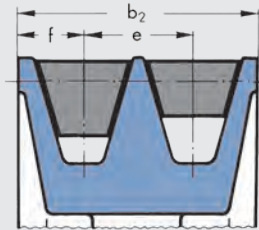
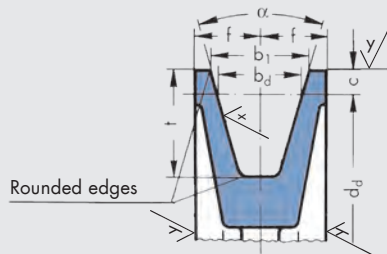


# OVERVIEW – GEOMETRY DATA

## optibelt **KS** V-GROOVED PULLEYS

### DIN 2211 SHEET 1 FOR WEDGE BELTS AND

### DIN 2217 SHEET 1 FOR CLASSIC V-BELTS



$$x/\sqrt{R_z} = 25$$

$$y/\sqrt{R_z} = 100$$

**Table 14**

| V-belt profile                                                           | ISO designation             | –                                       | Y*                                      | –                                       | Z*                                      | A*                                       | B*                                       | –                                        | C*                                       | –                                        | D                                    | E                                    |
|--------------------------------------------------------------------------|-----------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|--------------------------------------|--------------------------------------|
|                                                                          | DIN 2215                    | 5                                       | 6                                       | 8                                       | 10                                      | 13                                       | 17                                       | 20                                       | 22                                       | 25                                       | 32                                   | 40                                   |
| Wedge belt profile                                                       | DIN 7753 Part 1 and ISO     | –                                       | –                                       | –                                       | SPZ*                                    | SPA*                                     | SPB*                                     | –                                        | SPC*                                     | –                                        | –                                    | –                                    |
| $b_d$                                                                    |                             | 4.2                                     | 5.3                                     | 6.7                                     | 8.5                                     | 11.0                                     | 14.0                                     | 17.0                                     | 19.0                                     | 21.0                                     | 27.0                                 | 32.0                                 |
| $b_1 \approx$                                                            |                             | 5.0                                     | 6.3                                     | 8.0                                     | 9.7                                     | 12.7                                     | 16.3                                     | 20.0                                     | 22.0                                     | 25.0                                     | 32.0                                 | 40.0                                 |
| $c$                                                                      |                             | 1.3                                     | 1.6                                     | 2.0                                     | 2.0                                     | 2.8                                      | 3.5                                      | 5.1                                      | 4.8                                      | 6.3                                      | 8.1                                  | 12.0                                 |
| $e$                                                                      |                             | $6 \pm 0.3$                             | $8 \pm 0.3$                             | $10 \pm 0.3$                            | $12 \pm 0.3$                            | $15 \pm 0.3$                             | $19 \pm 0.4$                             | $23 \pm 0.4$                             | $25.5 \pm 0.5$                           | $29 \pm 0.5$                             | $37 \pm 0.6$                         | $44.5 \pm 0.7$                       |
| $f$                                                                      |                             | $5 \pm 0.5$                             | $6 \pm 0.5$                             | $7 \pm 0.6$                             | $8 \pm 0.6$                             | $10 \pm 0.6$                             | $12.5 \pm 0.8$                           | $15 \pm 0.8$                             | $17 \pm 1.0$                             | $19 \pm 1.0$                             | $24 \pm 2.0$                         | $29 \pm 2.0$                         |
| $t$                                                                      | Endless V-belts             | $6 + 0.6$                               | $7 + 0.6$                               | $9 + 0.6$                               | $11 + 0.6$                              | $14 + 0.6$                               | $18 + 0.6$                               | $18 + 0.6$                               | $24 + 0.6$                               | $22 + 0.6$                               | $28 + 0.6$                           | $33 + 0.6$                           |
|                                                                          | Open-ended V-belts DIN 2216 | 0                                       | 0                                       | 0                                       | 0                                       | 0                                        | 0                                        | 0                                        | 0                                        | 0                                        | 0                                    | 0                                    |
| $d_{d \min}$                                                             | V-belts                     | 20                                      | 28                                      | 40                                      | 50                                      | 71                                       | 112                                      | 160                                      | 180                                      | 250                                      | 355                                  | 500                                  |
|                                                                          | Wedge belts                 | –                                       | –                                       | –                                       | 63                                      | 90                                       | 140                                      | –                                        | 224                                      | –                                        | –                                    | –                                    |
| $\alpha$                                                                 |                             | $32^\circ \pm 1^\circ$<br>$d_d \leq 50$ | $32^\circ \pm 1^\circ$<br>$d_d \leq 63$ | $32^\circ \pm 1^\circ$<br>$d_d \leq 75$ | –                                       | –                                        | –                                        | –                                        | –                                        | –                                        | –                                    | –                                    |
|                                                                          |                             | –                                       | –                                       | –                                       | $34^\circ \pm 1^\circ$<br>$d_d \leq 80$ | $34^\circ \pm 1^\circ$<br>$d_d \leq 118$ | $34^\circ \pm 1^\circ$<br>$d_d \leq 190$ | $34^\circ \pm 1^\circ$<br>$d_d \leq 250$ | $34^\circ \pm 1^\circ$<br>$d_d \leq 315$ | $34^\circ \pm 1^\circ$<br>$d_d \leq 355$ | –                                    | –                                    |
|                                                                          |                             | $36^\circ \pm 1^\circ$<br>$d_d > 50$    | $36^\circ \pm 1^\circ$<br>$d_d > 63$    | $36^\circ \pm 1^\circ$<br>$d_d > 75$    | –                                       | –                                        | –                                        | –                                        | –                                        | –                                        | $36^\circ \pm 30'$<br>$d_d \leq 500$ | $36^\circ \pm 30'$<br>$d_d \leq 630$ |
|                                                                          |                             | –                                       | –                                       | –                                       | $38^\circ \pm 1^\circ$<br>$d_d > 80$    | $38^\circ \pm 1^\circ$<br>$d_d > 118$    | $38^\circ \pm 1^\circ$<br>$d_d > 190$    | $38^\circ \pm 1^\circ$<br>$d_d > 250$    | $38^\circ \pm 30'$<br>$d_d > 315$        | $38^\circ \pm 30'$<br>$d_d > 355$        | $38^\circ \pm 30'$<br>$d_d > 500$    | $38^\circ \pm 30'$<br>$d_d > 630$    |
| Face width $b_2$ for<br>number of grooves $z$<br>$b_2 = (z - 1) e + 2 f$ | 1                           | 10.0                                    | 12.0                                    | 14.0                                    | 16.0                                    | 20.0                                     | 25.0                                     | 30.0                                     | 34.0                                     | 38.0                                     | 48.0                                 | 58.0                                 |
|                                                                          | 2                           | 16.0                                    | 20.0                                    | 24.0                                    | 28.0                                    | 35.0                                     | 44.0                                     | 53.0                                     | 59.5                                     | 67.0                                     | 85.0                                 | 102.5                                |
|                                                                          | 3                           | 22.0                                    | 28.0                                    | 34.0                                    | 40.0                                    | 50.0                                     | 63.0                                     | 76.0                                     | 85.0                                     | 96.0                                     | 122.0                                | 147.0                                |
|                                                                          | 4                           | 28.0                                    | 36.0                                    | 44.0                                    | 52.0                                    | 65.0                                     | 82.0                                     | 99.0                                     | 110.5                                    | 125.0                                    | 159.0                                | 191.5                                |
|                                                                          | 5                           | 34.0                                    | 44.0                                    | 54.0                                    | 64.0                                    | 80.0                                     | 101.0                                    | 122.0                                    | 136.0                                    | 154.0                                    | 196.0                                | 236.0                                |
|                                                                          | 6                           | 40.0                                    | 52.0                                    | 64.0                                    | 76.0                                    | 95.0                                     | 120.0                                    | 145.0                                    | 161.5                                    | 183.0                                    | 233.0                                | 280.5                                |
|                                                                          | 7                           |                                         | 60.0                                    | 74.0                                    | 88.0                                    | 110.0                                    | 139.0                                    | 168.0                                    | 187.0                                    | 212.0                                    | 270.0                                | 325.0                                |
|                                                                          | 8                           |                                         |                                         | 84.0                                    | 100.0                                   | 125.0                                    | 158.0                                    | 191.0                                    | 212.5                                    | 241.0                                    | 307.0                                | 369.5                                |
|                                                                          | 9                           |                                         |                                         |                                         | 112.0                                   | 140.0                                    | 177.0                                    | 214.0                                    | 238.0                                    | 270.0                                    | 344.0                                | 414.0                                |
|                                                                          | 10                          |                                         |                                         |                                         |                                         | 155.0                                    | 196.0                                    | 237.0                                    | 263.5                                    | 299.0                                    | 381.0                                | 458.5                                |
|                                                                          | 11                          |                                         |                                         |                                         |                                         |                                          | 215.0                                    | 260.0                                    | 289.0                                    | 328.0                                    | 418.0                                | 503.0                                |
|                                                                          | 12                          |                                         |                                         |                                         |                                         |                                          |                                          | 283.0                                    | 314.5                                    | 357.0                                    | 455.0                                | 547.5                                |

\* These V-grooved pulleys are also suitable for optibelt SUPER TX M=S V-belts, optibelt SUPER XE-POWER PRO M=S and optibelt SUPER X-POWER M=S.

# OVERVIEW – GEOMETRY DATA

## optibelt **KS** V-GROOVED PULLEYS

### DIN 2211 SHEET 1 FOR WEDGE BELTS AND

### DIN 2217 SHEET 1 FOR CLASSIC V-BELTS



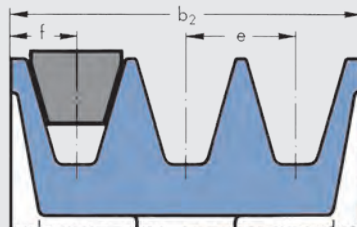
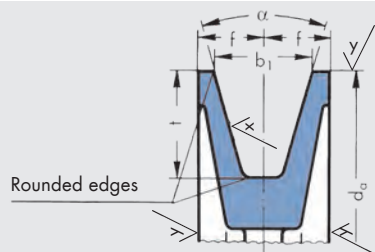
Table 15

| V-belt profile                                                                          | ISO designation              | –                                                    | Y                             | –                        | Z                                                                                                      | A                                                                                                      | B   | –                            | C                                                                  | –                            | D                            | E  | Datum diameter $d_d$                                           |                                                                | Radial and axial run-out tolerance |
|-----------------------------------------------------------------------------------------|------------------------------|------------------------------------------------------|-------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----|------------------------------|--------------------------------------------------------------------|------------------------------|------------------------------|----|----------------------------------------------------------------|----------------------------------------------------------------|------------------------------------|
|                                                                                         | DIN 2215                     | 5                                                    | 6                             | 8                        | 10                                                                                                     | 13                                                                                                     | 17  | 20                           | 22                                                                 | 25                           | 32                           | 40 |                                                                |                                                                |                                    |
| Wedge belt profile                                                                      | DIN 7753 Part 1 and ISO 4184 | –                                                    | –                             | –                        | SPZ                                                                                                    | SPA                                                                                                    | SPB | –                            | SPC                                                                | –                            | –                            | –  | min.                                                           | max.                                                           |                                    |
| Datum diameter $d_d$                                                                    |                              | 20.0<br>22.0<br>25.0<br>28.0<br>31.5<br>35.5<br>40.0 | 28.0<br>31.5<br>35.5<br>40.0  | 40                       | 40                                                                                                     |                                                                                                        |     |                              |                                                                    |                              |                              |    | 20.0<br>22.0<br>25.0<br>28.0<br>31.5<br>35.5<br>40.0           | 20.4<br>22.4<br>25.4<br>28.4<br>32.0<br>36.1<br>40.6           | 0.2                                |
|                                                                                         |                              | 45.0<br>50.0<br>56.0<br>63.0                         | 45.0<br>50.0<br>56.0<br>63.0  | 45<br>50<br>56<br>63     | <b>45</b><br><b>50</b><br><b>56</b><br><b>63</b><br><b>67</b>                                          |                                                                                                        |     |                              |                                                                    |                              |                              |    | 45.0<br>50.0<br>56.0<br>63.0<br>67.0                           | 45.7<br>50.8<br>56.9<br>64.0<br>68.0                           |                                    |
|                                                                                         |                              | 71.0<br>80.0<br>90.0<br>100.0                        | 71.0<br>80.0<br>90.0<br>100.0 | 71<br>80<br>90<br>100    | <b>71</b><br><b>75</b><br><b>80</b><br><b>85</b><br><b>90</b><br><b>95</b><br><b>100</b><br><b>106</b> | <b>71</b><br><b>75</b><br><b>80</b><br><b>85</b><br><b>90</b><br><b>95</b><br><b>100</b><br><b>106</b> |     |                              |                                                                    |                              |                              |    | 71.0<br>75.0<br>80.0<br>85.0<br>90.0<br>95.0<br>100.0<br>106.0 | 72.1<br>76.1<br>81.3<br>86.3<br>91.4<br>96.4<br>101.6<br>107.6 |                                    |
|                                                                                         |                              | 112.0<br>125.0                                       | 112.0<br>125.0                | 112<br>125<br>140<br>160 | <b>112</b><br><b>118</b><br><b>125</b><br><b>132</b><br><b>140</b><br><b>150</b><br><b>160</b>         | <b>112</b><br><b>118</b><br><b>125</b><br><b>132</b><br><b>140</b><br><b>150</b><br><b>160</b>         |     |                              |                                                                    |                              |                              |    | 112.0<br>118.0<br>125.0<br>132.0<br>140.0<br>150.0<br>160.0    | 113.8<br>119.9<br>127.0<br>134.1<br>142.2<br>152.4<br>162.6    | 0.3                                |
|                                                                                         |                              |                                                      |                               | 180<br>200               | <b>170</b><br><b>180</b><br><b>190</b><br><b>200</b><br><b>212</b><br><b>224</b>                       | <b>170</b><br><b>180</b><br><b>190</b><br><b>200</b><br><b>212</b><br><b>224</b>                       |     | 180<br>200<br>224            | <b>180</b><br><b>190</b><br><b>200</b><br><b>212</b><br><b>224</b> |                              |                              |    | 170.0<br>180.0<br>190.0<br>200.0<br>212.0<br>224.0             | 172.7<br>182.9<br>193.0<br>203.2<br>215.4<br>227.6             |                                    |
|                                                                                         |                              |                                                      |                               |                          | 250                                                                                                    | <b>225</b><br><b>236</b><br><b>250</b><br><b>265</b>                                                   |     | 250                          | <b>225</b><br><b>236</b><br><b>250</b><br><b>265</b>               | 250                          |                              |    | 225.0<br>236.0<br>250.0<br>265.0                               | 228.6<br>239.8<br>254.0<br>269.0                               | 0.4                                |
|                                                                                         |                              |                                                      |                               |                          | 280<br>300<br>315                                                                                      | <b>280</b><br><b>300</b><br><b>315</b>                                                                 |     | 280<br>315                   | <b>280</b><br><b>300</b><br><b>315</b>                             | 280<br>315                   |                              |    | 280.0<br>300.0<br>315.0                                        | 284.5<br>304.8<br>320.0                                        |                                    |
|                                                                                         |                              |                                                      |                               |                          | 355<br>400                                                                                             | <b>335</b><br><b>375</b><br><b>400</b><br><b>425</b>                                                   |     | 355<br>400                   | <b>335</b><br><b>375</b><br><b>400</b><br><b>425</b>               | 355<br>400                   | 355<br>400                   |    | 335.0<br>355.0<br>375.0<br>400.0<br>425.0                      | 340.0<br>360.7<br>380.7<br>406.4<br>431.4                      |                                    |
|                                                                                         |                              |                                                      |                               |                          | 450<br>500<br>560<br>630                                                                               | <b>450</b><br><b>500</b><br><b>560</b><br><b>630</b>                                                   |     | 450<br>500<br>560<br>630     | <b>450</b><br><b>500</b><br><b>560</b><br><b>630</b>               | 450<br>500<br>560<br>630     | 450<br>500<br>560<br>630     |    | 450.0<br>475.0<br>500.0<br>560.0<br>630.0                      | 457.2<br>482.2<br>508.0<br>569.0<br>640.1                      | 0.6                                |
|                                                                                         |                              |                                                      |                               |                          | 710<br>800<br>900<br>1000                                                                              | <b>710</b><br><b>800</b><br><b>900</b><br><b>1000</b>                                                  |     | 710<br>800<br>900<br>1000    | <b>710</b><br><b>800</b><br><b>900</b><br><b>1000</b>              | 710<br>800<br>900<br>1000    | 710<br>800<br>900<br>1000    |    | 710.0<br>800.0<br>900.0<br>1000.0                              | 721.4<br>812.8<br>914.4<br>1016.0                              |                                    |
|                                                                                         |                              |                                                      |                               |                          |                                                                                                        |                                                                                                        |     | 1120<br>1250<br>1400<br>1600 | <b>1120</b><br><b>1250</b><br><b>1400</b><br><b>1600</b>           | 1120<br>1250<br>1400<br>1600 | 1120<br>1250<br>1400<br>1600 |    | 1120.0<br>1250.0<br>1400.0<br>1600.0                           | 1137.9<br>1270.0<br>1422.4<br>1625.6                           | 1.0                                |
|                                                                                         |                              |                                                      |                               |                          |                                                                                                        |                                                                                                        |     | 1800<br>2000                 | <b>1800</b><br><b>2000</b>                                         | 1800<br>2000                 | 1800<br>2000                 |    | 1800.0<br>2000.0                                               | 1828.8<br>2032.0                                               |                                    |
| Allowed deviation of the datum diameters of the grooves in relation to one another [mm] |                              | 0.3                                                  |                               |                          | 0.4                                                                                                    |                                                                                                        |     | 0.6                          |                                                                    |                              |                              |    | —                                                              |                                                                |                                    |

For further details see standard DIN 2211 Part 1 and DIN 2217 Part 1. These V-grooved pulleys are also suitable for optibelt SUPER TX and optibelt SUPER X-POWER M=S V-belts. Preferred datum diameters in **bold type**. ■ Only for classic V-belts, raw edge • For optibelt SUPER X-POWER M=S wedge belts

# OVERVIEW – GEOMETRY DATA

## optibelt **KS** V-GROOVED PULLEYS ARPM/MPTA FOR WEDGE BELTS



$$x/\sqrt{R_z} = \sqrt{25}$$

$$y/\sqrt{R_z} = \sqrt{100}$$

**Table 16**

| Belt profile ARPM/MPTA                                                                    | 3V/9N                                    | 5V/15N                                   | 8V/25N                                   |       |
|-------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|-------|
| b <sub>1</sub>                                                                            | 8.89 ± 0.13                              | 15.24 ± 0.13                             | 25.40 ± 0.13                             |       |
| e                                                                                         | 10.30 ± 0.40                             | 17.50 ± 0.40                             | 28.60 ± 0.40                             |       |
| f                                                                                         | 9.00 + 2.00<br>- 1.00                    | 13.00 + 3.00<br>- 1.00                   | 19.00 + 6.00<br>- 2.00                   |       |
| t <sub>min</sub>                                                                          | 8.6                                      | 15.0                                     | 25.1                                     |       |
| d <sub>a min</sub>                                                                        | 67                                       | 151                                      | 315                                      |       |
| α                                                                                         | 36° ± 25'<br>d <sub>a</sub> 63 to 90     | —<br>—                                   | —<br>—                                   |       |
|                                                                                           | 38° ± 25'<br>d <sub>a</sub> > 90 to 150  | 38° ± 25'<br>d <sub>a</sub> 140 to 255   | 38° ± 25'<br>315 to 405                  |       |
|                                                                                           | 40° ± 25'<br>d <sub>a</sub> > 150 to 305 | 40° ± 25'<br>d <sub>a</sub> > 255 to 405 | 40° ± 25'<br>d <sub>a</sub> > 405 to 570 |       |
|                                                                                           | 42° ± 25'<br>d <sub>d</sub> > 305        | 42° ± 25'<br>d <sub>d</sub> > 405        | 42° ± 25'<br>d <sub>d</sub> > 570        |       |
| Face width b <sub>2</sub> for<br>number of grooves z:<br>b <sub>2</sub> = (z - 1) e + 2 f | 1                                        | 18.0                                     | 26.0                                     | 38.0  |
|                                                                                           | 2                                        | 28.3                                     | 43.5                                     | 66.6  |
|                                                                                           | 3                                        | 38.6                                     | 61.0                                     | 95.2  |
|                                                                                           | 4                                        | 48.9                                     | 78.5                                     | 123.8 |
|                                                                                           | 5                                        | 59.2                                     | 96.0                                     | 152.4 |
|                                                                                           | 6                                        | 69.5                                     | 113.5                                    | 181.0 |
|                                                                                           | 7                                        | 79.8                                     | 131.0                                    | 209.6 |
|                                                                                           | 8                                        | 90.1                                     | 148.5                                    | 238.2 |
|                                                                                           | 9                                        | 100.4                                    | 166.0                                    | 266.8 |
|                                                                                           | 10                                       | 110.7                                    | 183.5                                    | 295.4 |
|                                                                                           | 11                                       | 121.0                                    | 201.0                                    | 324.0 |
|                                                                                           | 12                                       | 131.3                                    | 218.5                                    | 352.6 |
| (values in mm)                                                                            |                                          |                                          |                                          |       |

(values in mm)

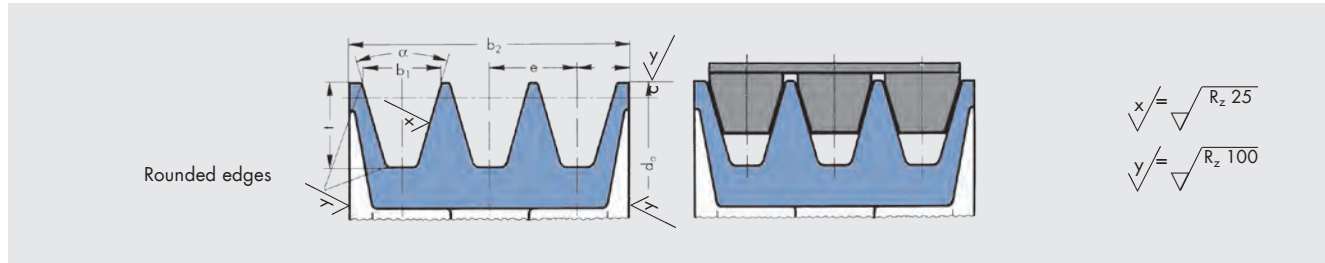
For drives with several grooves the total of all deviations from the nominal value  $e$  for all groove distances of a pulley  $\pm 0.8$  mm must not be exceeded. For further details see ARPM/MPTA.

### Note

The allowed variations of V-grooved pulleys according to ARPM/MPTA deviate only slightly from the values contained in ISO 5290 "Grooved pulleys for joint narrow V-belts (Kraftbands)". Therefore, optibelt KB kraftbands can be used in V-grooved pulleys manufactured according to both standards. These V-grooved pulleys are also suitable for optibelt SUPER X-POWER M=S V-belts.

# OVERVIEW – GEOMETRY DATA

## optibelt **KS** V-GROOVED PULLEYS FOR KRAFTBANDS



**Table 17: V-grooved pulleys for kraftbands with wedge belts ISO 529**

| Profile       | $d_a$                                            | $\alpha^\circ$<br>$\pm 30'$ | $b_1$<br>$\approx$ | $\delta h_{1\max}$ | $\delta h_{2\max}$ | $t_{\min}$ | e    | Tol e <sup>1)</sup> | $\Sigma$ Tol e <sup>2)</sup> | $f_{\min}$ | $d_{a\min}$      |
|---------------|--------------------------------------------------|-----------------------------|--------------------|--------------------|--------------------|------------|------|---------------------|------------------------------|------------|------------------|
| <b>3V/9J</b>  | 67 to 90<br>> 90 to 150<br>> 150 to 300<br>> 300 | 36<br>38<br>40<br>42        | 8.9                | 0.20               | 0.30               | 8.9        | 10.3 | $\pm 0.25$          | $\pm 0.5$                    | 9          | 84<br>(3VX) 63   |
| <b>5V/15J</b> | 180 to 250<br>> 250 to 400<br>> 400              | 38<br>40<br>42              | 15.2               | 0.25               | 0.40               | 15.2       | 17.5 | $\pm 0.25$          | $\pm 0.5$                    | 13         | 171<br>(5VX) 140 |
| <b>8V/25J</b> | 315 to 400<br>> 400 to 560<br>> 560              | 38<br>40<br>42              | 25.4               | 0.30               | 0.50               | 25.4       | 28.6 | $\pm 0.40$          | $\pm 0.8$                    | 19         | 355              |

For further details please see standard ISO 5290.

1) Tolerance for the centre distance "e" of two adjacent grooves.

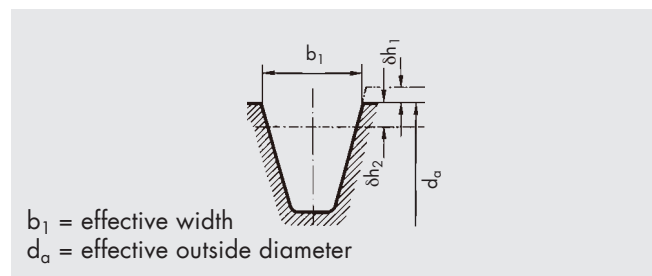
2) The sum of all deviations from the nominal dimension "e" for all groove distances of a pulley must not exceed the given tolerance.

The international standard ISO 5290 specifies pulley groove dimensions for belt profiles 3V/9J, 5V/15J, 8V/25J.

The groove top width " $b_1$ " is used as the basic reference dimension for standardisation of the grooves and joint V-belts. The pulley groove and joint V-belts are considered as a single unit in the standard ISO 5290.

The values  $\delta h_1$  and  $\delta h_2$  were chosen to ensure that

1. the top cover of the joint belt has no contact with the outside pulley diameter, in order to prevent the separation of the top cover.
2. the ribs are nevertheless still deep enough inside the pulley in order to ensure an optimum power transmission.



The groove faces must be straight at least to a level  $d_a - 2\delta h_2$ .

**Table 18: V-grooved pulleys for kraftbands with wedge belt profiles SPZ, SPA, SPB and SPC according to DIN 2211/ ISO 418**

| Profile    | $d_d$               | $\alpha^\circ$<br>$\pm 30'$ | $b_1$<br>$\approx$ | c   | $t_{\min}$ | e    | Tol e <sup>1)</sup> | $\Sigma$ Tol e <sup>2)</sup> | $f_{\min}$ | $d_{d\min}$      |
|------------|---------------------|-----------------------------|--------------------|-----|------------|------|---------------------|------------------------------|------------|------------------|
| <b>SPZ</b> | 71 to 80<br>> 80    | 34<br>38                    | 9.7                | 2.0 | 11         | 12.0 | $\pm 0.3$           | $\pm 0.6$                    | 8.0        | 80               |
| <b>SPA</b> | 100 to 118<br>> 118 | 34<br>38                    | 12.7               | 2.8 | 14         | 15.0 | $\pm 0.3$           | $\pm 0.6$                    | 10.0       | 112<br>(XPA) 90  |
| <b>SPB</b> | 160 to 190<br>> 190 | 34<br>38                    | 16.3               | 3.5 | 18         | 19.0 | $\pm 0.4$           | $\pm 0.8$                    | 12.5       | 160<br>(XPB) 140 |
| <b>SPC</b> | 250 to 315<br>> 315 | 34<br>38                    | 22.0               | 4.8 | 24         | 25.5 | $\pm 0.4$           | $\pm 0.8$                    | 17.0       | 250              |

# OVERVIEW – GEOMETRY DATA

## optibelt KS V-GROOVED PULLEYS FOR KRAFTBANDS



Table 19: V-grooved pulleys for kraftbands with classic V-belts ISO 5291/ASAE S211.5

| Profile | $d_a$               | $\alpha^\circ \pm 30'$ | $b_1 \approx$ | $\delta h_{1\max}$ | $\delta h_{2\max}$ | c   | $t_{\min}$ | e     | Tol e <sup>1)</sup> | $\Sigma$ Tol e <sup>2)</sup> | $f_{\min}$ | $d_{a\min}$ |
|---------|---------------------|------------------------|---------------|--------------------|--------------------|-----|------------|-------|---------------------|------------------------------|------------|-------------|
| AJ/HA   | 80 to 125<br>> 125  | 34<br>38               | 13.0          | 0.20               | 0.35               | 1.5 | 12.0       | 15.88 | $\pm 0.3$           | $\pm 0.6$                    | 9.0        | 80          |
| BJ/HB   | 130 to 195<br>> 195 | 34<br>38               | 16.5          | 0.25               | 0.40               | 2.0 | 14.0       | 19.05 | $\pm 0.4$           | $\pm 0.8$                    | 11.5       | 130         |
| CJ/HC   | 210 to 325<br>> 325 | 34<br>38               | 22.4          | 0.30               | 0.45               | 3.0 | 19.0       | 25.40 | $\pm 0.5$           | $\pm 1.0$                    | 16.0       | 210         |
| DJ/HD   | 370 to 490<br>> 490 | 36<br>38               | 32.8          | 0.30               | 0.55               | 4.5 | 26.0       | 36.53 | $\pm 0.6$           | $\pm 1.2$                    | 23.0       | 370         |

1) Tolerance for the centre distance "e" of two adjacent grooves.

2) The sum of all deviations from the nominal dimension "e" for all groove distances of a pulley must not exceed the given tolerance.

Table 20: Pulley width ranges for kraftbands

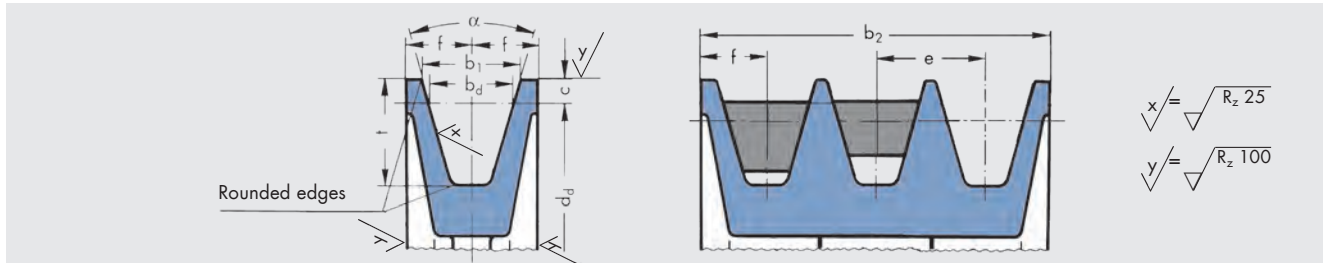
| Profile           | 3V/9J                                                            | 5V/15J | 8V/25J  | SPZ    | SPA    | SPB    | SPC     | AJ/HA  | BJ/HB  | CJ/HC   | DJ/HD   |
|-------------------|------------------------------------------------------------------|--------|---------|--------|--------|--------|---------|--------|--------|---------|---------|
| Number of grooves | Face width $b_2$ for number of grooves z $b_2 = (z - 1) e + 2 f$ |        |         |        |        |        |         |        |        |         |         |
| 2                 | 28.30                                                            | 43.50  | 66.60   | 28.00  | 35.00  | 44.00  | 59.50   | 33.88  | 42.05  | 57.40   | 82.53   |
| 3                 | 38.60                                                            | 61.00  | 95.20   | 40.00  | 50.00  | 63.00  | 85.00   | 49.76  | 61.10  | 82.80   | 119.06  |
| 4                 | 48.90                                                            | 78.50  | 123.80  | 52.00  | 65.00  | 82.00  | 110.50  | 65.64  | 80.15  | 108.20  | 155.59  |
| 5                 | 59.20                                                            | 96.00  | 152.40  | 64.00  | 80.00  | 101.00 | 136.00  | 81.52  | 99.20  | 133.60  | 192.12  |
| 6                 | 69.50                                                            | 113.50 | 181.00  | 76.00  | 95.00  | 120.00 | 161.50  | 97.40  | 118.25 | 159.00  | 228.65  |
| 7                 | 79.80                                                            | 131.00 | 209.60  | 88.00  | 110.00 | 139.00 | 187.00  | 113.28 | 137.30 | 184.40  | 265.18  |
| 8                 | 90.10                                                            | 148.50 | 238.20  | 100.00 | 125.00 | 158.00 | 212.50  | 129.16 | 156.35 | 209.80  | 301.71  |
| 9                 | 100.40                                                           | 166.00 | 266.80  | 112.00 | 140.00 | 177.00 | 238.00  | 145.04 | 175.40 | 235.20  | 338.24  |
| 10                | 110.70                                                           | 183.50 | 295.40  | 124.00 | 155.00 | 196.00 | 263.50  | 160.92 | 194.45 | 260.60  | 374.77  |
| 11                | 121.00                                                           | 201.00 | 324.00  | 136.00 | 170.00 | 215.00 | 289.00  | 176.80 | 213.50 | 286.00  | 401.30  |
| 12                | 131.30                                                           | 218.50 | 352.60  | 148.00 | 185.00 | 234.00 | 314.50  | 192.68 | 232.55 | 311.40  | 447.83  |
| 13                | 141.60                                                           | 236.00 | 381.20  | 160.00 | 200.00 | 253.00 | 340.00  | 208.56 | 251.60 | 336.80  | 484.36  |
| 14                | 151.90                                                           | 253.50 | 409.80  | 172.00 | 215.00 | 272.00 | 365.50  | 224.44 | 270.65 | 362.20  | 520.89  |
| 15                | 162.20                                                           | 271.00 | 438.40  | 184.00 | 230.00 | 291.00 | 391.00  | 240.32 | 289.70 | 387.60  | 557.42  |
| 16                | 172.50                                                           | 288.50 | 467.00  | 196.00 | 245.00 | 310.00 | 416.50  | 256.20 | 308.75 | 413.00  | 593.95  |
| 17                | 182.80                                                           | 306.00 | 495.60  | 208.00 | 260.00 | 329.00 | 442.00  | 272.08 | 327.80 | 438.40  | 630.48  |
| 18                | 193.10                                                           | 323.50 | 524.20  | 220.00 | 275.00 | 348.00 | 467.50  | 287.96 | 346.85 | 463.80  | 667.01  |
| 19                | 203.40                                                           | 341.00 | 552.80  | 232.00 | 290.00 | 367.00 | 493.00  | 303.84 | 365.90 | 489.20  | 703.54  |
| 20                | 213.70                                                           | 358.50 | 581.40  | 244.00 | 305.00 | 386.00 | 518.50  | 319.72 | 384.95 | 514.60  | 740.07  |
| 21                | 224.00                                                           | 376.00 | 610.00  | 256.00 | 320.00 | 405.00 | 544.00  | 335.60 | 404.00 | 540.00  | 776.60  |
| 22                | 234.30                                                           | 393.50 | 638.60  | 268.00 | 335.00 | 424.00 | 569.50  | 351.48 | 423.05 | 565.40  | 813.13  |
| 23                | 244.60                                                           | 411.00 | 667.20  | 280.00 | 350.00 | 443.00 | 595.00  | 367.36 | 442.10 | 590.80  | 849.66  |
| 24                | 254.90                                                           | 428.50 | 695.80  | 292.00 | 365.00 | 462.00 | 620.50  | 383.24 | 461.15 | 616.20  | 886.19  |
| 25                | 265.20                                                           | 446.00 | 724.40  | 304.00 | 380.00 | 481.00 | 646.00  | 399.12 | 480.20 | 641.60  | 922.72  |
| 26                | 275.50                                                           | 463.50 | 753.00  | 316.00 | 395.00 | 500.00 | 671.50  | 415.00 | 499.25 | 667.00  | 959.25  |
| 27                | 285.80                                                           | 481.00 | 781.60  | 328.00 | 410.00 | 519.00 | 697.00  | 430.88 | 518.30 | 692.40  | 995.78  |
| 28                | 296.10                                                           | 498.50 | 810.20  | 340.00 | 425.00 | 538.00 | 722.50  | 446.76 | 537.35 | 717.80  | 1032.31 |
| 29                | 306.40                                                           | 516.00 | 838.80  | 352.00 | 440.00 | 557.00 | 748.00  | 462.64 | 556.40 | 743.20  | 1068.84 |
| 30                | 316.70                                                           | 533.50 | 867.40  | 364.00 | 455.00 | 576.00 | 773.50  | 478.52 | 575.45 | 768.60  | 1105.37 |
| 31                | 327.00                                                           | 551.00 | 896.00  | 376.00 | 470.00 | 595.00 | 799.00  | 494.40 | 594.50 | 794.00  | 1141.90 |
| 32                | 337.30                                                           | 568.50 | 924.60  | 388.00 | 485.00 | 614.00 | 824.50  | 510.28 | 613.55 | 819.40  | 1178.43 |
| 33                | 347.60                                                           | 586.00 | 953.20  | 400.00 | 500.00 | 633.00 | 850.00  | 526.16 | 632.60 | 844.80  | 1214.96 |
| 34                | 357.90                                                           | 603.50 | 981.80  | 412.00 | 515.00 | 652.00 | 875.50  | 542.04 | 651.65 | 870.20  | 1251.49 |
| 35                | 368.20                                                           | 621.00 | 1010.40 | 424.00 | 530.00 | 671.00 | 901.00  | 557.92 | 670.70 | 895.60  | 1288.02 |
| 36                | 378.50                                                           | 638.50 | 1039.00 | 436.00 | 545.00 | 690.00 | 926.50  | 573.80 | 689.75 | 921.00  | 1324.55 |
| 37                | 388.80                                                           | 656.00 | 1067.60 | 448.00 | 560.00 | 709.00 | 952.00  | 589.68 | 708.80 | 946.40  | 1361.08 |
| 38                | 399.10                                                           | 673.50 | 1096.20 | 460.00 | 575.00 | 728.00 | 977.50  | 605.56 | 727.85 | 971.80  | 1397.61 |
| 39                | 409.40                                                           | 691.00 | 1124.80 | 472.00 | 590.00 | 747.00 | 1003.00 | 621.44 | 746.90 | 997.20  | 1434.14 |
| 40                | 419.70                                                           | 708.50 | 1153.40 | 484.00 | 605.00 | 766.00 | 1028.50 | 637.32 | 765.95 | 1022.60 | 1470.67 |

For KB sets please note the systematical classification.



# OVERVIEW – GEOMETRY DATA

## OPTIBELT DEEP GROOVED PULLEYS



**Table 21**

| Profile                                                                                |  | DIN 7753 Part 1/ISO |  | SPZ                                 | SPA                                  | SPB                                   | SPC                                    |     |
|----------------------------------------------------------------------------------------|--|---------------------|--|-------------------------------------|--------------------------------------|---------------------------------------|----------------------------------------|-----|
| Suitable for V-belts DIN 2215 and 2216                                                 |  |                     |  | 10                                  | 13                                   | 17                                    | 22                                     |     |
| b <sub>d</sub>                                                                         |  |                     |  | 8.5                                 | 11.0                                 | 14.0                                  | 19.0                                   |     |
| b <sub>1</sub> ≈                                                                       |  |                     |  | 11.0                                | 15.0                                 | 18.9                                  | 26.3                                   |     |
|                                                                                        |  |                     |  | 11.3                                | 15.4                                 | 19.5                                  | 27.3                                   |     |
| c                                                                                      |  |                     |  | 4.0                                 | 6.5                                  | 8.0                                   | 12.0                                   |     |
| e                                                                                      |  |                     |  | 14 ± 0.3                            | 18 ± 0.3                             | 23.0 ± 0.4                            | 31 ± 0.5                               |     |
| f                                                                                      |  |                     |  | 8 ± 0.6                             | 10 ± 0.6                             | 12.5 ± 0.8                            | 17 ± 1.0                               |     |
| t <sub>min</sub>                                                                       |  |                     |  | 13                                  | 18                                   | 22.5                                  | 31.5                                   |     |
| α                                                                                      |  |                     |  | 34° ± 1°<br>d <sub>d</sub> 63 to 80 | 34° ± 1°<br>d <sub>d</sub> 90 to 118 | 34° ± 1°<br>d <sub>d</sub> 140 to 190 | 34° ± 30′<br>d <sub>d</sub> 224 to 315 |     |
|                                                                                        |  |                     |  | 38° ± 1°<br>d <sub>d</sub> > 80     | 38° ± 1°<br>d <sub>d</sub> >118      | 38° ± 1°<br>d <sub>d</sub> > 190      | 38° ± 30′<br>d <sub>d</sub> > 315      |     |
| α                                                                                      |  |                     |  | 34° ± 1°<br>d <sub>d</sub> 50 to 80 | 34° ± 1°<br>d <sub>d</sub> 71 to 118 | 34° ± 1°<br>d <sub>d</sub> 112 to 190 | 34° ± 30′<br>d <sub>d</sub> 180 to 315 |     |
|                                                                                        |  |                     |  | 38° ± 1°<br>d <sub>d</sub> > 80     | 38° ± 1°<br>d <sub>d</sub> >118      | 38° ± 1°<br>d <sub>d</sub> > 190      | 38° ± 30′<br>d <sub>d</sub> > 315      |     |
| Face width b <sub>2</sub> for number of grooves z:<br>b <sub>2</sub> = (z – 1) e + 2 f |  |                     |  | 1                                   | 16                                   | 20                                    | 25                                     | 34  |
|                                                                                        |  |                     |  | 2                                   | 30                                   | 38                                    | 48                                     | 65  |
|                                                                                        |  |                     |  | 3                                   | 44                                   | 56                                    | 71                                     | 96  |
|                                                                                        |  |                     |  | 4                                   | 58                                   | 74                                    | 94                                     | 127 |
|                                                                                        |  |                     |  | 5                                   | 72                                   | 92                                    | 117                                    | 158 |
|                                                                                        |  |                     |  | 6                                   | 86                                   | 110                                   | 140                                    | 189 |
|                                                                                        |  |                     |  | 7                                   | 100                                  | 128                                   | 163                                    | 220 |
|                                                                                        |  |                     |  | 8                                   | 114                                  | 146                                   | 186                                    | 251 |
|                                                                                        |  |                     |  | 9                                   | 128                                  | 164                                   | 209                                    | 282 |
|                                                                                        |  |                     |  | 10                                  | 142                                  | 182                                   | 232                                    | 313 |
|                                                                                        |  |                     |  | 11                                  | 160                                  | 200                                   | 255                                    | 344 |
|                                                                                        |  |                     |  | 12                                  | 174                                  | 218                                   | 278                                    | 375 |

Please note the respective minimum pulley diameters.

**Attention:** Kraftbands are **not** suitable for deep grooved pulleys.

# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR TAPER BUSHES – GROOVE ACCORDING TO DIN 2211



| Profile SPZ/Z/10                                        |                      |        |    |                                    |            |                                 |                      |        |   |                                    |            |
|---------------------------------------------------------|----------------------|--------|----|------------------------------------|------------|---------------------------------|----------------------|--------|---|------------------------------------|------------|
| Datum diameter<br>$d_d$<br>[mm]                         | Number<br>of grooves | Design |    | Weight<br>without bushes<br>[≈ kg] | Taper bush | Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design |   | Weight<br>without bushes<br>[≈ kg] | Taper bush |
| 50▲◆                                                    | 1                    | ●      | 11 | 0.3                                | 1008       | 106                             | 1                    | ●      | 8 | 0.9                                | 1610       |
|                                                         | 2                    | ●      | 11 | 0.4                                | 1008       |                                 | 2                    | ●      | 6 | 1.1                                | 1610       |
| 56▲◆                                                    | 1                    | ●      | 11 | 0.4                                | 1008       |                                 | 3                    | ●      | 6 | 1.3                                | 1610       |
|                                                         | 2                    | ●      | 11 | 0.5                                | 1108       |                                 | 4                    | ●      | 6 | 1.3                                | 1610       |
| 60▲◆■                                                   | 1                    | ●      | 8  | 0.2                                | 1008       |                                 | 5                    | ●      | 6 | 1.5                                | 2012       |
|                                                         | 2                    | ●      | 11 | 0.6                                | 1108       |                                 | 6*                   | ●      | 6 | 1.6                                | 2012       |
| 63                                                      | 1                    | ●      | 8  | 0.2                                | 1108       | 112                             | 1                    | ●      | 8 | 1.0                                | 1610       |
|                                                         | 2                    | ●      | 6  | 0.3                                | 1108       |                                 | 2                    | ●      | 6 | 1.3                                | 1610       |
|                                                         | 3                    | ●      | 6  | 0.4                                | 1108       |                                 | 3                    | ●      | 6 | 1.3                                | 2012       |
| 67                                                      | 1                    | ●      | 8  | 0.3                                | 1108       |                                 | 4                    | ●      | 6 | 1.5                                | 2012       |
|                                                         | 2                    | ●      | 6  | 0.4                                | 1108       |                                 | 5                    | ●      | 6 | 1.8                                | 2012       |
|                                                         | 3                    | ●      | 6  | 0.5                                | 1108       |                                 | 6*                   | ●      | 6 | 1.9                                | 2012       |
| 71                                                      | 1                    | ●      | 8  | 0.3                                | 1108       | 118                             | 1                    | ●      | 8 | 0.9                                | 1610       |
|                                                         | 2                    | ●      | 6  | 0.4                                | 1108       |                                 | 2                    | ●      | 6 | 1.3                                | 1610       |
|                                                         | 3                    | ●      | 6  | 0.6                                | 1108       |                                 | 3                    | ●      | 6 | 1.6                                | 2012       |
| 75                                                      | 1                    | ●      | 8  | 0.4                                | 1108       |                                 | 4                    | ●      | 6 | 1.8                                | 2012       |
|                                                         | 2                    | ●      | 6  | 0.4                                | 1210       |                                 | 5                    | ●      | 6 | 1.8                                | 2012       |
|                                                         | 3                    | ●      | 6  | 0.5                                | 1210       |                                 | 6*                   | ●      | 6 | 2.0                                | 2517       |
| 80                                                      | 1                    | ●      | 8  | 0.5                                | 1210       | 125                             | 1                    | ●      | 8 | 1.0                                | 1610       |
|                                                         | 2                    | ●      | 6  | 0.6                                | 1210       |                                 | 2                    | ●      | 6 | 1.4                                | 1610       |
|                                                         | 3                    | ●      | 6  | 0.7                                | 1210       |                                 | 3                    | ●      | 2 | 1.8                                | 2012       |
|                                                         | 4                    | ●      | 6  | 0.8                                | 1210       |                                 | 4                    | ●      | 2 | 2.2                                | 2012       |
| 85                                                      | 1                    | ●      | 8  | 0.6                                | 1210       |                                 | 5                    | ●      | 6 | 2.3                                | 2012       |
|                                                         | 2                    | ●      | 6  | 0.5                                | 1610       |                                 | 6*                   | ●      | 6 | 2.5                                | 2517       |
|                                                         | 3                    | ●      | 6  | 0.6                                | 1610       | 132                             | 1                    | ●      | 8 | 1.1                                | 1610       |
|                                                         | 4                    | ●      | 6  | 0.9                                | 1610       |                                 | 2                    | ●      | 6 | 1.5                                | 1610       |
|                                                         | 5                    | ●      | 6  | 1.0                                | 1610       |                                 | 3                    | ●      | 2 | 2.3                                | 2012       |
| 90                                                      | 1                    | ●      | 8  | 0.7                                | 1210       |                                 | 4                    | ●      | 2 | 2.5                                | 2012       |
|                                                         | 2                    | ●      | 6  | 0.7                                | 1610       |                                 | 5                    | ●      | 6 | 2.7                                | 2517       |
|                                                         | 3                    | ●      | 6  | 0.8                                | 1610       |                                 | 6*                   | ●      | 6 | 2.9                                | 2517       |
|                                                         | 4                    | ●      | 6  | 1.0                                | 1610       | 140                             | 1                    | ●      | 8 | 1.2                                | 1610       |
|                                                         | 5                    | ●      | 6  | 1.2                                | 1610       |                                 | 2                    | ●      | 2 | 1.7                                | 1610       |
| 95                                                      | 1                    | ●      | 8  | 0.7                                | 1210       |                                 | 3                    | ●      | 2 | 2.6                                | 2012       |
|                                                         | 2                    | ●      | 6  | 0.8                                | 1610       |                                 | 4                    | ●      | 2 | 2.9                                | 2012       |
|                                                         | 3                    | ●      | 6  | 0.9                                | 1610       |                                 | 5                    | ●      | 2 | 3.2                                | 2517       |
|                                                         | 4                    | ●      | 6  | 1.1                                | 1610       |                                 | 6*                   | ●      | 2 | 3.5                                | 2517       |
|                                                         | 5                    | ●      | 6  | 1.3                                | 1610       |                                 | 8*                   | ●      | 4 | 4.0                                | 2517       |
| 100                                                     | 1                    | ●      | 8  | 0.8                                | 1210       | 150                             | 1                    | ●      | 8 | 1.2                                | 1610       |
|                                                         | 2                    | ●      | 6  | 0.9                                | 1610       |                                 | 2                    | ●      | 8 | 2.0                                | 2012       |
|                                                         | 3                    | ●      | 6  | 1.1                                | 1610       |                                 | 3                    | ●      | 2 | 3.1                                | 2012       |
|                                                         | 4                    | ●      | 6  | 1.1                                | 1610       |                                 | 4                    | ●      | 2 | 3.7                                | 2517       |
|                                                         | 5                    | ●      | 6  | 1.3                                | 2012       |                                 | 5                    | ●      | 2 | 4.0                                | 2517       |
|                                                         | 6*                   | ●      | 6  | 1.4                                | 2012       |                                 | 6*                   | ●      | 2 | 4.4                                | 2517       |
| ▲ for profile 10 ◆ for profile ZX/X10 ■ for profile XPZ |                      |        |    |                                    |            |                                 |                      |        |   |                                    |            |

|                                 |       |       |       |       |       |       |     |
|---------------------------------|-------|-------|-------|-------|-------|-------|-----|
| Number of grooves z             | 1     | 2     | 3     | 4     | 5     | 6     | 8   |
| Face width $b_2$ [mm]           | 16    | 28    | 40    | 52    | 64    | 76    | 100 |
| Taper bush                      | 1008  | 1108  | 1210  | 1610  | 2012  | 2517  |     |
| Bore $d_2$ [mm] from ... to ... | 10-25 | 10-28 | 11-32 | 14-42 | 14-50 | 16-60 |     |

● Solid pulley  
 ○ Plate pulley (with or without holes)  
 × Spoked pulley  
 Material: EN-GJL-200 (GG 20)  
 DIN EN 1561  
 \* Non stock items

Bore diameter  $d_2$  see page 70

# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR TAPER BUSHES – GROOVE ACCORDING TO DIN 2211



| Profile SPZ/Z/10                |                      |        |    |                                    |            |                                 |                      |        |    |                                    |            |
|---------------------------------|----------------------|--------|----|------------------------------------|------------|---------------------------------|----------------------|--------|----|------------------------------------|------------|
| Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design |    | Weight<br>without bushes<br>[≈ kg] | Taper bush | Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design |    | Weight<br>without bushes<br>[≈ kg] | Taper bush |
| 160                             | 1                    | ●      | 8  | 1.3                                | 1610       | 280                             | 1                    | x      | 7  | 2.9                                | 2012       |
|                                 | 2                    | ●      | 8  | 2.5                                | 2012       |                                 | 2                    | x      | 7  | 4.0                                | 2012       |
|                                 | 3                    | ●      | 2  | 3.6                                | 2012       |                                 | 3                    | x      | 7  | 5.3                                | 2517       |
|                                 | 4                    | ●      | 2  | 4.4                                | 2517       |                                 | 4                    | x      | 10 | 6.4                                | 2517       |
|                                 | 5                    | ●      | 2  | 4.8                                | 2517       |                                 | 5                    | x      | 10 | 7.1                                | 2517       |
|                                 | 6*                   | ●      | 2  | 5.2                                | 2517       |                                 | 6*                   | x      | 10 | 7.8                                | 2517       |
|                                 | 8*                   | ●      | 4  | 5.6                                | 2517       |                                 | 8*                   | x      | 10 | 10.8                               | 3020       |
| 170                             | 1                    | ●      | 8  | 1.5                                | 1610       | 315                             | 1                    | x      | 7  | 3.1                                | 2012       |
|                                 | 2                    | ●      | 8  | 2.5                                | 2012       |                                 | 2                    | x      | 7  | 4.2                                | 2012       |
|                                 | 3                    | ○      | 9  | 4.2                                | 2012       |                                 | 3                    | x      | 7  | 6.1                                | 2517       |
|                                 | 4                    | ●      | 2  | 5.3                                | 2517       |                                 | 4                    | x      | 10 | 7.6                                | 2517       |
|                                 | 5                    | ●      | 2  | 5.9                                | 2517       |                                 | 5                    | x      | 10 | 8.6                                | 2517       |
|                                 | 6*                   | ●      | 2  | 6.5                                | 2517       |                                 | 6*                   | x      | 10 | 9.3                                | 2517       |
| 180                             | 1                    | x      | 8  | 1.6                                | 1610       | 355                             | 1                    | x      | 7  | 3.5                                | 2012       |
|                                 | 2                    | ○      | 8  | 2.5                                | 2012       |                                 | 2                    | x      | 7  | 5.1                                | 2012       |
|                                 | 3                    | ○      | 9  | 4.8                                | 2012       |                                 | 3                    | x      | 7  | 7.3                                | 2517       |
|                                 | 4                    | ●      | 9  | 6.1                                | 2517       |                                 | 4                    | x      | 10 | 8.9                                | 2517       |
|                                 | 5                    | ●      | 9  | 6.3                                | 2517       |                                 | 5                    | x      | 10 | 10.0                               | 2517       |
|                                 | 6*                   | ●      | 9  | 6.8                                | 2517       |                                 | 6*                   | x      | 10 | 10.7                               | 2517       |
|                                 | 8*                   | ●      | 4  | 7.1                                | 3020       |                                 | 8*                   | x      | 10 | 16.0                               | 3030       |
| 190                             | 1                    | x      | 8  | 1.8                                | 1610       | 400                             | 1                    | x      | 7  | 6.0                                | 2012       |
|                                 | 2                    | ○      | 8  | 2.6                                | 2012       |                                 | 2                    | x      | 7  | 6.3                                | 2517       |
|                                 | 3                    | ○      | 9  | 4.9                                | 2012       |                                 | 3                    | x      | 7  | 8.0                                | 2517       |
|                                 | 4                    | ○      | 9  | 5.3                                | 2517       |                                 | 4                    | x      | 10 | 10.1                               | 2517       |
|                                 | 5                    | ○      | 9  | 6.3                                | 2517       |                                 | 5                    | x      | 10 | 11.7                               | 3020       |
|                                 | 6*                   | ○      | 9  | 6.9                                | 2517       |                                 | 6*                   | x      | 10 | 14.5                               | 3030       |
|                                 |                      |        |    |                                    |            |                                 | 8*                   | x      | 10 | 18.2                               | 3030       |
| 200                             | 1                    | x      | 7  | 2.3                                | 2012       | 450                             | 1*                   | x      | 7  | 6.1                                | 2517       |
|                                 | 2                    | x      | 7  | 2.8                                | 2012       |                                 | 2*                   | x      | 7  | 8.2                                | 2517       |
|                                 | 3                    | x      | 10 | 3.5                                | 2517       |                                 | 3*                   | x      | 7  | 9.8                                | 2517       |
|                                 | 4                    | ○      | 9  | 4.7                                | 2517       |                                 | 4*                   | x      | 10 | 11.8                               | 3020       |
|                                 | 5                    | ○      | 9  | 5.5                                | 2517       |                                 | 5*                   | x      | 10 | 13.9                               | 3020       |
|                                 | 6*                   | ○      | 9  | 6.1                                | 2517       |                                 | 6*                   | x      | 10 | 16.9                               | 3030       |
|                                 | 8*                   | ●      | 4  | 9.3                                | 3020       |                                 | 8*                   | x      | 10 | 24.0                               | 3535       |
| 224                             | 1                    | x      | 7  | 2.5                                | 2012       | 500                             | 2*                   | x      | 7  | 9.1                                | 2517       |
|                                 | 2                    | x      | 7  | 3.2                                | 2012       |                                 | 3*                   | x      | 7  | 11.4                               | 2517       |
|                                 | 3                    | x      | 10 | 3.9                                | 2012       |                                 | 4*                   | x      | 10 | 14.3                               | 3020       |
|                                 | 4                    | x      | 10 | 5.2                                | 2517       |                                 | 5*                   | x      | 7  | 17.6                               | 3030       |
|                                 | 5                    | x      | 10 | 6.0                                | 2517       |                                 | 6*                   | x      | 10 | 19.9                               | 3030       |
|                                 | 6*                   | x      | 10 | 6.6                                | 2517       |                                 |                      |        |    |                                    |            |
|                                 | 8*                   | ●      | 10 | 11.8                               | 3020       | 630                             | 3*                   | x      | 7  | 15.9                               | 3020       |
| 250                             | 1                    | x      | 7  | 2.8                                | 2012       |                                 | 4*                   | x      | 7  | 20.0                               | 3030       |
|                                 | 2                    | x      | 7  | 3.5                                | 2012       |                                 | 5*                   | x      | 7  | 22.7                               | 3030       |
|                                 | 3                    | x      | 10 | 4.3                                | 2012       |                                 | 6*                   | x      | 7  | 33.6                               | 3535       |
|                                 | 4                    | x      | 10 | 5.7                                | 2517       |                                 |                      |        |    |                                    |            |
|                                 | 5                    | x      | 10 | 6.4                                | 2517       |                                 |                      |        |    |                                    |            |
|                                 | 6                    | x      | 10 | 7.0                                | 2517       |                                 |                      |        |    |                                    |            |
|                                 | 8*                   | x      | 10 | 10.5                               | 3020       |                                 |                      |        |    |                                    |            |

|                                 |       |       |       |       |       |       |     |
|---------------------------------|-------|-------|-------|-------|-------|-------|-----|
| Number of grooves z             | 1     | 2     | 3     | 4     | 5     | 6     | 8   |
| Face width $b_2$ [mm]           | 16    | 28    | 40    | 52    | 64    | 76    | 100 |
| Taper bush                      | 1610  | 2012  | 2517  | 3020  | 3030  | 3535  |     |
| Bore $d_2$ [mm] from ... to ... | 14-42 | 14-50 | 16-60 | 25-75 | 35-75 | 35-90 |     |

● Solid pulley  
 ○ Plate pulley (with or without holes)  
 × Spoked pulley  
 Material: EN-GJL-200 (GG 20)  
 DIN EN 1561  
 \* Non stock items

Bore diameter  $d_2$  see page 70

# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR TAPER BUSHES – GROOVE ACCORDING TO DIN 2211



| Profile SPA/A/13                                        |                      |        |   |                                    |            |                                          |                      |        |     |                                    |            |
|---------------------------------------------------------|----------------------|--------|---|------------------------------------|------------|------------------------------------------|----------------------|--------|-----|------------------------------------|------------|
| Datum diameter<br>d <sub>d</sub><br>[mm]                | Number<br>of grooves | Design |   | Weight<br>without bushes<br>[≈ kg] | Taper bush | Datum diameter<br>d <sub>d</sub><br>[mm] | Number<br>of grooves | Design |     | Weight<br>without bushes<br>[≈ kg] | Taper bush |
| 63♦                                                     | 1                    | ●      | 8 | 0.6                                | 1008       | 118                                      | 1                    | ●      | 8   | 1.2                                | 1610       |
|                                                         | 2                    | ●      | 6 | 0.8                                | 1008       |                                          | 2                    | ●      | 6   | 1.4                                | 1610       |
| 67♦                                                     | 1                    | ●      | 8 | 0.3                                | 1108       |                                          | 3                    | ●      | 2   | 1.8                                | 2012       |
|                                                         | 2                    | ●      | 6 | 0.5                                | 1108       |                                          | 4                    | ●      | 2   | 2.0                                | 2012       |
| 71▲♦■                                                   | 1                    | ●      | 8 | 0.3                                | 1108       |                                          | 5                    | ●      | 2   | 2.4                                | 2012       |
|                                                         | 2                    | ●      | 6 | 0.5                                | 1108       | 125                                      | 1                    | ●      | 8   | 1.4                                | 1610       |
|                                                         | 3                    | ●      | 6 | 0.7                                | 1108       |                                          | 2                    | ●      | 6   | 1.7                                | 1610       |
| 75▲♦■                                                   | 1                    | ●      | 8 | 0.4                                | 1108       |                                          | 3                    | ●      | 2   | 2.0                                | 2012       |
|                                                         | 2                    | ●      | 6 | 0.6                                | 1108       |                                          | 4                    | ●      | 2   | 2.5                                | 2012       |
|                                                         | 3                    | ●      | 6 | 0.8                                | 1108       | 5                                        | ●                    | 4      | 2.7 | 2012                               |            |
| 80▲♦■                                                   | 1                    | ●      | 8 | 0.5                                | 1210       | 132                                      | 1                    | ●      | 8   | 1.6                                | 1610       |
|                                                         | 2                    | ●      | 6 | 0.6                                | 1210       |                                          | 2                    | ●      | 2   | 1.8                                | 2012       |
|                                                         | 3                    | ●      | 6 | 0.9                                | 1210       |                                          | 3                    | ●      | 2   | 2.3                                | 2012       |
|                                                         | 85▲♦■                | 1      | ● | 8                                  | 0.6        |                                          | 1210                 | 4      | ●   | 2                                  | 2.6        |
| 2                                                       |                      | ●      | 6 | 0.7                                | 1210       |                                          | 5                    | ●      | 4   | 2.9                                | 2517       |
| 3                                                       |                      | ●      | 6 | 1.0                                | 1210       | 140                                      | 1                    | ●      | 8   | 1.8                                | 1610       |
| 90                                                      | 1                    | ●      | 8 | 0.7                                | 1210       |                                          | 2                    | ●      | 6   | 2.0                                | 2012       |
|                                                         | 2                    | ●      | 6 | 0.7                                | 1610       |                                          | 3                    | ●      | 6   | 2.8                                | 2517       |
|                                                         | 3                    | ●      | 6 | 1.0                                | 1610       |                                          | 4                    | ●      | 2   | 3.1                                | 2517       |
|                                                         | 4                    | ●      | 6 | 1.2                                | 1615       |                                          | 5                    | ●      | 4   | 3.4                                | 2517       |
| 95                                                      | 1                    | ●      | 8 | 0.8                                | 1210       | 150                                      | 1                    | ●      | 8   | 1.4                                | 1610       |
|                                                         | 2                    | ●      | 6 | 0.9                                | 1610       |                                          | 2                    | ●      | 6   | 2.4                                | 2012       |
|                                                         | 3                    | ●      | 6 | 1.1                                | 1610       |                                          | 3                    | ●      | 6   | 3.5                                | 2517       |
|                                                         | 4                    | ●      | 6 | 1.4                                | 1615       |                                          | 4                    | ●      | 2   | 3.8                                | 2517       |
|                                                         | 5                    | ●      | 6 | 1.4                                | 1615       |                                          | 5                    | ●      | 4   | 4.2                                | 2517       |
| 100                                                     | 1                    | ●      | 8 | 0.8                                | 1610       | 160                                      | 1                    | ●      | 8   | 1.9                                | 1610       |
|                                                         | 2                    | ●      | 6 | 0.9                                | 1610       |                                          | 2                    | ●      | 6   | 2.9                                | 2012       |
|                                                         | 3                    | ●      | 2 | 1.2                                | 1610       |                                          | 3                    | ●      | 6   | 3.9                                | 2517       |
|                                                         | 4                    | ●      | 2 | 1.7                                | 1610       |                                          | 4                    | ●      | 2   | 4.4                                | 2517       |
|                                                         | 5                    | ●      | 2 | 1.9                                | 1615       |                                          | 5                    | ●      | 4   | 5.1                                | 2517       |
| 106                                                     | 1                    | ●      | 8 | 0.9                                | 1610       | 170                                      | 1                    | ●      | 8   | 2.0                                | 1610       |
|                                                         | 2                    | ●      | 6 | 1.1                                | 1610       |                                          | 2                    | ●      | 6   | 3.1                                | 2012       |
|                                                         | 3                    | ●      | 2 | 1.4                                | 1610       |                                          | 3                    | ●      | 6   | 4.6                                | 2517       |
|                                                         | 4                    | ●      | 6 | 2.0                                | 2012       |                                          | 4                    | ●      | 2   | 5.5                                | 2517       |
|                                                         | 5                    | ●      | 6 | 2.0                                | 2012       |                                          | 5                    | ●      | 4   | 5.9                                | 2517       |
| 112                                                     | 1                    | ●      | 8 | 1.0                                | 1610       | 180                                      | 1                    | x      | 7   | 2.1                                | 1610       |
|                                                         | 2                    | ●      | 6 | 1.2                                | 1610       |                                          | 2                    | ○      | 9   | 3.4                                | 2012       |
|                                                         | 3                    | ●      | 6 | 1.3                                | 2012       |                                          | 3                    | ●      | 6   | 5.1                                | 2517       |
|                                                         | 4                    | ●      | 6 | 1.9                                | 2012       |                                          | 4                    | ●      | 2   | 5.9                                | 2517       |
|                                                         | 5                    | ●      | 6 | 2.1                                | 2012       |                                          | 5                    | ●      | 4   | 6.2                                | 3020       |
|                                                         |                      |        |   |                                    |            | 190                                      | 1                    | x      | 7   | 2.3                                | 1610       |
|                                                         |                      |        |   |                                    |            |                                          | 2                    | ○      | 9   | 3.8                                | 2012       |
|                                                         |                      |        |   |                                    |            |                                          | 3                    | ●      | 6   | 5.4                                | 2517       |
|                                                         |                      |        |   |                                    |            |                                          | 4                    | ●      | 2   | 6.8                                | 2517       |
|                                                         |                      |        |   |                                    |            |                                          | 5                    | ●      | 2   | 7.4                                | 3020       |
| ▲ for profile 13 ♦ for profile AX/X13 ■ for profile XPA |                      |        |   |                                    |            |                                          |                      |        |     |                                    |            |

▲ for profile 13 ♦ for profile AX/X13 ■ for profile XPA

|                                          |       |       |       |       |       |       |       |
|------------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| Number of grooves z                      | 1     | 2     | 3     | 4     | 5     |       |       |
| Face width b <sub>2</sub> [mm]           | 20    | 35    | 50    | 65    | 80    |       |       |
| Taper bush                               | 1108  | 1210  | 1610  | 1615  | 2012  | 2517  | 3020  |
| Bore d <sub>2</sub> [mm] from ... to ... | 10-28 | 11-32 | 14-42 | 14-42 | 14-50 | 16-60 | 25-75 |

● Solid pulley  
○ Plate pulley (with or without holes)  
x Spoked pulley  
Material: EN-GJL-200 (GG 20)  
DIN EN 1561

Bore diameter  $d_2$  see page 70

# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR TAPER BUSHES – GROOVE ACCORDING TO DIN 2211



| Profile SPA/A/13          |                   |        |    |                              |            |                           |                   |        |    |                              |            |
|---------------------------|-------------------|--------|----|------------------------------|------------|---------------------------|-------------------|--------|----|------------------------------|------------|
| Datum diameter $d_d$ [mm] | Number of grooves | Design |    | Weight without bushes [≈ kg] | Taper bush | Datum diameter $d_d$ [mm] | Number of grooves | Design |    | Weight without bushes [≈ kg] | Taper bush |
| 200                       | 1                 | x      | 7  | 2.6                          | 2012       | 450                       | 1*                | x      | 7  | 7.0                          | 2012       |
|                           | 2                 | ○      | 5  | 4.1                          | 2517       |                           | 2                 | x      | 7  | 10.3                         | 2517       |
|                           | 3                 | ○      | 9  | 4.9                          | 2517       |                           | 3                 | x      | 7  | 14.1                         | 3020       |
|                           | 4                 | ●      | 2  | 7.4                          | 3020       |                           | 4                 | x      | 10 | 15.5                         | 3020       |
|                           | 5                 | ●      | 4  | 8.4                          | 3020       |                           | 5                 | x      | 7  | 24.3                         | 3535       |
| 212                       | 1                 | x      | 7  | 2.7                          | 2012       | 500                       | 1*                | x      | 7  | 8.0                          | 2517       |
|                           | 2                 | x      | 7  | 4.3                          | 2517       |                           | 2                 | x      | 7  | 11.6                         | 2517       |
|                           | 3                 | x      | 10 | 5.2                          | 2517       |                           | 3                 | x      | 7  | 16.0                         | 3020       |
|                           | 4                 | ●      | 2  | 7.3                          | 3020       |                           | 4                 | x      | 10 | 18.2                         | 3020       |
|                           | 5                 | ●      | 2  | 8.2                          | 3020       |                           | 5                 | x      | 7  | 27.3                         | 3535       |
| 224                       | 1                 | x      | 7  | 2.7                          | 2012       | 560                       | 1*                | x      | 7  | 11.6                         | 2517       |
|                           | 2                 | x      | 7  | 4.4                          | 2517       |                           | 2                 | x      | 7  | 15.5                         | 3020       |
|                           | 3                 | x      | 10 | 5.5                          | 2517       |                           | 3                 | x      | 7  | 17.8                         | 3020       |
|                           | 4                 | ●      | 2  | 7.4                          | 3020       |                           | 4                 | x      | 7  | 26.7                         | 3535       |
|                           | 5                 | ●      | 2  | 8.3                          | 3020       |                           | 5                 | x      | 7  | 30.4                         | 3535       |
| 236                       | 1                 | x      | 7  | 2.8                          | 2012       | 630                       | 1*                | x      | 7  | 10.1                         | 2517       |
|                           | 2                 | x      | 7  | 4.6                          | 2517       |                           | 2                 | x      | 7  | 16.0                         | 3020       |
|                           | 3                 | x      | 10 | 5.7                          | 2517       |                           | 3                 | x      | 7  | 22.0                         | 3020       |
|                           | 4                 | ●      | 9  | 7.8                          | 3020       |                           | 4                 | x      | 7  | 30.8                         | 3535       |
|                           | 5                 | ●      | 9  | 8.7                          | 3020       |                           | 5                 | x      | 7  | 33.7                         | 3535       |
| 250                       | 1                 | x      | 7  | 2.9                          | 2012       |                           |                   |        |    |                              |            |
|                           | 2                 | x      | 7  | 4.8                          | 2517       |                           |                   |        |    |                              |            |
|                           | 3                 | x      | 10 | 5.9                          | 2517       |                           |                   |        |    |                              |            |
|                           | 4                 | x      | 10 | 8.0                          | 3020       |                           |                   |        |    |                              |            |
|                           | 5                 | ○      | 9  | 9.0                          | 3020       |                           |                   |        |    |                              |            |
| 280                       | 1                 | x      | 7  | 3.3                          | 2012       |                           |                   |        |    |                              |            |
|                           | 2                 | x      | 7  | 5.4                          | 2517       |                           |                   |        |    |                              |            |
|                           | 3                 | x      | 10 | 6.7                          | 2517       |                           |                   |        |    |                              |            |
|                           | 4                 | x      | 10 | 8.8                          | 3020       |                           |                   |        |    |                              |            |
|                           | 5                 | x      | 7  | 15.5                         | 3535       |                           |                   |        |    |                              |            |
| 315                       | 1                 | x      | 7  | 3.6                          | 2012       |                           |                   |        |    |                              |            |
|                           | 2                 | x      | 7  | 6.0                          | 2517       |                           |                   |        |    |                              |            |
|                           | 3                 | x      | 7  | 8.3                          | 3020       |                           |                   |        |    |                              |            |
|                           | 4                 | x      | 10 | 9.7                          | 3020       |                           |                   |        |    |                              |            |
|                           | 5                 | x      | 7  | 17.0                         | 3535       |                           |                   |        |    |                              |            |
| 355                       | 1                 | x      | 7  | 4.2                          | 2012       |                           |                   |        |    |                              |            |
|                           | 2                 | x      | 7  | 6.7                          | 2517       |                           |                   |        |    |                              |            |
|                           | 3                 | x      | 7  | 9.2                          | 3020       |                           |                   |        |    |                              |            |
|                           | 4                 | x      | 10 | 11.0                         | 3020       |                           |                   |        |    |                              |            |
|                           | 5                 | x      | 7  | 18.6                         | 3535       |                           |                   |        |    |                              |            |
| 400                       | 1                 | x      | 7  | 4.9                          | 2012       |                           |                   |        |    |                              |            |
|                           | 2                 | x      | 7  | 8.1                          | 2517       |                           |                   |        |    |                              |            |
|                           | 3                 | x      | 7  | 11.0                         | 3020       |                           |                   |        |    |                              |            |
|                           | 4                 | x      | 10 | 12.8                         | 3020       |                           |                   |        |    |                              |            |
|                           | 5                 | x      | 7  | 21.0                         | 3535       |                           |                   |        |    |                              |            |

|                                 |       |       |       |       |    |
|---------------------------------|-------|-------|-------|-------|----|
| Number of grooves z             | 1     | 2     | 3     | 4     | 5  |
| Face width $b_2$ [mm]           | 20    | 35    | 50    | 65    | 80 |
| Taper bush                      | 2012  | 2517  | 3020  | 3535  |    |
| Bore $d_2$ [mm] from ... to ... | 14-50 | 16-60 | 25-75 | 35-90 |    |

● Solid pulley  
 ○ Plate pulley (with or without holes)  
 × Spoked pulley  
 Material: EN-GJL-200 (GG 20)  
 DIN EN 1561  
 \* Non stock items

Bore diameter  $d_2$  see page 70

# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR TAPER BUSHES – GROOVE ACCORDING TO DIN 2211



| Profile SPB/B/17          |                   |        |   |                              |            |                           |                   |        |    |                              |            |
|---------------------------|-------------------|--------|---|------------------------------|------------|---------------------------|-------------------|--------|----|------------------------------|------------|
| Datum diameter $d_d$ [mm] | Number of grooves | Design |   | Weight without bushes [≈ kg] | Taper bush | Datum diameter $d_d$ [mm] | Number of grooves | Design |    | Weight without bushes [≈ kg] | Taper bush |
| 100◆                      | 1                 | ●      | 8 | 0.9                          | 1610       | 170                       | 1                 | ●      | 8  | 2.9                          | 1610       |
|                           | 2                 | ●      | 6 | 1.2                          | 1610       |                           | 2                 | ●      | 2  | 3.3                          | 2012       |
|                           | 3                 | ●      | 6 | 1.7                          | 1610       |                           | 3                 | ●      | 2  | 4.9                          | 2517       |
| 106                       | 1                 | ●      | 8 | 1.0                          | 1610       |                           | 4                 | ●      | 4  | 5.7                          | 2517       |
|                           | 2                 | ●      | 6 | 1.35                         | 1610       |                           | 5                 | ●      | 4  | 6.1                          | 3020       |
|                           | 3                 | ●      | 6 | 1.85                         | 1610       |                           | 6                 | ●      | 4  | 6.5                          | 3020       |
| 112▲◆■                    | 1                 | ●      | 8 | 1.1                          | 1610       |                           | 8                 | ●      | 4  | 8.0                          | 3030       |
|                           | 2                 | ●      | 6 | 1.5                          | 1610       | 180                       | 1                 | ●      | 9  | 4.1                          | 1610       |
|                           | 3                 | ●      | 6 | 2.0                          | 1610       |                           | 2                 | ●      | 8  | 4.5                          | 2517       |
| 118▲◆■                    | 1                 | ●      | 1 | 1.3                          | 1610       |                           | 3                 | ●      | 2  | 5.5                          | 2517       |
|                           | 2                 | ●      | 6 | 1.7                          | 1610       |                           | 4                 | ●      | 4  | 6.9                          | 2517       |
|                           | 3                 | ●      | 6 | 2.3                          | 1610       |                           | 5                 | ●      | 4  | 7.1                          | 3020       |
| 125▲◆■                    | 1                 | ●      | 8 | 1.5                          | 1610       |                           | 6                 | ●      | 4  | 7.7                          | 3020       |
|                           | 2                 | ●      | 2 | 1.9                          | 2012       |                           | 8                 | ●      | 4  | 9.5                          | 3030       |
|                           | 3                 | ●      | 2 | 2.4                          | 2012       | 190                       | 1                 | ○      | 5  | 4.6                          | 2012       |
|                           | 4                 | ●      | 4 | 3.0                          | 2012       |                           | 2                 | ●      | 8  | 5.0                          | 2517       |
|                           | 5                 | ●      | 6 | 3.5                          | 2012       |                           | 3                 | ●      | 2  | 6.3                          | 2517       |
| 132▲                      | 1                 | ●      | 8 | 1.8                          | 1610       |                           | 4                 | ●      | 4  | 7.6                          | 2517       |
|                           | 2                 | ●      | 2 | 2.2                          | 2012       |                           | 5                 | ●      | 4  | 8.1                          | 3020       |
|                           | 3                 | ●      | 2 | 2.8                          | 2012       |                           | 6                 | ●      | 4  | 9.2                          | 3020       |
|                           | 4                 | ●      | 4 | 3.4                          | 2012       |                           | 8                 | ●      | 4  | 11.2                         | 3030       |
|                           | 5                 | ●      | 6 | 3.7                          | 2517       | 200                       | 1                 | x      | 7  | 5.0                          | 2012       |
| 140                       | 1                 | ●      | 8 | 2.3                          | 1610       |                           | 2                 | ●      | 8  | 5.4                          | 2517       |
|                           | 2                 | ●      | 2 | 2.7                          | 2012       |                           | 3                 | ●      | 2  | 6.5                          | 2517       |
|                           | 3                 | ●      | 2 | 3.3                          | 2012       |                           | 4                 | ●      | 4  | 8.8                          | 3020       |
|                           | 4                 | ●      | 4 | 3.7                          | 2517       |                           | 5                 | ●      | 4  | 9.1                          | 3020       |
|                           | 5                 | ●      | 4 | 4.5                          | 2517       |                           | 6                 | ●      | 4  | 10.3                         | 3020       |
|                           | 6                 | ●      | 4 | 4.6                          | 2517       |                           | 8                 | ●      | 4  | 13.5                         | 3535       |
| 150                       | 1                 | ●      | 8 | 2.7                          | 1610       | 212                       | 1                 | x      | 7  | 4.2                          | 2012       |
|                           | 2                 | ●      | 2 | 3.1                          | 2012       |                           | 2                 | ○      | 5  | 4.9                          | 2517       |
|                           | 3                 | ●      | 2 | 3.9                          | 2517       |                           | 3                 | ○      | 9  | 6.0                          | 2517       |
|                           | 4                 | ●      | 2 | 4.4                          | 2517       |                           | 4                 | ●      | 4  | 9.8                          | 3020       |
|                           | 5                 | ●      | 4 | 5.2                          | 2517       |                           | 5                 | ●      | 4  | 11.0                         | 3020       |
|                           | 6                 | ●      | 4 | 5.6                          | 2517       |                           | 6                 | ●      | 4  | 14.3                         | 3535       |
| 160                       | 1                 | ●      | 8 | 2.8                          | 1610       |                           | 8                 | ●      | 4  | 16.6                         | 3535       |
|                           | 2                 | ●      | 2 | 3.9                          | 2012       | 224                       | 1                 | x      | 7  | 4.7                          | 2012       |
|                           | 3                 | ●      | 2 | 4.8                          | 2517       |                           | 2                 | x      | 7  | 5.3                          | 2517       |
|                           | 4                 | ●      | 4 | 5.7                          | 2517       |                           | 3                 | x      | 10 | 6.3                          | 2517       |
|                           | 5                 | ●      | 4 | 6.5                          | 3020       |                           | 4                 | ●      | 4  | 11.3                         | 3020       |
|                           | 6                 | ●      | 4 | 8.0                          | 3020       |                           | 5                 | ●      | 4  | 12.7                         | 3020       |
|                           |                   |        |   |                              |            |                           | 6                 | ●      | 4  | 17.0                         | 3535       |
|                           |                   |        |   |                              |            |                           | 8                 | ●      | 4  | 19.3                         | 3535       |
|                           |                   |        |   |                              |            |                           | 10                | ●      | 4  | 21.8                         | 3535       |
|                           |                   |        |   |                              |            |                           |                   |        |    |                              |            |

▲ for profile 17 ◆ for profile BX/X17 ■ for profile XPB

|                                 |       |       |       |       |       |       |     |     |
|---------------------------------|-------|-------|-------|-------|-------|-------|-----|-----|
| Number of grooves z             | 1     | 2     | 3     | 4     | 5     | 6     | 8   | 10  |
| Face width $b_2$ [mm]           | 25    | 44    | 63    | 82    | 101   | 120   | 158 | 196 |
| Taper bush                      | 1610  | 2012  | 2517  | 3020  | 3030  | 3535  |     |     |
| Bore $d_2$ [mm] from ... to ... | 14-42 | 14-50 | 16-60 | 25-75 | 35-75 | 35-90 |     |     |

● Solid pulley  
○ Plate pulley (with or without holes)  
× Spoked pulley  
Material: EN-GJL-200 (GG 20)  
DIN EN 1561

Bore diameter  $d_2$  see page 70



# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR TAPER BUSHES – GROOVE ACCORDING TO DIN 2211



| Profile SPB/B/17                |                      |        |    |                                    |            |                                 |                      |        |    |                                    |            |
|---------------------------------|----------------------|--------|----|------------------------------------|------------|---------------------------------|----------------------|--------|----|------------------------------------|------------|
| Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design |    | Weight<br>without bushes<br>[≈ kg] | Taper bush | Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design |    | Weight<br>without bushes<br>[≈ kg] | Taper bush |
| 236                             | 1                    | x      | 7  | 5.0                                | 2012       | 335                             | 2                    | x      | 7  | 7.8                                | 2517       |
|                                 | 2                    | x      | 7  | 5.5                                | 2517       |                                 | 3                    | x      | 10 | 10.5                               | 3020       |
|                                 | 3                    | x      | 10 | 7.0                                | 2517       |                                 | 4                    | x      | 7  | 18.3                               | 3535       |
|                                 | 4                    | ●      | 4  | 14.5                               | 3020       |                                 | 5                    | x      | 10 | 19.5                               | 3535       |
|                                 | 5                    | ●      | 4  | 16.9                               | 3535       |                                 | 6                    | x      | 10 | 22.0                               | 3535       |
|                                 | 6                    | ●      | 4  | 20.0                               | 3535       |                                 | 8                    | x      | 10 | 28.2                               | 3535       |
|                                 | 8                    | ●      | 4  | 22.3                               | 3535       |                                 | 10                   | x      | 10 | 36.0                               | 4040       |
|                                 | 10                   | ●      | 4  | 25.3                               | 3535       | 355                             | 2                    | x      | 7  | 8.7                                | 3020       |
| 250                             | 1                    | x      | 7  | 5.4                                | 2012       |                                 | 3                    | x      | 10 | 10.8                               | 3020       |
|                                 | 2                    | x      | 7  | 5.5                                | 2517       |                                 | 4                    | x      | 7  | 18.6                               | 3535       |
|                                 | 3                    | x      | 10 | 7.7                                | 3020       |                                 | 5                    | x      | 10 | 20.8                               | 3535       |
|                                 | 4                    | x      | 10 | 19.6                               | 3020       |                                 | 6                    | x      | 9  | 22.8                               | 3535       |
|                                 | 5                    | ●      | 4  | 21.7                               | 3535       |                                 | 8                    | x      | 10 | 27.0                               | 3535       |
|                                 | 6                    | ●      | 4  | 23.3                               | 3535       |                                 | 10                   | x      | 10 | 38.0                               | 4040       |
|                                 | 8                    | ●      | 4  | 27.5                               | 3535       | 375                             | 2                    | x      | 7  | 9.5                                | 3020       |
|                                 | 10                   | ●      | 4  | 29.3                               | 3535       |                                 | 3                    | x      | 10 | 11.5                               | 3020       |
| 265                             | 2                    | x      | 7  | 6.2                                | 2517       |                                 | 4                    | x      | 7  | 16.5                               | 3525       |
|                                 | 3                    | ○      | 9  | 8.0                                | 3020       |                                 | 6                    | x      | 10 | 25.0                               | 3535       |
|                                 | 4                    | ○      | 9  | 9.5                                | 3020       | 400                             | 8                    | x      | 10 | 28.0                               | 3535       |
|                                 | 6                    | ●      | 4  | 16.7                               | 3525       |                                 | 2                    | x      | 7  | 10.0                               | 3020       |
|                                 | 8                    | ●      | 4  | 24.0                               | 3525       |                                 | 3                    | x      | 7  | 18.3                               | 3535       |
| 280                             | 1                    | x      | 7  | 6.1                                | 2012       |                                 | 4                    | x      | 7  | 20.5                               | 3535       |
|                                 | 2                    | x      | 7  | 6.8                                | 2517       |                                 | 5                    | x      | 10 | 23.4                               | 3535       |
|                                 | 3                    | x      | 10 | 8.6                                | 3020       |                                 | 6                    | x      | 10 | 25.1                               | 3535       |
|                                 | 4                    | ○      | 9  | 10.1                               | 3020       |                                 | 8                    | x      | 10 | 36.5                               | 4040       |
|                                 | 5                    | ○      | 9  | 17.8                               | 3535       |                                 | 10                   | x      | 10 | 41.0                               | 4040       |
|                                 | 6                    | ○      | 9  | 19.6                               | 3535       | 425                             | 2                    | x      | 7  | 11.5                               | 3020       |
|                                 | 8                    | ○      | 9  | 26.7                               | 3535       |                                 | 3                    | x      | 7  | 18.0                               | 3535       |
|                                 | 10                   | ○      | 9  | 30.5                               | 3535       |                                 | 4                    | x      | 7  | 19.5                               | 3535       |
| 300                             | 2                    | x      | 7  | 7.3                                | 2517       |                                 | 6                    | x      | 10 | 25.1                               | 3535       |
|                                 | 3                    | x      | 10 | 9.2                                | 3020       | 450                             | 8                    | x      | 10 | 52.5                               | 4040       |
|                                 | 4                    | x      | 7  | 14.3                               | 3535       |                                 | 2                    | x      | 7  | 12.1                               | 3020       |
|                                 | 5                    | x      | 10 | 18.2                               | 3535       |                                 | 3                    | x      | 7  | 21.9                               | 3535       |
|                                 | 6                    | x      | 10 | 21.9                               | 3535       |                                 | 4                    | x      | 7  | 24.5                               | 3535       |
|                                 | 8                    | ○      | 9  | 26.2                               | 3535       |                                 | 5                    | x      | 10 | 27.3                               | 3535       |
| 315                             | 1*                   | x      | 7  | 7.2                                | 2012       |                                 | 6                    | x      | 10 | 35.5                               | 4040       |
|                                 | 2                    | x      | 7  | 7.8                                | 2517       |                                 | 8                    | x      | 10 | 40.9                               | 4040       |
|                                 | 3                    | x      | 10 | 9.6                                | 3020       | 500                             | 10                   | x      | 10 | 53.5                               | 4545       |
|                                 | 4                    | ○      | 7  | 17.1                               | 3535       |                                 | 2                    | x      | 7  | 13.2                               | 3020       |
|                                 | 5                    | ○      | 10 | 18.8                               | 3535       |                                 | 3                    | x      | 7  | 23.1                               | 3535       |
|                                 | 6                    | ○      | 10 | 23.0                               | 3535       |                                 | 4                    | x      | 7  | 26.6                               | 3535       |
|                                 | 8                    | ○      | 10 | 26.0                               | 3535       |                                 | 5                    | x      | 10 | 29.9                               | 3535       |
|                                 | 10                   | ○      | 9  | 31.5                               | 3535       |                                 | 6                    | x      | 10 | 38.9                               | 4040       |
|                                 |                      |        |    |                                    |            |                                 | 8                    | x      | 10 | 45.5                               | 4040       |
|                                 |                      |        |    |                                    |            |                                 | 10                   | x      | 10 | 61.0                               | 4545       |

|                                 |       |       |       |       |       |        |        |     |
|---------------------------------|-------|-------|-------|-------|-------|--------|--------|-----|
| Number of grooves z             | 1     | 2     | 3     | 4     | 5     | 6      | 8      | 10  |
| Face width $b_2$ [mm]           | 25    | 44    | 63    | 82    | 101   | 120    | 158    | 196 |
| Taper bush                      | 2012  | 2517  | 3020  | 3030  | 3535  | 4040   | 4545   |     |
| Bore $d_2$ [mm] from ... to ... | 14-50 | 16-60 | 25-75 | 35-75 | 35-90 | 40-100 | 55-110 |     |

● Solid pulley  
 ○ Plate pulley (with or without holes)  
 × Spoked pulley  
 Material: EN-GJL-200 (GG 20)  
 DIN EN 1561  
 \* Non stock items

Bore diameter  $d_2$  see page 70

# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR TAPER BUSHES – GROOVE ACCORDING TO DIN 2211



| Profile SPB/B/17                         |                      |        |    |                                    |            |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------------------|----------------------|--------|----|------------------------------------|------------|------------------------------------------|----------------------|--------|--|------------------------------------|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Datum diameter<br>d <sub>d</sub><br>[mm] | Number<br>of grooves | Design |    | Weight<br>without bushes<br>[≈ kg] | Taper bush | Datum diameter<br>d <sub>d</sub><br>[mm] | Number<br>of grooves | Design |  | Weight<br>without bushes<br>[≈ kg] | Taper bush |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 560                                      | 2*                   | x      | 7  | 16.5                               | 3030       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 3                    | x      | 7  | 25.9                               | 3535       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 4                    | x      | 7  | 29.0                               | 3535       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 5                    | x      | 7  | 35.3                               | 4040       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 6                    | x      | 10 | 43.1                               | 4040       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 8                    | x      | 10 | 49.0                               | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 10                   | x      | 10 | 55.7                               | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 630                                      | 2*                   | x      | 7  | 18.5                               | 3030       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 3                    | x      | 7  | 28.9                               | 3535       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 4                    | x      | 7  | 33.3                               | 3535       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 5                    | x      | 7  | 43.1                               | 4040       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 6                    | x      | 10 | 49.2                               | 4040       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 8                    | x      | 10 | 62.0                               | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 10                   | x      | 10 | 72.0                               | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 710                                      | 3                    | x      | 7  | 33.2                               | 3535       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 4                    | x      | 7  | 39.1                               | 3535       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 5                    | x      | 7  | 50.2                               | 4040       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 6                    | x      | 10 | 62.3                               | 4040       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 8                    | x      | 10 | 71.0                               | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 10                   | x      | 10 | 80.0                               | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 800                                      | 3                    | x      | 7  | 36.7                               | 3535       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 4                    | x      | 7  | 48.8                               | 4040       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 5                    | x      | 7  | 56.1                               | 4040       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 6                    | x      | 10 | 71.4                               | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 8                    | x      | 10 | 90.9                               | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 10                   | x      | 10 | 102.0                              | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 900                                      | 3*                   | x      | 7  | 46.8                               | 3535       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 4                    | x      | 7  | 60.0                               | 4040       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 5                    | x      | 7  | 74.8                               | 4040       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 6                    | x      | 10 | 81.5                               | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 8                    | x      | 10 | 110.0                              | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 10*                  | x      | 10 | 126.0                              | 5050       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1000                                     | 3                    | x      | 7  | 56.5                               | 4040       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 4                    | x      | 7  | 66.5                               | 4040       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 5                    | x      | 7  | 80.5                               | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 6                    | x      | 10 | 90.0                               | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 8                    | x      | 10 | 132.0                              | 5050       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 10*                  | x      | 10 | 147.0                              | 5050       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1250                                     | 4*                   | x      | 7  | 136.0                              | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 5*                   | x      | 7  | 146.0                              | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 6*                   | x      | 10 | 150.0                              | 4545       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          | 8*                   | x      | 10 | 190.0                              | 5050       |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                          |                      |        |    |                                    |            |                                          |                      |        |  |                                    |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|                                 |       |       |       |        |        |        |     |
|---------------------------------|-------|-------|-------|--------|--------|--------|-----|
| Number of grooves z             | 2     | 3     | 4     | 5      | 6      | 8      | 10  |
| Face width $b_2$ [mm]           | 44    | 63    | 82    | 101    | 120    | 158    | 196 |
| Taper bush                      | 3020  | 3030  | 3535  | 4040   | 4545   | 5050   |     |
| Bore $d_2$ [mm] from ... to ... | 25-75 | 35-75 | 35-90 | 40-100 | 55-110 | 70-125 |     |

- Solid pulley
- Plate pulley (with or without holes)
- × Spoked pulley
- Material: EN-GJL-200 (GG 20)
- DIN EN 1561
- \* Non stock items

Bore diameter  $d_2$  see page 70

# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR TAPER BUSHES – GROOVE ACCORDING TO DIN 2211



| Profile SPC/C/22                |                      |        |   |                                    |            |                                 |                      |        |    |                                    |            |
|---------------------------------|----------------------|--------|---|------------------------------------|------------|---------------------------------|----------------------|--------|----|------------------------------------|------------|
| Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design |   | Weight<br>without bushes<br>[≈ kg] | Taper bush | Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design |    | Weight<br>without bushes<br>[≈ kg] | Taper bush |
| 200▲◆■                          | 3                    | ●      | 4 | 9.0                                | 2517       | 315                             | 3                    | ○      | 7  | 21.6                               | 3535       |
|                                 | 4                    | ●      | 4 | 10.5                               | 3020       |                                 | 4                    | ○      | 10 | 24.6                               | 3535       |
|                                 | 5                    | ●      | 4 | 14.0                               | 3535       |                                 | 5                    | ○      | 10 | 29.0                               | 3535       |
|                                 | 6                    | ●      | 4 | 17.0                               | 3535       |                                 | 6                    | ○      | 10 | 31.4                               | 3535       |
| 212▲◆■                          | 3                    | ●      | 4 | 10.0                               | 3020       |                                 | 8                    | ●      | 4  | 50.0                               | 4040       |
|                                 | 4                    | ●      | 4 | 12.5                               | 3020       |                                 | 10*                  | ○      | 4  | 58.0                               | 4545       |
|                                 | 5                    | ●      | 4 | 15.0                               | 3535       |                                 | 12                   | ○      | 4  | 69.0                               | 5050       |
|                                 | 6                    | ●      | 4 | 18.0                               | 3535       |                                 |                      |        |    |                                    |            |
| 224                             | 3                    | ●      | 4 | 11.0                               | 3020       | 335                             | 3                    | x      | 7  | 22.5                               | 3535       |
|                                 | 4                    | ●      | 4 | 14.0                               | 3535       |                                 | 4                    | x      | 10 | 26.5                               | 3535       |
|                                 | 5                    | ●      | 4 | 16.2                               | 3535       |                                 | 5                    | x      | 10 | 30.0                               | 3535       |
|                                 | 6                    | ●      | 4 | 19.0                               | 3535       |                                 | 6                    | x      | 10 | 35.0                               | 3535       |
|                                 | 8                    | ●      | 4 | 24.9                               | 3535       |                                 | 8                    | ○      | 9  | 58.0                               | 4040       |
|                                 |                      |        |   |                                    |            |                                 | 10                   | ●      | 4  | 77.0                               | 4545       |
| 236                             | 4                    | ●      | 4 | 17.2                               | 3535       |                                 | 12                   | ●      | 4  | 82.0                               | 5050       |
|                                 | 5                    | ●      | 4 | 19.1                               | 3535       | 355                             | 3                    | ○      | 7  | 28.0                               | 3535       |
|                                 | 6                    | ●      | 4 | 20.8                               | 3535       |                                 | 4                    | ○      | 10 | 31.0                               | 3535       |
|                                 | 8                    | ●      | 4 | 25.5                               | 3535       |                                 | 5                    | ○      | 10 | 34.0                               | 3535       |
| 250                             | 3                    | ●      | 4 | 14.5                               | 3020       |                                 | 6                    | ○      | 10 | 37.5                               | 3535       |
|                                 | 4                    | ●      | 4 | 20.7                               | 3535       |                                 | 8                    | ○      | 10 | 49.5                               | 4040       |
|                                 | 5                    | ●      | 4 | 22.8                               | 3535       |                                 | 10*                  | ○      | 4  | 84.0                               | 4545       |
|                                 | 6                    | ●      | 4 | 26.0                               | 3535       |                                 | 12                   | ●      | 4  | 86.0                               | 5050       |
|                                 | 8                    | ●      | 4 | 29.7                               | 3535       | 375                             | 3                    | x      | 7  | 23.8                               | 3535       |
|                                 | 10*                  | ●      | 4 | 34.0                               | 4040       |                                 | 4                    | x      | 10 | 30.0                               | 3535       |
| 265                             | 3                    | ●      | 8 | 21.2                               | 3535       |                                 | 5                    | x      | 10 | 33.0                               | 3535       |
|                                 | 4                    | ●      | 4 | 24.0                               | 3535       |                                 | 6                    | x      | 10 | 45.5                               | 4040       |
|                                 | 5                    | ●      | 4 | 26.2                               | 3535       |                                 | 8                    | x      | 10 | 68.0                               | 4545       |
|                                 | 6                    | ●      | 4 | 29.0                               | 3535       |                                 | 10                   | ○      | 10 | 88.0                               | 4545       |
|                                 | 8                    | ●      | 4 | 33.3                               | 3535       |                                 | 12                   | ●      | 4  | 92.0                               | 5050       |
| 280                             | 3                    | ●      | 8 | 24.0                               | 3535       | 400                             | 3                    | x      | 7  | 24.1                               | 3535       |
|                                 | 4                    | ○      | 9 | 29.0                               | 3535       |                                 | 4                    | x      | 10 | 28.0                               | 3535       |
|                                 | 5                    | ○      | 9 | 31.0                               | 3535       |                                 | 5                    | x      | 10 | 34.0                               | 3535       |
|                                 | 6                    | ○      | 9 | 33.8                               | 3535       |                                 | 6                    | ○      | 10 | 48.0                               | 4040       |
|                                 | 8                    | ●      | 4 | 37.5                               | 3535       |                                 | 8                    | ○      | 10 | 65.0                               | 4545       |
|                                 | 10                   | ●      | 4 | 45.0                               | 4040       |                                 | 10*                  | ○      | 9  | 88.0                               | 5050       |
| 300                             | 3                    | x      | 7 | 21.0                               | 3535       | 425                             | 12                   | ○      | 9  | 98.0                               | 5050       |
|                                 | 4                    | ○      | 9 | 25.0                               | 3535       |                                 | 3                    | x      | 7  | 26.0                               | 3535       |
|                                 | 5                    | ○      | 9 | 28.5                               | 3535       |                                 | 4                    | x      | 10 | 31.0                               | 3535       |
|                                 | 6                    | ○      | 9 | 29.0                               | 3535       |                                 | 5                    | x      | 10 | 45.0                               | 3535       |
|                                 | 8                    | ●      | 4 | 46.5                               | 4040       |                                 | 6                    | x      | 10 | 58.0                               | 4040       |
|                                 | 10*                  | ●      | 4 | 53.5                               | 4545       |                                 | 8                    | x      | 10 | 74.0                               | 4545       |
|                                 |                      |        |   |                                    |            |                                 | 10                   | ○      | 9  | 96.0                               | 5050       |
|                                 |                      |        |   |                                    |            |                                 | 12                   | ○      | 9  | 100.0                              | 5050       |

▲ for profile 22 ◆ for profile CX/X22 ■ for profile XPC

|                                 |       |       |       |        |        |        |
|---------------------------------|-------|-------|-------|--------|--------|--------|
| Number of grooves z             | 3     | 4     | 5     | 6      | 8      | 10     |
| Face width $b_2$ [mm]           | 85    | 110.5 | 136   | 161.5  | 212.5  | 263.5  |
| Taper bush                      | 2517  | 3020  | 3535  | 4040   | 4545   | 5050   |
| Bore $d_2$ [mm] from ... to ... | 16-60 | 25-75 | 35-90 | 40-100 | 55-110 | 70-125 |

● Solid pulley  
○ Plate pulley (with or without holes)  
× Spoked pulley  
Material: EN-GJL-200 (GG 20)  
DIN EN 1561  
\* Non stock items

Bore diameter  $d_2$  see page 70

# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR TAPER BUSHES – GROOVE ACCORDING TO DIN 2211



| Profile SPC/C/22                |                      |        |    |                                    |            |                                 |                      |        |    |                                    |            |
|---------------------------------|----------------------|--------|----|------------------------------------|------------|---------------------------------|----------------------|--------|----|------------------------------------|------------|
| Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design |    | Weight<br>without bushes<br>[≈ kg] | Taper bush | Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design |    | Weight<br>without bushes<br>[≈ kg] | Taper bush |
| 450                             | 3                    | x      | 7  | 28.6                               | 3535       | 1000                            | 5                    | x      | 10 | 134.0                              | 5050       |
|                                 | 4                    | x      | 10 | 33.5                               | 3535       |                                 | 6                    | x      | 10 | 150.0                              | 5050       |
|                                 | 5                    | x      | 10 | 45.0                               | 4040       |                                 | 8                    | x      | 10 | 181.4                              | 5050       |
|                                 | 6                    | x      | 10 | 61.1                               | 4545       |                                 | 10                   | x      | 10 | 217.2                              | 5050       |
|                                 | 8                    | x      | 10 | 78.7                               | 5050       |                                 | 12*                  | x      | 10 | 270.0                              | 5050       |
|                                 | 10                   | x      | 10 | 101.0                              | 5050       | 1250                            | 5                    | x      | 10 | 177.6                              | 5050       |
| 475                             | 12                   | ○      | 9  | 113.0                              | 5050       |                                 | 6                    | x      | 10 | 201.4                              | 5050       |
|                                 | 3                    | x      | 7  | 40.0                               | 3535       |                                 | 8                    | x      | 10 | 243.7                              | 5050       |
|                                 | 4                    | x      | 10 | 47.0                               | 3535       |                                 | 10                   | x      | 10 | 292.1                              | 5050       |
|                                 | 5                    | x      | 10 | 47.2                               | 4040       |                                 | 12                   | x      | 10 | 310.0                              | 5050       |
|                                 | 6                    | ○      | 10 | 62.8                               | 4545       |                                 |                      |        |    |                                    |            |
|                                 | 8                    | ○      | 9  | 81.5                               | 5050       |                                 |                      |        |    |                                    |            |
| 500                             | 3                    | x      | 7  | 30.9                               | 3535       |                                 |                      |        |    |                                    |            |
|                                 | 4                    | x      | 10 | 39.0                               | 3535       |                                 |                      |        |    |                                    |            |
|                                 | 5                    | x      | 10 | 48.7                               | 4040       |                                 |                      |        |    |                                    |            |
|                                 | 6                    | x      | 10 | 60.2                               | 4545       |                                 |                      |        |    |                                    |            |
|                                 | 8                    | x      | 10 | 87.4                               | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 10                   | x      | 10 | 105.0                              | 5050       |                                 |                      |        |    |                                    |            |
| 560                             | 12                   | ○      | 9  | 127.0                              | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 3                    | x      | 7  | 36.0                               | 3535       |                                 |                      |        |    |                                    |            |
|                                 | 4                    | x      | 10 | 50.0                               | 4040       |                                 |                      |        |    |                                    |            |
|                                 | 5                    | x      | 10 | 63.0                               | 4545       |                                 |                      |        |    |                                    |            |
|                                 | 6                    | x      | 10 | 77.0                               | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 8                    | x      | 10 | 94.0                               | 5050       |                                 |                      |        |    |                                    |            |
| 630                             | 10                   | x      | 10 | 115.0                              | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 12                   | x      | 10 | 145.0                              | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 3                    | x      | 7  | 48.5                               | 4040       |                                 |                      |        |    |                                    |            |
|                                 | 4                    | x      | 7  | 61.0                               | 4545       |                                 |                      |        |    |                                    |            |
|                                 | 5                    | x      | 10 | 77.0                               | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 6                    | x      | 10 | 86.0                               | 5050       |                                 |                      |        |    |                                    |            |
| 710                             | 8                    | x      | 10 | 105.5                              | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 10                   | x      | 9  | 130.0                              | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 12                   | x      | 10 | 160.0                              | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 3*                   | x      | 7  | 48.5                               | 4040       |                                 |                      |        |    |                                    |            |
|                                 | 4*                   | x      | 7  | 61.0                               | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 5                    | x      | 10 | 77.0                               | 5050       |                                 |                      |        |    |                                    |            |
| 800                             | 6                    | x      | 10 | 86.0                               | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 8                    | x      | 10 | 105.5                              | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 10                   | x      | 10 | 130.0                              | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 12                   | x      | 10 | 160.0                              | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 3*                   | x      | 7  | 72.0                               | 4545       |                                 |                      |        |    |                                    |            |
|                                 | 4*                   | x      | 7  | 90.8                               | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 5                    | x      | 10 | 102.5                              | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 6                    | x      | 10 | 113.7                              | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 8                    | x      | 10 | 136.6                              | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 10                   | x      | 9  | 160.7                              | 5050       |                                 |                      |        |    |                                    |            |
|                                 | 12                   | x      | 10 | 220.0                              | 5050       |                                 |                      |        |    |                                    |            |

|                                 |       |        |        |        |       |       |
|---------------------------------|-------|--------|--------|--------|-------|-------|
| Number of grooves z             | 3     | 4      | 5      | 6      | 8     | 10    |
| Face width $b_2$ [mm]           | 85    | 110.5  | 136    | 161.5  | 212.5 | 263.5 |
| Taper bush                      | 3535  | 4040   | 4545   | 5050   |       |       |
| Bore $d_2$ [mm] from ... to ... | 35-90 | 40-100 | 55-110 | 70-125 |       |       |

- Solid pulley
- Plate pulley (with or without holes)
- × Spoked pulley
- Material: EN-GJL-200 (GG 20)
- DIN EN 1561
- \* Non stock items

Bore diameter  $d_2$  see page 70

# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR CYLINDRICAL BORES – GROOVE ACCORDING TO DIN 2211



| Profile SPZ/Z/10                                          |                   |        |                  |                                           |                         |                                          |                   |        |                  |                                           |                         |
|-----------------------------------------------------------|-------------------|--------|------------------|-------------------------------------------|-------------------------|------------------------------------------|-------------------|--------|------------------|-------------------------------------------|-------------------------|
| Datum diameter<br>d <sub>d</sub><br>[mm]                  | Number of grooves | Design | Weight<br>[≈ kg] | Finished bore<br>d <sub>max</sub><br>[mm] | Hub length<br>l<br>[mm] | Datum diameter<br>d <sub>d</sub><br>[mm] | Number of grooves | Design | Weight<br>[≈ kg] | Finished bore<br>d <sub>max</sub><br>[mm] | Hub length<br>l<br>[mm] |
| 45▲◆                                                      | 1                 | ○      | 0.20             | 16                                        | 24                      | 132                                      | 1                 | ○      | 0.80             | 30                                        | 24                      |
|                                                           | 2                 | ○      | 0.30             | 16                                        | 35                      |                                          | 2                 | ○      | 1.30             | 38                                        | 35                      |
|                                                           | 3                 | ○      | 0.40             | 16                                        | 35                      |                                          | 3                 | ○      | 1.60             | 40                                        | 40                      |
| 50▲◆                                                      | 1                 | ○      | 0.30             | 20                                        | 24                      | 140                                      | 1                 | ○      | 0.90             | 28                                        | 24                      |
|                                                           | 2                 | ○      | 0.40             | 20                                        | 35                      |                                          | 2                 | ○      | 1.40             | 38                                        | 38                      |
|                                                           | 3                 | ○      | 0.50             | 20                                        | 40                      |                                          | 3                 | ○      | 1.70             | 38                                        | 40                      |
| 56▲◆■                                                     | 1                 | ○      | 0.30             | 20                                        | 24                      | 150                                      | 1                 | x      | 1.10             | 28                                        | 24                      |
|                                                           | 2                 | ○      | 0.50             | 25                                        | 35                      |                                          | 2                 | ○      | 1.50             | 38                                        | 38                      |
|                                                           | 3                 | ○      | 0.70             | 25                                        | 40                      |                                          | 3                 | ○      | 1.90             | 38                                        | 40                      |
| 63                                                        | 1                 | ○      | 0.30             | 25                                        | 24                      | 160                                      | 1                 | x      | 1.20             | 32                                        | 30                      |
|                                                           | 2                 | ○      | 0.60             | 25                                        | 35                      |                                          | 2                 | x      | 1.60             | 38                                        | 38                      |
|                                                           | 3                 | ○      | 0.90             | 25                                        | 40                      |                                          | 3                 | x      | 2.40             | 42                                        | 40                      |
| 71                                                        | 1                 | ○      | 0.30             | 25                                        | 24                      | 170                                      | 1                 | x      | 1.70             | 40                                        | 30                      |
|                                                           | 2                 | ○      | 0.60             | 25                                        | 35                      |                                          | 2                 | x      | 1.90             | 40                                        | 38                      |
|                                                           | 3                 | ○      | 1.00             | 30                                        | 40                      |                                          | 3                 | x      | 3.00             | 42                                        | 40                      |
| 75                                                        | 1                 | ○      | 0.40             | 24                                        | 24                      | 180                                      | 1                 | x      | 2.10             | 32                                        | 30                      |
|                                                           | 2                 | ○      | 0.64             | 24                                        | 35                      |                                          | 2                 | x      | 3.10             | 38                                        | 38                      |
|                                                           | 3                 | ○      | 1.05             | 28                                        | 40                      |                                          | 3                 | x      | 3.50             | 42                                        | 40                      |
| 80                                                        | 1                 | ○      | 0.40             | 25                                        | 24                      | 190                                      | 1                 | x      | 2.30             | 35                                        | 30                      |
|                                                           | 2                 | ○      | 0.70             | 30                                        | 35                      |                                          | 2                 | x      | 2.40             | 35                                        | 38                      |
|                                                           | 3                 | ○      | 1.10             | 38                                        | 35                      |                                          | 3                 | x      | 4.00             | 35                                        | 40                      |
| 85                                                        | 1                 | ○      | 0.30             | 25                                        | 24                      | 200                                      | 1                 | x      | 2.40             | 32                                        | 38                      |
|                                                           | 2                 | ○      | 0.70             | 30                                        | 35                      |                                          | 2                 | x      | 2.90             | 38                                        | 38                      |
|                                                           | 3                 | ○      | 1.10             | 38                                        | 35                      |                                          | 3                 | x      | 4.50             | 42                                        | 40                      |
| 90                                                        | 1                 | ○      | 0.40             | 25                                        | 24                      | 212                                      | 1                 | x      | 2.60             | 35                                        | 30                      |
|                                                           | 2                 | ○      | 0.80             | 30                                        | 35                      |                                          | 2                 | x      | 3.40             | 35                                        | 38                      |
|                                                           | 3                 | ○      | 1.20             | 38                                        | 38                      |                                          | 3                 | x      | 5.00             | 38                                        | 40                      |
| 95                                                        | 1                 | ○      | 0.40             | 28                                        | 24                      | 225                                      | 1                 | x      | 2.80             | 32                                        | 38                      |
|                                                           | 2                 | ○      | 0.83             | 28                                        | 35                      |                                          | 2                 | x      | 4.00             | 38                                        | 38                      |
|                                                           | 3                 | ○      | 1.20             | 38                                        | 38                      |                                          | 3                 | x      | 5.30             | 42                                        | 40                      |
| 100                                                       | 1                 | ○      | 0.50             | 28                                        | 24                      | 250                                      | 1                 | x      | 3.30             | 32                                        | 38                      |
|                                                           | 2                 | ○      | 0.90             | 30                                        | 35                      |                                          | 2                 | x      | 4.80             | 38                                        | 38                      |
|                                                           | 3                 | ○      | 1.30             | 38                                        | 38                      |                                          | 3                 | x      | 6.00             | 42                                        | 40                      |
| 106                                                       | 1                 | ○      | 0.50             | 30                                        | 24                      | 280                                      | 1                 | x      | 3.90             | 35                                        | 34                      |
|                                                           | 2                 | ○      | 1.00             | 28                                        | 35                      |                                          | 2                 | x      | 5.20             | 42                                        | 38                      |
|                                                           | 3                 | ○      | 1.30             | 38                                        | 38                      |                                          | 3                 | x      | 7.00             | 48                                        | 40                      |
| 112                                                       | 1                 | ○      | 0.50             | 28                                        | 24                      | 315                                      | 1                 | x      | 4.40             | 35                                        | 34                      |
|                                                           | 2                 | ○      | 1.00             | 30                                        | 35                      |                                          | 2                 | x      | 6.80             | 42                                        | 38                      |
|                                                           | 3                 | ○      | 1.40             | 38                                        | 38                      |                                          | 3                 | x      | 8.30             | 48                                        | 40                      |
| 118                                                       | 1                 | ○      | 0.60             | 28                                        | 24                      | 355                                      | 1                 | x      | 4.60             | 35                                        | 34                      |
|                                                           | 2                 | ○      | 1.10             | 38                                        | 35                      |                                          | 2                 | x      | 8.00             | 42                                        | 40                      |
|                                                           | 3                 | ○      | 1.50             | 38                                        | 38                      |                                          | 3                 | x      | 10.00            | 48                                        | 45                      |
| 125                                                       | 1                 | ○      | 0.70             | 28                                        | 24                      |                                          |                   |        |                  |                                           |                         |
|                                                           | 2                 | ○      | 1.20             | 30                                        | 35                      |                                          |                   |        |                  |                                           |                         |
|                                                           | 3                 | ○      | 1.60             | 38                                        | 40                      |                                          |                   |        |                  |                                           |                         |
| ▲ for profile Z/10 ◆ for profile ZX/X10 ■ for profile XPZ |                   |        |                  |                                           |                         |                                          |                   |        |                  |                                           |                         |

|                       |    |    |    |
|-----------------------|----|----|----|
| Number of grooves z   | 1  | 2  | 3  |
| Face width $b_2$ [mm] | 16 | 28 | 40 |

● Solid pulley  
 ○ Plate pulley (with or without holes)  
 x Spoked pulley  
 Hub position: flush one-sided  
 Material: EN-GJL-200 (GG 20) – DIN EN 1561

# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR CYLINDRICAL BORES – GROOVE ACCORDING TO DIN 2211



| Profile SPA/A/13                |                      |        |                  |                                       |                              |                                 |                      |        |                  |                                       |                              |
|---------------------------------|----------------------|--------|------------------|---------------------------------------|------------------------------|---------------------------------|----------------------|--------|------------------|---------------------------------------|------------------------------|
| Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design | Weight<br>[≈ kg] | Finished<br>bore<br>$d_{max}$<br>[mm] | Hub<br>length<br>$l$<br>[mm] | Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design | Weight<br>[≈ kg] | Finished<br>bore<br>$d_{max}$<br>[mm] | Hub<br>length<br>$l$<br>[mm] |
| 50                              | 1                    | ○      | 0.30             | 18                                    | 34                           | 106                             | 1                    | ○      | 0.90             | 28                                    | 34                           |
|                                 | 2                    | ○      | 0.50             | 18                                    | 49                           |                                 | 2                    | ○      | 1.70             | 28                                    | 49                           |
|                                 | 3                    | ○      | 0.60             | 18                                    | 47                           |                                 | 3                    | ○      | 2.20             | 32                                    | 42                           |
| 56                              | 1                    | ○      | 0.40             | 20                                    | 34                           |                                 | 4▽                   | ○      | 3.20             | 32                                    | 53                           |
|                                 | 2                    | ○      | 0.60             | 20                                    | 49                           |                                 | 5▽                   | ○      | 3.90             | 35                                    | 60                           |
|                                 | 3                    | ○      | 0.70             | 20                                    | 47                           | 112                             | 1                    | ○      | 1.10             | 28                                    | 34                           |
| 63◆                             | 2                    | ○      | 0.80             | 25                                    | 49                           |                                 | 2                    | ○      | 1.80             | 38                                    | 49                           |
|                                 | 3                    | ○      | 0.90             | 25                                    | 47                           |                                 | 3                    | ○      | 2.40             | 38                                    | 42                           |
|                                 | 4▽                   | ○      | 1.20             | 25                                    | 60                           |                                 | 4▽                   | ○      | 3.40             | 42                                    | 53                           |
|                                 | 5▽                   | ○      | 1.50             | 25                                    | 70                           |                                 | 5▽                   | ○      | 4.00             | 42                                    | 60                           |
| 71▲◆■                           | 1                    | ○      | 0.50             | 25                                    | 34                           | 118                             | 1                    | ○      | 1.10             | 32                                    | 34                           |
|                                 | 2                    | ○      | 0.09             | 28                                    | 49                           |                                 | 2                    | ○      | 1.80             | 38                                    | 49                           |
|                                 | 3                    | ○      | 1.00             | 32                                    | 42                           |                                 | 3                    | ○      | 2.40             | 42                                    | 42                           |
|                                 | 4▽                   | ○      | 1.50             | 32                                    | 60                           |                                 | 4▽                   | ○      | 3.40             | 42                                    | 53                           |
|                                 | 5▽                   | ○      | 1.80             | 32                                    | 70                           |                                 | 5▽                   | ○      | 4.10             | 48                                    | 65                           |
| 75▲◆■                           | 1                    | ○      | 0.50             | 24                                    | 34                           | 125                             | 1                    | ○      | 1.40             | 32                                    | 34                           |
|                                 | 2                    | ○      | 1.00             | 24                                    | 49                           |                                 | 2                    | ○      | 1.90             | 38                                    | 49                           |
|                                 | 3                    | ○      | 1.10             | 24                                    | 42                           |                                 | 3                    | ○      | 2.60             | 42                                    | 42                           |
|                                 | 4▽                   | ○      | 1.80             | 24                                    | 60                           |                                 | 4▽                   | ○      | 3.50             | 42                                    | 53                           |
|                                 | 5▽                   | ○      | 1.90             | 28                                    | 82                           |                                 | 5▽                   | ○      | 4.40             | 48                                    | 65                           |
| 80▲◆■                           | 1                    | ○      | 0.60             | 28                                    | 34                           | 132                             | 1                    | ○      | 1.50             | 32                                    | 34                           |
|                                 | 2                    | ○      | 1.00             | 32                                    | 49                           |                                 | 2                    | ○      | 2.20             | 38                                    | 49                           |
|                                 | 3                    | ○      | 1.20             | 38                                    | 42                           |                                 | 3                    | ○      | 2.60             | 42                                    | 42                           |
|                                 | 4▽                   | ○      | 1.90             | 38                                    | 60                           |                                 | 4▽                   | ○      | 3.60             | 42                                    | 53                           |
|                                 | 5▽                   | ○      | 2.00             | 38                                    | 55                           |                                 | 5▽                   | ○      | 4.80             | 48                                    | 65                           |
| 85▲◆■                           | 1                    | ○      | 0.60             | 24                                    | 34                           | 140                             | 1                    | ○      | 1.50             | 32                                    | 34                           |
|                                 | 2                    | ○      | 1.20             | 28                                    | 49                           |                                 | 2                    | ○      | 2.30             | 38                                    | 49                           |
|                                 | 3                    | ○      | 1.40             | 28                                    | 42                           |                                 | 3                    | ○      | 2.60             | 42                                    | 42                           |
|                                 | 4▽                   | ○      | 2.00             | 28                                    | 53                           |                                 | 4▽                   | ○      | 3.70             | 42                                    | 53                           |
|                                 | 5▽                   | ○      | 2.20             | 32                                    | 55                           |                                 | 5▽                   | ○      | 5.00             | 48                                    | 65                           |
| 90                              | 1                    | ○      | 0.90             | 28                                    | 34                           | 150                             | 1                    | x      | 1.60             | 38                                    | 36                           |
|                                 | 2                    | ○      | 1.50             | 32                                    | 49                           |                                 | 2                    | x      | 2.60             | 38                                    | 49                           |
|                                 | 3                    | ○      | 1.60             | 38                                    | 42                           |                                 | 3                    | ○      | 3.00             | 42                                    | 42                           |
|                                 | 4▽                   | ○      | 2.20             | 42                                    | 53                           |                                 | 4▽                   | ○      | 4.00             | 42                                    | 53                           |
|                                 | 5▽                   | ○      | 2.50             | 42                                    | 67                           |                                 | 5▽                   | ○      | 5.20             | 48                                    | 65                           |
| 95                              | 1                    | ○      | 0.80             | 28                                    | 34                           | 160                             | 1                    | x      | 1.80             | 38                                    | 36                           |
|                                 | 2                    | ○      | 1.60             | 28                                    | 49                           |                                 | 2                    | x      | 2.40             | 38                                    | 49                           |
|                                 | 3                    | ○      | 1.90             | 28                                    | 42                           |                                 | 3                    | x      | 2.80             | 42                                    | 42                           |
|                                 | 4▽                   | ○      | 2.50             | 32                                    | 53                           |                                 | 4▽                   | ○      | 3.60             | 48                                    | 60                           |
|                                 | 5▽                   | ○      | 2.80             | 35                                    | 67                           |                                 | 5▽                   | ○      | 5.50             | 48                                    | 70                           |
| 100                             | 1                    | ○      | 0.80             | 28                                    | 34                           | 170                             | 1                    | x      | 2.00             | 35                                    | 36                           |
|                                 | 2                    | ○      | 1.40             | 32                                    | 49                           |                                 | 2                    | x      | 2.90             | 35                                    | 49                           |
|                                 | 3                    | ○      | 2.00             | 38                                    | 52                           |                                 | 3                    | x      | 3.20             | 35                                    | 42                           |
|                                 | 4▽                   | ○      | 2.70             | 42                                    | 53                           |                                 | 4▽                   | x      | 4.20             | 35                                    | 60                           |
|                                 | 5▽                   | ○      | 3.10             | 42                                    | 60                           |                                 | 5▽                   | x      | 5.80             | 38                                    | 70                           |

▲ for profile A/13 ◆ for profile AX/X13 ■ for profile XPA

▽  $d_d + 4 \text{ mm}$

|                       |    |    |    |    |    |
|-----------------------|----|----|----|----|----|
| Number of grooves z   | 1  | 2  | 3  | 4  | 5  |
| Face width $b_2$ [mm] | 20 | 35 | 50 | 67 | 82 |

● Solid pulley  
○ Plate pulley (with or without holes)  
x Spoked pulley  
Hub position: flush one-sided  
Material: EN-GJL-200 (GG 20) – DIN EN 1561



# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR CYLINDRICAL BORES – GROOVE ACCORDING TO DIN 2211



| Profile SPA/A/13                |                   |        |                  |                                    |                           |                                 |                   |        |                  |                                    |                           |
|---------------------------------|-------------------|--------|------------------|------------------------------------|---------------------------|---------------------------------|-------------------|--------|------------------|------------------------------------|---------------------------|
| Datum diameter<br>$d_d$<br>[mm] | Number of grooves | Design | Weight<br>[≈ kg] | Finished bore<br>$d_{max}$<br>[mm] | Hub length<br>$l$<br>[mm] | Datum diameter<br>$d_d$<br>[mm] | Number of grooves | Design | Weight<br>[≈ kg] | Finished bore<br>$d_{max}$<br>[mm] | Hub length<br>$l$<br>[mm] |
| 180                             | 1                 | x      | 2.00             | 38                                 | 36                        | 315                             | 1                 | x      | 4.80             | 48                                 | 44                        |
|                                 | 2                 | x      | 3.20             | 42                                 | 49                        |                                 | 2                 | x      | 6.60             | 48                                 | 53                        |
|                                 | 3                 | x      | 3.60             | 42                                 | 42                        |                                 | 3                 | x      | 8.80             | 55                                 | 47                        |
|                                 | 4▽                | x      | 4.70             | 48                                 | 60                        |                                 | 4▽                | x      | 11.10            | 55                                 | 60                        |
|                                 | 5▽                | x      | 6.10             | 48                                 | 70                        |                                 | 5▽                | x      | 10.50            | 60                                 | 70                        |
| 190                             | 1                 | x      | 2.00             | 38                                 | 36                        | 355                             | 1                 | x      | 5.50             | 48                                 | 44                        |
|                                 | 2                 | x      | 3.20             | 42                                 | 49                        |                                 | 2                 | x      | 7.70             | 55                                 | 53                        |
|                                 | 3                 | x      | 4.00             | 42                                 | 42                        |                                 | 3                 | x      | 9.60             | 55                                 | 47                        |
|                                 | 4▽                | x      | 5.20             | 48                                 | 60                        |                                 | 4▽                | x      | 11.80            | 55                                 | 60                        |
|                                 | 5▽                | x      | 6.30             | 48                                 | 70                        |                                 | 5▽                | x      | 13.80            | 60                                 | 70                        |
| 200                             | 1                 | x      | 2.40             | 38                                 | 36                        | 400                             | 1▽                | x      | 6.90             | 50                                 | 50                        |
|                                 | 2                 | x      | 2.90             | 42                                 | 49                        |                                 | 2▽                | x      | 8.80             | 55                                 | 53                        |
|                                 | 3                 | x      | 4.20             | 48                                 | 42                        |                                 | 3▽                | x      | 10.50            | 60                                 | 47                        |
|                                 | 4▽                | x      | 5.00             | 55                                 | 60                        |                                 | 4▽                | x      | 12.40            | 60                                 | 67                        |
|                                 | 5▽                | x      | 6.50             | 60                                 | 70                        |                                 | 5▽                | x      | 15.90            | 60                                 | 82                        |
| 212                             | 1                 | x      | 2.70             | 40                                 | 36                        | 450                             | 1▽                | x      | 7.50             | 55                                 | 50                        |
|                                 | 2                 | x      | 3.40             | 42                                 | 49                        |                                 | 2▽                | x      | 9.40             | 55                                 | 53                        |
|                                 | 3                 | x      | 4.40             | 42                                 | 42                        |                                 | 3▽                | x      | 12.20            | 60                                 | 47                        |
|                                 | 4▽                | x      | 5.70             | 42                                 | 60                        |                                 | 4▽                | x      | 14.20            | 65                                 | 67                        |
|                                 | 5▽                | x      | 6.90             | 42                                 | 70                        |                                 | 5▽                | x      | 18.30            | 65                                 | 82                        |
| 225                             | 1                 | x      | 2.80             | 40                                 | 36                        | 500                             | 1▽                | x      | 10.50            | 55                                 | 50                        |
|                                 | 2                 | x      | 3.90             | 42                                 | 49                        |                                 | 2▽                | x      | 10.70            | 55                                 | 55                        |
|                                 | 3                 | x      | 4.60             | 42                                 | 42                        |                                 | 3▽                | x      | 13.50            | 60                                 | 60                        |
|                                 | 4▽                | x      | 6.50             | 42                                 | 60                        |                                 | 4▽                | x      | 16.30            | 65                                 | 67                        |
|                                 | 5▽                | x      | 7.30             | 42                                 | 70                        |                                 | 5▽                | x      | 22.80            | 65                                 | 82                        |
| 236                             | 1                 | x      | 3.30             | 38                                 | 36                        | 560                             | 1▽                | x      | 14.00            | 55                                 | 60                        |
|                                 | 2                 | x      | 4.10             | 42                                 | 49                        |                                 | 2▽                | x      | 13.10            | 55                                 | 60                        |
|                                 | 3                 | x      | 4.90             | 48                                 | 42                        |                                 | 3▽                | x      | 15.60            | 60                                 | 74                        |
|                                 | 4▽                | x      | 6.20             | 55                                 | 60                        |                                 | 4▽                | x      | 19.40            | 65                                 | 67                        |
|                                 | 5▽                | x      | 7.50             | 55                                 | 70                        |                                 | 5▽                | x      | 24.50            | 65                                 | 82                        |
| 250                             | 1                 | x      | 3.40             | 42                                 | 36                        | ▽ $d_d + 4$ mm                  |                   |        |                  |                                    |                           |
|                                 | 2                 | x      | 4.30             | 48                                 | 49                        |                                 |                   |        |                  |                                    |                           |
|                                 | 3                 | x      | 5.30             | 48                                 | 42                        |                                 |                   |        |                  |                                    |                           |
|                                 | 4▽                | x      | 7.00             | 55                                 | 60                        |                                 |                   |        |                  |                                    |                           |
|                                 | 5▽                | x      | 7.90             | 60                                 | 70                        |                                 |                   |        |                  |                                    |                           |
| 280                             | 1                 | x      | 3.90             | 42                                 | 44                        |                                 |                   |        |                  |                                    |                           |
|                                 | 2                 | x      | 5.40             | 48                                 | 53                        |                                 |                   |        |                  |                                    |                           |
|                                 | 3                 | x      | 6.50             | 48                                 | 47                        |                                 |                   |        |                  |                                    |                           |
|                                 | 4▽                | x      | 8.50             | 55                                 | 60                        |                                 |                   |        |                  |                                    |                           |
|                                 | 5▽                | x      | 9.90             | 60                                 | 70                        |                                 |                   |        |                  |                                    |                           |
| 300                             | 1                 | x      | 4.30             | 48                                 | 44                        |                                 |                   |        |                  |                                    |                           |
|                                 | 2                 | x      | 5.90             | 48                                 | 53                        |                                 |                   |        |                  |                                    |                           |
|                                 | 3                 | x      | 7.50             | 55                                 | 47                        |                                 |                   |        |                  |                                    |                           |
|                                 | 4▽                | x      | 9.80             | 55                                 | 60                        |                                 |                   |        |                  |                                    |                           |
|                                 | 5▽                | x      | 11.30            | 60                                 | 70                        |                                 |                   |        |                  |                                    |                           |
| ▽ $d_d + 4$ mm                  |                   |        |                  |                                    |                           | ▽ $d_d + 4$ mm                  |                   |        |                  |                                    |                           |

|                       |    |    |    |    |    |
|-----------------------|----|----|----|----|----|
| Number of grooves z   | 1  | 2  | 3  | 4  | 5  |
| Face width $b_2$ [mm] | 20 | 35 | 50 | 67 | 82 |

● Solid pulley  
 ○ Plate pulley (with or without holes)  
 x Spoked pulley  
 Hub position: flush one-sided  
 Material: EN-GJL-200 (GG 20) – DIN EN 1561

# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR CYLINDRICAL BORES – GROOVE ACCORDING TO DIN 2211



| Profile SPB/B/17                                          |                      |        |                  |                                       |                              |                                 |                      |        |                  |                                       |                              |
|-----------------------------------------------------------|----------------------|--------|------------------|---------------------------------------|------------------------------|---------------------------------|----------------------|--------|------------------|---------------------------------------|------------------------------|
| Datum diameter<br>$d_d$<br>[mm]                           | Number<br>of grooves | Design | Weight<br>[≈ kg] | Finished<br>bore<br>$d_{max}$<br>[mm] | Hub<br>length<br>$l$<br>[mm] | Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design | Weight<br>[≈ kg] | Finished<br>bore<br>$d_{max}$<br>[mm] | Hub<br>length<br>$l$<br>[mm] |
| 56                                                        | 1                    | ○      | 0.60             | 20                                    | 41                           | 112▲◆■                          | 1                    | ○      | 1.50             | 32                                    | 41                           |
|                                                           | 2                    | ○      | 1.00             | 20                                    | 60                           |                                 | 2                    | ○      | 2.40             | 38                                    | 60                           |
|                                                           | 3                    | ○      | 1.10             | 22                                    | 62                           |                                 | 3                    | ○      | 3.10             | 38                                    | 55                           |
| 63                                                        | 1                    | ○      | 0.80             | 20                                    | 41                           |                                 | 4▽                   | ○      | 4.80             | 42                                    | 67                           |
|                                                           | 2                    | ○      | 1.20             | 20                                    | 60                           |                                 | 5▽                   | ○      | 5.60             | 42                                    | 75                           |
|                                                           | 3                    | ○      | 1.20             | 22                                    | 62                           |                                 | 6▽                   | ○      | 6.20             | 42                                    | 85                           |
| 71                                                        | 1                    | ○      | 0.80             | 22                                    | 41                           | 118▲◆■                          | 1                    | ○      | 1.60             | 32                                    | 41                           |
|                                                           | 2                    | ○      | 1.30             | 22                                    | 60                           |                                 | 2                    | ○      | 2.40             | 38                                    | 60                           |
|                                                           | 3                    | ○      | 1.60             | 22                                    | 55                           |                                 | 3                    | ○      | 3.20             | 42                                    | 55                           |
| 75                                                        | 1                    | ○      | 0.80             | 25                                    | 41                           |                                 | 4▽                   | ○      | 5.20             | 42                                    | 70                           |
|                                                           | 2                    | ○      | 1.40             | 25                                    | 60                           |                                 | 5▽                   | ○      | 7.20             | 42                                    | 75                           |
|                                                           | 3                    | ○      | 1.90             | 25                                    | 62                           |                                 | 6▽                   | ○      | 6.60             | 42                                    | 85                           |
| 80                                                        | 1                    | ○      | 1.00             | 28                                    | 41                           | 125▲◆■                          | 1                    | ○      | 1.70             | 32                                    | 41                           |
|                                                           | 2                    | ○      | 1.70             | 28                                    | 60                           |                                 | 2                    | ○      | 2.60             | 38                                    | 60                           |
|                                                           | 3                    | ○      | 2.10             | 28                                    | 55                           |                                 | 3                    | ○      | 3.30             | 42                                    | 55                           |
|                                                           | 3                    | ○      | 2.40             | 28                                    | 70                           |                                 | 4▽                   | ○      | 4.70             | 42                                    | 70                           |
|                                                           | 5▽                   | ○      | 2.70             | 28                                    | 80                           |                                 | 5▽                   | ○      | 8.60             | 42                                    | 75                           |
|                                                           |                      |        |                  |                                       |                              |                                 | 6▽                   | ○      | 8.00             | 48                                    | 85                           |
| 85                                                        | 1                    | ○      | 1.10             | 30                                    | 41                           | 132▲◆■                          | 1                    | ○      | 1.90             | 30                                    | 41                           |
|                                                           | 2                    | ○      | 1.70             | 30                                    | 60                           |                                 | 2                    | ○      | 2.60             | 30                                    | 60                           |
|                                                           | 3                    | ○      | 2.20             | 30                                    | 55                           |                                 | 3                    | ○      | 3.50             | 42                                    | 55                           |
|                                                           | 4▽                   | ○      | 2.70             | 30                                    | 70                           |                                 | 4▽                   | ○      | 6.30             | 42                                    | 70                           |
|                                                           | 5▽                   | ○      | 3.00             | 30                                    | 75                           |                                 | 5▽                   | ○      | 9.40             | 42                                    | 75                           |
|                                                           |                      |        |                  |                                       |                              |                                 | 6▽                   | ○      | 8.50             | 42                                    | 85                           |
| 90◆                                                       | 1                    | ○      | 1.20             | 32                                    | 41                           | 140                             | 1                    | ○      | 2.10             | 32                                    | 41                           |
|                                                           | 2                    | ○      | 1.80             | 38                                    | 60                           |                                 | 2                    | ○      | 2.90             | 38                                    | 60                           |
|                                                           | 3                    | ○      | 2.30             | 38                                    | 55                           |                                 | 3                    | ○      | 3.90             | 42                                    | 55                           |
|                                                           | 4▽                   | ○      | 3.10             | 38                                    | 70                           |                                 | 4▽                   | ○      | 6.90             | 42                                    | 70                           |
|                                                           | 5▽                   | ○      | 3.30             | 38                                    | 75                           |                                 | 5▽                   | ○      | 7.60             | 48                                    | 75                           |
|                                                           |                      |        |                  |                                       |                              |                                 | 6▽                   | ○      | 11.40            | 48                                    | 85                           |
| 95◆                                                       | 1                    | ○      | 1.30             | 35                                    | 41                           | 150                             | 1                    | ○      | 2.40             | 32                                    | 43                           |
|                                                           | 2                    | ○      | 2.00             | 38                                    | 60                           |                                 | 2                    | ○      | 3.20             | 38                                    | 48                           |
|                                                           | 3                    | ○      | 2.50             | 38                                    | 67                           |                                 | 3                    | ○      | 4.30             | 42                                    | 60                           |
|                                                           | 4▽                   | ○      | 2.90             | 38                                    | 70                           |                                 | 4▽                   | ○      | 6.80             | 42                                    | 70                           |
|                                                           | 5▽                   | ○      | 3.60             | 38                                    | 75                           |                                 | 5▽                   | ○      | 8.40             | 48                                    | 75                           |
|                                                           |                      |        |                  |                                       |                              |                                 | 6▽                   | ○      | 12.10            | 48                                    | 85                           |
| 100◆                                                      | 1                    | ○      | 1.30             | 32                                    | 41                           | 160                             | 1                    | x      | 2.50             | 38                                    | 43                           |
|                                                           | 2                    | ○      | 2.10             | 38                                    | 60                           |                                 | 2                    | x      | 3.0              | 42                                    | 48                           |
|                                                           | 3                    | ○      | 2.90             | 38                                    | 55                           |                                 | 3                    | x      | 4.60             | 48                                    | 60                           |
|                                                           | 4▽                   | ○      | 3.80             | 38                                    | 70                           |                                 | 4▽                   | ○      | 7.00             | 48                                    | 70                           |
|                                                           | 5▽                   | ○      | 4.50             | 38                                    | 75                           |                                 | 5▽                   | ○      | 9.40             | 48                                    | 75                           |
|                                                           | 6▽                   | ○      | 5.20             | 38                                    | 124                          |                                 | 6▽                   | ○      | 12.90            | 55                                    | 85                           |
| 106◆                                                      | 1                    | ○      | 1.50             | 28                                    | 41                           | 170                             | 1                    | x      | 2.90             | 42                                    | 43                           |
|                                                           | 2                    | ○      | 2.00             | 28                                    | 60                           |                                 | 2                    | x      | 3.40             | 42                                    | 48                           |
|                                                           | 3                    | ○      | 3.00             | 30                                    | 55                           |                                 | 3                    | x      | 4.90             | 42                                    | 60                           |
|                                                           | 4▽                   | ○      | 4.30             | 30                                    | 70                           |                                 | 4▽                   | ○      | 7.20             | 48                                    | 70                           |
|                                                           | 5▽                   | ○      | 5.10             | 32                                    | 75                           |                                 | 5▽                   | ○      | 8.90             | 48                                    | 75                           |
|                                                           | 6▽                   | ○      | 6.00             | 32                                    | 124                          |                                 | 6▽                   | ○      | 13.10            | 48                                    | 85                           |
| ▲ for profile B/17 ◆ for profile BX/X17 ■ for profile XPB |                      |        |                  |                                       |                              | ▽ $d_d + 5.5$ mm                |                      |        |                  |                                       |                              |

|                       |    |    |    |    |     |     |
|-----------------------|----|----|----|----|-----|-----|
| Number of grooves z   | 1  | 2  | 3  | 4  | 5   | 6   |
| Face width $b_2$ [mm] | 25 | 44 | 63 | 86 | 105 | 124 |

● Solid pulley  
 ○ Plate pulley (with or without holes)  
 x Spoked pulley  
 Hub position: flush one-sided  
 Material: EN-GJL-200 (GG 20) – DIN EN 1561

# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR CYLINDRICAL BORES – GROOVE ACCORDING TO DIN 2211



| Profile SPB/B/17                |                      |        |                  |                                       |                            |                                 |                      |        |                  |                                       |                            |
|---------------------------------|----------------------|--------|------------------|---------------------------------------|----------------------------|---------------------------------|----------------------|--------|------------------|---------------------------------------|----------------------------|
| Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design | Weight<br>[≈ kg] | Finished<br>bore<br>$d_{max}$<br>[mm] | Hub<br>length<br> <br>[mm] | Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design | Weight<br>[≈ kg] | Finished<br>bore<br>$d_{max}$<br>[mm] | Hub<br>length<br> <br>[mm] |
| 180                             | 1                    | x      | 3.10             | 38                                    | 43                         | 315                             | 1                    | x      | 6.40             | 48                                    | 49                         |
|                                 | 2                    | x      | 3.90             | 42                                    | 48                         |                                 | 2                    | x      | 8.20             | 55                                    | 55                         |
|                                 | 3                    | x      | 5.30             | 48                                    | 60                         |                                 | 3                    | x      | 12.90            | 55                                    | 67                         |
|                                 | 4▽                   | x      | 7.40             | 48                                    | 70                         |                                 | 4▽                   | x      | 13.00            | 60                                    | 80                         |
|                                 | 5▽                   | ○      | 9.10             | 55                                    | 75                         |                                 | 5▽                   | x      | 17.60            | 65                                    | 80                         |
|                                 | 6▽                   | ○      | 10.80            | 60                                    | 85                         |                                 | 6▽                   | x      | 20.60            | 75                                    | 90                         |
| 190                             | 1                    | x      | 3.20             | 42                                    | 43                         | 355                             | 1                    | x      | 7.00             | 48                                    | 49                         |
|                                 | 2                    | x      | 4.20             | 42                                    | 48                         |                                 | 2                    | x      | 9.70             | 55                                    | 55                         |
|                                 | 3                    | x      | 5.50             | 42                                    | 60                         |                                 | 3                    | x      | 13.40            | 55                                    | 67                         |
|                                 | 4▽                   | x      | 7.70             | 48                                    | 70                         |                                 | 4▽                   | x      | 18.30            | 60                                    | 80                         |
|                                 | 5▽                   | ○      | 9.20             | 50                                    | 75                         |                                 | 5▽                   | x      | 18.80            | 65                                    | 75                         |
|                                 | 6▽                   | ○      | 12.00            | 55                                    | 85                         |                                 | 6▽                   | x      | 19.80            | 75                                    | 90                         |
| 200                             | 1                    | x      | 3.40             | 38                                    | 43                         | 400                             | 1▽                   | x      | 8.50             | 50                                    | 49                         |
|                                 | 2                    | x      | 4.50             | 42                                    | 48                         |                                 | 2▽                   | x      | 10.00            | 55                                    | 55                         |
|                                 | 3                    | x      | 5.90             | 48                                    | 60                         |                                 | 3▽                   | x      | 14.30            | 60                                    | 67                         |
|                                 | 4▽                   | x      | 8.00             | 50                                    | 60                         |                                 | 4▽                   | x      | 18.50            | 65                                    | 80                         |
|                                 | 5▽                   | ○      | 9.50             | 55                                    | 80                         |                                 | 5▽                   | x      | 22.50            | 70                                    | 85                         |
|                                 | 6▽                   | ○      | 12.20            | 60                                    | 90                         |                                 | 6▽                   | x      | 28.00            | 75                                    | 90                         |
| 212                             | 1                    | x      | 3.80             | 42                                    | 43                         | 450                             | 1▽                   | x      | 9.90             | 50                                    | 55                         |
|                                 | 2                    | x      | 4.70             | 42                                    | 48                         |                                 | 2▽                   | x      | 10.90            | 55                                    | 55                         |
|                                 | 3                    | x      | 6.20             | 48                                    | 60                         |                                 | 3▽                   | x      | 15.10            | 60                                    | 67                         |
|                                 | 4▽                   | x      | 7.70             | 50                                    | 70                         |                                 | 4▽                   | x      | 20.50            | 65                                    | 80                         |
|                                 | 5▽                   | x      | 10.30            | 50                                    | 80                         |                                 | 5▽                   | x      | 26.00            | 70                                    | 80                         |
|                                 | 6▽                   | ○      | 13.50            | 55                                    | 90                         |                                 | 6▽                   | x      | 28.90            | 75                                    | 90                         |
| 225                             | 1                    | x      | 4.00             | 42                                    | 43                         | 500                             | 1▽                   | x      | 10.70            | 50                                    | 55                         |
|                                 | 2                    | x      | 5.40             | 42                                    | 48                         |                                 | 2▽                   | x      | 13.70            | 60                                    | 59                         |
|                                 | 3                    | x      | 6.90             | 48                                    | 60                         |                                 | 3▽                   | x      | 15.20            | 65                                    | 67                         |
|                                 | 4▽                   | x      | 8.60             | 55                                    | 70                         |                                 | 4▽                   | x      | 21.30            | 70                                    | 80                         |
|                                 | 5▽                   | ○      | 11.70            | 50                                    | 90                         |                                 | 5▽                   | x      | 30.00            | 75                                    | 80                         |
|                                 | 6▽                   | ○      | 14.80            | 55                                    | 90                         |                                 | 6▽                   | x      | 33.80            | 80                                    | 90                         |
| 250                             | 1                    | x      | 4.20             | 42                                    | 43                         | 560                             | 2▽                   | x      | 15.00            | 60                                    | 55                         |
|                                 | 2                    | x      | 6.10             | 48                                    | 55                         |                                 | 3▽                   | x      | 24.20            | 65                                    | 67                         |
|                                 | 3                    | x      | 8.60             | 55                                    | 60                         |                                 | 4▽                   | x      | 26.00            | 70                                    | 80                         |
|                                 | 4▽                   | x      | 9.80             | 60                                    | 70                         |                                 | 5▽                   | x      | 34.40            | 75                                    | 80                         |
|                                 | 5▽                   | x      | 13.20            | 65                                    | 80                         |                                 | 6▽                   | x      | 39.00            | 80                                    | 90                         |
|                                 | 6▽                   | x      | 17.00            | 65                                    | 90                         |                                 |                      |        |                  |                                       |                            |
| 280                             | 1                    | x      | 5.70             | 48                                    | 49                         | 630                             | 2▽                   | x      | 20.20            | 60                                    | 80                         |
|                                 | 2                    | x      | 7.00             | 48                                    | 55                         |                                 | 3▽                   | x      | 27.00            | 65                                    | 80                         |
|                                 | 3                    | x      | 9.70             | 55                                    | 60                         |                                 | 4▽                   | x      | 30.80            | 75                                    | 86                         |
|                                 | 4▽                   | x      | 11.50            | 60                                    | 70                         |                                 | 5▽                   | x      | 37.20            | 80                                    | 90                         |
|                                 | 5▽                   | x      | 15.50            | 65                                    | 80                         |                                 | 6▽                   | x      | 44.00            | 90                                    | 100                        |
|                                 | 6▽                   | x      | 18.00            | 65                                    | 90                         |                                 |                      |        |                  |                                       |                            |
| 300                             | 1                    | x      | 5.90             | 48                                    | 49                         |                                 |                      |        |                  |                                       |                            |
|                                 | 2                    | x      | 7.50             | 48                                    | 55                         |                                 |                      |        |                  |                                       |                            |
|                                 | 3                    | x      | 10.50            | 55                                    | 67                         |                                 |                      |        |                  |                                       |                            |
|                                 | 4▽                   | x      | 12.40            | 60                                    | 80                         |                                 |                      |        |                  |                                       |                            |
|                                 | 5▽                   | x      | 16.40            | 65                                    | 80                         |                                 |                      |        |                  |                                       |                            |
|                                 | 6▽                   | x      | 18.30            | 70                                    | 90                         |                                 |                      |        |                  |                                       |                            |
| ▽ $d_d + 5.5$ mm                |                      |        |                  |                                       |                            |                                 |                      |        |                  |                                       |                            |

|                       |    |    |    |    |     |     |
|-----------------------|----|----|----|----|-----|-----|
| Number of grooves z   | 1  | 2  | 3  | 4  | 5   | 6   |
| Face width $b_2$ [mm] | 25 | 44 | 63 | 86 | 105 | 124 |

● Solid pulley  
 ○ Plate pulley (with or without holes)  
 x Spoked pulley  
 Hub position: flush one-sided  
 Material: EN-GJL-200 (GG 20) – DIN EN 1561

# STANDARD RANGE

## optibelt **KS** V-GROOVED PULLEYS FOR CYLINDRICAL BORES – GROOVE ACCORDING TO DIN 2211



| Profile SPC/C/22                |                      |        |                  |                                       |                              |                                 |                      |        |                  |                                       |                              |
|---------------------------------|----------------------|--------|------------------|---------------------------------------|------------------------------|---------------------------------|----------------------|--------|------------------|---------------------------------------|------------------------------|
| Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design | Weight<br>[≈ kg] | Finished<br>bore<br>$d_{max}$<br>[mm] | Hub<br>length<br>$l$<br>[mm] | Datum diameter<br>$d_d$<br>[mm] | Number<br>of grooves | Design | Weight<br>[≈ kg] | Finished<br>bore<br>$d_{max}$<br>[mm] | Hub<br>length<br>$l$<br>[mm] |
| 180▲◆■                          | 1*                   | ○      | 4.20             | 40                                    | 54                           | 450                             | 2*                   | x      | 21.10            | 70                                    | 80                           |
|                                 | 2*                   | ○      | 7.20             | 50                                    | 64                           |                                 | 3*                   | x      | 26.30            | 75                                    | 90                           |
|                                 | 3*                   | ○      | 10.40            | 55                                    | 90                           |                                 | 4*                   | x      | 31.10            | 75                                    | 105                          |
|                                 | 4*                   | ○      | 10.50            | 55                                    | 95                           |                                 | 5*                   | x      | 42.20            | 80                                    | 110                          |
|                                 | 5*                   | ○      | 18.00            | 60                                    | 100                          |                                 | 6*                   | x      | 48.50            | 80                                    | 120                          |
|                                 | 6*                   | ○      | 23.60            | 65                                    | 115                          |                                 |                      |        |                  |                                       |                              |
| 200▲◆■                          | 1*                   | ○      | 4.80             | 40                                    | 54                           | 500                             | 3*                   | x      | 28.40            | 75                                    | 90                           |
|                                 | 2*                   | ○      | 7.80             | 50                                    | 64                           |                                 | 4*                   | x      | 34.10            | 75                                    | 105                          |
|                                 | 3*                   | ○      | 8.80             | 55                                    | 90                           |                                 | 5*                   | x      | 48.20            | 80                                    | 110                          |
|                                 | 4*                   | ○      | 11.20            | 60                                    | 95                           |                                 | 6*                   | x      | 52.50            | 80                                    | 120                          |
|                                 | 5*                   | ○      | 15.40            | 65                                    | 100                          | 560                             | 3*                   | x      | 31.10            | 75                                    | 90                           |
|                                 | 6*                   | ○      | 27.00            | 70                                    | 125                          |                                 | 4*                   | x      | 39.00            | 75                                    | 105                          |
| 225                             | 1*                   | x      | 5.50             | 48                                    | 54                           |                                 | 5*                   | x      | 54.10            | 80                                    | 110                          |
|                                 | 2*                   | x      | 7.80             | 52                                    | 64                           |                                 | 6*                   | x      | 61.50            | 85                                    | 120                          |
|                                 | 3*                   | x      | 10.60            | 52                                    | 90                           | 630                             | 3*                   | x      | 38.50            | 80                                    | 90                           |
|                                 | 4*                   | x      | 13.10            | 55                                    | 95                           |                                 | 4*                   | x      | 48.10            | 80                                    | 105                          |
|                                 | 5*                   | x      | 16.70            | 60                                    | 100                          |                                 | 5*                   | x      | 62.20            | 85                                    | 110                          |
|                                 | 6*                   | x      | 35.00            | 60                                    | 115                          |                                 | 6*                   | x      | 73.20            | 85                                    | 120                          |
| 250                             | 1*                   | x      | 7.30             | 52                                    | 54                           |                                 |                      |        |                  |                                       |                              |
|                                 | 2*                   | x      | 8.80             | 52                                    | 64                           |                                 |                      |        |                  |                                       |                              |
|                                 | 3*                   | x      | 11.00            | 65                                    | 90                           |                                 |                      |        |                  |                                       |                              |
|                                 | 4*                   | x      | 15.30            | 70                                    | 95                           |                                 |                      |        |                  |                                       |                              |
|                                 | 5*                   | x      | 19.00            | 75                                    | 100                          |                                 |                      |        |                  |                                       |                              |
|                                 | 6*                   | x      | 23.70            | 60                                    | 115                          |                                 |                      |        |                  |                                       |                              |
| 280                             | 1*                   | x      | 8.70             | 52                                    | 54                           |                                 |                      |        |                  |                                       |                              |
|                                 | 2*                   | x      | 10.90            | 55                                    | 64                           |                                 |                      |        |                  |                                       |                              |
|                                 | 3*                   | x      | 15.60            | 70                                    | 90                           |                                 |                      |        |                  |                                       |                              |
|                                 | 4*                   | x      | 17.50            | 75                                    | 95                           |                                 |                      |        |                  |                                       |                              |
|                                 | 5*                   | x      | 20.50            | 75                                    | 100                          |                                 |                      |        |                  |                                       |                              |
| 315                             | 1*                   | x      | 9.10             | 52                                    | 54                           |                                 |                      |        |                  |                                       |                              |
|                                 | 2*                   | x      | 13.00            | 55                                    | 74                           |                                 |                      |        |                  |                                       |                              |
|                                 | 3*                   | x      | 17.10            | 70                                    | 90                           |                                 |                      |        |                  |                                       |                              |
|                                 | 4*                   | x      | 20.00            | 75                                    | 95                           |                                 |                      |        |                  |                                       |                              |
|                                 | 5*                   | x      | 24.70            | 80                                    | 100                          |                                 |                      |        |                  |                                       |                              |
|                                 | 6*                   | x      | 31.20            | 85                                    | 115                          |                                 |                      |        |                  |                                       |                              |
| 335                             | 2*                   | x      | 14.00            | 55                                    | 74                           |                                 |                      |        |                  |                                       |                              |
|                                 | 3*                   | x      | 18.30            | 55                                    | 90                           |                                 |                      |        |                  |                                       |                              |
|                                 | 4*                   | x      | 22.40            | 60                                    | 95                           |                                 |                      |        |                  |                                       |                              |
|                                 | 5*                   | x      | 28.30            | 65                                    | 100                          |                                 |                      |        |                  |                                       |                              |
|                                 | 6*                   | x      | 34.40            | 75                                    | 115                          |                                 |                      |        |                  |                                       |                              |
| 355                             | 2*                   | x      | 15.20            | 60                                    | 74                           |                                 |                      |        |                  |                                       |                              |
|                                 | 3*                   | x      | 19.20            | 70                                    | 90                           |                                 |                      |        |                  |                                       |                              |
|                                 | 4*                   | x      | 25.80            | 70                                    | 95                           |                                 |                      |        |                  |                                       |                              |
|                                 | 5*                   | x      | 32.00            | 75                                    | 100                          |                                 |                      |        |                  |                                       |                              |
|                                 | 6*                   | x      | 36.20            | 75                                    | 115                          |                                 |                      |        |                  |                                       |                              |
| 400                             | 3*                   | x      | 20.60            | 70                                    | 90                           |                                 |                      |        |                  |                                       |                              |
|                                 | 4*                   | x      | 28.00            | 70                                    | 105                          |                                 |                      |        |                  |                                       |                              |
|                                 | 5*                   | x      | 32.00            | 75                                    | 100                          |                                 |                      |        |                  |                                       |                              |

▲ for profile C/22 ◆ for profile CX/X22 ■ for profile XPC

|                       |    |    |    |     |     |     |
|-----------------------|----|----|----|-----|-----|-----|
| Number of grooves z   | 1  | 2  | 3  | 4   | 5   | 6   |
| Face width $b_2$ [mm] | 38 | 64 | 90 | 116 | 142 | 168 |

● Solid pulley  
○ Plate pulley (with or without holes)  
x Spoked pulley  
\* Non stock items  
Hub position: flush one-sided  
Material: EN-GJL-200 (GG 20) – DIN EN 1561

From 3525: Cylinder head screw with hexagonal socket      ▲ This is a shallow keyway bore.

| Bore diameter<br>$d_2$ [mm] | Groove width<br>$b$ [mm] | Groove depth<br>$t_2$ [mm] | Bore diameter<br>$d_2$ [mm] | Groove width<br>$b$ [mm] | Groove depth<br>$t_2$ [mm] |
|-----------------------------|--------------------------|----------------------------|-----------------------------|--------------------------|----------------------------|
| 24                          | 8                        | 2.0                        | 28                          | 8                        | 2.0                        |
| 25                          | 8                        | 1.3                        | 42                          | 12                       | 2.2                        |

From 3525: Cylinder head screw with hexagonal socket \* Non stock items ▲ This is a shallow keyway bore.

# DRIVE CALCULATION

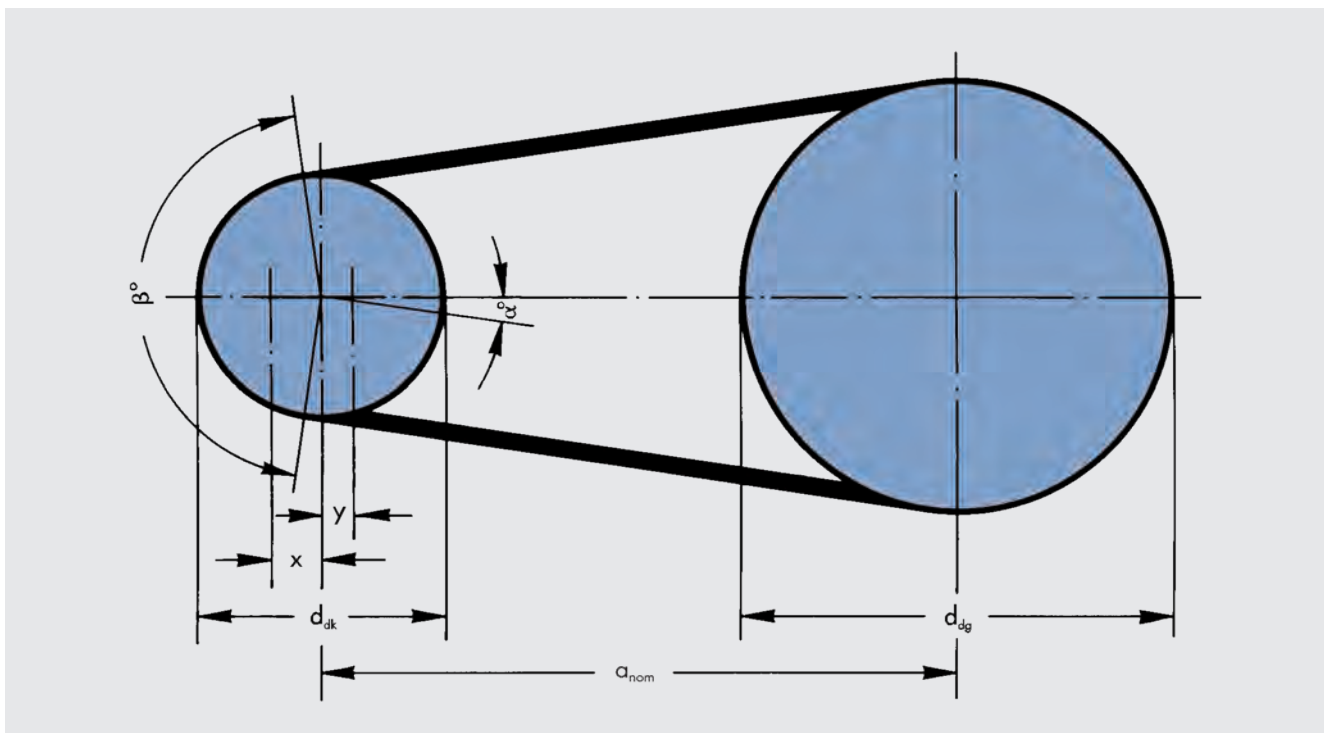
## EXPLANATION OF SYMBOLS



|           |                                                                |                    |           |                                                                               |                      |
|-----------|----------------------------------------------------------------|--------------------|-----------|-------------------------------------------------------------------------------|----------------------|
| $a$       | = drive centre distance provisional                            | [mm]               | $L_{ith}$ | = calculated inside belt length                                               | [mm]                 |
| $a_{nom}$ | = drive centre distance calculated with a standard belt length | [mm]               | $L_{dSt}$ | = standard belt datum length                                                  | [mm]                 |
| $b_d$     | = datum width                                                  |                    | $L_{dth}$ | = calculated belt datum length                                                | [mm]                 |
| $b_1$     | = top width                                                    |                    | $n_g$     | = speed of the larger pulley                                                  | [min <sup>-1</sup> ] |
| $c_1$     | = arc of contact correction factor                             |                    | $n_k$     | = speed of the smaller pulley                                                 | [min <sup>-1</sup> ] |
| $c_2$     | = service factor                                               |                    | $n_1$     | = speed of the driver pulley                                                  | [min <sup>-1</sup> ] |
| $c_3$     | = belt length factor                                           |                    | $n_2$     | = speed of the driven pulley                                                  | [min <sup>-1</sup> ] |
| $c_4$     | = number of idlers factor                                      |                    | $P$       | = motor or normal running power                                               | [kW*]                |
| $d_{dg}$  | = datum diameter of large pulley (DIN 2211 Sheet 1, Table 2)   | [mm]               | $P_B$     | = design power                                                                | [kW*]                |
| $d_{dk}$  | = datum diameter of small pulley (DIN 2211 Sheet 1, Table 2)   | [mm]               | $P_N$     | = nominal power rating per belt                                               | [kW*]                |
| $d_{d1}$  | = datum diameter of the driver pulley                          | [mm]               | $S_a$     | = minimum static shaft loading                                                | [N]                  |
| $d_{d2}$  | = datum diameter of the driven pulley                          | [mm]               | $T$       | = minimum static tension per belt                                             | [N]                  |
| $E$       | = belt deflection per 100 mm span length                       | [mm]               | $v$       | = belt speed                                                                  | [m/s]                |
| $E_a$     | = belt deflection for a given span length                      | [mm]               | $x$       | = minimum allowance above centre distance $a_{nom}$ for belt stretch and wear | [mm]                 |
| $f$       | = load used to set belt tension                                | [N]                | $y$       | = minimum allowance below centre distance $a_{nom}$ for easy belt fitting     | [mm]                 |
| $f_B$     | = flex rate                                                    | [s <sup>-1</sup> ] | $z$       | = number of belts                                                             |                      |
| $i$       | = drive ratio                                                  |                    | $\alpha$  | = angle of belt drive = $90^\circ - \frac{\beta}{2}$                          | [°]                  |
| $k$       | = constant for calculating centrifugal force in belt set       |                    | $\beta$   | = arc of contact on small pulley                                              | [°]                  |
| $L$       | = span length                                                  | [mm]               |           |                                                                               |                      |
| $L_{iSt}$ | = standard inside belt length                                  | [mm]               |           |                                                                               |                      |

\* 1 kW = 1 kNm/s

The terms pitch diameter ( $d_w$ ), pitch length ( $L_w$ ) and pitch circumference ( $U_w$ ) used previously have been changed to datum diameter ( $d_d$ ), datum length ( $L_d$ ) and datum circumference ( $U_d$ ) in order to bring them into line with current standard terminology.





# DRIVE CALCULATION

## OPTIBELT NOMINAL POWER RATING $P_N$ – ARC OF CONTACT CORRECTION FACTOR $c_1$



The Optibelt nominal power ratings  $P_N$  in tables 32 to 68 are based upon an internationally accepted basic formula and a theoretical belt life of 25.000 hours under ideal conditions. This formula contains material constants that take into account the quality of the raw materials used and make allowances for production methods. Due to the special qualities of Optibelt V-belts, other material constants than those given in DIN have been taken into account. As a result, the nominal Optibelt power ratings  $P_N$  significantly exceed the ratings given, for wedge belts according to DIN 7753 Part 2 and for classic V-belts according to DIN 2218, for the same theoretical belt life. The nominal power ratings  $P_N$  are based on the smallest loaded pulley in the drive system. The belt power rating value  $P_N$  is calculated taking into account

- the datum diameter of the smaller pulley  $d_{dk}$
- the speed of the smaller pulley  $n_k$
- the drive ratio  $i$
- an assumed arc of contact at the smaller pulley of  $\beta = 180^\circ$
- a reference belt length for the specific belt profile

In order to account for the actual drive data, based on the arc of contact and the belt lengths employed, correction factors for the arc of contact  $c_1$  and length  $c_3$  have been introduced. If required, drive calculations can be provided for any theoretical belt life.

Intermediate values for nominal power rating, arc of contact and length correction factors can be found via linear interpolation.

The factor  $c_1$  corrects the power rating  $P_N$ , when the arc of contact is smaller than  $180^\circ$ , as the  $P_N$  value is calculated on the arc of contact  $\beta = 180^\circ$  on the smaller pulley.

**Table 22**

| $\frac{d_{dg} - d_{dk}}{a_{nom}}$ | $\beta \approx$ | $c_1$ |
|-----------------------------------|-----------------|-------|
| 0                                 | 180°            | 1.00  |
| 0.05                              | 177°            | 1.00  |
| 0.10                              | 174°            | 1.00  |
| 0.15                              | 171°            | 1.00  |
| 0.20                              | 168°            | 0.99  |
| 0.25                              | 165°            | 0.99  |
| 0.30                              | 162°            | 0.99  |
| 0.35                              | 160°            | 0.99  |
| 0.40                              | 156°            | 0.99  |
| 0.45                              | 153°            | 0.98  |
| 0.50                              | 150°            | 0.98  |
| 0.55                              | 147°            | 0.98  |
| 0.60                              | 144°            | 0.98  |
| 0.65                              | 141°            | 0.97  |
| 0.70                              | 139°            | 0.97  |
| 0.75                              | 136°            | 0.97  |
| 0.80                              | 133°            | 0.96  |
| 0.85                              | 130°            | 0.96  |
| 0.90                              | 126°            | 0.96  |
| 0.95                              | 123°            | 0.95  |
| 1.00                              | 119°            | 0.94  |
| 1.05                              | 115°            | 0.94  |
| 1.10                              | 112°            | 0.93  |
| 1.15                              | 109°            | 0.93  |
| 1.20                              | 106°            | 0.92  |
| 1.25                              | 103°            | 0.91  |
| 1.30                              | 100°            | 0.91  |
| 1.35                              | 96°             | 0.90  |
| 1.40                              | 92°             | 0.88  |
| 1.45                              | 88°             | 0.87  |
| 1.50                              | 84°             | 0.86  |
| 1.55                              | 80°             | 0.84  |
| 1.60                              | 77°             | 0.83  |

# DRIVE CALCULATION

## LOAD FACTOR $c_2$



The service factor  $c_2$  takes account of the daily operating time and of the type of driver and driven machine. It applies exclusively to two-pulley drives. Other arrangements such as drives with tension and guide idlers have not been taken into consideration. Pages 136-137 provide the relevant basic design guidelines for drives with more than two pulleys. Adverse operating conditions (e.g. aggressive dust, particularly high ambient temperatures or the effects of various substances) **have not** been taken into account. As it is practically impossible to cover every conceivable combination of driver/driven machine/operating conditions in a summary that complies with the relevant standards, the service factors are **approximate values**.

**In special cases, e.g. increased starting torque (direct on-line starting of fans), in drives with frequent starts and stops, in systems subject to exceptional shock loads, or when significant masses are to be accelerated or braked, the service factor must be increased.**

**Empirical value:**

**With a starting torque > 1.8 this figure is to be divided by 1.5 in order to calculate the minimum load factor  $c_2$ .**

**Example: Starting torque MA = 3.0;  $c_2$  selected 2.0.**

**Please consult our Applications Engineering Department for the solution of special problems.**

Table 23

| Examples for work machines                                                                                                                                                                                                                                                                                 | Examples for drive machines                                                                                                                                                                                                                                                                                                                                                |               |         |                                                                                                                                                                                                                                                                                    |               |         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------|
|                                                                                                                                                                                                                                                                                                            | AC motors and three-phase induction machines with a normal starting torque (up to 1.8 times nominal torque), e. g. synchronous motors and single-phase motors with a starting-aid phase, three-phase squirrel cage motors with direct start, star-delta connection or slip ring starters; direct-current shunt-wound motors, combustion engines and turbines $n > 600$ rpm |               |         | AC motors and three-phase induction machines with high starting torque (over 1.8 times nominal torque), e. g. single-phase motors with high starting torque; direct-current series-wound motors with series connection and compound; combustion engines and turbines $n < 600$ rpm |               |         |
|                                                                                                                                                                                                                                                                                                            | Load factor $c_2$<br>for daily operating time (hours)                                                                                                                                                                                                                                                                                                                      |               |         | Load factor $c_2$<br>for daily operating time (hours)                                                                                                                                                                                                                              |               |         |
|                                                                                                                                                                                                                                                                                                            | up to 10                                                                                                                                                                                                                                                                                                                                                                   | over 10 to 16 | over 16 | up to 10                                                                                                                                                                                                                                                                           | over 10 to 16 | over 16 |
| <b>Light drives</b><br>Centrifugal pumps and compressors, belt conveyors (light weight materials), fans and pumps up to 7.5 kW                                                                                                                                                                             | 1.1                                                                                                                                                                                                                                                                                                                                                                        | 1.1           | 1.2     | 1.1                                                                                                                                                                                                                                                                                | 1.2           | 1.3     |
| <b>Medium drives</b><br>Plate cutters, presses, chain and belt conveyors (heavy materials), vibrating screens, generators and exciters, bakery machinery, machine tools (lathes and grinders), laundry machines, printing machinery, fans and pumps over 7.5 kW                                            | 1.1                                                                                                                                                                                                                                                                                                                                                                        | 1.2           | 1.3     | 1.2                                                                                                                                                                                                                                                                                | 1.3           | 1.4     |
| <b>Heavy drives</b><br>Crushing plants, piston compressors, heavy-duty conveyors, directional throw conveyors, push conveyors (screw, plate belts, bucket and shovel conveyors), lifts, briquette presses, textile machinery, paper machinery, piston pumps, excavator pumps, log frame saws, hammer mills | 1.2                                                                                                                                                                                                                                                                                                                                                                        | 1.3           | 1.4     | 1.4                                                                                                                                                                                                                                                                                | 1.5           | 1.6     |
| <b>Very heavy drives</b><br>Heavy-duty mills, stone crushers, calenders, mixers, winches, cranes, excavators, heavy-duty wood working machinery                                                                                                                                                            | 1.3                                                                                                                                                                                                                                                                                                                                                                        | 1.4           | 1.5     | 1.5                                                                                                                                                                                                                                                                                | 1.6           | 1.8     |

# DRIVE CALCULATION

## LENGTH FACTOR $c_3$ FOR OPTIBELT WEDGE BELTS AND KRAFTBANDS



The length factor  $c_3$  takes into account the flex rate of the belt based on the reference length for the particular belt profile.

This results in the following relationships:

belt length > reference length  $c_3 > 1.0$   
 belt length = reference length  $c_3 = 1.0$   
 belt length < reference length  $c_3 < 1.0$

**Table 24**

| Profile SPZ, XPZ  |             | Profile SPA, XPA  |             | Profile SPB, XPB  |             | Profile SPC, XPC  |             |
|-------------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|-------------|
| Datum length [mm] | $c_3$       | Datum length [mm] | $c_3$       | Datum length [mm] | $c_3$       | Datum length [mm] | $c_3$       |
| 630               | <b>0.83</b> | 800               | <b>0.81</b> | 1250              | <b>0.83</b> | 2000              | <b>0.85</b> |
| 670               | <b>0.84</b> | 850               | <b>0.82</b> | 1320              | <b>0.84</b> | 2120              | <b>0.86</b> |
| 710               | <b>0.85</b> | 900               | <b>0.83</b> | 1400              | <b>0.85</b> | 2240              | <b>0.86</b> |
| 750               | <b>0.86</b> | 950               | <b>0.84</b> | 1500              | <b>0.86</b> | 2360              | <b>0.87</b> |
| 800               | <b>0.87</b> | 1000              | <b>0.85</b> | 1600              | <b>0.87</b> | 2500              | <b>0.88</b> |
| 850               | <b>0.88</b> | 1060              | <b>0.86</b> | 1700              | <b>0.88</b> | 2650              | <b>0.89</b> |
| 900               | <b>0.89</b> | 1120              | <b>0.86</b> | 1800              | <b>0.89</b> | 2800              | <b>0.90</b> |
| 950               | <b>0.90</b> | 1180              | <b>0.87</b> | 1900              | <b>0.90</b> | 3000              | <b>0.91</b> |
| 1000              | <b>0.91</b> | 1250              | <b>0.88</b> | 2000              | <b>0.91</b> | 3150              | <b>0.91</b> |
| 1060              | <b>0.92</b> | 1320              | <b>0.89</b> | 2120              | <b>0.92</b> | 3350              | <b>0.92</b> |
| 1120              | <b>0.93</b> | 1400              | <b>0.90</b> | 2240              | <b>0.93</b> | 3550              | <b>0.93</b> |
| 1180              | <b>0.94</b> | 1500              | <b>0.91</b> | 2360              | <b>0.93</b> | 3750              | <b>0.94</b> |
| 1250              | <b>0.95</b> | 1600              | <b>0.92</b> | 2500              | <b>0.94</b> | 4000              | <b>0.95</b> |
| 1320              | <b>0.96</b> | 1700              | <b>0.93</b> | 2650              | <b>0.95</b> | 4250              | <b>0.96</b> |
| 1400              | <b>0.98</b> | 1800              | <b>0.94</b> | 2800              | <b>0.96</b> | 4500              | <b>0.97</b> |
| 1500              | <b>0.99</b> | 1900              | <b>0.95</b> | 3000              | <b>0.97</b> | 4750              | <b>0.98</b> |
| <b>1600</b>       | <b>1.00</b> | 2000              | <b>0.96</b> | 3150              | <b>0.98</b> | 5000              | <b>0.98</b> |
| 1700              | <b>1.01</b> | 2120              | <b>0.97</b> | 3350              | <b>0.99</b> | 5300              | <b>0.99</b> |
| 1800              | <b>1.02</b> | 2240              | <b>0.98</b> | <b>3550</b>       | <b>1.00</b> | <b>5600</b>       | <b>1.00</b> |
| 1900              | <b>1.03</b> | 2360              | <b>0.99</b> | 3750              | <b>1.01</b> | 6000              | <b>1.01</b> |
| 2000              | <b>1.04</b> | <b>2500</b>       | <b>1.00</b> | 4000              | <b>1.02</b> | 6300              | <b>1.02</b> |
| 2120              | <b>1.05</b> | 2650              | <b>1.01</b> | 4250              | <b>1.03</b> | 6700              | <b>1.03</b> |
| 2240              | <b>1.06</b> | 2800              | <b>1.02</b> | 4500              | <b>1.04</b> | 7100              | <b>1.04</b> |
| 2360              | <b>1.07</b> | 3000              | <b>1.03</b> | 4700              | <b>1.04</b> | 7500              | <b>1.04</b> |
| 2500              | <b>1.08</b> | 3150              | <b>1.04</b> | 5000              | <b>1.05</b> | 8000              | <b>1.05</b> |
| 2650              | <b>1.09</b> | 3350              | <b>1.05</b> | 5300              | <b>1.06</b> | 8500              | <b>1.06</b> |
| 2800              | <b>1.10</b> | 3550              | <b>1.06</b> | 5600              | <b>1.07</b> | 9000              | <b>1.07</b> |
| 3000              | <b>1.11</b> | 3750              | <b>1.07</b> | 6000              | <b>1.08</b> | 9500              | <b>1.08</b> |
| 3150              | <b>1.12</b> | 4000              | <b>1.08</b> | 6300              | <b>1.09</b> | 10000             | <b>1.09</b> |
| 3350              | <b>1.13</b> | 4250              | <b>1.09</b> | 6700              | <b>1.10</b> | 10600             | <b>1.09</b> |
| 3550              | <b>1.15</b> | 4500              | <b>1.10</b> | 7100              | <b>1.11</b> | 11200             | <b>1.10</b> |
| 3750              | <b>1.16</b> | 4750              | <b>1.11</b> | 7500              | <b>1.12</b> | 11800             | <b>1.11</b> |
| 4000              | <b>1.17</b> | 5000              | <b>1.12</b> | 8000              | <b>1.13</b> | 12500             | <b>1.12</b> |
| 4250              | <b>1.18</b> | 5300              | <b>1.13</b> | 8500              | <b>1.14</b> | 13200             | <b>1.13</b> |
| 4500              | <b>1.19</b> | 5600              | <b>1.14</b> | 9000              | <b>1.15</b> | 14000             | <b>1.14</b> |
|                   |             | 6000              | <b>1.15</b> | 9500              | <b>1.16</b> | 15000             | <b>1.15</b> |
|                   |             |                   |             | 10000             | <b>1.17</b> |                   |             |

# DRIVE CALCULATION

## LENGTH FACTOR $c_3$ FOR OPTIBELT WEDGE BELTS AND KRAFTBANDS



Table 25

| Profile 3V/9N, 3VX/9NX<br>3V/9J, 3VX/9JX |                     |             | Profile 5V/15N, 5VX/15NX<br>5V/15J, 5VX/15JX |                     |             | Profile 8V/25N<br>8V/25J |                     |             |
|------------------------------------------|---------------------|-------------|----------------------------------------------|---------------------|-------------|--------------------------|---------------------|-------------|
| Belt designation                         | Outside length [mm] | $c_3$       | Belt designation                             | Outside length [mm] | $c_3$       | Belt designation         | Outside length [mm] | $c_3$       |
| 3V 265                                   | 673                 | <b>0.84</b> | 5V 500                                       | 1270                | <b>0.84</b> | 8V 1000                  | 2540                | <b>0.87</b> |
| 3V 280                                   | 711                 | <b>0.85</b> | 5V 530                                       | 1346                | <b>0.85</b> | 8V 1060                  | 2692                | <b>0.87</b> |
| 3V 300                                   | 762                 | <b>0.86</b> | 5V 560                                       | 1422                | <b>0.85</b> | 8V 1120                  | 2845                | <b>0.88</b> |
| 3V 315                                   | 800                 | <b>0.87</b> | 5V 600                                       | 1524                | <b>0.87</b> | 8V 1180                  | 2997                | <b>0.89</b> |
| 3V 335                                   | 851                 | <b>0.88</b> | 5V 630                                       | 1600                | <b>0.87</b> | 8V 1250                  | 3175                | <b>0.90</b> |
| 3V 355                                   | 902                 | <b>0.90</b> | 5V 670                                       | 1702                | <b>0.88</b> | 8V 1320                  | 3353                | <b>0.91</b> |
| 3V 375                                   | 952                 | <b>0.91</b> | 5V 710                                       | 1803                | <b>0.89</b> | 8V 1400                  | 3556                | <b>0.92</b> |
| 3V 400                                   | 1016                | <b>0.92</b> | 5V 750                                       | 1905                | <b>0.90</b> | 8V 1500                  | 3810                | <b>0.93</b> |
| 3V 425                                   | 1079                | <b>0.93</b> | 5V 800                                       | 2032                | <b>0.91</b> | 8V 1600                  | 4064                | <b>0.93</b> |
| 3V 450                                   | 1143                | <b>0.94</b> | 5V 850                                       | 2159                | <b>0.92</b> | 8V 1700                  | 4318                | <b>0.94</b> |
| 3V 475                                   | 1206                | <b>0.95</b> | 5V 900                                       | 2286                | <b>0.93</b> | 8V 1800                  | 4572                | <b>0.95</b> |
| 3V 500                                   | 1270                | <b>0.96</b> | 5V 950                                       | 2413                | <b>0.94</b> | 8V 1900                  | 4826                | <b>0.96</b> |
| 3V 530                                   | 1346                | <b>0.97</b> | 5V 1000                                      | 2540                | <b>0.95</b> | 8V 2000                  | 5080                | <b>0.97</b> |
| 3V 560                                   | 1422                | <b>0.98</b> | 5V 1060                                      | 2692                | <b>0.96</b> | 8V 2120                  | 5385                | <b>0.98</b> |
| 3V 600                                   | 1524                | <b>0.99</b> | 5V 1120                                      | 2845                | <b>0.96</b> | 8V 2240                  | 5690                | <b>0.98</b> |
| <b>3V 630</b>                            | <b>1600</b>         | <b>1.00</b> | 5V 1180                                      | 2997                | <b>0.97</b> | 8V 2360                  | 5994                | <b>0.99</b> |
| 3V 670                                   | 1702                | <b>1.01</b> | 5V 1250                                      | 3175                | <b>0.98</b> | <b>8V 2500</b>           | <b>6350</b>         | <b>1.00</b> |
| 3V 710                                   | 1803                | <b>1.02</b> | 5V 1320                                      | 3353                | <b>0.99</b> | 8V 2650                  | 6731                | <b>1.01</b> |
| 3V 750                                   | 1905                | <b>1.03</b> | <b>5V 1400</b>                               | <b>3556</b>         | <b>1.00</b> | 8V 2800                  | 7112                | <b>1.02</b> |
| 3V 800                                   | 2032                | <b>1.04</b> | 5V 1500                                      | 3810                | <b>1.01</b> | 8V 3000                  | 7620                | <b>1.03</b> |
| 3V 850                                   | 2159                | <b>1.05</b> | 5V 1600                                      | 4064                | <b>1.02</b> | 8V 3150                  | 8001                | <b>1.03</b> |
| 3V 900                                   | 2286                | <b>1.07</b> | 5V 1700                                      | 4318                | <b>1.03</b> | 8V 3350                  | 8509                | <b>1.04</b> |
| 3V 950                                   | 2413                | <b>1.07</b> | 5V 1800                                      | 4572                | <b>1.04</b> | 8V 3550                  | 9017                | <b>1.05</b> |
| 3V 1000                                  | 2540                | <b>1.08</b> | 5V 1900                                      | 4826                | <b>1.05</b> | 8V 3750                  | 9525                | <b>1.06</b> |
| 3V 1060                                  | 2692                | <b>1.09</b> | 5V 2000                                      | 5080                | <b>1.06</b> | 8V 4000                  | 10160               | <b>1.07</b> |
| 3V 1120                                  | 2845                | <b>1.11</b> | 5V 2120                                      | 5385                | <b>1.07</b> | 8V 4250                  | 10795               | <b>1.08</b> |
| 3V 1180                                  | 2997                | <b>1.11</b> | 5V 2240                                      | 5690                | <b>1.07</b> | 8V 4500                  | 11430               | <b>1.09</b> |
| 3V 1250                                  | 3175                | <b>1.13</b> | 5V 2360                                      | 5994                | <b>1.08</b> | 8V 4750                  | 12065               | <b>1.09</b> |
| 3V 1320                                  | 3353                | <b>1.14</b> | 5V 2500                                      | 6350                | <b>1.09</b> | 8V 5000                  | 12700               | <b>1.10</b> |
| 3V 1400                                  | 3556                | <b>1.15</b> | 5V 2650                                      | 6731                | <b>1.10</b> | 8V 5300                  | 13462               | <b>1.11</b> |
| 3V 1500                                  | 3810                | <b>1.16</b> | 5V 2800                                      | 7112                | <b>1.11</b> | 8V 5600                  | 14224               | <b>1.12</b> |
| 3V 1600                                  | 4064                | <b>1.17</b> | 5V 3000                                      | 7620                | <b>1.12</b> | 8V 6000                  | 15240               | <b>1.13</b> |
| 3V 1700                                  | 4318                | <b>1.18</b> | 5V 3150                                      | 8001                | <b>1.13</b> | 8V 6300                  | 16002               | <b>1.13</b> |
| 3V 1800                                  | 4572                | <b>1.19</b> | 5V 3350                                      | 8509                | <b>1.14</b> |                          |                     |             |
| 3V 1900                                  | 4826                | <b>1.20</b> | 5V 3550                                      | 9017                | <b>1.15</b> |                          |                     |             |
| 3V 2000                                  | 5080                | <b>1.21</b> | 5V 3750                                      | 9525                | <b>1.16</b> |                          |                     |             |
|                                          |                     |             | 5V 4000                                      | 10160               | <b>1.17</b> |                          |                     |             |

# DRIVE CALCULATION

## LENGTH FACTOR $c_3$ FOR OPTIBELT WEDGE BELTS AND KRAFTBANDS



Table 26

| Profile 5*           |       | Profile Y/6*      |       | Profile 8         |       | Profile Z/10, ZX/X10 |       | Profile A/13, AX/X13 |       | Profile B/17, BX/X17 |       | Profile 20        |       |
|----------------------|-------|-------------------|-------|-------------------|-------|----------------------|-------|----------------------|-------|----------------------|-------|-------------------|-------|
| Datum length [mm]    | $c_3$ | Datum length [mm] | $c_3$ | Datum length [mm] | $c_3$ | Datum length [mm]    | $c_3$ | Datum length [mm]    | $c_3$ | Datum length [mm]    | $c_3$ | Datum length [mm] | $c_3$ |
| 172                  | 0.87  | 280               | 0.97  | 299*              | 0.86  | 422*                 | 0.86  | 660                  | 0.80  | 900                  | 0.81  | 948               | 0.75  |
| 202                  | 0.91  | 295               | 0.99  | 334*              | 0.88  | 447*                 | 0.87  | 740                  | 0.82  | 990                  | 0.83  | 998               | 0.76  |
| 248                  | 0.95  | 315               | 1.00  | 374*              | 0.91  | 472*                 | 0.88  | 780                  | 0.83  | 1040                 | 0.84  | 1048              | 0.77  |
| 277                  | 0.97  | 330               | 1.01  | 419*              | 0.93  | 497*                 | 0.89  | 830                  | 0.85  | 1100                 | 0.85  | 1168              | 0.79  |
| 292                  | 0.99  | 350               | 1.02  | 444*              | 0.94  | 522*                 | 0.90  | 880                  | 0.86  | 1140                 | 0.85  | 1228              | 0.80  |
| 312                  | 1.00  | 370               | 1.04  | 469*              | 0.95  | 552*                 | 0.92  | 930                  | 0.87  | 1220                 | 0.87  | 1298              | 0.81  |
| 327                  | 1.01  | 390               | 1.05  | 494*              | 0.97  | 582*                 | 0.93  | 980                  | 0.88  | 1290                 | 0.88  | 1368              | 0.82  |
| 334                  | 1.01  | 415               | 1.06  | 549*              | 0.99  | 622                  | 0.94  | 1030                 | 0.89  | 1360                 | 0.89  | 1448              | 0.83  |
| 347                  | 1.02  | 440               | 1.07  | 579*              | 1.00  | 652                  | 0.95  | 1090                 | 0.90  | 1440                 | 0.90  | 1548              | 0.85  |
| 364                  | 1.03  | 465               | 1.09  | 594*              | 1.01  | 692                  | 0.96  | 1150                 | 0.91  | 1540                 | 0.92  | 1648              | 0.86  |
| 387                  | 1.05  | 490               | 1.10  | 619*              | 1.01  | 732                  | 0.98  | 1210                 | 0.92  | 1640                 | 0.93  | 1848              | 0.88  |
| 418                  | 1.06  | 515               | 1.11  | 649*              | 1.02  | 822                  | 1.00  | 1280                 | 0.94  | 1740                 | 0.94  | 2048              | 0.91  |
| 437                  | 1.07  | 555               | 1.13  | 689*              | 1.04  | 847                  | 1.01  | 1350                 | 0.95  | 1840                 | 0.95  | 2168              | 0.92  |
| 487                  | 1.10  | 615               | 1.15  | 729*              | 1.05  | 887                  | 1.02  | 1430                 | 0.96  | 1940                 | 0.97  | 2298              | 0.93  |
| 512                  | 1.11  | 725               | 1.19  | 769*              | 1.06  | 922                  | 1.02  | 1530                 | 0.97  | 2040                 | 0.98  | 2408              | 0.94  |
| 524                  | 1.11  | 765               | 1.20  | 819*              | 1.08  | 947                  | 1.03  | 1630                 | 0.99  | 2160                 | 0.99  | 2548              | 0.95  |
| 542                  | 1.12  | 865               | 1.23  | 869               | 1.09  | 997                  | 1.04  | 1730                 | 1.00  | 2280                 | 1.00  | 2698              | 0.96  |
| 566                  | 1.13  |                   |       | 894               | 1.10  | 1022                 | 1.05  | 1830                 | 1.01  | 2400                 | 1.01  | 2848              | 0.98  |
| 612                  | 1.15  |                   |       | 919               | 1.10  | 1082                 | 1.06  | 1930                 | 1.02  | 2590                 | 1.03  | 3048              | 0.99  |
|                      |       |                   |       | 969               | 1.11  | 1142                 | 1.07  | 2030                 | 1.03  | 2690                 | 1.04  | 3198              | 1.00  |
|                      |       |                   |       | 1019              | 1.13  | 1172                 | 1.08  | 2150                 | 1.05  | 2840                 | 1.05  | 3398              | 1.01  |
|                      |       |                   |       | 1139              | 1.15  | 1202                 | 1.08  | 2270                 | 1.06  | 3040                 | 1.06  | 3598              | 1.03  |
|                      |       |                   |       | 1269              | 1.18  | 1272                 | 1.10  | 2390                 | 1.07  | 3190                 | 1.07  | 3798              | 1.04  |
|                      |       |                   |       | 1339              | 1.19  | 1342                 | 1.11  | 2530                 | 1.08  | 3390                 | 1.09  | 4048              | 1.05  |
|                      |       |                   |       | 1419              | 1.20  | 1422                 | 1.12  | 2680                 | 1.10  | 3590                 | 1.10  | 4298              | 1.06  |
|                      |       |                   |       | 1519              | 1.22  | 1522                 | 1.14  | 2830                 | 1.11  | 3790                 | 1.11  | 4548              | 1.08  |
|                      |       |                   |       |                   |       | 1622                 | 1.15  | 3030                 | 1.12  | 4040                 | 1.13  | 4798              | 1.09  |
|                      |       |                   |       |                   |       |                      |       | 3180                 | 1.14  | 4290                 | 1.14  | 5048              | 1.10  |
|                      |       |                   |       |                   |       |                      |       | 3380                 | 1.15  | 4540                 | 1.15  | 5348              | 1.11  |
|                      |       |                   |       |                   |       |                      |       | 3780                 | 1.17  | 4790                 | 1.17  | 5648              | 1.13  |
|                      |       |                   |       |                   |       |                      |       | 4030                 | 1.19  | 5040                 | 1.18  | 6048              | 1.14  |
|                      |       |                   |       |                   |       |                      |       | 4530                 | 1.22  | 5340                 | 1.19  | 6348              | 1.15  |
|                      |       |                   |       |                   |       |                      |       | 5030                 | 1.24  | 5640                 | 1.20  | 7148              | 1.18  |
|                      |       |                   |       |                   |       |                      |       |                      |       | 6040                 | 1.22  | 8048              | 1.21  |
|                      |       |                   |       |                   |       |                      |       |                      |       | 6340                 | 1.23  |                   |       |
| Profile C/22, CX/X22 |       |                   |       | Profile 25        |       |                      |       | Profile D/32         |       |                      |       | Profile E/40      |       |
| 1458                 | 0.80  | 5058              | 1.06  | 1311              | 0.75  | 4311                 | 0.99  | 3225                 | 0.86  | 10075                | 1.10  | 4830              | 0.92  |
| 1558                 | 0.81  | 5358              | 1.07  | 1461              | 0.77  | 4561                 | 1.00  | 3425                 | 0.87  | 10675                | 1.11  | 5080              | 0.93  |
| 1658                 | 0.83  | 5658              | 1.09  | 1561              | 0.78  | 4811                 | 1.01  | 3625                 | 0.88  | 11275                | 1.13  | 5380              | 0.94  |
| 1858                 | 0.85  | 6058              | 1.10  | 1661              | 0.79  | 5061                 | 1.02  | 3825                 | 0.89  | 11875                | 1.14  | 5680              | 0.95  |
| 1958                 | 0.86  | 6358              | 1.11  | 1761              | 0.80  | 5361                 | 1.04  | 4075                 | 0.91  | 12575                | 1.15  | 6080              | 0.96  |
| 2058                 | 0.87  | 6758              | 1.13  | 1861              | 0.81  | 5661                 | 1.05  | 4325                 | 0.92  | 13275                | 1.16  | 6380              | 0.97  |
| 2178                 | 0.88  | 7158              | 1.14  | 1961              | 0.82  | 6061                 | 1.06  | 4575                 | 0.93  | 14075                | 1.18  | 6780              | 0.99  |
| 2298                 | 0.89  | 7558              | 1.15  | 2061              | 0.83  | 6361                 | 1.07  | 4825                 | 0.94  | 15075                | 1.19  | 7180              | 1.00  |
| 2418                 | 0.90  | 8058              | 1.17  | 2181              | 0.85  | 6761                 | 1.09  | 5075                 | 0.95  | 16075                | 1.21  | 7580              | 1.01  |
| 2558                 | 0.92  | 9058              | 1.19  | 2301              | 0.86  | 7161                 | 1.10  | 5375                 | 0.96  |                      |       | 8080              | 1.03  |
| 2708                 | 0.93  | 10058             | 1.22  | 2421              | 0.87  | 7561                 | 1.11  | 5675                 | 0.98  |                      |       | 8580              | 1.04  |
| 2858                 | 0.94  |                   |       | 2561              | 0.88  | 8061                 | 1.13  | 6075                 | 0.99  |                      |       | 9080              | 1.05  |
| 3058                 | 0.95  |                   |       | 2711              | 0.89  | 9061                 | 1.15  | 6375                 | 1.00  |                      |       | 9580              | 1.06  |
| 3208                 | 0.96  |                   |       | 2861              | 0.90  | 10061                | 1.18  | 6775                 | 1.01  |                      |       | 10080             | 1.07  |
| 3608                 | 0.99  |                   |       | 3061              | 0.92  | 11261                | 1.20  | 7175                 | 1.03  |                      |       | 10680             | 1.09  |
| 3808                 | 1.00  |                   |       | 3211              | 0.93  | 12561                | 1.23  | 7575                 | 1.04  |                      |       | 11280             | 1.10  |
| 4058                 | 1.01  |                   |       | 3411              | 0.94  |                      |       | 8075                 | 1.05  |                      |       | 11880             | 1.11  |
| 4308                 | 1.03  |                   |       | 3611              | 0.95  |                      |       | 8575                 | 1.06  |                      |       | 12580             | 1.12  |
| 4558                 | 1.04  |                   |       | 3811              | 0.96  |                      |       | 9075                 | 1.08  |                      |       | 13280             | 1.14  |
| 4808                 | 1.05  |                   |       | 4061              | 0.98  |                      |       | 9575                 | 1.09  |                      |       | 14080             | 1.15  |
|                      |       |                   |       |                   |       |                      |       |                      |       |                      |       | 15080             | 1.17  |
|                      |       |                   |       |                   |       |                      |       |                      |       |                      |       | 16080             | 1.18  |

\*Raw edge, cogged V-belts

# DRIVE CALCULATION

## GUIDELINES FOR SELECTING THE SUITABLE PROFILES FOR V-BELTS AND KRAFTBANDS



By using the following diagrams, the most suitable belt profiles as far as efficiency and size are concerned, can be selected for a specific application. The most efficient power transmission and economy is achieved by selecting as large a pulley diameter as possible for the profile in question. The limits to be observed are the maximum allowed circumferential speed, namely for

high performance wedge belts  $v_{\max} = 55 \text{ m/s}^*$ ;  
for classic V-belts  $v_{\max} = 30 \text{ m/s}$ .

If the circumferential speed is outside this recommendation, please contact our Application Engineering Department.

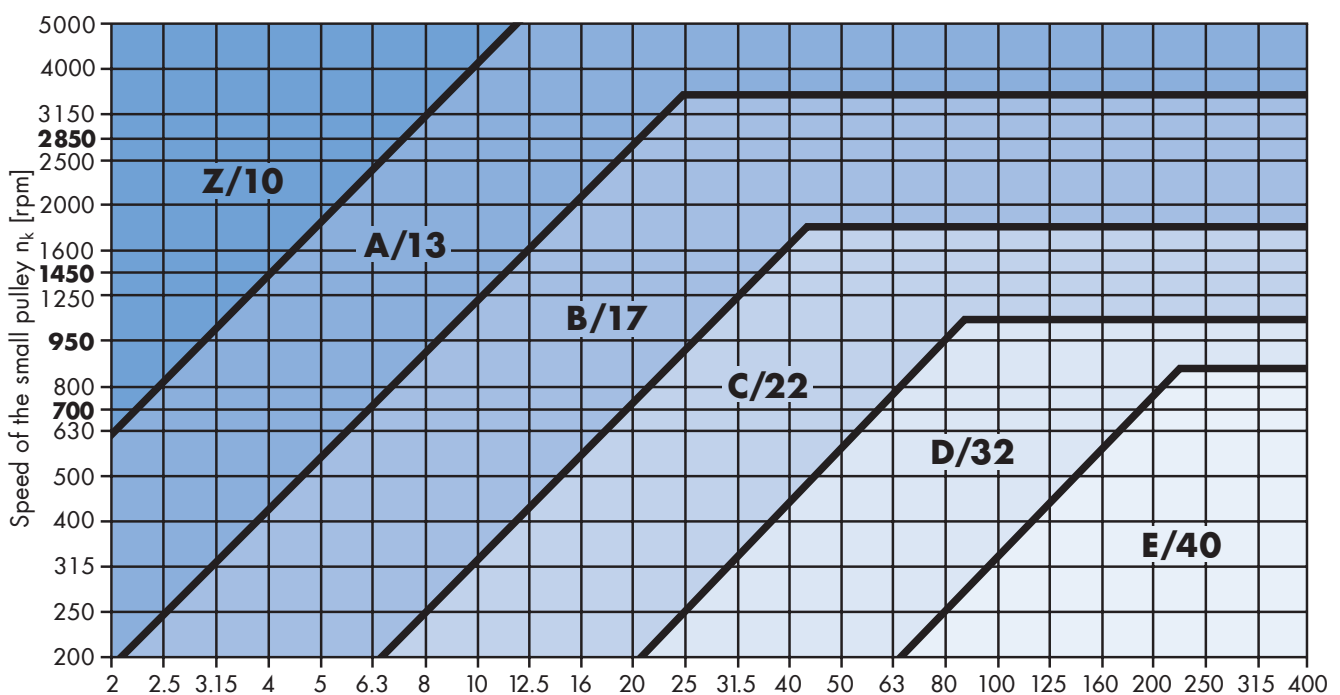
Experience has shown that minimum pulley diameters should be avoided. These drives require a larger number of belts with wider pulleys and are therefore more expensive.

In borderline cases we recommend using the next smaller profile belt for the same pulley diameter, as the smaller profile will often save both cost and space. A further recommended solution is the use of the raw edge optibelt SUPER X-POWER M=S V-belts.

Furthermore, we recommend evaluating if the intersection point in the selection diagram is in the limit values of two profiles.

Comparing space requirement and costs, the high performance wedge belt is usually far superior to classic V-belts in almost all industrial drives. For this reason, new constructions use high performance wedge belts almost exclusively. Only in special cases, for replacement parts, or for V-flat drives or special cases where the application of classic V-belts is obligatory.

**Diagram 1: optibelt VB classic V-belts DIN 2215**



Design power  $P_B = P \cdot c_2$  [kW]

\*  $v > 42 \text{ m/sec}$ . Please consult our Application Engineering Department.



# DRIVE CALCULATION

## GUIDELINES FOR SELECTING THE SUITABLE PROFILES

### FOR V-BELTS AND KRAFTBANDS



Diagram 2: optibelt SK high performance wedge belts DIN 7753 Part 1

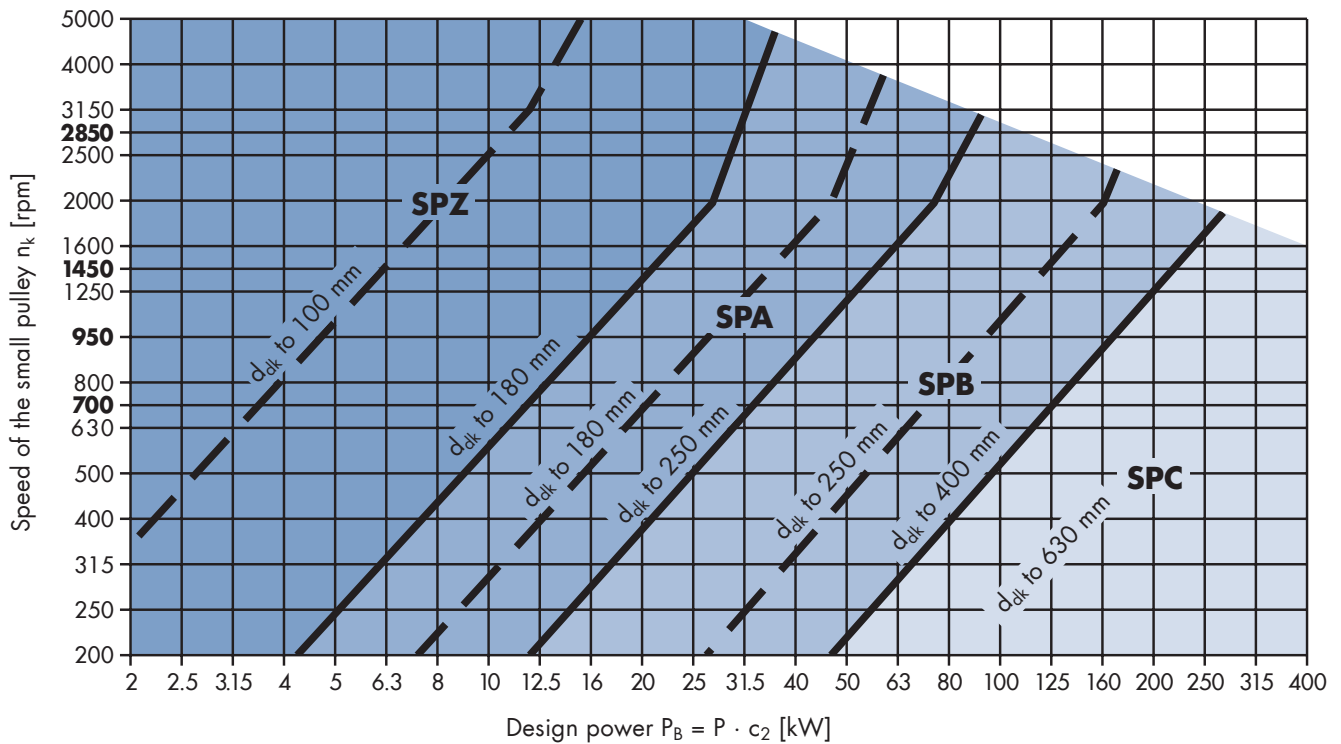
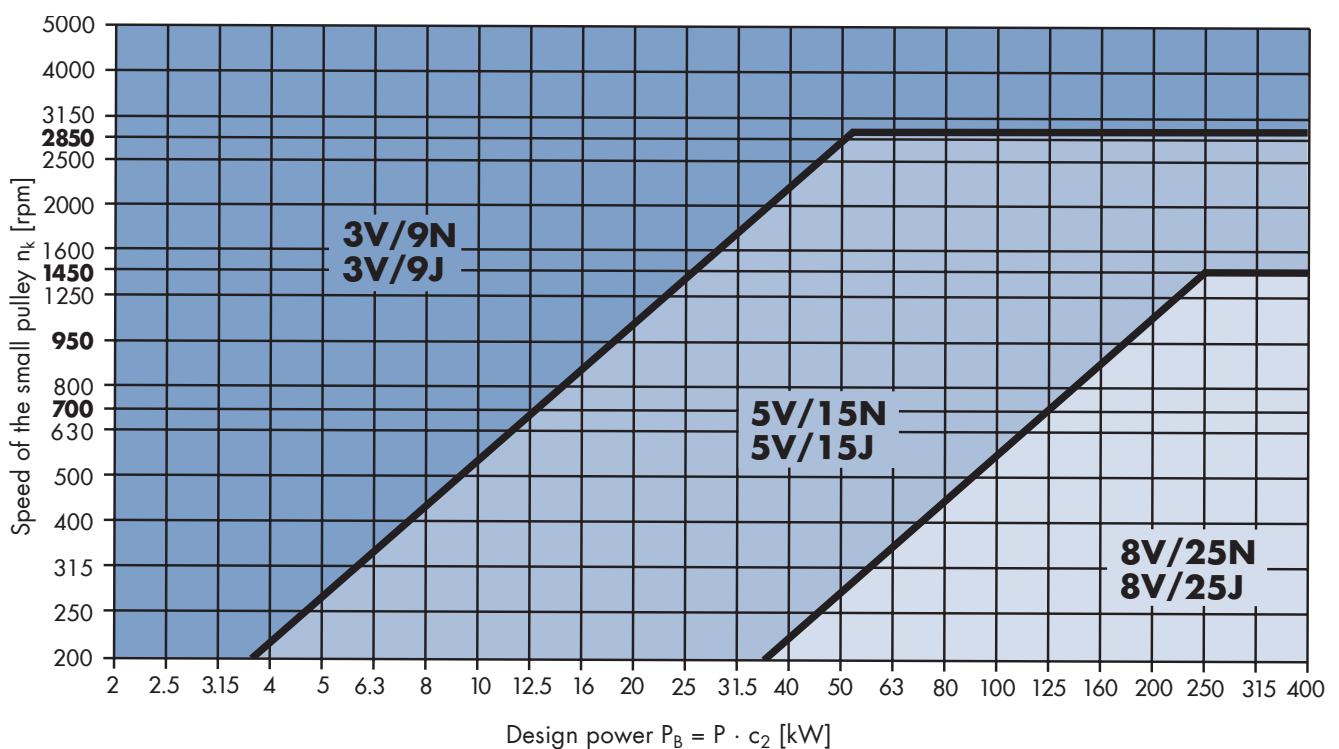


Diagram 3: optibelt SK high performance wedge belts ARPM/MPTA



# DRIVE CALCULATION

## GUIDELINES FOR SELECTING THE SUITABLE PROFILES

### FOR V-BELTS AND KRAFTBANDS



Diagram 4: optibelt SUPER X-POWER M=S wedge belts

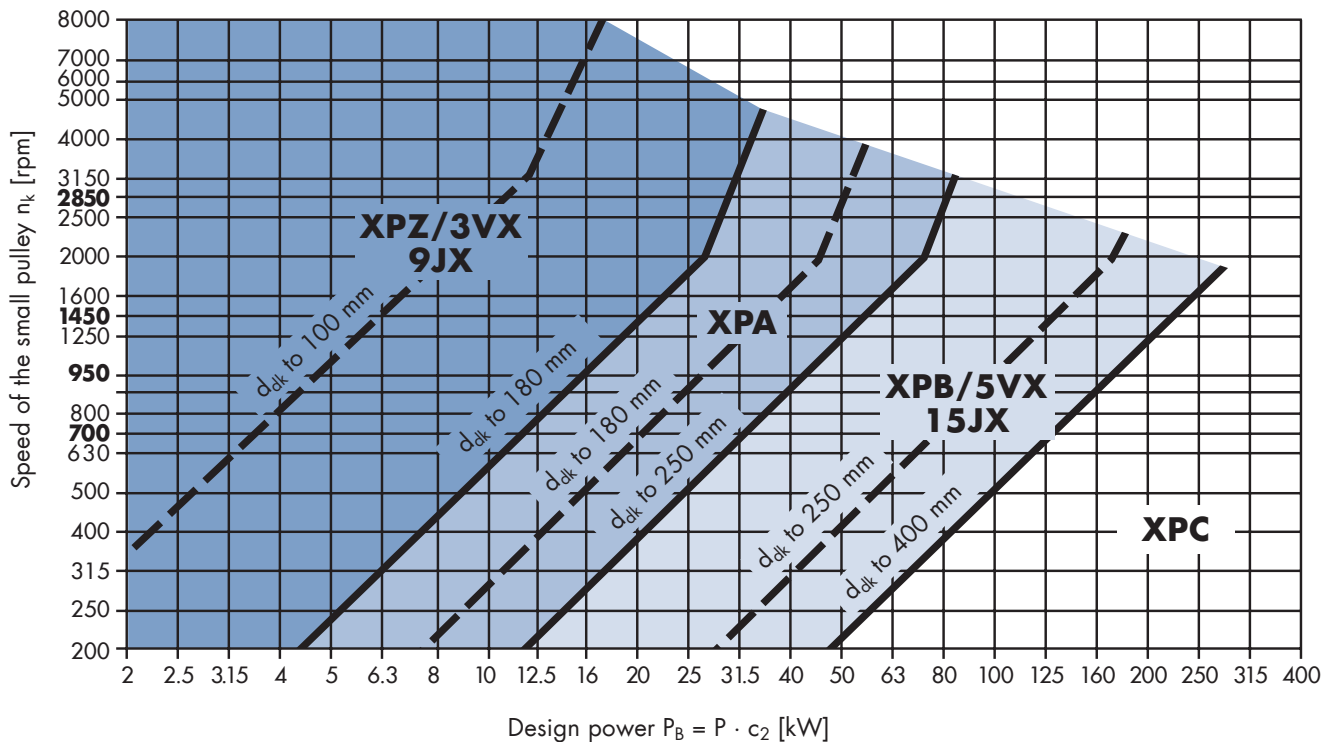
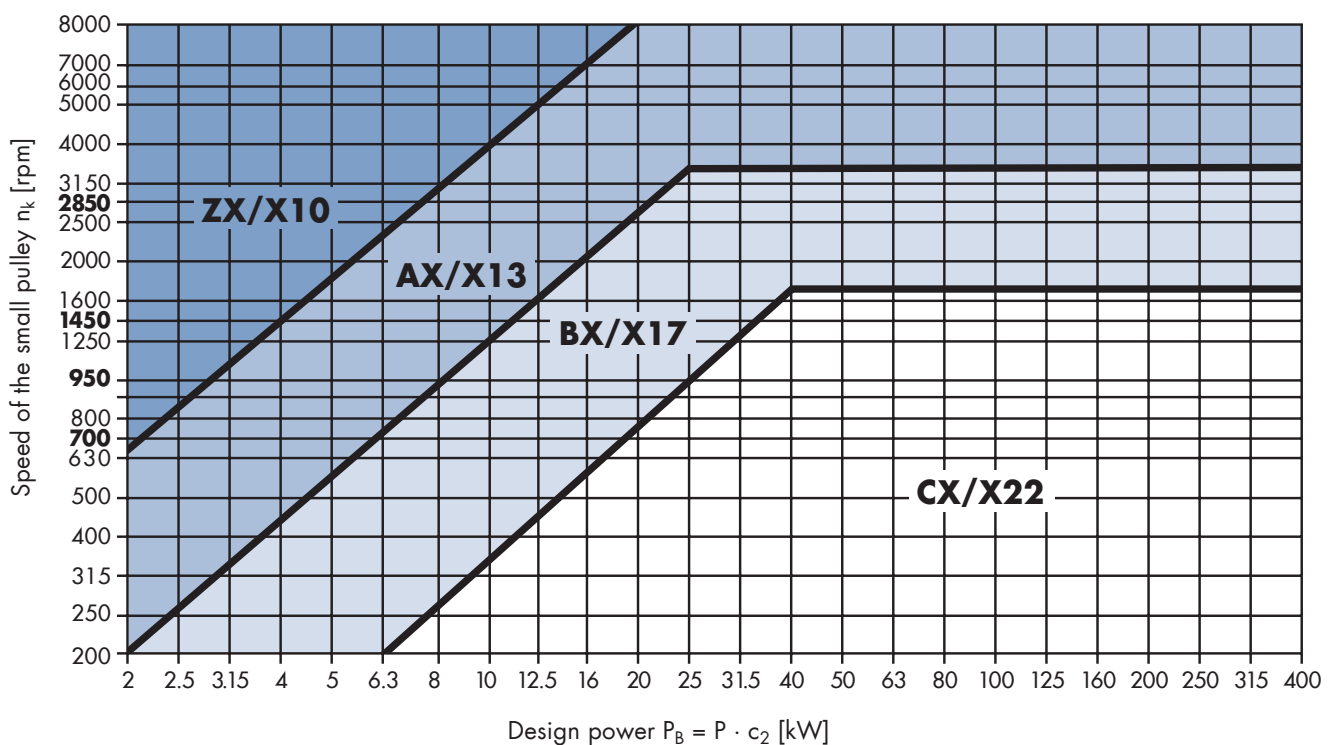


Diagram 5: optibelt SUPER TX M=S V-belts



# DRIVE CALCULATION

## MINIMUM ALLOWANCE X/Y

### FOR ADJUSTING CENTRE DISTANCE $a_{nom}$



Table 27: optibelt SK wedge belts

| Datum length<br>[mm] | Minimum<br>allowance x [mm] –<br>for tensioning | Minimum allowance y [mm] – for easy fitting |          |          |          |
|----------------------|-------------------------------------------------|---------------------------------------------|----------|----------|----------|
|                      |                                                 | SPZ, XPZ                                    | SPA, XPA | SPB, XPB | SPC, XPC |
| 487 ≤ 670            | 10                                              | 10                                          | 10       | —        | —        |
| > 670 ≤ 1 000        | 15                                              | 15                                          | 15       | —        | —        |
| > 1 000 ≤ 1 250      | 20                                              | 15                                          | 15       | —        | —        |
| > 1 250 ≤ 1 800      | 25                                              | 20                                          | 20       | 20       | —        |
| > 1 800 ≤ 2 240      | 25                                              | 20                                          | 20       | 20       | 25       |
| > 2 240 ≤ 3 000      | 35                                              | 20                                          | 20       | 20       | 30       |
| > 3 000 ≤ 4 000      | 45                                              | 20                                          | 20       | 20       | 30       |
| > 4 000 ≤ 5 000      | 55                                              | 20                                          | 20       | 25       | 30       |
| > 5 000 ≤ 6 300      | 70                                              | 25                                          | 25       | 30       | 35       |
| > 6 300 ≤ 8 000      | 85                                              | 25                                          | 25       | 35       | 40       |
| > 8 000 ≤ 10 000     | 110                                             | 30                                          | 30       | 35       | 45       |
| > 10 000 ≤ 12 500    | 135                                             | —                                           | —        | 35       | 45       |
| > 12 500 ≤ 15 000    | 150                                             | —                                           | —        | 45       | 55       |
| > 15 000 ≤ 18 000    | 190                                             | —                                           | —        | 45       | 55       |

Table 28: optibelt SK wedge belts

| Datum length    | Outside length<br>[mm] | Minimum<br>allowance x [mm] –<br>for tensioning | Minimum allowance y [mm] – for easy fitting |                     |        |
|-----------------|------------------------|-------------------------------------------------|---------------------------------------------|---------------------|--------|
|                 |                        |                                                 | 3V/9N.<br>3VX/9NX                           | 5V/15N.<br>5VX/15NX | 8V/25N |
| > 265 ≤ 400     | > 673 ≤ 1 016          | 15                                              | 15                                          | —                   | —      |
| > 400 ≤ 475     | > 1 016 ≤ 1 206        | 20                                              | 15                                          | —                   | —      |
| > 475 ≤ 710     | > 1 206 ≤ 1 803        | 25                                              | 20                                          | 20                  | —      |
| > 710 ≤ 850     | > 1 803 ≤ 2 159        | 25                                              | 20                                          | 20                  | —      |
| > 850 ≤ 1 180   | > 2 159 ≤ 2 997        | 35                                              | 20                                          | 20                  | 40     |
| > 1 180 ≤ 1 600 | > 2 997 ≤ 4 064        | 45                                              | 20                                          | 20                  | 40     |
| > 1 600 ≤ 2 000 | > 4 064 ≤ 5 080        | 55                                              | 20                                          | 25                  | 40     |
| > 2 000 ≤ 2 500 | > 5 080 ≤ 6 350        | 70                                              | —                                           | 30                  | 45     |
| > 2 500 ≤ 3 150 | > 6 350 ≤ 8 001        | 85                                              | —                                           | 35                  | 45     |
| > 3 150 ≤ 4 000 | > 8 001 ≤ 10 160       | 110                                             | —                                           | 35                  | 50     |
| > 4 000 ≤ 5 000 | > 10 160 ≤ 12 700      | 135                                             | —                                           | 35                  | 50     |
| > 5 000 ≤ 6 000 | > 12 700 ≤ 15 240      | 150                                             | —                                           | 45                  | 60     |
| > 6 000 ≤ 7 100 | > 15 240 ≤ 18 034      | 190                                             | —                                           | 45                  | 60     |

# DRIVE CALCULATION

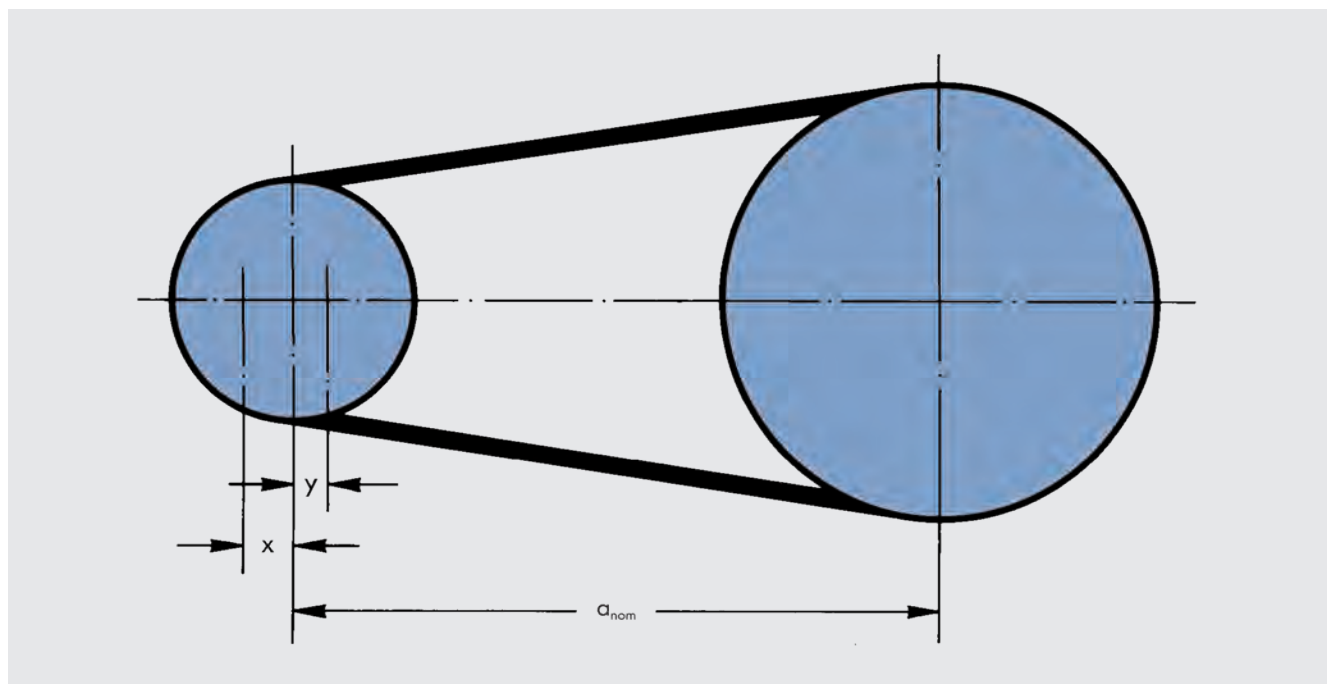
## MINIMUM ALLOWANCE X/Y

### FOR ADJUSTING CENTRE DISTANCE $a_{nom}$



Table 29: optibelt VB classic V-belts

| Datum length<br>[mm] | Minimum<br>allowance x [mm] –<br>for tensioning | Minimum allowance y [mm] – for easy fitting |     |    |                 |                 |                 |    |                 |    |      |      |
|----------------------|-------------------------------------------------|---------------------------------------------|-----|----|-----------------|-----------------|-----------------|----|-----------------|----|------|------|
|                      |                                                 | 5                                           | Y/6 | 8  | Z/10,<br>ZX/X10 | A/13,<br>AX/X13 | B/17,<br>BX/X17 | 20 | C/22,<br>CX/X22 | 25 | D/32 | E/40 |
| ≤ 200                | 5                                               | 10                                          | –   | –  | –               | –               | –               | –  | –               | –  | –    | –    |
| > 200 ≤ 250          | 5                                               | 10                                          | 10  | –  | –               | –               | –               | –  | –               | –  | –    | –    |
| > 250 ≤ 315          | 5                                               | 10                                          | 10  | 10 | 10              | –               | –               | –  | –               | –  | –    | –    |
| > 315 ≤ 670          | 10                                              | –                                           | –   | 10 | 10              | 10              | 10              | –  | –               | –  | –    | –    |
| > 670 ≤ 1000         | 15                                              | –                                           | –   | 10 | 15              | 15              | 15              | –  | –               | –  | –    | –    |
| > 1000 ≤ 1250        | 20                                              | –                                           | –   | 15 | 15              | 15              | 15              | 20 | 20              | –  | –    | –    |
| > 1250 ≤ 1800        | 25                                              | –                                           | –   | 15 | 20              | 20              | 20              | 20 | 25              | 25 | –    | –    |
| > 1800 ≤ 2240        | 25                                              | –                                           | –   | 20 | 20              | 20              | 20              | 25 | 25              | 30 | 35   | –    |
| > 2240 ≤ 3000        | 35                                              | –                                           | –   | –  | 20              | 20              | 20              | 25 | 30              | 30 | 35   | 40   |
| > 3000 ≤ 4000        | 45                                              | –                                           | –   | –  | 20              | 20              | 20              | 25 | 30              | 30 | 35   | 40   |
| > 4000 ≤ 5000        | 55                                              | –                                           | –   | –  | 20              | 20              | 20              | 30 | 30              | 30 | 35   | 40   |
| > 5000 ≤ 6300        | 70                                              | –                                           | –   | –  | –               | 20              | 25              | 35 | 35              | 35 | 40   | 45   |
| > 6300 ≤ 8000        | 85                                              | –                                           | –   | –  | –               | 20              | 25              | 40 | 40              | 40 | 45   | 50   |
| > 8000 ≤ 10000       | 110                                             | –                                           | –   | –  | –               | 25              | 25              | 40 | 45              | 45 | 45   | 50   |
| > 10000 ≤ 12500      | 135                                             | –                                           | –   | –  | –               | –               | 30              | 40 | 45              | 45 | 50   | 55   |
| > 12500 ≤ 15000      | 150                                             | –                                           | –   | –  | –               | –               | 40              | 50 | 55              | 55 | 60   | 65   |
| > 15000 ≤ 18000      | 190                                             | –                                           | –   | –  | –               | –               | 40              | 50 | 55              | 55 | 60   | 65   |



# DRIVE CALCULATION

## MINIMUM ALLOWANCE X/Y

### FOR ADJUSTING CENTRE DISTANCE $a_{nom}$



Table 30: optibelt KB kraftbands with wedge belts

| Datum length    | Outside length [mm] | Minimum allowance x [mm] – for tensioning | Minimum allowance y [mm] – for easy fitting |                  |        |     |
|-----------------|---------------------|-------------------------------------------|---------------------------------------------|------------------|--------|-----|
|                 |                     |                                           | SPZ, 3V/9J                                  | SPA, SPB, 5V/15J | 8V/25J | SPC |
| 475 ≤ 710       | 1 206 ≤ 1 803       | 25                                        | 35                                          | 40               | —      | —   |
| > 710 ≤ 850     | > 1 803 ≤ 2 159     | 25                                        | 35                                          | 40               | —      | —   |
| > 850 ≤ 1 180   | > 2 159 ≤ 2 997     | 35                                        | 35                                          | 40               | 80     | —   |
| > 1 180 ≤ 1 600 | > 2 997 ≤ 4 064     | 45                                        | 35                                          | 40               | 80     | 80  |
| > 1 600 ≤ 2 000 | > 4 064 ≤ 5 080     | 55                                        | 40                                          | 45               | 85     | 85  |
| > 2 000 ≤ 2 500 | > 5 080 ≤ 6 350     | 70                                        | 45                                          | 50               | 85     | 85  |
| > 2 500 ≤ 3 150 | > 6 350 ≤ 8 001     | 85                                        | 50                                          | 55               | 95     | 95  |
| > 3 150 ≤ 4 000 | > 8 001 ≤ 10 160    | 110                                       | 50                                          | 55               | 95     | 95  |
| > 4 000 ≤ 5 000 | > 10 160 ≤ 12 700   | 135                                       | —                                           | 60               | 95     | 95  |
| > 5 000 ≤ 6 000 | > 12 700 ≤ 15 240   | 150                                       | —                                           | 70               | 105    | 105 |
| > 6 000 ≤ 7 100 | > 15 240 ≤ 18 034   | 190                                       | —                                           | 85               | 120    | 120 |

Note: For kraftbands in profiles SPZ, SPA, SPB and SPC please take into account the datum lengths.  
For raw edge kraftbands the same x/y values apply.

Table 31: optibelt KB kraftbands with classic V-belts

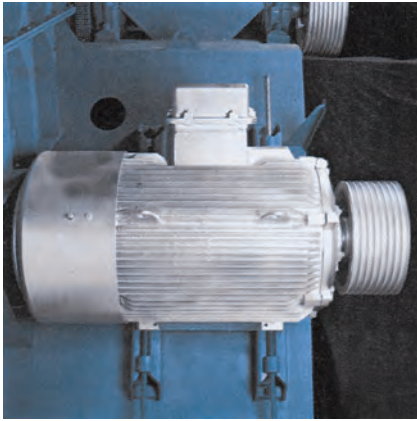
| Length [mm]       | Minimum allowance x [mm] – for tensioning | Minimum allowance y [mm] – for easy fitting |      |      |      |
|-------------------|-------------------------------------------|---------------------------------------------|------|------|------|
|                   |                                           | A/HA                                        | B/HB | C/HC | D/HD |
| 1 200 ≤ 1 800     | 25                                        | 30                                          | 35   | —    | —    |
| > 1 800 ≤ 2 240   | 25                                        | 30                                          | 35   | —    | —    |
| > 2 240 ≤ 3 000   | 35                                        | 30                                          | 35   | 50   | 85   |
| > 3 000 ≤ 4 000   | 45                                        | 30                                          | 35   | 50   | 85   |
| > 4 000 ≤ 5 000   | 55                                        | 30                                          | 40   | 55   | 90   |
| > 5 000 ≤ 6 300   | 70                                        | 35                                          | 45   | 60   | 90   |
| > 6 300 ≤ 8 000   | 85                                        | 45                                          | 55   | 65   | 100  |
| > 8 000 ≤ 10 000  | 110                                       | 45                                          | 55   | 65   | 100  |
| > 10 000 ≤ 12 500 | 135                                       | 50                                          | 60   | 75   | 100  |
| > 12 500 ≤ 15 000 | 150                                       | 60                                          | 70   | 85   | 110  |
| > 15 000 ≤ 18 000 | 190                                       | 70                                          | 85   | 95   | 125  |

# DRIVE CALCULATION

## FORMULAS AND CALCULATION EXAMPLE

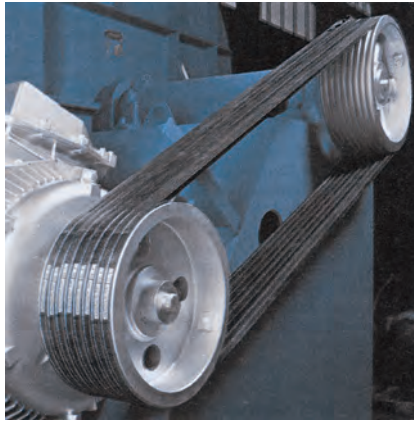


### Drive machine



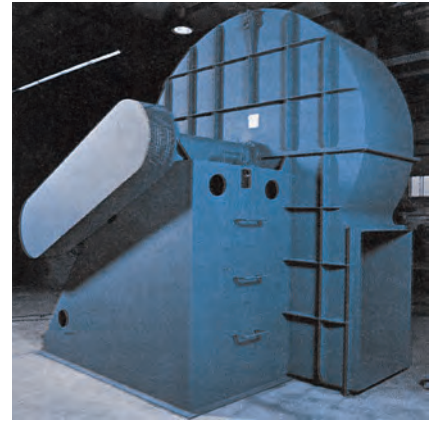
3-phase motor  
 $P = 132 \text{ kW}$   
 $n_1 = 1485 \text{ rpm}$   
 Star delta start  
 Starting torque  $M_A = 0.65 M_N$

### Operating conditions



Daily operation: approx. 18 hours  
 Number of starts: one per day  
 Operating conditions:  
 normal room temperature, no exposure  
 to oil, water or dust  
 Drive centre distance: between  
 1300 and 1500 mm, variable  
 Pulley diameter:  $d_{d1} \leq 300 \text{ mm}$

### Driven machine



Fan  
 $P = 132 \text{ kW}$   
 $n_2 = 825 \pm 15 \text{ rpm}$   
 Start-up: under load  
 Type of loading: continuous

Note: The calculation takes into account the standard specified according to ISO for datum diameter  $d_d$  (formerly pitch diameter  $d_w$ ) and datum length  $L_d$  (formerly pitch length  $L_w$ ).

### Formulas

#### Load factor

$c_2$  from table 23, page 73

#### Design power

$$P_B = P \cdot c_2$$

#### Selection of belt profile

from diagram 2, page 78

#### Speed ratio

$$i = \frac{n_1}{n_2} = \frac{d_{d2}}{d_{d1}}$$

#### Datum diameter of the grooved pulley

$d_{d1}$  selected from table 15, page 50

$$d_{d2} = d_{d1} \cdot i$$

$$d_{d1} = \frac{d_{d2}}{i}$$

### Calculation example

$$c_2 = 1.3$$

$$P_B = 132 \cdot 1.3 = 171.6 \text{ kW}$$

**SPB**

$$i = \frac{1485}{825} = 1.8$$

$d_{d1} = 280 \text{ mm}$  selected

$$d_{d2} = 280 \text{ mm} \cdot 1.8 = 504$$

$d_{d2} = 500 \text{ mm}$  selected from table 15, page 50

# DRIVE CALCULATION

## FORMULAS AND CALCULATION EXAMPLE



### Formulas

#### Verification of driven unit speed

$$i_{\text{vorh}} = \frac{d_{d2}}{d_{d1}}$$

$$n_{2 \text{ vorh}} = \frac{n_1}{i_{\text{vorh}}}$$

#### Drive centre distance (preliminary choice)

recommended:  $a > 0.7 (d_{dg} + d_{dk})$

$a < 2 (d_{dg} + d_{dk})$

#### Datum length of the V-belt

$$L_{dth} \approx 2a + 1.57 (d_{dg} + d_{dk}) + \frac{(d_{dg} - d_{dk})^2}{4a}$$

actual:

$$L_{dth} = 2a \cdot \sin \frac{\beta}{2} + \frac{\pi}{2} (d_{dg} + d_{dk}) + \frac{\alpha \cdot \pi}{180^\circ} (d_{dg} - d_{dk})$$

#### Centre distance

Calculated from  $L_{dSt}$  and  $L_{dth}$

$$(\text{if } L_{dSt} > L_{dth}) a_{\text{nom}} \approx a + \frac{L_{dSt} - L_{dth}}{2}$$

$$(\text{if } L_{dSt} < L_{dth}) a_{\text{nom}} \approx a - \frac{L_{dth} - L_{dSt}}{2}$$

actual:

$$a_{\text{nom}} = \frac{L_{dSt} - \frac{\pi}{2} (d_{dg} + d_{dk})}{4} + \sqrt{\left[ \frac{L_{dSt} - \frac{\pi}{2} (d_{dg} + d_{dk})}{4} \right]^2 - \frac{(d_{dg} - d_{dk})^2}{8}}$$

#### Minimum allowance x/y for adjusting centre distance $a_{\text{nom}}$

x/y from table 28, page 80

#### Speed and flex rate of belt

$$v = \frac{d_{dk} \cdot n_k}{19100} \quad (v_{\text{max}} \approx 55 \text{ m/s})$$

$$f_b = \frac{2 \cdot 1000 \cdot v}{L_{dSt}} \quad (f_{B \text{ max}} \approx 100 \text{ s}^{-1})$$

### Calculation example

$$i_{\text{vorh}} = \frac{500}{280} = 1.79$$

$$n_{2 \text{ vorh}} = \frac{1485}{1.79} = 830 \text{ min}^{-1}$$

required:  
825 ± 15 rpm  
(requirement met)

$a = 1400 \text{ mm}$  selected

$$L_{dth} \approx 2 \cdot 1400 + 1.57 \cdot 780 + \frac{220^2}{4 \cdot 1400} \approx 4033 \text{ mm}$$

next standard length selected from page 27

$L_{dSt} = 4000 \text{ mm}$

$$a_{\text{nom}} \approx 1400 - \frac{4033 - 4000}{2} \approx 1383.5 \text{ mm}$$

$x \geq 45 \text{ mm} / y \geq 20 \text{ mm}$

$$v = \frac{280 \cdot 1485}{19100} = 21.76 \text{ m/s}$$

$$f_b = \frac{2 \cdot 1000 \cdot 21.76}{4000} = 10.88 \text{ s}^{-1}$$



# DRIVE CALCULATION

## FORMULAS AND CALCULATION EXAMPLE



### Formulas

#### Arc of contact and correction factor

$$\frac{d_{dg} - d_{dk}}{a_{nom}}$$

$\beta^\circ$  approximate and  $c_1$  from table 22, page 72

$$\text{actual: } \cos \frac{\beta}{2} = \frac{d_{dg} - d_{dk}}{2 a_{nom}}$$

#### Length factor

$c_3$  from table 24, page 74

#### Nominal power per belt

$$P_N \text{ for } \begin{cases} d_{dk} = 280 \text{ mm} \\ i = 1.79 \\ n_k = 1485 \text{ min}^{-1} \end{cases} \quad \begin{matrix} \text{profile SPB} \\ \text{from table 43, page 98} \end{matrix}$$

#### Number of belts

$$z = \frac{P \cdot c_2}{P_N \cdot c_1 \cdot c_3}$$

### Profile SPB:

#### Minimum static tension per belt

(multiply by factor 1.3 at initial installation)

$$T \approx \frac{500 \cdot (2.04 - c_1) \cdot P_B}{c_1 \cdot z \cdot v} + k \cdot v^2$$

$k$  from diagram 8, page 144

#### Minimum static shaft load

(multiply by factor 1.3 at initial installation)

$$S_a \approx 2 T \cdot \sin \frac{\beta}{2} \cdot z$$

#### Belt deflection

$$E_a \approx \frac{E \cdot L}{100}$$

$E$  from diagram 8, page 144

$$L = a_{nom} \cdot \sin \frac{\beta}{2}$$

### Calculation example

$$\frac{500 - 280}{1383.5} = 0.16$$

$$\left. \begin{matrix} \beta \approx 170^\circ \\ c_1 = 1.0 \end{matrix} \right\} \text{linearly interpolated}$$

$$c_3 = 1.02$$

$$P_N = 20.63 + 1.24 = 21.87 \text{ kW}$$

$$z = \frac{132 \cdot 1.3}{21.87 \cdot 1.0 \cdot 1.02} = 7.69$$

suggested:

**8 optibelt SK high performance wedge belts  
SPB 4000 L<sub>d</sub> S=C Plus**

$$T \approx \frac{500 \cdot (2.04 - 1.0) \cdot 171.6}{1.0 \cdot 8 \cdot 21.76} + 0.19 \cdot 473.5 \approx 593 \text{ N}$$

initial installation:

$$T = 593 \text{ N} \cdot 1.3 = 771 \text{ N}$$

$$S_a \approx 2 \cdot 593 \cdot 0.9962 \cdot 8 \approx 9452 \text{ N}$$

initial installation:

$$S_a = 9452 \text{ N} \cdot 1.3 = 12288 \text{ N}$$

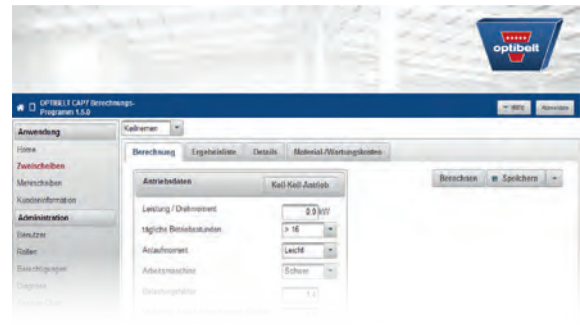
$$E_a \approx \frac{2.7 \cdot 1378}{100} \approx 37 \text{ mm}$$

$$E \approx 2.7 \text{ mm}$$

$$L = 1383.5 \cdot 0.9962 = 1378 \text{ mm}$$

The drive requires:

- 8 pieces optibelt SK wedge belts SPC 6300 L<sub>d</sub> S=C Plus
- optibelt KS V-grooved pulley for taper bushes TB SPC 400-8
- optibelt TB taper bush 4545 (bore diameter 55-110 mm)
- optibelt KS V-grooved pulleys for taper bushes TB SPC 800-8
- optibelt TB taper bush 5050 (bore diameter 70-125 mm)



Deviations/Notes

|                                           |                        |                         |                                  |
|-------------------------------------------|------------------------|-------------------------|----------------------------------|
| <b>Type of driver unit</b>                | :                      | <b>electric motor</b>   |                                  |
| <b>Type of driven unit</b>                | :                      | <b>fans &gt; 7.5 kW</b> |                                  |
| Calculation power                         | PB:                    | 364.00 kW               |                                  |
| <b>Drive power</b>                        | <b>P:</b>              | <b>260.00 kW</b>        |                                  |
| Torque at driver pulley                   | M:                     | 1399 Nm                 |                                  |
| <b>Driver speed</b>                       | <b>n<sub>1</sub>:</b>  | <b>1775 1/min</b>       |                                  |
| <b>Effective driven speed</b>             | <b>n<sub>2</sub>:</b>  | <b>888 1/min</b>        | –1 1/min                         |
| <b>Datum diameter pulley 1</b>            | <b>d<sub>d1</sub>:</b> | <b>400.00 mm</b>        |                                  |
| <b>Datum diameter pulley 2</b>            | <b>d<sub>d2</sub>:</b> | <b>800.00 mm</b>        |                                  |
| Datum length                              | L <sub>d</sub> :       | 6300 mm                 |                                  |
| <b>Actual centres</b>                     | <b>a:</b>              | <b>2198.40 mm</b>       | –1.60 mm                         |
| Actual drive ratio                        | i:                     | 2.00                    | 0.1 %                            |
| Adjustment required for belt installation | y:                     | 35.00 mm                |                                  |
| Adjustment required for belt tensioning   | x:                     | 70.00 mm                |                                  |
| <b>Actual load factor</b>                 | <b>c<sub>2</sub>:</b>  | <b>1.61</b>             |                                  |
| Belt speed                                | v:                     | 37.17 m/s               | Dynamic balancing required       |
| Flex rate                                 | f <sub>B</sub> :       | 11.80 1/s               |                                  |
| Nominal power per belt                    | P <sub>N</sub> :       | 51.84 kW                |                                  |
| Arc of contact factor                     | c <sub>1</sub> :       | 0.99                    |                                  |
| Belt length factor                        | c <sub>3</sub> :       | 1.02                    |                                  |
| Arc of contact on small pulley            | β:                     | 169.60 °                |                                  |
| Pulley face width                         | b <sub>2</sub> :       | 212.50 mm               |                                  |
| Span length                               | <:                     | 2189.30 mm              |                                  |
| <b>Calculated number of belts</b>         | <b>z<sub>th</sub>:</b> | <b>6.94</b>             | for raised c <sub>2</sub> = 1.40 |
| Weight of drive                           |                        | 276.87 kg               |                                  |
| Static shaft load at initial installation | S <sub>ast</sub> :     | 23653 N                 |                                  |
| Static shaft load at re-tensioning        | S <sub>ast</sub> :     | 18195 N                 |                                  |
| Dynamic shaft load                        | S <sub>dyn</sub> :     | 10283 N                 |                                  |

| <b>Tensioning methods</b>                  |                            | <b>Initial installation</b> | <b>Operating tension</b> |
|--------------------------------------------|----------------------------|-----------------------------|--------------------------|
| for raised c <sub>2</sub> = 1.40           |                            | new belts                   | existing belts           |
| 1. optibelt OPTIKRIK II + III              | static tension per V-belt: | 1484 N                      | 1142 N                   |
| 2. Belt deflection with tension gauge      | test load:                 | 125 N                       | 125 N                    |
|                                            | deflection:                | 41 mm                       | 51 mm                    |
| 3. Length addition per 1000 mm belt length | :                          | 5.7 mm                      | 4.3 mm                   |
| 4. Optibelt frequency tension tester       | frequency:                 | 14.3 1/s                    | 12.6 1/s                 |

Regarding liability concerning this drive design we refer to our Terms and Conditions.





# POWER RATINGS

optibelt **RED POWER 3** PROFILE SPB, 5V/15N, 5V/15J

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 3550$  mm



Table 34

| Pulleys                                         | v [m/s] | $n_k$<br>[min <sup>-1</sup> ] | Datum diameter of small pulley $d_{dk}$ [mm] |       |       |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio $i$ |                    |                    |                    |      |  |
|-------------------------------------------------|---------|-------------------------------|----------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------------------------------------|--------------------|--------------------|--------------------|------|--|
|                                                 |         |                               | 140                                          | 150   | 160   | 180   | 200   | 224   | 250   | 280   | 315   | 335   | 355   | 375   | 400                                                   | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 |      |  |
| Statically balanced                             | 5       | 700                           | 4.82                                         | 5.57  | 6.32  | 7.80  | 9.28  | 11.02 | 12.89 | 15.02 | 17.48 | 18.88 | 20.26 | 21.62 | 23.33                                                 | 0.05               | 0.33               | 0.47               | 0.58 |  |
|                                                 |         | 950                           | 6.23                                         | 7.22  | 8.21  | 10.18 | 12.11 | 14.41 | 16.86 | 19.66 | 22.86 | 24.66 | 26.45 | 28.21 | 30.38                                                 | 0.07               | 0.45               | 0.64               | 0.78 |  |
|                                                 |         | 1450                          | 8.80                                         | 10.26 | 11.70 | 14.54 | 17.35 | 20.65 | 24.16 | 28.09 | 32.54 | 35.02 | 37.43 | 39.79 | 42.65                                                 | 0.11               | 0.69               | 0.97               | 1.20 |  |
|                                                 |         | 2850                          | 14.53                                        | 17.05 | 19.54 | 24.35 | 28.93 | 34.12 | 39.34 | 44.76 | 50.24 | 52.93 | 55.26 |       |                                                       | 0.21               | 1.35               | 1.92               | 2.35 |  |
|                                                 |         | 100                           | 0.89                                         | 1.01  | 1.13  | 1.37  | 1.61  | 1.90  | 2.21  | 2.56  | 2.96  | 3.20  | 3.43  | 3.66  | 3.95                                                  | 0.01               | 0.05               | 0.07               | 0.08 |  |
|                                                 |         | 200                           | 1.63                                         | 1.87  | 2.10  | 2.57  | 3.02  | 3.58  | 4.16  | 4.84  | 5.62  | 6.06  | 6.50  | 6.95  | 7.49                                                  | 0.01               | 0.09               | 0.13               | 0.16 |  |
|                                                 |         | 300                           | 2.33                                         | 2.68  | 3.01  | 3.68  | 4.36  | 5.16  | 6.02  | 7.01  | 8.14  | 8.78  | 9.43  | 10.07 | 10.87                                                 | 0.02               | 0.14               | 0.20               | 0.25 |  |
|                                                 |         | 400                           | 2.99                                         | 3.43  | 3.88  | 4.76  | 5.64  | 6.68  | 7.81  | 9.10  | 10.57 | 11.42 | 12.25 | 13.09 | 14.12                                                 | 0.03               | 0.19               | 0.27               | 0.33 |  |
|                                                 |         | 500                           | 3.62                                         | 4.16  | 4.72  | 5.81  | 6.89  | 8.17  | 9.55  | 11.12 | 12.94 | 13.97 | 15.00 | 16.02 | 17.28                                                 | 0.04               | 0.24               | 0.34               | 0.41 |  |
|                                                 |         | 600                           | 4.22                                         | 4.88  | 5.53  | 6.82  | 8.09  | 9.61  | 11.24 | 13.10 | 15.24 | 16.46 | 17.66 | 18.86 | 20.35                                                 | 0.04               | 0.28               | 0.40               | 0.49 |  |
|                                                 |         | 700                           | 4.82                                         | 5.57  | 6.32  | 7.80  | 9.28  | 11.02 | 12.89 | 15.02 | 17.48 | 18.88 | 20.26 | 21.62 | 23.33                                                 | 0.05               | 0.33               | 0.47               | 0.58 |  |
|                                                 |         | 800                           | 5.40                                         | 6.24  | 7.09  | 8.76  | 10.43 | 12.40 | 14.51 | 16.91 | 19.68 | 21.24 | 22.79 | 24.32 | 26.22                                                 | 0.06               | 0.38               | 0.54               | 0.66 |  |
|                                                 |         | 900                           | 5.95                                         | 6.90  | 7.84  | 9.71  | 11.56 | 13.74 | 16.09 | 18.76 | 21.82 | 23.53 | 25.25 | 26.93 | 29.02                                                 | 0.07               | 0.43               | 0.61               | 0.74 |  |
|                                                 |         | 1000                          | 6.50                                         | 7.54  | 8.58  | 10.63 | 12.66 | 15.06 | 17.63 | 20.56 | 23.89 | 25.78 | 27.62 | 29.46 | 31.72                                                 | 0.07               | 0.47               | 0.67               | 0.82 |  |
|                                                 |         | 1100                          | 7.03                                         | 8.17  | 9.30  | 11.53 | 13.74 | 16.36 | 19.14 | 22.31 | 25.92 | 27.95 | 29.94 | 31.91 | 34.33                                                 | 0.08               | 0.52               | 0.74               | 0.91 |  |
|                                                 |         | 1200                          | 7.55                                         | 8.78  | 10.00 | 12.42 | 14.80 | 17.62 | 20.62 | 24.01 | 27.89 | 30.05 | 32.18 | 34.27 | 36.84                                                 | 0.09               | 0.57               | 0.81               | 0.99 |  |
|                                                 |         | 1300                          | 8.06                                         | 9.38  | 10.69 | 13.28 | 15.84 | 18.85 | 22.06 | 25.68 | 29.80 | 32.09 | 34.34 | 36.55 | 39.25                                                 | 0.10               | 0.62               | 0.87               | 1.07 |  |
|                                                 |         | 1400                          | 8.56                                         | 9.97  | 11.36 | 14.14 | 16.85 | 20.06 | 23.47 | 27.30 | 31.64 | 34.06 | 36.42 | 38.74 | 41.54                                                 | 0.10               | 0.66               | 0.94               | 1.15 |  |
|                                                 |         | 1500                          | 9.05                                         | 10.54 | 12.02 | 14.96 | 17.84 | 21.24 | 24.84 | 28.87 | 33.43 | 35.95 | 38.42 | 40.82 | 43.73                                                 | 0.11               | 0.71               | 1.01               | 1.24 |  |
|                                                 |         | 1600                          | 9.52                                         | 11.10 | 12.67 | 15.77 | 18.82 | 22.39 | 26.17 | 30.41 | 35.16 | 37.78 | 40.33 | 42.80 | 45.79                                                 | 0.12               | 0.76               | 1.08               | 1.32 |  |
|                                                 |         | 1700                          | 9.98                                         | 11.65 | 13.31 | 16.57 | 19.76 | 23.52 | 27.47 | 31.88 | 36.82 | 39.52 | 42.14 | 44.69 | 47.74                                                 | 0.12               | 0.81               | 1.14               | 1.40 |  |
|                                                 |         | 1800                          | 10.43                                        | 12.19 | 13.92 | 17.34 | 20.69 | 24.61 | 28.73 | 33.31 | 38.40 | 41.18 | 43.87 | 46.45 | 49.54                                                 | 0.13               | 0.85               | 1.21               | 1.48 |  |
|                                                 |         | 1900                          | 10.87                                        | 12.71 | 14.53 | 18.11 | 21.60 | 25.67 | 29.95 | 34.68 | 39.91 | 42.77 | 45.49 | 48.12 | 51.22                                                 | 0.14               | 0.90               | 1.28               | 1.57 |  |
|                                                 |         | 2000                          | 11.30                                        | 13.22 | 15.12 | 18.84 | 22.48 | 26.70 | 31.13 | 36.00 | 41.36 | 44.26 | 47.02 | 49.66 | 52.74                                                 | 0.15               | 0.95               | 1.34               | 1.65 |  |
|                                                 |         | 2100                          | 11.72                                        | 13.73 | 15.70 | 19.56 | 23.33 | 27.71 | 32.26 | 37.26 | 42.72 | 45.66 | 48.44 | 51.06 | 54.12                                                 | 0.15               | 0.99               | 1.41               | 1.73 |  |
|                                                 |         | 2200                          | 12.13                                        | 14.21 | 16.26 | 20.27 | 24.16 | 28.68 | 33.36 | 38.47 | 44.02 | 46.97 | 49.74 | 52.36 | 55.36                                                 | 0.16               | 1.04               | 1.48               | 1.81 |  |
|                                                 |         | 2300                          | 12.53                                        | 14.69 | 16.80 | 20.95 | 24.97 | 29.60 | 34.40 | 39.61 | 45.22 | 48.17 | 50.94 | 53.51 | 56.41                                                 | 0.17               | 1.09               | 1.55               | 1.90 |  |
|                                                 |         | 2400                          | 12.92                                        | 15.14 | 17.34 | 21.61 | 25.75 | 30.52 | 35.41 | 40.70 | 46.33 | 49.28 | 52.01 | 54.52 | 57.31                                                 | 0.18               | 1.14               | 1.61               | 1.98 |  |
|                                                 |         | 2500                          | 13.30                                        | 15.59 | 17.86 | 22.26 | 26.51 | 31.38 | 36.37 | 41.72 | 47.36 | 50.28 | 52.97 | 55.39 | 58.04                                                 | 0.18               | 1.18               | 1.68               | 2.06 |  |
|                                                 |         | 2600                          | 13.67                                        | 16.03 | 18.35 | 22.88 | 27.23 | 32.21 | 37.27 | 42.67 | 48.31 | 51.18 | 53.78 | 56.11 | 58.60                                                 | 0.19               | 1.23               | 1.75               | 2.14 |  |
|                                                 |         | 2700                          | 14.02                                        | 16.45 | 18.84 | 23.48 | 27.94 | 33.00 | 38.14 | 43.56 | 49.15 | 51.97 | 54.48 | 56.68 |                                                       | 0.20               | 1.28               | 1.82               | 2.23 |  |
|                                                 |         | 2800                          | 14.36                                        | 16.86 | 19.31 | 24.06 | 28.61 | 33.76 | 38.94 | 44.38 | 49.91 | 52.63 | 55.03 | 57.08 |                                                       | 0.21               | 1.33               | 1.88               | 2.31 |  |
|                                                 |         | 2900                          | 14.69                                        | 17.26 | 19.76 | 24.62 | 29.24 | 34.48 | 39.71 | 45.13 | 50.56 | 53.18 | 55.45 |       |                                                       | 0.21               | 1.37               | 1.95               | 2.39 |  |
|                                                 |         | 3000                          | 15.01                                        | 17.63 | 20.20 | 25.15 | 29.86 | 35.15 | 40.40 | 45.80 | 51.11 | 53.62 |       |       |                                                       | 0.22               | 1.42               | 2.02               | 2.47 |  |
|                                                 |         | 3100                          | 15.31                                        | 18.00 | 20.62 | 25.67 | 30.44 | 35.78 | 41.05 | 46.40 | 51.55 | 53.92 |       |       |                                                       | 0.23               | 1.47               | 2.08               | 2.56 |  |
|                                                 |         | 3200                          | 15.61                                        | 18.35 | 21.02 | 26.16 | 31.00 | 36.38 | 41.65 | 46.92 | 51.89 |       |       |       |                                                       | 0.23               | 1.52               | 2.15               | 2.64 |  |
|                                                 |         | 3300                          | 15.89                                        | 18.68 | 21.41 | 26.63 | 31.52 | 36.94 | 42.18 | 47.36 | 52.10 |       |       |       |                                                       | 0.24               | 1.56               | 2.22               | 2.72 |  |
|                                                 |         | 3400                          | 16.16                                        | 19.01 | 21.78 | 27.07 | 32.02 | 37.44 | 42.66 | 47.72 |       |       |       |       |                                                       | 0.25               | 1.61               | 2.29               | 2.80 |  |
|                                                 |         | 3500                          | 16.42                                        | 19.32 | 22.13 | 27.49 | 32.47 | 37.91 | 43.07 | 48.00 |       |       |       |       |                                                       | 0.26               | 1.66               | 2.35               | 2.89 |  |
|                                                 |         | 3600                          | 16.67                                        | 19.61 | 22.46 | 27.89 | 32.90 | 38.33 | 43.43 | 48.18 |       |       |       |       |                                                       | 0.26               | 1.71               | 2.42               | 2.97 |  |
|                                                 |         | 3700                          | 16.90                                        | 19.88 | 22.78 | 28.25 | 33.29 | 38.70 | 43.72 | 48.29 |       |       |       |       |                                                       | 0.27               | 1.75               | 2.49               | 3.05 |  |
|                                                 |         | 3800                          | 17.11                                        | 20.15 | 23.08 | 28.60 | 33.65 | 39.02 | 43.93 |       |       |       |       |       |                                                       | 0.28               | 1.80               | 2.55               | 3.13 |  |
|                                                 |         | 3900                          | 17.32                                        | 20.39 | 23.35 | 28.91 | 33.96 | 39.30 | 44.09 |       |       |       |       |       |                                                       | 0.29               | 1.85               | 2.62               | 3.21 |  |
|                                                 |         | 4000                          | 17.51                                        | 20.62 | 23.60 | 29.20 | 34.25 | 39.53 | 44.17 |       |       |       |       |       |                                                       | 0.29               | 1.89               | 2.69               | 3.30 |  |
|                                                 |         | 4100                          | 17.69                                        | 20.82 | 23.84 | 29.46 | 34.50 | 39.70 | 44.20 |       |       |       |       |       |                                                       | 0.30               | 1.94               | 2.76               | 3.38 |  |
|                                                 |         | 4200                          | 17.84                                        | 21.02 | 24.06 | 29.69 | 34.70 | 39.82 | 44.15 |       |       |       |       |       |                                                       | 0.31               | 1.99               | 2.82               | 3.46 |  |
|                                                 |         | 4300                          | 18.00                                        | 21.19 | 24.25 | 29.89 | 34.87 | 39.89 |       |       |       |       |       |       |                                                       | 0.32               | 2.04               | 2.89               | 3.54 |  |
|                                                 |         | 4400                          | 18.13                                        | 21.35 | 24.42 | 30.07 | 35.00 | 39.90 |       |       |       |       |       |       |                                                       | 0.32               | 2.08               | 2.96               | 3.63 |  |
|                                                 |         | 4500                          | 18.24                                        | 21.49 | 24.58 | 30.22 | 35.10 | 39.86 |       |       |       |       |       |       |                                                       | 0.33               | 2.13               | 3.03               | 3.71 |  |
|                                                 |         | 4600                          | 18.35                                        | 21.61 | 24.71 | 30.34 | 35.15 | 39.77 |       |       |       |       |       |       |                                                       | 0.34               | 2.18               | 3.09               | 3.79 |  |
|                                                 |         | 4700                          | 18.43                                        | 21.72 | 24.82 | 30.42 | 35.16 |       |       |       |       |       |       |       |                                                       | 0.34               | 2.23               | 3.16               | 3.87 |  |
|                                                 |         | 4800                          | 18.50                                        | 21.80 | 24.90 | 30.47 | 35.12 |       |       |       |       |       |       |       |                                                       | 0.35               | 2.27               | 3.23               | 3.96 |  |
|                                                 |         | 4900                          | 18.56                                        | 21.86 | 24.96 | 30.49 | 35.05 |       |       |       |       |       |       |       |                                                       | 0.36               | 2.32               | 3.29               | 4.04 |  |
|                                                 |         | 5000                          | 18.60                                        | 21.91 | 25.01 | 30.48 | 34.93 |       |       |       |       |       |       |       |                                                       | 0.37               | 2.37               | 3.36               | 4.12 |  |
|                                                 |         | 5100                          | 18.62                                        | 21.94 | 25.02 | 30.43 | 34.76 |       |       |       |       |       |       |       |                                                       | 0.37               | 2.42               | 3.43               | 4.20 |  |
|                                                 |         | 5200                          | 18.64                                        | 21.95 | 25.01 | 30.36 | 34.56 |       |       |       |       |       |       |       |                                                       | 0.38               | 2.46               | 3.50               | 4.29 |  |
|                                                 |         | 5300                          | 18.62                                        | 21.94 | 24.98 | 30.24 |       |       |       |       |       |       |       |       |                                                       | 0.39               | 2.51               | 3.56               | 4.37 |  |
|                                                 |         | 5400                          | 18.60                                        | 21.90 | 24.92 | 30.10 |       |       |       |       |       |       |       |       |                                                       | 0.40               | 2.56               | 3.63               | 4.45 |  |
|                                                 |         | 5500                          | 18.55                                        | 21.84 | 24.84 | 29.92 |       |       |       |       |       |       |       |       |                                                       | 0.40               | 2.61               | 3.70               | 4.53 |  |
| Dynamically balanced (for details see DIN 2211) |         |                               |                                              |       |       |       |       |       |       |       |       |       |       |       |                                                       | v [m/s]            |                    |                    |      |  |
|                                                 |         |                               |                                              |       |       |       |       |       |       |       |       |       |       |       |                                                       | Pulleys            |                    |                    |      |  |

$v_{max} \leq 55$  m/s

$v > 42$  m/s.  
Please consult our  
Application Engineering  
Department.

Note: Pulley diameters shown are outside diameters for sections 5V/15N, 5V/15J.



**FOR  $\beta = 180^\circ$  AND  $L_d = 5600$  mm**



### Table 35

| Pulleys             | v [m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Datum diameter of small pulley d <sub>dk</sub> [mm] |       |       |       |       |       |       |       |       |       |       |        | Additional power [kW]<br>per belt for speed ratio i |                    |                    |                    |        |
|---------------------|---------|----------------------------------------|-----------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-----------------------------------------------------|--------------------|--------------------|--------------------|--------|
|                     |         |                                        | 224                                                 | 250   | 280   | 315   | 335   | 355   | 375   | 400   | 450   | 500   | 560   | 630    | 710                                                 | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |
| Statically balanced | 5       | 700                                    | 13.31                                               | 16.61 | 20.38 | 24.71 | 27.17 | 29.59 | 32.00 | 34.99 | 40.87 | 46.63 | 53.38 | 61.01  | 69.38                                               | 0.14               | 0.90               | 1.28               | 1.57   |
|                     |         | 950                                    | 17.08                                               | 21.41 | 26.33 | 31.97 | 35.14 | 38.28 | 41.38 | 45.19 | 52.66 | 59.86 | 68.16 | 77.33  | 87.06                                               | 0.19               | 1.22               | 1.73               | 2.13   |
|                     |         | 1450                                   | 23.68                                               | 29.83 | 36.76 | 44.57 | 48.90 | 53.14 | 57.26 | 62.28 | 71.77 | 80.51 | 89.90 | 99.23  | 107.51                                              | 0.29               | 1.86               | 2.65               | 3.25   |
|                     |         | 2850                                   | 34.84                                               | 43.91 | 53.33 | 62.76 | 67.33 | 71.27 |       |       |       |       |       |        |                                                     | 0.57               | 3.67               | 5.20               | 6.38   |
|                     |         | 50                                     | 1.34                                                | 1.62  | 1.96  | 2.33  | 2.54  | 2.76  | 2.96  | 3.23  | 3.76  | 4.28  | 4.91  | 5.63   | 6.44                                                | 0.01               | 0.06               | 0.09               | 0.11   |
|                     |         | 100                                    | 2.48                                                | 3.02  | 3.65  | 4.37  | 4.78  | 5.18  | 5.59  | 6.11  | 7.12  | 8.11  | 9.30  | 10.68  | 12.24                                               | 0.02               | 0.13               | 0.18               | 0.22   |
|                     |         | 150                                    | 3.55                                                | 4.34  | 5.26  | 6.31  | 6.90  | 7.50  | 8.10  | 8.83  | 10.31 | 11.76 | 13.50 | 15.52  | 17.78                                               | 0.04               | 0.26               | 0.37               | 0.45   |
|                     |         | 200                                    | 4.56                                                | 5.60  | 6.79  | 8.17  | 8.95  | 9.73  | 10.51 | 11.47 | 13.39 | 15.30 | 17.57 | 20.18  | 23.15                                               | 0.06               | 0.39               | 0.55               | 0.67   |
|                     |         | 250                                    | 5.53                                                | 6.82  | 8.28  | 9.98  | 10.94 | 11.90 | 12.85 | 14.05 | 16.40 | 18.74 | 21.53 | 24.73  | 28.36                                               | 0.07               | 0.45               | 0.64               | 0.78   |
|                     |         | 300                                    | 6.48                                                | 8.00  | 9.73  | 11.75 | 12.89 | 14.02 | 15.16 | 16.56 | 19.34 | 22.10 | 25.38 | 29.17  | 33.43                                               | 0.08               | 0.51               | 0.73               | 0.90   |
|                     |         | 350                                    | 7.40                                                | 9.16  | 11.16 | 13.48 | 14.78 | 16.09 | 17.40 | 19.01 | 22.22 | 25.39 | 29.16 | 33.50  | 38.38                                               | 0.09               | 0.58               | 0.82               | 1.01   |
|                     |         | 400                                    | 8.30                                                | 10.28 | 12.54 | 15.17 | 16.64 | 18.12 | 19.60 | 21.42 | 25.04 | 28.62 | 32.86 | 37.73  | 43.20                                               | 0.10               | 0.64               | 0.91               | 1.12   |
|                     |         | 450                                    | 9.18                                                | 11.39 | 13.91 | 16.82 | 18.48 | 20.12 | 21.76 | 23.78 | 27.80 | 31.78 | 36.48 | 41.87  | 47.90                                               | 0.11               | 0.71               | 1.00               | 1.23   |
|                     |         | 500                                    | 10.03                                               | 12.47 | 15.25 | 18.46 | 20.27 | 22.08 | 23.88 | 26.11 | 30.53 | 34.87 | 40.01 | 45.90  | 52.46                                               | 0.12               | 0.77               | 1.10               | 1.34   |
|                     |         | 550                                    | 10.87                                               | 13.54 | 16.56 | 20.06 | 22.04 | 24.01 | 25.97 | 28.39 | 33.19 | 37.91 | 43.48 | 49.84  | 56.90                                               | 0.13               | 0.84               | 1.19               | 1.45   |
|                     |         | 600                                    | 11.70                                               | 14.58 | 17.86 | 21.64 | 23.77 | 25.90 | 28.01 | 30.64 | 35.80 | 40.88 | 46.86 | 53.66  | 61.21                                               | 0.14               | 0.90               | 1.28               | 1.57   |
|                     |         | 650                                    | 12.52                                               | 15.60 | 19.13 | 23.18 | 25.49 | 27.77 | 30.02 | 32.83 | 38.36 | 43.79 | 50.16 | 57.38  | 65.38                                               | 0.15               | 0.96               | 1.37               | 1.68   |
|                     |         | 700                                    | 13.31                                               | 16.61 | 20.38 | 24.71 | 27.17 | 29.59 | 32.00 | 34.99 | 40.87 | 46.63 | 53.38 | 61.01  | 69.38                                               | 0.16               | 1.03               | 1.46               | 1.79   |
|                     |         | 750                                    | 14.09                                               | 17.60 | 21.60 | 26.21 | 28.81 | 31.39 | 33.95 | 37.12 | 43.33 | 49.42 | 56.51 | 64.51  | 73.25                                               | 0.17               | 1.09               | 1.55               | 1.90   |
|                     |         | 800                                    | 14.86                                               | 18.58 | 22.81 | 27.68 | 30.43 | 33.16 | 35.86 | 39.19 | 45.74 | 52.13 | 59.56 | 67.90  | 76.96                                               | 0.18               | 1.16               | 1.64               | 2.01   |
|                     |         | 850                                    | 15.61                                               | 19.54 | 24.01 | 29.14 | 32.03 | 34.90 | 37.73 | 41.23 | 48.11 | 54.78 | 62.52 | 71.16  | 80.50                                               | 0.19               | 1.22               | 1.73               | 2.13   |
|                     |         | 900                                    | 16.36                                               | 20.48 | 25.18 | 30.56 | 33.60 | 36.60 | 39.58 | 43.24 | 50.40 | 57.36 | 65.39 | 74.30  | 83.87                                               | 0.20               | 1.29               | 1.83               | 2.24   |
|                     |         | 950                                    | 17.08                                               | 21.41 | 26.33 | 31.97 | 35.14 | 38.28 | 41.38 | 45.19 | 52.66 | 59.86 | 68.16 | 77.33  | 87.06                                               | 0.21               | 1.35               | 1.92               | 2.35   |
|                     |         | 1000                                   | 17.80                                               | 22.32 | 27.46 | 33.35 | 36.65 | 39.91 | 43.14 | 47.11 | 54.84 | 62.29 | 70.84 | 80.20  | 90.00                                               | 0.22               | 1.41               | 2.01               | 2.46   |
|                     |         | 1050                                   | 18.49                                               | 23.22 | 28.57 | 34.69 | 38.14 | 41.52 | 44.87 | 48.98 | 56.98 | 64.66 | 73.40 | 82.94  | 92.88                                               | 0.23               | 1.48               | 2.10               | 2.57   |
|                     |         | 1100                                   | 19.19                                               | 24.10 | 29.66 | 36.02 | 39.59 | 43.10 | 46.56 | 50.81 | 59.05 | 66.92 | 75.86 | 85.54  | 95.48                                               | 0.24               | 1.54               | 2.19               | 2.69   |
|                     |         | 1150                                   | 19.87                                               | 24.97 | 30.74 | 37.32 | 41.00 | 44.64 | 48.22 | 52.60 | 61.07 | 69.13 | 78.23 | 87.98  | 97.88                                               | 0.25               | 1.61               | 2.28               | 2.80   |
|                     |         | 1200                                   | 20.53                                               | 25.81 | 31.79 | 38.60 | 42.41 | 46.14 | 49.82 | 54.32 | 63.01 | 71.24 | 80.47 | 90.28  | 100.08                                              | 0.26               | 1.67               | 2.37               | 2.91   |
|                     |         | 1250                                   | 21.18                                               | 26.65 | 32.83 | 39.85 | 43.76 | 47.62 | 51.40 | 56.02 | 64.90 | 73.27 | 82.61 | 92.41  | 102.04                                              | 0.27               | 1.74               | 2.46               | 3.02   |
|                     |         | 1300                                   | 21.83                                               | 27.47 | 33.84 | 41.06 | 45.10 | 49.06 | 52.93 | 57.66 | 66.72 | 75.23 | 84.62 | 94.37  | 103.78                                              | 0.28               | 1.80               | 2.56               | 3.13   |
|                     |         | 1350                                   | 22.45                                               | 28.27 | 34.84 | 42.26 | 46.40 | 50.45 | 54.42 | 59.24 | 68.47 | 77.08 | 86.51 | 96.17  | 105.26                                              | 0.29               | 1.86               | 2.65               | 3.25   |
|                     |         | 1400                                   | 23.06                                               | 29.06 | 35.81 | 43.43 | 47.66 | 51.82 | 55.86 | 60.79 | 70.16 | 78.84 | 88.27 | 97.79  | 106.51                                              | 0.30               | 1.93               | 2.74               | 3.36   |
|                     |         | 1450                                   | 23.68                                               | 29.83 | 36.76 | 44.57 | 48.90 | 53.14 | 57.26 | 62.28 | 71.77 | 80.51 | 89.90 | 99.23  | 107.51                                              | 0.31               | 1.99               | 2.83               | 3.47   |
|                     |         | 1500                                   | 24.26                                               | 30.59 | 37.68 | 45.68 | 50.10 | 54.42 | 58.62 | 63.71 | 73.31 | 82.08 | 91.40 | 100.49 |                                                     | 0.32               | 2.06               | 2.92               | 3.58   |
|                     |         | 1550                                   | 24.84                                               | 31.32 | 38.59 | 46.76 | 51.28 | 55.67 | 59.94 | 65.10 | 74.77 | 83.54 | 92.77 | 101.54 |                                                     | 0.33               | 2.12               | 3.01               | 3.69   |
|                     |         | 1600                                   | 25.40                                               | 32.05 | 39.48 | 47.81 | 52.40 | 56.87 | 61.20 | 66.42 | 76.16 | 84.92 | 94.00 | 102.41 |                                                     | 0.34               | 2.19               | 3.10               | 3.80   |
|                     |         | 1650                                   | 25.96                                               | 32.75 | 40.34 | 48.84 | 53.51 | 58.03 | 62.42 | 67.69 | 77.47 | 86.18 | 95.06 | 103.08 |                                                     | 0.35               | 2.25               | 3.19               | 3.92   |
|                     |         | 1700                                   | 26.50                                               | 33.43 | 41.18 | 49.82 | 54.56 | 59.16 | 63.59 | 68.90 | 78.71 | 87.34 | 96.00 |        |                                                     | 0.36               | 2.31               | 3.29               | 4.03   |
|                     |         | 1750                                   | 27.01                                               | 34.10 | 42.00 | 50.78 | 55.60 | 60.24 | 64.72 | 70.06 | 79.85 | 88.38 | 96.77 |        |                                                     | 0.37               | 2.38               | 3.38               | 4.14   |
|                     |         | 1800                                   | 27.53                                               | 34.76 | 42.79 | 51.71 | 56.58 | 61.27 | 65.78 | 71.15 | 80.92 | 89.32 | 97.39 |        |                                                     | 0.38               | 2.44               | 3.47               | 4.25   |
| 1850                | 28.02   | 35.40                                  | 43.56                                               | 52.61 | 57.53 | 62.27 | 66.79 | 72.17 | 81.90 | 90.13 | 97.85 |       |       | 0.39   | 2.51                                                | 3.56               | 4.36               |                    |        |
| 1900                | 28.51   | 36.01                                  | 44.30                                               | 53.47 | 58.44 | 63.20 | 67.76 | 73.14 | 82.79 | 90.83 |       |       |       | 0.40   | 2.57                                                | 3.65               | 4.48               |                    |        |
| 1950                | 28.98   | 36.61                                  | 45.02                                               | 54.30 | 59.32 | 64.10 | 68.68 | 74.04 | 83.58 | 91.40 |       |       |       | 0.41   | 2.64                                                | 3.74               | 4.59               |                    |        |
| 2000                | 29.44   | 37.19                                  | 45.73                                               | 55.09 | 60.14 | 64.96 | 69.53 | 74.88 | 84.29 | 91.85 |       |       |       | 0.42   | 2.70                                                | 3.83               | 4.70               |                    |        |
| 2050                | 29.88   | 37.75                                  | 46.39                                               | 55.86 | 60.94 | 65.76 | 70.32 | 75.65 | 84.90 | 92.17 |       |       |       | 0.43   | 2.77                                                | 3.92               | 4.81               |                    |        |
| 2100                | 30.30   | 38.29                                  | 47.04                                               | 56.58 | 61.68 | 66.52 | 71.06 | 76.34 | 85.43 | 92.38 |       |       |       | 0.44   | 2.83                                                | 4.02               | 4.92               |                    |        |
| 2150                | 30.72   | 38.81                                  | 47.66                                               | 57.26 | 62.39 | 67.21 | 71.75 | 76.97 | 85.85 |       |       |       |       | 0.45   | 2.89                                                | 4.11               | 5.04               |                    |        |
| 2200                | 31.12   | 39.31                                  | 48.25                                               | 57.92 | 63.05 | 67.87 | 72.37 | 77.53 | 86.16 |       |       |       |       | 0.46   | 2.96                                                | 4.20               | 5.15               |                    |        |
| 2250                | 31.50   | 39.79                                  | 48.82                                               | 58.54 | 63.66 | 68.47 | 72.94 | 78.01 | 86.38 |       |       |       |       | 0.47   | 3.02                                                | 4.29               | 5.26               |                    |        |
| 2300                | 31.86   | 40.26                                  | 49.36                                               | 59.11 | 64.24 | 69.02 | 73.44 | 78.43 |       |       |       |       |       | 0.48   | 3.09                                                | 4.38               | 5.37               |                    |        |
| 2350                | 32.21   | 40.70                                  | 49.87                                               | 59.65 | 64.76 | 69.52 | 73.87 | 78.76 |       |       |       |       |       | 0.49   | 3.15                                                | 4.47               | 5.48               |                    |        |
| 2400                | 32.54   | 41.12                                  | 50.35                                               | 60.14 | 65.24 | 69.95 | 74.24 | 79.02 |       |       |       |       |       | 0.50   | 3.22                                                | 4.56               | 5.60               |                    |        |
| 2450                | 32.87   | 41.52                                  | 50.80                                               | 60.61 | 65.68 | 70.33 | 74.56 | 79.20 |       |       |       |       |       | 0.51   | 3.28                                                | 4.66               | 5.71               |                    |        |
| 2500                | 33.17   | 41.89                                  | 51.23                                               | 61.02 | 66.06 | 70.66 | 74.80 | 79.30 |       |       |       |       |       | 0.52   | 3.34                                                | 4.75               | 5.82               |                    |        |
| 2550                | 33.46   | 42.25                                  | 51.61                                               | 61.40 | 66.40 | 70.93 | 74.98 | 79.32 |       |       |       |       |       | 0.53   | 3.41                                                | 4.84               | 5.93               |                    |        |
| 2600                | 33.73   | 42.59                                  | 51.98                                               | 61.74 | 66.68 | 71.14 | 75.08 | 79.26 |       |       |       |       |       | 0.54   | 3.47                                                | 4.93               | 6.04               |                    |        |
| 2650                | 33.98   | 42.90                                  | 52.31                                               | 62.03 | 66.91 | 71.29 | 75.12 |       |       |       |       |       |       | 0.55   | 3.54                                                | 5.02               | 6.16               |                    |        |
| 2700                | 34.22   | 43.19                                  | 52.62                                               | 62.28 | 67.10 | 71.38 | 75.08 |       |       |       |       |       |       | 0.56   | 3.60                                                | 5.11               | 6.27               |                    |        |
| 2750                | 34.44   | 43.45                                  | 52.88                                               | 62.48 | 67.24 | 71.40 | 74.98 |       |       |       |       |       |       | 0.57   | 3.67                                                | 5.20               | 6.38               |                    |        |
| 2800                | 34.64   | 43.69                                  | 53.12                                               | 62.64 | 67.31 | 71.36 |       |       |       |       |       |       |       | 0.58   | 3.73                                                | 5.29               | 6.49               |                    |        |
| 2850                | 34.84   | 43.91                                  | 53.33                                               | 62.76 | 67.33 | 71.27 | 74.80 |       |       |       |       |       |       | 0.59   | 3.79                                                | 5.39               | 6.60               |                    |        |
| 2900                | 35.00   | 44.10                                  | 53.51                                               | 62.83 | 67.30 | 71.11 |       |       |       |       |       |       |       | 0.60   | 3.86                                                | 5.48               | 6.71               |                    |        |
| 2950                | 35.15   | 44.28                                  | 53.64                                               | 62.86 | 67.21 | 70.88 |       |       |       |       |       |       |       | 0.61   | 3.92                                                | 5.57               | 6.83               |                    |        |
| 3000                | 35.28   | 44.42                                  | 53.75                                               | 62.83 | 67.07 |       |       |       |       |       |       |       |       | 0.62   | 3.99                                                | 5.66               | 6.94               |                    |        |
| 3050                | 35.40   | 44.54                                  | 53.82                                               | 62.76 | 66.88 |       |       |       |       |       |       |       |       | 0.63   | 4.05                                                | 5.75               | 7.05               |                    |        |
| 3100                | 35.50   | 44.64                                  | 53.86                                               | 62.64 | 66.61 |       |       |       |       |       |       |       |       | 0.64   | 4.12                                                | 5.84               | 7.16               |                    |        |
| 3150                | 35.57   | 44.70                                  | 53.86                                               | 62.46 |       |       |       |       |       |       |       |       |       | 0.65   | 4.18                                                | 5.93               | 7.27               |                    |        |
| 3200                | 35.63   | 44.75                                  | 53.82                                               | 62.24 |       |       |       |       |       |       |       |       |       | 0.66   | 4.24                                                | 6.02               | 7.39               |                    |        |
| 3250                | 35.66   | 44.77                                  | 53.75                                               | 61.97 |       |       |       |       |       |       |       |       |       | 0.67   | 4.31                                                | 6.12               | 7.50               |                    |        |
| 3300                | 35.68   | 44.76                                  | 53.64                                               | 61.66 |       |       |       |       |       |       |       |       |       | 0.68   | 4.37                                                | 6.21               | 7.61               |                    |        |
| 3350                | 35.68   | 44.72                                  | 53.50                                               |       |       |       |       |       |       |       |       |       |       | 0.69   | 4.44                                                | 6.30               | 7.72               |                    |        |
| 3400                | 35.65   | 44.65                                  | 53.32                                               |       |       |       |       |       |       |       |       |       |       | 0.70   | 4.50                                                | 6.39               | 7.83               |                    |        |
| 3450                | 35.62   | 44.57                                  | 53.10                                               |       |       |       |       |       |       |       |       |       |       |        |                                                     |                    |                    |                    |        |
| 3500                | 35.56   | 44.45                                  | 52.84                                               |       |       |       |       |       |       |       |       |       |       |        |                                                     |                    |                    |                    |        |
|                     |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |        |                                                     |                    |                    |                    |        |
|                     |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |        |                                                     |                    |                    |                    |        |
|                     |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |        |                                                     |                    |                    |                    |        |
|                     |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |        |                                                     |                    |                    |                    |        |

# POWER RATINGS

optibelt **RED POWER 3** PROFILE 8V/25N, 8V/25J

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND 8V 2500/6350 mm  $L_d$



Table 36

| Pulleys                                                                     | v [m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Outside diameter of small pulley d <sub>ak</sub> [mm] |       |       |       |       |       |       |       |        |        |        |        | Additional power [kW]<br>per belt for speed ratio i |                    |                    |                    |       |
|-----------------------------------------------------------------------------|---------|----------------------------------------|-------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|-----------------------------------------------------|--------------------|--------------------|--------------------|-------|
|                                                                             |         |                                        | 335                                                   | 355   | 375   | 425   | 450   | 475   | 500   | 530   | 560    | 600    | 630    | 710    | 800                                                 | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 |       |
| Statically balanced                                                         | 5       | 700                                    | 33.85                                                 | 37.57 | 41.26 | 50.27 | 54.67 | 59.00 | 63.26 | 68.28 | 73.18  | 79.54  | 84.17  | 95.89  | 107.94                                              | 0.28               | 1.83               | 2.60               | 3.18  |
|                                                                             |         | 950                                    | 42.72                                                 | 47.41 | 52.01 | 63.12 | 68.45 | 73.63 | 78.65 | 84.44 | 89.99  | 96.97  | 101.89 | 113.58 | 124.01                                              | 0.38               | 2.48               | 3.52               | 4.32  |
|                                                                             |         | 1450                                   | 55.34                                                 | 61.15 | 66.68 | 79.30 | 84.90 | 90.01 | 94.58 | 99.36 | 103.31 | 107.21 | 109.06 |        |                                                     | 0.59               | 3.79               | 5.38               | 6.60  |
|                                                                             |         | 50                                     | 3.36                                                  | 3.70  | 4.03  | 4.85  | 5.27  | 5.68  | 6.08  | 6.56  | 7.06   | 7.70   | 8.18   | 9.46   | 10.88                                               | 0.02               | 0.13               | 0.19               | 0.23  |
|                                                                             |         | 100                                    | 6.28                                                  | 6.91  | 7.55  | 9.12  | 9.91  | 10.69 | 11.47 | 12.41 | 13.33  | 14.57  | 15.49  | 17.94  | 20.66                                               | 0.04               | 0.26               | 0.37               | 0.45  |
|                                                                             |         | 150                                    | 9.00                                                  | 9.94  | 10.86 | 13.18 | 14.32 | 15.46 | 16.60 | 17.95 | 19.31  | 21.11  | 22.45  | 26.00  | 29.95                                               | 0.06               | 0.39               | 0.56               | 0.68  |
|                                                                             |         | 200                                    | 11.62                                                 | 12.83 | 14.04 | 17.06 | 18.55 | 20.04 | 21.53 | 23.30 | 25.07  | 27.40  | 29.15  | 33.76  | 38.88                                               | 0.08               | 0.52               | 0.74               | 0.91  |
|                                                                             |         | 250                                    | 14.14                                                 | 15.64 | 17.12 | 20.82 | 22.66 | 24.48 | 26.30 | 28.48 | 30.64  | 33.49  | 35.62  | 41.24  | 47.47                                               | 0.10               | 0.65               | 0.93               | 1.14  |
|                                                                             |         | 300                                    | 16.57                                                 | 18.35 | 20.11 | 24.48 | 26.64 | 28.80 | 30.94 | 33.49 | 36.02  | 39.38  | 41.88  | 48.47  | 55.73                                               | 0.12               | 0.78               | 1.11               | 1.36  |
|                                                                             |         | 350                                    | 18.95                                                 | 20.99 | 23.00 | 28.03 | 30.52 | 32.99 | 35.44 | 38.36 | 41.27  | 45.10  | 47.95  | 55.43  | 63.65                                               | 0.14               | 0.91               | 1.30               | 1.59  |
|                                                                             | 10      | 400                                    | 21.25                                                 | 23.56 | 25.84 | 31.49 | 34.28 | 37.06 | 39.82 | 43.09 | 46.34  | 50.63  | 53.81  | 62.12  | 71.22                                               | 0.16               | 1.05               | 1.48               | 1.82  |
|                                                                             |         | 450                                    | 23.50                                                 | 26.05 | 28.58 | 34.85 | 37.94 | 41.02 | 44.06 | 47.68 | 51.25  | 55.97  | 59.45  | 68.54  | 78.42                                               | 0.18               | 1.18               | 1.67               | 2.05  |
|                                                                             |         | 500                                    | 25.68                                                 | 28.49 | 31.26 | 38.12 | 41.51 | 44.86 | 48.17 | 52.12 | 55.99  | 61.10  | 64.87  | 74.68  | 85.22                                               | 0.20               | 1.31               | 1.86               | 2.27  |
|                                                                             |         | 550                                    | 27.82                                                 | 30.85 | 33.88 | 41.30 | 44.96 | 48.58 | 52.15 | 56.39 | 60.58  | 66.05  | 70.07  | 80.48  | 91.61                                               | 0.22               | 1.44               | 2.04               | 2.50  |
|                                                                             |         | 600                                    | 29.88                                                 | 33.16 | 36.41 | 44.39 | 48.31 | 52.18 | 56.00 | 60.52 | 64.97  | 70.76  | 75.02  | 85.98  | 97.54                                               | 0.24               | 1.57               | 2.23               | 2.73  |
|                                                                             | 15      | 650                                    | 31.90                                                 | 35.40 | 38.87 | 47.38 | 51.55 | 55.66 | 59.71 | 64.49 | 69.17  | 75.28  | 79.73  | 91.12  | 103.00                                              | 0.26               | 1.70               | 2.41               | 2.96  |
|                                                                             |         | 700                                    | 33.85                                                 | 37.57 | 41.26 | 50.27 | 54.67 | 59.00 | 63.26 | 68.28 | 73.18  | 79.54  | 84.17  | 95.89  | 107.94                                              | 0.28               | 1.83               | 2.60               | 3.18  |
|                                                                             |         | 750                                    | 35.75                                                 | 39.68 | 43.56 | 53.05 | 57.67 | 62.22 | 66.67 | 71.89 | 76.99  | 83.57  | 88.33  | 100.28 | 112.34                                              | 0.30               | 1.96               | 2.78               | 3.41  |
|                                                                             |         | 800                                    | 37.58                                                 | 41.72 | 45.79 | 55.74 | 60.56 | 65.29 | 69.91 | 75.32 | 80.58  | 87.34  | 92.20  | 104.27 | 116.20                                              | 0.32               | 2.09               | 2.97               | 3.64  |
|                                                                             |         | 850                                    | 39.36                                                 | 43.69 | 47.95 | 58.31 | 63.32 | 68.22 | 73.00 | 78.56 | 83.95  | 90.83  | 95.75  | 107.83 | 119.44                                              | 0.34               | 2.22               | 3.15               | 3.87  |
|                                                                             | 20      | 900                                    | 41.08                                                 | 45.59 | 50.03 | 60.77 | 65.95 | 71.00 | 75.91 | 81.61 | 87.10  | 94.04  | 98.99  | 110.94 | 122.05                                              | 0.36               | 2.35               | 3.34               | 4.09  |
|                                                                             |         | 950                                    | 42.72                                                 | 47.41 | 52.01 | 63.12 | 68.45 | 73.63 | 78.65 | 84.44 | 89.99  | 96.97  | 101.89 | 113.58 | 124.01                                              | 0.38               | 2.48               | 3.52               | 4.32  |
|                                                                             |         | 1000                                   | 44.30                                                 | 49.16 | 53.92 | 65.35 | 70.81 | 76.09 | 81.19 | 87.06 | 92.63  | 99.59  | 104.45 | 115.72 | 125.27                                              | 0.40               | 2.61               | 3.71               | 4.55  |
|                                                                             |         | 1050                                   | 45.83                                                 | 50.83 | 55.73 | 67.45 | 73.02 | 78.38 | 83.54 | 89.45 | 95.02  | 101.89 | 106.63 | 117.35 | 125.80                                              | 0.42               | 2.74               | 3.90               | 4.78  |
|                                                                             |         | 1100                                   | 47.28                                                 | 52.43 | 57.44 | 69.42 | 75.08 | 80.52 | 85.70 | 91.60 | 97.12  | 103.86 | 108.43 | 118.44 | 125.57                                              | 0.44               | 2.88               | 4.08               | 5.00  |
|                                                                             | 25      | 1150                                   | 48.66                                                 | 53.94 | 59.08 | 71.27 | 76.99 | 82.46 | 87.65 | 93.52 | 98.94  | 105.48 | 109.84 | 118.97 |                                                     | 0.46               | 3.01               | 4.27               | 5.23  |
|                                                                             |         | 1200                                   | 49.97                                                 | 55.37 | 60.60 | 72.97 | 78.74 | 84.22 | 89.39 | 95.17 | 100.46 | 106.74 | 110.83 | 118.92 |                                                     | 0.49               | 3.14               | 4.45               | 5.46  |
|                                                                             |         | 1250                                   | 51.19                                                 | 56.70 | 62.03 | 74.54 | 80.33 | 85.79 | 90.90 | 96.56 | 101.69 | 107.64 | 111.40 | 118.26 |                                                     | 0.51               | 3.27               | 4.64               | 5.69  |
|                                                                             |         | 1300                                   | 52.36                                                 | 57.96 | 63.36 | 75.96 | 81.74 | 87.16 | 92.18 | 97.69 | 102.60 | 108.14 | 111.52 |        |                                                     | 0.53               | 3.40               | 4.82               | 5.91  |
|                                                                             |         | 1350                                   | 53.44                                                 | 59.11 | 64.58 | 77.23 | 82.98 | 88.32 | 93.24 | 98.54 | 103.18 | 108.24 | 111.17 |        |                                                     | 0.55               | 3.53               | 5.01               | 6.14  |
|                                                                             | 30      | 1400                                   | 54.43                                                 | 60.18 | 65.69 | 78.35 | 84.04 | 89.27 | 94.03 | 99.10 | 103.42 |        |        |        |                                                     | 0.57               | 3.66               | 5.19               | 6.37  |
|                                                                             |         | 1450                                   | 55.34                                                 | 61.15 | 66.68 | 79.30 | 84.90 | 90.01 | 94.58 | 99.36 | 103.31 |        |        |        |                                                     | 0.59               | 3.79               | 5.38               | 6.60  |
|                                                                             |         | 1500                                   | 56.18                                                 | 62.02 | 67.57 | 80.09 | 85.58 | 90.52 | 94.88 | 99.31 | 102.84 |        |        |        |                                                     | 0.61               | 3.92               | 5.57               | 6.82  |
|                                                                             |         | 1550                                   | 56.93                                                 | 62.78 | 68.34 | 80.71 | 86.06 | 90.79 | 94.91 |       |        |        |        |        |                                                     | 0.63               | 4.05               | 5.75               | 7.05  |
|                                                                             |         | 1600                                   | 57.58                                                 | 63.46 | 68.98 | 81.17 | 86.34 | 90.84 | 94.64 |       |        |        |        |        |                                                     | 0.65               | 4.18               | 5.94               | 7.28  |
|                                                                             | 35      | 1650                                   | 58.15                                                 | 64.01 | 69.49 | 81.44 | 86.40 | 90.64 | 94.12 |       |        |        |        |        |                                                     | 0.67               | 4.31               | 6.12               | 7.51  |
|                                                                             |         | 1700                                   | 58.62                                                 | 64.46 | 69.89 | 81.54 | 86.26 | 90.18 | 93.29 |       |        |        |        |        |                                                     | 0.69               | 4.44               | 6.31               | 7.73  |
|                                                                             |         | 1750                                   | 58.99                                                 | 64.80 | 70.15 | 81.43 | 85.88 | 89.47 | 92.16 |       |        |        |        |        |                                                     | 0.71               | 4.57               | 6.49               | 7.96  |
|                                                                             |         | 1800                                   | 59.28                                                 | 65.02 | 70.27 | 81.14 | 85.28 |       |       |       |        |        |        |        |                                                     | 0.73               | 4.70               | 6.68               | 8.19  |
|                                                                             |         | 1850                                   | 59.45                                                 | 65.12 | 70.26 | 80.66 | 84.46 |       |       |       |        |        |        |        |                                                     | 0.75               | 4.84               | 6.86               | 8.42  |
|                                                                             | 40      | 1900                                   | 59.53                                                 | 65.10 | 70.10 | 79.98 | 83.39 |       |       |       |        |        |        |        |                                                     | 0.77               | 4.97               | 7.05               | 8.64  |
|                                                                             |         | 1950                                   | 59.51                                                 | 64.96 | 69.82 | 79.08 | 82.08 |       |       |       |        |        |        |        |                                                     | 0.79               | 5.10               | 7.23               | 8.87  |
|                                                                             |         | 2000                                   | 59.36                                                 | 64.69 | 69.37 | 77.98 | 80.52 |       |       |       |        |        |        |        |                                                     | 0.81               | 5.23               | 7.42               | 9.10  |
|                                                                             |         | 2050                                   | 59.12                                                 | 64.30 | 68.77 |       |       |       |       |       |        |        |        |        |                                                     | 0.83               | 5.36               | 7.61               | 9.33  |
|                                                                             |         | 2100                                   | 58.78                                                 | 63.77 | 68.03 |       |       |       |       |       |        |        |        |        |                                                     | 0.85               | 5.49               | 7.79               | 9.55  |
|                                                                             |         | 2150                                   | 58.31                                                 | 63.11 | 67.12 |       |       |       |       |       |        |        |        |        |                                                     | 0.87               | 5.62               | 7.98               | 9.78  |
|                                                                             |         | 2200                                   | 57.72                                                 | 62.32 | 66.05 |       |       |       |       |       |        |        |        |        |                                                     | 0.89               | 5.75               | 8.16               | 10.01 |
|                                                                             | 2250    | 57.01                                  | 61.38                                                 | 64.82 |       |       |       |       |       |       |        |        |        |        | 0.91                                                | 5.88               | 8.35               | 10.23              |       |
| v <sub>max</sub> ≤ 55 m/s                                                   |         |                                        |                                                       |       |       |       |       |       |       |       |        |        |        |        |                                                     |                    |                    |                    |       |
| v > 42 m/s.<br>Please consult our<br>Application Engineering<br>Department. |         |                                        |                                                       |       |       |       |       |       |       |       |        |        |        |        |                                                     |                    |                    |                    |       |
| (40)                                                                        |         |                                        |                                                       |       |       |       |       |       |       |       |        |        |        |        |                                                     | v [m/s]            |                    |                    |       |
| Dynamically balanced (for details see ARPM/MPTA)                            |         |                                        |                                                       |       |       |       |       |       |       |       |        |        |        |        |                                                     | Pulleys            |                    |                    |       |



# POWER RATINGS

optibelt **BLUE POWER PROFILE SPB**

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_w = 3550$  mm



Table 37

| Pulleys                                                                     | v<br>[m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Pitch diameter of small pulley d <sub>wk</sub> [mm] |       |       |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio i |                    |                    |        |      |
|-----------------------------------------------------------------------------|------------|----------------------------------------|-----------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------------------------------------|--------------------|--------------------|--------|------|
|                                                                             |            |                                        | 180                                                 | 190   | 200   | 212   | 224   | 236   | 250   | 280   | 315   | 355   | 375   | 400   | 1.01<br>to<br>1.05                                  | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |      |
| Dynamically balanced                                                        |            | 700                                    | 8.72                                                | 9.93  | 11.12 | 12.54 | 13.97 | 15.39 | 17.04 | 20.54 | 24.57 | 29.09 | 31.33 | 34.09 | 0.09                                                | 0.60               | 0.85               | 1.04   |      |
|                                                                             |            | 950                                    | 11.48                                               | 13.08 | 14.66 | 16.55 | 18.42 | 20.29 | 22.46 | 27.01 | 32.21 | 38.00 | 40.81 | 44.25 | 0.13                                                | 0.81               | 1.16               | 1.42   |      |
|                                                                             |            | 1450                                   | 16.46                                               | 18.76 | 21.03 | 23.72 | 26.36 | 28.98 | 31.96 | 38.16 | 45.01 | 52.26 | 55.64 | 59.61 | 0.19                                                | 1.24               | 1.76               | 2.16   |      |
|                                                                             |            | 2850                                   | 24.74                                               | 28.07 | 31.23 | 34.79 | 38.07 | 41.06 | 44.17 | 49.35 | 52.57 | 0.00  | 0.00  | 0.00  | 0.38                                                | 2.44               | 3.47               | 4.25   |      |
|                                                                             |            | 100                                    | 1.40                                                | 1.58  | 1.76  | 1.97  | 2.20  | 2.41  | 2.67  | 3.21  | 3.84  | 4.56  | 4.91  | 5.36  | 0.01                                                | 0.09               | 0.12               | 0.15   |      |
|                                                                             |            | 200                                    | 2.70                                                | 3.05  | 3.42  | 3.85  | 4.27  | 4.70  | 5.19  | 6.26  | 7.50  | 8.92  | 9.62  | 10.50 | 0.03                                                | 0.17               | 0.24               | 0.30   |      |
|                                                                             |            | 300                                    | 3.96                                                | 4.49  | 5.03  | 5.66  | 6.29  | 6.93  | 7.67  | 9.24  | 11.07 | 13.16 | 14.20 | 15.48 | 0.04                                                | 0.26               | 0.36               | 0.45   |      |
|                                                                             |            | 400                                    | 5.19                                                | 5.89  | 6.59  | 7.43  | 8.27  | 9.11  | 10.08 | 12.17 | 14.57 | 17.30 | 18.68 | 20.36 | 0.05                                                | 0.34               | 0.49               | 0.60   |      |
|                                                                             |            | 500                                    | 6.38                                                | 7.27  | 8.13  | 9.17  | 10.21 | 11.24 | 12.45 | 15.02 | 17.99 | 21.35 | 23.03 | 25.10 | 0.07                                                | 0.43               | 0.61               | 0.75   |      |
|                                                                             |            | 5                                      | 600                                                 | 7.57  | 8.61  | 9.63  | 10.88 | 12.11 | 13.34 | 14.77 | 17.81 | 21.32 | 25.28 | 27.24 | 29.68                                               | 0.08               | 0.51               | 0.73   | 0.89 |
|                                                                             |            |                                        | 700                                                 | 8.72  | 9.93  | 11.12 | 12.54 | 13.97 | 15.39 | 17.04 | 20.54 | 24.57 | 29.09 | 31.33 | 34.09                                               | 0.09               | 0.60               | 0.85   | 1.04 |
|                                                                             |            |                                        | 800                                                 | 9.84  | 11.20 | 12.56 | 14.18 | 15.79 | 17.39 | 19.25 | 23.18 | 27.71 | 32.77 | 35.25 | 38.32                                               | 0.11               | 0.69               | 0.97   | 1.19 |
|                                                                             |            |                                        | 900                                                 | 10.95 | 12.46 | 13.97 | 15.76 | 17.56 | 19.33 | 21.39 | 25.76 | 30.74 | 36.29 | 39.00 | 42.32                                               | 0.12               | 0.77               | 1.09   | 1.34 |
|                                                                             |            |                                        | 1000                                                | 12.01 | 13.69 | 15.34 | 17.32 | 19.28 | 21.24 | 23.49 | 28.24 | 33.66 | 39.65 | 42.56 | 46.10                                               | 0.13               | 0.86               | 1.22   | 1.49 |
|                                                                             |            | 10                                     | 1100                                                | 13.06 | 14.88 | 16.67 | 18.83 | 20.96 | 23.07 | 25.51 | 30.63 | 36.44 | 42.81 | 45.89 | 49.63                                               | 0.15               | 0.94               | 1.34   | 1.64 |
|                                                                             |            |                                        | 1200                                                | 14.07 | 16.03 | 17.98 | 20.29 | 22.58 | 24.84 | 27.45 | 32.93 | 39.09 | 45.79 | 49.00 | 52.86                                               | 0.16               | 1.03               | 1.46   | 1.79 |
|                                                                             |            |                                        | 1300                                                | 15.05 | 17.15 | 19.24 | 21.70 | 24.14 | 26.54 | 29.32 | 35.11 | 41.58 | 48.55 | 51.86 | 55.82                                               | 0.17               | 1.11               | 1.58   | 1.94 |
|                                                                             |            |                                        | 1400                                                | 16.00 | 18.23 | 20.44 | 23.06 | 25.63 | 28.18 | 31.11 | 37.17 | 43.90 | 51.09 | 54.45 | 58.44                                               | 0.19               | 1.20               | 1.70   | 2.09 |
|                                                                             |            |                                        | 1500                                                | 16.91 | 19.28 | 21.60 | 24.36 | 27.08 | 29.75 | 32.80 | 39.12 | 46.06 | 53.37 | 56.76 | 60.70                                               | 0.20               | 1.28               | 1.82   | 2.24 |
|                                                                             |            | 15                                     | 1600                                                | 17.79 | 20.27 | 22.71 | 25.61 | 28.43 | 31.22 | 34.40 | 40.94 | 48.03 | 55.40 | 58.74 | 62.59                                               | 0.21               | 1.37               | 1.95   | 2.39 |
|                                                                             |            |                                        | 1700                                                | 18.62 | 21.21 | 23.77 | 26.78 | 29.74 | 32.62 | 35.90 | 42.62 | 50.34 | 57.15 | 60.42 | 64.11                                               | 0.23               | 1.46               | 2.07   | 2.53 |
|                                                                             |            |                                        | 1800                                                | 19.42 | 22.12 | 24.77 | 27.90 | 30.95 | 33.92 | 37.30 | 44.14 | 51.39 | 58.60 | 61.74 | 65.20                                               | 0.24               | 1.54               | 2.19   | 2.68 |
|                                                                             |            |                                        | 1900                                                | 20.16 | 22.96 | 25.72 | 28.94 | 32.09 | 35.14 | 38.58 | 45.51 | 52.75 | 59.75 | 62.71 | 65.84                                               | 0.25               | 1.63               | 2.31   | 2.83 |
|                                                                             |            |                                        | 2000                                                | 20.87 | 23.76 | 26.60 | 29.92 | 33.14 | 36.25 | 39.75 | 46.73 | 53.87 | 60.58 | 63.28 | 66.02                                               | 0.26               | 1.71               | 2.43   | 2.98 |
|                                                                             |            | 20                                     | 2100                                                | 21.53 | 24.50 | 27.41 | 30.81 | 34.09 | 37.25 | 40.80 | 47.77 | 54.75 | 61.05 | 63.46 | 65.73                                               | 0.28               | 1.80               | 2.55   | 3.13 |
|                                                                             |            |                                        | 2200                                                | 22.13 | 25.19 | 28.17 | 31.63 | 34.96 | 38.16 | 41.72 | 48.64 | 55.38 | 61.17 | 63.21 | 64.90                                               | 0.29               | 1.88               | 2.67   | 3.28 |
|                                                                             |            |                                        | 2300                                                | 22.69 | 25.82 | 28.85 | 32.37 | 35.73 | 38.95 | 42.50 | 49.31 | 55.76 | 60.91 | 62.52 | 63.56                                               | 0.30               | 1.97               | 2.80   | 3.43 |
|                                                                             |            |                                        | 2400                                                | 23.20 | 26.38 | 29.46 | 33.01 | 36.40 | 39.62 | 43.15 | 49.80 | 55.85 | 60.27 | 61.38 | 61.66                                               | 0.32               | 2.06               | 2.92   | 3.58 |
|                                                                             |            |                                        | 2500                                                | 23.65 | 26.88 | 30.00 | 33.57 | 36.97 | 40.17 | 43.64 | 50.08 | 55.66 | 59.21 | 59.75 | 59.16                                               | 0.33               | 2.14               | 3.04   | 3.73 |
|                                                                             |            | 25                                     | 2600                                                | 24.04 | 27.31 | 30.45 | 34.05 | 37.42 | 40.60 | 43.99 | 50.15 | 55.17 | 59.14 |       |                                                     | 0.34               | 2.23               | 3.16   | 3.88 |
|                                                                             |            |                                        | 2700                                                | 24.36 | 27.66 | 30.83 | 34.41 | 37.77 | 40.88 | 44.18 | 49.99 | 54.36 | 58.69 |       |                                                     | 0.36               | 2.31               | 3.28   | 4.02 |
|                                                                             |            |                                        | 2800                                                | 24.63 | 27.96 | 31.12 | 34.69 | 38.00 | 41.03 | 44.23 | 49.63 | 53.24 |       |       |                                                     | 0.37               | 2.40               | 3.40   | 4.17 |
|                                                                             |            |                                        | 2900                                                | 24.84 | 28.17 | 31.32 | 34.86 | 38.11 | 41.05 | 44.09 | 49.01 | 51.80 |       |       |                                                     | 0.38               | 2.48               | 3.53   | 4.32 |
|                                                                             |            |                                        | 3000                                                | 24.98 | 28.31 | 31.44 | 34.92 | 38.09 | 40.92 | 43.78 | 48.17 | 49.99 |       |       |                                                     | 0.40               | 2.57               | 3.65   | 4.47 |
|                                                                             |            | 30                                     | 3100                                                | 25.05 | 28.36 | 31.46 | 34.87 | 37.94 | 40.64 | 43.29 | 47.91 |       |       |       |                                                     | 0.41               | 2.66               | 3.77   | 4.62 |
|                                                                             |            |                                        | 3200                                                | 25.05 | 28.34 | 31.39 | 34.72 | 37.66 | 40.19 | 42.62 | 47.42 |       |       |       |                                                     | 0.42               | 2.74               | 3.89   | 4.77 |
|                                                                             |            |                                        | 3300                                                | 24.98 | 28.22 | 31.22 | 34.44 | 37.24 | 39.59 | 41.76 | 47.13 |       |       |       |                                                     | 0.44               | 2.83               | 4.01   | 4.92 |
|                                                                             |            |                                        | 3400                                                | 24.84 | 28.03 | 30.94 | 34.03 | 36.68 | 38.84 | 40.70 | 46.70 |       |       |       |                                                     | 0.45               | 2.91               | 4.13   | 5.07 |
|                                                                             |            |                                        | 3500                                                | 24.61 | 27.75 | 30.56 | 33.52 | 35.97 | 37.90 | 39.44 |       |       |       |       |                                                     | 0.46               | 3.00               | 4.26   | 5.22 |
|                                                                             |            | 35                                     | 3600                                                | 24.30 | 27.37 | 30.09 | 32.87 | 35.11 | 37.78 | 39.42 |       |       |       |       |                                                     | 0.48               | 3.08               | 4.38   | 5.37 |
|                                                                             |            |                                        | 3700                                                | 23.93 | 26.89 | 29.48 | 32.09 | 34.10 | 37.26 | 38.74 |       |       |       |       |                                                     | 0.49               | 3.17               | 4.50   | 5.52 |
|                                                                             |            |                                        | 3800                                                | 23.46 | 26.32 | 28.78 | 31.18 | 32.93 | 36.73 | 38.06 |       |       |       |       |                                                     | 0.50               | 3.26               | 4.62   | 5.66 |
|                                                                             |            |                                        | 3900                                                | 22.92 | 25.65 | 27.96 | 30.13 | 31.60 | 36.21 |       |       |       |       |       |                                                     | 0.52               | 3.34               | 4.74   | 5.81 |
|                                                                             |            |                                        | 4000                                                | 22.27 | 24.88 | 27.01 | 28.92 | 30.10 | 35.68 |       |       |       |       |       |                                                     | 0.53               | 3.43               | 4.86   | 5.96 |
|                                                                             |            | 40                                     | 4100                                                | 21.56 | 24.00 | 25.94 | 28.62 | 30.16 | 35.16 |       |       |       |       |       |                                                     | 0.54               | 3.51               | 4.99   | 6.11 |
|                                                                             |            |                                        | 4200                                                | 20.73 | 23.02 | 24.75 | 27.83 | 29.29 |       |       |       |       |       |       |                                                     | 0.56               | 3.60               | 5.11   | 6.26 |
|                                                                             |            |                                        | 4300                                                | 19.82 | 21.92 | 23.44 | 27.05 | 28.43 |       |       |       |       |       |       |                                                     | 0.57               | 3.68               | 5.23   | 6.41 |
|                                                                             |            |                                        | 4400                                                | 18.82 | 20.72 | 21.99 | 26.26 |       |       |       |       |       |       |       |                                                     | 0.58               | 3.77               | 5.35   | 6.56 |
|                                                                             |            |                                        | 4500                                                | 17.71 | 19.39 | 20.41 | 25.48 |       |       |       |       |       |       |       |                                                     | 0.60               | 3.85               | 5.47   | 6.71 |
|                                                                             |            | 45                                     | 4600                                                | 17.22 | 18.63 | 19.66 |       |       |       |       |       |       |       |       |                                                     | 0.61               | 3.94               | 5.59   | 6.86 |
|                                                                             |            |                                        | 4700                                                | 16.40 | 17.59 | 18.47 |       |       |       |       |       |       |       |       |                                                     | 0.62               | 4.02               | 5.71   | 7.01 |
|                                                                             |            |                                        | 4800                                                | 15.58 | 16.55 |       |       |       |       |       |       |       |       |       |                                                     | 0.64               | 4.11               | 5.84   | 7.15 |
|                                                                             |            |                                        | 4900                                                | 14.76 | 15.51 |       |       |       |       |       |       |       |       |       |                                                     | 0.65               | 4.20               | 5.96   | 7.30 |
|                                                                             |            |                                        | 5000                                                | 13.93 | 14.46 |       |       |       |       |       |       |       |       |       |                                                     | 0.66               | 4.28               | 6.08   | 7.45 |
|                                                                             |            | 50                                     | 5100                                                | 13.11 |       |       |       |       |       |       |       |       |       |       |                                                     | 0.68               | 4.37               | 6.20   | 7.60 |
|                                                                             |            |                                        | 5200                                                | 12.29 |       |       |       |       |       |       |       |       |       |       |                                                     | 0.69               | 4.45               | 6.32   | 7.75 |
|                                                                             |            |                                        | 5300                                                | 11.47 |       |       |       |       |       |       |       |       |       |       |                                                     | 0.70               | 4.54               | 6.44   | 7.90 |
| v > 50 m/s.<br>Please consult our<br>Application Engineering<br>Department. |            |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |       |                                                     |                    |                    |        |      |
|                                                                             |            |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |       | v [m/s]                                             |                    |                    |        |      |
| Dynamically balanced (DIN 2211)                                             |            |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |       | Pulleys                                             |                    |                    |        |      |



# POWER RATINGS

optibelt **BLUE POWER PROFILE 5V**

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_w = 3550$  mm



Table 39

| Pulleys                                                                     | v [m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Pitch diameter of small pulley d <sub>wk</sub> [mm] |       |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio i |                    |                    |                    |      |
|-----------------------------------------------------------------------------|---------|----------------------------------------|-----------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------------------------------------|--------------------|--------------------|--------------------|------|
|                                                                             |         |                                        | 180                                                 | 190   | 200   | 212   | 224   | 236   | 250   | 280   | 315   | 355   | 375   | 400                                                 | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 |      |
| Dynamically balanced                                                        |         | 700                                    | 8.72                                                | 9.93  | 11.12 | 12.54 | 13.97 | 15.39 | 17.04 | 20.54 | 24.57 | 29.09 | 31.33 | 34.09                                               | 0.09               | 0.60               | 0.85               | 1.04 |
|                                                                             |         | 950                                    | 11.48                                               | 13.08 | 14.66 | 16.55 | 18.42 | 20.29 | 22.46 | 27.01 | 32.21 | 38.00 | 40.81 | 44.25                                               | 0.13               | 0.81               | 1.16               | 1.42 |
|                                                                             |         | 1450                                   | 16.46                                               | 18.76 | 21.03 | 23.72 | 26.36 | 28.98 | 31.96 | 38.16 | 45.01 | 52.26 | 55.64 | 59.61                                               | 0.19               | 1.24               | 1.76               | 2.16 |
|                                                                             |         | 2850                                   | 24.74                                               | 28.07 | 31.23 | 34.79 | 38.07 | 41.06 | 44.17 | 49.35 | 52.57 | 0.00  | 0.00  | 0.00                                                | 0.38               | 2.44               | 3.47               | 4.25 |
|                                                                             |         | 100                                    | 1.40                                                | 1.58  | 1.76  | 1.97  | 2.20  | 2.41  | 2.67  | 3.21  | 3.84  | 4.56  | 4.91  | 5.36                                                | 0.01               | 0.09               | 0.12               | 0.15 |
|                                                                             |         | 200                                    | 2.70                                                | 3.05  | 3.42  | 3.85  | 4.27  | 4.70  | 5.19  | 6.26  | 7.50  | 8.92  | 9.62  | 10.50                                               | 0.03               | 0.17               | 0.24               | 0.30 |
|                                                                             |         | 300                                    | 3.96                                                | 4.49  | 5.03  | 5.66  | 6.29  | 6.93  | 7.67  | 9.24  | 11.07 | 13.16 | 14.20 | 15.48                                               | 0.04               | 0.26               | 0.36               | 0.45 |
|                                                                             |         | 400                                    | 5.19                                                | 5.89  | 6.59  | 7.43  | 8.27  | 9.11  | 10.08 | 12.17 | 14.57 | 17.30 | 18.68 | 20.36                                               | 0.05               | 0.34               | 0.49               | 0.60 |
|                                                                             |         | 500                                    | 6.38                                                | 7.27  | 8.13  | 9.17  | 10.21 | 11.24 | 12.45 | 15.02 | 17.99 | 21.35 | 23.03 | 25.10                                               | 0.07               | 0.43               | 0.61               | 0.75 |
|                                                                             |         | 600                                    | 7.57                                                | 8.61  | 9.63  | 10.88 | 12.11 | 13.34 | 14.77 | 17.81 | 21.32 | 25.28 | 27.24 | 29.68                                               | 0.08               | 0.51               | 0.73               | 0.89 |
|                                                                             |         | 700                                    | 8.72                                                | 9.93  | 11.12 | 12.54 | 13.97 | 15.39 | 17.04 | 20.54 | 24.57 | 29.09 | 31.33 | 34.09                                               | 0.09               | 0.60               | 0.85               | 1.04 |
|                                                                             |         | 800                                    | 9.84                                                | 11.20 | 12.56 | 14.18 | 15.79 | 17.39 | 19.25 | 23.18 | 27.71 | 32.77 | 35.25 | 38.32                                               | 0.11               | 0.69               | 0.97               | 1.19 |
|                                                                             |         | 900                                    | 10.95                                               | 12.46 | 13.97 | 15.76 | 17.56 | 19.33 | 21.39 | 25.76 | 30.74 | 36.29 | 39.00 | 42.32                                               | 0.12               | 0.77               | 1.09               | 1.34 |
|                                                                             |         | 1000                                   | 12.01                                               | 13.69 | 15.34 | 17.32 | 19.28 | 21.24 | 23.49 | 28.24 | 33.66 | 39.65 | 42.56 | 46.10                                               | 0.13               | 0.86               | 1.22               | 1.49 |
|                                                                             |         | 1100                                   | 13.06                                               | 14.88 | 16.67 | 18.83 | 20.96 | 23.07 | 25.51 | 30.63 | 36.44 | 42.81 | 45.89 | 49.63                                               | 0.15               | 0.94               | 1.34               | 1.64 |
|                                                                             |         | 1200                                   | 14.07                                               | 16.03 | 17.98 | 20.29 | 22.58 | 24.84 | 27.45 | 32.93 | 39.09 | 45.79 | 49.00 | 52.86                                               | 0.16               | 1.03               | 1.46               | 1.79 |
|                                                                             |         | 1300                                   | 15.05                                               | 17.15 | 19.24 | 21.70 | 24.14 | 26.54 | 29.32 | 35.11 | 41.58 | 48.55 | 51.86 | 55.82                                               | 0.17               | 1.11               | 1.58               | 1.94 |
|                                                                             |         | 1400                                   | 16.00                                               | 18.23 | 20.44 | 23.06 | 25.63 | 28.18 | 31.11 | 37.17 | 43.90 | 51.09 | 54.45 | 58.44                                               | 0.19               | 1.20               | 1.70               | 2.09 |
|                                                                             |         | 1500                                   | 16.91                                               | 19.28 | 21.60 | 24.36 | 27.08 | 29.75 | 32.80 | 39.12 | 46.06 | 53.37 | 56.76 | 60.70                                               | 0.20               | 1.28               | 1.82               | 2.24 |
|                                                                             |         | 1600                                   | 17.79                                               | 20.27 | 22.71 | 25.61 | 28.43 | 31.22 | 34.40 | 40.94 | 48.03 | 55.40 | 58.74 | 62.59                                               | 0.21               | 1.37               | 1.95               | 2.39 |
|                                                                             |         | 1700                                   | 18.62                                               | 21.21 | 23.77 | 26.78 | 29.74 | 32.62 | 35.90 | 42.62 | 50.34 | 57.15 | 60.42 | 64.11                                               | 0.23               | 1.46               | 2.07               | 2.53 |
|                                                                             |         | 1800                                   | 19.42                                               | 22.12 | 24.77 | 27.90 | 30.95 | 33.92 | 37.30 | 44.14 | 51.39 | 58.60 | 61.74 | 65.20                                               | 0.24               | 1.54               | 2.19               | 2.68 |
|                                                                             |         | 1900                                   | 20.16                                               | 22.96 | 25.72 | 28.94 | 32.09 | 35.14 | 38.58 | 45.51 | 52.75 | 59.75 | 62.71 | 65.84                                               | 0.25               | 1.63               | 2.31               | 2.83 |
|                                                                             |         | 2000                                   | 20.87                                               | 23.76 | 26.60 | 29.92 | 33.14 | 36.25 | 39.75 | 46.73 | 53.87 | 60.58 | 63.28 | 66.02                                               | 0.26               | 1.71               | 2.43               | 2.98 |
|                                                                             |         | 2100                                   | 21.53                                               | 24.50 | 27.41 | 30.81 | 34.09 | 37.25 | 40.80 | 47.77 | 54.75 | 61.05 | 63.46 | 65.73                                               | 0.28               | 1.80               | 2.55               | 3.13 |
|                                                                             |         | 2200                                   | 22.13                                               | 25.19 | 28.17 | 31.63 | 34.96 | 38.16 | 41.72 | 48.64 | 55.38 | 61.17 | 63.21 | 64.90                                               | 0.29               | 1.88               | 2.67               | 3.28 |
|                                                                             |         | 2300                                   | 22.69                                               | 25.82 | 28.85 | 32.37 | 35.73 | 38.95 | 42.50 | 49.31 | 55.76 | 60.91 | 62.52 | 63.56                                               | 0.30               | 1.97               | 2.80               | 3.43 |
|                                                                             |         | 2400                                   | 23.20                                               | 26.38 | 29.46 | 33.01 | 36.40 | 39.62 | 43.15 | 49.80 | 55.85 | 60.27 | 61.38 | 61.66                                               | 0.32               | 2.06               | 2.92               | 3.58 |
|                                                                             |         | 2500                                   | 23.65                                               | 26.88 | 30.00 | 33.57 | 36.97 | 40.17 | 43.64 | 50.08 | 55.66 | 59.21 | 59.75 | 59.16                                               | 0.33               | 2.14               | 3.04               | 3.73 |
|                                                                             |         | 2600                                   | 24.04                                               | 27.31 | 30.45 | 34.05 | 37.42 | 40.60 | 43.99 | 50.15 | 55.17 | 59.14 | 58.69 |                                                     | 0.34               | 2.23               | 3.16               | 3.88 |
|                                                                             |         | 2700                                   | 24.36                                               | 27.66 | 30.83 | 34.41 | 37.77 | 40.88 | 44.18 | 49.99 | 54.36 |       |       |                                                     | 0.36               | 2.31               | 3.28               | 4.02 |
|                                                                             |         | 2800                                   | 24.63                                               | 27.96 | 31.12 | 34.69 | 38.00 | 41.03 | 44.23 | 49.63 | 53.24 |       |       |                                                     | 0.37               | 2.40               | 3.40               | 4.17 |
|                                                                             |         | 2900                                   | 24.84                                               | 28.17 | 31.32 | 34.86 | 38.11 | 41.05 | 44.09 | 49.01 | 51.80 |       |       |                                                     | 0.38               | 2.48               | 3.53               | 4.32 |
|                                                                             |         | 3000                                   | 24.98                                               | 28.31 | 31.44 | 34.92 | 38.09 | 40.92 | 43.78 | 48.17 | 49.99 |       |       |                                                     | 0.40               | 2.57               | 3.65               | 4.47 |
|                                                                             |         | 3100                                   | 25.05                                               | 28.36 | 31.46 | 34.87 | 37.94 | 40.64 | 43.29 | 47.91 |       |       |       |                                                     | 0.41               | 2.66               | 3.77               | 4.62 |
|                                                                             |         | 3200                                   | 25.05                                               | 28.34 | 31.39 | 34.72 | 37.66 | 40.19 | 42.62 | 47.42 |       |       |       |                                                     | 0.42               | 2.74               | 3.89               | 4.77 |
|                                                                             |         | 3300                                   | 24.98                                               | 28.22 | 31.22 | 34.44 | 37.24 | 39.59 | 41.76 | 47.13 |       |       |       |                                                     | 0.44               | 2.83               | 4.01               | 4.92 |
|                                                                             |         | 3400                                   | 24.84                                               | 28.03 | 30.94 | 34.03 | 36.68 | 38.84 | 40.70 | 46.70 |       |       |       |                                                     | 0.45               | 2.91               | 4.13               | 5.07 |
|                                                                             |         | 3500                                   | 24.61                                               | 27.75 | 30.56 | 33.52 | 35.97 | 37.90 | 39.44 |       |       |       |       |                                                     | 0.46               | 3.00               | 4.26               | 5.22 |
|                                                                             |         | 3600                                   | 24.30                                               | 27.37 | 30.09 | 32.87 | 35.11 | 37.78 | 39.42 |       |       |       |       |                                                     | 0.48               | 3.08               | 4.38               | 5.37 |
|                                                                             |         | 3700                                   | 23.93                                               | 26.89 | 29.48 | 32.09 | 34.10 | 37.26 | 38.74 |       |       |       |       |                                                     | 0.49               | 3.17               | 4.50               | 5.52 |
|                                                                             |         | 3800                                   | 23.46                                               | 26.32 | 28.78 | 31.18 | 32.93 | 36.73 | 38.06 |       |       |       |       |                                                     | 0.50               | 3.26               | 4.62               | 5.66 |
|                                                                             |         | 3900                                   | 22.92                                               | 25.65 | 27.96 | 30.13 | 31.60 | 36.21 |       |       |       |       |       |                                                     | 0.52               | 3.34               | 4.74               | 5.81 |
|                                                                             |         | 4000                                   | 22.27                                               | 24.88 | 27.01 | 28.92 | 30.10 | 35.68 |       |       |       |       |       |                                                     | 0.53               | 3.43               | 4.86               | 5.96 |
|                                                                             |         | 4100                                   | 21.56                                               | 24.00 | 25.94 | 28.62 | 30.16 | 35.16 |       |       |       |       |       |                                                     | 0.54               | 3.51               | 4.99               | 6.11 |
|                                                                             |         | 4200                                   | 20.73                                               | 23.02 | 24.75 | 27.83 | 29.29 |       |       |       |       |       |       |                                                     | 0.56               | 3.60               | 5.11               | 6.26 |
|                                                                             |         | 4300                                   | 19.82                                               | 21.92 | 23.44 | 27.05 | 28.43 |       |       |       |       |       |       |                                                     | 0.57               | 3.68               | 5.23               | 6.41 |
|                                                                             |         | 4400                                   | 18.82                                               | 20.72 | 21.99 | 26.26 |       |       |       |       |       |       |       |                                                     | 0.58               | 3.77               | 5.35               | 6.56 |
|                                                                             |         | 4500                                   | 17.71                                               | 19.39 | 20.41 | 25.48 |       |       |       |       |       |       |       |                                                     | 0.60               | 3.85               | 5.47               | 6.71 |
|                                                                             |         | 4600                                   | 17.22                                               | 18.63 | 19.66 |       |       |       |       |       |       |       |       |                                                     | 0.61               | 3.94               | 5.59               | 6.86 |
|                                                                             |         | 4700                                   | 16.40                                               | 17.59 | 18.47 |       |       |       |       |       |       |       |       |                                                     | 0.62               | 4.02               | 5.71               | 7.01 |
|                                                                             |         | 4800                                   | 15.58                                               | 16.55 |       |       |       |       |       |       |       |       |       |                                                     | 0.64               | 4.11               | 5.84               | 7.15 |
|                                                                             |         | 4900                                   | 14.76                                               | 15.51 |       |       |       |       |       |       |       |       |       |                                                     | 0.65               | 4.20               | 5.96               | 7.30 |
|                                                                             |         | 5000                                   | 13.93                                               | 14.46 |       |       |       |       |       |       |       |       |       |                                                     | 0.66               | 4.28               | 6.08               | 7.45 |
|                                                                             |         | 5100                                   | 13.11                                               |       |       |       |       |       |       |       |       |       |       |                                                     | 0.68               | 4.37               | 6.20               | 7.60 |
|                                                                             |         | 5200                                   | 12.29                                               |       |       |       |       |       |       |       |       |       |       |                                                     | 0.69               | 4.45               | 6.32               | 7.75 |
|                                                                             |         | 5300                                   | 11.47                                               |       |       |       |       |       |       |       |       |       |       |                                                     | 0.70               | 4.54               | 6.44               | 7.90 |
| v > 50 m/s.<br>Please consult our<br>Application Engineering<br>Department. |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |                                                     |                    |                    |                    |      |
|                                                                             |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |                                                     | v [m/s]            |                    |                    |      |
| Dynamically balanced (DIN 2211)                                             |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |                                                     | Pulleys            |                    |                    |      |





# POWER RATINGS

optibelt **SK** PROFILE SPZ, 3V/9N, 3V/9J

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 1600$  mm



Table 41

| Pulleys             | v [m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Datum diameter of small pulley d <sub>dk</sub> [mm] |      |      |      |      |      |      |      |      |      |      |      |       |       |       |                    | Additional power [kW]<br>per belt for speed ratio i |                    |        |  |
|---------------------|---------|----------------------------------------|-----------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|--------------------|-----------------------------------------------------|--------------------|--------|--|
|                     |         |                                        | 63                                                  | 71   | 80   | 85   | 90   | 95   | 100  | 112  | 125  | 132  | 140  | 150  | 160   | 180   | 200   | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26                                  | 1.27<br>to<br>1.57 | > 1.57 |  |
| Statically balanced | 5       | 700                                    | 0.50                                                | 0.68 | 0.88 | 1.00 | 1.11 | 1.22 | 1.33 | 1.60 | 1.88 | 2.03 | 2.20 | 2.42 | 2.63  | 3.05  | 3.47  | 0.01               | 0.06                                                | 0.09               | 0.11   |  |
|                     |         | 950                                    | 0.63                                                | 0.87 | 1.14 | 1.29 | 1.44 | 1.59 | 1.74 | 2.08 | 2.46 | 2.66 | 2.89 | 3.17 | 3.45  | 4.00  | 4.54  | 0.01               | 0.09                                                | 0.12               | 0.15   |  |
|                     |         | 1450                                   | 0.87                                                | 1.23 | 1.62 | 1.84 | 2.06 | 2.27 | 2.49 | 3.00 | 3.54 | 3.83 | 4.16 | 4.56 | 4.96  | 5.75  | 6.51  | 0.02               | 0.13                                                | 0.19               | 0.23   |  |
|                     |         | 2850                                   | 1.38                                                | 2.03 | 2.74 | 3.13 | 3.52 | 3.90 | 4.27 | 5.15 | 6.07 | 6.55 | 7.08 | 7.72 | 8.34  | 9.50  | 10.55 | 0.04               | 0.26                                                | 0.37               | 0.46   |  |
|                     |         | 100                                    | 0.10                                                | 0.13 | 0.16 | 0.18 | 0.20 | 0.22 | 0.24 | 0.28 | 0.33 | 0.35 | 0.38 | 0.42 | 0.45  | 0.52  | 0.59  | 0.00               | 0.01                                                | 0.01               | 0.02   |  |
|                     |         | 200                                    | 0.18                                                | 0.24 | 0.30 | 0.34 | 0.37 | 0.41 | 0.44 | 0.52 | 0.61 | 0.66 | 0.71 | 0.78 | 0.85  | 0.98  | 1.12  | 0.00               | 0.02                                                | 0.03               | 0.03   |  |
|                     |         | 300                                    | 0.25                                                | 0.33 | 0.43 | 0.48 | 0.53 | 0.58 | 0.63 | 0.75 | 0.88 | 0.95 | 1.03 | 1.13 | 1.23  | 1.42  | 1.62  | 0.00               | 0.03                                                | 0.04               | 0.05   |  |
|                     |         | 400                                    | 0.32                                                | 0.43 | 0.55 | 0.62 | 0.68 | 0.75 | 0.81 | 0.97 | 1.14 | 1.23 | 1.34 | 1.47 | 1.59  | 1.85  | 2.10  | 0.01               | 0.04                                                | 0.05               | 0.06   |  |
|                     |         | 500                                    | 0.38                                                | 0.51 | 0.66 | 0.75 | 0.83 | 0.91 | 0.99 | 1.19 | 1.39 | 1.51 | 1.63 | 1.79 | 1.95  | 2.26  | 2.57  | 0.01               | 0.05                                                | 0.07               | 0.08   |  |
|                     |         | 600                                    | 0.44                                                | 0.60 | 0.78 | 0.87 | 0.97 | 1.07 | 1.16 | 1.39 | 1.64 | 1.77 | 1.92 | 2.11 | 2.29  | 2.66  | 3.02  | 0.01               | 0.06                                                | 0.08               | 0.10   |  |
|                     |         | 700                                    | 0.50                                                | 0.68 | 0.88 | 1.00 | 1.11 | 1.22 | 1.33 | 1.60 | 1.88 | 2.03 | 2.20 | 2.42 | 2.63  | 3.05  | 3.47  | 0.01               | 0.06                                                | 0.09               | 0.11   |  |
|                     |         | 800                                    | 0.55                                                | 0.76 | 0.99 | 1.12 | 1.24 | 1.37 | 1.50 | 1.79 | 2.12 | 2.29 | 2.48 | 2.72 | 2.96  | 3.44  | 3.91  | 0.01               | 0.07                                                | 0.11               | 0.13   |  |
|                     |         | 900                                    | 0.61                                                | 0.84 | 1.09 | 1.24 | 1.38 | 1.52 | 1.66 | 1.99 | 2.35 | 2.54 | 2.75 | 3.02 | 3.29  | 3.81  | 4.33  | 0.01               | 0.08                                                | 0.12               | 0.15   |  |
|                     |         | 1000                                   | 0.66                                                | 0.91 | 1.19 | 1.35 | 1.51 | 1.66 | 1.81 | 2.18 | 2.57 | 2.78 | 3.02 | 3.31 | 3.61  | 4.18  | 4.75  | 0.01               | 0.09                                                | 0.13               | 0.16   |  |
|                     |         | 1100                                   | 0.71                                                | 0.98 | 1.29 | 1.46 | 1.63 | 1.80 | 1.97 | 2.37 | 2.79 | 3.02 | 3.28 | 3.60 | 3.92  | 4.54  | 5.16  | 0.02               | 0.10                                                | 0.14               | 0.18   |  |
|                     |         | 1200                                   | 0.76                                                | 1.06 | 1.39 | 1.57 | 1.76 | 1.94 | 2.12 | 2.55 | 3.01 | 3.26 | 3.54 | 3.88 | 4.22  | 4.90  | 5.56  | 0.02               | 0.11                                                | 0.16               | 0.19   |  |
|                     |         | 1300                                   | 0.80                                                | 1.12 | 1.48 | 1.68 | 1.88 | 2.07 | 2.27 | 2.73 | 3.23 | 3.49 | 3.79 | 4.16 | 4.52  | 5.24  | 5.95  | 0.02               | 0.12                                                | 0.17               | 0.21   |  |
|                     |         | 1400                                   | 0.85                                                | 1.19 | 1.58 | 1.79 | 2.00 | 2.21 | 2.42 | 2.91 | 3.44 | 3.72 | 4.04 | 4.43 | 4.82  | 5.58  | 6.32  | 0.02               | 0.13                                                | 0.18               | 0.23   |  |
|                     |         | 1500                                   | 0.89                                                | 1.26 | 1.67 | 1.89 | 2.12 | 2.34 | 2.56 | 3.08 | 3.64 | 3.94 | 4.28 | 4.69 | 5.11  | 5.91  | 6.69  | 0.02               | 0.14                                                | 0.20               | 0.24   |  |
|                     |         | 1600                                   | 0.93                                                | 1.32 | 1.76 | 2.00 | 2.23 | 2.47 | 2.70 | 3.26 | 3.85 | 4.16 | 4.52 | 4.95 | 5.39  | 6.23  | 7.05  | 0.02               | 0.15                                                | 0.21               | 0.26   |  |
|                     |         | 1700                                   | 0.98                                                | 1.39 | 1.85 | 2.10 | 2.35 | 2.59 | 2.84 | 3.42 | 4.05 | 4.38 | 4.75 | 5.21 | 5.66  | 6.55  | 7.40  | 0.02               | 0.16                                                | 0.22               | 0.27   |  |
|                     |         | 1800                                   | 1.02                                                | 1.45 | 1.93 | 2.20 | 2.46 | 2.72 | 2.98 | 3.59 | 4.24 | 4.59 | 4.98 | 5.46 | 5.93  | 6.85  | 7.74  | 0.03               | 0.17                                                | 0.24               | 0.29   |  |
|                     |         | 1900                                   | 1.06                                                | 1.51 | 2.02 | 2.29 | 2.57 | 2.84 | 3.11 | 3.75 | 4.43 | 4.80 | 5.20 | 5.70 | 6.19  | 7.15  | 8.07  | 0.03               | 0.18                                                | 0.25               | 0.31   |  |
|                     |         | 2000                                   | 1.10                                                | 1.57 | 2.10 | 2.39 | 2.68 | 2.96 | 3.24 | 3.91 | 4.62 | 5.00 | 5.42 | 5.94 | 6.45  | 7.44  | 8.38  | 0.03               | 0.19                                                | 0.26               | 0.32   |  |
|                     |         | 2100                                   | 1.13                                                | 1.63 | 2.18 | 2.48 | 2.78 | 3.08 | 3.37 | 4.07 | 4.81 | 5.20 | 5.64 | 6.17 | 6.70  | 7.72  | 8.68  | 0.03               | 0.19                                                | 0.28               | 0.34   |  |
|                     |         | 2200                                   | 1.17                                                | 1.69 | 2.26 | 2.58 | 2.89 | 3.20 | 3.50 | 4.22 | 4.99 | 5.39 | 5.84 | 6.40 | 6.94  | 7.99  | 8.98  | 0.03               | 0.20                                                | 0.29               | 0.35   |  |
|                     |         | 2300                                   | 1.20                                                | 1.74 | 2.34 | 2.67 | 2.99 | 3.31 | 3.63 | 4.38 | 5.17 | 5.58 | 6.05 | 6.62 | 7.18  | 8.25  | 9.26  | 0.03               | 0.21                                                | 0.30               | 0.37   |  |
|                     |         | 2400                                   | 1.24                                                | 1.80 | 2.42 | 2.75 | 3.09 | 3.42 | 3.75 | 4.52 | 5.34 | 5.77 | 6.25 | 6.84 | 7.41  | 8.50  | 9.52  | 0.03               | 0.22                                                | 0.32               | 0.39   |  |
|                     |         | 2500                                   | 1.27                                                | 1.85 | 2.49 | 2.84 | 3.19 | 3.53 | 3.87 | 4.67 | 5.51 | 5.95 | 6.44 | 7.04 | 7.63  | 8.74  | 9.77  | 0.04               | 0.23                                                | 0.33               | 0.40   |  |
|                     |         | 2600                                   | 1.31                                                | 1.90 | 2.57 | 2.93 | 3.28 | 3.64 | 3.99 | 4.81 | 5.67 | 6.12 | 6.63 | 7.25 | 7.84  | 8.97  | 10.01 | 0.04               | 0.24                                                | 0.34               | 0.42   |  |
|                     |         | 2700                                   | 1.34                                                | 1.96 | 2.64 | 3.01 | 3.38 | 3.74 | 4.10 | 4.95 | 5.83 | 6.30 | 6.81 | 7.44 | 8.05  | 9.19  | 10.24 | 0.04               | 0.25                                                | 0.35               | 0.44   |  |
|                     |         | 2800                                   | 1.37                                                | 2.01 | 2.71 | 3.09 | 3.47 | 3.85 | 4.22 | 5.08 | 5.99 | 6.46 | 6.99 | 7.63 | 8.25  | 9.40  | 10.45 | 0.04               | 0.26                                                | 0.37               | 0.45   |  |
|                     |         | 2900                                   | 1.40                                                | 2.05 | 2.78 | 3.17 | 3.56 | 3.95 | 4.33 | 5.22 | 6.14 | 6.63 | 7.16 | 7.81 | 8.44  | 9.60  | 10.64 | 0.04               | 0.27                                                | 0.38               | 0.47   |  |
|                     |         | 3000                                   | 1.43                                                | 2.10 | 2.85 | 3.25 | 3.65 | 4.05 | 4.43 | 5.34 | 6.29 | 6.78 | 7.33 | 7.99 | 8.62  | 9.79  | 10.82 | 0.04               | 0.28                                                | 0.39               | 0.48   |  |
|                     |         | 3100                                   | 1.45                                                | 2.15 | 2.91 | 3.33 | 3.74 | 4.14 | 4.54 | 5.47 | 6.43 | 6.93 | 7.49 | 8.16 | 8.79  | 9.96  | 10.99 | 0.04               | 0.29                                                | 0.41               | 0.50   |  |
|                     |         | 3200                                   | 1.48                                                | 2.19 | 2.98 | 3.40 | 3.82 | 4.24 | 4.64 | 5.59 | 6.57 | 7.08 | 7.64 | 8.32 | 8.95  | 10.12 | 11.14 | 0.05               | 0.30                                                | 0.42               | 0.52   |  |
|                     |         | 3300                                   | 1.51                                                | 2.24 | 3.04 | 3.48 | 3.91 | 4.33 | 4.74 | 5.71 | 6.71 | 7.22 | 7.79 | 8.47 | 9.11  | 10.28 | 11.27 | 0.05               | 0.31                                                | 0.43               | 0.53   |  |
|                     |         | 3400                                   | 1.53                                                | 2.28 | 3.10 | 3.55 | 3.99 | 4.42 | 4.84 | 5.83 | 6.84 | 7.36 | 7.93 | 8.61 | 9.26  | 10.41 | 11.39 | 0.05               | 0.31                                                | 0.45               | 0.55   |  |
|                     |         | 3500                                   | 1.56                                                | 2.32 | 3.16 | 3.62 | 4.06 | 4.50 | 4.94 | 5.94 | 6.96 | 7.49 | 8.07 | 8.75 | 9.39  | 10.54 | 11.48 | 0.05               | 0.32                                                | 0.46               | 0.56   |  |
|                     |         | 3600                                   | 1.58                                                | 2.36 | 3.22 | 3.68 | 4.14 | 4.59 | 5.03 | 6.04 | 7.08 | 7.61 | 8.20 | 8.88 | 9.52  | 10.65 | 11.56 | 0.05               | 0.33                                                | 0.47               | 0.58   |  |
|                     |         | 3700                                   | 1.60                                                | 2.40 | 3.28 | 3.75 | 4.22 | 4.67 | 5.12 | 6.15 | 7.20 | 7.73 | 8.32 | 9.00 | 9.64  | 10.75 | 11.62 | 0.05               | 0.34                                                | 0.49               | 0.60   |  |
|                     |         | 3800                                   | 1.62                                                | 2.44 | 3.33 | 3.81 | 4.29 | 4.75 | 5.20 | 6.25 | 7.31 | 7.85 | 8.43 | 9.12 | 9.75  | 10.83 | 11.67 | 0.05               | 0.35                                                | 0.50               | 0.61   |  |
|                     |         | 3900                                   | 1.64                                                | 2.48 | 3.39 | 3.88 | 4.36 | 4.83 | 5.29 | 6.35 | 7.41 | 7.95 | 8.54 | 9.22 | 9.85  | 10.90 | 11.69 | 0.06               | 0.36                                                | 0.51               | 0.63   |  |
|                     |         | 4000                                   | 1.66                                                | 2.51 | 3.44 | 3.94 | 4.43 | 4.90 | 5.37 | 6.44 | 7.51 | 8.06 | 8.64 | 9.32 | 9.93  | 10.96 | 11.70 | 0.06               | 0.37                                                | 0.53               | 0.64   |  |
|                     |         | 4100                                   | 1.68                                                | 2.55 | 3.49 | 4.00 | 4.49 | 4.97 | 5.45 | 6.53 | 7.61 | 8.15 | 8.73 | 9.41 | 10.01 | 11.00 | 11.68 | 0.06               | 0.38                                                | 0.54               | 0.66   |  |
|                     |         | 4200                                   | 1.70                                                | 2.58 | 3.54 | 4.05 | 4.55 | 5.04 | 5.52 | 6.61 | 7.70 | 8.24 | 8.82 | 9.48 | 10.08 | 11.03 | 11.64 | 0.06               | 0.39                                                | 0.55               | 0.68   |  |
|                     |         | 4300                                   | 1.72                                                | 2.61 | 3.58 | 4.11 | 4.62 | 5.11 | 5.59 | 6.69 | 7.78 | 8.32 | 8.90 | 9.55 | 10.13 | 11.04 | 11.59 | 0.06               | 0.40                                                | 0.57               | 0.69   |  |
|                     |         | 4400                                   | 1.73                                                | 2.64 | 3.63 | 4.16 | 4.67 | 5.18 | 5.66 | 6.77 | 7.86 | 8.40 | 8.97 | 9.61 | 10.17 | 11.03 | 11.51 | 0.06               | 0.41                                                | 0.58               | 0.71   |  |
|                     |         | 4500                                   | 1.75                                                | 2.67 | 3.67 | 4.21 | 4.73 | 5.24 | 5.73 | 6.84 | 7.93 | 8.47 | 9.03 | 9.66 | 10.21 | 11.01 | 11.41 | 0.06               | 0.42                                                | 0.59               | 0.73   |  |
|                     |         | 4600                                   | 1.76                                                | 2.70 | 3.71 | 4.26 | 4.78 | 5.30 | 5.79 | 6.91 | 8.00 | 8.53 | 9.09 | 9.70 | 10.23 | 10.97 |       | 0.07               | 0.43                                                | 0.60               | 0.74   |  |
|                     |         | 4700                                   | 1.77                                                | 2.73 | 3.75 | 4.30 | 4.84 | 5.35 | 5.85 | 6.97 | 8.06 | 8.59 | 9.13 | 9.73 | 10.24 | 10.92 |       | 0.07               | 0.44                                                | 0.62               | 0.76   |  |
|                     |         | 4800                                   | 1.78                                                | 2.75 | 3.79 | 4.35 | 4.88 | 5.40 | 5.91 | 7.03 | 8.11 | 8.63 | 9.17 | 9.76 | 10.23 | 10.85 |       | 0.07               | 0.44                                                | 0.63               | 0.77   |  |
|                     |         | 4900                                   | 1.80                                                | 2.78 | 3.83 | 4.39 | 4.93 | 5.45 | 5.96 | 7.08 | 8.16 | 8.68 | 9.20 | 9.77 | 10.22 | 10.76 |       | 0.07               | 0.45                                                | 0.64               | 0.79   |  |
|                     |         | 5000                                   | 1.81                                                | 2.80 | 3.86 | 4.43 | 4.97 | 5.50 | 6.01 | 7.13 | 8.20 | 8.71 | 9.22 | 9.77 | 10.19 | 10.65 |       | 0.07               | 0.46                                                | 0.66               | 0.81   |  |
|                     |         | 5100                                   | 1.81                                                | 2.82 | 3.89 | 4.47 | 5.02 | 5.55 | 6.05 | 7.18 | 8.24 | 8.74 | 9.24 | 9.75 | 10.15 |       |       | 0.07               | 0.47                                                | 0.67               | 0.82   |  |
|                     |         | 5200                                   | 1.82                                                | 2.84 | 3.93 | 4.50 | 5.05 | 5.59 | 6.10 | 7.22 | 8.27 | 8.76 | 9.24 | 9.73 | 10.09 |       |       | 0.07               | 0.48                                                | 0.68               | 0.84   |  |
|                     |         | 5300                                   | 1.83                                                | 2.86 | 3.95 | 4.53 | 5.09 | 5.63 | 6.14 | 7.26 | 8.29 | 8.77 | 9.23 | 9.70 | 10.03 |       |       | 0.08               | 0.49                                                | 0.70               | 0.85   |  |
|                     |         | 5400                                   | 1.83                                                | 2.87 | 3.98 | 4.56 | 5.12 | 5.66 | 6.17 | 7.29 | 8.31 | 8.77 | 9.22 | 9.66 | 9.95  |       |       | 0.08               | 0.50                                                | 0.71               | 0.87   |  |
| 5500                | 1.84    | 2.89                                   | 4.01                                                | 4.59 | 5.16 | 5.69 | 6.20 | 7.31 | 8.32 | 8.77 | 9.20 | 9.60 |      |      |       | 0.08  | 0.51  | 0.72               | 0.89                                                |                    |        |  |
| 5600                | 1.84    | 2.90                                   | 4.03                                                | 4.62 | 5.18 | 5.72 | 6.23 | 7.33 | 8.32 | 8.75 | 9.16 | 9.53 |      |      |       | 0.08  | 0.52  | 0.74               | 0.90                                                |                    |        |  |
| 5800                | 1.84    | 2.93                                   | 4.07                                                | 4.66 | 5.23 | 5.77 |      |      |      |      |      |      |      |      |       |       |       |                    |                                                     |                    |        |  |

# POWER RATINGS

optibelt **SK** PROFILE SPA

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 2500$  mm



Table 42

| Pulleys             | v [m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Datum diameter of small pulley d <sub>dk</sub> [mm] |      |      |      |       |       |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio i |                    |                    |        |
|---------------------|---------|----------------------------------------|-----------------------------------------------------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------------------------------------|--------------------|--------------------|--------|
|                     |         |                                        | 90                                                  | 100  | 112  | 118  | 125   | 132   | 140   | 150   | 160   | 180   | 200   | 224   | 250   | 280   | 315   | 1.01<br>to<br>1.05                                  | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |
|                     |         |                                        |                                                     |      |      |      |       |       |       |       |       |       |       |       |       |       |       |                                                     |                    |                    |        |
| Statically balanced | 5       | 700                                    | 1.17                                                | 1.55 | 1.99 | 2.21 | 2.47  | 2.72  | 3.01  | 3.37  | 3.73  | 4.44  | 5.14  | 5.97  | 6.85  | 7.86  | 9.01  | 0.02                                                | 0.15               | 0.21               | 0.26   |
|                     |         | 950                                    | 1.49                                                | 1.98 | 2.57 | 2.86 | 3.20  | 3.53  | 3.91  | 4.39  | 4.86  | 5.78  | 6.70  | 7.78  | 8.92  | 10.21 | 11.68 | 0.03                                                | 0.20               | 0.29               | 0.36   |
|                     |         | 1450                                   | 2.04                                                | 2.76 | 3.62 | 4.04 | 4.53  | 5.02  | 5.57  | 6.25  | 6.92  | 8.24  | 9.52  | 11.02 | 12.58 | 14.30 | 16.18 | 0.05                                                | 0.31               | 0.44               | 0.54   |
|                     |         | 2850                                   | 3.14                                                | 4.40 | 5.88 | 6.60 | 7.43  | 8.23  | 9.13  | 10.21 | 11.25 | 13.21 | 14.97 | 16.81 | 18.43 | 19.78 | 20.57 | 0.09                                                | 0.61               | 0.87               | 1.07   |
|                     |         | 100                                    | 0.23                                                | 0.30 | 0.37 | 0.40 | 0.45  | 0.49  | 0.54  | 0.60  | 0.65  | 0.77  | 0.89  | 1.03  | 1.18  | 1.35  | 1.55  | 0.00                                                | 0.02               | 0.03               | 0.04   |
|                     |         | 200                                    | 0.42                                                | 0.54 | 0.68 | 0.75 | 0.83  | 0.91  | 1.00  | 1.11  | 1.22  | 1.45  | 1.67  | 1.94  | 2.22  | 2.55  | 2.92  | 0.01                                                | 0.04               | 0.06               | 0.07   |
|                     |         | 300                                    | 0.59                                                | 0.76 | 0.96 | 1.07 | 1.18  | 1.30  | 1.43  | 1.60  | 1.76  | 2.09  | 2.41  | 2.80  | 3.21  | 3.68  | 4.23  | 0.01                                                | 0.06               | 0.09               | 0.11   |
|                     |         | 400                                    | 0.75                                                | 0.97 | 1.24 | 1.37 | 1.52  | 1.67  | 1.85  | 2.06  | 2.28  | 2.70  | 3.12  | 3.63  | 4.16  | 4.78  | 5.49  | 0.01                                                | 0.09               | 0.12               | 0.15   |
|                     |         | 500                                    | 0.90                                                | 1.17 | 1.50 | 1.66 | 1.85  | 2.03  | 2.25  | 2.51  | 2.77  | 3.30  | 3.81  | 4.43  | 5.09  | 5.84  | 6.70  | 0.02                                                | 0.11               | 0.15               | 0.19   |
|                     |         | 600                                    | 1.04                                                | 1.36 | 1.75 | 1.94 | 2.16  | 2.38  | 2.63  | 2.95  | 3.26  | 3.87  | 4.48  | 5.21  | 5.98  | 6.86  | 7.88  | 0.02                                                | 0.13               | 0.18               | 0.22   |
|                     |         | 700                                    | 1.17                                                | 1.55 | 1.99 | 2.21 | 2.47  | 2.72  | 3.01  | 3.37  | 3.73  | 4.44  | 5.14  | 5.97  | 6.85  | 7.86  | 9.01  | 0.02                                                | 0.15               | 0.21               | 0.26   |
|                     |         | 800                                    | 1.30                                                | 1.72 | 2.23 | 2.47 | 2.76  | 3.05  | 3.38  | 3.78  | 4.19  | 4.99  | 5.77  | 6.71  | 7.70  | 8.82  | 10.11 | 0.03                                                | 0.17               | 0.24               | 0.30   |
|                     |         | 900                                    | 1.43                                                | 1.90 | 2.45 | 2.73 | 3.05  | 3.37  | 3.74  | 4.19  | 4.64  | 5.52  | 6.39  | 7.43  | 8.52  | 9.76  | 11.17 | 0.03                                                | 0.19               | 0.27               | 0.34   |
|                     |         | 1000                                   | 1.55                                                | 2.06 | 2.68 | 2.98 | 3.34  | 3.69  | 4.09  | 4.58  | 5.07  | 6.04  | 7.00  | 8.12  | 9.32  | 10.66 | 12.18 | 0.03                                                | 0.22               | 0.31               | 0.37   |
|                     |         | 1100                                   | 1.66                                                | 2.23 | 2.90 | 3.23 | 3.61  | 4.00  | 4.43  | 4.97  | 5.50  | 6.55  | 7.59  | 8.80  | 10.09 | 11.53 | 13.15 | 0.04                                                | 0.24               | 0.34               | 0.41   |
|                     |         | 1200                                   | 1.77                                                | 2.38 | 3.11 | 3.47 | 3.88  | 4.30  | 4.76  | 5.34  | 5.92  | 7.05  | 8.16  | 9.46  | 10.84 | 12.37 | 14.08 | 0.04                                                | 0.26               | 0.37               | 0.45   |
|                     |         | 1300                                   | 1.88                                                | 2.54 | 3.31 | 3.70 | 4.15  | 4.59  | 5.09  | 5.71  | 6.33  | 7.54  | 8.72  | 10.10 | 11.55 | 13.17 | 14.96 | 0.04                                                | 0.28               | 0.40               | 0.49   |
|                     |         | 1400                                   | 1.99                                                | 2.69 | 3.52 | 3.93 | 4.40  | 4.87  | 5.41  | 6.07  | 6.72  | 8.01  | 9.26  | 10.72 | 12.25 | 13.93 | 15.79 | 0.05                                                | 0.30               | 0.43               | 0.52   |
|                     |         | 1500                                   | 2.09                                                | 2.83 | 3.71 | 4.15 | 4.65  | 5.15  | 5.72  | 6.42  | 7.11  | 8.47  | 9.79  | 11.32 | 12.91 | 14.66 | 16.56 | 0.05                                                | 0.32               | 0.46               | 0.56   |
|                     |         | 1600                                   | 2.19                                                | 2.97 | 3.91 | 4.37 | 4.90  | 5.43  | 6.02  | 6.76  | 7.49  | 8.91  | 10.29 | 11.89 | 13.54 | 15.34 | 17.29 | 0.05                                                | 0.34               | 0.49               | 0.60   |
|                     |         | 1700                                   | 2.28                                                | 3.11 | 4.09 | 4.58 | 5.14  | 5.69  | 6.32  | 7.09  | 7.86  | 9.34  | 10.78 | 12.44 | 14.14 | 15.99 | 17.95 | 0.06                                                | 0.37               | 0.52               | 0.64   |
|                     |         | 1800                                   | 2.37                                                | 3.24 | 4.27 | 4.78 | 5.37  | 5.95  | 6.61  | 7.42  | 8.21  | 9.76  | 11.25 | 12.97 | 14.71 | 16.59 | 18.56 | 0.06                                                | 0.39               | 0.55               | 0.67   |
|                     |         | 1900                                   | 2.46                                                | 3.37 | 4.45 | 4.98 | 5.60  | 6.20  | 6.89  | 7.73  | 8.56  | 10.17 | 11.71 | 13.47 | 15.25 | 17.14 | 19.10 | 0.06                                                | 0.41               | 0.58               | 0.71   |
|                     |         | 2000                                   | 2.54                                                | 3.50 | 4.62 | 5.18 | 5.82  | 6.45  | 7.16  | 8.03  | 8.89  | 10.55 | 12.14 | 13.94 | 15.75 | 17.65 | 19.57 | 0.07                                                | 0.43               | 0.61               | 0.75   |
|                     |         | 2100                                   | 2.62                                                | 3.62 | 4.79 | 5.37 | 6.03  | 6.69  | 7.42  | 8.33  | 9.22  | 10.93 | 12.56 | 14.39 | 16.22 | 18.11 | 19.98 | 0.07                                                | 0.45               | 0.64               | 0.79   |
|                     |         | 2200                                   | 2.70                                                | 3.74 | 4.95 | 5.55 | 6.24  | 6.92  | 7.68  | 8.61  | 9.53  | 11.29 | 12.95 | 14.81 | 16.65 | 18.52 | 20.32 | 0.07                                                | 0.47               | 0.67               | 0.82   |
|                     |         | 2300                                   | 2.78                                                | 3.85 | 5.11 | 5.73 | 6.44  | 7.14  | 7.93  | 8.89  | 9.83  | 11.63 | 13.32 | 15.20 | 17.04 | 18.87 | 20.58 | 0.08                                                | 0.50               | 0.70               | 0.86   |
|                     |         | 2400                                   | 2.85                                                | 3.96 | 5.26 | 5.90 | 6.63  | 7.36  | 8.17  | 9.15  | 10.12 | 11.95 | 13.67 | 15.57 | 17.39 | 19.17 | 20.77 | 0.08                                                | 0.52               | 0.73               | 0.90   |
|                     |         | 2500                                   | 2.92                                                | 4.07 | 5.41 | 6.07 | 6.82  | 7.56  | 8.39  | 9.41  | 10.39 | 12.26 | 14.00 | 15.90 | 17.70 | 19.41 | 20.87 | 0.08                                                | 0.54               | 0.76               | 0.94   |
|                     |         | 2600                                   | 2.99                                                | 4.17 | 5.55 | 6.23 | 7.00  | 7.76  | 8.62  | 9.65  | 10.65 | 12.56 | 14.31 | 16.20 | 17.96 | 19.60 | 20.90 | 0.09                                                | 0.56               | 0.79               | 0.97   |
|                     |         | 2700                                   | 3.05                                                | 4.27 | 5.69 | 6.38 | 7.18  | 7.96  | 8.83  | 9.88  | 10.90 | 12.83 | 14.59 | 16.47 | 18.19 | 19.72 | 20.83 | 0.09                                                | 0.58               | 0.82               | 1.01   |
|                     |         | 2800                                   | 3.11                                                | 4.36 | 5.82 | 6.53 | 7.34  | 8.14  | 9.03  | 10.11 | 11.14 | 13.09 | 14.85 | 16.70 | 18.36 | 19.78 | 20.68 | 0.09                                                | 0.60               | 0.86               | 1.05   |
|                     |         | 2900                                   | 3.16                                                | 4.45 | 5.94 | 6.67 | 7.50  | 8.32  | 9.22  | 10.32 | 11.36 | 13.32 | 15.08 | 16.90 | 18.49 | 19.77 | 20.44 | 0.10                                                | 0.62               | 0.89               | 1.09   |
|                     |         | 3000                                   | 3.22                                                | 4.53 | 6.06 | 6.81 | 7.66  | 8.49  | 9.41  | 10.51 | 11.57 | 13.54 | 15.29 | 17.07 | 18.57 | 19.70 |       | 0.10                                                | 0.65               | 0.92               | 1.12   |
|                     |         | 3100                                   | 3.26                                                | 4.61 | 6.18 | 6.94 | 7.80  | 8.64  | 9.58  | 10.70 | 11.77 | 13.74 | 15.47 | 17.20 | 18.60 |       |       | 0.10                                                | 0.67               | 0.95               | 1.16   |
|                     |         | 3200                                   | 3.31                                                | 4.69 | 6.29 | 7.06 | 7.94  | 8.80  | 9.74  | 10.87 | 11.95 | 13.92 | 15.62 | 17.29 | 18.58 |       |       | 0.11                                                | 0.69               | 0.98               | 1.20   |
|                     |         | 3300                                   | 3.35                                                | 4.76 | 6.39 | 7.18 | 8.07  | 8.94  | 9.89  | 11.03 | 12.11 | 14.07 | 15.75 | 17.34 | 18.51 |       |       | 0.11                                                | 0.71               | 1.01               | 1.24   |
|                     |         | 3400                                   | 3.39                                                | 4.83 | 6.49 | 7.29 | 8.19  | 9.07  | 10.03 | 11.18 | 12.26 | 14.21 | 15.84 | 17.35 | 18.38 |       |       | 0.11                                                | 0.73               | 1.04               | 1.27   |
|                     |         | 3500                                   | 3.43                                                | 4.89 | 6.58 | 7.39 | 8.31  | 9.19  | 10.17 | 11.32 | 12.40 | 14.32 | 15.91 | 17.33 | 18.20 |       |       | 0.12                                                | 0.75               | 1.07               | 1.31   |
|                     |         | 3600                                   | 3.46                                                | 4.95 | 6.66 | 7.48 | 8.41  | 9.31  | 10.28 | 11.44 | 12.52 | 14.42 | 15.95 | 17.26 |       |       |       | 0.12                                                | 0.77               | 1.10               | 1.35   |
|                     |         | 3700                                   | 3.49                                                | 5.01 | 6.74 | 7.57 | 8.51  | 9.41  | 10.39 | 11.55 | 12.62 | 14.48 | 15.95 | 17.15 |       |       |       | 0.12                                                | 0.80               | 1.13               | 1.39   |
|                     |         | 3800                                   | 3.51                                                | 5.06 | 6.81 | 7.65 | 8.60  | 9.50  | 10.49 | 11.64 | 12.70 | 14.53 | 15.93 | 16.99 |       |       |       | 0.13                                                | 0.82               | 1.16               | 1.42   |
|                     |         | 3900                                   | 3.53                                                | 5.10 | 6.88 | 7.73 | 8.68  | 9.59  | 10.57 | 11.72 | 12.77 | 14.55 | 15.87 | 16.79 |       |       |       | 0.13                                                | 0.84               | 1.19               | 1.46   |
|                     |         | 4000                                   | 3.55                                                | 5.14 | 6.94 | 7.79 | 8.75  | 9.66  | 10.65 | 11.79 | 12.82 | 14.55 | 15.78 | 16.54 |       |       |       | 0.13                                                | 0.86               | 1.22               | 1.50   |
|                     |         | 4100                                   | 3.57                                                | 5.17 | 6.99 | 7.85 | 8.81  | 9.73  | 10.71 | 11.84 | 12.85 | 14.52 | 15.66 |       |       |       |       | 0.14                                                | 0.88               | 1.25               | 1.54   |
|                     |         | 4200                                   | 3.58                                                | 5.20 | 7.04 | 7.90 | 8.87  | 9.78  | 10.76 | 11.87 | 12.87 | 14.47 | 15.50 |       |       |       |       | 0.14                                                | 0.90               | 1.28               | 1.57   |
|                     |         | 4300                                   | 3.58                                                | 5.23 | 7.08 | 7.95 | 8.91  | 9.82  | 10.79 | 11.89 | 12.86 | 14.39 | 15.30 |       |       |       |       | 0.14                                                | 0.93               | 1.31               | 1.61   |
|                     |         | 4400                                   | 3.58                                                | 5.25 | 7.11 | 7.98 | 8.95  | 9.85  | 10.81 | 11.90 | 12.84 | 14.28 | 15.07 |       |       |       |       | 0.15                                                | 0.95               | 1.34               | 1.65   |
|                     |         | 4500                                   | 3.58                                                | 5.26 | 7.13 | 8.01 | 8.97  | 9.87  | 10.82 | 11.88 | 12.80 | 14.15 | 14.80 |       |       |       |       | 0.15                                                | 0.97               | 1.37               | 1.69   |
|                     |         | 4600                                   | 3.58                                                | 5.27 | 7.15 | 8.03 | 8.99  | 9.88  | 10.82 | 11.86 | 12.73 | 13.99 |       |       |       |       |       | 0.15                                                | 0.99               | 1.41               | 1.72   |
|                     |         | 4700                                   | 3.57                                                | 5.27 | 7.16 | 8.04 | 8.99  | 9.88  | 10.80 | 11.81 | 12.65 | 13.80 |       |       |       |       |       | 0.16                                                | 1.01               | 1.44               | 1.76   |
|                     |         | 4800                                   | 3.55                                                | 5.27 | 7.16 | 8.04 | 8.99  | 9.86  | 10.77 | 11.75 | 12.55 | 13.58 |       |       |       |       |       | 0.16                                                | 1.03               | 1.47               | 1.80   |
|                     |         | 4900                                   | 3.53                                                | 5.26 | 7.16 | 8.03 | 8.97  | 9.84  | 10.72 | 11.67 | 12.43 | 13.33 |       |       |       |       |       | 0.16                                                | 1.05               | 1.50               | 1.84   |
|                     |         | 5000                                   | 3.51                                                | 5.25 | 7.15 | 8.01 | 8.95  | 9.80  | 10.66 | 11.57 | 12.28 | 13.05 |       |       |       |       |       | 0.17                                                | 1.08               | 1.53               | 1.87   |
|                     |         | 5100                                   | 3.48                                                | 5.23 | 7.13 | 7.99 | 8.91  | 9.74  | 10.58 | 11.45 | 12.11 |       |       |       |       |       |       | 0.17                                                | 1.10               | 1.56               | 1.91   |
|                     |         | 5200                                   | 3.45                                                | 5.21 | 7.10 | 7.95 | 8.86  | 9.68  | 10.49 | 11.32 | 11.92 |       |       |       |       |       |       | 0.17                                                | 1.12               | 1.59               | 1.95   |
|                     |         | 5300                                   | 3.42                                                | 5.18 | 7.06 | 7.91 | 8.80  | 9.60  | 10.39 | 11.17 | 11.71 |       |       |       |       |       |       | 0.18                                                | 1.14               | 1.62               | 1.99   |
|                     |         | 5400                                   | 3.38                                                | 5.14 | 7.02 | 7.85 | 8.73  | 9.51  | 10.27 | 11.00 | 11.48 |       |       |       |       |       |       | 0.18                                                | 1.16               | 1.65               | 2.02   |
| 5500                | 3.33    | 5.10                                   | 6.96                                                | 7.79 | 8.65 | 9.41 | 10.13 | 10.81 | 11.22 |       |       |       |       |       |       | 0.18  | 1.18  | 1.68                                                | 2.06               |                    |        |
| 5600                | 3.28    | 5.05                                   | 6.90                                                | 7.71 | 8.56 | 9.29 | 9.97  | 10.60 |       |       |       |       |       |       |       | 0.19  | 1.21  | 1.71                                                | 2.10               |                    |        |
| 5700                | 3.23    | 4.99                                   | 6.83                                                | 7.63 | 8.45 | 9.16 | 9.80  | 10.37 |       |       |       |       |       |       |       | 0.19  | 1.23  | 1.74                                                | 2.13               |                    |        |
| 5800                | 3.17    | 4.93                                   | 6.75                                                | 7.54 | 8.34 | 9.01 | 9.62  | 1     |       |       |       |       |       |       |       |       |       |                                                     |                    |                    |        |



# POWER RATINGS

optibelt **SK** PROFILE SPB, 5V/15N, 5V/15J

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 3550$  mm



Table 43

| Pulleys                                         | v [m/s] | $n_k$<br>[min <sup>-1</sup> ] | Datum diameter of small pulley $d_{dk}$ [mm] |       |       |       |       |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio $i$ |                    |                    |                    |        |  |
|-------------------------------------------------|---------|-------------------------------|----------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------------------------------------|--------------------|--------------------|--------------------|--------|--|
|                                                 |         |                               | 140                                          | 150   | 160   | 180   | 190   | 200   | 212   | 224   | 236   | 250   | 280   | 315   | 355   | 375   | 400                                                   | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |  |
| Statically balanced                             | 5       | 700                           | 3.46                                         | 4.04  | 4.62  | 5.77  | 6.34  | 6.91  | 7.59  | 8.26  | 8.92  | 9.70  | 11.33 | 13.21 | 15.30 | 16.33 | 17.59                                                 | 0.05               | 0.33               | 0.47               | 0.58   |  |
|                                                 |         | 950                           | 4.42                                         | 5.19  | 5.95  | 7.46  | 8.20  | 8.94  | 9.82  | 10.69 | 11.56 | 12.56 | 14.66 | 17.04 | 19.67 | 20.94 | 22.50                                                 | 0.07               | 0.45               | 0.64               | 0.78   |  |
|                                                 |         | 1450                          | 6.09                                         | 7.20  | 8.29  | 10.44 | 11.49 | 12.53 | 13.76 | 14.96 | 16.15 | 17.50 | 20.30 | 23.36 | 26.59 | 28.08 | 29.83                                                 | 0.11               | 0.69               | 0.97               | 1.20   |  |
|                                                 |         | 2850                          | 9.07                                         | 10.83 | 12.53 | 15.71 | 17.18 | 18.57 | 20.13 | 21.57 | 22.87 | 24.21 | 26.40 | 27.68 |       |       |                                                       | 0.21               | 1.35               | 1.92               | 2.35   |  |
|                                                 |         | 100                           | 0.66                                         | 0.76  | 0.85  | 1.04  | 1.14  | 1.23  | 1.35  | 1.46  | 1.57  | 1.70  | 1.98  | 2.30  | 2.66  | 2.84  | 3.07                                                  | 0.01               | 0.05               | 0.07               | 0.08   |  |
|                                                 |         | 200                           | 1.21                                         | 1.39  | 1.57  | 1.94  | 2.12  | 2.30  | 2.51  | 2.73  | 2.94  | 3.19  | 3.72  | 4.33  | 5.02  | 5.36  | 5.79                                                  | 0.01               | 0.09               | 0.13               | 0.16   |  |
|                                                 |         | 300                           | 1.71                                         | 1.97  | 2.24  | 2.77  | 3.03  | 3.29  | 3.61  | 3.92  | 4.23  | 4.59  | 5.36  | 6.24  | 7.25  | 7.74  | 8.36                                                  | 0.02               | 0.14               | 0.20               | 0.25   |  |
|                                                 |         | 400                           | 2.17                                         | 2.52  | 2.87  | 3.56  | 3.91  | 4.25  | 4.66  | 5.06  | 5.47  | 5.94  | 6.93  | 8.08  | 9.38  | 10.03 | 10.82                                                 | 0.03               | 0.19               | 0.27               | 0.33   |  |
|                                                 |         | 500                           | 2.62                                         | 3.05  | 3.48  | 4.32  | 4.75  | 5.16  | 5.66  | 6.16  | 6.66  | 7.23  | 8.45  | 9.85  | 11.43 | 12.22 | 13.18                                                 | 0.04               | 0.24               | 0.34               | 0.41   |  |
|                                                 |         | 600                           | 3.05                                         | 3.55  | 4.06  | 5.06  | 5.56  | 6.05  | 6.64  | 7.23  | 7.81  | 8.48  | 9.92  | 11.56 | 13.41 | 14.32 | 15.44                                                 | 0.04               | 0.28               | 0.40               | 0.49   |  |
|                                                 |         | 700                           | 3.46                                         | 4.04  | 4.62  | 5.77  | 6.34  | 6.91  | 7.59  | 8.26  | 8.92  | 9.70  | 11.33 | 13.21 | 15.30 | 16.33 | 17.59                                                 | 0.05               | 0.33               | 0.47               | 0.58   |  |
|                                                 |         | 800                           | 3.85                                         | 4.51  | 5.17  | 6.46  | 7.10  | 7.74  | 8.50  | 9.26  | 10.00 | 10.87 | 12.70 | 14.79 | 17.11 | 18.25 | 19.64                                                 | 0.06               | 0.38               | 0.54               | 0.66   |  |
|                                                 |         | 900                           | 4.23                                         | 4.96  | 5.69  | 7.13  | 7.84  | 8.55  | 9.39  | 10.22 | 11.05 | 12.00 | 14.02 | 16.30 | 18.84 | 20.07 | 21.57                                                 | 0.07               | 0.43               | 0.61               | 0.74   |  |
|                                                 |         | 1000                          | 4.60                                         | 5.40  | 6.20  | 7.78  | 8.56  | 9.33  | 10.25 | 11.16 | 12.06 | 13.10 | 15.28 | 17.75 | 20.47 | 21.79 | 23.39                                                 | 0.07               | 0.47               | 0.67               | 0.82   |  |
|                                                 |         | 1100                          | 4.95                                         | 5.83  | 6.69  | 8.41  | 9.25  | 10.09 | 11.08 | 12.06 | 13.03 | 14.15 | 16.50 | 19.13 | 22.01 | 23.40 | 25.07                                                 | 0.08               | 0.52               | 0.74               | 0.91   |  |
|                                                 |         | 1200                          | 5.29                                         | 6.24  | 7.17  | 9.01  | 9.92  | 10.82 | 11.88 | 12.93 | 13.97 | 15.16 | 17.65 | 20.44 | 23.46 | 24.89 | 26.62                                                 | 0.09               | 0.57               | 0.81               | 0.99   |  |
|                                                 |         | 1300                          | 5.62                                         | 6.63  | 7.63  | 9.60  | 10.57 | 11.52 | 12.65 | 13.77 | 14.87 | 16.13 | 18.76 | 21.67 | 24.79 | 26.26 | 28.02                                                 | 0.10               | 0.62               | 0.87               | 1.07   |  |
|                                                 |         | 1400                          | 5.94                                         | 7.01  | 8.08  | 10.16 | 11.19 | 12.20 | 13.40 | 14.57 | 15.73 | 17.06 | 19.80 | 22.82 | 26.02 | 27.51 | 29.27                                                 | 0.10               | 0.66               | 0.94               | 1.15   |  |
|                                                 |         | 1500                          | 6.24                                         | 7.38  | 8.51  | 10.71 | 11.79 | 12.85 | 14.11 | 15.34 | 16.55 | 17.93 | 20.78 | 23.88 | 27.12 | 28.62 | 30.35                                                 | 0.11               | 0.71               | 1.01               | 1.24   |  |
|                                                 |         | 1600                          | 6.54                                         | 7.73  | 8.92  | 11.23 | 12.36 | 13.48 | 14.79 | 16.07 | 17.33 | 18.76 | 21.69 | 24.86 | 28.11 | 29.58 | 31.26                                                 | 0.12               | 0.76               | 1.08               | 1.32   |  |
|                                                 |         | 1700                          | 6.82                                         | 8.07  | 9.31  | 11.73 | 12.91 | 14.07 | 15.44 | 16.77 | 18.07 | 19.54 | 22.54 | 25.74 | 28.96 | 30.39 | 31.99                                                 | 0.12               | 0.81               | 1.14               | 1.40   |  |
|                                                 |         | 1800                          | 7.08                                         | 8.40  | 9.69  | 12.21 | 13.44 | 14.64 | 16.05 | 17.42 | 18.76 | 20.27 | 23.31 | 26.52 | 29.68 | 31.04 | 32.53                                                 | 0.13               | 0.85               | 1.21               | 1.48   |  |
|                                                 |         | 1900                          | 7.34                                         | 8.71  | 10.05 | 12.67 | 13.93 | 15.18 | 16.63 | 18.04 | 19.40 | 20.94 | 24.02 | 27.20 | 30.25 | 31.53 | 32.86                                                 | 0.14               | 0.90               | 1.28               | 1.57   |  |
|                                                 |         | 2000                          | 7.58                                         | 9.00  | 10.39 | 13.10 | 14.41 | 15.68 | 17.17 | 18.61 | 20.00 | 21.56 | 24.64 | 27.77 | 30.68 | 31.84 | 32.99                                                 | 0.15               | 0.95               | 1.34               | 1.65   |  |
|                                                 |         | 2100                          | 7.81                                         | 9.28  | 10.72 | 13.51 | 14.85 | 16.15 | 17.67 | 19.14 | 20.55 | 22.11 | 25.19 | 28.24 | 30.94 | 31.96 | 32.89                                                 | 0.15               | 0.99               | 1.41               | 1.73   |  |
|                                                 |         | 2200                          | 8.02                                         | 9.54  | 11.03 | 13.89 | 15.26 | 16.59 | 18.14 | 19.62 | 21.04 | 22.61 | 25.65 | 28.58 | 31.05 | 31.90 | 32.57                                                 | 0.16               | 1.04               | 1.48               | 1.81   |  |
|                                                 |         | 2300                          | 8.22                                         | 9.79  | 11.31 | 14.24 | 15.64 | 17.00 | 18.57 | 20.06 | 21.48 | 23.05 | 26.03 | 28.81 | 30.98 | 31.63 |                                                       | 0.17               | 1.09               | 1.55               | 1.90   |  |
|                                                 |         | 2400                          | 8.41                                         | 10.02 | 11.58 | 14.57 | 16.00 | 17.37 | 18.95 | 20.45 | 21.87 | 23.41 | 26.31 | 28.91 | 30.74 | 31.16 |                                                       | 0.18               | 1.14               | 1.61               | 1.98   |  |
|                                                 |         | 2500                          | 8.58                                         | 10.23 | 11.83 | 14.88 | 16.32 | 17.70 | 19.29 | 20.79 | 22.20 | 23.72 | 26.50 | 28.88 | 30.31 |       |                                                       | 0.18               | 1.18               | 1.68               | 2.06   |  |
|                                                 |         | 2600                          | 8.74                                         | 10.42 | 12.06 | 15.15 | 16.61 | 18.00 | 19.59 | 21.08 | 22.47 | 23.95 | 26.60 | 28.71 |       |       |                                                       | 0.19               | 1.23               | 1.75               | 2.14   |  |
|                                                 |         | 2700                          | 8.88                                         | 10.60 | 12.26 | 15.39 | 16.86 | 18.26 | 19.84 | 21.31 | 22.67 | 24.11 | 26.60 | 28.41 |       |       |                                                       | 0.20               | 1.28               | 1.82               | 2.23   |  |
|                                                 |         | 2800                          | 9.01                                         | 10.76 | 12.45 | 15.61 | 17.08 | 18.48 | 20.05 | 21.50 | 22.82 | 24.19 | 26.49 | 27.96 |       |       |                                                       | 0.21               | 1.33               | 1.88               | 2.31   |  |
|                                                 |         | 2900                          | 9.12                                         | 10.90 | 12.61 | 15.79 | 17.27 | 18.66 | 20.20 | 21.62 | 22.90 | 24.20 | 26.28 | 27.36 |       |       |                                                       | 0.21               | 1.37               | 1.95               | 2.39   |  |
|                                                 |         | 3000                          | 9.22                                         | 11.02 | 12.75 | 15.95 | 17.42 | 18.79 | 20.31 | 21.69 | 22.91 | 24.13 | 25.96 |       |       |       |                                                       | 0.22               | 1.42               | 2.02               | 2.47   |  |
|                                                 |         | 3100                          | 9.30                                         | 11.12 | 12.86 | 16.07 | 17.53 | 18.88 | 20.37 | 21.70 | 22.85 | 23.98 |       |       |       |       |                                                       | 0.23               | 1.47               | 2.08               | 2.56   |  |
|                                                 |         | 3200                          | 9.36                                         | 11.21 | 12.96 | 16.16 | 17.60 | 18.93 | 20.38 | 21.64 | 22.72 | 23.74 |       |       |       |       |                                                       | 0.23               | 1.52               | 2.15               | 2.64   |  |
|                                                 |         | 3300                          | 9.41                                         | 11.27 | 13.02 | 16.21 | 17.63 | 18.93 | 20.33 | 21.53 | 22.52 | 23.42 |       |       |       |       |                                                       | 0.24               | 1.56               | 2.22               | 2.72   |  |
|                                                 |         | 3400                          | 9.44                                         | 11.31 | 13.07 | 16.23 | 17.63 | 18.89 | 20.22 | 21.35 | 22.25 | 23.01 |       |       |       |       |                                                       | 0.25               | 1.61               | 2.29               | 2.80   |  |
|                                                 |         | 3500                          | 9.45                                         | 11.33 | 13.08 | 16.22 | 17.58 | 18.80 | 20.06 | 21.10 | 21.90 | 22.51 |       |       |       |       |                                                       | 0.26               | 1.66               | 2.35               | 2.89   |  |
|                                                 |         | 3600                          | 9.45                                         | 11.33 | 13.08 | 16.17 | 17.49 | 18.66 | 19.84 | 20.78 |       |       |       |       |       |       |                                                       | 0.26               | 1.71               | 2.42               | 2.97   |  |
|                                                 |         | 3700                          | 9.42                                         | 11.30 | 13.04 | 16.08 | 17.36 | 18.47 | 19.57 | 20.40 |       |       |       |       |       |       |                                                       | 0.27               | 1.75               | 2.49               | 3.05   |  |
|                                                 |         | 3800                          | 9.38                                         | 11.25 | 12.98 | 15.95 | 17.18 | 18.22 | 19.23 | 19.94 |       |       |       |       |       |       |                                                       | 0.28               | 1.80               | 2.55               | 3.13   |  |
|                                                 |         | 3900                          | 9.31                                         | 11.18 | 12.89 | 15.78 | 16.95 | 17.93 | 18.83 | 19.41 |       |       |       |       |       |       |                                                       | 0.29               | 1.85               | 2.62               | 3.21   |  |
|                                                 |         | 4000                          | 9.23                                         | 11.09 | 12.77 | 15.58 | 16.68 | 17.58 | 18.36 | 18.81 |       |       |       |       |       |       |                                                       | 0.29               | 1.89               | 2.69               | 3.30   |  |
|                                                 |         | 4100                          | 9.13                                         | 10.97 | 12.62 | 15.33 | 16.36 | 17.17 |       |       |       |       |       |       |       |       |                                                       | 0.30               | 1.94               | 2.76               | 3.38   |  |
|                                                 |         | 4200                          | 9.01                                         | 10.82 | 12.44 | 15.04 | 16.00 | 16.71 |       |       |       |       |       |       |       |       |                                                       | 0.31               | 1.99               | 2.82               | 3.46   |  |
|                                                 |         | 4300                          | 8.86                                         | 10.65 | 12.23 | 14.71 | 15.58 | 16.19 |       |       |       |       |       |       |       |       |                                                       | 0.32               | 2.04               | 2.89               | 3.54   |  |
|                                                 |         | 4400                          | 8.70                                         | 10.46 | 11.99 | 14.33 | 15.11 | 15.62 |       |       |       |       |       |       |       |       |                                                       | 0.32               | 2.08               | 2.96               | 3.63   |  |
|                                                 |         | 4500                          | 8.51                                         | 10.24 | 11.72 | 13.92 | 14.60 | 14.98 |       |       |       |       |       |       |       |       |                                                       | 0.33               | 2.13               | 3.03               | 3.71   |  |
|                                                 |         | 4600                          | 8.30                                         | 9.99  | 11.42 | 13.45 |       |       |       |       |       |       |       |       |       |       |                                                       | 0.34               | 2.18               | 3.09               | 3.79   |  |
|                                                 |         | 4700                          | 8.07                                         | 9.72  | 11.08 | 12.94 |       |       |       |       |       |       |       |       |       |       |                                                       | 0.34               | 2.23               | 3.16               | 3.87   |  |
|                                                 |         | 4800                          | 7.82                                         | 9.41  | 10.72 | 12.38 |       |       |       |       |       |       |       |       |       |       |                                                       | 0.35               | 2.27               | 3.23               | 3.96   |  |
|                                                 |         | 4900                          | 7.54                                         | 9.08  | 10.31 | 11.78 |       |       |       |       |       |       |       |       |       |       |                                                       | 0.36               | 2.32               | 3.29               | 4.04   |  |
|                                                 |         | 5000                          | 7.24                                         | 8.72  | 9.87  | 11.13 |       |       |       |       |       |       |       |       |       |       |                                                       | 0.37               | 2.37               | 3.36               | 4.12   |  |
|                                                 |         | 5100                          | 6.92                                         | 8.33  | 9.40  |       |       |       |       |       |       |       |       |       |       |       |                                                       | 0.37               | 2.42               | 3.43               | 4.20   |  |
|                                                 |         | 5200                          | 6.57                                         | 7.91  | 8.89  |       |       |       |       |       |       |       |       |       |       |       |                                                       | 0.38               | 2.46               | 3.50               | 4.29   |  |
|                                                 |         | 5300                          | 6.19                                         | 7.46  | 8.34  |       |       |       |       |       |       |       |       |       |       |       |                                                       | 0.39               | 2.51               | 3.56               | 4.37   |  |
|                                                 |         | 5400                          | 5.79                                         | 6.98  | 7.76  |       |       |       |       |       |       |       |       |       |       |       |                                                       | 0.40               | 2.56               | 3.63               | 4.45   |  |
|                                                 |         | 5500                          | 5.37                                         | 6.47  | 7.14  |       |       |       |       |       |       |       |       |       |       |       |                                                       | 0.40               | 2.61               | 3.70               | 4.53   |  |
| Dynamically balanced (for details see DIN 2211) |         |                               |                                              |       |       |       |       |       |       |       |       |       |       |       |       |       |                                                       | v [m/s]            |                    |                    |        |  |
|                                                 |         |                               |                                              |       |       |       |       |       |       |       |       |       |       |       |       |       |                                                       | Pulleys            |                    |                    |        |  |

**FOR  $\beta = 180^\circ$  AND  $L_d = 5600$  mm**



Table 44

| Pulleys             | v [m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Datum diameter of small pulley d <sub>dk</sub> [mm] |                    |                    |                    |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio i |                    |                    |                    |                    |
|---------------------|---------|----------------------------------------|-----------------------------------------------------|--------------------|--------------------|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------------------------------------|--------------------|--------------------|--------------------|--------------------|
|                     |         |                                        | 224                                                 | 250                | 280                | 300                | 315   | 335   | 355   | 375   | 400   | 450   | 500   | 560   | 630   | 710                                                 | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | 1.57<br>to<br>1.73 |
|                     |         |                                        | 1.01<br>to<br>1.05                                  | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | 1.57<br>to<br>1.73 |       |       |       |       |       |       |       |       |       |                                                     |                    |                    |                    |                    |
| Statically balanced | ⑤       | 700                                    | 10.46                                               | 13.11              | 16.13              | 18.11              | 19.58 | 21.52 | 23.44 | 25.34 | 27.68 | 32.24 | 36.64 | 41.70 | 47.28 | 53.19                                               | 0.14               | 0.90               | 1.28               | 1.57               |
|                     |         | 950                                    | 13.27                                               | 16.71              | 20.58              | 23.11              | 24.97 | 27.42 | 29.82 | 32.18 | 35.05 | 40.55 | 45.70 | 51.38 | 57.27 | 62.91                                               | 0.19               | 1.22               | 1.73               | 2.13               |
|                     |         | 1450                                   | 17.79                                               | 22.48              | 27.64              | 30.92              | 33.30 | 36.35 | 39.26 | 42.02 | 45.25 | 50.94 | 55.51 | 59.36 | 61.37 |                                                     | 0.29               | 1.86               | 2.65               | 3.25               |
|                     |         | 2850                                   | 20.63                                               | 25.52              | 29.58              | 31.27              | 31.96 |       |       |       |       |       |       |       |       |                                                     | 0.57               | 3.67               | 5.20               | 6.38               |
|                     |         | 50                                     | 1.08                                                | 1.31               | 1.58               | 1.75               | 1.89  | 2.06  | 2.23  | 2.41  | 2.62  | 3.05  | 3.48  | 3.99  | 4.58  | 5.25                                                | 0.01               | 0.06               | 0.09               | 0.11               |
|                     |         | 100                                    | 1.99                                                | 2.44               | 2.94               | 3.28               | 3.53  | 3.87  | 4.20  | 4.53  | 4.95  | 5.77  | 6.58  | 7.56  | 8.68  | 9.95                                                | 0.02               | 0.13               | 0.18               | 0.22               |
|                     |         | 200                                    | 3.64                                                | 4.49               | 5.46               | 6.11               | 6.59  | 7.22  | 7.86  | 8.49  | 9.28  | 10.84 | 12.38 | 14.22 | 16.34 | 18.73                                               | 0.04               | 0.26               | 0.37               | 0.45               |
|                     |         | 300                                    | 5.16                                                | 6.40               | 7.81               | 8.75               | 9.44  | 10.37 | 11.29 | 12.21 | 13.34 | 15.60 | 17.83 | 20.47 | 23.50 | 26.90                                               | 0.06               | 0.39               | 0.55               | 0.67               |
|                     |         | 350                                    | 5.89                                                | 7.31               | 8.94               | 10.01              | 10.82 | 11.88 | 12.94 | 13.99 | 15.30 | 17.88 | 20.44 | 23.45 | 26.90 | 30.77                                               | 0.07               | 0.45               | 0.64               | 0.78               |
|                     |         | 400                                    | 6.59                                                | 8.20               | 10.04              | 11.25              | 12.16 | 13.36 | 14.55 | 15.73 | 17.21 | 20.11 | 22.97 | 26.35 | 30.20 | 34.48                                               | 0.08               | 0.51               | 0.73               | 0.90               |
|                     |         | 450                                    | 7.28                                                | 9.07               | 11.11              | 12.46              | 13.47 | 14.80 | 16.12 | 17.44 | 19.07 | 22.28 | 25.44 | 29.15 | 33.37 | 38.04                                               | 0.09               | 0.58               | 0.82               | 1.01               |
|                     |         | 500                                    | 7.95                                                | 9.91               | 12.16              | 13.64              | 14.75 | 16.21 | 17.66 | 19.10 | 20.88 | 24.39 | 27.83 | 31.86 | 36.42 | 41.44                                               | 0.10               | 0.64               | 0.91               | 1.12               |
|                     | 550     | 8.60                                   | 10.74                                               | 13.19              | 14.80              | 16.00              | 17.59 | 19.16 | 20.72 | 22.65 | 26.44 | 30.15 | 34.48 | 39.34 | 44.66 | 0.11                                                | 0.71               | 1.00               | 1.23               |                    |
|                     | 600     | 9.23                                   | 11.55                                               | 14.19              | 15.93              | 17.22              | 18.93 | 20.62 | 22.30 | 24.37 | 28.44 | 32.39 | 36.99 | 42.13 | 47.70 | 0.12                                                | 0.77               | 1.10               | 1.34               |                    |
|                     | 650     | 9.85                                   | 12.34                                               | 15.17              | 17.03              | 18.42              | 20.24 | 22.05 | 23.84 | 26.05 | 30.37 | 34.56 | 39.40 | 44.78 | 50.55 | 0.13                                                | 0.84               | 1.19               | 1.45               |                    |
|                     | 700     | 10.46                                  | 13.11                                               | 16.13              | 18.11              | 19.58              | 21.52 | 23.44 | 25.34 | 27.68 | 32.24 | 36.64 | 41.70 | 47.28 | 53.19 | 0.14                                                | 0.90               | 1.28               | 1.57               |                    |
|                     | 750     | 11.05                                  | 13.87                                               | 17.06              | 19.16              | 20.72              | 22.77 | 24.80 | 26.80 | 29.26 | 34.04 | 38.64 | 43.89 | 49.62 | 55.61 | 0.15                                                | 0.96               | 1.37               | 1.68               |                    |
|                     | 800     | 11.63                                  | 14.60                                               | 17.98              | 20.19              | 21.83              | 23.99 | 26.11 | 28.21 | 30.78 | 35.77 | 40.54 | 45.95 | 51.80 | 57.81 | 0.16                                                | 1.03               | 1.46               | 1.79               |                    |
|                     | 850     | 12.19                                  | 15.32                                               | 18.87              | 21.19              | 22.91              | 25.17 | 27.39 | 29.58 | 32.26 | 37.44 | 42.36 | 47.89 | 53.80 | 59.77 | 0.17                                                | 1.09               | 1.55               | 1.90               |                    |
|                     | 900     | 12.74                                  | 16.02                                               | 19.74              | 22.16              | 23.96              | 26.31 | 28.63 | 30.90 | 33.68 | 39.03 | 44.08 | 49.71 | 55.63 | 61.47 | 0.18                                                | 1.16               | 1.64               | 2.01               |                    |
|                     | 950     | 13.27                                  | 16.71                                               | 20.58              | 23.11              | 24.97              |       |       |       |       |       |       |       |       |       |                                                     |                    |                    |                    |                    |

# POWER RATINGS

optibelt **SK** PROFILE 8V/25N, 8V/25J

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND 8V 2500/6350 mm  $L_d$



Table 45

| Pulleys                                                                     | v [m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Outside diameter of small pulley d <sub>ok</sub> [mm] |       |       |       |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio i |                    |                    |      |       |
|-----------------------------------------------------------------------------|---------|----------------------------------------|-------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------------------------------------|--------------------|--------------------|------|-------|
|                                                                             |         |                                        | 335                                                   | 355   | 375   | 425   | 450   | 475   | 500   | 530   | 560   | 600   | 630   | 710   | 800   | 1.01<br>to<br>1.05                                  | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 |      |       |
| Statically balanced                                                         |         | 700                                    | 25.67                                                 | 28.61 | 31.52 | 38.62 | 42.08 | 45.49 | 48.82 | 52.74 | 56.57 | 61.51 | 65.09 | 74.10 | 83.23 | 0.28                                                | 1.83               | 2.60               | 3.18 |       |
|                                                                             |         | 950                                    | 32.09                                                 | 35.77 | 39.37 | 48.03 | 52.17 | 56.17 | 60.03 | 64.47 | 68.68 | 73.95 | 77.62 | 86.13 | 93.33 | 0.38                                                | 2.48               | 3.52               | 4.32 |       |
|                                                                             |         | 1450                                   | 40.47                                                 | 44.90 | 49.10 | 58.51 | 62.60 | 66.25 | 69.44 | 72.63 | 75.10 | 77.18 | 77.79 |       |       | 5.38                                                | 6.60               |                    |      |       |
|                                                                             |         | 50                                     | 2.63                                                  | 2.89  | 3.16  | 3.82  | 4.15  | 4.48  | 4.80  | 5.19  | 5.58  | 6.10  | 6.48  | 7.51  | 8.65  | 0.02                                                | 0.13               | 0.19               | 0.23 |       |
|                                                                             |         | 100                                    | 4.87                                                  | 5.38  | 5.89  | 7.15  | 7.78  | 8.41  | 9.03  | 9.78  | 10.52 | 11.51 | 12.24 | 14.19 | 16.37 | 0.04                                                | 0.26               | 0.37               | 0.45 |       |
|                                                                             |         | 150                                    | 6.97                                                  | 7.71  | 8.46  | 10.30 | 11.22 | 12.13 | 13.03 | 14.12 | 15.20 | 16.63 | 17.70 | 20.53 | 23.68 | 0.06                                                | 0.39               | 0.56               | 0.68 |       |
|                                                                             |         | 200                                    | 8.97                                                  | 9.94  | 10.91 | 13.31 | 14.51 | 15.69 | 16.88 | 18.29 | 19.69 | 21.56 | 22.94 | 26.61 | 30.68 | 0.08                                                | 0.52               | 0.74               | 0.91 |       |
|                                                                             |         | 250                                    | 10.89                                                 | 12.08 | 13.27 | 16.22 | 17.68 | 19.14 | 20.59 | 22.31 | 24.03 | 26.30 | 28.00 | 32.46 | 37.40 | 0.10                                                | 0.65               | 0.93               | 1.14 |       |
|                                                                             |         | 5                                      | 300                                                   | 12.74 | 14.15 | 15.56 | 19.04 | 20.76 | 22.47 | 24.18 | 26.21 | 28.22 | 30.89 | 32.87 | 38.09 | 43.84                                               | 0.12               | 0.78               | 1.11 | 1.36  |
|                                                                             |         |                                        | 350                                                   | 14.54 | 16.16 | 17.78 | 21.77 | 23.74 | 25.71 | 27.66 | 29.98 | 32.28 | 35.32 | 37.57 | 43.49 | 49.98                                               | 0.14               | 0.91               | 1.30 | 1.59  |
|                                                                             |         |                                        | 400                                                   | 16.28 | 18.11 | 19.93 | 24.42 | 26.64 | 28.84 | 31.02 | 33.62 | 36.19 | 39.58 | 42.10 | 48.66 | 55.82                                               | 0.16               | 1.05               | 1.48 | 1.82  |
|                                                                             |         |                                        | 450                                                   | 17.97 | 20.00 | 22.01 | 26.99 | 29.44 | 31.87 | 34.28 | 37.14 | 39.97 | 43.69 | 46.44 | 53.59 | 61.33                                               | 0.18               | 1.18               | 1.67 | 2.05  |
|                                                                             |         |                                        | 500                                                   | 19.61 | 21.83 | 24.04 | 29.48 | 32.16 | 34.81 | 37.43 | 40.54 | 43.60 | 47.62 | 50.59 | 58.27 | 66.50                                               | 0.20               | 1.31               | 1.86 | 2.27  |
|                                                                             |         | 10                                     | 550                                                   | 21.20 | 23.61 | 26.00 | 31.89 | 34.78 | 37.64 | 40.46 | 43.80 | 47.08 | 51.38 | 54.54 | 62.67 | 71.30                                               | 0.22               | 1.44               | 2.04 | 2.50  |
|                                                                             |         |                                        | 600                                                   | 22.74 | 25.33 | 27.90 | 34.22 | 37.31 | 40.36 | 43.37 | 46.92 | 50.41 | 54.95 | 58.28 | 66.79 | 75.70                                               | 0.24               | 1.57               | 2.23 | 2.73  |
|                                                                             |         |                                        | 650                                                   | 24.23 | 27.00 | 29.74 | 36.46 | 39.75 | 42.98 | 46.16 | 49.91 | 53.57 | 58.33 | 61.80 | 70.61 | 79.69                                               | 0.26               | 1.70               | 2.41 | 2.96  |
|                                                                             |         |                                        | 700                                                   | 25.67 | 28.61 | 31.52 | 38.62 | 42.08 | 45.49 | 48.82 | 52.74 | 56.57 | 61.51 | 65.09 | 74.10 | 83.23                                               | 0.28               | 1.83               | 2.60 | 3.18  |
|                                                                             |         |                                        | 750                                                   | 27.06 | 30.16 | 33.23 | 40.69 | 44.32 | 47.87 | 51.35 | 55.42 | 59.38 | 64.46 | 68.13 | 77.26 | 86.31                                               | 0.30               | 1.96               | 2.78 | 3.41  |
|                                                                             |         | 15                                     | 800                                                   | 28.40 | 31.66 | 34.87 | 42.67 | 46.45 | 50.14 | 53.74 | 57.94 | 62.01 | 67.20 | 70.92 | 80.06 | 88.88                                               | 0.32               | 2.09               | 2.97 | 3.64  |
|                                                                             |         |                                        | 850                                                   | 29.68 | 33.09 | 36.44 | 44.56 | 48.47 | 52.28 | 55.99 | 60.30 | 64.44 | 69.70 | 73.44 | 82.49 | 90.92                                               | 0.34               | 2.22               | 3.15 | 3.87  |
|                                                                             |         |                                        | 900                                                   | 30.91 | 34.46 | 37.94 | 46.34 | 50.38 | 54.29 | 58.09 | 62.47 | 66.67 | 71.95 | 75.67 | 84.52 | 92.42                                               | 0.36               | 2.35               | 3.34 | 4.09  |
|                                                                             |         |                                        | 950                                                   | 32.09 | 35.77 | 39.37 | 48.03 | 52.17 | 56.17 | 60.03 | 64.47 | 68.68 | 73.95 | 77.62 | 86.13 | 93.33                                               | 0.38               | 2.48               | 3.52 | 4.32  |
|                                                                             |         |                                        | 1000                                                  | 33.21 | 37.01 | 40.72 | 49.61 | 53.84 | 57.90 | 61.81 | 66.27 | 70.48 | 75.68 | 79.25 | 87.31 | 93.63                                               | 0.40               | 2.61               | 3.71 | 4.55  |
|                                                                             |         | 20                                     | 1050                                                  | 34.27 | 38.18 | 42.00 | 51.09 | 55.38 | 59.49 | 63.42 | 67.87 | 72.04 | 77.12 | 80.56 | 88.04 | 93.28                                               | 0.42               | 2.74               | 3.90 | 4.78  |
|                                                                             |         |                                        | 1100                                                  | 35.27 | 39.29 | 43.19 | 52.45 | 56.79 | 60.93 | 64.85 | 69.27 | 73.36 | 78.28 | 81.53 | 88.30 | 92.28                                               | 0.44               | 2.88               | 4.08 | 5.00  |
|                                                                             |         |                                        | 1150                                                  | 36.21 | 40.32 | 44.30 | 53.69 | 58.06 | 62.20 | 66.11 | 70.46 | 74.44 | 79.13 | 82.16 | 88.06 | 90.56                                               | 0.46               | 3.01               | 4.27 | 5.23  |
|                                                                             |         |                                        | 1200                                                  | 37.09 | 41.28 | 45.33 | 54.82 | 59.20 | 63.32 | 67.17 | 71.42 | 75.25 | 79.66 | 82.42 | 87.31 | 88.14                                               | 0.49               | 3.14               | 4.45 | 5.46  |
|                                                                             |         |                                        | 1250                                                  | 37.90 | 42.16 | 46.27 | 55.82 | 60.19 | 64.27 | 68.04 | 72.16 | 75.80 | 79.87 | 82.31 | 86.03 |                                                     | 0.51               | 3.27               | 4.64 | 5.69  |
|                                                                             |         | 25                                     | 1300                                                  | 38.65 | 42.97 | 47.12 | 56.69 | 61.03 | 65.04 | 68.71 | 72.65 | 76.06 | 79.74 | 81.80 |       |                                                     | 0.53               | 3.40               | 4.82 | 5.91  |
|                                                                             |         |                                        | 1350                                                  | 39.33 | 43.70 | 47.88 | 57.44 | 61.71 | 65.63 | 69.17 | 72.90 | 76.04 | 79.25 | 80.89 |       |                                                     | 0.55               | 3.53               | 5.01 | 6.14  |
|                                                                             |         |                                        | 1400                                                  | 39.93 | 44.34 | 48.54 | 58.04 | 62.24 | 66.04 | 69.42 | 72.90 | 75.72 |       | 79.56 |       |                                                     | 0.57               | 3.66               | 5.19 | 6.37  |
|                                                                             |         |                                        | 1450                                                  | 40.47 | 44.90 | 49.10 | 58.51 | 62.60 | 66.25 | 69.44 | 72.63 | 75.10 |       | 77.79 |       |                                                     | 0.59               | 3.79               | 5.38 | 6.60  |
|                                                                             |         |                                        | 1500                                                  | 40.93 | 45.37 | 49.56 | 58.84 | 62.80 | 66.27 | 69.24 |       |       |       |       |       |                                                     | 0.61               | 3.92               | 5.57 | 6.82  |
|                                                                             |         | 30                                     | 1550                                                  | 41.31 | 45.75 | 49.91 | 59.01 | 62.81 | 66.08 | 68.80 |       |       |       |       |       |                                                     | 0.63               | 4.05               | 5.75 | 7.05  |
|                                                                             |         |                                        | 1600                                                  | 41.62 | 46.04 | 50.16 | 59.04 | 62.65 | 65.69 | 68.11 |       |       |       |       |       |                                                     | 0.65               | 4.18               | 5.94 | 7.28  |
|                                                                             |         |                                        | 1650                                                  | 41.85 | 46.24 | 50.30 | 58.90 | 62.31 | 65.08 | 67.18 |       |       |       |       |       |                                                     | 0.67               | 4.31               | 6.12 | 7.51  |
|                                                                             |         |                                        | 1700                                                  | 41.99 | 46.34 | 50.33 | 58.61 | 61.77 | 64.25 | 65.99 |       |       |       |       |       |                                                     | 0.69               | 4.44               | 6.31 | 7.73  |
|                                                                             |         |                                        | 1750                                                  | 42.05 | 46.35 | 50.24 | 58.15 | 61.05 | 63.19 | 64.54 |       |       |       |       |       |                                                     | 0.71               | 4.57               | 6.49 | 7.96  |
|                                                                             |         | 35                                     | 1800                                                  | 42.03 | 46.25 | 50.04 | 57.52 | 60.12 |       |       |       |       |       |       |       |                                                     | 0.73               | 4.70               | 6.68 | 8.19  |
|                                                                             |         |                                        | 1850                                                  | 41.92 | 46.05 | 49.71 | 56.72 | 58.98 |       |       |       |       |       |       |       |                                                     | 0.75               | 4.84               | 6.86 | 8.42  |
|                                                                             |         |                                        | 1900                                                  | 41.72 | 45.74 | 49.26 | 55.74 | 57.64 |       |       |       |       |       |       |       |                                                     | 0.77               | 4.97               | 7.05 | 8.64  |
|                                                                             |         |                                        | 1950                                                  | 41.42 | 45.32 | 48.69 | 54.58 | 56.08 |       |       |       |       |       |       |       |                                                     | 0.79               | 5.10               | 7.23 | 8.87  |
|                                                                             |         |                                        | 2000                                                  | 41.04 | 44.79 | 47.98 | 53.23 | 54.31 |       |       |       |       |       |       |       |                                                     | 0.81               | 5.23               | 7.42 | 9.10  |
|                                                                             |         |                                        | 2050                                                  | 40.55 | 44.15 | 47.14 |       |       |       |       |       |       |       |       |       |                                                     | 0.83               | 5.36               | 7.61 | 9.33  |
|                                                                             |         |                                        | 2100                                                  | 39.97 | 43.40 | 46.16 |       |       |       |       |       |       |       |       |       |                                                     | 0.85               | 5.49               | 7.79 | 9.55  |
|                                                                             |         |                                        | 2150                                                  | 39.29 | 42.52 | 45.05 |       |       |       |       |       |       |       |       |       |                                                     | 0.87               | 5.62               | 7.98 | 9.78  |
|                                                                             |         |                                        | 2200                                                  | 38.50 | 41.53 | 43.79 |       |       |       |       |       |       |       |       |       |                                                     | 0.89               | 5.75               | 8.16 | 10.01 |
|                                                                             |         |                                        | 2250                                                  | 37.62 | 40.41 | 42.40 |       |       |       |       |       |       |       |       |       |                                                     | 0.91               | 5.88               | 8.35 | 10.23 |
| v > 42 m/s.<br>Please consult our<br>Application Engineering<br>Department. |         |                                        |                                                       |       |       |       |       |       |       |       |       |       |       |       |       |                                                     |                    |                    |      |       |
| (40)                                                                        |         |                                        |                                                       |       |       |       |       |       |       |       |       |       |       |       |       | v [m/s]                                             |                    |                    |      |       |
| Dynamically balanced (for details see ARPM/MPTA)                            |         |                                        |                                                       |       |       |       |       |       |       |       |       |       |       |       |       | Pulleys                                             |                    |                    |      |       |

# POWER RATINGS

optibelt **VB** PROFILE 5 – RAW EDGE, COGGED

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 312$  mm



Table 46

| Pulleys             | v [m/s] | $n_k$<br>[min <sup>-1</sup> ] | Datum diameter of small pulley $d_{dk}$ [mm] |      |      |      |      |      |      |      |      |         | Additional power [kW]<br>per belt for speed ratio $i$ |                    |                    |         |
|---------------------|---------|-------------------------------|----------------------------------------------|------|------|------|------|------|------|------|------|---------|-------------------------------------------------------|--------------------|--------------------|---------|
|                     |         |                               | 16                                           | 18   | 20   | 22.4 | 25   | 28   | 31.5 | 33.5 | 40   | 45      | 1.01<br>to<br>1.05                                    | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57  |
|                     |         |                               |                                              |      |      |      |      |      |      |      |      |         |                                                       |                    |                    |         |
| Statically balanced | ②       | 700                           | 0.02                                         | 0.02 | 0.03 | 0.03 | 0.04 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08    | 0.000                                                 | 0.001              | 0.002              | 0.003   |
|                     |         | 950                           | 0.02                                         | 0.03 | 0.04 | 0.04 | 0.05 | 0.06 | 0.07 | 0.07 | 0.09 | 0.10    | 0.000                                                 | 0.002              | 0.002              | 0.004   |
|                     |         | 1450                          | 0.03                                         | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.10 | 0.11 | 0.13 | 0.15    | 0.001                                                 | 0.002              | 0.004              | 0.005   |
|                     |         | 2850                          | 0.06                                         | 0.07 | 0.09 | 0.11 | 0.13 | 0.15 | 0.18 | 0.19 | 0.24 | 0.28    | 0.001                                                 | 0.005              | 0.007              | 0.011   |
|                     |         | 200                           | 0.01                                         | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03    | 0.000                                                 | 0.000              | 0.000              | 0.001   |
|                     |         | 300                           | 0.01                                         | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.04    | 0.000                                                 | 0.001              | 0.001              | 0.001   |
|                     |         | 400                           | 0.01                                         | 0.01 | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.04 | 0.05    | 0.000                                                 | 0.001              | 0.001              | 0.001   |
|                     |         | 500                           | 0.01                                         | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.04 | 0.04 | 0.05 | 0.06    | 0.000                                                 | 0.001              | 0.001              | 0.002   |
|                     |         | 600                           | 0.02                                         | 0.02 | 0.02 | 0.03 | 0.03 | 0.04 | 0.05 | 0.05 | 0.06 | 0.07    | 0.000                                                 | 0.001              | 0.001              | 0.002   |
|                     |         | 700                           | 0.02                                         | 0.02 | 0.03 | 0.03 | 0.04 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08    | 0.000                                                 | 0.001              | 0.002              | 0.003   |
|                     |         | 800                           | 0.02                                         | 0.03 | 0.03 | 0.04 | 0.04 | 0.05 | 0.06 | 0.06 | 0.08 | 0.09    | 0.000                                                 | 0.001              | 0.002              | 0.003   |
|                     |         | 900                           | 0.02                                         | 0.03 | 0.03 | 0.04 | 0.05 | 0.06 | 0.06 | 0.07 | 0.09 | 0.10    | 0.000                                                 | 0.002              | 0.002              | 0.003   |
|                     |         | 1000                          | 0.03                                         | 0.03 | 0.04 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.10 | 0.11    | 0.000                                                 | 0.002              | 0.002              | 0.004   |
|                     |         | 1100                          | 0.03                                         | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.08 | 0.10 | 0.12    | 0.000                                                 | 0.002              | 0.003              | 0.004   |
|                     |         | 1200                          | 0.03                                         | 0.04 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.11 | 0.13    | 0.001                                                 | 0.002              | 0.003              | 0.004   |
|                     |         | 1300                          | 0.03                                         | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.10 | 0.12 | 0.14    | 0.001                                                 | 0.002              | 0.003              | 0.005   |
|                     |         | 1400                          | 0.03                                         | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.10 | 0.10 | 0.13 | 0.15    | 0.001                                                 | 0.002              | 0.003              | 0.005   |
|                     |         | 1500                          | 0.03                                         | 0.04 | 0.05 | 0.06 | 0.07 | 0.09 | 0.10 | 0.11 | 0.14 | 0.16    | 0.001                                                 | 0.003              | 0.004              | 0.006   |
|                     |         | 1600                          | 0.04                                         | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.11 | 0.12 | 0.14 | 0.17    | 0.001                                                 | 0.003              | 0.004              | 0.006   |
|                     |         | 1700                          | 0.04                                         | 0.05 | 0.06 | 0.07 | 0.08 | 0.10 | 0.11 | 0.12 | 0.15 | 0.18    | 0.001                                                 | 0.003              | 0.004              | 0.006   |
|                     |         | 1800                          | 0.04                                         | 0.05 | 0.06 | 0.07 | 0.09 | 0.10 | 0.12 | 0.13 | 0.16 | 0.18    | 0.001                                                 | 0.003              | 0.004              | 0.007   |
|                     |         | 1900                          | 0.04                                         | 0.05 | 0.06 | 0.08 | 0.09 | 0.11 | 0.12 | 0.13 | 0.17 | 0.19    | 0.001                                                 | 0.003              | 0.005              | 0.007   |
|                     |         | 2000                          | 0.04                                         | 0.06 | 0.07 | 0.08 | 0.09 | 0.11 | 0.13 | 0.14 | 0.18 | 0.20    | 0.001                                                 | 0.003              | 0.005              | 0.007   |
|                     |         | 2100                          | 0.05                                         | 0.06 | 0.07 | 0.08 | 0.10 | 0.12 | 0.14 | 0.15 | 0.18 | 0.21    | 0.001                                                 | 0.004              | 0.005              | 0.008   |
|                     |         | 2200                          | 0.05                                         | 0.06 | 0.07 | 0.09 | 0.10 | 0.12 | 0.14 | 0.15 | 0.19 | 0.22    | 0.001                                                 | 0.004              | 0.005              | 0.008   |
|                     |         | 2300                          | 0.05                                         | 0.06 | 0.07 | 0.09 | 0.11 | 0.13 | 0.15 | 0.16 | 0.20 | 0.23    | 0.001                                                 | 0.004              | 0.006              | 0.009   |
|                     |         | 2400                          | 0.05                                         | 0.06 | 0.08 | 0.09 | 0.11 | 0.13 | 0.15 | 0.17 | 0.21 | 0.24    | 0.001                                                 | 0.004              | 0.006              | 0.009   |
|                     |         | 2500                          | 0.05                                         | 0.07 | 0.08 | 0.10 | 0.11 | 0.13 | 0.16 | 0.17 | 0.21 | 0.25    | 0.001                                                 | 0.004              | 0.006              | 0.009   |
|                     |         | 2600                          | 0.05                                         | 0.07 | 0.08 | 0.10 | 0.12 | 0.14 | 0.16 | 0.18 | 0.22 | 0.25    | 0.001                                                 | 0.004              | 0.006              | 0.010   |
|                     |         | 2700                          | 0.06                                         | 0.07 | 0.09 | 0.10 | 0.12 | 0.14 | 0.17 | 0.18 | 0.23 | 0.26    | 0.001                                                 | 0.005              | 0.007              | 0.010   |
|                     |         | 2800                          | 0.06                                         | 0.07 | 0.09 | 0.11 | 0.13 | 0.15 | 0.17 | 0.19 | 0.24 | 0.27    | 0.001                                                 | 0.005              | 0.007              | 0.010   |
|                     |         | 2900                          | 0.06                                         | 0.07 | 0.09 | 0.11 | 0.13 | 0.15 | 0.18 | 0.19 | 0.24 | 0.28    | 0.001                                                 | 0.005              | 0.007              | 0.011   |
|                     |         | 3000                          | 0.06                                         | 0.08 | 0.09 | 0.11 | 0.13 | 0.16 | 0.19 | 0.20 | 0.25 | 0.29    | 0.001                                                 | 0.005              | 0.007              | 0.011   |
|                     |         | 3100                          | 0.06                                         | 0.08 | 0.10 | 0.12 | 0.14 | 0.16 | 0.19 | 0.21 | 0.26 | 0.30    | 0.001                                                 | 0.005              | 0.007              | 0.012   |
|                     |         | 3200                          | 0.06                                         | 0.08 | 0.10 | 0.12 | 0.14 | 0.17 | 0.20 | 0.21 | 0.27 | 0.31    | 0.001                                                 | 0.005              | 0.008              | 0.012   |
|                     |         | 3300                          | 0.06                                         | 0.08 | 0.10 | 0.12 | 0.14 | 0.17 | 0.20 | 0.22 | 0.27 | 0.31    | 0.001                                                 | 0.006              | 0.008              | 0.012   |
|                     |         | 3400                          | 0.07                                         | 0.08 | 0.10 | 0.13 | 0.15 | 0.18 | 0.21 | 0.22 | 0.28 | 0.32    | 0.002                                                 | 0.006              | 0.008              | 0.013   |
|                     |         | 3500                          | 0.07                                         | 0.09 | 0.11 | 0.13 | 0.15 | 0.18 | 0.21 | 0.23 | 0.29 | 0.33    | 0.002                                                 | 0.006              | 0.008              | 0.013   |
|                     |         | 3600                          | 0.07                                         | 0.09 | 0.11 | 0.13 | 0.16 | 0.18 | 0.22 | 0.24 | 0.29 | 0.34    | 0.002                                                 | 0.006              | 0.009              | 0.013   |
|                     |         | 3700                          | 0.07                                         | 0.09 | 0.11 | 0.13 | 0.16 | 0.19 | 0.22 | 0.24 | 0.30 | 0.35    | 0.002                                                 | 0.006              | 0.009              | 0.014   |
|                     |         | 3800                          | 0.07                                         | 0.09 | 0.11 | 0.14 | 0.16 | 0.19 | 0.23 | 0.25 | 0.31 | 0.36    | 0.002                                                 | 0.006              | 0.009              | 0.014   |
|                     |         | 3900                          | 0.07                                         | 0.09 | 0.12 | 0.14 | 0.17 | 0.20 | 0.23 | 0.25 | 0.32 | 0.36    | 0.002                                                 | 0.007              | 0.009              | 0.015   |
|                     |         | 4000                          | 0.07                                         | 0.10 | 0.12 | 0.14 | 0.17 | 0.20 | 0.24 | 0.26 | 0.32 | 0.37    | 0.002                                                 | 0.007              | 0.010              | 0.015   |
|                     |         | 4100                          | 0.08                                         | 0.10 | 0.12 | 0.15 | 0.17 | 0.21 | 0.24 | 0.26 | 0.33 | 0.38    | 0.002                                                 | 0.007              | 0.010              | 0.015   |
|                     |         | 4200                          | 0.08                                         | 0.10 | 0.12 | 0.15 | 0.18 | 0.21 | 0.25 | 0.27 | 0.34 | 0.39    | 0.002                                                 | 0.007              | 0.010              | 0.016   |
|                     |         | 4300                          | 0.08                                         | 0.10 | 0.13 | 0.15 | 0.18 | 0.21 | 0.25 | 0.27 | 0.34 | 0.40    | 0.002                                                 | 0.007              | 0.010              | 0.016   |
|                     |         | 4400                          | 0.08                                         | 0.10 | 0.13 | 0.16 | 0.18 | 0.22 | 0.26 | 0.28 | 0.35 | 0.40    | 0.002                                                 | 0.007              | 0.011              | 0.016   |
|                     |         | 4500                          | 0.08                                         | 0.11 | 0.13 | 0.16 | 0.19 | 0.22 | 0.26 | 0.28 | 0.36 | 0.41    | 0.002                                                 | 0.008              | 0.011              | 0.017   |
|                     |         | 4600                          | 0.08                                         | 0.11 | 0.13 | 0.16 | 0.19 | 0.23 | 0.27 | 0.29 | 0.36 | 0.42    | 0.002                                                 | 0.008              | 0.011              | 0.017   |
|                     |         | 4700                          | 0.08                                         | 0.11 | 0.13 | 0.16 | 0.20 | 0.23 | 0.27 | 0.30 | 0.37 | 0.43    | 0.002                                                 | 0.008              | 0.011              | 0.018   |
|                     |         | 4800                          | 0.09                                         | 0.11 | 0.14 | 0.17 | 0.20 | 0.24 | 0.28 | 0.30 | 0.38 | 0.44    | 0.002                                                 | 0.008              | 0.012              | 0.018   |
|                     |         | 4900                          | 0.09                                         | 0.11 | 0.14 | 0.17 | 0.20 | 0.24 | 0.28 | 0.31 | 0.38 | 0.44    | 0.002                                                 | 0.008              | 0.012              | 0.018   |
|                     |         | 5000                          | 0.09                                         | 0.12 | 0.14 | 0.17 | 0.21 | 0.24 | 0.29 | 0.31 | 0.39 | 0.45    | 0.002                                                 | 0.008              | 0.012              | 0.019   |
|                     |         | 5100                          | 0.09                                         | 0.12 | 0.14 | 0.18 | 0.21 | 0.25 | 0.29 | 0.32 | 0.40 | 0.46    | 0.002                                                 | 0.009              | 0.012              | 0.019   |
|                     |         | 5200                          | 0.09                                         | 0.12 | 0.15 | 0.18 | 0.21 | 0.25 | 0.30 | 0.32 | 0.40 | 0.47    | 0.002                                                 | 0.009              | 0.013              | 0.019   |
|                     |         | 5300                          | 0.09                                         | 0.12 | 0.15 | 0.18 | 0.22 | 0.26 | 0.30 | 0.33 | 0.41 | 0.47    | 0.002                                                 | 0.009              | 0.013              | 0.020   |
|                     |         | 5400                          | 0.09                                         | 0.12 | 0.15 | 0.18 | 0.22 | 0.26 | 0.31 | 0.33 | 0.42 | 0.48    | 0.002                                                 | 0.009              | 0.013              | 0.020   |
|                     |         | 5500                          | 0.10                                         | 0.12 | 0.15 | 0.19 | 0.22 | 0.26 | 0.31 | 0.34 | 0.42 | 0.49    | 0.002                                                 | 0.009              | 0.013              | 0.021   |
|                     |         | 5600                          | 0.10                                         | 0.13 | 0.16 | 0.19 | 0.23 | 0.27 | 0.32 | 0.34 | 0.43 | 0.50    | 0.002                                                 | 0.009              | 0.014              | 0.021   |
|                     |         | 5700                          | 0.10                                         | 0.13 | 0.16 | 0.19 | 0.23 | 0.27 | 0.32 | 0.35 | 0.44 | 0.50    | 0.003                                                 | 0.010              | 0.014              | 0.021   |
|                     |         | 5800                          | 0.10                                         | 0.13 | 0.16 | 0.19 | 0.23 | 0.28 | 0.33 | 0.35 | 0.44 | 0.51    | 0.003                                                 | 0.010              | 0.014              | 0.022   |
|                     |         | 5900                          | 0.10                                         | 0.13 | 0.16 | 0.20 | 0.24 | 0.28 | 0.33 | 0.36 | 0.45 | 0.52    | 0.003                                                 | 0.010              | 0.014              | 0.022   |
|                     |         | 6000                          | 0.10                                         | 0.13 | 0.16 | 0.20 | 0.24 | 0.28 | 0.34 | 0.36 | 0.46 | 0.53    | 0.003                                                 | 0.010              | 0.015              | 0.022   |
| Statically balanced | ⑤       | ⑩                             |                                              |      |      |      |      |      |      |      |      | v [m/s] |                                                       |                    |                    | Pulleys |
|                     |         |                               |                                              |      |      |      |      |      |      |      |      |         |                                                       |                    |                    |         |

# POWER RATINGS

optibelt **VB** PROFILE Y/6 – RAW EDGE, COGGED

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 315$  mm



Table 47

| Pulleys             | $v$ [m/s] | $n_k$<br>[min <sup>-1</sup> ] | Datum diameter of small pulley $d_{dk}$ [mm] |      |      |      |      |      |      |      |      | Additional power [kW]<br>per belt for speed ratio $i$ |                    |                    |                    |        |
|---------------------|-----------|-------------------------------|----------------------------------------------|------|------|------|------|------|------|------|------|-------------------------------------------------------|--------------------|--------------------|--------------------|--------|
|                     |           |                               | 20                                           | 22.4 | 25   | 28   | 31.5 | 35.5 | 40   | 45   | 50   | 56                                                    | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |
|                     |           |                               |                                              |      |      |      |      |      |      |      |      |                                                       |                    |                    |                    |        |
| Statically balanced | ②         | 700                           | 0.03                                         | 0.03 | 0.04 | 0.05 | 0.06 | 0.08 | 0.09 | 0.11 | 0.12 | 0.14                                                  | 0.001              | 0.003              | 0.005              | 0.008  |
|                     |           | 950                           | 0.03                                         | 0.04 | 0.05 | 0.07 | 0.08 | 0.10 | 0.12 | 0.14 | 0.16 | 0.18                                                  | 0.001              | 0.005              | 0.007              | 0.011  |
|                     |           | 1450                          | 0.05                                         | 0.06 | 0.08 | 0.10 | 0.12 | 0.15 | 0.17 | 0.20 | 0.24 | 0.27                                                  | 0.002              | 0.007              | 0.010              | 0.016  |
|                     |           | 2850                          | 0.08                                         | 0.11 | 0.14 | 0.18 | 0.22 | 0.27 | 0.32 | 0.38 | 0.43 | 0.50                                                  | 0.004              | 0.014              | 0.020              | 0.032  |
|                     |           | 200                           | 0.01                                         | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.04 | 0.04                                                  | 0.000              | 0.001              | 0.001              | 0.002  |
|                     |           | 300                           | 0.01                                         | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.04 | 0.05 | 0.06 | 0.06                                                  | 0.000              | 0.001              | 0.002              | 0.003  |
|                     |           | 400                           | 0.02                                         | 0.02 | 0.03 | 0.03 | 0.04 | 0.05 | 0.05 | 0.06 | 0.07 | 0.08                                                  | 0.001              | 0.002              | 0.003              | 0.004  |
|                     |           | 500                           | 0.02                                         | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.10                                                  | 0.001              | 0.002              | 0.004              | 0.006  |
|                     |           | 600                           | 0.02                                         | 0.03 | 0.04 | 0.04 | 0.05 | 0.07 | 0.08 | 0.09 | 0.10 | 0.12                                                  | 0.001              | 0.003              | 0.004              | 0.007  |
|                     |           | 700                           | 0.03                                         | 0.03 | 0.04 | 0.05 | 0.06 | 0.08 | 0.09 | 0.11 | 0.12 | 0.14                                                  | 0.001              | 0.003              | 0.005              | 0.008  |
|                     |           | 800                           | 0.03                                         | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.10 | 0.12 | 0.14 | 0.16                                                  | 0.001              | 0.004              | 0.006              | 0.009  |
|                     |           | 900                           | 0.03                                         | 0.04 | 0.05 | 0.06 | 0.08 | 0.09 | 0.11 | 0.13 | 0.15 | 0.18                                                  | 0.001              | 0.004              | 0.006              | 0.010  |
|                     |           | 1000                          | 0.03                                         | 0.04 | 0.06 | 0.07 | 0.09 | 0.10 | 0.12 | 0.15 | 0.17 | 0.19                                                  | 0.001              | 0.005              | 0.007              | 0.011  |
|                     |           | 1100                          | 0.04                                         | 0.05 | 0.06 | 0.08 | 0.09 | 0.11 | 0.14 | 0.16 | 0.18 | 0.21                                                  | 0.001              | 0.005              | 0.008              | 0.012  |
|                     |           | 1200                          | 0.04                                         | 0.05 | 0.07 | 0.08 | 0.10 | 0.12 | 0.15 | 0.17 | 0.20 | 0.23                                                  | 0.002              | 0.006              | 0.009              | 0.013  |
|                     |           | 1300                          | 0.04                                         | 0.06 | 0.07 | 0.09 | 0.11 | 0.13 | 0.16 | 0.19 | 0.21 | 0.25                                                  | 0.002              | 0.006              | 0.009              | 0.014  |
|                     |           | 1400                          | 0.04                                         | 0.06 | 0.08 | 0.09 | 0.12 | 0.14 | 0.17 | 0.20 | 0.23 | 0.26                                                  | 0.002              | 0.007              | 0.010              | 0.016  |
|                     |           | 1500                          | 0.05                                         | 0.06 | 0.08 | 0.10 | 0.12 | 0.15 | 0.18 | 0.21 | 0.24 | 0.28                                                  | 0.002              | 0.007              | 0.011              | 0.017  |
|                     |           | 1600                          | 0.05                                         | 0.07 | 0.09 | 0.11 | 0.13 | 0.16 | 0.19 | 0.22 | 0.26 | 0.30                                                  | 0.002              | 0.008              | 0.011              | 0.018  |
|                     |           | 1700                          | 0.05                                         | 0.07 | 0.09 | 0.11 | 0.14 | 0.17 | 0.20 | 0.24 | 0.27 | 0.31                                                  | 0.002              | 0.008              | 0.012              | 0.019  |
|                     |           | 1800                          | 0.05                                         | 0.07 | 0.09 | 0.12 | 0.15 | 0.18 | 0.21 | 0.25 | 0.29 | 0.33                                                  | 0.002              | 0.009              | 0.013              | 0.020  |
|                     |           | 1900                          | 0.06                                         | 0.08 | 0.10 | 0.12 | 0.15 | 0.19 | 0.22 | 0.26 | 0.30 | 0.35                                                  | 0.003              | 0.009              | 0.014              | 0.021  |
|                     |           | 2000                          | 0.06                                         | 0.08 | 0.10 | 0.13 | 0.16 | 0.19 | 0.23 | 0.27 | 0.32 | 0.36                                                  | 0.003              | 0.010              | 0.014              | 0.022  |
|                     |           | 2100                          | 0.06                                         | 0.08 | 0.11 | 0.14 | 0.17 | 0.20 | 0.24 | 0.29 | 0.33 | 0.38                                                  | 0.003              | 0.010              | 0.015              | 0.023  |
|                     |           | 2200                          | 0.06                                         | 0.09 | 0.11 | 0.14 | 0.17 | 0.21 | 0.25 | 0.30 | 0.34 | 0.40                                                  | 0.003              | 0.011              | 0.016              | 0.024  |
|                     |           | 2300                          | 0.07                                         | 0.09 | 0.12 | 0.15 | 0.18 | 0.22 | 0.26 | 0.31 | 0.36 | 0.41                                                  | 0.003              | 0.011              | 0.016              | 0.026  |
|                     |           | 2400                          | 0.07                                         | 0.09 | 0.12 | 0.15 | 0.19 | 0.23 | 0.27 | 0.32 | 0.37 | 0.43                                                  | 0.003              | 0.012              | 0.017              | 0.027  |
|                     |           | 2500                          | 0.07                                         | 0.10 | 0.13 | 0.16 | 0.19 | 0.24 | 0.28 | 0.33 | 0.38 | 0.44                                                  | 0.003              | 0.012              | 0.018              | 0.028  |
|                     |           | 2600                          | 0.07                                         | 0.10 | 0.13 | 0.16 | 0.20 | 0.24 | 0.29 | 0.35 | 0.40 | 0.46                                                  | 0.003              | 0.013              | 0.019              | 0.029  |
|                     |           | 2700                          | 0.08                                         | 0.10 | 0.13 | 0.17 | 0.21 | 0.25 | 0.30 | 0.36 | 0.41 | 0.48                                                  | 0.004              | 0.013              | 0.019              | 0.030  |
|                     |           | 2800                          | 0.08                                         | 0.11 | 0.14 | 0.17 | 0.22 | 0.26 | 0.31 | 0.37 | 0.43 | 0.49                                                  | 0.004              | 0.014              | 0.020              | 0.031  |
|                     |           | 2900                          | 0.08                                         | 0.11 | 0.14 | 0.18 | 0.22 | 0.27 | 0.32 | 0.38 | 0.44 | 0.51                                                  | 0.004              | 0.014              | 0.021              | 0.032  |
|                     |           | 3000                          | 0.08                                         | 0.11 | 0.15 | 0.18 | 0.23 | 0.28 | 0.33 | 0.39 | 0.45 | 0.52                                                  | 0.004              | 0.015              | 0.021              | 0.033  |
|                     |           | 3100                          | 0.09                                         | 0.12 | 0.15 | 0.19 | 0.24 | 0.29 | 0.34 | 0.40 | 0.47 | 0.54                                                  | 0.004              | 0.015              | 0.022              | 0.034  |
|                     |           | 3200                          | 0.09                                         | 0.12 | 0.16 | 0.20 | 0.24 | 0.29 | 0.35 | 0.42 | 0.48 | 0.55                                                  | 0.004              | 0.016              | 0.023              | 0.036  |
|                     |           | 3300                          | 0.09                                         | 0.12 | 0.16 | 0.20 | 0.25 | 0.30 | 0.36 | 0.43 | 0.49 | 0.57                                                  | 0.004              | 0.016              | 0.024              | 0.037  |
|                     |           | 3400                          | 0.09                                         | 0.13 | 0.16 | 0.21 | 0.25 | 0.31 | 0.37 | 0.44 | 0.50 | 0.58                                                  | 0.004              | 0.017              | 0.024              | 0.038  |
|                     |           | 3500                          | 0.09                                         | 0.13 | 0.17 | 0.21 | 0.26 | 0.32 | 0.38 | 0.45 | 0.52 | 0.60                                                  | 0.005              | 0.017              | 0.025              | 0.039  |
|                     |           | 3600                          | 0.10                                         | 0.13 | 0.17 | 0.22 | 0.27 | 0.33 | 0.39 | 0.46 | 0.53 | 0.61                                                  | 0.005              | 0.018              | 0.026              | 0.040  |
|                     |           | 3700                          | 0.10                                         | 0.14 | 0.18 | 0.22 | 0.27 | 0.33 | 0.40 | 0.47 | 0.54 | 0.62                                                  | 0.005              | 0.018              | 0.026              | 0.041  |
|                     |           | 3800                          | 0.10                                         | 0.14 | 0.18 | 0.23 | 0.28 | 0.34 | 0.41 | 0.48 | 0.55 | 0.64                                                  | 0.005              | 0.019              | 0.027              | 0.042  |
|                     |           | 3900                          | 0.10                                         | 0.14 | 0.18 | 0.23 | 0.29 | 0.35 | 0.42 | 0.49 | 0.57 | 0.65                                                  | 0.005              | 0.019              | 0.028              | 0.043  |
|                     |           | 4000                          | 0.10                                         | 0.14 | 0.19 | 0.24 | 0.29 | 0.36 | 0.43 | 0.50 | 0.58 | 0.67                                                  | 0.005              | 0.020              | 0.029              | 0.044  |
|                     |           | 4100                          | 0.11                                         | 0.15 | 0.19 | 0.24 | 0.30 | 0.36 | 0.44 | 0.51 | 0.59 | 0.68                                                  | 0.005              | 0.020              | 0.029              | 0.045  |
|                     |           | 4200                          | 0.11                                         | 0.15 | 0.19 | 0.25 | 0.31 | 0.37 | 0.44 | 0.52 | 0.60 | 0.69                                                  | 0.006              | 0.021              | 0.030              | 0.047  |
|                     |           | 4300                          | 0.11                                         | 0.15 | 0.20 | 0.25 | 0.31 | 0.38 | 0.45 | 0.54 | 0.61 | 0.71                                                  | 0.006              | 0.021              | 0.031              | 0.048  |
|                     |           | 4400                          | 0.11                                         | 0.16 | 0.20 | 0.26 | 0.32 | 0.39 | 0.46 | 0.55 | 0.63 | 0.72                                                  | 0.006              | 0.022              | 0.031              | 0.049  |
|                     |           | 4500                          | 0.11                                         | 0.16 | 0.21 | 0.26 | 0.32 | 0.39 | 0.47 | 0.56 | 0.64 | 0.73                                                  | 0.006              | 0.022              | 0.032              | 0.050  |
|                     |           | 4600                          | 0.12                                         | 0.16 | 0.21 | 0.27 | 0.33 | 0.40 | 0.48 | 0.57 | 0.65 | 0.75                                                  | 0.006              | 0.023              | 0.033              | 0.051  |
| Statically balanced | ⑤         | 4700                          | 0.12                                         | 0.16 | 0.21 | 0.27 | 0.34 | 0.41 | 0.49 | 0.58 | 0.66 | 0.76                                                  | 0.006              | 0.023              | 0.034              | 0.052  |
|                     |           | 4800                          | 0.12                                         | 0.17 | 0.22 | 0.28 | 0.34 | 0.42 | 0.50 | 0.59 | 0.67 | 0.77                                                  | 0.006              | 0.024              | 0.034              | 0.053  |
|                     |           | 4900                          | 0.12                                         | 0.17 | 0.22 | 0.28 | 0.35 | 0.42 | 0.51 | 0.60 | 0.68 | 0.79                                                  | 0.006              | 0.024              | 0.035              | 0.054  |
|                     |           | 5000                          | 0.12                                         | 0.17 | 0.22 | 0.28 | 0.35 | 0.43 | 0.51 | 0.61 | 0.70 | 0.80                                                  | 0.007              | 0.025              | 0.036              | 0.055  |
|                     |           | 5100                          | 0.12                                         | 0.17 | 0.23 | 0.29 | 0.36 | 0.44 | 0.52 | 0.62 | 0.71 | 0.81                                                  | 0.007              | 0.025              | 0.037              | 0.057  |
|                     |           | 5200                          | 0.13                                         | 0.18 | 0.23 | 0.29 | 0.36 | 0.44 | 0.53 | 0.63 | 0.72 | 0.82                                                  | 0.007              | 0.026              | 0.037              | 0.058  |
|                     |           | 5300                          | 0.13                                         | 0.18 | 0.24 | 0.30 | 0.37 | 0.45 | 0.54 | 0.64 | 0.73 | 0.84                                                  | 0.007              | 0.026              | 0.038              | 0.059  |
|                     |           | 5400                          | 0.13                                         | 0.18 | 0.24 | 0.30 | 0.38 | 0.46 | 0.55 | 0.65 | 0.74 | 0.85                                                  | 0.007              | 0.027              | 0.039              | 0.060  |
|                     |           | 5500                          | 0.13                                         | 0.19 | 0.24 | 0.31 | 0.38 | 0.47 | 0.56 | 0.65 | 0.75 | 0.86                                                  | 0.007              | 0.027              | 0.039              | 0.061  |
|                     |           | 5600                          | 0.13                                         | 0.19 | 0.25 | 0.31 | 0.39 | 0.47 | 0.56 | 0.66 | 0.76 | 0.87                                                  | 0.007              | 0.028              | 0.040              | 0.062  |
|                     |           | 5700                          | 0.14                                         | 0.19 | 0.25 | 0.32 | 0.39 | 0.48 | 0.57 | 0.67 | 0.77 | 0.88                                                  | 0.008              | 0.028              | 0.041              | 0.063  |
|                     |           | 5800                          | 0.14                                         | 0.19 | 0.25 | 0.32 | 0.40 | 0.49 | 0.58 | 0.68 | 0.78 | 0.89                                                  | 0.008              | 0.029              | 0.042              | 0.064  |
|                     |           | 5900                          | 0.14                                         | 0.20 | 0.26 | 0.33 | 0.40 | 0.49 | 0.59 | 0.69 | 0.79 | 0.90                                                  | 0.008              | 0.029              | 0.042              | 0.065  |
|                     |           | 6000                          | 0.14                                         | 0.20 | 0.26 | 0.33 | 0.41 | 0.50 | 0.60 | 0.70 | 0.80 | 0.91                                                  | 0.008              | 0.030              | 0.043              | 0.067  |
|                     |           |                               |                                              |      |      |      |      |      |      |      |      | $v$ [m/s]                                             |                    |                    |                    |        |
| Statically balanced |           |                               |                                              |      |      |      |      |      |      |      |      | Pulleys                                               |                    |                    |                    |        |



# POWER RATINGS

optibelt **VB** PROFILE 8

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 579$  mm



Table 48

| Pulleys             | $v$ [m/s] | $n_k$<br>[min <sup>-1</sup> ] | Datum diameter of small pulley $d_{dk}$ [mm] |      |      |      |      |      |      |      | Additional power [kW]<br>per belt for speed ratio $i$ |                    |                    |                    |  |
|---------------------|-----------|-------------------------------|----------------------------------------------|------|------|------|------|------|------|------|-------------------------------------------------------|--------------------|--------------------|--------------------|--|
|                     |           |                               | 35                                           | 40   | 45   | 50   | 56   | 63   | 71   | 80   | 90                                                    | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 |  |
| Statically balanced | ②         | 700                           | 0.12                                         | 0.15 | 0.18 | 0.21 | 0.25 | 0.29 | 0.34 | 0.39 | 0.45                                                  | 0.00               | 0.01               | 0.01               |  |
|                     |           | 950                           | 0.15                                         | 0.19 | 0.23 | 0.27 | 0.32 | 0.37 | 0.43 | 0.50 | 0.57                                                  | 0.00               | 0.01               | 0.02               |  |
|                     |           | 1450                          | 0.19                                         | 0.25 | 0.31 | 0.37 | 0.43 | 0.51 | 0.59 | 0.69 | 0.79                                                  | 0.00               | 0.02               | 0.03               |  |
|                     |           | 2850                          | 0.28                                         | 0.38 | 0.48 | 0.57 | 0.69 | 0.81 | 0.95 | 1.11 | 1.27                                                  | 0.01               | 0.03               | 0.05               |  |
|                     |           | 100                           | 0.03                                         | 0.03 | 0.04 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09                                                  | 0.00               | 0.00               | 0.00               |  |
|                     |           | 200                           | 0.05                                         | 0.06 | 0.07 | 0.08 | 0.09 | 0.11 | 0.12 | 0.14 | 0.16                                                  | 0.00               | 0.00               | 0.00               |  |
|                     |           | 300                           | 0.06                                         | 0.08 | 0.09 | 0.11 | 0.13 | 0.15 | 0.17 | 0.20 | 0.23                                                  | 0.00               | 0.00               | 0.01               |  |
|                     |           | 400                           | 0.08                                         | 0.10 | 0.12 | 0.14 | 0.16 | 0.19 | 0.22 | 0.25 | 0.28                                                  | 0.00               | 0.00               | 0.01               |  |
|                     |           | 500                           | 0.09                                         | 0.12 | 0.14 | 0.16 | 0.19 | 0.22 | 0.26 | 0.30 | 0.34                                                  | 0.00               | 0.01               | 0.01               |  |
|                     |           | 600                           | 0.11                                         | 0.13 | 0.16 | 0.19 | 0.22 | 0.26 | 0.30 | 0.35 | 0.40                                                  | 0.00               | 0.01               | 0.01               |  |
|                     |           | 700                           | 0.12                                         | 0.15 | 0.18 | 0.21 | 0.25 | 0.29 | 0.34 | 0.39 | 0.45                                                  | 0.00               | 0.01               | 0.01               |  |
|                     |           | 800                           | 0.13                                         | 0.17 | 0.20 | 0.24 | 0.28 | 0.32 | 0.38 | 0.43 | 0.50                                                  | 0.00               | 0.01               | 0.02               |  |
|                     |           | 900                           | 0.14                                         | 0.18 | 0.22 | 0.26 | 0.30 | 0.35 | 0.41 | 0.48 | 0.55                                                  | 0.00               | 0.01               | 0.02               |  |
|                     |           | 1000                          | 0.15                                         | 0.19 | 0.24 | 0.28 | 0.33 | 0.38 | 0.45 | 0.52 | 0.59                                                  | 0.00               | 0.01               | 0.02               |  |
|                     |           | 1100                          | 0.16                                         | 0.21 | 0.25 | 0.30 | 0.35 | 0.41 | 0.48 | 0.56 | 0.64                                                  | 0.00               | 0.01               | 0.02               |  |
|                     |           | 1200                          | 0.17                                         | 0.22 | 0.27 | 0.32 | 0.38 | 0.44 | 0.51 | 0.59 | 0.68                                                  | 0.00               | 0.01               | 0.02               |  |
|                     |           | 1300                          | 0.18                                         | 0.23 | 0.29 | 0.34 | 0.40 | 0.47 | 0.55 | 0.63 | 0.72                                                  | 0.00               | 0.02               | 0.03               |  |
|                     |           | 1400                          | 0.19                                         | 0.24 | 0.30 | 0.36 | 0.42 | 0.49 | 0.58 | 0.67 | 0.77                                                  | 0.00               | 0.02               | 0.03               |  |
|                     |           | 1500                          | 0.20                                         | 0.26 | 0.32 | 0.37 | 0.44 | 0.52 | 0.61 | 0.70 | 0.81                                                  | 0.00               | 0.02               | 0.03               |  |
|                     |           | 1600                          | 0.20                                         | 0.27 | 0.33 | 0.39 | 0.46 | 0.55 | 0.64 | 0.74 | 0.85                                                  | 0.00               | 0.02               | 0.03               |  |
|                     |           | 1700                          | 0.21                                         | 0.28 | 0.34 | 0.41 | 0.48 | 0.57 | 0.67 | 0.77 | 0.88                                                  | 0.00               | 0.02               | 0.03               |  |
|                     |           | 1800                          | 0.22                                         | 0.29 | 0.36 | 0.42 | 0.50 | 0.59 | 0.69 | 0.80 | 0.92                                                  | 0.00               | 0.02               | 0.03               |  |
|                     |           | 1900                          | 0.22                                         | 0.30 | 0.37 | 0.44 | 0.52 | 0.62 | 0.72 | 0.84 | 0.96                                                  | 0.00               | 0.02               | 0.04               |  |
|                     |           | 2000                          | 0.23                                         | 0.31 | 0.38 | 0.46 | 0.54 | 0.64 | 0.75 | 0.87 | 0.99                                                  | 0.00               | 0.02               | 0.04               |  |
|                     |           | 2100                          | 0.24                                         | 0.32 | 0.40 | 0.47 | 0.56 | 0.66 | 0.77 | 0.90 | 1.03                                                  | 0.00               | 0.02               | 0.04               |  |
|                     |           | 2200                          | 0.24                                         | 0.33 | 0.41 | 0.49 | 0.58 | 0.68 | 0.80 | 0.93 | 1.06                                                  | 0.01               | 0.03               | 0.04               |  |
|                     |           | 2300                          | 0.25                                         | 0.34 | 0.42 | 0.50 | 0.60 | 0.70 | 0.83 | 0.96 | 1.10                                                  | 0.01               | 0.03               | 0.04               |  |
|                     |           | 2400                          | 0.25                                         | 0.34 | 0.43 | 0.51 | 0.61 | 0.73 | 0.85 | 0.98 | 1.13                                                  | 0.01               | 0.03               | 0.04               |  |
|                     |           | 2500                          | 0.26                                         | 0.35 | 0.44 | 0.53 | 0.63 | 0.75 | 0.87 | 1.01 | 1.16                                                  | 0.01               | 0.03               | 0.05               |  |
|                     |           | 2600                          | 0.27                                         | 0.36 | 0.45 | 0.54 | 0.65 | 0.77 | 0.90 | 1.04 | 1.19                                                  | 0.01               | 0.03               | 0.05               |  |
|                     |           | 2700                          | 0.27                                         | 0.37 | 0.46 | 0.56 | 0.66 | 0.79 | 0.92 | 1.07 | 1.22                                                  | 0.01               | 0.03               | 0.05               |  |
|                     |           | 2800                          | 0.27                                         | 0.38 | 0.47 | 0.57 | 0.68 | 0.80 | 0.94 | 1.09 | 1.25                                                  | 0.01               | 0.03               | 0.05               |  |
|                     |           | 2900                          | 0.28                                         | 0.38 | 0.48 | 0.58 | 0.69 | 0.82 | 0.96 | 1.12 | 1.28                                                  | 0.01               | 0.03               | 0.05               |  |
|                     |           | 3000                          | 0.28                                         | 0.39 | 0.49 | 0.59 | 0.71 | 0.84 | 0.99 | 1.14 | 1.31                                                  | 0.01               | 0.03               | 0.06               |  |
|                     |           | 3100                          | 0.29                                         | 0.40 | 0.50 | 0.60 | 0.72 | 0.86 | 1.01 | 1.17 | 1.34                                                  | 0.01               | 0.04               | 0.06               |  |
|                     |           | 3200                          | 0.29                                         | 0.40 | 0.51 | 0.62 | 0.74 | 0.88 | 1.03 | 1.19 | 1.36                                                  | 0.01               | 0.04               | 0.06               |  |
|                     |           | 3300                          | 0.30                                         | 0.41 | 0.52 | 0.63 | 0.75 | 0.89 | 1.05 | 1.21 | 1.39                                                  | 0.01               | 0.04               | 0.06               |  |
|                     |           | 3400                          | 0.30                                         | 0.42 | 0.53 | 0.64 | 0.77 | 0.91 | 1.07 | 1.24 | 1.41                                                  | 0.01               | 0.04               | 0.06               |  |
|                     |           | 3500                          | 0.30                                         | 0.42 | 0.54 | 0.65 | 0.78 | 0.93 | 1.09 | 1.26 | 1.44                                                  | 0.01               | 0.04               | 0.06               |  |
|                     |           | 3600                          | 0.31                                         | 0.43 | 0.55 | 0.66 | 0.79 | 0.94 | 1.10 | 1.28 | 1.46                                                  | 0.01               | 0.04               | 0.07               |  |
|                     |           | 3700                          | 0.31                                         | 0.43 | 0.55 | 0.67 | 0.81 | 0.96 | 1.12 | 1.30 | 1.49                                                  | 0.01               | 0.04               | 0.07               |  |
|                     |           | 3800                          | 0.31                                         | 0.44 | 0.56 | 0.68 | 0.82 | 0.97 | 1.14 | 1.32 | 1.51                                                  | 0.01               | 0.04               | 0.07               |  |
|                     |           | 3900                          | 0.31                                         | 0.44 | 0.57 | 0.69 | 0.83 | 0.99 | 1.16 | 1.34 | 1.53                                                  | 0.01               | 0.05               | 0.07               |  |
|                     |           | 4000                          | 0.32                                         | 0.45 | 0.58 | 0.70 | 0.84 | 1.00 | 1.17 | 1.36 | 1.55                                                  | 0.01               | 0.05               | 0.07               |  |
|                     |           | 4100                          | 0.32                                         | 0.45 | 0.58 | 0.71 | 0.85 | 1.02 | 1.19 | 1.38 | 1.57                                                  | 0.01               | 0.05               | 0.08               |  |
|                     |           | 4200                          | 0.32                                         | 0.46 | 0.59 | 0.72 | 0.86 | 1.03 | 1.21 | 1.40 | 1.59                                                  | 0.01               | 0.05               | 0.08               |  |
|                     |           | 4300                          | 0.32                                         | 0.46 | 0.60 | 0.73 | 0.88 | 1.04 | 1.22 | 1.41 | 1.61                                                  | 0.01               | 0.05               | 0.08               |  |
|                     |           | 4400                          | 0.33                                         | 0.47 | 0.60 | 0.73 | 0.89 | 1.06 | 1.24 | 1.43 | 1.63                                                  | 0.01               | 0.05               | 0.08               |  |
|                     |           | 4500                          | 0.33                                         | 0.47 | 0.61 | 0.74 | 0.90 | 1.07 | 1.25 | 1.45 | 1.65                                                  | 0.01               | 0.05               | 0.08               |  |
|                     |           | 4600                          | 0.33                                         | 0.48 | 0.62 | 0.75 | 0.91 | 1.08 | 1.27 | 1.46 | 1.66                                                  | 0.01               | 0.05               | 0.09               |  |
|                     |           | 4700                          | 0.33                                         | 0.48 | 0.62 | 0.76 | 0.92 | 1.09 | 1.28 | 1.48 | 1.68                                                  | 0.01               | 0.05               | 0.09               |  |
|                     |           | 4800                          | 0.33                                         | 0.48 | 0.63 | 0.77 | 0.93 | 1.10 | 1.29 | 1.49 | 1.69                                                  | 0.01               | 0.06               | 0.09               |  |
|                     |           | 4900                          | 0.33                                         | 0.49 | 0.63 | 0.77 | 0.94 | 1.11 | 1.31 | 1.51 | 1.71                                                  | 0.01               | 0.06               | 0.09               |  |
|                     |           | 5000                          | 0.34                                         | 0.49 | 0.64 | 0.78 | 0.94 | 1.13 | 1.32 | 1.52 | 1.72                                                  | 0.01               | 0.06               | 0.09               |  |
|                     |           | 5100                          | 0.34                                         | 0.49 | 0.64 | 0.79 | 0.95 | 1.14 | 1.33 | 1.53 | 1.74                                                  | 0.01               | 0.06               | 0.09               |  |
|                     |           | 5200                          | 0.34                                         | 0.50 | 0.65 | 0.79 | 0.96 | 1.15 | 1.34 | 1.55 | 1.75                                                  | 0.01               | 0.06               | 0.10               |  |
|                     |           | 5300                          | 0.34                                         | 0.50 | 0.65 | 0.80 | 0.97 | 1.16 | 1.35 | 1.56 | 1.76                                                  | 0.01               | 0.06               | 0.10               |  |
|                     |           | 5400                          | 0.34                                         | 0.50 | 0.66 | 0.81 | 0.98 | 1.17 | 1.36 | 1.57 | 1.77                                                  | 0.01               | 0.06               | 0.10               |  |
|                     |           | 5500                          | 0.34                                         | 0.51 | 0.66 | 0.81 | 0.99 | 1.17 | 1.38 | 1.58 | 1.78                                                  | 0.01               | 0.06               | 0.10               |  |
|                     |           | 5600                          | 0.34                                         | 0.51 | 0.67 | 0.82 | 0.99 | 1.18 | 1.38 | 1.59 | 1.79                                                  | 0.01               | 0.06               | 0.10               |  |
|                     |           | 5700                          | 0.34                                         | 0.51 | 0.67 | 0.83 | 1.00 | 1.19 | 1.39 | 1.60 | 1.80                                                  | 0.01               | 0.07               | 0.11               |  |
|                     |           | 5800                          | 0.34                                         | 0.51 | 0.68 | 0.83 | 1.01 | 1.20 | 1.40 | 1.61 | 1.81                                                  | 0.01               | 0.07               | 0.11               |  |
|                     |           | 5900                          | 0.34                                         | 0.51 | 0.68 | 0.84 | 1.01 | 1.21 | 1.41 | 1.62 | 1.82                                                  | 0.01               | 0.07               | 0.11               |  |
|                     |           | 6000                          | 0.34                                         | 0.52 | 0.68 | 0.84 | 1.02 | 1.22 | 1.42 | 1.63 | 1.82                                                  | 0.01               | 0.07               | 0.11               |  |
|                     |           | 6200                          | 0.34                                         | 0.52 | 0.69 | 0.85 | 1.03 | 1.23 | 1.43 | 1.64 | 1.83                                                  | 0.01               | 0.07               | 0.11               |  |
|                     |           | 6400                          | 0.34                                         | 0.52 | 0.69 | 0.86 | 1.04 | 1.24 | 1.45 | 1.65 | 1.84                                                  | 0.01               | 0.07               | 0.12               |  |
|                     |           | 6600                          | 0.34                                         | 0.52 | 0.70 | 0.87 | 1.05 | 1.25 | 1.46 | 1.66 | 1.84                                                  | 0.02               | 0.08               | 0.12               |  |
|                     |           | 6800                          | 0.34                                         | 0.53 | 0.70 | 0.87 | 1.06 | 1.26 | 1.47 | 1.67 | 1.84                                                  | 0.02               | 0.08               | 0.13               |  |
|                     |           | 7000                          | 0.34                                         | 0.53 | 0.71 | 0.88 | 1.07 | 1.27 | 1.48 | 1.67 | 1.84                                                  | 0.02               | 0.08               | 0.13               |  |
|                     |           | 7200                          | 0.33                                         | 0.53 | 0.71 | 0.88 | 1.07 | 1.28 | 1.48 | 1.67 | 1.84                                                  | 0.02               | 0.08               | 0.13               |  |
|                     |           | 7400                          | 0.33                                         | 0.53 | 0.71 | 0.89 | 1.08 | 1.28 | 1.48 | 1.67 | 1.83                                                  | 0.02               | 0.09               | 0.14               |  |
|                     |           | 7600                          | 0.33                                         | 0.53 | 0.72 | 0.89 | 1.08 | 1.29 | 1.49 | 1.67 | 1.81                                                  | 0.02               | 0.09               | 0.14               |  |
|                     |           | 7800                          | 0.32                                         | 0.53 | 0.72 | 0.89 | 1.09 | 1.29 | 1.49 | 1.66 | 1.80                                                  | 0.02               | 0.09               | 0.14               |  |
|                     |           | 8000                          | 0.32                                         | 0.52 | 0.72 | 0.89 | 1.09 | 1.29 | 1.48 | 1.65 | 1.78                                                  | 0.02               | 0.09               | 0.15               |  |
|                     |           |                               |                                              |      |      |      |      |      |      |      | $v$ [m/s]                                             |                    |                    |                    |  |
|                     |           |                               |                                              |      |      |      |      |      |      |      | Dynamically balanced                                  |                    |                    |                    |  |
|                     |           |                               |                                              |      |      |      |      |      |      |      | Pulleys                                               |                    |                    |                    |  |



# POWER RATINGS

optibelt **VB** PROFILE Z/10

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 822$  mm



Table 49

| Pulleys                                         | v [m/s] | $n_k$<br>[min <sup>-1</sup> ] | Datum diameter of small pulley $d_{dk}$ [mm] |      |      |      |      |      |      |      | Additional power [kW]<br>per belt for speed ratio i |                    |                    |                    |
|-------------------------------------------------|---------|-------------------------------|----------------------------------------------|------|------|------|------|------|------|------|-----------------------------------------------------|--------------------|--------------------|--------------------|
|                                                 |         |                               | 45                                           | 50   | 56   | 63   | 71   | 80   | 90   | 100  | 112                                                 | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 |
| Statically balanced                             | ②       | 700                           | 0.18                                         | 0.22 | 0.28 | 0.34 | 0.42 | 0.50 | 0.59 | 0.67 | 0.77                                                | 0.00               | 0.02               | 0.03               |
|                                                 |         | 950                           | 0.22                                         | 0.28 | 0.35 | 0.44 | 0.53 | 0.64 | 0.75 | 0.86 | 1.00                                                | 0.00               | 0.02               | 0.04               |
|                                                 |         | 1450                          | 0.29                                         | 0.38 | 0.48 | 0.60 | 0.74 | 0.89 | 1.06 | 1.22 | 1.40                                                | 0.01               | 0.03               | 0.06               |
|                                                 |         | 2850                          | 0.42                                         | 0.58 | 0.77 | 0.98 | 1.22 | 1.47 | 1.75 | 2.02 | 2.33                                                | 0.01               | 0.07               | 0.11               |
|                                                 |         | 100                           | 0.04                                         | 0.05 | 0.06 | 0.07 | 0.08 | 0.10 | 0.11 | 0.13 | 0.15                                                | 0.00               | 0.00               | 0.00               |
|                                                 |         | 200                           | 0.07                                         | 0.08 | 0.10 | 0.12 | 0.15 | 0.17 | 0.20 | 0.23 | 0.27                                                | 0.00               | 0.00               | 0.01               |
|                                                 |         | 300                           | 0.09                                         | 0.12 | 0.14 | 0.17 | 0.21 | 0.25 | 0.29 | 0.33 | 0.38                                                | 0.00               | 0.01               | 0.01               |
|                                                 |         | 400                           | 0.12                                         | 0.15 | 0.18 | 0.22 | 0.26 | 0.31 | 0.37 | 0.42 | 0.48                                                | 0.00               | 0.01               | 0.02               |
|                                                 |         | 500                           | 0.14                                         | 0.17 | 0.21 | 0.26 | 0.32 | 0.38 | 0.44 | 0.51 | 0.58                                                | 0.00               | 0.01               | 0.02               |
|                                                 |         | 600                           | 0.16                                         | 0.20 | 0.25 | 0.30 | 0.37 | 0.44 | 0.51 | 0.59 | 0.68                                                | 0.00               | 0.01               | 0.02               |
|                                                 |         | 700                           | 0.18                                         | 0.22 | 0.28 | 0.34 | 0.42 | 0.50 | 0.59 | 0.67 | 0.77                                                | 0.00               | 0.02               | 0.03               |
|                                                 |         | 800                           | 0.19                                         | 0.25 | 0.31 | 0.38 | 0.46 | 0.55 | 0.65 | 0.75 | 0.87                                                | 0.00               | 0.02               | 0.03               |
|                                                 |         | 900                           | 0.21                                         | 0.27 | 0.34 | 0.42 | 0.51 | 0.61 | 0.72 | 0.83 | 0.95                                                | 0.00               | 0.02               | 0.03               |
|                                                 |         | 1000                          | 0.23                                         | 0.29 | 0.37 | 0.45 | 0.55 | 0.66 | 0.78 | 0.90 | 1.04                                                | 0.00               | 0.02               | 0.04               |
|                                                 |         | 1100                          | 0.24                                         | 0.31 | 0.39 | 0.49 | 0.60 | 0.72 | 0.85 | 0.97 | 1.12                                                | 0.01               | 0.03               | 0.04               |
|                                                 |         | 1200                          | 0.25                                         | 0.33 | 0.42 | 0.52 | 0.64 | 0.77 | 0.91 | 1.05 | 1.21                                                | 0.01               | 0.03               | 0.05               |
|                                                 |         | 1300                          | 0.27                                         | 0.35 | 0.45 | 0.56 | 0.68 | 0.82 | 0.97 | 1.11 | 1.29                                                | 0.01               | 0.03               | 0.05               |
|                                                 |         | 1400                          | 0.28                                         | 0.37 | 0.47 | 0.59 | 0.72 | 0.87 | 1.03 | 1.18 | 1.37                                                | 0.01               | 0.03               | 0.05               |
|                                                 |         | 1500                          | 0.29                                         | 0.39 | 0.49 | 0.62 | 0.76 | 0.91 | 1.08 | 1.25 | 1.44                                                | 0.01               | 0.04               | 0.06               |
|                                                 | ⑤       | 1600                          | 0.31                                         | 0.40 | 0.52 | 0.65 | 0.80 | 0.96 | 1.14 | 1.31 | 1.52                                                | 0.01               | 0.04               | 0.06               |
|                                                 |         | 1700                          | 0.32                                         | 0.42 | 0.54 | 0.68 | 0.84 | 1.01 | 1.19 | 1.38 | 1.59                                                | 0.01               | 0.04               | 0.07               |
|                                                 |         | 1800                          | 0.33                                         | 0.44 | 0.56 | 0.71 | 0.87 | 1.05 | 1.25 | 1.44 | 1.66                                                | 0.01               | 0.04               | 0.07               |
|                                                 |         | 1900                          | 0.34                                         | 0.45 | 0.59 | 0.74 | 0.91 | 1.10 | 1.30 | 1.50 | 1.73                                                | 0.01               | 0.05               | 0.08               |
|                                                 |         | 2000                          | 0.35                                         | 0.47 | 0.61 | 0.77 | 0.94 | 1.14 | 1.35 | 1.56 | 1.80                                                | 0.01               | 0.05               | 0.08               |
|                                                 |         | 2100                          | 0.36                                         | 0.48 | 0.63 | 0.79 | 0.98 | 1.18 | 1.40 | 1.62 | 1.87                                                | 0.01               | 0.05               | 0.08               |
|                                                 |         | 2200                          | 0.37                                         | 0.50 | 0.65 | 0.82 | 1.01 | 1.22 | 1.45 | 1.68 | 1.94                                                | 0.01               | 0.05               | 0.08               |
|                                                 |         | 2300                          | 0.38                                         | 0.51 | 0.67 | 0.85 | 1.05 | 1.26 | 1.50 | 1.73 | 2.00                                                | 0.01               | 0.06               | 0.09               |
|                                                 |         | 2400                          | 0.39                                         | 0.52 | 0.69 | 0.87 | 1.08 | 1.30 | 1.55 | 1.79 | 2.06                                                | 0.01               | 0.06               | 0.09               |
|                                                 |         | 2500                          | 0.39                                         | 0.54 | 0.70 | 0.90 | 1.11 | 1.34 | 1.60 | 1.84 | 2.12                                                | 0.01               | 0.06               | 0.10               |
|                                                 | ⑩       | 2600                          | 0.40                                         | 0.55 | 0.72 | 0.92 | 1.14 | 1.38 | 1.64 | 1.89 | 2.18                                                | 0.01               | 0.06               | 0.10               |
|                                                 |         | 2700                          | 0.41                                         | 0.56 | 0.74 | 0.94 | 1.17 | 1.42 | 1.69 | 1.94 | 2.24                                                | 0.01               | 0.06               | 0.10               |
|                                                 |         | 2800                          | 0.42                                         | 0.57 | 0.76 | 0.97 | 1.20 | 1.46 | 1.73 | 1.99 | 2.30                                                | 0.01               | 0.07               | 0.11               |
|                                                 |         | 2900                          | 0.42                                         | 0.59 | 0.77 | 0.99 | 1.23 | 1.49 | 1.77 | 2.04 | 2.35                                                | 0.01               | 0.07               | 0.11               |
|                                                 |         | 3000                          | 0.43                                         | 0.60 | 0.79 | 1.01 | 1.26 | 1.53 | 1.81 | 2.09 | 2.41                                                | 0.01               | 0.07               | 0.12               |
|                                                 |         | 3100                          | 0.44                                         | 0.61 | 0.81 | 1.03 | 1.29 | 1.56 | 1.85 | 2.14 | 2.46                                                | 0.01               | 0.07               | 0.12               |
|                                                 |         | 3200                          | 0.44                                         | 0.62 | 0.82 | 1.06 | 1.31 | 1.59 | 1.89 | 2.18 | 2.51                                                | 0.02               | 0.08               | 0.12               |
|                                                 |         | 3300                          | 0.45                                         | 0.63 | 0.84 | 1.08 | 1.34 | 1.63 | 1.93 | 2.22 | 2.56                                                | 0.02               | 0.08               | 0.13               |
|                                                 |         | 3400                          | 0.46                                         | 0.64 | 0.85 | 1.10 | 1.37 | 1.66 | 1.97 | 2.27 | 2.60                                                | 0.02               | 0.08               | 0.13               |
|                                                 |         | 3500                          | 0.46                                         | 0.65 | 0.87 | 1.12 | 1.39 | 1.69 | 2.01 | 2.31 | 2.65                                                | 0.02               | 0.08               | 0.13               |
|                                                 | ⑮       | 3600                          | 0.47                                         | 0.66 | 0.88 | 1.14 | 1.42 | 1.72 | 2.04 | 2.35 | 2.69                                                | 0.02               | 0.09               | 0.14               |
|                                                 |         | 3700                          | 0.47                                         | 0.67 | 0.90 | 1.15 | 1.44 | 1.75 | 2.08 | 2.39 | 2.74                                                | 0.02               | 0.09               | 0.14               |
|                                                 |         | 3800                          | 0.48                                         | 0.68 | 0.91 | 1.17 | 1.46 | 1.78 | 2.11 | 2.42 | 2.78                                                | 0.02               | 0.09               | 0.15               |
|                                                 |         | 3900                          | 0.48                                         | 0.68 | 0.92 | 1.19 | 1.49 | 1.81 | 2.14 | 2.46 | 2.81                                                | 0.02               | 0.09               | 0.15               |
|                                                 |         | 4000                          | 0.48                                         | 0.69 | 0.93 | 1.21 | 1.51 | 1.83 | 2.17 | 2.49 | 2.85                                                | 0.02               | 0.10               | 0.15               |
|                                                 |         | 4100                          | 0.49                                         | 0.70 | 0.95 | 1.22 | 1.53 | 1.86 | 2.20 | 2.53 | 2.89                                                | 0.02               | 0.10               | 0.16               |
|                                                 |         | 4200                          | 0.49                                         | 0.71 | 0.96 | 1.24 | 1.55 | 1.89 | 2.23 | 2.56 | 2.92                                                | 0.02               | 0.10               | 0.16               |
|                                                 |         | 4300                          | 0.49                                         | 0.71 | 0.97 | 1.26 | 1.57 | 1.91 | 2.26 | 2.59 | 2.95                                                | 0.02               | 0.10               | 0.17               |
|                                                 |         | 4400                          | 0.50                                         | 0.72 | 0.98 | 1.27 | 1.59 | 1.93 | 2.29 | 2.62 | 2.98                                                | 0.02               | 0.11               | 0.17               |
|                                                 |         | 4500                          | 0.50                                         | 0.73 | 0.99 | 1.29 | 1.61 | 1.96 | 2.32 | 2.65 | 3.01                                                | 0.02               | 0.11               | 0.17               |
|                                                 | ⑳       | 4600                          | 0.50                                         | 0.73 | 1.00 | 1.30 | 1.63 | 1.98 | 2.34 | 2.67 | 3.04                                                | 0.02               | 0.11               | 0.18               |
|                                                 |         | 4700                          | 0.50                                         | 0.74 | 1.01 | 1.32 | 1.65 | 2.00 | 2.37 | 2.70 | 3.06                                                | 0.02               | 0.11               | 0.18               |
|                                                 |         | 4800                          | 0.51                                         | 0.74 | 1.02 | 1.33 | 1.67 | 2.02 | 2.39 | 2.72 | 3.08                                                | 0.02               | 0.12               | 0.18               |
|                                                 |         | 4900                          | 0.51                                         | 0.75 | 1.03 | 1.34 | 1.68 | 2.04 | 2.41 | 2.75 | 3.10                                                | 0.02               | 0.12               | 0.19               |
|                                                 |         | 5000                          | 0.51                                         | 0.75 | 1.04 | 1.35 | 1.70 | 2.06 | 2.43 | 2.77 | 3.12                                                | 0.02               | 0.12               | 0.19               |
|                                                 |         | 5100                          | 0.51                                         | 0.76 | 1.05 | 1.37 | 1.71 | 2.08 | 2.45 | 2.79 | 3.14                                                | 0.02               | 0.12               | 0.20               |
|                                                 |         | 5200                          | 0.51                                         | 0.76 | 1.05 | 1.38 | 1.73 | 2.10 | 2.47 | 2.80 | 3.15                                                | 0.03               | 0.13               | 0.20               |
|                                                 |         | 5300                          | 0.51                                         | 0.77 | 1.06 | 1.39 | 1.74 | 2.11 | 2.49 | 2.82 | 3.16                                                | 0.03               | 0.13               | 0.20               |
|                                                 |         | 5400                          | 0.51                                         | 0.77 | 1.07 | 1.40 | 1.76 | 2.13 | 2.50 | 2.83 | 3.17                                                | 0.03               | 0.13               | 0.21               |
|                                                 |         | 5500                          | 0.51                                         | 0.77 | 1.08 | 1.41 | 1.77 | 2.14 | 2.52 | 2.85 | 3.18                                                | 0.03               | 0.13               | 0.21               |
|                                                 | ㉑       | 5600                          | 0.51                                         | 0.78 | 1.08 | 1.42 | 1.78 | 2.16 | 2.53 | 2.86 | 3.19                                                | 0.03               | 0.13               | 0.22               |
|                                                 |         | 5800                          | 0.51                                         | 0.78 | 1.09 | 1.44 | 1.80 | 2.18 | 2.56 | 2.88 | 3.19                                                | 0.03               | 0.14               | 0.22               |
|                                                 |         | 6000                          | 0.51                                         | 0.79 | 1.10 | 1.45 | 1.82 | 2.20 | 2.57 | 2.89 | 3.19                                                | 0.03               | 0.14               | 0.23               |
|                                                 |         | 6200                          | 0.51                                         | 0.79 | 1.11 | 1.47 | 1.84 | 2.22 | 2.59 | 2.90 | 3.18                                                | 0.03               | 0.15               | 0.24               |
|                                                 |         | 6400                          | 0.50                                         | 0.79 | 1.12 | 1.48 | 1.85 | 2.23 | 2.60 | 2.89 | 3.15                                                | 0.03               | 0.15               | 0.25               |
|                                                 |         | 6600                          | 0.50                                         | 0.79 | 1.12 | 1.49 | 1.86 | 2.24 | 2.60 | 2.88 | 3.12                                                | 0.03               | 0.16               | 0.25               |
|                                                 |         | 6800                          | 0.49                                         | 0.79 | 1.13 | 1.49 | 1.87 | 2.25 | 2.60 | 2.87 | 3.08                                                | 0.03               | 0.16               | 0.26               |
|                                                 |         | 7000                          | 0.49                                         | 0.79 | 1.13 | 1.50 | 1.88 | 2.25 | 2.59 | 2.85 | 3.03                                                | 0.03               | 0.17               | 0.27               |
|                                                 |         | 7200                          | 0.48                                         | 0.78 | 1.13 | 1.50 | 1.88 | 2.25 | 2.58 | 2.82 | 2.97                                                | 0.03               | 0.17               | 0.28               |
|                                                 |         | 7400                          | 0.47                                         | 0.78 | 1.13 | 1.50 | 1.88 | 2.24 | 2.56 | 2.78 | 2.90                                                | 0.04               | 0.18               | 0.28               |
|                                                 | ㉒       | 7600                          | 0.46                                         | 0.77 | 1.12 | 1.50 | 1.88 | 2.23 | 2.53 |      |                                                     | 0.04               | 0.18               | 0.29               |
|                                                 |         | 7800                          | 0.45                                         | 0.77 | 1.12 | 1.49 | 1.87 | 2.22 | 2.50 |      |                                                     | 0.04               | 0.19               | 0.30               |
|                                                 |         | 8000                          | 0.44                                         | 0.76 | 1.11 | 1.49 | 1.86 | 2.20 | 2.47 |      |                                                     | 0.04               | 0.19               | 0.31               |
|                                                 |         | 8200                          | 0.42                                         | 0.75 | 1.11 | 1.48 | 1.85 | 2.17 |      |      |                                                     | 0.04               | 0.20               | 0.32               |
|                                                 |         | 8400                          | 0.41                                         | 0.74 | 1.10 | 1.47 | 1.83 | 2.15 |      |      |                                                     | 0.04               | 0.20               | 0.32               |
|                                                 |         |                               |                                              |      |      |      |      |      |      |      |                                                     | v [m/s]            |                    |                    |
| Dynamically balanced (for details see DIN 2211) |         |                               |                                              |      |      |      |      |      |      |      |                                                     | Pulleys            |                    |                    |

v > 30 m/s. Please consult our Application Engineering Department.



# POWER RATINGS

optibelt **VB** PROFILE B/17

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 2280$  mm



Table 51

| Pulleys                                         | v [m/s] | $n_k$<br>[min <sup>-1</sup> ] | Datum diameter of small pulley $d_{dk}$ [mm] |      |      |      |      |      |      |      |      |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio i |                    |                    |                    |        |
|-------------------------------------------------|---------|-------------------------------|----------------------------------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-----------------------------------------------------|--------------------|--------------------|--------------------|--------|
|                                                 |         |                               | 112                                          | 125  | 132  | 140  | 150  | 160  | 170  | 180  | 190  | 200   | 212   | 224   | 236   | 250   | 280                                                 | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |
| Statically balanced                             | 5       | 700                           | 1.49                                         | 1.96 | 2.21 | 2.50 | 2.85 | 3.20 | 3.55 | 3.89 | 4.24 | 4.58  | 4.98  | 5.38  | 5.78  | 6.23  | 7.19                                                | 0.03               | 0.17               | 0.27               | 0.30   |
|                                                 |         | 950                           | 1.83                                         | 2.45 | 2.77 | 3.15 | 3.61 | 4.06 | 4.51 | 4.96 | 5.40 | 5.83  | 6.35  | 6.86  | 7.36  | 7.94  | 9.14                                                | 0.05               | 0.23               | 0.37               | 0.41   |
|                                                 |         | 1450                          | 2.37                                         | 3.25 | 3.72 | 4.24 | 4.89 | 5.52 | 6.14 | 6.75 | 7.35 | 7.94  | 8.63  | 9.31  | 9.96  | 10.70 | 12.20                                               | 0.07               | 0.35               | 0.56               | 0.63   |
|                                                 |         | 2850                          | 2.99                                         | 4.37 | 5.08 | 5.87 | 6.80 | 7.67 | 8.49 | 9.24 | 9.93 | 10.56 | 11.22 | 11.78 | 12.24 | 12.62 | 12.90                                               | 0.14               | 0.69               | 1.10               | 1.24   |
|                                                 |         | 100                           | 0.33                                         | 0.41 | 0.46 | 0.51 | 0.57 | 0.63 | 0.69 | 0.75 | 0.81 | 0.87  | 0.94  | 1.01  | 1.08  | 1.17  | 1.34                                                | 0.00               | 0.02               | 0.04               | 0.04   |
|                                                 |         | 200                           | 0.58                                         | 0.73 | 0.81 | 0.91 | 1.02 | 1.14 | 1.25 | 1.37 | 1.48 | 1.59  | 1.73  | 1.86  | 1.99  | 2.15  | 2.47                                                | 0.01               | 0.05               | 0.08               | 0.09   |
|                                                 |         | 300                           | 0.79                                         | 1.01 | 1.13 | 1.27 | 1.43 | 1.60 | 1.77 | 1.93 | 2.09 | 2.25  | 2.45  | 2.64  | 2.83  | 3.05  | 3.52                                                | 0.01               | 0.07               | 0.12               | 0.13   |
|                                                 |         | 400                           | 0.99                                         | 1.27 | 1.43 | 1.60 | 1.82 | 2.03 | 2.25 | 2.46 | 2.67 | 2.88  | 3.13  | 3.37  | 3.62  | 3.91  | 4.51                                                | 0.02               | 0.10               | 0.15               | 0.17   |
|                                                 |         | 500                           | 1.17                                         | 1.52 | 1.70 | 1.92 | 2.18 | 2.44 | 2.70 | 2.96 | 3.22 | 3.47  | 3.77  | 4.07  | 4.37  | 4.72  | 5.45                                                | 0.02               | 0.12               | 0.19               | 0.22   |
|                                                 |         | 600                           | 1.33                                         | 1.74 | 1.96 | 2.21 | 2.52 | 2.83 | 3.13 | 3.44 | 3.74 | 4.03  | 4.39  | 4.74  | 5.09  | 5.49  | 6.34                                                | 0.03               | 0.14               | 0.23               | 0.26   |
|                                                 |         | 700                           | 1.49                                         | 1.96 | 2.21 | 2.50 | 2.85 | 3.20 | 3.55 | 3.89 | 4.24 | 4.58  | 4.98  | 5.38  | 5.78  | 6.23  | 7.19                                                | 0.03               | 0.17               | 0.27               | 0.30   |
|                                                 |         | 800                           | 1.63                                         | 2.16 | 2.44 | 2.77 | 3.16 | 3.56 | 3.95 | 4.33 | 4.72 | 5.09  | 5.55  | 5.99  | 6.43  | 6.94  | 8.00                                                | 0.04               | 0.19               | 0.31               | 0.35   |
|                                                 |         | 900                           | 1.77                                         | 2.35 | 2.67 | 3.02 | 3.46 | 3.90 | 4.33 | 4.75 | 5.17 | 5.59  | 6.09  | 6.57  | 7.06  | 7.61  | 8.77                                                | 0.04               | 0.22               | 0.35               | 0.39   |
|                                                 |         | 1000                          | 1.89                                         | 2.54 | 2.88 | 3.27 | 3.75 | 4.22 | 4.69 | 5.16 | 5.61 | 6.07  | 6.60  | 7.13  | 7.65  | 8.25  | 9.50                                                | 0.05               | 0.24               | 0.39               | 0.43   |
|                                                 |         | 1100                          | 2.01                                         | 2.71 | 3.08 | 3.50 | 4.02 | 4.53 | 5.04 | 5.54 | 6.03 | 6.52  | 7.10  | 7.66  | 8.22  | 8.86  | 10.18                                               | 0.05               | 0.27               | 0.42               | 0.48   |
|                                                 |         | 1200                          | 2.12                                         | 2.88 | 3.28 | 3.73 | 4.28 | 4.83 | 5.37 | 5.91 | 6.44 | 6.95  | 7.57  | 8.17  | 8.76  | 9.43  | 10.82                                               | 0.06               | 0.29               | 0.46               | 0.52   |
|                                                 |         | 1300                          | 2.23                                         | 3.03 | 3.46 | 3.94 | 4.53 | 5.12 | 5.69 | 6.26 | 6.82 | 7.37  | 8.01  | 8.64  | 9.26  | 9.97  | 11.41                                               | 0.06               | 0.31               | 0.50               | 0.56   |
|                                                 |         | 1400                          | 2.33                                         | 3.18 | 3.63 | 4.14 | 4.77 | 5.39 | 6.00 | 6.59 | 7.18 | 7.76  | 8.43  | 9.09  | 9.74  | 10.47 | 11.95                                               | 0.07               | 0.34               | 0.54               | 0.61   |
|                                                 |         | 1500                          | 2.42                                         | 3.32 | 3.80 | 4.33 | 5.00 | 5.65 | 6.28 | 6.91 | 7.52 | 8.12  | 8.83  | 9.51  | 10.18 | 10.93 | 12.44                                               | 0.07               | 0.36               | 0.58               | 0.65   |
|                                                 |         | 1600                          | 2.50                                         | 3.45 | 3.95 | 4.52 | 5.21 | 5.89 | 6.56 | 7.21 | 7.85 | 8.47  | 9.20  | 9.90  | 10.58 | 11.35 | 12.88                                               | 0.08               | 0.39               | 0.62               | 0.69   |
|                                                 |         | 1700                          | 2.58                                         | 3.57 | 4.10 | 4.69 | 5.41 | 6.12 | 6.81 | 7.49 | 8.15 | 8.79  | 9.54  | 10.26 | 10.95 | 11.73 | 13.26                                               | 0.08               | 0.41               | 0.66               | 0.74   |
|                                                 |         | 1800                          | 2.65                                         | 3.69 | 4.24 | 4.85 | 5.60 | 6.34 | 7.05 | 7.75 | 8.43 | 9.09  | 9.85  | 10.58 | 11.29 | 12.07 | 13.59                                               | 0.09               | 0.43               | 0.70               | 0.78   |
|                                                 |         | 1900                          | 2.72                                         | 3.79 | 4.36 | 5.00 | 5.78 | 6.54 | 7.27 | 7.99 | 8.69 | 9.36  | 10.14 | 10.88 | 11.58 | 12.36 | 13.85                                               | 0.09               | 0.46               | 0.73               | 0.82   |
|                                                 |         | 2000                          | 2.77                                         | 3.89 | 4.48 | 5.14 | 5.94 | 6.72 | 7.48 | 8.21 | 8.92 | 9.61  | 10.39 | 11.14 | 11.84 | 12.61 | 14.06                                               | 0.10               | 0.48               | 0.77               | 0.87   |
|                                                 |         | 2100                          | 2.82                                         | 3.98 | 4.59 | 5.27 | 6.09 | 6.90 | 7.67 | 8.42 | 9.14 | 9.83  | 10.62 | 11.36 | 12.06 | 12.81 | 14.19                                               | 0.10               | 0.51               | 0.81               | 0.91   |
|                                                 |         | 2200                          | 2.87                                         | 4.06 | 4.69 | 5.39 | 6.23 | 7.05 | 7.84 | 8.60 | 9.33 | 10.02 | 10.81 | 11.55 | 12.23 | 12.96 | 14.26                                               | 0.11               | 0.53               | 0.85               | 0.96   |
|                                                 |         | 2300                          | 2.91                                         | 4.14 | 4.78 | 5.49 | 6.36 | 7.19 | 7.99 | 8.76 | 9.49 | 10.19 | 10.97 | 11.70 | 12.36 | 13.06 | 14.26                                               | 0.11               | 0.56               | 0.89               | 1.00   |
|                                                 |         | 2400                          | 2.94                                         | 4.20 | 4.86 | 5.59 | 6.47 | 7.32 | 8.13 | 8.90 | 9.63 | 10.32 | 11.10 | 11.81 | 12.45 | 13.11 | 14.19                                               | 0.12               | 0.58               | 0.93               | 1.04   |
|                                                 |         | 2500                          | 2.96                                         | 4.25 | 4.93 | 5.67 | 6.57 | 7.43 | 8.24 | 9.02 | 9.75 | 10.43 | 11.19 | 11.88 | 12.49 | 13.10 | 14.04                                               | 0.12               | 0.60               | 0.97               | 1.09   |
|                                                 |         | 2600                          | 2.98                                         | 4.30 | 4.98 | 5.74 | 6.65 | 7.52 | 8.34 | 9.11 | 9.83 | 10.51 | 11.25 | 11.90 | 12.48 |       |                                                     | 0.13               | 0.63               | 1.00               | 1.13   |
|                                                 |         | 2700                          | 2.99                                         | 4.34 | 5.03 | 5.80 | 6.72 | 7.59 | 8.41 | 9.18 | 9.90 | 10.55 | 11.27 | 11.89 | 12.42 |       |                                                     | 0.13               | 0.65               | 1.04               | 1.17   |
|                                                 |         | 2800                          | 2.99                                         | 4.36 | 5.07 | 5.85 | 6.77 | 7.65 | 8.47 | 9.23 | 9.93 | 10.57 | 11.25 | 11.83 | 12.31 |       |                                                     | 0.14               | 0.68               | 1.08               | 1.22   |
|                                                 |         | 2900                          | 2.98                                         | 4.38 | 5.10 | 5.88 | 6.81 | 7.69 | 8.50 | 9.25 | 9.93 | 10.55 | 11.19 | 11.73 | 12.15 |       |                                                     | 0.14               | 0.70               | 1.12               | 1.26   |
|                                                 |         | 3000                          | 2.97                                         | 4.39 | 5.11 | 5.90 | 6.84 | 7.71 | 8.51 | 9.25 | 9.91 | 10.49 | 11.09 | 11.58 | 11.93 |       |                                                     | 0.14               | 0.72               | 1.16               | 1.30   |
|                                                 |         | 3100                          | 2.95                                         | 4.39 | 5.12 | 5.91 | 6.84 | 7.71 | 8.50 | 9.22 | 9.85 | 10.41 |       |       |       |       |                                                     | 0.15               | 0.75               | 1.20               | 1.35   |
|                                                 |         | 3200                          | 2.92                                         | 4.37 | 5.11 | 5.90 | 6.83 | 7.69 | 8.47 | 9.16 | 9.77 | 10.28 |       |       |       |       |                                                     | 0.15               | 0.77               | 1.24               | 1.39   |
|                                                 |         | 3300                          | 2.89                                         | 4.35 | 5.09 | 5.88 | 6.81 | 7.65 | 8.41 | 9.08 | 9.65 | 10.12 |       |       |       |       |                                                     | 0.16               | 0.80               | 1.27               | 1.43   |
|                                                 |         | 3400                          | 2.85                                         | 4.32 | 5.06 | 5.85 | 6.77 | 7.59 | 8.33 | 8.96 | 9.50 | 9.92  |       |       |       |       |                                                     | 0.16               | 0.82               | 1.31               | 1.48   |
|                                                 |         | 3500                          | 2.80                                         | 4.27 | 5.01 | 5.80 | 6.71 | 7.52 | 8.22 | 8.82 | 9.31 | 9.68  |       |       |       |       |                                                     | 0.17               | 0.84               | 1.35               | 1.52   |
|                                                 |         | 3600                          | 2.74                                         | 4.22 | 4.96 | 5.74 | 6.63 | 7.41 | 8.09 |      |      |       |       |       |       |       |                                                     | 0.17               | 0.87               | 1.39               | 1.56   |
|                                                 |         | 3700                          | 2.67                                         | 4.15 | 4.89 | 5.66 | 6.53 | 7.29 | 7.93 |      |      |       |       |       |       |       |                                                     | 0.18               | 0.89               | 1.43               | 1.61   |
|                                                 |         | 3800                          | 2.59                                         | 4.08 | 4.80 | 5.57 | 6.42 | 7.15 | 7.75 |      |      |       |       |       |       |       |                                                     | 0.18               | 0.92               | 1.47               | 1.65   |
|                                                 |         | 3900                          | 2.51                                         | 3.99 | 4.71 | 5.46 | 6.29 | 6.98 | 7.54 |      |      |       |       |       |       |       |                                                     | 0.19               | 0.94               | 1.51               | 1.69   |
|                                                 |         | 4000                          | 2.42                                         | 3.89 | 4.60 | 5.34 | 6.13 | 6.79 | 7.31 |      |      |       |       |       |       |       |                                                     | 0.19               | 0.97               | 1.55               | 1.74   |
|                                                 |         | 4100                          | 2.31                                         | 3.78 | 4.48 | 5.19 | 5.96 |      |      |      |      |       |       |       |       |       |                                                     | 0.20               | 0.99               | 1.58               | 1.78   |
|                                                 |         | 4200                          | 2.20                                         | 3.65 | 4.34 | 5.04 | 5.77 |      |      |      |      |       |       |       |       |       |                                                     | 0.20               | 1.01               | 1.62               | 1.82   |
|                                                 |         | 4300                          | 2.08                                         | 3.52 | 4.19 | 4.86 | 5.56 |      |      |      |      |       |       |       |       |       |                                                     | 0.21               | 1.04               | 1.66               | 1.87   |
|                                                 |         | 4400                          | 1.95                                         | 3.37 | 4.02 | 4.67 | 5.32 |      |      |      |      |       |       |       |       |       |                                                     | 0.21               | 1.06               | 1.70               | 1.91   |
|                                                 |         | 4500                          | 1.82                                         | 3.21 | 3.84 | 4.46 | 5.07 |      |      |      |      |       |       |       |       |       |                                                     | 0.22               | 1.09               | 1.74               | 1.95   |
|                                                 |         | 4600                          | 1.67                                         | 3.03 | 3.65 |      |      |      |      |      |      |       |       |       |       |       |                                                     | 0.22               | 1.11               | 1.78               | 2.00   |
|                                                 |         | 4700                          | 1.51                                         | 2.85 | 3.44 |      |      |      |      |      |      |       |       |       |       |       |                                                     | 0.23               | 1.13               | 1.82               | 2.04   |
|                                                 |         | 4800                          | 1.34                                         | 2.65 | 3.21 |      |      |      |      |      |      |       |       |       |       |       |                                                     | 0.23               | 1.16               | 1.85               | 2.08   |
|                                                 |         | 4900                          | 1.16                                         | 2.43 | 2.97 |      |      |      |      |      |      |       |       |       |       |       |                                                     | 0.24               | 1.18               | 1.89               | 2.13   |
|                                                 |         | 5000                          | 0.97                                         | 2.20 | 2.71 |      |      |      |      |      |      |       |       |       |       |       |                                                     | 0.24               | 1.21               | 1.93               | 2.17   |
| Dynamically balanced (for details see DIN 2211) |         |                               |                                              |      |      |      |      |      |      |      |      |       |       |       |       |       |                                                     |                    |                    | v [m/s]            |        |
|                                                 |         |                               |                                              |      |      |      |      |      |      |      |      |       |       |       |       |       |                                                     |                    |                    | Pulleys            |        |

v > 30 m/s.  
Please consult our  
Application Engineering  
Department.



# POWER RATINGS

optibelt **VB** PROFILE 20

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 3198$  mm



Table 53

| Pulleys             | $v$ [m/s] | $n_k$<br>[min <sup>-1</sup> ]                                                                                          | Datum diameter of small pulley $d_{dk}$ [mm] |      |      |      |      |       |       |       | Additional power [kW]<br>per belt for speed ratio $i$ |       |                    |                    |                    |        |
|---------------------|-----------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|------|------|------|------|-------|-------|-------|-------------------------------------------------------|-------|--------------------|--------------------|--------------------|--------|
|                     |           |                                                                                                                        | 140                                          | 160  | 180  | 200  | 224  | 236   | 250   | 280   | 315                                                   | 355   | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |
| Statically balanced | 5         | 700                                                                                                                    | 2.62                                         | 3.33 | 4.02 | 4.70 | 5.49 | 5.88  | 6.32  | 7.25  | 8.30                                                  | 9.44  | 0.04               | 0.18               | 0.29               | 0.32   |
|                     |           | 950                                                                                                                    | 3.21                                         | 4.11 | 4.99 | 5.83 | 6.82 | 7.30  | 7.84  | 8.97  | 10.21                                                 | 11.53 | 0.05               | 0.24               | 0.39               | 0.44   |
|                     |           | 1450                                                                                                                   | 4.08                                         | 5.30 | 6.46 | 7.56 | 8.80 | 9.38  | 10.03 | 11.32 | 12.61                                                 | 13.81 | 0.07               | 0.37               | 0.59               | 0.67   |
|                     |           | 2850                                                                                                                   | 4.64                                         | 6.11 | 7.29 | 8.16 | 8.75 | 8.85  | 8.79  | 7.99  | 5.78                                                  |       | 0.15               | 0.73               | 1.17               | 1.31   |
|                     |           | 50                                                                                                                     | 0.34                                         | 0.41 | 0.48 | 0.55 | 0.63 | 0.68  | 0.72  | 0.83  | 0.94                                                  | 1.08  | 0.00               | 0.01               | 0.02               | 0.02   |
|                     |           | 100                                                                                                                    | 0.60                                         | 0.73 | 0.86 | 0.99 | 1.15 | 1.22  | 1.31  | 1.50  | 1.71                                                  | 1.96  | 0.01               | 0.03               | 0.04               | 0.05   |
|                     |           | 150                                                                                                                    | 0.82                                         | 1.02 | 1.20 | 1.39 | 1.61 | 1.72  | 1.84  | 2.11  | 2.42                                                  | 2.76  | 0.01               | 0.04               | 0.06               | 0.07   |
|                     |           | 200                                                                                                                    | 1.04                                         | 1.28 | 1.52 | 1.76 | 2.04 | 2.18  | 2.34  | 2.68  | 3.07                                                  | 3.51  | 0.01               | 0.05               | 0.08               | 0.09   |
|                     |           | 250                                                                                                                    | 1.23                                         | 1.53 | 1.82 | 2.11 | 2.45 | 2.62  | 2.82  | 3.23  | 3.70                                                  | 4.23  | 0.01               | 0.06               | 0.10               | 0.12   |
|                     |           | 300                                                                                                                    | 1.42                                         | 1.76 | 2.11 | 2.44 | 2.84 | 3.04  | 3.27  | 3.75  | 4.29                                                  | 4.91  | 0.02               | 0.08               | 0.12               | 0.14   |
|                     |           | 350                                                                                                                    | 1.59                                         | 1.99 | 2.38 | 2.76 | 3.22 | 3.44  | 3.70  | 4.24  | 4.87                                                  | 5.56  | 0.02               | 0.09               | 0.14               | 0.16   |
|                     |           | 400                                                                                                                    | 1.76                                         | 2.20 | 2.64 | 3.07 | 3.58 | 3.83  | 4.11  | 4.72  | 5.41                                                  | 6.19  | 0.02               | 0.10               | 0.16               | 0.18   |
|                     |           | 450                                                                                                                    | 1.92                                         | 2.41 | 2.89 | 3.37 | 3.92 | 4.20  | 4.51  | 5.18  | 5.94                                                  | 6.79  | 0.02               | 0.12               | 0.18               | 0.21   |
|                     |           | 500                                                                                                                    | 2.07                                         | 2.61 | 3.13 | 3.65 | 4.26 | 4.56  | 4.90  | 5.63  | 6.45                                                  | 7.36  | 0.03               | 0.13               | 0.21               | 0.23   |
|                     |           | 550                                                                                                                    | 2.22                                         | 2.80 | 3.37 | 3.93 | 4.58 | 4.90  | 5.28  | 6.06  | 6.94                                                  | 7.92  | 0.03               | 0.14               | 0.23               | 0.25   |
|                     |           | 600                                                                                                                    | 2.36                                         | 2.98 | 3.59 | 4.19 | 4.90 | 5.24  | 5.64  | 6.47  | 7.41                                                  | 8.45  | 0.03               | 0.15               | 0.25               | 0.28   |
|                     |           | 650                                                                                                                    | 2.49                                         | 3.16 | 3.81 | 4.45 | 5.20 | 5.56  | 5.99  | 6.87  | 7.86                                                  | 8.96  | 0.03               | 0.17               | 0.27               | 0.30   |
|                     |           | 700                                                                                                                    | 2.62                                         | 3.33 | 4.02 | 4.70 | 5.49 | 5.88  | 6.32  | 7.25  | 8.30                                                  | 9.44  | 0.04               | 0.18               | 0.29               | 0.32   |
|                     |           | 750                                                                                                                    | 2.75                                         | 3.50 | 4.23 | 4.94 | 5.78 | 6.18  | 6.65  | 7.63  | 8.72                                                  | 9.91  | 0.04               | 0.19               | 0.31               | 0.35   |
|                     |           | 800                                                                                                                    | 2.87                                         | 3.66 | 4.43 | 5.18 | 6.05 | 6.48  | 6.97  | 7.98  | 9.12                                                  | 10.35 | 0.04               | 0.21               | 0.33               | 0.37   |
|                     |           | 850                                                                                                                    | 2.99                                         | 3.81 | 4.62 | 5.40 | 6.32 | 6.76  | 7.27  | 8.33  | 9.50                                                  | 10.77 | 0.04               | 0.22               | 0.35               | 0.39   |
|                     |           | 900                                                                                                                    | 3.10                                         | 3.96 | 4.81 | 5.62 | 6.57 | 7.03  | 7.56  | 8.66  | 9.87                                                  | 11.16 | 0.05               | 0.23               | 0.37               | 0.42   |
|                     |           | 950                                                                                                                    | 3.21                                         | 4.11 | 4.99 | 5.83 | 6.82 | 7.30  | 7.84  | 8.97  | 10.21                                                 | 11.53 | 0.05               | 0.24               | 0.39               | 0.44   |
|                     |           | 1000                                                                                                                   | 3.31                                         | 4.25 | 5.16 | 6.04 | 7.06 | 7.55  | 8.11  | 9.27  | 10.54                                                 | 11.88 | 0.05               | 0.26               | 0.41               | 0.46   |
|                     |           | 1050                                                                                                                   | 3.41                                         | 4.39 | 5.33 | 6.24 | 7.29 | 7.79  | 8.37  | 9.56  | 10.85                                                 | 12.20 | 0.05               | 0.27               | 0.43               | 0.48   |
|                     |           | 1100                                                                                                                   | 3.51                                         | 4.52 | 5.49 | 6.43 | 7.51 | 8.03  | 8.62  | 9.83  | 11.14                                                 | 12.50 | 0.06               | 0.28               | 0.45               | 0.51   |
|                     |           | 1150                                                                                                                   | 3.60                                         | 4.64 | 5.65 | 6.61 | 7.72 | 8.25  | 8.86  | 10.09 | 11.41                                                 | 12.77 | 0.06               | 0.29               | 0.47               | 0.53   |
|                     |           | 1200                                                                                                                   | 3.69                                         | 4.76 | 5.80 | 6.79 | 7.92 | 8.47  | 9.08  | 10.33 | 11.66                                                 | 13.01 | 0.06               | 0.31               | 0.49               | 0.55   |
|                     |           | 1250                                                                                                                   | 3.78                                         | 4.88 | 5.94 | 6.96 | 8.11 | 8.67  | 9.30  | 10.56 | 11.90                                                 | 13.23 | 0.06               | 0.32               | 0.51               | 0.58   |
|                     | 10        | 1300                                                                                                                   | 3.86                                         | 4.99 | 6.08 | 7.12 | 8.30 | 8.86  | 9.50  | 10.77 | 12.11                                                 | 13.42 | 0.07               | 0.33               | 0.53               | 0.60   |
|                     |           | 1350                                                                                                                   | 3.94                                         | 5.10 | 6.21 | 7.27 | 8.47 | 9.05  | 9.69  | 10.97 | 12.30                                                 | 13.58 | 0.07               | 0.35               | 0.55               | 0.62   |
|                     |           | 1400                                                                                                                   | 4.01                                         | 5.20 | 6.34 | 7.42 | 8.64 | 9.22  | 9.87  | 11.15 | 12.47                                                 | 13.71 | 0.07               | 0.36               | 0.57               | 0.65   |
|                     |           | 1450                                                                                                                   | 4.08                                         | 5.30 | 6.46 | 7.56 | 8.80 | 9.38  | 10.03 | 11.32 | 12.61                                                 | 13.81 | 0.07               | 0.37               | 0.59               | 0.67   |
|                     |           | 1500                                                                                                                   | 4.15                                         | 5.40 | 6.58 | 7.69 | 8.94 | 9.53  | 10.18 | 11.46 | 12.74                                                 | 13.88 | 0.08               | 0.38               | 0.62               | 0.69   |
|                     |           | 1550                                                                                                                   | 4.22                                         | 5.49 | 6.69 | 7.82 | 9.08 | 9.67  | 10.33 | 11.60 | 12.84                                                 | 13.92 | 0.08               | 0.40               | 0.64               | 0.71   |
|                     |           | 1600                                                                                                                   | 4.28                                         | 5.57 | 6.79 | 7.94 | 9.21 | 9.80  | 10.45 | 11.71 | 12.92                                                 | 13.93 | 0.08               | 0.41               | 0.66               | 0.74   |
|                     |           | 1650                                                                                                                   | 4.34                                         | 5.65 | 6.89 | 8.05 | 9.33 | 9.92  | 10.57 | 11.81 | 12.97                                                 | 13.90 | 0.08               | 0.42               | 0.68               | 0.76   |
|                     |           | 1700                                                                                                                   | 4.39                                         | 5.73 | 6.98 | 8.15 | 9.43 | 10.02 | 10.67 | 11.89 | 13.00                                                 | 13.84 | 0.09               | 0.44               | 0.70               | 0.78   |
|                     |           | 1750                                                                                                                   | 4.44                                         | 5.80 | 7.07 | 8.24 | 9.53 | 10.12 | 10.76 | 11.95 | 13.01                                                 | 13.75 | 0.09               | 0.45               | 0.72               | 0.81   |
|                     | 15        | 1800                                                                                                                   | 4.49                                         | 5.87 | 7.15 | 8.33 | 9.62 | 10.20 | 10.83 | 11.99 | 12.99                                                 | 13.62 | 0.09               | 0.46               | 0.74               | 0.83   |
|                     |           | 1850                                                                                                                   | 4.53                                         | 5.93 | 7.22 | 8.41 | 9.69 | 10.27 | 10.89 | 12.02 | 12.94                                                 | 13.46 | 0.09               | 0.47               | 0.76               | 0.85   |
|                     |           | 1900                                                                                                                   | 4.57                                         | 5.98 | 7.29 | 8.48 | 9.76 | 10.33 | 10.94 | 12.02 | 12.87                                                 | 13.26 | 0.10               | 0.49               | 0.78               | 0.88   |
|                     |           | 1950                                                                                                                   | 4.61                                         | 6.04 | 7.35 | 8.55 | 9.81 | 10.38 | 10.97 | 12.01 | 12.77                                                 | 13.02 | 0.10               | 0.50               | 0.80               | 0.90   |
|                     |           | 2000                                                                                                                   | 4.64                                         | 6.08 | 7.41 | 8.60 | 9.86 | 10.41 | 10.99 | 11.97 | 12.65                                                 | 12.74 | 0.10               | 0.51               | 0.82               | 0.92   |
|                     |           | 2050                                                                                                                   | 4.67                                         | 6.13 | 7.45 | 8.65 | 9.89 | 10.43 | 10.99 | 11.92 | 12.49                                                 |       | 0.11               | 0.53               | 0.84               | 0.95   |
|                     |           | 2100                                                                                                                   | 4.70                                         | 6.16 | 7.50 | 8.69 | 9.91 | 10.44 | 10.98 | 11.84 | 12.31                                                 |       | 0.11               | 0.54               | 0.86               | 0.97   |
|                     |           | 2150                                                                                                                   | 4.72                                         | 6.20 | 7.53 | 8.71 | 9.92 | 10.43 | 10.95 | 11.75 | 12.10                                                 |       | 0.11               | 0.55               | 0.88               | 0.99   |
|                     |           | 2200                                                                                                                   | 4.74                                         | 6.22 | 7.56 | 8.74 | 9.92 | 10.41 | 10.91 | 11.63 | 11.86                                                 |       | 0.11               | 0.56               | 0.90               | 1.01   |
|                     |           | 2250                                                                                                                   | 4.75                                         | 6.25 | 7.58 | 8.75 | 9.91 | 10.38 | 10.85 | 11.49 | 11.59                                                 |       | 0.12               | 0.58               | 0.92               | 1.04   |
|                     | 20        | 2300                                                                                                                   | 4.76                                         | 6.27 | 7.60 | 8.75 | 9.88 | 10.34 | 10.77 | 11.33 |                                                       |       | 0.12               | 0.59               | 0.94               | 1.06   |
|                     |           | 2350                                                                                                                   | 4.77                                         | 6.28 | 7.61 | 8.75 | 9.84 | 10.28 | 10.68 | 11.14 |                                                       |       | 0.12               | 0.60               | 0.96               | 1.08   |
|                     |           | 2400                                                                                                                   | 4.77                                         | 6.29 | 7.61 | 8.73 | 9.79 | 10.20 | 10.57 | 10.94 |                                                       |       | 0.12               | 0.62               | 0.98               | 1.11   |
|                     |           | 2450                                                                                                                   | 4.77                                         | 6.29 | 7.60 | 8.71 | 9.73 | 10.11 | 10.44 | 10.71 |                                                       |       | 0.13               | 0.63               | 1.01               | 1.13   |
|                     |           | 2500                                                                                                                   | 4.77                                         | 6.28 | 7.59 | 8.67 | 9.66 | 10.01 | 10.30 | 10.45 |                                                       |       | 0.13               | 0.64               | 1.03               | 1.15   |
|                     |           | 2550                                                                                                                   | 4.76                                         | 6.28 | 7.57 | 8.63 | 9.57 | 9.89  |       |       |                                                       |       | 0.13               | 0.65               | 1.05               | 1.18   |
|                     |           | 2600                                                                                                                   | 4.75                                         | 6.26 | 7.54 | 8.58 | 9.47 | 9.76  |       |       |                                                       |       | 0.13               | 0.67               | 1.07               | 1.20   |
|                     |           | 2650                                                                                                                   | 4.74                                         | 6.24 | 7.51 | 8.51 | 9.35 | 9.61  |       |       |                                                       |       | 0.14               | 0.68               | 1.09               | 1.22   |
|                     |           | 2700                                                                                                                   | 4.72                                         | 6.22 | 7.47 | 8.44 | 9.22 | 9.44  |       |       |                                                       |       | 0.14               | 0.69               | 1.11               | 1.25   |
|                     |           | 2750                                                                                                                   | 4.69                                         | 6.19 | 7.42 | 8.36 | 9.08 | 9.26  |       |       |                                                       |       | 0.14               | 0.71               | 1.13               | 1.27   |
|                     | 25        | 2800                                                                                                                   | 4.67                                         | 6.15 | 7.36 | 8.27 | 8.92 |       |       |       |                                                       |       | 0.14               | 0.72               | 1.15               | 1.29   |
|                     |           | 2850                                                                                                                   | 4.64                                         | 6.11 | 7.29 | 8.16 | 8.75 |       |       |       |                                                       |       | 0.15               | 0.73               | 1.17               | 1.31   |
|                     |           | 2900                                                                                                                   | 4.60                                         | 6.06 | 7.22 | 8.05 | 8.57 |       |       |       |                                                       |       | 0.15               | 0.74               | 1.19               | 1.34   |
|                     |           | 2950                                                                                                                   | 4.56                                         | 6.01 | 7.14 | 7.93 | 8.37 |       |       |       |                                                       |       | 0.15               | 0.76               | 1.21               | 1.36   |
|                     |           | 3000                                                                                                                   | 4.52                                         | 5.95 | 7.05 | 7.79 | 8.16 |       |       |       |                                                       |       | 0.15               | 0.77               | 1.23               | 1.38   |
|                     |           | <div> <div><math>v &gt; 30</math> m/s.<br/>Please consult our<br/>Application Engineering<br/>Department.</div> </div> |                                              |      |      |      |      |       |       |       |                                                       |       | $v$ [m/s]          |                    |                    |        |
|                     |           |                                                                                                                        |                                              |      |      |      |      |       |       |       |                                                       |       | Pulleys            |                    |                    |        |



# POWER RATINGS

optibelt **VB** PROFILE 25

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 4561$  mm



Table 54

| Pulleys                                                                     | v<br>[m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Datum diameter of small pulley d <sub>dk</sub> [mm] |      |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio i |                    |                    |                    |        |      |      |
|-----------------------------------------------------------------------------|------------|----------------------------------------|-----------------------------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-----------------------------------------------------|--------------------|--------------------|--------------------|--------|------|------|
|                                                                             |            |                                        | 224                                                 | 236  | 250   | 280   | 315   | 355   | 400   | 450   | 500   | 560                                                 | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |      |      |
| Statically balanced                                                         | 5          | 700                                    | 5.68                                                | 6.47 | 7.38  | 9.28  | 11.45 | 13.84 | 16.43 | 19.16 | 21.74 | 24.62                                               | 0.12               | 0.61               | 0.97               | 1.09   |      |      |
|                                                                             |            | 950                                    | 6.86                                                | 7.86 | 9.00  | 11.38 | 14.03 | 16.90 | 19.91 | 22.94 | 25.63 | 28.37                                               | 0.16               | 0.82               | 1.32               | 1.48   |      |      |
|                                                                             |            | 1450                                   | 8.15                                                | 9.43 | 10.88 | 13.78 | 16.81 | 19.77 | 22.40 |       |       |                                                     | 0.25               | 1.26               | 2.01               | 2.26   |      |      |
|                                                                             |            | 2850                                   |                                                     |      |       |       |       |       |       |       |       |                                                     | 0.49               | 2.47               | 3.95               | 4.44   |      |      |
|                                                                             |            | 50                                     | 0.71                                                | 0.78 | 0.87  | 1.05  | 1.26  | 1.50  | 1.76  | 2.06  | 2.35  | 2.69                                                | 0.01               | 0.04               | 0.07               | 0.08   |      |      |
|                                                                             |            | 100                                    | 1.26                                                | 1.40 | 1.56  | 1.91  | 2.31  | 2.76  | 3.26  | 3.81  | 4.35  | 5.00                                                | 0.02               | 0.09               | 0.14               | 0.16   |      |      |
|                                                                             |            | 150                                    | 1.76                                                | 1.96 | 2.20  | 2.69  | 3.27  | 3.92  | 4.64  | 5.44  | 6.22  | 7.15                                                | 0.03               | 0.13               | 0.21               | 0.23   |      |      |
|                                                                             |            | 200                                    | 2.22                                                | 2.48 | 2.79  | 3.43  | 4.18  | 5.02  | 5.96  | 6.98  | 7.99  | 9.19                                                | 0.03               | 0.17               | 0.28               | 0.31   |      |      |
|                                                                             |            | 250                                    | 2.65                                                | 2.97 | 3.34  | 4.13  | 5.04  | 6.07  | 7.21  | 8.46  | 9.69  | 11.14                                               | 0.04               | 0.22               | 0.35               | 0.39   |      |      |
|                                                                             |            | 300                                    | 3.06                                                | 3.43 | 3.87  | 4.80  | 5.87  | 7.08  | 8.41  | 9.87  | 11.30 | 12.99                                               | 0.05               | 0.26               | 0.42               | 0.47   |      |      |
|                                                                             |            | 350                                    | 3.44                                                | 3.88 | 4.38  | 5.44  | 6.67  | 8.05  | 9.57  | 11.23 | 12.86 | 14.76                                               | 0.06               | 0.30               | 0.49               | 0.55   |      |      |
|                                                                             |            | 400                                    | 3.81                                                | 4.30 | 4.86  | 6.06  | 7.43  | 8.98  | 10.68 | 12.53 | 14.34 | 16.45                                               | 0.07               | 0.35               | 0.55               | 0.62   |      |      |
|                                                                             |            | 450                                    | 4.16                                                | 4.70 | 5.33  | 6.65  | 8.17  | 9.87  | 11.75 | 13.78 | 15.75 | 18.05                                               | 0.08               | 0.39               | 0.62               | 0.70   |      |      |
|                                                                             |            | 500                                    | 4.49                                                | 5.09 | 5.77  | 7.22  | 8.88  | 10.74 | 12.77 | 14.97 | 17.10 | 19.56                                               | 0.09               | 0.43               | 0.69               | 0.78   |      |      |
|                                                                             |            | 10                                     | 550                                                 | 4.81 | 5.45  | 6.20  | 7.77  | 9.56  | 11.56 | 13.75 | 16.11 | 18.37                                               | 20.97              | 0.10               | 0.48               | 0.76   | 0.86 |      |
|                                                                             |            |                                        | 600                                                 | 5.12 | 5.81  | 6.61  | 8.29  | 10.22 | 12.36 | 14.69 | 17.18 | 19.57                                               | 22.29              | 0.10               | 0.52               | 0.83   | 0.94 |      |
|                                                                             |            |                                        | 650                                                 | 5.41 | 6.15  | 7.00  | 8.80  | 10.85 | 13.12 | 15.58 | 18.20 | 20.70                                               | 23.51              | 0.11               | 0.56               | 0.90   | 1.01 |      |
|                                                                             |            |                                        | 700                                                 | 5.68 | 6.47  | 7.38  | 9.28  | 11.45 | 13.84 | 16.43 | 19.16 | 21.74                                               | 24.62              | 0.12               | 0.61               | 0.97   | 1.09 |      |
|                                                                             |            |                                        | 750                                                 | 5.95 | 6.78  | 7.73  | 9.75  | 12.02 | 14.53 | 17.22 | 20.05 | 22.70                                               | 25.61              | 0.13               | 0.65               | 1.04   | 1.17 |      |
|                                                                             |            |                                        | 800                                                 | 6.20 | 7.07  | 8.08  | 10.19 | 12.57 | 15.18 | 17.97 | 20.88 | 23.57                                               | 26.49              | 0.14               | 0.69               | 1.11   | 1.25 |      |
|                                                                             |            |                                        | 850                                                 | 6.43 | 7.35  | 8.40  | 10.61 | 13.09 | 15.79 | 18.67 | 21.64 | 24.35                                               | 27.25              | 0.15               | 0.74               | 1.18   | 1.33 |      |
|                                                                             |            |                                        | 900                                                 | 6.65 | 7.61  | 8.71  | 11.00 | 13.57 | 16.37 | 19.31 | 22.33 | 25.04                                               | 27.88              | 0.16               | 0.78               | 1.25   | 1.40 |      |
|                                                                             |            |                                        | 950                                                 | 6.86 | 7.86  | 9.00  | 11.38 | 14.03 | 16.90 | 19.91 | 22.94 | 25.63                                               | 28.37              | 0.16               | 0.82               | 1.32   | 1.48 |      |
|                                                                             |            |                                        | 1000                                                | 7.06 | 8.09  | 9.27  | 11.73 | 14.46 | 17.40 | 20.44 | 23.48 | 26.12                                               | 28.72              | 0.17               | 0.87               | 1.39   | 1.56 |      |
|                                                                             |            |                                        | 1050                                                | 7.24 | 8.30  | 9.52  | 12.06 | 14.86 | 17.85 | 20.92 | 23.93 | 26.50                                               | 28.93              | 0.18               | 0.91               | 1.46   | 1.64 |      |
|                                                                             |            |                                        | 1100                                                | 7.40 | 8.50  | 9.76  | 12.36 | 15.22 | 18.26 | 21.33 | 24.31 | 26.77                                               | 28.99              | 0.19               | 0.95               | 1.53   | 1.72 |      |
|                                                                             |            |                                        | 1150                                                | 7.55 | 8.69  | 9.98  | 12.64 | 15.56 | 18.62 | 21.69 | 24.60 | 26.92                                               | 28.88              | 0.20               | 1.00               | 1.60   | 1.79 |      |
|                                                                             |            |                                        | 1200                                                | 7.69 | 8.85  | 10.18 | 12.90 | 15.86 | 18.93 | 21.98 | 24.80 | 26.96                                               | 28.62              | 0.21               | 1.04               | 1.66   | 1.87 |      |
|                                                                             |            |                                        | 1250                                                | 7.81 | 9.00  | 10.36 | 13.13 | 16.12 | 19.20 | 22.20 | 24.90 | 26.87                                               | 28.18              | 0.22               | 1.08               | 1.73   | 1.95 |      |
|                                                                             |            |                                        | 15                                                  | 1300 | 7.92  | 9.14  | 10.52 | 13.33 | 16.35 | 19.42 | 22.36 | 24.92                                               |                    |                    | 0.23               | 1.13   | 1.80 | 2.03 |
|                                                                             |            |                                        |                                                     | 1350 | 8.02  | 9.25  | 10.66 | 13.51 | 16.54 | 19.59 | 22.45 | 24.83                                               |                    |                    | 0.23               | 1.17   | 1.87 | 2.10 |
|                                                                             |            |                                        |                                                     | 1400 | 8.09  | 9.35  | 10.78 | 13.66 | 16.69 | 19.71 | 22.46 | 24.65                                               |                    |                    | 0.24               | 1.21   | 1.94 | 2.18 |
|                                                                             |            | 1450                                   |                                                     | 8.15 | 9.43  | 10.88 | 13.78 | 16.81 | 19.77 | 22.40 | 24.36 |                                                     |                    | 0.25               | 1.26               | 2.01   | 2.26 |      |
|                                                                             |            | 1500                                   |                                                     | 8.20 | 9.50  | 10.96 | 13.87 | 16.89 | 19.78 | 22.26 | 23.96 |                                                     |                    | 0.26               | 1.30               | 2.08   | 2.34 |      |
|                                                                             |            | 1550                                   |                                                     | 8.23 | 9.54  | 11.01 | 13.93 | 16.92 | 19.73 |       |       |                                                     |                    | 0.27               | 1.34               | 2.15   | 2.42 |      |
|                                                                             |            | 1600                                   |                                                     | 8.24 | 9.57  | 11.05 | 13.97 | 16.92 | 19.63 |       |       |                                                     |                    | 0.28               | 1.39               | 2.22   | 2.49 |      |
|                                                                             |            | 1650                                   |                                                     | 8.24 | 9.57  | 11.06 | 13.97 | 16.87 | 19.46 |       |       |                                                     |                    | 0.29               | 1.43               | 2.29   | 2.57 |      |
|                                                                             |            | 1700                                   |                                                     | 8.22 | 9.56  | 11.04 | 13.94 | 16.78 | 19.24 |       |       |                                                     |                    | 0.29               | 1.47               | 2.36   | 2.65 |      |
|                                                                             |            | 1750                                   |                                                     | 8.18 | 9.52  | 11.01 | 13.88 | 16.64 | 18.95 |       |       |                                                     |                    | 0.30               | 1.52               | 2.43   | 2.73 |      |
|                                                                             |            | 20                                     | 1800                                                | 8.12 | 9.47  | 10.95 | 13.79 | 16.46 |       |       |       |                                                     |                    | 0.31               | 1.56               | 2.50   | 2.81 |      |
|                                                                             |            |                                        | 1850                                                | 8.04 | 9.39  | 10.87 | 13.66 | 16.23 |       |       |       |                                                     |                    | 0.32               | 1.60               | 2.57   | 2.88 |      |
|                                                                             |            |                                        | 1900                                                | 7.95 | 9.29  | 10.76 | 13.50 | 15.95 |       |       |       |                                                     |                    | 0.33               | 1.65               | 2.64   | 2.96 |      |
|                                                                             |            |                                        | 1950                                                | 7.84 | 9.17  | 10.62 | 13.30 | 15.63 |       |       |       |                                                     |                    | 0.34               | 1.69               | 2.70   | 3.04 |      |
|                                                                             |            |                                        | 2000                                                | 7.70 | 9.03  | 10.46 | 13.07 | 15.25 |       |       |       |                                                     |                    | 0.35               | 1.73               | 2.77   | 3.12 |      |
|                                                                             |            |                                        | 2050                                                | 7.55 | 8.87  | 10.27 | 12.80 |       |       |       |       |                                                     |                    | 0.36               | 1.78               | 2.84   | 3.20 |      |
|                                                                             |            |                                        | 2100                                                | 7.38 | 8.68  | 10.06 | 12.49 |       |       |       |       |                                                     |                    | 0.36               | 1.82               | 2.91   | 3.27 |      |
|                                                                             |            |                                        | 2150                                                | 7.19 | 8.47  | 9.82  | 12.15 |       |       |       |       |                                                     |                    | 0.37               | 1.86               | 2.98   | 3.35 |      |
|                                                                             |            |                                        | 2200                                                | 6.97 | 8.23  | 9.55  | 11.76 |       |       |       |       |                                                     |                    | 0.38               | 1.91               | 3.05   | 3.43 |      |
|                                                                             |            |                                        | 2250                                                | 6.74 | 7.97  | 9.25  | 11.34 |       |       |       |       |                                                     |                    | 0.39               | 1.95               | 3.12   | 3.51 |      |
|                                                                             |            | 25                                     | 2300                                                | 6.48 | 7.69  | 8.92  |       |       |       |       |       |                                                     |                    | 0.40               | 1.99               | 3.19   | 3.59 |      |
|                                                                             |            |                                        | 2350                                                | 6.21 | 7.38  | 8.56  |       |       |       |       |       |                                                     |                    | 0.41               | 2.04               | 3.26   | 3.66 |      |
|                                                                             |            |                                        | 2400                                                | 5.91 | 7.04  | 8.17  |       |       |       |       |       |                                                     |                    | 0.42               | 2.08               | 3.33   | 3.74 |      |
|                                                                             |            |                                        | 2450                                                | 5.58 | 6.68  | 7.75  |       |       |       |       |       |                                                     |                    | 0.42               | 2.12               | 3.40   | 3.82 |      |
|                                                                             |            |                                        | 2500                                                | 5.24 | 6.29  | 7.30  |       |       |       |       |       |                                                     |                    | 0.43               | 2.17               | 3.47   | 3.90 |      |
| 30                                                                          |            |                                        |                                                     |      |       |       |       |       |       |       |       |                                                     | v [m/s]            |                    |                    |        |      |      |
|                                                                             |            |                                        |                                                     |      |       |       |       |       |       |       |       |                                                     | Pulleys            |                    |                    |        |      |      |
| v > 30 m/s.<br>Please consult our<br>Application Engineering<br>Department. |            |                                        |                                                     |      |       |       |       |       |       |       |       |                                                     |                    |                    |                    |        |      |      |
| Dynamically balanced (for details see DIN 2211)                             |            |                                        |                                                     |      |       |       |       |       |       |       |       |                                                     | Pulleys            |                    |                    |        |      |      |

v > 30 m/s.  
Please consult our  
Application Engineering  
Department.



# POWER RATINGS

optibelt **VB** PROFILE D/32

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 6375$  mm



Table 55

| Pulleys             | $v$ [m/s] | $n_k$<br>[min <sup>-1</sup> ] | Datum diameter of small pulley $d_{dk}$ [mm] |       |       |       |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio $i$ |                    |                    |                    |      |
|---------------------|-----------|-------------------------------|----------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------------------------------------|--------------------|--------------------|--------------------|------|
|                     |           |                               | 315                                          | 355   | 375   | 400   | 425   | 450   | 500   | 560   | 630   | 670   | 710   | 750   | 800   | 900                                                   | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 |      |
|                     |           |                               |                                              |       |       |       |       |       |       |       |       |       |       |       |       |                                                       |                    |                    |                    |      |
| Statically balanced | 5         | 700                           | 15.30                                        | 19.17 | 21.05 | 23.36 | 25.62 | 27.82 | 32.05 | 36.82 | 41.91 | 44.59 | 47.08 | 49.38 | 51.98 | 56.17                                                 | 0.23               | 1.14               | 1.82               | 2.05 |
|                     |           | 950                           | 18.50                                        | 23.20 | 25.45 | 28.15 | 30.75 | 33.23 | 37.80 | 42.59 | 47.12 | 49.16 | 50.77 | 51.93 | 52.71 | 51.90                                                 | 0.31               | 1.54               | 2.47               | 2.78 |
|                     |           | 1450                          | 21.43                                        | 26.56 | 28.81 | 31.31 | 33.45 | 35.22 | 37.54 | 38.01 | 35.03 |       |       |       |       |                                                       | 0.47               | 2.36               | 3.77               | 4.24 |
|                     |           | 20                            | 0.80                                         | 0.96  | 1.04  | 1.14  | 1.24  | 1.34  | 1.54  | 1.78  | 2.05  | 2.21  | 2.36  | 2.51  | 2.71  | 3.08                                                  | 0.01               | 0.03               | 0.05               | 0.06 |
|                     |           | 40                            | 1.46                                         | 1.77  | 1.93  | 2.12  | 2.31  | 2.50  | 2.87  | 3.32  | 3.84  | 4.13  | 4.42  | 4.71  | 5.07  | 5.79                                                  | 0.01               | 0.06               | 0.10               | 0.12 |
|                     |           | 60                            | 2.08                                         | 2.53  | 2.75  | 3.03  | 3.31  | 3.58  | 4.13  | 4.77  | 5.52  | 5.95  | 6.37  | 6.79  | 7.31  | 8.34                                                  | 0.02               | 0.10               | 0.16               | 0.18 |
|                     |           | 80                            | 2.66                                         | 3.25  | 3.54  | 3.90  | 4.26  | 4.61  | 5.32  | 6.17  | 7.14  | 7.69  | 8.24  | 8.78  | 9.46  | 10.80                                                 | 0.03               | 0.13               | 0.21               | 0.23 |
|                     |           | 100                           | 3.22                                         | 3.94  | 4.29  | 4.74  | 5.18  | 5.61  | 6.48  | 7.51  | 8.70  | 9.38  | 10.05 | 10.71 | 11.54 | 13.18                                                 | 0.03               | 0.16               | 0.26               | 0.29 |
|                     |           | 120                           | 3.76                                         | 4.61  | 5.03  | 5.55  | 6.07  | 6.58  | 7.61  | 8.82  | 10.23 | 11.02 | 11.81 | 12.59 | 13.56 | 15.49                                                 | 0.04               | 0.19               | 0.31               | 0.35 |
|                     |           | 140                           | 4.28                                         | 5.26  | 5.74  | 6.34  | 6.94  | 7.53  | 8.71  | 10.10 | 11.71 | 12.62 | 13.52 | 14.42 | 15.53 | 17.73                                                 | 0.05               | 0.23               | 0.36               | 0.41 |
|                     |           | 160                           | 4.79                                         | 5.89  | 6.43  | 7.11  | 7.78  | 8.45  | 9.78  | 11.35 | 13.16 | 14.19 | 15.20 | 16.21 | 17.46 | 19.93                                                 | 0.05               | 0.26               | 0.42               | 0.47 |
|                     |           | 180                           | 5.29                                         | 6.51  | 7.11  | 7.87  | 8.61  | 9.36  | 10.83 | 12.57 | 14.58 | 15.72 | 16.84 | 17.96 | 19.34 | 22.06                                                 | 0.06               | 0.29               | 0.47               | 0.53 |
|                     |           | 200                           | 5.77                                         | 7.11  | 7.78  | 8.61  | 9.43  | 10.24 | 11.86 | 13.77 | 15.97 | 17.22 | 18.45 | 19.67 | 21.18 | 24.15                                                 | 0.06               | 0.32               | 0.52               | 0.58 |
|                     |           | 220                           | 6.24                                         | 7.71  | 8.43  | 9.33  | 10.22 | 11.11 | 12.87 | 14.95 | 17.34 | 18.69 | 20.02 | 21.34 | 22.97 | 26.18                                                 | 0.07               | 0.36               | 0.57               | 0.64 |
|                     |           | 240                           | 6.70                                         | 8.29  | 9.07  | 10.04 | 11.01 | 11.97 | 13.86 | 16.10 | 18.68 | 20.12 | 21.56 | 22.98 | 24.73 | 28.16                                                 | 0.08               | 0.39               | 0.62               | 0.70 |
|                     |           | 260                           | 7.16                                         | 8.86  | 9.70  | 10.74 | 11.78 | 12.80 | 14.84 | 17.24 | 19.99 | 21.53 | 23.06 | 24.58 | 26.44 | 30.09                                                 | 0.08               | 0.42               | 0.68               | 0.76 |
|                     |           | 280                           | 7.60                                         | 9.42  | 10.31 | 11.43 | 12.53 | 13.63 | 15.79 | 18.35 | 21.27 | 22.91 | 24.54 | 26.14 | 28.11 | 31.96                                                 | 0.09               | 0.45               | 0.73               | 0.82 |
|                     |           | 300                           | 8.04                                         | 9.97  | 10.92 | 12.10 | 13.27 | 14.44 | 16.73 | 19.44 | 22.53 | 24.27 | 25.98 | 27.67 | 29.74 | 33.78                                                 | 0.10               | 0.49               | 0.78               | 0.88 |
|                     |           | 320                           | 8.47                                         | 10.51 | 11.51 | 12.77 | 14.00 | 15.23 | 17.66 | 20.51 | 23.77 | 25.59 | 27.39 | 29.16 | 31.33 | 35.55                                                 | 0.10               | 0.52               | 0.83               | 0.94 |
|                     |           | 340                           | 8.89                                         | 11.04 | 12.10 | 13.42 | 14.72 | 16.01 | 18.56 | 21.56 | 24.97 | 26.88 | 28.76 | 30.61 | 32.87 | 37.26                                                 | 0.11               | 0.55               | 0.88               | 0.99 |
|                     |           | 360                           | 9.30                                         | 11.56 | 12.68 | 14.06 | 15.43 | 16.78 | 19.46 | 22.59 | 26.16 | 28.15 | 30.10 | 32.02 | 34.37 | 38.90                                                 | 0.12               | 0.58               | 0.94               | 1.05 |
|                     |           | 380                           | 9.71                                         | 12.07 | 13.24 | 14.69 | 16.12 | 17.54 | 20.33 | 23.60 | 27.31 | 29.38 | 31.41 | 33.40 | 35.83 | 40.49                                                 | 0.12               | 0.62               | 0.99               | 1.11 |
|                     |           | 400                           | 10.11                                        | 12.58 | 13.80 | 15.31 | 16.80 | 18.28 | 21.19 | 24.59 | 28.44 | 30.59 | 32.68 | 34.74 | 37.24 | 42.02                                                 | 0.13               | 0.65               | 1.04               | 1.17 |
|                     |           | 420                           | 10.50                                        | 13.08 | 14.35 | 15.92 | 17.47 | 19.01 | 22.03 | 25.56 | 29.55 | 31.76 | 33.92 | 36.03 | 38.60 | 43.48                                                 | 0.14               | 0.68               | 1.09               | 1.23 |
|                     |           | 440                           | 10.88                                        | 13.56 | 14.89 | 16.52 | 18.13 | 19.73 | 22.86 | 26.51 | 30.62 | 32.90 | 35.12 | 37.29 | 39.91 | 44.88                                                 | 0.14               | 0.71               | 1.14               | 1.29 |
|                     |           | 460                           | 11.26                                        | 14.04 | 15.41 | 17.11 | 18.78 | 20.43 | 23.67 | 27.44 | 31.67 | 34.01 | 36.29 | 38.50 | 41.18 | 46.21                                                 | 0.15               | 0.75               | 1.20               | 1.34 |
|                     |           | 480                           | 11.63                                        | 14.52 | 15.93 | 17.69 | 19.42 | 21.12 | 24.46 | 28.34 | 32.69 | 35.09 | 37.41 | 39.67 | 42.39 | 47.47                                                 | 0.16               | 0.78               | 1.25               | 1.40 |
|                     |           | 500                           | 12.00                                        | 14.98 | 16.45 | 18.25 | 20.04 | 21.80 | 25.24 | 29.23 | 33.69 | 36.13 | 38.50 | 40.80 | 43.55 | 48.66                                                 | 0.16               | 0.81               | 1.30               | 1.46 |
|                     |           | 520                           | 12.36                                        | 15.44 | 16.95 | 18.81 | 20.65 | 22.46 | 26.00 | 30.09 | 34.65 | 37.14 | 39.55 | 41.88 | 44.66 | 49.78                                                 | 0.17               | 0.84               | 1.35               | 1.52 |
|                     |           | 540                           | 12.71                                        | 15.88 | 17.44 | 19.36 | 21.25 | 23.11 | 26.74 | 30.93 | 35.58 | 38.12 | 40.56 | 42.91 | 45.71 | 50.82                                                 | 0.18               | 0.88               | 1.40               | 1.58 |
|                     |           | 560                           | 13.06                                        | 16.32 | 17.92 | 19.90 | 21.84 | 23.75 | 27.47 | 31.75 | 36.49 | 39.06 | 41.53 | 43.90 | 46.71 | 51.78                                                 | 0.18               | 0.91               | 1.46               | 1.64 |
|                     |           | 580                           | 13.40                                        | 16.75 | 18.40 | 20.42 | 22.42 | 24.37 | 28.18 | 32.55 | 37.36 | 39.96 | 42.46 | 44.84 | 47.64 | 52.67                                                 | 0.19               | 0.94               | 1.51               | 1.69 |
|                     |           | 600                           | 13.73                                        | 17.18 | 18.86 | 20.94 | 22.98 | 24.98 | 28.87 | 33.32 | 38.20 | 40.83 | 43.34 | 45.73 | 48.52 | 53.47                                                 | 0.19               | 0.97               | 1.56               | 1.75 |
|                     |           | 620                           | 14.06                                        | 17.59 | 19.32 | 21.45 | 23.53 | 25.58 | 29.54 | 34.07 | 39.01 | 41.66 | 44.18 | 46.56 | 49.34 | 54.19                                                 | 0.20               | 1.01               | 1.61               | 1.81 |
|                     |           | 640                           | 14.38                                        | 18.00 | 19.77 | 21.94 | 24.07 | 26.16 | 30.20 | 34.79 | 39.79 | 42.45 | 44.98 | 47.35 | 50.10 | 54.82                                                 | 0.21               | 1.04               | 1.66               | 1.87 |
|                     |           | 660                           | 14.69                                        | 18.40 | 20.20 | 22.43 | 24.60 | 26.73 | 30.83 | 35.49 | 40.53 | 43.20 | 45.72 | 48.08 | 50.79 | 55.36                                                 | 0.21               | 1.07               | 1.72               | 1.93 |
|                     |           | 680                           | 15.00                                        | 18.79 | 20.63 | 22.90 | 25.11 | 27.28 | 31.45 | 36.17 | 41.24 | 43.92 | 46.43 | 48.76 | 51.42 | 55.81                                                 | 0.22               | 1.10               | 1.77               | 1.99 |
|                     |           | 700                           | 15.30                                        | 19.17 | 21.05 | 23.36 | 25.62 | 27.82 | 32.05 | 36.82 | 41.91 | 44.59 | 47.08 | 49.38 | 51.98 | 56.17                                                 | 0.23               | 1.14               | 1.82               | 2.05 |
|                     |           | 720                           | 15.59                                        | 19.54 | 21.46 | 23.81 | 26.11 | 28.34 | 32.63 | 37.44 | 42.55 | 45.22 | 47.68 | 49.95 | 52.47 | 56.44                                                 | 0.23               | 1.17               | 1.87               | 2.10 |
|                     |           | 740                           | 15.88                                        | 19.90 | 21.86 | 24.25 | 26.58 | 28.85 | 33.19 | 38.04 | 43.16 | 45.80 | 48.24 | 50.45 | 52.89 | 56.61                                                 | 0.24               | 1.20               | 1.92               | 2.16 |
|                     |           | 760                           | 16.16                                        | 20.26 | 22.25 | 24.68 | 27.04 | 29.34 | 33.73 | 38.61 | 43.72 | 46.35 | 48.74 | 50.90 | 53.24 | 56.67                                                 | 0.25               | 1.23               | 1.98               | 2.22 |
|                     |           | 780                           | 16.44                                        | 20.61 | 22.63 | 25.10 | 27.49 | 29.82 | 34.25 | 39.15 | 44.25 | 46.84 | 49.19 | 51.29 | 53.52 | 56.64                                                 | 0.25               | 1.27               | 2.03               | 2.28 |
|                     |           | 800                           | 16.71                                        | 20.95 | 23.00 | 25.50 | 27.93 | 30.28 | 34.75 | 39.66 | 44.74 | 47.30 | 49.59 | 51.61 | 53.73 | 56.50                                                 | 0.26               | 1.30               | 2.08               | 2.34 |
|                     |           | 820                           | 16.97                                        | 21.28 | 23.36 | 25.90 | 28.35 | 30.73 | 35.23 | 40.15 | 45.19 | 47.70 | 49.94 | 51.87 |       |                                                       | 0.27               | 1.33               | 2.13               | 2.40 |
|                     |           | 840                           | 17.22                                        | 21.60 | 23.71 | 26.28 | 28.76 | 31.16 | 35.68 | 40.61 | 45.60 | 48.06 | 50.22 | 52.07 |       |                                                       | 0.27               | 1.36               | 2.18               | 2.45 |
|                     |           | 860                           | 17.47                                        | 21.91 | 24.05 | 26.65 | 29.16 | 31.57 | 36.12 | 41.04 | 45.97 | 48.38 | 50.46 | 52.20 |       |                                                       | 0.28               | 1.40               | 2.24               | 2.51 |
|                     |           | 880                           | 17.71                                        | 22.21 | 24.38 | 27.00 | 29.54 | 31.97 | 36.53 | 41.44 | 46.30 | 48.64 | 50.63 | 52.26 |       |                                                       | 0.29               | 1.43               | 2.29               | 2.57 |
|                     |           | 900                           | 17.95                                        | 22.51 | 24.70 | 27.35 | 29.90 | 32.35 | 36.92 | 41.81 | 46.59 | 48.85 | 50.74 | 52.25 |       |                                                       | 0.29               | 1.46               | 2.34               | 2.63 |
|                     |           | 920                           | 18.18                                        | 22.79 | 25.00 | 27.68 | 30.25 | 32.71 | 37.29 | 42.14 | 46.84 | 49.01 |       |       |       |                                                       | 0.30               | 1.49               | 2.39               | 2.69 |
|                     |           | 940                           | 18.40                                        | 23.07 | 25.30 | 28.00 | 30.59 | 33.06 | 37.64 | 42.45 | 47.04 | 49.12 |       |       |       |                                                       | 0.31               | 1.53               | 2.44               | 2.75 |
|                     |           | 960                           | 18.61                                        | 23.33 | 25.59 | 28.31 | 30.91 | 33.39 | 37.96 | 42.72 | 47.19 | 49.18 |       |       |       |                                                       | 0.31               | 1.56               | 2.50               | 2.81 |
|                     |           | 980                           | 18.82                                        | 23.59 | 25.86 | 28.60 | 31.21 | 33.70 | 38.26 | 42.97 | 47.31 | 49.18 |       |       |       |                                                       | 0.32               | 1.59               | 2.55               | 2.86 |
|                     |           | 1000                          | 19.02                                        | 23.83 | 26.13 | 28.88 | 31.50 | 33.99 | 38.53 | 43.18 | 47.37 | 49.13 |       |       |       |                                                       | 0.32               | 1.62               | 2.60               | 2.92 |
|                     |           | 1020                          | 19.21                                        | 24.07 | 26.38 | 29.15 | 31.78 | 34.26 | 38.78 | 43.35 | 47.39 |       |       |       |       |                                                       | 0.33               | 1.66               | 2.65               | 2.98 |
|                     |           | 1040                          | 19.39                                        | 24.30 | 26.62 | 29.40 | 32.04 | 34.52 | 39.01 | 43.49 | 47.36 |       |       |       |       |                                                       | 0.34               | 1.69               | 2.70               | 3.04 |
|                     |           | 1060                          | 19.57                                        | 24.51 | 26.85 | 29.64 | 32.28 | 34.76 | 39.21 | 43.60 | 47.29 |       |       |       |       |                                                       | 0.34               | 1.72               | 2.76               | 3.10 |
|                     |           | 1080                          | 19.74                                        | 24.72 | 27.07 | 29.87 | 32.50 | 34.97 | 39.38 | 43.67 | 47.16 |       |       |       |       |                                                       | 0.35               | 1.75               | 2.81               | 3.16 |
|                     |           | 1100                          | 19.90                                        | 24.92 | 27.27 | 30.08 | 32.71 | 35.17 | 39.53 | 43.71 | 46.99 |       |       |       |       |                                                       | 0.36               | 1.79               | 2.86               | 3.21 |
|                     |           |                               |                                              |       |       |       |       |       |       |       |       |       |       |       |       |                                                       |                    |                    |                    |      |

# POWER RATINGS

optibelt **VB** PROFILE E/40

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 7180$  mm



Table 56

| Pulleys                                                                     | v [m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Datum diameter of small pulley d <sub>dk</sub> [mm] |       |       |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio i |                    |                    |        |
|-----------------------------------------------------------------------------|---------|----------------------------------------|-----------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------------------------------------|--------------------|--------------------|--------|
|                                                                             |         |                                        | 450                                                 | 500   | 560   | 630   | 670   | 710   | 750   | 800   | 850   | 900   | 950   | 1000  | 1.01<br>to<br>1.05                                  | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |
| Statically balanced                                                         | 5       | 700                                    | 26.44                                               | 31.70 | 37.57 | 43.78 | 47.00 | 49.97 | 52.68 | 55.67 | 58.21 | 60.27 | 61.83 | 62.87 | 0.38                                                | 1.92               | 3.07               | 3.45   |
|                                                                             |         | 950                                    | 29.78                                               | 35.30 | 40.95 | 46.07 | 48.23 | 49.80 | 50.75 | 51.00 | 50.17 | 48.20 | 45.02 |       | 0.52                                                | 2.60               | 4.16               | 4.68   |
|                                                                             |         | 1450                                   | 24.24                                               | 26.19 | 25.31 | 19.38 |       |       |       |       |       |       |       |       | 0.79                                                | 3.97               | 6.35               | 7.14   |
|                                                                             |         | 20                                     | 1.47                                                | 1.72  | 2.02  | 2.37  | 2.57  | 2.76  | 2.96  | 3.20  | 3.44  | 3.68  | 3.92  | 4.16  | 0.01                                                | 0.05               | 0.09               | 0.10   |
|                                                                             |         | 40                                     | 2.70                                                | 3.17  | 3.74  | 4.40  | 4.77  | 5.14  | 5.51  | 5.97  | 6.42  | 6.88  | 7.33  | 7.78  | 0.02                                                | 0.11               | 0.18               | 0.20   |
|                                                                             |         | 60                                     | 3.83                                                | 4.52  | 5.34  | 6.29  | 6.83  | 7.37  | 7.90  | 8.57  | 9.22  | 9.88  | 10.53 | 11.18 | 0.03                                                | 0.16               | 0.26               | 0.30   |
|                                                                             |         | 80                                     | 4.90                                                | 5.80  | 6.87  | 8.10  | 8.80  | 9.50  | 10.19 | 11.05 | 11.90 | 12.75 | 13.60 | 14.43 | 0.04                                                | 0.22               | 0.35               | 0.39   |
|                                                                             |         | 100                                    | 5.92                                                | 7.03  | 8.34  | 9.85  | 10.70 | 11.55 | 12.40 | 13.44 | 14.49 | 15.52 | 16.55 | 17.57 | 0.05                                                | 0.27               | 0.44               | 0.49   |
|                                                                             |         | 120                                    | 6.91                                                | 8.21  | 9.76  | 11.53 | 12.54 | 13.54 | 14.53 | 15.77 | 16.99 | 18.20 | 19.41 | 20.60 | 0.07                                                | 0.33               | 0.53               | 0.59   |
|                                                                             |         | 140                                    | 7.87                                                | 9.36  | 11.13 | 13.17 | 14.33 | 15.47 | 16.61 | 18.02 | 19.42 | 20.80 | 22.18 | 23.54 | 0.08                                                | 0.38               | 0.61               | 0.69   |
|                                                                             |         | 160                                    | 8.80                                                | 10.48 | 12.47 | 14.77 | 16.06 | 17.35 | 18.63 | 20.21 | 21.78 | 23.33 | 24.87 | 26.39 | 0.09                                                | 0.44               | 0.70               | 0.79   |
|                                                                             |         | 180                                    | 9.70                                                | 11.57 | 13.78 | 16.32 | 17.76 | 19.18 | 20.59 | 22.34 | 24.07 | 25.79 | 27.48 | 29.16 | 0.10                                                | 0.49               | 0.79               | 0.89   |
|                                                                             |         | 200                                    | 10.58                                               | 12.63 | 15.05 | 17.84 | 19.41 | 20.97 | 22.51 | 24.42 | 26.30 | 28.17 | 30.01 | 31.83 | 0.11                                                | 0.55               | 0.88               | 0.98   |
|                                                                             |         | 220                                    | 11.43                                               | 13.66 | 16.29 | 19.32 | 21.02 | 22.71 | 24.37 | 26.44 | 28.47 | 30.48 | 32.47 | 34.42 | 0.12                                                | 0.60               | 0.96               | 1.08   |
|                                                                             |         | 240                                    | 12.27                                               | 14.67 | 17.51 | 20.76 | 22.59 | 24.40 | 26.19 | 28.40 | 30.58 | 32.73 | 34.84 | 36.93 | 0.13                                                | 0.66               | 1.05               | 1.18   |
|                                                                             |         | 260                                    | 13.08                                               | 15.66 | 18.69 | 22.17 | 24.12 | 26.05 | 27.96 | 30.31 | 32.62 | 34.90 | 37.14 | 39.34 | 0.14                                                | 0.71               | 1.14               | 1.28   |
|                                                                             |         | 280                                    | 13.88                                               | 16.62 | 19.85 | 23.54 | 25.62 | 27.66 | 29.68 | 32.16 | 34.60 | 37.00 | 39.35 | 41.66 | 0.15                                                | 0.77               | 1.23               | 1.38   |
|                                                                             |         | 300                                    | 14.66                                               | 17.56 | 20.98 | 24.88 | 27.07 | 29.23 | 31.35 | 33.96 | 36.52 | 39.02 | 41.48 | 43.88 | 0.16                                                | 0.82               | 1.31               | 1.48   |
|                                                                             |         | 320                                    | 15.42                                               | 18.48 | 22.09 | 26.19 | 28.49 | 30.75 | 32.97 | 35.70 | 38.37 | 40.97 | 43.52 | 46.01 | 0.18                                                | 0.88               | 1.40               | 1.58   |
|                                                                             |         | 340                                    | 16.16                                               | 19.38 | 23.16 | 27.46 | 29.86 | 32.22 | 34.54 | 37.38 | 40.15 | 42.85 | 45.48 | 48.03 | 0.19                                                | 0.93               | 1.49               | 1.67   |
|                                                                             |         | 360                                    | 16.88                                               | 20.26 | 24.21 | 28.70 | 31.20 | 33.65 | 36.06 | 39.00 | 41.86 | 44.64 | 47.34 | 49.95 | 0.20                                                | 0.99               | 1.58               | 1.77   |
|                                                                             |         | 380                                    | 17.59                                               | 21.11 | 25.23 | 29.90 | 32.49 | 35.04 | 37.52 | 40.55 | 43.50 | 46.35 | 49.10 | 51.76 | 0.21                                                | 1.04               | 1.66               | 1.87   |
|                                                                             |         | 400                                    | 18.28                                               | 21.94 | 26.23 | 31.06 | 33.75 | 36.37 | 38.93 | 42.05 | 45.06 | 47.97 | 50.77 | 53.47 | 0.22                                                | 1.09               | 1.75               | 1.97   |
|                                                                             | 420     | 18.95                                  | 22.76                                               | 27.19 | 32.19 | 34.96 | 37.66 | 40.29 | 43.48 | 46.55 | 49.51 | 52.34 | 55.05 | 0.23  | 1.15                                                | 1.84               | 2.07               |        |
|                                                                             | 440     | 19.60                                  | 23.54                                               | 28.13 | 33.29 | 36.13 | 38.90 | 41.59 | 44.84 | 47.97 | 50.96 | 53.81 | 56.52 | 0.24  | 1.20                                                | 1.93               | 2.17               |        |
|                                                                             | 460     | 20.24                                  | 24.31                                               | 29.04 | 34.34 | 37.26 | 40.09 | 42.83 | 46.14 | 49.30 | 52.31 | 55.17 | 57.86 | 0.25  | 1.26                                                | 2.02               | 2.27               |        |
|                                                                             | 480     | 20.86                                  | 25.06                                               | 29.92 | 35.36 | 38.34 | 41.23 | 44.02 | 47.37 | 50.55 | 53.57 | 56.42 | 59.08 | 0.26  | 1.31                                                | 2.10               | 2.36               |        |
|                                                                             | 500     | 21.46                                  | 25.78                                               | 30.78 | 36.33 | 39.37 | 42.31 | 45.14 | 48.52 | 51.72 | 54.73 | 57.55 | 60.16 | 0.27  | 1.37                                                | 2.19               | 2.46               |        |
|                                                                             | 520     | 22.04                                  | 26.48                                               | 31.60 | 37.27 | 40.36 | 43.34 | 46.20 | 49.60 | 52.80 | 55.79 | 58.57 | 61.11 | 0.28  | 1.42                                                | 2.28               | 2.56               |        |
|                                                                             | 540     | 22.61                                  | 27.16                                               | 32.39 | 38.17 | 41.31 | 44.32 | 47.20 | 50.60 | 53.79 | 56.75 | 59.46 | 61.92 | 0.30  | 1.48                                                | 2.37               | 2.66               |        |
|                                                                             | 560     | 23.15                                  | 27.81                                               | 33.15 | 39.03 | 42.20 | 45.24 | 48.13 | 51.53 | 54.69 | 57.60 | 60.23 | 62.59 | 0.31  | 1.53                                                | 2.45               | 2.76               |        |
|                                                                             | 580     | 23.68                                  | 28.44                                               | 33.88 | 39.84 | 43.04 | 46.10 | 48.99 | 52.38 | 55.50 | 58.33 | 60.87 | 63.11 | 0.32  | 1.59                                                | 2.54               | 2.86               |        |
|                                                                             | 600     | 24.19                                  | 29.04                                               | 34.58 | 40.61 | 43.84 | 46.90 | 49.79 | 53.14 | 56.21 | 58.96 | 61.39 | 63.48 | 0.33  | 1.64                                                | 2.63               | 2.95               |        |
|                                                                             | 620     | 24.68                                  | 29.63                                               | 35.24 | 41.34 | 44.58 | 47.64 | 50.51 | 53.83 | 56.81 | 59.46 | 61.76 |       | 0.34  | 1.70                                                | 2.72               | 3.05               |        |
|                                                                             | 640     | 25.15                                  | 30.18                                               | 35.88 | 42.02 | 45.27 | 48.32 | 51.17 | 54.42 | 57.32 | 59.85 | 62.00 |       | 0.35  | 1.75                                                | 2.80               | 3.15               |        |
|                                                                             | 660     | 25.60                                  | 30.71                                               | 36.47 | 42.65 | 45.90 | 48.94 | 51.75 | 54.93 | 57.72 | 60.12 | 62.09 |       | 0.36  | 1.81                                                | 2.89               | 3.25               |        |
|                                                                             | 680     | 26.03                                  | 31.22                                               | 37.04 | 43.24 | 46.48 | 49.49 | 52.25 | 55.34 | 58.02 | 60.26 | 62.04 |       | 0.37  | 1.86                                                | 2.98               | 3.35               |        |
|                                                                             | 700     | 26.44                                  | 31.70                                               | 37.57 | 43.78 | 47.00 | 49.97 | 52.68 | 55.67 | 58.21 | 60.27 | 61.83 |       | 0.38  | 1.92                                                | 3.07               | 3.45               |        |
|                                                                             | 720     | 26.84                                  | 32.15                                               | 38.06 | 44.27 | 47.47 | 50.39 | 53.02 | 55.90 |       |       |       |       | 0.39  | 1.97                                                | 3.15               | 3.55               |        |
|                                                                             | 740     | 27.21                                  | 32.57                                               | 38.52 | 44.71 | 47.87 | 50.73 | 53.29 | 56.03 |       |       |       |       | 0.41  | 2.03                                                | 3.24               | 3.64               |        |
|                                                                             | 760     | 27.56                                  | 32.97                                               | 38.94 | 45.10 | 48.22 | 51.01 | 53.47 | 56.06 |       |       |       |       | 0.42  | 2.08                                                | 3.33               | 3.74               |        |
|                                                                             | 780     | 27.89                                  | 33.34                                               | 39.32 | 45.44 | 48.50 | 51.21 | 53.57 | 55.99 |       |       |       |       | 0.43  | 2.14                                                | 3.42               | 3.84               |        |
|                                                                             | 800     | 28.19                                  | 33.68                                               | 39.66 | 45.73 | 48.72 | 51.34 | 53.59 | 55.82 |       |       |       |       | 0.44  | 2.19                                                | 3.50               | 3.94               |        |
|                                                                             | 820     | 28.48                                  | 34.00                                               | 39.97 | 45.96 | 48.87 | 51.40 |       |       |       |       |       |       | 0.45  | 2.24                                                | 3.59               | 4.04               |        |
|                                                                             | 840     | 28.74                                  | 34.28                                               | 40.23 | 46.13 | 48.96 | 51.38 |       |       |       |       |       |       | 0.46  | 2.30                                                | 3.68               | 4.14               |        |
|                                                                             | 860     | 28.98                                  | 34.54                                               | 40.46 | 46.25 | 48.99 | 51.27 |       |       |       |       |       |       | 0.47  | 2.35                                                | 3.77               | 4.24               |        |
| 880                                                                         | 29.20   | 34.76                                  | 40.64                                               | 46.32 | 48.94 | 51.09 |       |       |       |       |       |       | 0.48  | 2.41  | 3.86                                                | 4.33               |                    |        |
| 900                                                                         | 29.39   | 34.95                                  | 40.78                                               | 46.32 | 48.83 | 50.83 |       |       |       |       |       |       | 0.49  | 2.46  | 3.94                                                | 4.43               |                    |        |
| 920                                                                         | 29.57   | 35.11                                  | 40.88                                               | 46.27 |       |       |       |       |       |       |       |       | 0.50  | 2.52  | 4.03                                                | 4.53               |                    |        |
| 940                                                                         | 29.71   | 35.24                                  | 40.94                                               | 46.15 |       |       |       |       |       |       |       |       | 0.51  | 2.57  | 4.12                                                | 4.63               |                    |        |
| 960                                                                         | 29.84   | 35.34                                  | 40.95                                               | 45.98 |       |       |       |       |       |       |       |       | 0.53  | 2.63  | 4.21                                                | 4.73               |                    |        |
| 980                                                                         | 29.93   | 35.41                                  | 40.91                                               | 45.74 |       |       |       |       |       |       |       |       | 0.54  | 2.68  | 4.29                                                | 4.83               |                    |        |
| 1000                                                                        | 30.01   | 35.44                                  | 40.83                                               | 45.43 |       |       |       |       |       |       |       |       | 0.55  | 2.74  | 4.38                                                | 4.92               |                    |        |
| 1020                                                                        | 30.06   | 35.44                                  | 40.71                                               | 45.07 |       |       |       |       |       |       |       |       | 0.56  | 2.79  | 4.47                                                | 5.02               |                    |        |
| 1040                                                                        | 30.08   | 35.40                                  | 40.53                                               | 44.63 |       |       |       |       |       |       |       |       | 0.57  | 2.85  | 4.56                                                | 5.12               |                    |        |
| 1060                                                                        | 30.07   | 35.33                                  | 40.31                                               | 44.13 |       |       |       |       |       |       |       |       | 0.58  | 2.90  | 4.64                                                | 5.22               |                    |        |
| 1080                                                                        | 30.04   | 35.22                                  | 40.04                                               | 43.56 |       |       |       |       |       |       |       |       | 0.59  | 2.96  | 4.73                                                | 5.32               |                    |        |
| 1100                                                                        | 29.99   | 35.08                                  | 39.72                                               | 42.93 |       |       |       |       |       |       |       |       | 0.60  | 3.01  | 4.82                                                | 5.42               |                    |        |
| 1120                                                                        | 29.90   | 34.90                                  | 39.35                                               |       |       |       |       |       |       |       |       |       | 0.61  | 3.07  | 4.91                                                | 5.52               |                    |        |
| 1140                                                                        | 29.79   | 34.68                                  | 38.93                                               |       |       |       |       |       |       |       |       |       | 0.62  | 3.12  | 4.99                                                | 5.61               |                    |        |
| 1160                                                                        | 29.65   | 34.43                                  | 38.46                                               |       |       |       |       |       |       |       |       |       | 0.64  | 3.18  | 5.08                                                | 5.71               |                    |        |
| 1180                                                                        | 29.48   | 34.14                                  | 37.93                                               |       |       |       |       |       |       |       |       |       | 0.65  | 3.23  | 5.17                                                | 5.81               |                    |        |
| 1200                                                                        | 29.29   | 33.81                                  | 37.36                                               |       |       |       |       |       |       |       |       |       | 0.66  | 3.28  | 5.26                                                | 5.91               |                    |        |
| 1220                                                                        | 29.06   | 33.44                                  |                                                     |       |       |       |       |       |       |       |       |       | 0.67  | 3.34  | 5.34                                                | 6.01               |                    |        |
| 1240                                                                        | 28.80   | 33.03                                  |                                                     |       |       |       |       |       |       |       |       |       | 0.68  | 3.39  | 5.43                                                | 6.11               |                    |        |
| 1260                                                                        | 28.52   | 32.58                                  |                                                     |       |       |       |       |       |       |       |       |       | 0.69  | 3.45  | 5.52                                                | 6.21               |                    |        |
| 1280                                                                        | 28.20   | 32.09                                  |                                                     |       |       |       |       |       |       |       |       |       | 0.70  | 3.50  | 5.61                                                | 6.30               |                    |        |
| 1300                                                                        | 27.86   | 31.55                                  |                                                     |       |       |       |       |       |       |       |       |       | 0.71  | 3.56  | 5.70                                                | 6.40               |                    |        |
| v > 30 m/s.<br>Please consult our<br>Application Engineering<br>Department. |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |       |                                                     |                    |                    |        |
|                                                                             |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |       | v [m/s]                                             |                    |                    |        |
| Dynamically balanced (for details see DIN 2211)                             |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |       | Pulleys                                             |                    |                    |        |

# POWER RATINGS

optibelt **SUPER X-POWER** M=S PROFILE XPZ, 3VX, 9JX

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 1600$  mm



Table 57

| Pulleys             | $v$ [m/s] | $n_k$<br>[min <sup>-1</sup> ] | Datum diameter of small pulley $d_{dk}$ [mm] |      |      |      |      |      |      |      |       |       |       |       |       |       |       |                    | Additional power [kW]<br>per belt for speed ratio $i$ |                    |        |  |
|---------------------|-----------|-------------------------------|----------------------------------------------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|--------------------|-------------------------------------------------------|--------------------|--------|--|
|                     |           |                               | 56                                           | 60   | 63   | 71   | 80   | 85   | 90   | 95   | 100   | 112   | 125   | 140   | 160   | 180   | 200   | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26                                    | 1.27<br>to<br>1.57 | > 1.57 |  |
| Statically balanced | 5         | 700                           | 0.72                                         | 0.84 | 0.92 | 1.14 | 1.39 | 1.53 | 1.80 | 1.94 | 2.26  | 2.42  | 2.61  | 3.00  | 3.51  | 4.02  | 4.53  | 0.01               | 0.06                                                  | 0.08               | 0.10   |  |
|                     |           | 950                           | 0.92                                         | 1.07 | 1.18 | 1.48 | 1.80 | 1.98 | 2.34 | 2.52 | 2.94  | 3.15  | 3.39  | 3.91  | 4.58  | 5.25  | 5.90  | 0.01               | 0.08                                                  | 0.11               | 0.13   |  |
|                     |           | 1450                          | 1.27                                         | 1.49 | 1.65 | 2.08 | 2.56 | 2.83 | 3.35 | 3.60 | 4.22  | 4.52  | 4.87  | 5.61  | 6.58  | 7.52  | 8.44  | 0.02               | 0.12                                                  | 0.16               | 0.20   |  |
|                     |           | 2850                          | 2.07                                         | 2.46 | 2.76 | 3.54 | 4.39 | 4.86 | 5.78 | 6.24 | 7.30  | 7.82  | 8.42  | 9.67  | 11.26 | 12.77 | 14.17 | 0.04               | 0.23                                                  | 0.32               | 0.40   |  |
|                     |           | 100                           | 0.14                                         | 0.16 | 0.18 | 0.22 | 0.26 | 0.28 | 0.33 | 0.35 | 0.41  | 0.43  | 0.46  | 0.53  | 0.62  | 0.71  | 0.80  | 0.00               | 0.01                                                  | 0.01               | 0.01   |  |
|                     |           | 200                           | 0.26                                         | 0.30 | 0.32 | 0.39 | 0.47 | 0.52 | 0.61 | 0.65 | 0.75  | 0.80  | 0.86  | 0.99  | 1.16  | 1.32  | 1.49  | 0.00               | 0.02                                                  | 0.02               | 0.03   |  |
|                     |           | 300                           | 0.36                                         | 0.42 | 0.46 | 0.56 | 0.67 | 0.74 | 0.87 | 0.93 | 1.08  | 1.15  | 1.24  | 1.42  | 1.66  | 1.90  | 2.14  | 0.00               | 0.02                                                  | 0.03               | 0.04   |  |
|                     |           | 400                           | 0.46                                         | 0.53 | 0.58 | 0.71 | 0.86 | 0.95 | 1.11 | 1.19 | 1.39  | 1.48  | 1.60  | 1.83  | 2.15  | 2.46  | 2.76  | 0.00               | 0.03                                                  | 0.05               | 0.06   |  |
|                     |           | 500                           | 0.55                                         | 0.64 | 0.70 | 0.86 | 1.05 | 1.15 | 1.35 | 1.45 | 1.69  | 1.81  | 1.94  | 2.23  | 2.62  | 2.99  | 3.37  | 0.01               | 0.04                                                  | 0.06               | 0.07   |  |
|                     |           | 600                           | 0.64                                         | 0.74 | 0.81 | 1.01 | 1.22 | 1.34 | 1.58 | 1.70 | 1.98  | 2.12  | 2.28  | 2.62  | 3.07  | 3.51  | 3.95  | 0.01               | 0.05                                                  | 0.07               | 0.08   |  |
|                     |           | 700                           | 0.72                                         | 0.84 | 0.92 | 1.14 | 1.39 | 1.53 | 1.80 | 1.94 | 2.26  | 2.42  | 2.61  | 3.00  | 3.51  | 4.02  | 4.53  | 0.01               | 0.06                                                  | 0.08               | 0.10   |  |
|                     |           | 800                           | 0.80                                         | 0.93 | 1.03 | 1.28 | 1.56 | 1.72 | 2.02 | 2.18 | 2.54  | 2.72  | 2.93  | 3.37  | 3.95  | 4.52  | 5.08  | 0.01               | 0.06                                                  | 0.09               | 0.11   |  |
|                     |           | 900                           | 0.88                                         | 1.02 | 1.13 | 1.41 | 1.72 | 1.90 | 2.24 | 2.41 | 2.81  | 3.01  | 3.24  | 3.73  | 4.37  | 5.01  | 5.63  | 0.01               | 0.07                                                  | 0.10               | 0.13   |  |
|                     |           | 1000                          | 0.96                                         | 1.11 | 1.23 | 1.54 | 1.88 | 2.07 | 2.45 | 2.63 | 3.08  | 3.29  | 3.55  | 4.09  | 4.79  | 5.48  | 6.17  | 0.01               | 0.08                                                  | 0.11               | 0.14   |  |
|                     |           | 1100                          | 1.03                                         | 1.20 | 1.33 | 1.66 | 2.04 | 2.24 | 2.65 | 2.86 | 3.34  | 3.57  | 3.85  | 4.43  | 5.20  | 5.95  | 6.69  | 0.01               | 0.09                                                  | 0.12               | 0.15   |  |
|                     |           | 1200                          | 1.10                                         | 1.28 | 1.42 | 1.79 | 2.19 | 2.41 | 2.86 | 3.07 | 3.59  | 3.85  | 4.15  | 4.78  | 5.60  | 6.41  | 7.21  | 0.01               | 0.10                                                  | 0.14               | 0.17   |  |
|                     |           | 1300                          | 1.17                                         | 1.37 | 1.52 | 1.91 | 2.34 | 2.58 | 3.05 | 3.29 | 3.84  | 4.12  | 4.44  | 5.11  | 6.00  | 6.86  | 7.71  | 0.02               | 0.10                                                  | 0.15               | 0.18   |  |
|                     |           | 1400                          | 1.24                                         | 1.45 | 1.61 | 2.03 | 2.49 | 2.74 | 3.25 | 3.50 | 4.09  | 4.39  | 4.73  | 5.45  | 6.38  | 7.30  | 8.20  | 0.02               | 0.11                                                  | 0.16               | 0.19   |  |
|                     |           | 1500                          | 1.30                                         | 1.53 | 1.70 | 2.14 | 2.63 | 2.91 | 3.44 | 3.71 | 4.34  | 4.65  | 5.01  | 5.77  | 6.77  | 7.74  | 8.69  | 0.02               | 0.12                                                  | 0.17               | 0.21   |  |
|                     |           | 1600                          | 1.37                                         | 1.61 | 1.78 | 2.25 | 2.78 | 3.06 | 3.63 | 3.91 | 4.58  | 4.91  | 5.29  | 6.09  | 7.14  | 8.16  | 9.16  | 0.02               | 0.13                                                  | 0.18               | 0.22   |  |
|                     |           | 1700                          | 1.43                                         | 1.68 | 1.87 | 2.37 | 2.92 | 3.22 | 3.82 | 4.11 | 4.82  | 5.16  | 5.56  | 6.41  | 7.51  | 8.58  | 9.62  | 0.02               | 0.14                                                  | 0.19               | 0.24   |  |
|                     |           | 1800                          | 1.49                                         | 1.76 | 1.95 | 2.48 | 3.06 | 3.37 | 4.00 | 4.31 | 5.05  | 5.41  | 5.83  | 6.72  | 7.87  | 8.99  | 10.07 | 0.02               | 0.14                                                  | 0.20               | 0.25   |  |
|                     |           | 1900                          | 1.55                                         | 1.83 | 2.04 | 2.59 | 3.19 | 3.53 | 4.18 | 4.51 | 5.28  | 5.66  | 6.10  | 7.02  | 8.22  | 9.39  | 10.52 | 0.02               | 0.15                                                  | 0.22               | 0.26   |  |
|                     |           | 2000                          | 1.61                                         | 1.90 | 2.12 | 2.69 | 3.33 | 3.67 | 4.36 | 4.70 | 5.51  | 5.90  | 6.36  | 7.32  | 8.57  | 9.78  | 10.95 | 0.02               | 0.16                                                  | 0.23               | 0.28   |  |
|                     |           | 2100                          | 1.67                                         | 1.97 | 2.20 | 2.80 | 3.46 | 3.82 | 4.54 | 4.89 | 5.73  | 6.14  | 6.62  | 7.62  | 8.91  | 10.16 | 11.37 | 0.03               | 0.17                                                  | 0.24               | 0.29   |  |
|                     |           | 2200                          | 1.72                                         | 2.04 | 2.28 | 2.90 | 3.59 | 3.97 | 4.71 | 5.08 | 5.95  | 6.38  | 6.87  | 7.91  | 9.25  | 10.54 | 11.78 | 0.03               | 0.18                                                  | 0.25               | 0.31   |  |
|                     |           | 2300                          | 1.78                                         | 2.11 | 2.36 | 3.00 | 3.72 | 4.11 | 4.88 | 5.26 | 6.17  | 6.61  | 7.12  | 8.19  | 9.58  | 10.91 | 12.18 | 0.03               | 0.18                                                  | 0.26               | 0.32   |  |
|                     |           | 2400                          | 1.83                                         | 2.18 | 2.43 | 3.10 | 3.84 | 4.25 | 5.05 | 5.45 | 6.38  | 6.84  | 7.37  | 8.47  | 9.90  | 11.26 | 12.57 | 0.03               | 0.19                                                  | 0.27               | 0.33   |  |
|                     |           | 2500                          | 1.89                                         | 2.24 | 2.51 | 3.20 | 3.97 | 4.39 | 5.22 | 5.63 | 6.59  | 7.06  | 7.61  | 8.75  | 10.22 | 11.61 | 12.94 | 0.03               | 0.20                                                  | 0.28               | 0.35   |  |
|                     |           | 2600                          | 1.94                                         | 2.31 | 2.58 | 3.30 | 4.09 | 4.53 | 5.38 | 5.80 | 6.80  | 7.29  | 7.85  | 9.02  | 10.52 | 11.95 | 13.31 | 0.03               | 0.21                                                  | 0.30               | 0.36   |  |
|                     |           | 2700                          | 1.99                                         | 2.37 | 2.65 | 3.39 | 4.21 | 4.66 | 5.54 | 5.98 | 7.00  | 7.50  | 8.08  | 9.29  | 10.83 | 12.29 | 13.66 | 0.03               | 0.22                                                  | 0.31               | 0.38   |  |
|                     |           | 2800                          | 2.04                                         | 2.43 | 2.72 | 3.49 | 4.33 | 4.80 | 5.70 | 6.15 | 7.20  | 7.72  | 8.31  | 9.55  | 11.12 | 12.61 | 14.01 | 0.03               | 0.22                                                  | 0.32               | 0.39   |  |
|                     |           | 2900                          | 2.09                                         | 2.49 | 2.79 | 3.58 | 4.45 | 4.93 | 5.86 | 6.32 | 7.40  | 7.93  | 8.54  | 9.80  | 11.41 | 12.92 | 14.34 | 0.04               | 0.23                                                  | 0.33               | 0.40   |  |
|                     |           | 3000                          | 2.14                                         | 2.55 | 2.86 | 3.67 | 4.57 | 5.06 | 6.02 | 6.49 | 7.60  | 8.14  | 8.76  | 10.05 | 11.69 | 13.22 | 14.65 | 0.04               | 0.24                                                  | 0.34               | 0.42   |  |
|                     |           | 3100                          | 2.19                                         | 2.61 | 2.93 | 3.76 | 4.68 | 5.18 | 6.17 | 6.65 | 7.79  | 8.34  | 8.98  | 10.29 | 11.96 | 13.52 | 14.96 | 0.04               | 0.25                                                  | 0.35               | 0.43   |  |
|                     |           | 3200                          | 2.23                                         | 2.67 | 3.00 | 3.85 | 4.80 | 5.31 | 6.32 | 6.81 | 7.97  | 8.54  | 9.19  | 10.53 | 12.23 | 13.80 | 15.25 | 0.04               | 0.26                                                  | 0.36               | 0.45   |  |
|                     |           | 3300                          | 2.28                                         | 2.73 | 3.06 | 3.94 | 4.91 | 5.43 | 6.47 | 6.97 | 8.16  | 8.74  | 9.40  | 10.77 | 12.49 | 14.08 | 15.53 | 0.04               | 0.26                                                  | 0.37               | 0.46   |  |
|                     |           | 3400                          | 2.32                                         | 2.79 | 3.13 | 4.03 | 5.02 | 5.56 | 6.61 | 7.13 | 8.34  | 8.93  | 9.60  | 11.00 | 12.74 | 14.34 | 15.79 | 0.04               | 0.27                                                  | 0.39               | 0.47   |  |
|                     |           | 3500                          | 2.37                                         | 2.84 | 3.19 | 4.11 | 5.13 | 5.68 | 6.76 | 7.28 | 8.52  | 9.12  | 9.81  | 11.22 | 12.98 | 14.59 | 16.04 | 0.04               | 0.28                                                  | 0.40               | 0.49   |  |
|                     |           | 3600                          | 2.41                                         | 2.90 | 3.25 | 4.20 | 5.23 | 5.80 | 6.90 | 7.44 | 8.70  | 9.31  | 10.00 | 11.44 | 13.22 | 14.83 | 16.28 | 0.04               | 0.29                                                  | 0.41               | 0.50   |  |
|                     |           | 3700                          | 2.45                                         | 2.95 | 3.32 | 4.28 | 5.34 | 5.91 | 7.04 | 7.59 | 8.87  | 9.49  | 10.20 | 11.65 | 13.44 | 15.07 | 16.50 | 0.05               | 0.30                                                  | 0.42               | 0.52   |  |
|                     |           | 3800                          | 2.50                                         | 3.00 | 3.38 | 4.36 | 5.44 | 6.03 | 7.17 | 7.73 | 9.04  | 9.67  | 10.38 | 11.85 | 13.66 | 15.29 | 16.71 | 0.05               | 0.30                                                  | 0.43               | 0.53   |  |
|                     |           | 3900                          | 2.54                                         | 3.05 | 3.44 | 4.44 | 5.54 | 6.14 | 7.31 | 7.88 | 9.20  | 9.84  | 10.57 | 12.05 | 13.87 | 15.50 | 16.90 | 0.05               | 0.31                                                  | 0.44               | 0.54   |  |
|                     |           | 4000                          | 2.58                                         | 3.10 | 3.49 | 4.52 | 5.64 | 6.25 | 7.44 | 8.02 | 9.36  | 10.01 | 10.75 | 12.25 | 14.08 | 15.69 | 17.08 | 0.05               | 0.32                                                  | 0.45               | 0.56   |  |
|                     |           | 4100                          | 2.61                                         | 3.15 | 3.55 | 4.60 | 5.74 | 6.36 | 7.57 | 8.16 | 9.52  | 10.18 | 10.92 | 12.44 | 14.27 | 15.88 | 17.24 | 0.05               | 0.33                                                  | 0.47               | 0.57   |  |
|                     |           | 4200                          | 2.65                                         | 3.20 | 3.61 | 4.67 | 5.84 | 6.47 | 7.70 | 8.29 | 9.67  | 10.34 | 11.09 | 12.62 | 14.46 | 16.05 | 17.39 | 0.05               | 0.34                                                  | 0.48               | 0.58   |  |
|                     |           | 4300                          | 2.69                                         | 3.25 | 3.66 | 4.75 | 5.93 | 6.57 | 7.82 | 8.43 | 9.83  | 10.50 | 11.26 | 12.79 | 14.63 | 16.22 | 17.52 | 0.05               | 0.34                                                  | 0.49               | 0.60   |  |
|                     |           | 4400                          | 2.73                                         | 3.30 | 3.72 | 4.82 | 6.03 | 6.68 | 7.94 | 8.56 | 9.97  | 10.65 | 11.42 | 12.96 | 14.80 | 16.37 | 17.63 | 0.05               | 0.35                                                  | 0.50               | 0.61   |  |
|                     |           | 4500                          | 2.76                                         | 3.34 | 3.77 | 4.89 | 6.12 | 6.78 | 8.06 | 8.68 | 10.12 | 10.80 | 11.58 | 13.13 | 14.96 | 16.50 | 17.73 | 0.06               | 0.36                                                  | 0.51               | 0.63   |  |
|                     |           | 4600                          | 2.80                                         | 3.39 | 3.82 | 4.97 | 6.21 | 6.88 | 8.18 | 8.81 | 10.26 | 10.95 | 11.73 | 13.28 | 15.11 | 16.63 | 17.81 | 0.06               | 0.37                                                  | 0.52               | 0.64   |  |
|                     |           | 4700                          | 2.83                                         | 3.43 | 3.87 | 5.03 | 6.30 | 6.98 | 8.30 | 8.93 | 10.40 | 11.09 | 11.87 | 13.43 | 15.25 | 16.74 | 17.87 | 0.06               | 0.38                                                  | 0.53               | 0.65   |  |
|                     |           | 4800                          | 2.86                                         | 3.47 | 3.93 | 5.10 | 6.38 | 7.07 | 8.41 | 9.05 | 10.53 | 11.23 | 12.02 | 13.58 | 15.38 | 16.84 | 17.92 | 0.06               | 0.38                                                  | 0.54               | 0.67   |  |
|                     |           | 4900                          | 2.90                                         | 3.52 | 3.97 | 5.17 | 6.47 | 7.17 | 8.52 | 9.17 | 10.66 | 11.36 | 12.15 | 13.71 | 15.50 | 16.92 | 17.94 | 0.06               | 0.39                                                  | 0.56               | 0.68   |  |
|                     |           | 5000                          | 2.93                                         | 3.56 | 4.02 | 5.24 | 6.55 | 7.26 | 8.63 | 9.28 | 10.78 | 11.49 | 12.28 | 13.84 | 15.61 | 17.00 | 17.95 | 0.06               | 0.40                                                  | 0.57               | 0.70   |  |
|                     |           | 5100                          | 2.96                                         | 3.60 | 4.07 | 5.30 | 6.63 | 7.35 | 8.73 | 9.39 | 10.90 | 11.62 | 12.41 | 13.97 | 15.72 | 17.05 | 17.94 | 0.06               | 0.41                                                  | 0.58               | 0.71   |  |
|                     |           | 5200                          | 2.99                                         | 3.64 | 4.12 | 5.36 | 6.71 | 7.44 | 8.83 | 9.50 | 11.02 | 11.74 | 12.53 | 14.08 | 15.81 | 17.10 | 17.91 | 0.06               | 0.42                                                  | 0.59               | 0.72   |  |
|                     |           | 5300                          | 3.02                                         | 3.68 | 4.16 | 5.43 | 6.79 | 7.53 |      |      |       |       |       |       |       |       |       |                    |                                                       |                    |        |  |

# POWER RATINGS

optibelt **SUPER X-POWER M=S PROFILE XPA**

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 2500$  mm



Table 58

| Pulleys             | $v$ [m/s] | $n_k$<br>[min <sup>-1</sup> ] | Datum diameter of small pulley $d_{dk}$ [mm] |      |      |       |       |       |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio $i$ |                    |                    |        |
|---------------------|-----------|-------------------------------|----------------------------------------------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------------------------------------|--------------------|--------------------|--------|
|                     |           |                               | 71                                           | 80   | 85   | 95    | 100   | 112   | 118   | 125   | 140   | 160   | 180   | 200   | 224   | 250   | 280   | 1.01<br>to<br>1.05                                    | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |
| Statically balanced | 5         | 700                           | 1.12                                         | 1.55 | 1.78 | 2.25  | 2.48  | 3.04  | 3.31  | 3.63  | 4.32  | 5.22  | 6.11  | 7.00  | 8.05  | 9.18  | 10.46 | 0.02                                                  | 0.13               | 0.19               | 0.23   |
|                     |           | 950                           | 1.43                                         | 2.00 | 2.31 | 2.94  | 3.24  | 3.98  | 4.35  | 4.77  | 5.68  | 6.87  | 8.05  | 9.22  | 10.60 | 12.08 | 13.76 | 0.03                                                  | 0.18               | 0.26               | 0.31   |
|                     |           | 1450                          | 2.01                                         | 2.84 | 3.31 | 4.22  | 4.68  | 5.77  | 6.31  | 6.93  | 8.26  | 10.00 | 11.71 | 13.39 | 15.37 | 17.46 | 19.81 | 0.04                                                  | 0.27               | 0.39               | 0.48   |
|                     |           | 2850                          | 3.31                                         | 4.85 | 5.70 | 7.37  | 8.20  | 10.15 | 11.11 | 12.21 | 14.52 | 17.49 | 20.31 | 22.98 | 25.96 | 28.88 | 31.84 | 0.08                                                  | 0.54               | 0.77               | 0.94   |
|                     |           | 100                           | 0.22                                         | 0.28 | 0.32 | 0.40  | 0.43  | 0.52  | 0.57  | 0.62  | 0.73  | 0.87  | 1.02  | 1.16  | 1.33  | 1.52  | 1.73  | 0.00                                                  | 0.02               | 0.03               | 0.03   |
|                     |           | 200                           | 0.39                                         | 0.52 | 0.60 | 0.74  | 0.81  | 0.98  | 1.07  | 1.17  | 1.38  | 1.66  | 1.94  | 2.21  | 2.54  | 2.89  | 3.30  | 0.01                                                  | 0.04               | 0.05               | 0.07   |
|                     |           | 300                           | 0.55                                         | 0.75 | 0.85 | 1.06  | 1.17  | 1.42  | 1.54  | 1.69  | 2.00  | 2.41  | 2.81  | 3.22  | 3.70  | 4.21  | 4.81  | 0.01                                                  | 0.06               | 0.08               | 0.10   |
|                     |           | 400                           | 0.70                                         | 0.96 | 1.10 | 1.37  | 1.51  | 1.84  | 2.00  | 2.19  | 2.60  | 3.13  | 3.67  | 4.19  | 4.82  | 5.50  | 6.27  | 0.01                                                  | 0.08               | 0.11               | 0.13   |
|                     |           | 500                           | 0.85                                         | 1.16 | 1.33 | 1.67  | 1.84  | 2.25  | 2.45  | 2.68  | 3.18  | 3.84  | 4.50  | 5.15  | 5.92  | 6.75  | 7.70  | 0.01                                                  | 0.09               | 0.13               | 0.16   |
|                     |           | 600                           | 0.99                                         | 1.36 | 1.56 | 1.96  | 2.16  | 2.65  | 2.88  | 3.16  | 3.75  | 4.54  | 5.31  | 6.08  | 6.99  | 7.97  | 9.09  | 0.02                                                  | 0.11               | 0.16               | 0.20   |
|                     |           | 700                           | 1.12                                         | 1.55 | 1.78 | 2.25  | 2.48  | 3.04  | 3.31  | 3.63  | 4.32  | 5.22  | 6.11  | 7.00  | 8.05  | 9.18  | 10.46 | 0.02                                                  | 0.13               | 0.19               | 0.23   |
|                     |           | 800                           | 1.25                                         | 1.73 | 2.00 | 2.53  | 2.79  | 3.42  | 3.73  | 4.09  | 4.87  | 5.89  | 6.90  | 7.90  | 9.08  | 10.35 | 11.80 | 0.02                                                  | 0.15               | 0.22               | 0.26   |
|                     |           | 900                           | 1.37                                         | 1.91 | 2.21 | 2.80  | 3.09  | 3.80  | 4.14  | 4.55  | 5.41  | 6.55  | 7.67  | 8.78  | 10.10 | 11.51 | 13.11 | 0.03                                                  | 0.17               | 0.24               | 0.30   |
|                     |           | 1000                          | 1.50                                         | 2.09 | 2.42 | 3.07  | 3.39  | 4.17  | 4.55  | 5.00  | 5.94  | 7.20  | 8.43  | 9.65  | 11.10 | 12.64 | 14.39 | 0.03                                                  | 0.19               | 0.27               | 0.33   |
|                     |           | 1100                          | 1.61                                         | 2.26 | 2.62 | 3.33  | 3.69  | 4.53  | 4.95  | 5.44  | 6.47  | 7.83  | 9.18  | 10.51 | 12.08 | 13.75 | 15.65 | 0.03                                                  | 0.21               | 0.30               | 0.36   |
|                     |           | 1200                          | 1.73                                         | 2.43 | 2.82 | 3.59  | 3.98  | 4.89  | 5.34  | 5.87  | 6.99  | 8.46  | 9.92  | 11.35 | 13.04 | 14.84 | 16.87 | 0.04                                                  | 0.23               | 0.32               | 0.40   |
|                     |           | 1300                          | 1.84                                         | 2.60 | 3.02 | 3.85  | 4.26  | 5.24  | 5.73  | 6.30  | 7.50  | 9.09  | 10.64 | 12.18 | 13.99 | 15.91 | 18.07 | 0.04                                                  | 0.25               | 0.35               | 0.43   |
|                     |           | 1400                          | 1.95                                         | 2.76 | 3.21 | 4.10  | 4.54  | 5.59  | 6.12  | 6.72  | 8.01  | 9.70  | 11.36 | 12.99 | 14.92 | 16.95 | 19.23 | 0.04                                                  | 0.27               | 0.38               | 0.46   |
|                     |           | 1500                          | 2.06                                         | 2.92 | 3.40 | 4.35  | 4.82  | 5.94  | 6.49  | 7.14  | 8.50  | 10.30 | 12.06 | 13.79 | 15.82 | 17.97 | 20.37 | 0.04                                                  | 0.28               | 0.40               | 0.49   |
|                     |           | 1600                          | 2.16                                         | 3.08 | 3.59 | 4.59  | 5.09  | 6.28  | 6.87  | 7.55  | 9.00  | 10.89 | 12.75 | 14.58 | 16.71 | 18.96 | 21.47 | 0.05                                                  | 0.30               | 0.43               | 0.53   |
|                     |           | 1700                          | 2.27                                         | 3.24 | 3.77 | 4.83  | 5.36  | 6.61  | 7.23  | 7.95  | 9.48  | 11.48 | 13.43 | 15.34 | 17.58 | 19.93 | 22.53 | 0.05                                                  | 0.32               | 0.46               | 0.56   |
|                     |           | 1800                          | 2.37                                         | 3.39 | 3.95 | 5.07  | 5.63  | 6.94  | 7.60  | 8.35  | 9.96  | 12.05 | 14.10 | 16.10 | 18.43 | 20.87 | 23.56 | 0.05                                                  | 0.34               | 0.48               | 0.59   |
|                     |           | 1900                          | 2.47                                         | 3.54 | 4.13 | 5.31  | 5.89  | 7.27  | 7.96  | 8.75  | 10.43 | 12.62 | 14.75 | 16.84 | 19.26 | 21.78 | 24.55 | 0.06                                                  | 0.36               | 0.51               | 0.63   |
|                     |           | 2000                          | 2.56                                         | 3.69 | 4.31 | 5.54  | 6.15  | 7.59  | 8.31  | 9.14  | 10.89 | 13.17 | 15.40 | 17.56 | 20.06 | 22.66 | 25.50 | 0.06                                                  | 0.38               | 0.54               | 0.66   |
|                     |           | 2100                          | 2.66                                         | 3.83 | 4.48 | 5.77  | 6.40  | 7.91  | 8.66  | 9.52  | 11.34 | 13.72 | 16.03 | 18.26 | 20.85 | 23.52 | 26.42 | 0.06                                                  | 0.40               | 0.56               | 0.69   |
|                     |           | 2200                          | 2.75                                         | 3.98 | 4.65 | 5.99  | 6.65  | 8.22  | 9.00  | 9.90  | 11.79 | 14.26 | 16.64 | 18.95 | 21.61 | 24.34 | 27.29 | 0.06                                                  | 0.42               | 0.59               | 0.73   |
|                     |           | 2300                          | 2.84                                         | 4.12 | 4.82 | 6.21  | 6.90  | 8.53  | 9.34  | 10.27 | 12.23 | 14.78 | 17.25 | 19.62 | 22.35 | 25.13 | 28.12 | 0.07                                                  | 0.44               | 0.62               | 0.76   |
|                     |           | 2400                          | 2.93                                         | 4.26 | 4.99 | 6.43  | 7.14  | 8.84  | 9.67  | 10.64 | 12.67 | 15.30 | 17.84 | 20.28 | 23.06 | 25.89 | 28.90 | 0.07                                                  | 0.45               | 0.65               | 0.79   |
|                     |           | 2500                          | 3.02                                         | 4.39 | 5.15 | 6.64  | 7.38  | 9.14  | 10.00 | 11.00 | 13.09 | 15.81 | 18.41 | 20.91 | 23.75 | 26.62 | 29.64 | 0.07                                                  | 0.47               | 0.67               | 0.82   |
|                     |           | 2600                          | 3.10                                         | 4.53 | 5.31 | 6.86  | 7.62  | 9.43  | 10.32 | 11.35 | 13.51 | 16.30 | 18.97 | 21.53 | 24.41 | 27.31 | 30.33 | 0.08                                                  | 0.49               | 0.70               | 0.86   |
|                     |           | 2700                          | 3.19                                         | 4.66 | 5.47 | 7.07  | 7.85  | 9.72  | 10.64 | 11.70 | 13.92 | 16.79 | 19.52 | 22.12 | 25.05 | 27.97 | 30.97 | 0.08                                                  | 0.51               | 0.73               | 0.89   |
|                     |           | 2800                          | 3.27                                         | 4.79 | 5.62 | 7.27  | 8.08  | 10.01 | 10.95 | 12.04 | 14.33 | 17.26 | 20.05 | 22.70 | 25.66 | 28.59 | 31.56 | 0.08                                                  | 0.53               | 0.75               | 0.92   |
|                     |           | 2900                          | 3.35                                         | 4.92 | 5.78 | 7.47  | 8.31  | 10.29 | 11.26 | 12.38 | 14.72 | 17.72 | 20.57 | 23.25 | 26.24 | 29.17 | 32.10 | 0.08                                                  | 0.55               | 0.78               | 0.96   |
|                     |           | 3000                          | 3.43                                         | 5.04 | 5.93 | 7.67  | 8.53  | 10.56 | 11.56 | 12.71 | 15.11 | 18.17 | 21.07 | 23.79 | 26.80 | 29.71 | 32.59 | 0.09                                                  | 0.57               | 0.81               | 0.99   |
|                     |           | 3100                          | 3.50                                         | 5.16 | 6.07 | 7.87  | 8.75  | 10.84 | 11.86 | 13.03 | 15.49 | 18.61 | 21.55 | 24.30 | 27.32 | 30.21 | 33.02 | 0.09                                                  | 0.59               | 0.83               | 1.02   |
|                     |           | 3200                          | 3.58                                         | 5.28 | 6.22 | 8.06  | 8.97  | 11.10 | 12.15 | 13.35 | 15.86 | 19.04 | 22.02 | 24.80 | 27.82 | 30.68 | 33.39 | 0.09                                                  | 0.61               | 0.86               | 1.05   |
|                     |           | 3300                          | 3.65                                         | 5.40 | 6.36 | 8.25  | 9.18  | 11.36 | 12.43 | 13.66 | 16.22 | 19.45 | 22.47 | 25.26 | 28.28 | 31.10 | 33.71 | 0.10                                                  | 0.63               | 0.89               | 1.09   |
|                     |           | 3400                          | 3.72                                         | 5.52 | 6.50 | 8.43  | 9.38  | 11.62 | 12.71 | 13.97 | 16.57 | 19.85 | 22.91 | 25.71 | 28.71 | 31.47 | 33.96 | 0.10                                                  | 0.64               | 0.91               | 1.12   |
|                     |           | 3500                          | 3.79                                         | 5.63 | 6.64 | 8.62  | 9.59  | 11.87 | 12.99 | 14.26 | 16.91 | 20.24 | 23.32 | 26.13 | 29.11 | 31.80 | 34.16 | 0.10                                                  | 0.66               | 0.94               | 1.15   |
|                     |           | 3600                          | 3.86                                         | 5.74 | 6.77 | 8.79  | 9.79  | 12.12 | 13.26 | 14.56 | 17.25 | 20.62 | 23.72 | 26.53 | 29.47 | 32.09 | 34.29 | 0.11                                                  | 0.68               | 0.97               | 1.19   |
|                     |           | 3700                          | 3.92                                         | 5.85 | 6.90 | 8.97  | 9.98  | 12.36 | 13.52 | 14.84 | 17.57 | 20.98 | 24.10 | 26.90 | 29.81 | 32.33 | 34.35 | 0.11                                                  | 0.70               | 0.99               | 1.22   |
|                     |           | 3800                          | 3.99                                         | 5.96 | 7.03 | 9.14  | 10.17 | 12.60 | 13.77 | 15.12 | 17.89 | 21.33 | 24.46 | 27.25 | 30.10 | 32.52 |       | 0.11                                                  | 0.72               | 1.02               | 1.25   |
|                     |           | 3900                          | 4.05                                         | 6.06 | 7.16 | 9.31  | 10.36 | 12.83 | 14.02 | 15.39 | 18.19 | 21.67 | 24.81 | 27.58 | 30.36 | 32.66 |       | 0.11                                                  | 0.74               | 1.05               | 1.29   |
|                     |           | 4000                          | 4.11                                         | 6.16 | 7.28 | 9.47  | 10.55 | 13.05 | 14.27 | 15.65 | 18.49 | 21.99 | 25.13 | 27.87 | 30.59 | 32.75 |       | 0.12                                                  | 0.76               | 1.08               | 1.32   |
|                     | 15        | 4100                          | 4.17                                         | 6.26 | 7.40 | 9.63  | 10.73 | 13.27 | 14.50 | 15.91 | 18.78 | 22.30 | 25.43 | 28.14 | 30.77 | 32.79 |       | 0.12                                                  | 0.78               | 1.10               | 1.35   |
|                     |           | 4200                          | 4.22                                         | 6.36 | 7.52 | 9.79  | 10.90 | 13.48 | 14.73 | 16.15 | 19.05 | 22.59 | 25.71 | 28.38 | 30.92 | 32.78 |       | 0.12                                                  | 0.80               | 1.13               | 1.38   |
|                     |           | 4300                          | 4.28                                         | 6.45 | 7.63 | 9.94  | 11.07 | 13.69 | 14.96 | 16.39 | 19.32 | 22.87 | 25.97 | 28.59 | 31.03 |       |       | 0.13                                                  | 0.81               | 1.16               | 1.42   |
|                     |           | 4400                          | 4.33                                         | 6.54 | 7.75 | 10.09 | 11.24 | 13.90 | 15.18 | 16.63 | 19.57 | 23.13 | 26.21 | 28.78 | 31.10 |       |       | 0.13                                                  | 0.83               | 1.18               | 1.45   |
|                     | 20        | 4500                          | 4.38                                         | 6.63 | 7.86 | 10.24 | 11.40 | 14.09 | 15.39 | 16.85 | 19.82 | 23.38 | 26.43 | 28.93 | 31.13 |       |       | 0.13                                                  | 0.85               | 1.21               | 1.48   |
|                     |           | 4600                          | 4.43                                         | 6.72 | 7.96 | 10.38 | 11.56 | 14.28 | 15.59 | 17.07 | 20.05 | 23.61 | 26.63 | 29.06 | 31.12 |       |       | 0.13                                                  | 0.87               | 1.24               | 1.52   |
|                     |           | 4700                          | 4.48                                         | 6.80 | 8.06 | 10.52 | 11.71 | 14.47 | 15.79 | 17.28 | 20.27 | 23.82 | 26.80 | 29.15 |       |       |       | 0.14                                                  | 0.89               | 1.26               | 1.55   |
|                     |           | 4800                          | 4.52                                         | 6.88 | 8.17 | 10.65 | 11.86 | 14.65 | 15.98 | 17.48 | 20.49 | 24.02 | 26.95 | 29.22 |       |       |       | 0.14                                                  | 0.91               | 1.29               | 1.58   |
|                     | 25        | 4900                          | 4.56                                         | 6.96 | 8.26 | 10.78 | 12.01 | 14.82 | 16.16 | 17.67 | 20.69 | 24.20 | 27.08 | 29.25 |       |       |       | 0.14                                                  | 0.93               | 1.32               | 1.62   |
|                     |           | 5000                          | 4.60                                         | 7.04 | 8.36 | 10.91 | 12.14 | 14.99 | 16.34 | 17.85 | 20.87 | 24.36 | 27.18 | 29.25 |       |       |       | 0.15                                                  | 0.95               | 1.34               | 1.65   |
|                     |           | 5100                          | 4.64                                         | 7.11 | 8.45 | 11.03 | 12.28 | 15.14 | 16.51 | 18.03 | 21.05 | 24.51 | 27.26 | 29.21 |       |       |       | 0.15                                                  | 0.97               | 1.37               | 1.68   |
|                     |           | 5200                          | 4.68                                         | 7.18 | 8.54 | 11.15 | 12.41 | 15.30 | 16.67 | 18.20 | 21.21 | 24.64 | 27.31 | 29.15 |       |       |       | 0.15                                                  | 0.98               | 1.40               | 1.71   |



# POWER RATINGS

optibelt **SUPER X-POWER** M=S PROFILE XPB, 5VX, 15JX

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 3550$  mm



Table 59

| Pulleys                                                                     | v [m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Datum diameter of small pulley d <sub>dk</sub> [mm] |       |       |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio i |                    |                    |                    |      |
|-----------------------------------------------------------------------------|---------|----------------------------------------|-----------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------------------------------------|--------------------|--------------------|--------------------|------|
|                                                                             |         |                                        | 112                                                 | 118   | 125   | 140   | 150   | 160   | 180   | 200   | 224   | 250   | 280   | 315   | 400                                                 | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 |      |
| Statically balanced                                                         | 5       | 700                                    | 3.32                                                | 3.76  | 4.27  | 5.36  | 6.09  | 6.81  | 8.26  | 9.69  | 11.40 | 13.24 | 15.34 | 17.77 | 23.56                                               | 0.04               | 0.29               | 0.41               | 0.50 |
|                                                                             |         | 950                                    | 4.38                                                | 4.97  | 5.66  | 7.12  | 8.09  | 9.06  | 10.98 | 12.89 | 15.16 | 17.59 | 20.36 | 23.54 | 31.02                                               | 0.06               | 0.39               | 0.55               | 0.68 |
|                                                                             |         | 1450                                   | 6.41                                                | 7.29  | 8.31  | 10.49 | 11.92 | 13.35 | 16.18 | 18.96 | 22.25 | 25.73 | 29.65 | 34.07 | 44.02                                               | 0.09               | 0.59               | 0.84               | 1.03 |
|                                                                             |         | 2850                                   | 11.36                                               | 12.96 | 14.80 | 18.67 | 21.18 | 23.64 | 28.40 | 32.90 | 37.94 | 42.92 | 47.97 | 52.80 |                                                     | 0.18               | 1.17               | 1.65               | 2.03 |
|                                                                             |         | 100                                    | 0.55                                                | 0.61  | 0.69  | 0.86  | 0.97  | 1.08  | 1.30  | 1.52  | 1.78  | 2.07  | 2.39  | 2.77  | 3.69                                                | 0.01               | 0.04               | 0.06               | 0.07 |
|                                                                             |         | 200                                    | 1.04                                                | 1.17  | 1.33  | 1.65  | 1.87  | 2.09  | 2.52  | 2.95  | 3.46  | 4.02  | 4.65  | 5.40  | 7.19                                                | 0.01               | 0.08               | 0.12               | 0.14 |
|                                                                             |         | 300                                    | 1.52                                                | 1.71  | 1.94  | 2.42  | 2.74  | 3.06  | 3.70  | 4.34  | 5.10  | 5.92  | 6.86  | 7.96  | 10.6                                                | 0.02               | 0.12               | 0.17               | 0.21 |
|                                                                             |         | 400                                    | 1.98                                                | 2.24  | 2.54  | 3.17  | 3.60  | 4.02  | 4.87  | 5.71  | 6.71  | 7.79  | 9.03  | 10.48 | 13.94                                               | 0.03               | 0.16               | 0.23               | 0.28 |
|                                                                             |         | 500                                    | 2.43                                                | 2.75  | 3.12  | 3.92  | 4.44  | 4.97  | 6.01  | 7.05  | 8.29  | 9.63  | 11.17 | 12.95 | 17.22                                               | 0.03               | 0.20               | 0.29               | 0.36 |
|                                                                             |         | 600                                    | 2.88                                                | 3.26  | 3.70  | 4.64  | 5.27  | 5.90  | 7.14  | 8.38  | 9.86  | 11.45 | 13.27 | 15.38 | 20.42                                               | 0.04               | 0.25               | 0.35               | 0.43 |
|                                                                             |         | 700                                    | 3.32                                                | 3.76  | 4.27  | 5.36  | 6.09  | 6.81  | 8.26  | 9.69  | 11.40 | 13.24 | 15.34 | 17.77 | 23.56                                               | 0.04               | 0.29               | 0.41               | 0.50 |
|                                                                             |         | 800                                    | 3.75                                                | 4.25  | 4.83  | 6.07  | 6.90  | 7.72  | 9.36  | 10.98 | 12.92 | 15    | 17.37 | 20.11 | 26.61                                               | 0.05               | 0.33               | 0.46               | 0.57 |
|                                                                             |         | 900                                    | 4.17                                                | 4.73  | 5.39  | 6.78  | 7.70  | 8.62  | 10.44 | 12.26 | 14.42 | 16.73 | 19.37 | 22.41 | 29.57                                               | 0.06               | 0.37               | 0.52               | 0.64 |
|                                                                             |         | 1000                                   | 4.59                                                | 5.21  | 5.93  | 7.47  | 8.49  | 9.50  | 11.52 | 13.52 | 15.89 | 18.44 | 21.34 | 24.66 | 32.45                                               | 0.06               | 0.41               | 0.58               | 0.71 |
|                                                                             |         | 1100                                   | 5.01                                                | 5.69  | 6.47  | 8.15  | 9.27  | 10.38 | 12.58 | 14.76 | 17.35 | 20.12 | 23.26 | 26.85 | 35.22                                               | 0.07               | 0.45               | 0.64               | 0.78 |
|                                                                             |         | 1200                                   | 5.42                                                | 6.15  | 7.01  | 8.83  | 10.04 | 11.24 | 13.62 | 15.98 | 18.78 | 21.76 | 25.14 | 28.99 | 37.88                                               | 0.08               | 0.49               | 0.70               | 0.85 |
|                                                                             |         | 1300                                   | 5.82                                                | 6.61  | 7.54  | 9.50  | 10.80 | 12.09 | 14.66 | 17.19 | 20.19 | 23.38 | 26.98 | 31.07 | 40.43                                               | 0.08               | 0.53               | 0.75               | 0.93 |
|                                                                             |         | 1400                                   | 6.22                                                | 7.07  | 8.06  | 10.16 | 11.55 | 12.93 | 15.67 | 18.38 | 21.57 | 24.96 | 28.77 | 33.09 | 42.86                                               | 0.09               | 0.57               | 0.81               | 1.00 |
|                                                                             |         | 1500                                   | 6.61                                                | 7.52  | 8.57  | 10.81 | 12.29 | 13.76 | 16.67 | 19.54 | 22.92 | 26.5  | 30.52 | 35.03 | 45.15                                               | 0.09               | 0.61               | 0.87               | 1.07 |
|                                                                             |         | 1600                                   | 7.00                                                | 7.96  | 9.08  | 11.45 | 13.02 | 14.58 | 17.66 | 20.69 | 24.25 | 28.01 | 32.21 | 36.91 | 47.31                                               | 0.10               | 0.65               | 0.93               | 1.14 |
|                                                                             |         | 1700                                   | 7.38                                                | 8.40  | 9.58  | 12.09 | 13.74 | 15.39 | 18.63 | 21.81 | 25.54 | 29.47 | 33.85 | 38.72 | 49.32                                               | 0.11               | 0.70               | 0.99               | 1.21 |
|                                                                             |         | 1800                                   | 7.76                                                | 8.83  | 10.07 | 12.71 | 14.45 | 16.18 | 19.58 | 22.91 | 26.81 | 30.9  | 35.43 | 40.44 | 51.17                                               | 0.11               | 0.74               | 1.05               | 1.28 |
|                                                                             |         | 1900                                   | 8.13                                                | 9.25  | 10.56 | 13.33 | 15.15 | 16.96 | 20.52 | 23.99 | 28.05 | 32.28 | 36.96 | 42.08 | 52.85                                               | 0.12               | 0.78               | 1.10               | 1.35 |
|                                                                             |         | 2000                                   | 8.49                                                | 9.67  | 11.04 | 13.94 | 15.84 | 17.73 | 21.43 | 25.05 | 29.25 | 33.62 | 38.42 | 43.64 | 54.37                                               | 0.13               | 0.82               | 1.16               | 1.42 |
|                                                                             |         | 2100                                   | 8.85                                                | 10.08 | 11.51 | 14.53 | 16.52 | 18.48 | 22.33 | 26.08 | 30.42 | 34.92 | 39.82 | 45.1  | 55.70                                               | 0.13               | 0.86               | 1.22               | 1.50 |
|                                                                             |         | 2200                                   | 9.21                                                | 10.49 | 11.98 | 15.12 | 17.18 | 19.22 | 23.21 | 27.08 | 31.55 | 36.16 | 41.15 | 46.47 | 56.84                                               | 0.14               | 0.90               | 1.28               | 1.57 |
|                                                                             |         | 2300                                   | 9.56                                                | 10.89 | 12.43 | 15.69 | 17.83 | 19.94 | 24.07 | 28.06 | 32.65 | 37.35 | 42.41 | 47.75 | 57.79                                               | 0.15               | 0.94               | 1.34               | 1.64 |
|                                                                             |         | 2400                                   | 9.90                                                | 11.28 | 12.88 | 16.26 | 18.47 | 20.65 | 24.90 | 29.00 | 33.70 | 38.49 | 43.6  | 48.92 | 58.53                                               | 0.15               | 0.98               | 1.39               | 1.71 |
|                                                                             |         | 2500                                   | 10.23                                               | 11.67 | 13.32 | 16.82 | 19.10 | 21.35 | 25.72 | 29.92 | 34.72 | 39.58 | 44.71 | 49.98 | 59.05                                               | 0.16               | 1.02               | 1.45               | 1.78 |
|                                                                             |         | 2600                                   | 10.56                                               | 12.04 | 13.76 | 17.36 | 19.71 | 22.02 | 26.51 | 30.81 | 35.70 | 40.61 | 45.74 | 50.93 | 59.35                                               | 0.16               | 1.06               | 1.51               | 1.85 |
|                                                                             |         | 2700                                   | 10.89                                               | 12.42 | 14.18 | 17.89 | 20.31 | 22.68 | 27.28 | 31.67 | 36.63 | 41.58 | 46.7  | 51.77 |                                                     | 0.17               | 1.10               | 1.57               | 1.92 |
|                                                                             |         | 2800                                   | 11.21                                               | 12.78 | 14.59 | 18.41 | 20.90 | 23.33 | 28.03 | 32.50 | 37.52 | 42.49 | 47.57 | 52.49 |                                                     | 0.18               | 1.15               | 1.63               | 1.99 |
|                                                                             |         | 2900                                   | 11.52                                               | 13.13 | 15.00 | 18.92 | 21.47 | 23.96 | 28.75 | 33.29 | 38.36 | 43.34 | 48.35 | 53.09 |                                                     | 0.18               | 1.19               | 1.68               | 2.06 |
|                                                                             |         | 3000                                   | 11.82                                               | 13.48 | 15.40 | 19.42 | 22.02 | 24.56 | 29.45 | 34.05 | 39.16 | 44.12 | 49.04 | 53.56 |                                                     | 0.19               | 1.23               | 1.74               | 2.14 |
|                                                                             |         | 3100                                   | 12.12                                               | 13.82 | 15.79 | 19.90 | 22.56 | 25.15 | 30.12 | 34.78 | 39.91 | 44.84 | 49.64 | 53.89 |                                                     | 0.20               | 1.27               | 1.80               | 2.21 |
|                                                                             |         | 3200                                   | 12.41                                               | 14.15 | 16.17 | 20.37 | 23.08 | 25.72 | 30.77 | 35.47 | 40.60 | 45.49 | 50.14 | 54.09 |                                                     | 0.20               | 1.31               | 1.86               | 2.28 |
|                                                                             |         | 3300                                   | 12.69                                               | 14.48 | 16.53 | 20.83 | 23.59 | 26.28 | 31.39 | 36.12 | 41.25 | 46.06 | 50.54 | 54.16 |                                                     | 0.21               | 1.35               | 1.92               | 2.35 |
|                                                                             |         | 3400                                   | 12.96                                               | 14.79 | 16.89 | 21.27 | 24.08 | 26.81 | 31.98 | 36.73 | 41.85 | 46.57 | 50.85 |       | 0.22                                                | 1.39               | 1.97               | 2.42               |      |
|                                                                             |         | 3500                                   | 13.23                                               | 15.10 | 17.24 | 21.70 | 24.56 | 27.32 | 32.54 | 37.31 | 42.39 | 47    | 51.04 |       | 0.22                                                | 1.43               | 2.03               | 2.49               |      |
|                                                                             |         | 3600                                   | 13.49                                               | 15.40 | 17.58 | 22.11 | 25.01 | 27.81 | 33.07 | 37.85 | 42.87 | 47.35 | 51.13 |       | 0.23                                                | 1.47               | 2.09               | 2.56               |      |
|                                                                             |         | 3700                                   | 13.74                                               | 15.68 | 17.91 | 22.51 | 25.45 | 28.28 | 33.57 | 38.34 | 43.30 | 47.62 | 51.11 |       | 0.23                                                | 1.51               | 2.15               | 2.63               |      |
|                                                                             |         | 3800                                   | 13.99                                               | 15.96 | 18.22 | 22.90 | 25.87 | 28.72 | 34.04 | 38.79 | 43.66 | 47.81 |       |       | 0.24                                                | 1.55               | 2.21               | 2.71               |      |
|                                                                             |         | 3900                                   | 14.22                                               | 16.23 | 18.53 | 23.26 | 26.27 | 29.15 | 34.48 | 39.20 | 43.97 | 47.92 |       |       | 0.25                                                | 1.60               | 2.26               | 2.78               |      |
|                                                                             |         | 4000                                   | 14.45                                               | 16.49 | 18.82 | 23.62 | 26.65 | 29.55 | 34.89 | 39.57 | 44.22 | 47.95 |       |       | 0.25                                                | 1.64               | 2.32               | 2.85               |      |
|                                                                             |         | 4100                                   | 14.67                                               | 16.74 | 19.10 | 23.96 | 27.01 | 29.92 | 35.26 | 39.88 | 44.40 | 47.88 |       |       | 0.26                                                | 1.68               | 2.38               | 2.92               |      |
|                                                                             |         | 4200                                   | 14.88                                               | 16.98 | 19.37 | 24.28 | 27.36 | 30.28 | 35.60 | 40.16 | 44.52 | 47.73 |       |       | 0.27                                                | 1.72               | 2.44               | 2.99               |      |
|                                                                             |         | 4300                                   | 15.08                                               | 17.21 | 19.63 | 24.58 | 27.68 | 30.60 | 35.90 | 40.38 | 44.57 |       |       |       | 0.27                                                | 1.76               | 2.50               | 3.06               |      |
|                                                                             |         | 4400                                   | 15.27                                               | 17.43 | 19.88 | 24.87 | 27.98 | 30.91 | 36.17 | 40.56 | 44.56 |       |       |       | 0.28                                                | 1.80               | 2.56               | 3.13               |      |
|                                                                             |         | 4500                                   | 15.45                                               | 17.64 | 20.11 | 25.14 | 28.26 | 31.18 | 36.40 | 40.69 | 44.47 |       |       |       | 0.28                                                | 1.84               | 2.61               | 3.20               |      |
|                                                                             |         | 4600                                   | 15.62                                               | 17.83 | 20.33 | 25.39 | 28.52 | 31.44 | 36.60 | 40.77 | 44.32 |       |       |       | 0.29                                                | 1.88               | 2.67               | 3.28               |      |
|                                                                             |         | 4700                                   | 15.79                                               | 18.02 | 20.54 | 25.62 | 28.75 | 31.66 | 36.75 | 40.79 |       |       |       |       | 0.30                                                | 1.92               | 2.73               | 3.35               |      |
|                                                                             |         | 4800                                   | 15.94                                               | 18.19 | 20.73 | 25.84 | 28.96 | 31.86 | 36.87 | 40.76 |       |       |       |       | 0.30                                                | 1.96               | 2.79               | 3.42               |      |
|                                                                             |         | 4900                                   | 16.08                                               | 18.36 | 20.91 | 26.03 | 29.15 | 32.02 | 36.95 | 40.68 |       |       |       |       | 0.31                                                | 2.00               | 2.85               | 3.49               |      |
|                                                                             |         | 5000                                   | 16.22                                               | 18.51 | 21.08 | 26.21 | 29.32 | 32.16 | 36.99 | 40.55 |       |       |       |       | 0.32                                                | 2.05               | 2.90               | 3.56               |      |
|                                                                             |         | 5100                                   | 16.34                                               | 18.65 | 21.23 | 26.37 | 29.46 | 32.28 | 36.99 | 40.36 |       |       |       |       | 0.32                                                | 2.09               | 2.96               | 3.63               |      |
|                                                                             |         | 5200                                   | 16.45                                               | 18.77 | 21.37 | 26.50 | 29.58 | 32.36 | 36.94 | 40.11 |       |       |       |       | 0.33                                                | 2.13               | 3.02               | 3.70               |      |
|                                                                             |         | 5300                                   | 16.56                                               | 18.89 | 21.49 | 26.62 | 29.67 | 32.41 | 36.86 |       |       |       |       |       | 0.34                                                | 2.17               | 3.08               | 3.77               |      |
|                                                                             |         | 5400                                   | 16.65                                               | 18.99 | 21.60 | 26.72 | 29.74 | 32.43 | 36.73 |       |       |       |       |       | 0.34                                                | 2.21               | 3.14               | 3.84               |      |
|                                                                             |         | 5500                                   | 16.73                                               | 19.08 | 21.69 | 26.79 | 29.78 | 32.42 | 36.55 |       |       |       |       |       | 0.35                                                | 2.25               | 3.19               | 3.92               |      |
|                                                                             |         | 5600                                   | 16.80                                               | 19.15 | 21.77 | 26.84 | 29.80 | 32.38 | 36.33 |       |       |       |       |       | 0.35                                                | 2.29               | 3.25               | 3.99               |      |
|                                                                             |         | 5700                                   | 16.85                                               | 19.22 | 21.83 | 26.88 | 29.79 | 32.30 | 36.07 |       |       |       |       |       | 0.36                                                | 2.33               | 3.31               | 4.06               |      |
|                                                                             |         | 5800                                   | 16.90                                               | 19.27 | 21.88 | 26.89 | 29.75 | 32.20 | 35.76 |       |       |       |       |       | 0.37                                                | 2.37               | 3.37               | 4.13               |      |
|                                                                             |         | 5900                                   | 16.93                                               | 19.30 | 21.91 | 26.87 | 29.68 | 32.06 |       |       |       |       |       |       | 0.37                                                | 2.41               | 3.43               | 4.20               |      |
|                                                                             |         | 6000                                   | 16.96                                               | 19.32 | 21.92 | 26.84 | 29.59 | 31.88 |       |       |       |       |       |       | 0.38                                                | 2.45               | 3.48               | 4.27               |      |
| (40)                                                                        |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |       |                                                     |                    |                    |                    |      |
| v <sub>max</sub> ≤ 55 m/s                                                   |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |       |                                                     |                    |                    |                    |      |
| v > 42 m/s.<br>Please consult our<br>Application Engineering<br>Department. |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |       |                                                     |                    |                    |                    |      |
| (40)                                                                        |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |       | v [m/s]                                             |                    |                    |                    |      |
| Dynamically balanced (for details see DIN 2211)                             |         |                                        |                                                     |       |       |       |       |       |       |       |       |       |       |       | Pulleys                                             |                    |                    |                    |      |

# POWER RATINGS

optibelt **SUPER X-POWER M=S PROFILE XPC**

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 5600$  mm



Table 60

| Pulleys             | $v$ [m/s] | $n_k$<br>[min <sup>-1</sup> ] | Datum diameter of small pulley $d_{dk}$ [mm] |       |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio $i$ |                    |                    |                    |        |
|---------------------|-----------|-------------------------------|----------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------------------------------------|--------------------|--------------------|--------------------|--------|
|                     |           |                               | 180                                          | 200   | 224   | 250   | 280   | 315   | 400   | 450   | 500   | 560   | 630   | 710                                                   | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |
| Statically balanced | 5         | 700                           | 10.79                                        | 12.84 | 15.29 | 17.93 | 20.94 | 24.43 | 32.74 | 37.51 | 42.18 | 47.65 | 53.82 | 60.57                                                 | 0.08               | 0.49               | 0.70               | 0.85   |
|                     |           | 950                           | 14.40                                        | 17.14 | 20.39 | 23.88 | 27.86 | 32.42 | 43.16 | 49.20 | 55.01 | 61.66 | 68.91 | 76.46                                                 | 0.10               | 0.67               | 0.95               | 1.16   |
|                     |           | 1450                          | 21.27                                        | 25.27 | 29.98 | 34.98 | 40.60 | 46.91 | 61.06 | 68.47 | 75.11 | 81.94 | 88.17 | 92.72                                                 | 0.16               | 1.02               | 1.44               | 1.77   |
|                     |           | 2850                          | 37.09                                        | 43.48 | 50.58 | 57.52 | 64.43 | 70.83 |       |       |       |       |       |                                                       | 0.31               | 2.00               | 2.84               | 3.48   |
|                     |           | 50                            | 0.85                                         | 1.01  | 1.19  | 1.40  | 1.63  | 1.90  | 2.56  | 2.94  | 3.33  | 3.79  | 4.32  | 4.93                                                  | 0.01               | 0.04               | 0.05               | 0.06   |
|                     |           | 100                           | 1.66                                         | 1.97  | 2.34  | 2.74  | 3.20  | 3.74  | 5.03  | 5.79  | 6.55  | 7.45  | 8.51  | 9.71                                                  | 0.01               | 0.07               | 0.10               | 0.12   |
|                     |           | 150                           | 2.46                                         | 2.92  | 3.47  | 4.06  | 4.74  | 5.54  | 7.47  | 8.59  | 9.72  | 11.06 | 12.62 | 14.40                                                 | 0.02               | 0.11               | 0.15               | 0.18   |
|                     |           | 200                           | 3.24                                         | 3.85  | 4.58  | 5.37  | 6.27  | 7.33  | 9.87  | 11.37 | 12.85 | 14.63 | 16.69 | 19.03                                                 | 0.02               | 0.14               | 0.20               | 0.24   |
|                     |           | 250                           | 4.02                                         | 4.78  | 5.68  | 6.66  | 7.79  | 9.10  | 12.26 | 14.11 | 15.95 | 18.15 | 20.70 | 23.59                                                 | 0.03               | 0.18               | 0.25               | 0.31   |
|                     |           | 300                           | 4.79                                         | 5.70  | 6.78  | 7.95  | 9.29  | 10.86 | 14.63 | 16.83 | 19.02 | 21.63 | 24.66 | 28.08                                                 | 0.03               | 0.21               | 0.30               | 0.37   |
|                     |           | 350                           | 5.56                                         | 6.61  | 7.87  | 9.22  | 10.79 | 12.60 | 16.97 | 19.52 | 22.05 | 25.07 | 28.56 | 32.49                                                 | 0.04               | 0.25               | 0.35               | 0.43   |
|                     |           | 400                           | 6.32                                         | 7.52  | 8.95  | 10.49 | 12.27 | 14.33 | 19.29 | 22.18 | 25.05 | 28.46 | 32.39 | 36.82                                                 | 0.04               | 0.28               | 0.40               | 0.49   |
|                     |           | 450                           | 7.08                                         | 8.42  | 10.02 | 11.75 | 13.74 | 16.05 | 21.59 | 24.82 | 28.01 | 31.80 | 36.17 | 41.06                                                 | 0.05               | 0.32               | 0.45               | 0.55   |
|                     |           | 500                           | 7.83                                         | 9.31  | 11.09 | 13.00 | 15.20 | 17.75 | 23.87 | 27.42 | 30.94 | 35.09 | 39.86 | 45.20                                                 | 0.05               | 0.35               | 0.50               | 0.61   |
|                     |           | 550                           | 8.58                                         | 10.20 | 12.15 | 14.25 | 16.65 | 19.44 | 26.13 | 30.00 | 33.82 | 38.33 | 43.49 | 49.23                                                 | 0.06               | 0.39               | 0.55               | 0.67   |
|                     |           | 600                           | 9.32                                         | 11.09 | 13.20 | 15.48 | 18.09 | 21.12 | 28.36 | 32.54 | 36.65 | 41.50 | 47.02 | 53.14                                                 | 0.07               | 0.42               | 0.60               | 0.73   |
|                     |           | 650                           | 10.06                                        | 11.97 | 14.25 | 16.71 | 19.52 | 22.78 | 30.56 | 35.04 | 39.44 | 44.61 | 50.47 | 56.92                                                 | 0.07               | 0.46               | 0.65               | 0.79   |
|                     |           | 700                           | 10.79                                        | 12.84 | 15.29 | 17.93 | 20.94 | 24.43 | 32.74 | 37.51 | 42.18 | 47.65 | 53.82 | 60.57                                                 | 0.08               | 0.49               | 0.70               | 0.85   |
|                     |           | 750                           | 11.52                                        | 13.71 | 16.33 | 19.14 | 22.35 | 26.06 | 34.88 | 39.93 | 44.87 | 50.62 | 57.07 | 64.08                                                 | 0.08               | 0.53               | 0.75               | 0.92   |
|                     |           | 800                           | 12.25                                        | 14.58 | 17.35 | 20.34 | 23.75 | 27.68 | 37.00 | 42.32 | 47.49 | 53.51 | 60.21 | 67.43                                                 | 0.09               | 0.56               | 0.80               | 0.98   |
|                     |           | 850                           | 12.97                                        | 15.44 | 18.37 | 21.53 | 25.13 | 29.28 | 39.09 | 44.66 | 50.06 | 56.31 | 63.24 | 70.61                                                 | 0.09               | 0.60               | 0.85               | 1.04   |
|                     |           | 900                           | 13.69                                        | 16.29 | 19.39 | 22.71 | 26.50 | 30.86 | 41.14 | 46.95 | 52.57 | 59.03 | 66.14 | 73.63                                                 | 0.10               | 0.63               | 0.90               | 1.10   |
|                     |           | 950                           | 14.40                                        | 17.14 | 20.39 | 23.88 | 27.86 | 32.42 | 43.16 | 49.20 | 55.01 | 61.66 | 68.91 | 76.46                                                 | 0.10               | 0.67               | 0.95               | 1.16   |
|                     |           | 1000                          | 15.11                                        | 17.98 | 21.39 | 25.04 | 29.20 | 33.97 | 45.14 | 51.39 | 57.39 | 64.19 | 71.55 | 79.11                                                 | 0.11               | 0.70               | 1.00               | 1.22   |
|                     |           | 1050                          | 15.81                                        | 18.81 | 22.38 | 26.19 | 30.53 | 35.50 | 47.08 | 53.53 | 59.69 | 66.63 | 74.05 | 81.55                                                 | 0.11               | 0.74               | 1.05               | 1.28   |
|                     |           | 1100                          | 16.51                                        | 19.64 | 23.36 | 27.33 | 31.85 | 37.00 | 48.98 | 55.62 | 61.91 | 68.96 | 76.41 | 83.78                                                 | 0.12               | 0.77               | 1.10               | 1.34   |
|                     |           | 1150                          | 17.21                                        | 20.47 | 24.33 | 28.46 | 33.14 | 38.49 | 50.85 | 57.65 | 64.06 | 71.18 | 78.60 | 85.79                                                 | 0.12               | 0.81               | 1.15               | 1.40   |
|                     |           | 1200                          | 17.90                                        | 21.28 | 25.30 | 29.58 | 34.43 | 39.95 | 52.66 | 59.62 | 66.12 | 73.28 | 80.64 | 87.58                                                 | 0.13               | 0.84               | 1.20               | 1.47   |
|                     |           | 1250                          | 18.58                                        | 22.09 | 26.25 | 30.69 | 35.70 | 41.39 | 54.44 | 61.52 | 68.10 | 75.27 | 82.51 | 89.12                                                 | 0.14               | 0.88               | 1.25               | 1.53   |
|                     |           | 1300                          | 19.26                                        | 22.90 | 27.20 | 31.78 | 36.95 | 42.81 | 56.17 | 63.36 | 70.00 | 77.13 | 84.20 | 90.42                                                 | 0.14               | 0.91               | 1.29               | 1.59   |
|                     |           | 1350                          | 19.94                                        | 23.70 | 28.14 | 32.86 | 38.18 | 44.20 | 57.85 | 65.14 | 71.80 | 78.87 | 85.71 | 91.46                                                 | 0.15               | 0.95               | 1.34               | 1.65   |
|                     |           | 1400                          | 20.61                                        | 24.49 | 29.07 | 33.93 | 39.40 | 45.57 | 59.48 | 66.84 | 73.50 | 80.47 | 87.04 | 92.23                                                 | 0.15               | 0.98               | 1.39               | 1.71   |
|                     |           | 1450                          | 21.27                                        | 25.27 | 29.98 | 34.98 | 40.60 | 46.91 | 61.06 | 68.47 | 75.11 | 81.94 | 88.17 | 92.72                                                 | 0.16               | 1.02               | 1.44               | 1.77   |
|                     |           | 1500                          | 21.93                                        | 26.04 | 30.89 | 36.02 | 41.78 | 48.23 | 62.59 | 70.03 | 76.61 | 83.26 | 89.10 |                                                       | 0.16               | 1.05               | 1.49               | 1.83   |
|                     |           | 1550                          | 22.58                                        | 26.81 | 31.79 | 37.05 | 42.93 | 49.52 | 64.06 | 71.51 | 78.02 | 84.44 | 89.82 |                                                       | 0.17               | 1.09               | 1.54               | 1.89   |
|                     |           | 1600                          | 23.23                                        | 27.57 | 32.68 | 38.06 | 44.07 | 50.78 | 65.48 | 72.91 | 79.31 | 85.47 | 90.33 |                                                       | 0.17               | 1.12               | 1.59               | 1.95   |
|                     |           | 1650                          | 23.87                                        | 28.32 | 33.55 | 39.06 | 45.19 | 52.01 | 66.84 | 74.23 | 80.49 | 86.34 | 90.62 |                                                       | 0.18               | 1.16               | 1.64               | 2.02   |
|                     |           | 1700                          | 24.50                                        | 29.07 | 34.42 | 40.04 | 46.29 | 53.22 | 68.14 | 75.46 | 81.56 | 87.05 |       |                                                       | 0.18               | 1.19               | 1.69               | 2.08   |
|                     |           | 1750                          | 25.13                                        | 29.80 | 35.27 | 41.01 | 47.37 | 54.39 | 69.38 | 76.61 | 82.50 | 87.60 |       |                                                       | 0.19               | 1.23               | 1.74               | 2.14   |
|                     |           | 1800                          | 25.75                                        | 30.53 | 36.11 | 41.96 | 48.42 | 55.53 | 70.55 | 77.67 | 83.33 | 87.97 |       |                                                       | 0.20               | 1.26               | 1.79               | 2.20   |
|                     |           | 1850                          | 26.37                                        | 31.25 | 36.94 | 42.90 | 49.45 | 56.64 | 71.66 | 78.64 | 84.03 | 88.17 |       |                                                       | 0.20               | 1.30               | 1.84               | 2.26   |
|                     |           | 1900                          | 26.98                                        | 31.96 | 37.76 | 43.81 | 50.46 | 57.72 | 72.71 | 79.52 | 84.61 |       |       |                                                       | 0.21               | 1.33               | 1.89               | 2.32   |
|                     |           | 1950                          | 27.58                                        | 32.66 | 38.57 | 44.71 | 51.45 | 58.76 | 73.69 | 80.29 | 85.05 |       |       |                                                       | 0.21               | 1.37               | 1.94               | 2.38   |
|                     |           | 2000                          | 28.17                                        | 33.35 | 39.36 | 45.60 | 52.41 | 59.77 | 74.59 | 80.97 | 85.36 |       |       |                                                       | 0.22               | 1.40               | 1.99               | 2.44   |
|                     |           | 2050                          | 28.76                                        | 34.03 | 40.14 | 46.46 | 53.34 | 60.74 | 75.43 | 81.55 | 85.53 |       |       |                                                       | 0.22               | 1.44               | 2.04               | 2.50   |
|                     |           | 2100                          | 29.34                                        | 34.70 | 40.90 | 47.31 | 54.25 | 61.68 | 76.19 | 82.03 | 85.55 |       |       |                                                       | 0.23               | 1.47               | 2.09               | 2.56   |
|                     |           | 2150                          | 29.91                                        | 35.36 | 41.66 | 48.14 | 55.13 | 62.58 | 76.88 | 82.40 |       |       |       |                                                       | 0.23               | 1.51               | 2.14               | 2.63   |
|                     |           | 2200                          | 30.48                                        | 36.02 | 42.39 | 48.95 | 55.99 | 63.44 | 77.49 | 82.66 |       |       |       |                                                       | 0.24               | 1.54               | 2.19               | 2.69   |
|                     |           | 2250                          | 31.04                                        | 36.66 | 43.12 | 49.73 | 56.82 | 64.26 | 78.03 | 82.81 |       |       |       |                                                       | 0.24               | 1.58               | 2.24               | 2.75   |
|                     |           | 2300                          | 31.59                                        | 37.29 | 43.83 | 50.50 | 57.62 | 65.05 | 78.48 | 82.84 |       |       |       |                                                       | 0.25               | 1.61               | 2.29               | 2.81   |
|                     |           | 2350                          | 32.13                                        | 37.91 | 44.52 | 51.25 | 58.39 | 65.79 | 78.85 |       |       |       |       |                                                       | 0.26               | 1.65               | 2.34               | 2.87   |
|                     |           | 2400                          | 32.67                                        | 38.52 | 45.20 | 51.98 | 59.14 | 66.49 | 79.14 |       |       |       |       |                                                       | 0.26               | 1.68               | 2.39               | 2.93   |
|                     |           | 2450                          | 33.19                                        | 39.12 | 45.86 | 52.68 | 59.85 | 67.15 | 79.35 |       |       |       |       |                                                       | 0.27               | 1.72               | 2.44               | 2.99   |
|                     |           | 2500                          | 33.71                                        | 39.70 | 46.51 | 53.37 | 60.53 | 67.77 | 79.46 |       |       |       |       |                                                       | 0.27               | 1.75               | 2.49               | 3.05   |
|                     |           | 2550                          | 34.22                                        | 40.28 | 47.14 | 54.03 | 61.19 | 68.35 | 79.49 |       |       |       |       |                                                       | 0.28               | 1.79               | 2.54               | 3.11   |
|                     |           | 2600                          | 34.72                                        | 40.84 | 47.76 | 54.67 | 61.81 | 68.88 | 79.43 |       |       |       |       |                                                       | 0.28               | 1.82               | 2.59               | 3.18   |
|                     |           | 2650                          | 35.21                                        | 41.39 | 48.36 | 55.29 | 62.40 | 69.36 |       |       |       |       |       |                                                       | 0.29               | 1.86               | 2.64               | 3.24   |
|                     |           | 2700                          | 35.70                                        | 41.93 | 48.94 | 55.88 | 62.96 | 69.80 |       |       |       |       |       |                                                       | 0.29               | 1.89               | 2.69               | 3.30   |
|                     |           | 2750                          | 36.17                                        | 42.46 | 49.51 | 56.45 | 63.48 | 70.19 |       |       |       |       |       |                                                       | 0.30               | 1.93               | 2.74               | 3.36   |
|                     |           | 2800                          | 36.63                                        | 42.98 | 50.05 | 57.00 | 63.97 | 70.54 |       |       |       |       |       |                                                       | 0.30               | 1.96               | 2.79               | 3.42   |
|                     |           | 2850                          | 37.09                                        | 43.48 | 50.58 | 57.52 | 64.43 | 70.83 |       |       |       |       |       |                                                       | 0.31               | 2.00               | 2.84               | 3.48   |
|                     |           | 2900                          | 37.54                                        | 43.97 | 51.10 | 58.02 | 64.85 | 71.08 |       |       |       |       |       |                                                       | 0.31               | 2.04               | 2.89               | 3.54   |
|                     |           | 2950                          | 37.97                                        | 44.44 | 51.59 | 58.49 | 65.23 | 71.27 |       |       |       |       |       |                                                       | 0.32               | 2.07               | 2.94               | 3.60   |
|                     |           | 3000                          | 38.40                                        | 44.91 | 52.06 | 58.93 | 65.58 | 71.42 |       |       |       |       |       |                                                       | 0.33               | 2.11               | 2.99               | 3.66   |
|                     |           | 3050                          | 38.81                                        | 45.35 | 52.52 | 59.35 | 65.90 | 71.51 |       |       |       |       |       |                                                       | 0.33               | 2.14               | 3.04               | 3.72   |
|                     |           | 3100                          | 39.22                                        | 45.79 | 52.96 | 59.74 | 66.17 | 71.55 |       |       |       |       |       |                                                       | 0.34               | 2.18               | 3.09               | 3.79   |
|                     |           | 3150                          | 39.62                                        | 46.21 | 53.37 | 60.11 | 66.41 | 71.54 |       |       |       |       |       |                                                       | 0.34               | 2.21               | 3.14               | 3.85   |
|                     |           | 3200                          | 40.00                                        |       |       |       |       |       |       |       |       |       |       |                                                       |                    |                    |                    |        |



# POWER RATINGS

optibelt **SUPER XE-POWER PRO M=S PROFILE XPZ, 3VX, 9JX**

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 1600$  mm



Table 61

| Pulleys             | $v$ [m/s] | $n_k$<br>[min <sup>-1</sup> ] | Datum diameter of small pulley $d_{dk}$ [mm] |      |      |      |      |      |       |       |       |       |       |       |       |       |       |                    | Additional power [kW]<br>per belt for speed ratio $i$ |                    |        |  |
|---------------------|-----------|-------------------------------|----------------------------------------------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------|-------------------------------------------------------|--------------------|--------|--|
|                     |           |                               | 56                                           | 60   | 63   | 71   | 80   | 85   | 90    | 95    | 100   | 112   | 125   | 140   | 160   | 180   | 200   | 1.01<br>to<br>1.05 | 1.06<br>to<br>1.26                                    | 1.27<br>to<br>1.57 | > 1.57 |  |
| Statically balanced | 5         | 700                           | 0.86                                         | 1.01 | 1.10 | 1.37 | 1.67 | 1.84 | 2.16  | 2.33  | 2.71  | 2.90  | 3.13  | 3.60  | 4.21  | 4.82  | 5.44  | 0.01               | 0.06                                                  | 0.08               | 0.10   |  |
|                     |           | 950                           | 1.10                                         | 1.28 | 1.42 | 1.78 | 2.16 | 2.38 | 2.81  | 3.02  | 3.53  | 3.78  | 4.07  | 4.69  | 5.50  | 6.30  | 7.08  | 0.01               | 0.08                                                  | 0.11               | 0.13   |  |
|                     |           | 1450                          | 1.52                                         | 1.79 | 1.98 | 2.50 | 3.07 | 3.40 | 4.02  | 4.32  | 5.06  | 5.42  | 5.84  | 6.73  | 7.90  | 9.02  | 10.13 | 0.02               | 0.12                                                  | 0.16               | 0.20   |  |
|                     |           | 2850                          | 2.48                                         | 2.95 | 3.31 | 4.25 | 5.27 | 5.83 | 6.94  | 7.49  | 8.76  | 9.38  | 10.10 | 11.60 | 13.51 | 15.32 | 17.00 | 0.04               | 0.23                                                  | 0.32               | 0.40   |  |
|                     |           | 100                           | 0.17                                         | 0.19 | 0.22 | 0.26 | 0.31 | 0.34 | 0.40  | 0.42  | 0.49  | 0.52  | 0.55  | 0.64  | 0.74  | 0.85  | 0.96  | 0.00               | 0.01                                                  | 0.01               | 0.01   |  |
|                     |           | 200                           | 0.31                                         | 0.36 | 0.38 | 0.47 | 0.56 | 0.62 | 0.73  | 0.78  | 0.90  | 0.96  | 1.03  | 1.19  | 1.39  | 1.58  | 1.79  | 0.00               | 0.02                                                  | 0.02               | 0.03   |  |
|                     |           | 300                           | 0.43                                         | 0.50 | 0.55 | 0.67 | 0.80 | 0.89 | 1.04  | 1.12  | 1.30  | 1.38  | 1.49  | 1.70  | 1.99  | 2.28  | 2.57  | 0.00               | 0.02                                                  | 0.03               | 0.04   |  |
|                     |           | 400                           | 0.55                                         | 0.64 | 0.70 | 0.85 | 1.03 | 1.14 | 1.33  | 1.43  | 1.67  | 1.78  | 1.92  | 2.20  | 2.58  | 2.95  | 3.31  | 0.00               | 0.03                                                  | 0.05               | 0.06   |  |
|                     |           | 500                           | 0.66                                         | 0.77 | 0.84 | 1.03 | 1.26 | 1.38 | 1.62  | 1.74  | 2.03  | 2.17  | 2.33  | 2.68  | 3.14  | 3.59  | 4.04  | 0.01               | 0.04                                                  | 0.06               | 0.07   |  |
|                     |           | 600                           | 0.77                                         | 0.89 | 0.97 | 1.21 | 1.46 | 1.61 | 1.90  | 2.04  | 2.38  | 2.54  | 2.74  | 3.14  | 3.68  | 4.21  | 4.74  | 0.01               | 0.05                                                  | 0.07               | 0.08   |  |
|                     |           | 700                           | 0.86                                         | 1.01 | 1.10 | 1.37 | 1.67 | 1.84 | 2.16  | 2.33  | 2.71  | 2.90  | 3.13  | 3.60  | 4.21  | 4.82  | 5.44  | 0.01               | 0.06                                                  | 0.08               | 0.10   |  |
|                     |           | 800                           | 0.96                                         | 1.12 | 1.24 | 1.54 | 1.87 | 2.06 | 2.42  | 2.62  | 3.05  | 3.26  | 3.52  | 4.04  | 4.74  | 5.42  | 6.10  | 0.01               | 0.06                                                  | 0.09               | 0.11   |  |
|                     |           | 900                           | 1.06                                         | 1.22 | 1.36 | 1.69 | 2.06 | 2.28 | 2.69  | 2.89  | 3.37  | 3.61  | 3.89  | 4.48  | 5.24  | 6.01  | 6.76  | 0.01               | 0.07                                                  | 0.10               | 0.13   |  |
|                     |           | 1000                          | 1.15                                         | 1.33 | 1.48 | 1.85 | 2.26 | 2.48 | 2.94  | 3.16  | 3.70  | 3.95  | 4.26  | 4.91  | 5.75  | 6.58  | 7.40  | 0.01               | 0.08                                                  | 0.11               | 0.14   |  |
|                     |           | 1100                          | 1.24                                         | 1.44 | 1.60 | 1.99 | 2.45 | 2.69 | 3.18  | 3.43  | 4.01  | 4.28  | 4.62  | 5.32  | 6.24  | 7.14  | 8.03  | 0.01               | 0.09                                                  | 0.12               | 0.15   |  |
|                     |           | 1200                          | 1.32                                         | 1.54 | 1.70 | 2.15 | 2.63 | 2.89 | 3.43  | 3.68  | 4.31  | 4.62  | 4.98  | 5.74  | 6.72  | 7.69  | 8.65  | 0.01               | 0.10                                                  | 0.14               | 0.17   |  |
|                     |           | 1300                          | 1.40                                         | 1.64 | 1.82 | 2.29 | 2.81 | 3.10 | 3.66  | 3.95  | 4.61  | 4.94  | 5.33  | 6.13  | 7.20  | 8.23  | 9.25  | 0.02               | 0.10                                                  | 0.15               | 0.18   |  |
|                     |           | 1400                          | 1.49                                         | 1.74 | 1.93 | 2.44 | 2.99 | 3.29 | 3.90  | 4.20  | 4.91  | 5.27  | 5.68  | 6.54  | 7.66  | 8.76  | 9.84  | 0.02               | 0.11                                                  | 0.16               | 0.19   |  |
|                     |           | 1500                          | 1.56                                         | 1.84 | 2.04 | 2.57 | 3.16 | 3.49 | 4.13  | 4.45  | 5.21  | 5.58  | 6.01  | 6.92  | 8.12  | 9.29  | 10.43 | 0.02               | 0.12                                                  | 0.17               | 0.21   |  |
|                     |           | 1600                          | 1.64                                         | 1.93 | 2.14 | 2.70 | 3.34 | 3.67 | 4.36  | 4.69  | 5.50  | 5.89  | 6.35  | 7.31  | 8.57  | 9.79  | 10.99 | 0.02               | 0.13                                                  | 0.18               | 0.22   |  |
|                     |           | 1700                          | 1.72                                         | 2.02 | 2.24 | 2.84 | 3.50 | 3.86 | 4.58  | 4.93  | 5.78  | 6.19  | 6.67  | 7.69  | 9.01  | 10.30 | 11.54 | 0.02               | 0.14                                                  | 0.19               | 0.24   |  |
|                     |           | 1800                          | 1.79                                         | 2.11 | 2.34 | 2.98 | 3.67 | 4.04 | 4.80  | 5.17  | 6.06  | 6.49  | 7.00  | 8.06  | 9.44  | 10.79 | 12.08 | 0.02               | 0.14                                                  | 0.20               | 0.25   |  |
|                     |           | 1900                          | 1.86                                         | 2.20 | 2.45 | 3.11 | 3.83 | 4.24 | 5.02  | 5.41  | 6.34  | 6.79  | 7.32  | 8.42  | 9.86  | 11.27 | 12.62 | 0.02               | 0.15                                                  | 0.22               | 0.26   |  |
|                     |           | 2000                          | 1.93                                         | 2.28 | 2.54 | 3.23 | 4.00 | 4.40 | 5.23  | 5.64  | 6.61  | 7.08  | 7.63  | 8.78  | 10.28 | 11.74 | 13.14 | 0.02               | 0.16                                                  | 0.23               | 0.28   |  |
|                     |           | 2100                          | 2.00                                         | 2.36 | 2.64 | 3.36 | 4.15 | 4.58 | 5.45  | 5.87  | 6.88  | 7.37  | 7.94  | 9.14  | 10.69 | 12.19 | 13.64 | 0.03               | 0.17                                                  | 0.24               | 0.29   |  |
|                     |           | 2200                          | 2.06                                         | 2.45 | 2.74 | 3.48 | 4.31 | 4.76 | 5.65  | 6.10  | 7.14  | 7.66  | 8.24  | 9.49  | 11.10 | 12.65 | 14.14 | 0.03               | 0.18                                                  | 0.25               | 0.31   |  |
|                     |           | 2300                          | 2.14                                         | 2.53 | 2.83 | 3.60 | 4.46 | 4.93 | 5.86  | 6.31  | 7.40  | 7.93  | 8.54  | 9.83  | 11.50 | 13.09 | 14.62 | 0.03               | 0.18                                                  | 0.26               | 0.32   |  |
|                     |           | 2400                          | 2.20                                         | 2.62 | 2.92 | 3.72 | 4.61 | 5.10 | 6.06  | 6.54  | 7.66  | 8.21  | 8.84  | 10.16 | 11.88 | 13.51 | 15.08 | 0.03               | 0.19                                                  | 0.27               | 0.33   |  |
|                     |           | 2500                          | 2.27                                         | 2.69 | 3.01 | 3.84 | 4.76 | 5.27 | 6.26  | 6.76  | 7.91  | 8.47  | 9.13  | 10.50 | 12.26 | 13.93 | 15.53 | 0.03               | 0.20                                                  | 0.28               | 0.35   |  |
|                     |           | 2600                          | 2.33                                         | 2.77 | 3.10 | 3.96 | 4.91 | 5.44 | 6.46  | 6.96  | 8.16  | 8.75  | 9.42  | 10.82 | 12.62 | 14.34 | 15.97 | 0.03               | 0.21                                                  | 0.30               | 0.36   |  |
|                     |           | 2700                          | 2.39                                         | 2.84 | 3.18 | 4.07 | 5.05 | 5.59 | 6.65  | 7.18  | 8.40  | 9.00  | 9.70  | 11.15 | 13.00 | 14.75 | 16.39 | 0.03               | 0.22                                                  | 0.31               | 0.38   |  |
|                     |           | 2800                          | 2.45                                         | 2.92 | 3.26 | 4.19 | 5.20 | 5.76 | 6.84  | 7.38  | 8.64  | 9.26  | 9.97  | 11.46 | 13.34 | 15.13 | 16.81 | 0.03               | 0.22                                                  | 0.32               | 0.39   |  |
|                     |           | 2900                          | 2.51                                         | 2.99 | 3.35 | 4.30 | 5.34 | 5.92 | 7.03  | 7.58  | 8.88  | 9.52  | 10.25 | 11.76 | 13.69 | 15.50 | 17.21 | 0.04               | 0.23                                                  | 0.33               | 0.40   |  |
|                     |           | 3000                          | 2.57                                         | 3.06 | 3.43 | 4.40 | 5.48 | 6.07 | 7.22  | 7.79  | 9.12  | 9.77  | 10.51 | 12.06 | 14.03 | 15.86 | 17.58 | 0.04               | 0.24                                                  | 0.34               | 0.42   |  |
|                     |           | 3100                          | 2.63                                         | 3.13 | 3.52 | 4.51 | 5.62 | 6.22 | 7.40  | 7.98  | 9.35  | 10.01 | 10.78 | 12.35 | 14.35 | 16.22 | 17.95 | 0.04               | 0.25                                                  | 0.35               | 0.43   |  |
|                     |           | 3200                          | 2.68                                         | 3.20 | 3.60 | 4.62 | 5.76 | 6.37 | 7.58  | 8.17  | 9.56  | 10.25 | 11.03 | 12.64 | 14.68 | 16.56 | 18.30 | 0.04               | 0.26                                                  | 0.36               | 0.45   |  |
|                     |           | 3300                          | 2.74                                         | 3.28 | 3.67 | 4.73 | 5.89 | 6.52 | 7.76  | 8.36  | 9.79  | 10.49 | 11.28 | 12.92 | 14.99 | 16.90 | 18.64 | 0.04               | 0.26                                                  | 0.37               | 0.46   |  |
|                     |           | 3400                          | 2.78                                         | 3.35 | 3.76 | 4.84 | 6.02 | 6.67 | 7.93  | 8.56  | 10.01 | 10.72 | 11.52 | 13.20 | 15.29 | 17.21 | 18.95 | 0.04               | 0.27                                                  | 0.39               | 0.47   |  |
|                     |           | 3500                          | 2.84                                         | 3.41 | 3.83 | 4.93 | 6.16 | 6.82 | 8.11  | 8.74  | 10.22 | 10.94 | 11.77 | 13.46 | 15.58 | 17.51 | 19.25 | 0.04               | 0.28                                                  | 0.40               | 0.49   |  |
|                     |           | 3600                          | 2.89                                         | 3.48 | 3.90 | 5.04 | 6.28 | 6.96 | 8.28  | 8.93  | 10.44 | 11.17 | 12.00 | 13.73 | 15.86 | 17.80 | 19.54 | 0.04               | 0.29                                                  | 0.41               | 0.50   |  |
|                     |           | 3700                          | 2.94                                         | 3.54 | 3.98 | 5.14 | 6.41 | 7.09 | 8.45  | 9.11  | 10.64 | 11.39 | 12.24 | 13.98 | 16.13 | 18.08 | 19.80 | 0.05               | 0.30                                                  | 0.42               | 0.52   |  |
|                     |           | 3800                          | 3.00                                         | 3.60 | 4.06 | 5.23 | 6.53 | 7.24 | 8.60  | 9.28  | 10.85 | 11.60 | 12.46 | 14.22 | 16.39 | 18.35 | 20.05 | 0.05               | 0.30                                                  | 0.43               | 0.53   |  |
|                     |           | 3900                          | 3.05                                         | 3.66 | 4.13 | 5.33 | 6.65 | 7.37 | 8.77  | 9.46  | 11.04 | 11.81 | 12.68 | 14.46 | 16.64 | 18.60 | 20.28 | 0.05               | 0.31                                                  | 0.44               | 0.54   |  |
|                     |           | 4000                          | 3.10                                         | 3.72 | 4.19 | 5.42 | 6.77 | 7.50 | 8.93  | 9.62  | 11.23 | 12.01 | 12.90 | 14.70 | 16.90 | 18.83 | 20.50 | 0.05               | 0.32                                                  | 0.45               | 0.56   |  |
|                     |           | 4100                          | 3.13                                         | 3.78 | 4.26 | 5.52 | 6.89 | 7.63 | 9.08  | 9.79  | 11.42 | 12.22 | 13.10 | 14.93 | 17.12 | 19.06 | 20.69 | 0.05               | 0.33                                                  | 0.47               | 0.57   |  |
|                     |           | 4200                          | 3.18                                         | 3.84 | 4.33 | 5.60 | 7.01 | 7.76 | 9.24  | 9.95  | 11.60 | 12.41 | 13.31 | 15.14 | 17.35 | 19.26 | 20.87 | 0.05               | 0.34                                                  | 0.48               | 0.58   |  |
|                     |           | 4300                          | 3.23                                         | 3.90 | 4.39 | 5.70 | 7.12 | 7.88 | 9.38  | 10.12 | 11.80 | 12.60 | 13.51 | 15.35 | 17.56 | 19.46 | 21.02 | 0.05               | 0.34                                                  | 0.49               | 0.60   |  |
|                     |           | 4400                          | 3.28                                         | 3.96 | 4.46 | 5.78 | 7.24 | 8.02 | 9.53  | 10.27 | 11.96 | 12.78 | 13.70 | 15.55 | 17.76 | 19.64 | 21.16 | 0.05               | 0.35                                                  | 0.50               | 0.61   |  |
|                     |           | 4500                          | 3.31                                         | 4.01 | 4.52 | 5.87 | 7.34 | 8.14 | 9.67  | 10.42 | 12.14 | 12.96 | 13.90 | 15.76 | 17.95 | 19.80 | 21.28 | 0.06               | 0.36                                                  | 0.51               | 0.63   |  |
|                     |           | 4600                          | 3.36                                         | 4.07 | 4.58 | 5.96 | 7.45 | 8.26 | 9.82  | 10.57 | 12.31 | 13.14 | 14.08 | 15.94 | 18.13 | 19.96 | 21.37 | 0.06               | 0.37                                                  | 0.52               | 0.64   |  |
|                     |           | 4700                          | 3.40                                         | 4.12 | 4.64 | 6.04 | 7.56 | 8.38 | 9.96  | 10.72 | 12.48 | 13.31 | 14.24 | 16.12 | 18.30 | 20.09 | 21.44 | 0.06               | 0.38                                                  | 0.53               | 0.65   |  |
|                     |           | 4800                          | 3.43                                         | 4.16 | 4.72 | 6.12 | 7.66 | 8.48 | 10.09 | 10.86 | 12.64 | 13.48 | 14.42 | 16.30 | 18.46 | 20.21 | 21.50 | 0.06               | 0.38                                                  | 0.54               | 0.67   |  |
|                     |           | 4900                          | 3.48                                         | 4.22 | 4.76 | 6.20 | 7.76 | 8.60 | 10.22 | 11.00 | 12.79 | 13.63 | 14.58 | 16.45 | 18.60 | 20.30 | 21.53 | 0.06               | 0.39                                                  | 0.56               | 0.68   |  |
|                     |           | 5000                          | 3.52                                         | 4.27 | 4.82 | 6.29 | 7.86 | 8.71 | 10.36 | 11.14 | 12.94 | 13.79 | 14.74 | 16.61 | 18.73 | 20.40 | 21.54 | 0.06               | 0.40                                                  | 0.57               | 0.70   |  |
|                     |           | 5100                          | 3.55                                         | 4.32 | 4.88 | 6.36 | 7.96 | 8.82 | 10.48 | 11.27 | 13.08 | 13.94 | 14.89 | 16.76 | 18.86 | 20.46 | 21.53 | 0.06               | 0.41                                                  | 0.58               | 0.71   |  |
|                     |           | 5200                          | 3.59                                         | 4.37 | 4.94 | 6.43 | 8.05 | 8.93 | 10.60 | 11.40 | 13.22 | 14.09 | 15.04 | 16.90 | 18.97 | 20.52 | 21.49 | 0.06               | 0.42                                                  | 0.59               | 0.72   |  |
|                     |           |                               |                                              |      |      |      |      |      |       |       |       |       |       |       |       |       |       |                    |                                                       |                    |        |  |

# POWER RATINGS

optibelt **SUPER XE-POWER PRO M=S PROFILE XPA**

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 2500$  mm



Table 62

| Pulleys             | $v$ [m/s] | $n_k$<br>[min <sup>-1</sup> ] | Datum diameter of small pulley $d_{dk}$ [mm] |      |       |       |       |       |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio $i$ |                    |                    |        |
|---------------------|-----------|-------------------------------|----------------------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------------------------------------|--------------------|--------------------|--------|
|                     |           |                               | 71                                           | 80   | 85    | 95    | 100   | 112   | 118   | 125   | 140   | 160   | 180   | 200   | 224   | 250   | 280   | 1.01<br>to<br>1.05                                    | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |
| Statically balanced | 5         | 700                           | 1.34                                         | 1.86 | 2.14  | 2.70  | 2.98  | 3.65  | 3.97  | 4.36  | 5.18  | 6.26  | 7.33  | 8.40  | 9.66  | 11.02 | 12.55 | 0.02                                                  | 0.13               | 0.19               | 0.23   |
|                     |           | 950                           | 1.72                                         | 2.40 | 2.77  | 3.53  | 3.89  | 4.78  | 5.22  | 5.72  | 6.82  | 8.24  | 9.66  | 11.06 | 12.72 | 14.50 | 16.51 | 0.03                                                  | 0.18               | 0.26               | 0.31   |
|                     |           | 1450                          | 2.41                                         | 3.41 | 3.97  | 5.06  | 5.62  | 6.92  | 7.57  | 8.32  | 9.91  | 12.00 | 14.05 | 16.07 | 18.44 | 20.95 | 23.77 | 0.04                                                  | 0.27               | 0.39               | 0.48   |
|                     |           | 2850                          | 3.97                                         | 5.82 | 6.84  | 8.84  | 9.84  | 12.18 | 13.33 | 14.65 | 17.42 | 20.99 | 24.37 | 27.58 | 31.15 | 34.66 | 38.21 | 0.08                                                  | 0.54               | 0.77               | 0.94   |
|                     |           | 100                           | 0.26                                         | 0.34 | 0.38  | 0.48  | 0.52  | 0.62  | 0.68  | 0.74  | 0.88  | 1.04  | 1.22  | 1.39  | 1.60  | 1.82  | 2.08  | 0.00                                                  | 0.02               | 0.03               | 0.03   |
|                     |           | 200                           | 0.47                                         | 0.62 | 0.72  | 0.89  | 0.97  | 1.18  | 1.28  | 1.40  | 1.66  | 1.99  | 2.33  | 2.65  | 3.05  | 3.47  | 3.96  | 0.01                                                  | 0.04               | 0.05               | 0.07   |
|                     |           | 300                           | 0.66                                         | 0.90 | 1.02  | 1.27  | 1.40  | 1.70  | 1.85  | 2.03  | 2.40  | 2.89  | 3.37  | 3.86  | 4.44  | 5.05  | 5.77  | 0.01                                                  | 0.06               | 0.08               | 0.10   |
|                     |           | 400                           | 0.84                                         | 1.15 | 1.32  | 1.64  | 1.81  | 2.21  | 2.40  | 2.63  | 3.12  | 3.76  | 4.40  | 5.03  | 5.78  | 6.60  | 7.52  | 0.01                                                  | 0.08               | 0.11               | 0.13   |
|                     |           | 500                           | 1.02                                         | 1.39 | 1.60  | 2.00  | 2.21  | 2.70  | 2.94  | 3.22  | 3.82  | 4.61  | 5.40  | 6.18  | 7.10  | 8.10  | 9.24  | 0.01                                                  | 0.09               | 0.13               | 0.16   |
|                     |           | 600                           | 1.19                                         | 1.63 | 1.87  | 2.35  | 2.59  | 3.18  | 3.46  | 3.79  | 4.50  | 5.45  | 6.37  | 7.30  | 8.39  | 9.56  | 10.91 | 0.02                                                  | 0.11               | 0.16               | 0.20   |
|                     |           | 700                           | 1.34                                         | 1.86 | 2.14  | 2.70  | 2.98  | 3.65  | 3.97  | 4.36  | 5.18  | 6.26  | 7.33  | 8.40  | 9.66  | 11.02 | 12.55 | 0.02                                                  | 0.13               | 0.19               | 0.23   |
|                     |           | 800                           | 1.50                                         | 2.08 | 2.40  | 3.04  | 3.35  | 4.10  | 4.48  | 4.91  | 5.84  | 7.07  | 8.28  | 9.48  | 10.90 | 12.42 | 14.16 | 0.02                                                  | 0.15               | 0.22               | 0.26   |
|                     |           | 900                           | 1.64                                         | 2.29 | 2.65  | 3.36  | 3.71  | 4.56  | 4.97  | 5.46  | 6.49  | 7.86  | 9.20  | 10.54 | 12.12 | 13.81 | 15.73 | 0.03                                                  | 0.17               | 0.24               | 0.30   |
|                     |           | 1000                          | 1.80                                         | 2.51 | 2.90  | 3.68  | 4.07  | 5.00  | 5.46  | 6.00  | 7.13  | 8.64  | 10.12 | 11.58 | 13.32 | 15.17 | 17.27 | 0.03                                                  | 0.19               | 0.27               | 0.33   |
|                     |           | 1100                          | 1.93                                         | 2.71 | 3.14  | 4.00  | 4.43  | 5.44  | 5.94  | 6.53  | 7.76  | 9.40  | 11.02 | 12.61 | 14.50 | 16.50 | 18.78 | 0.03                                                  | 0.21               | 0.30               | 0.36   |
|                     |           | 1200                          | 2.08                                         | 2.92 | 3.38  | 4.31  | 4.78  | 5.87  | 6.41  | 7.04  | 8.39  | 10.15 | 11.90 | 13.62 | 15.65 | 17.81 | 20.24 | 0.04                                                  | 0.23               | 0.32               | 0.40   |
|                     |           | 1300                          | 2.21                                         | 3.12 | 3.62  | 4.62  | 5.11  | 6.29  | 6.88  | 7.56  | 9.00  | 10.91 | 12.77 | 14.62 | 16.79 | 19.09 | 21.68 | 0.04                                                  | 0.25               | 0.35               | 0.43   |
|                     |           | 1400                          | 2.34                                         | 3.31 | 3.85  | 4.92  | 5.45  | 6.71  | 7.34  | 8.06  | 9.61  | 11.64 | 13.63 | 15.59 | 17.90 | 20.34 | 23.08 | 0.04                                                  | 0.27               | 0.38               | 0.46   |
|                     |           | 1500                          | 2.47                                         | 3.50 | 4.08  | 5.22  | 5.78  | 7.13  | 7.79  | 8.57  | 10.20 | 12.36 | 14.47 | 16.55 | 18.98 | 21.56 | 24.44 | 0.04                                                  | 0.28               | 0.40               | 0.49   |
|                     |           | 1600                          | 2.59                                         | 3.70 | 4.31  | 5.51  | 6.11  | 7.54  | 8.24  | 9.06  | 10.80 | 13.07 | 15.30 | 17.50 | 20.05 | 22.75 | 25.76 | 0.05                                                  | 0.30               | 0.43               | 0.53   |
|                     |           | 1700                          | 2.72                                         | 3.89 | 4.52  | 5.80  | 6.43  | 7.93  | 8.68  | 9.54  | 11.38 | 13.78 | 16.12 | 18.41 | 21.10 | 23.92 | 27.04 | 0.05                                                  | 0.32               | 0.46               | 0.56   |
|                     |           | 1800                          | 2.84                                         | 4.07 | 4.74  | 6.08  | 6.76  | 8.33  | 9.12  | 10.02 | 11.95 | 14.46 | 16.92 | 19.32 | 22.12 | 25.04 | 28.27 | 0.05                                                  | 0.34               | 0.48               | 0.59   |
|                     |           | 1900                          | 2.96                                         | 4.25 | 4.96  | 6.37  | 7.07  | 8.72  | 9.55  | 10.50 | 12.52 | 15.14 | 17.70 | 20.21 | 23.11 | 26.14 | 29.46 | 0.06                                                  | 0.36               | 0.51               | 0.63   |
|                     |           | 2000                          | 3.07                                         | 4.43 | 5.17  | 6.65  | 7.38  | 9.11  | 9.97  | 10.97 | 13.07 | 15.80 | 18.48 | 21.07 | 24.07 | 27.19 | 30.60 | 0.06                                                  | 0.38               | 0.54               | 0.66   |
|                     |           | 2100                          | 3.19                                         | 4.60 | 5.38  | 6.92  | 7.68  | 9.49  | 10.39 | 11.42 | 13.61 | 16.46 | 19.24 | 21.91 | 25.02 | 28.22 | 31.70 | 0.06                                                  | 0.40               | 0.56               | 0.69   |
|                     |           | 2200                          | 3.30                                         | 4.78 | 5.58  | 7.19  | 7.98  | 9.86  | 10.80 | 11.88 | 14.15 | 17.11 | 19.97 | 22.74 | 25.93 | 29.21 | 32.75 | 0.06                                                  | 0.42               | 0.59               | 0.73   |
|                     |           | 2300                          | 3.41                                         | 4.94 | 5.78  | 7.45  | 8.28  | 10.24 | 11.21 | 12.32 | 14.68 | 17.74 | 20.70 | 23.54 | 26.82 | 30.16 | 33.74 | 0.07                                                  | 0.44               | 0.62               | 0.76   |
|                     |           | 2400                          | 3.52                                         | 5.11 | 5.99  | 7.72  | 8.57  | 10.61 | 11.60 | 12.77 | 15.20 | 18.36 | 21.41 | 24.34 | 27.67 | 31.07 | 34.68 | 0.07                                                  | 0.45               | 0.65               | 0.79   |
|                     |           | 2500                          | 3.62                                         | 5.27 | 6.18  | 7.97  | 8.86  | 10.97 | 12.00 | 13.20 | 15.71 | 18.97 | 22.09 | 25.09 | 28.50 | 31.94 | 35.57 | 0.07                                                  | 0.47               | 0.67               | 0.82   |
|                     | 10        | 2600                          | 3.72                                         | 5.44 | 6.37  | 8.23  | 9.14  | 11.32 | 12.38 | 13.62 | 16.21 | 19.56 | 22.76 | 25.84 | 29.29 | 32.77 | 36.40 | 0.08                                                  | 0.49               | 0.70               | 0.86   |
|                     |           | 2700                          | 3.83                                         | 5.59 | 6.56  | 8.48  | 9.42  | 11.66 | 12.77 | 14.04 | 16.70 | 20.15 | 23.42 | 26.54 | 30.06 | 33.56 | 37.16 | 0.08                                                  | 0.51               | 0.73               | 0.89   |
|                     |           | 2800                          | 3.92                                         | 5.75 | 6.74  | 8.72  | 9.70  | 12.01 | 13.14 | 14.45 | 17.20 | 20.71 | 24.06 | 27.24 | 30.79 | 34.31 | 37.87 | 0.08                                                  | 0.53               | 0.75               | 0.92   |
|                     |           | 2900                          | 4.02                                         | 5.90 | 6.94  | 8.96  | 9.97  | 12.35 | 13.51 | 14.86 | 17.66 | 21.26 | 24.68 | 27.90 | 31.49 | 35.00 | 38.52 | 0.08                                                  | 0.55               | 0.78               | 0.96   |
|                     |           | 3000                          | 4.12                                         | 6.05 | 7.12  | 9.20  | 10.24 | 12.67 | 13.87 | 15.25 | 18.13 | 21.80 | 25.28 | 28.55 | 32.16 | 35.65 | 39.11 | 0.09                                                  | 0.57               | 0.81               | 0.99   |
|                     |           | 3100                          | 4.20                                         | 6.19 | 7.28  | 9.44  | 10.50 | 13.01 | 14.23 | 15.64 | 18.59 | 22.33 | 25.86 | 29.16 | 32.78 | 36.25 | 39.62 | 0.09                                                  | 0.59               | 0.83               | 1.02   |
|                     |           | 3200                          | 4.30                                         | 6.34 | 7.46  | 9.67  | 10.76 | 13.32 | 14.58 | 16.02 | 19.03 | 22.85 | 26.42 | 29.76 | 33.38 | 36.82 | 40.07 | 0.09                                                  | 0.61               | 0.86               | 1.05   |
|                     |           | 3300                          | 4.38                                         | 6.48 | 7.63  | 9.90  | 11.02 | 13.63 | 14.92 | 16.39 | 19.46 | 23.34 | 26.96 | 30.31 | 33.94 | 37.32 | 40.45 | 0.10                                                  | 0.63               | 0.89               | 1.09   |
|                     |           | 3400                          | 4.46                                         | 6.62 | 7.80  | 10.12 | 11.26 | 13.94 | 15.25 | 16.76 | 19.88 | 23.82 | 27.49 | 30.85 | 34.45 | 37.76 | 40.75 | 0.10                                                  | 0.64               | 0.91               | 1.12   |
|                     |           | 3500                          | 4.55                                         | 6.76 | 7.97  | 10.34 | 11.51 | 14.24 | 15.59 | 17.11 | 20.29 | 24.29 | 27.98 | 31.36 | 34.93 | 38.16 | 40.99 | 0.10                                                  | 0.66               | 0.94               | 1.15   |
|                     | 15        | 3600                          | 4.63                                         | 6.89 | 8.12  | 10.55 | 11.75 | 14.54 | 15.91 | 17.47 | 20.70 | 24.74 | 28.46 | 31.84 | 35.36 | 38.51 | 41.15 | 0.11                                                  | 0.68               | 0.97               | 1.19   |
|                     |           | 3700                          | 4.70                                         | 7.02 | 8.28  | 10.76 | 11.98 | 14.83 | 16.22 | 17.81 | 21.08 | 25.18 | 28.92 | 32.28 | 35.77 | 38.80 | 41.22 | 0.11                                                  | 0.70               | 0.99               | 1.22   |
|                     |           | 3800                          | 4.79                                         | 7.15 | 8.44  | 10.97 | 12.20 | 15.12 | 16.52 | 18.14 | 21.47 | 25.60 | 29.35 | 32.70 | 36.12 | 39.02 |       | 0.11                                                  | 0.72               | 1.02               | 1.25   |
|                     |           | 3900                          | 4.86                                         | 7.27 | 8.59  | 11.17 | 12.43 | 15.40 | 16.82 | 18.47 | 21.83 | 26.00 | 29.77 | 33.10 | 36.43 | 39.19 |       | 0.11                                                  | 0.74               | 1.05               | 1.29   |
|                     |           | 4000                          | 4.93                                         | 7.39 | 8.74  | 11.36 | 12.66 | 15.66 | 17.12 | 18.78 | 22.19 | 26.39 | 30.16 | 33.44 | 36.71 | 39.30 |       | 0.12                                                  | 0.76               | 1.08               | 1.32   |
|                     |           | 4100                          | 5.00                                         | 7.51 | 8.88  | 11.56 | 12.88 | 15.92 | 17.40 | 19.09 | 22.54 | 26.76 | 30.52 | 33.77 | 36.92 | 39.35 |       | 0.12                                                  | 0.78               | 1.10               | 1.35   |
|                     |           | 4200                          | 5.06                                         | 7.63 | 9.02  | 11.75 | 13.08 | 16.18 | 17.68 | 19.38 | 22.86 | 27.11 | 30.85 | 34.06 | 37.10 | 39.34 |       | 0.12                                                  | 0.80               | 1.13               | 1.38   |
|                     |           | 4300                          | 5.14                                         | 7.74 | 9.16  | 11.93 | 13.28 | 16.43 | 17.95 | 19.67 | 23.18 | 27.44 | 31.16 | 34.31 | 37.24 |       |       | 0.13                                                  | 0.81               | 1.16               | 1.42   |
|                     |           | 4400                          | 5.20                                         | 7.85 | 9.30  | 12.11 | 13.49 | 16.68 | 18.22 | 19.96 | 23.48 | 27.76 | 31.45 | 34.54 | 37.32 |       |       | 0.13                                                  | 0.83               | 1.18               | 1.45   |
|                     |           | 4500                          | 5.26                                         | 7.96 | 9.43  | 12.29 | 13.68 | 16.91 | 18.47 | 20.22 | 23.78 | 28.06 | 31.72 | 34.72 | 37.36 |       |       | 0.13                                                  | 0.85               | 1.21               | 1.48   |
|                     | 20        | 4600                          | 5.32                                         | 8.06 | 9.55  | 12.46 | 13.87 | 17.14 | 18.71 | 20.48 | 24.06 | 28.33 | 31.96 | 34.87 | 37.34 |       |       | 0.13                                                  | 0.87               | 1.24               | 1.52   |
|                     |           | 4700                          | 5.38                                         | 8.16 | 9.67  | 12.62 | 14.05 | 17.36 | 18.95 | 20.74 | 24.32 | 28.58 | 32.16 | 34.98 |       |       |       | 0.14                                                  | 0.89               | 1.26               | 1.55   |
|                     |           | 4800                          | 5.42                                         | 8.26 | 9.80  | 12.78 | 14.23 | 17.58 | 19.18 | 20.98 | 24.59 | 28.82 | 32.34 | 35.06 |       |       |       | 0.14                                                  | 0.91               | 1.29               | 1.58   |
|                     |           | 4900                          | 5.47                                         | 8.35 | 9.91  | 12.94 | 14.41 | 17.78 | 19.39 | 21.20 | 24.83 | 29.04 | 32.50 | 35.10 |       |       |       | 0.14                                                  | 0.93               | 1.32               | 1.62   |
|                     |           | 5000                          | 5.52                                         | 8.45 | 10.03 | 13.09 | 14.57 | 17.99 | 19.61 | 21.42 | 25.04 | 29.23 | 32.62 | 35.10 |       |       |       | 0.15                                                  | 0.95               | 1.34               | 1.65   |
|                     |           | 5100                          | 5.57                                         | 8.53 | 10.14 | 13.24 | 14.74 | 18.17 | 19.81 | 21.64 | 25.26 | 29.41 | 32.71 | 35.05 |       |       |       | 0.15                                                  | 0.97               | 1.37               | 1.68   |
|                     |           | 5200                          | 5.62                                         | 8.62 | 10.25 | 13.38 | 14.89 | 18.36 | 20.00 | 21.84 | 25.45 | 29.57 | 32.77 |       |       |       |       |                                                       |                    |                    |        |







# POWER RATINGS

optibelt **SUPER TX M=S** PROFILE ZX/X10

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 822$  mm



Table 65

| Pulleys             | v [m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Datum diameter of small pulley d <sub>dk</sub> [mm] |      |      |      |      |      |      |      |                                                                             | Additional power [kW]<br>per belt for speed ratio i |                                                 |                    |                    |        |
|---------------------|---------|----------------------------------------|-----------------------------------------------------|------|------|------|------|------|------|------|-----------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------|--------------------|--------------------|--------|
|                     |         |                                        | 40                                                  | 45   | 50   | 56   | 63   | 71   | 80   | 90   | 100                                                                         | 112                                                 | 1.01<br>to<br>1.05                              | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |
| Statically balanced | ②       | 700                                    | 0.22                                                | 0.27 | 0.32 | 0.37 | 0.44 | 0.51 | 0.59 | 0.67 | 0.76                                                                        | 0.85                                                | 0.00                                            | 0.02               | 0.03               | 0.04   |
|                     |         | 950                                    | 0.27                                                | 0.34 | 0.40 | 0.47 | 0.55 | 0.64 | 0.74 | 0.85 | 0.96                                                                        | 1.09                                                | 0.01                                            | 0.02               | 0.04               | 0.05   |
|                     |         | 1450                                   | 0.36                                                | 0.45 | 0.54 | 0.64 | 0.75 | 0.88 | 1.02 | 1.18 | 1.32                                                                        | 1.50                                                | 0.01                                            | 0.04               | 0.05               | 0.08   |
|                     |         | 2850                                   | 0.54                                                | 0.69 | 0.84 | 1.01 | 1.20 | 1.41 | 1.64 | 1.88 | 2.12                                                                        | 2.39                                                | 0.02                                            | 0.07               | 0.11               | 0.16   |
|                     |         | 100                                    | 0.05                                                | 0.06 | 0.07 | 0.08 | 0.09 | 0.10 | 0.12 | 0.14 | 0.15                                                                        | 0.17                                                | 0.00                                            | 0.00               | 0.00               | 0.01   |
|                     |         | 200                                    | 0.09                                                | 0.10 | 0.12 | 0.14 | 0.16 | 0.19 | 0.21 | 0.24 | 0.27                                                                        | 0.31                                                | 0.00                                            | 0.01               | 0.01               | 0.01   |
|                     |         | 300                                    | 0.12                                                | 0.14 | 0.16 | 0.19 | 0.22 | 0.26 | 0.30 | 0.34 | 0.38                                                                        | 0.43                                                | 0.00                                            | 0.01               | 0.01               | 0.02   |
|                     |         | 400                                    | 0.15                                                | 0.18 | 0.21 | 0.24 | 0.28 | 0.33 | 0.38 | 0.43 | 0.48                                                                        | 0.54                                                | 0.00                                            | 0.01               | 0.01               | 0.02   |
|                     |         | 500                                    | 0.17                                                | 0.21 | 0.25 | 0.29 | 0.34 | 0.39 | 0.45 | 0.51 | 0.58                                                                        | 0.65                                                | 0.00                                            | 0.01               | 0.02               | 0.03   |
|                     |         | 600                                    | 0.20                                                | 0.24 | 0.28 | 0.33 | 0.39 | 0.45 | 0.52 | 0.60 | 0.67                                                                        | 0.76                                                | 0.00                                            | 0.02               | 0.02               | 0.03   |
|                     |         | 700                                    | 0.22                                                | 0.27 | 0.32 | 0.37 | 0.44 | 0.51 | 0.59 | 0.67 | 0.76                                                                        | 0.85                                                | 0.00                                            | 0.02               | 0.03               | 0.04   |
|                     |         | 800                                    | 0.24                                                | 0.30 | 0.35 | 0.41 | 0.48 | 0.56 | 0.65 | 0.75 | 0.84                                                                        | 0.95                                                | 0.01                                            | 0.02               | 0.03               | 0.05   |
|                     |         | 900                                    | 0.26                                                | 0.32 | 0.38 | 0.45 | 0.53 | 0.62 | 0.71 | 0.82 | 0.92                                                                        | 1.04                                                | 0.01                                            | 0.02               | 0.03               | 0.05   |
|                     |         | 1000                                   | 0.28                                                | 0.35 | 0.41 | 0.49 | 0.57 | 0.67 | 0.77 | 0.89 | 1.00                                                                        | 1.13                                                | 0.01                                            | 0.03               | 0.04               | 0.06   |
|                     |         | 1100                                   | 0.30                                                | 0.37 | 0.44 | 0.52 | 0.62 | 0.72 | 0.83 | 0.95 | 1.07                                                                        | 1.21                                                | 0.01                                            | 0.03               | 0.04               | 0.06   |
|                     |         | 1200                                   | 0.32                                                | 0.40 | 0.47 | 0.56 | 0.66 | 0.77 | 0.89 | 1.02 | 1.15                                                                        | 1.30                                                | 0.01                                            | 0.03               | 0.04               | 0.07   |
|                     |         | 1300                                   | 0.34                                                | 0.42 | 0.50 | 0.59 | 0.70 | 0.81 | 0.94 | 1.08 | 1.22                                                                        | 1.38                                                | 0.01                                            | 0.03               | 0.05               | 0.07   |
|                     |         | 1400                                   | 0.36                                                | 0.44 | 0.52 | 0.62 | 0.74 | 0.86 | 1.00 | 1.14 | 1.29                                                                        | 1.46                                                | 0.01                                            | 0.04               | 0.05               | 0.08   |
|                     |         | 1500                                   | 0.37                                                | 0.46 | 0.55 | 0.65 | 0.77 | 0.90 | 1.05 | 1.20 | 1.36                                                                        | 1.53                                                | 0.01                                            | 0.04               | 0.06               | 0.09   |
|                     |         | 1600                                   | 0.39                                                | 0.48 | 0.58 | 0.69 | 0.81 | 0.95 | 1.10 | 1.26 | 1.42                                                                        | 1.61                                                | 0.01                                            | 0.04               | 0.06               | 0.09   |
|                     |         | 1700                                   | 0.40                                                | 0.50 | 0.60 | 0.71 | 0.85 | 0.99 | 1.15 | 1.32 | 1.49                                                                        | 1.68                                                | 0.01                                            | 0.04               | 0.06               | 0.10   |
|                     |         | 1800                                   | 0.42                                                | 0.52 | 0.62 | 0.74 | 0.88 | 1.03 | 1.20 | 1.38 | 1.55                                                                        | 1.75                                                | 0.01                                            | 0.05               | 0.07               | 0.10   |
|                     |         | 1900                                   | 0.43                                                | 0.54 | 0.65 | 0.77 | 0.91 | 1.07 | 1.24 | 1.43 | 1.61                                                                        | 1.82                                                | 0.01                                            | 0.05               | 0.07               | 0.11   |
|                     |         | 2000                                   | 0.44                                                | 0.56 | 0.67 | 0.80 | 0.95 | 1.11 | 1.29 | 1.48 | 1.67                                                                        | 1.89                                                | 0.01                                            | 0.05               | 0.07               | 0.11   |
|                     |         | 2100                                   | 0.46                                                | 0.57 | 0.69 | 0.83 | 0.98 | 1.15 | 1.34 | 1.53 | 1.73                                                                        | 1.95                                                | 0.01                                            | 0.05               | 0.08               | 0.12   |
|                     |         | 2200                                   | 0.47                                                | 0.59 | 0.71 | 0.85 | 1.01 | 1.19 | 1.38 | 1.59 | 1.78                                                                        | 2.01                                                | 0.01                                            | 0.06               | 0.08               | 0.13   |
|                     |         | 2300                                   | 0.48                                                | 0.61 | 0.73 | 0.88 | 1.04 | 1.22 | 1.42 | 1.63 | 1.84                                                                        | 2.08                                                | 0.02                                            | 0.06               | 0.08               | 0.13   |
|                     |         | 2400                                   | 0.49                                                | 0.62 | 0.75 | 0.90 | 1.07 | 1.26 | 1.46 | 1.68 | 1.89                                                                        | 2.14                                                | 0.02                                            | 0.06               | 0.09               | 0.14   |
|                     |         | 2500                                   | 0.50                                                | 0.64 | 0.77 | 0.93 | 1.10 | 1.29 | 1.50 | 1.73 | 1.95                                                                        | 2.19                                                | 0.02                                            | 0.06               | 0.09               | 0.14   |
|                     |         | 2600                                   | 0.51                                                | 0.65 | 0.79 | 0.95 | 1.13 | 1.33 | 1.54 | 1.78 | 2.00                                                                        | 2.25                                                | 0.02                                            | 0.07               | 0.10               | 0.15   |
|                     |         | 2700                                   | 0.52                                                | 0.67 | 0.81 | 0.97 | 1.16 | 1.36 | 1.58 | 1.82 | 2.05                                                                        | 2.31                                                | 0.02                                            | 0.07               | 0.10               | 0.15   |
|                     |         | 2800                                   | 0.53                                                | 0.68 | 0.83 | 0.99 | 1.18 | 1.39 | 1.62 | 1.86 | 2.09                                                                        | 2.36                                                | 0.02                                            | 0.07               | 0.10               | 0.16   |
|                     |         | 2900                                   | 0.54                                                | 0.70 | 0.84 | 1.02 | 1.21 | 1.43 | 1.66 | 1.91 | 2.14                                                                        | 2.41                                                | 0.02                                            | 0.07               | 0.11               | 0.17   |
|                     |         | 3000                                   | 0.55                                                | 0.71 | 0.86 | 1.04 | 1.24 | 1.46 | 1.70 | 1.95 | 2.19                                                                        | 2.46                                                | 0.02                                            | 0.08               | 0.11               | 0.17   |
|                     |         | 3100                                   | 0.56                                                | 0.72 | 0.88 | 1.06 | 1.26 | 1.49 | 1.73 | 1.99 | 2.23                                                                        | 2.51                                                | 0.02                                            | 0.08               | 0.11               | 0.18   |
|                     |         | 3200                                   | 0.57                                                | 0.74 | 0.89 | 1.08 | 1.29 | 1.52 | 1.77 | 2.03 | 2.28                                                                        | 2.56                                                | 0.02                                            | 0.08               | 0.12               | 0.18   |
|                     |         | 3300                                   | 0.58                                                | 0.75 | 0.91 | 1.10 | 1.31 | 1.55 | 1.80 | 2.07 | 2.32                                                                        | 2.60                                                | 0.02                                            | 0.08               | 0.12               | 0.19   |
|                     |         | 3400                                   | 0.59                                                | 0.76 | 0.93 | 1.12 | 1.34 | 1.57 | 1.83 | 2.10 | 2.36                                                                        | 2.65                                                | 0.02                                            | 0.09               | 0.13               | 0.19   |
|                     |         | 3500                                   | 0.60                                                | 0.77 | 0.94 | 1.14 | 1.36 | 1.60 | 1.86 | 2.14 | 2.40                                                                        | 2.69                                                | 0.02                                            | 0.09               | 0.13               | 0.20   |
|                     |         | 3600                                   | 0.60                                                | 0.78 | 0.95 | 1.16 | 1.38 | 1.63 | 1.89 | 2.17 | 2.44                                                                        | 2.73                                                | 0.02                                            | 0.09               | 0.13               | 0.21   |
|                     |         | 3700                                   | 0.61                                                | 0.79 | 0.97 | 1.17 | 1.40 | 1.66 | 1.93 | 2.21 | 2.47                                                                        | 2.77                                                | 0.03                                            | 0.09               | 0.14               | 0.21   |
|                     |         | 3800                                   | 0.62                                                | 0.80 | 0.98 | 1.19 | 1.43 | 1.68 | 1.95 | 2.24 | 2.51                                                                        | 2.81                                                | 0.03                                            | 0.10               | 0.14               | 0.22   |
|                     |         | 3900                                   | 0.62                                                | 0.81 | 1.00 | 1.21 | 1.45 | 1.71 | 1.98 | 2.27 | 2.54                                                                        | 2.84                                                | 0.03                                            | 0.10               | 0.14               | 0.22   |
|                     |         | 4000                                   | 0.63                                                | 0.82 | 1.01 | 1.23 | 1.47 | 1.73 | 2.01 | 2.30 | 2.58                                                                        | 2.88                                                | 0.03                                            | 0.10               | 0.15               | 0.23   |
|                     |         | 4100                                   | 0.64                                                | 0.83 | 1.02 | 1.24 | 1.49 | 1.75 | 2.04 | 2.33 | 2.61                                                                        | 2.91                                                | 0.03                                            | 0.10               | 0.15               | 0.23   |
|                     |         | 4200                                   | 0.64                                                | 0.84 | 1.03 | 1.26 | 1.51 | 1.78 | 2.07 | 2.36 | 2.64                                                                        | 2.94                                                | 0.03                                            | 0.11               | 0.15               | 0.24   |
|                     |         | 4300                                   | 0.65                                                | 0.85 | 1.05 | 1.27 | 1.53 | 1.80 | 2.09 | 2.39 | 2.67                                                                        | 2.97                                                | 0.03                                            | 0.11               | 0.16               | 0.25   |
|                     |         | 4400                                   | 0.65                                                | 0.86 | 1.06 | 1.29 | 1.54 | 1.82 | 2.12 | 2.42 | 2.70                                                                        | 3.00                                                | 0.03                                            | 0.11               | 0.16               | 0.25   |
|                     |         | 4500                                   | 0.66                                                | 0.87 | 1.07 | 1.30 | 1.56 | 1.84 | 2.14 | 2.44 | 2.72                                                                        | 3.02                                                | 0.03                                            | 0.12               | 0.17               | 0.26   |
|                     |         | 4600                                   | 0.66                                                | 0.87 | 1.08 | 1.32 | 1.58 | 1.86 | 2.16 | 2.47 | 2.75                                                                        | 3.05                                                | 0.03                                            | 0.12               | 0.17               | 0.26   |
|                     |         | 4700                                   | 0.67                                                | 0.88 | 1.09 | 1.33 | 1.60 | 1.88 | 2.18 | 2.49 | 2.77                                                                        | 3.07                                                | 0.03                                            | 0.12               | 0.17               | 0.27   |
|                     |         | 4800                                   | 0.67                                                | 0.89 | 1.10 | 1.34 | 1.61 | 1.90 | 2.21 | 2.52 | 2.80                                                                        | 3.09                                                | 0.03                                            | 0.12               | 0.18               | 0.27   |
|                     |         | 4900                                   | 0.68                                                | 0.90 | 1.11 | 1.36 | 1.63 | 1.92 | 2.23 | 2.54 | 2.82                                                                        | 3.11                                                | 0.03                                            | 0.13               | 0.18               | 0.28   |
|                     |         | 5000                                   | 0.68                                                | 0.90 | 1.12 | 1.37 | 1.64 | 1.94 | 2.25 | 2.56 | 2.84                                                                        | 3.13                                                | 0.03                                            | 0.13               | 0.18               | 0.29   |
|                     |         | 5100                                   | 0.68                                                | 0.91 | 1.13 | 1.38 | 1.66 | 1.96 | 2.27 | 2.58 | 2.86                                                                        | 3.14                                                | 0.03                                            | 0.13               | 0.19               | 0.29   |
|                     |         | 5200                                   | 0.69                                                | 0.92 | 1.14 | 1.39 | 1.67 | 1.97 | 2.28 | 2.60 | 2.87                                                                        | 3.16                                                | 0.04                                            | 0.13               | 0.19               | 0.30   |
|                     |         | 5300                                   | 0.69                                                | 0.92 | 1.15 | 1.40 | 1.69 | 1.99 | 2.30 | 2.61 | 2.89                                                                        | 3.17                                                | 0.04                                            | 0.14               | 0.20               | 0.30   |
|                     |         | 5400                                   | 0.69                                                | 0.93 | 1.15 | 1.41 | 1.70 | 2.00 | 2.32 | 2.63 | 2.91                                                                        | 3.18                                                | 0.04                                            | 0.14               | 0.20               | 0.31   |
|                     |         | 5500                                   | 0.69                                                | 0.93 | 1.16 | 1.42 | 1.71 | 2.02 | 2.33 | 2.65 | 2.92                                                                        | 3.19                                                | 0.04                                            | 0.14               | 0.20               | 0.31   |
|                     |         | 5600                                   | 0.70                                                | 0.94 | 1.17 | 1.43 | 1.72 | 2.03 | 2.35 | 2.66 | 2.93                                                                        | 3.20                                                | 0.04                                            | 0.14               | 0.21               | 0.32   |
|                     |         | 5800                                   | 0.70                                                | 0.95 | 1.18 | 1.45 | 1.75 | 2.06 | 2.38 | 2.69 | 2.95                                                                        | 3.21                                                | 0.04                                            | 0.15               | 0.21               | 0.33   |
|                     |         | 6000                                   | 0.70                                                | 0.96 | 1.20 | 1.47 | 1.77 | 2.08 | 2.40 | 2.71 | 2.97                                                                        | 3.21                                                | 0.04                                            | 0.15               | 0.22               | 0.34   |
|                     |         | 6200                                   | 0.71                                                | 0.96 | 1.21 | 1.49 | 1.79 | 2.10 | 2.42 | 2.72 | 2.97                                                                        | 3.20                                                | 0.04                                            | 0.16               | 0.23               | 0.35   |
|                     |         | 6400                                   | 0.71                                                | 0.97 | 1.22 | 1.50 | 1.81 | 2.12 | 2.44 | 2.74 | 2.98                                                                        | 3.18                                                | 0.04                                            | 0.16               | 0.24               | 0.37   |
|                     |         | 6600                                   | 0.71                                                | 0.98 | 1.23 | 1.51 | 1.82 | 2.14 | 2.45 | 2.74 | 2.97                                                                        | 3.16                                                | 0.04                                            | 0.17               | 0.24               | 0.38   |
|                     |         | 6800                                   | 0.71                                                | 0.98 | 1.24 | 1.52 | 1.83 | 2.15 | 2.46 | 2.75 | 2.96                                                                        | 3.13                                                | 0.05                                            | 0.17               | 0.25               | 0.39   |
|                     |         | 7000                                   | 0.71                                                | 0.98 | 1.24 | 1.53 | 1.84 | 2.16 | 2.47 | 2.74 | 2.95                                                                        | 3.09                                                | 0.05                                            | 0.18               | 0.26               | 0.40   |
|                     |         | 7200                                   | 0.71                                                | 0.98 | 1.25 | 1.54 | 1.85 | 2.17 | 2.47 | 2.74 | 2.93                                                                        | 3.04                                                | 0.05                                            | 0.18               | 0.27               | 0.41   |
|                     |         | 7400                                   | 0.70                                                | 0.99 | 1.25 | 1.55 | 1.86 | 2.17 | 2.47 | 2.73 | 2.90                                                                        | 2.99                                                | 0.05                                            | 0.19               | 0.27               | 0.42   |
|                     |         | 7600                                   | 0.70                                                | 0.99 | 1.25 | 1.55 | 1.86 | 2.18 | 2.47 | 2.71 | v > 30 m/s.<br>Please consult our<br>Application Engineering<br>Department. |                                                     | 0.05                                            | 0.19               | 0.28               | 0.43   |
|                     |         | 7800                                   | 0.70                                                | 0.99 | 1.26 | 1.55 | 1.87 | 2.18 | 2.46 | 2.69 |                                                                             |                                                     | 0.05                                            | 0.20               | 0.29               | 0.45   |
|                     |         | 8000                                   | 0.69                                                | 0.98 | 1.26 | 1.56 | 1.87 | 2.17 | 2.45 | 2.66 |                                                                             |                                                     | 0.05                                            | 0.20               | 0.30               | 0.46   |
|                     |         | 8200                                   | 0.68                                                | 0.98 | 1.25 | 1.56 | 1.87 | 2.17 | 2.43 | 2.66 |                                                                             |                                                     | 0.06                                            | 0.21               | 0.30               | 0.47   |
|                     |         | 8400                                   | 0.68                                                | 0.98 | 1.25 | 1.55 | 1.86 | 2.16 | 2.41 | 2.66 |                                                                             |                                                     | 0.06                                            | 0.21               | 0.31               | 0.48   |
|                     |         |                                        |                                                     |      |      |      |      |      |      |      |                                                                             |                                                     |                                                 |                    |                    |        |
|                     |         |                                        |                                                     | ②0   |      | ②5   |      | ③0   |      |      |                                                                             |                                                     | v [m/s]                                         |                    |                    |        |
|                     |         |                                        |                                                     |      |      |      |      |      |      |      |                                                                             |                                                     | Dynamically balanced (for details see DIN 2211) |                    |                    |        |
|                     |         |                                        |                                                     |      |      |      |      |      |      |      |                                                                             |                                                     | Pulleys                                         |                    |                    |        |

# POWER RATINGS

optibelt **SUPER TX M=S** PROFILE AX/X13

NOMINAL POWER RATING  $P_N$  [kW]

FOR  $\beta = 180^\circ$  AND  $L_d = 1730$  mm



Table 66

| Pulleys             | v [m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Datum diameter of small pulley d <sub>dk</sub> [mm] |      |      |      |      |      |      |      |      |      |      |      |      |      |      | Additional power [kW]<br>per belt for speed ratio i |                    |                    |        |
|---------------------|---------|----------------------------------------|-----------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------------------------------------------------|--------------------|--------------------|--------|
|                     |         |                                        | 63                                                  | 71   | 80   | 90   | 95   | 100  | 106  | 112  | 118  | 125  | 132  | 140  | 150  | 160  | 180  | 1.01<br>to<br>1.05                                  | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |
| Statically balanced |         | 700                                    | 0.67                                                | 0.86 | 1.07 | 1.29 | 1.40 | 1.51 | 1.64 | 1.77 | 1.90 | 2.04 | 2.19 | 2.35 | 2.56 | 2.76 | 3.15 | 0.02                                                | 0.08               | 0.12               | 0.18   |
|                     |         | 950                                    | 0.82                                                | 1.06 | 1.33 | 1.61 | 1.76 | 1.90 | 2.06 | 2.23 | 2.39 | 2.58 | 2.76 | 2.97 | 3.23 | 3.49 | 3.98 | 0.03                                                | 0.11               | 0.16               | 0.24   |
|                     |         | 1450                                   | 1.05                                                | 1.39 | 1.76 | 2.16 | 2.36 | 2.56 | 2.79 | 3.02 | 3.25 | 3.51 | 3.76 | 4.05 | 4.40 | 4.74 | 5.41 | 0.04                                                | 0.17               | 0.24               | 0.37   |
|                     |         | 2850                                   | 1.39                                                | 1.96 | 2.58 | 3.23 | 3.55 | 3.86 | 4.23 | 4.58 | 4.92 | 5.31 | 5.68 | 6.09 | 6.57 | 7.03 | 7.84 | 0.09                                                | 0.33               | 0.47               | 0.73   |
|                     |         | 100                                    | 0.16                                                | 0.19 | 0.23 | 0.28 | 0.30 | 0.32 | 0.34 | 0.37 | 0.39 | 0.42 | 0.45 | 0.48 | 0.52 | 0.56 | 0.63 | 0.00                                                | 0.01               | 0.02               | 0.03   |
|                     |         | 200                                    | 0.27                                                | 0.34 | 0.41 | 0.49 | 0.52 | 0.56 | 0.61 | 0.65 | 0.70 | 0.75 | 0.80 | 0.86 | 0.93 | 1.00 | 1.14 | 0.01                                                | 0.02               | 0.03               | 0.05   |
|                     |         | 300                                    | 0.37                                                | 0.46 | 0.56 | 0.67 | 0.73 | 0.78 | 0.84 | 0.91 | 0.97 | 1.04 | 1.11 | 1.20 | 1.30 | 1.40 | 1.59 | 0.01                                                | 0.03               | 0.05               | 0.08   |
|                     |         | 400                                    | 0.46                                                | 0.57 | 0.70 | 0.84 | 0.91 | 0.98 | 1.06 | 1.14 | 1.22 | 1.32 | 1.41 | 1.51 | 1.64 | 1.77 | 2.02 | 0.01                                                | 0.05               | 0.07               | 0.10   |
|                     |         | 500                                    | 0.54                                                | 0.68 | 0.83 | 1.00 | 1.08 | 1.17 | 1.27 | 1.36 | 1.46 | 1.57 | 1.68 | 1.81 | 1.96 | 2.11 | 2.41 | 0.02                                                | 0.06               | 0.08               | 0.13   |
|                     |         | 600                                    | 0.61                                                | 0.77 | 0.95 | 1.15 | 1.25 | 1.34 | 1.46 | 1.57 | 1.68 | 1.81 | 1.94 | 2.09 | 2.27 | 2.44 | 2.79 | 0.02                                                | 0.07               | 0.10               | 0.15   |
|                     |         | 700                                    | 0.67                                                | 0.86 | 1.07 | 1.29 | 1.40 | 1.51 | 1.64 | 1.77 | 1.90 | 2.04 | 2.19 | 2.35 | 2.56 | 2.76 | 3.15 | 0.02                                                | 0.08               | 0.12               | 0.18   |
|                     |         | 800                                    | 0.74                                                | 0.94 | 1.17 | 1.42 | 1.55 | 1.67 | 1.81 | 1.96 | 2.10 | 2.26 | 2.43 | 2.61 | 2.84 | 3.06 | 3.50 | 0.02                                                | 0.09               | 0.13               | 0.21   |
|                     |         | 900                                    | 0.79                                                | 1.02 | 1.28 | 1.55 | 1.69 | 1.82 | 1.98 | 2.14 | 2.30 | 2.48 | 2.65 | 2.86 | 3.10 | 3.35 | 3.82 | 0.03                                                | 0.10               | 0.15               | 0.23   |
|                     |         | 1000                                   | 0.85                                                | 1.10 | 1.37 | 1.67 | 1.82 | 1.97 | 2.14 | 2.31 | 2.48 | 2.68 | 2.87 | 3.09 | 3.36 | 3.62 | 4.14 | 0.03                                                | 0.11               | 0.17               | 0.26   |
|                     |         | 1100                                   | 0.90                                                | 1.17 | 1.47 | 1.79 | 1.95 | 2.11 | 2.30 | 2.48 | 2.66 | 2.88 | 3.08 | 3.32 | 3.61 | 3.89 | 4.44 | 0.03                                                | 0.13               | 0.18               | 0.28   |
|                     |         | 1200                                   | 0.94                                                | 1.23 | 1.56 | 1.90 | 2.07 | 2.24 | 2.44 | 2.64 | 2.84 | 3.06 | 3.29 | 3.54 | 3.84 | 4.15 | 4.73 | 0.04                                                | 0.14               | 0.20               | 0.31   |
|                     |         | 1300                                   | 0.99                                                | 1.30 | 1.64 | 2.01 | 2.19 | 2.37 | 2.59 | 2.80 | 3.01 | 3.25 | 3.48 | 3.75 | 4.07 | 4.39 | 5.01 | 0.04                                                | 0.15               | 0.22               | 0.33   |
|                     |         | 1400                                   | 1.03                                                | 1.36 | 1.72 | 2.11 | 2.31 | 2.50 | 2.72 | 2.95 | 3.17 | 3.42 | 3.67 | 3.95 | 4.29 | 4.63 | 5.28 | 0.04                                                | 0.16               | 0.23               | 0.36   |
|                     |         | 1500                                   | 1.07                                                | 1.42 | 1.80 | 2.21 | 2.42 | 2.62 | 2.86 | 3.09 | 3.32 | 3.59 | 3.85 | 4.14 | 4.50 | 4.86 | 5.53 | 0.05                                                | 0.17               | 0.25               | 0.38   |
|                     |         | 1600                                   | 1.10                                                | 1.47 | 1.87 | 2.31 | 2.52 | 2.74 | 2.99 | 3.23 | 3.47 | 3.75 | 4.03 | 4.33 | 4.71 | 5.07 | 5.78 | 0.05                                                | 0.18               | 0.26               | 0.41   |
|                     |         | 1700                                   | 1.14                                                | 1.52 | 1.95 | 2.40 | 2.63 | 2.85 | 3.11 | 3.37 | 3.62 | 3.91 | 4.19 | 4.51 | 4.90 | 5.28 | 6.01 | 0.05                                                | 0.20               | 0.28               | 0.44   |
|                     |         | 1800                                   | 1.17                                                | 1.57 | 2.01 | 2.49 | 2.73 | 2.96 | 3.23 | 3.50 | 3.76 | 4.06 | 4.36 | 4.69 | 5.09 | 5.48 | 6.23 | 0.05                                                | 0.21               | 0.30               | 0.46   |
|                     |         | 1900                                   | 1.20                                                | 1.62 | 2.08 | 2.58 | 2.82 | 3.06 | 3.34 | 3.62 | 3.89 | 4.21 | 4.51 | 4.85 | 5.27 | 5.67 | 6.44 | 0.06                                                | 0.22               | 0.31               | 0.49   |
|                     |         | 2000                                   | 1.23                                                | 1.66 | 2.14 | 2.66 | 2.91 | 3.16 | 3.45 | 3.74 | 4.02 | 4.35 | 4.66 | 5.01 | 5.44 | 5.86 | 6.64 | 0.06                                                | 0.23               | 0.33               | 0.51   |
|                     |         | 2100                                   | 1.25                                                | 1.71 | 2.20 | 2.74 | 3.00 | 3.26 | 3.56 | 3.86 | 4.15 | 4.48 | 4.80 | 5.17 | 5.60 | 6.03 | 6.83 | 0.06                                                | 0.24               | 0.35               | 0.54   |
|                     |         | 2200                                   | 1.28                                                | 1.75 | 2.26 | 2.81 | 3.08 | 3.35 | 3.66 | 3.97 | 4.27 | 4.61 | 4.94 | 5.31 | 5.76 | 6.19 | 7.00 | 0.07                                                | 0.25               | 0.36               | 0.56   |
|                     |         | 2300                                   | 1.30                                                | 1.78 | 2.32 | 2.89 | 3.16 | 3.44 | 3.76 | 4.07 | 4.38 | 4.73 | 5.07 | 5.45 | 5.91 | 6.35 | 7.16 | 0.07                                                | 0.26               | 0.38               | 0.59   |
|                     |         | 2400                                   | 1.32                                                | 1.82 | 2.37 | 2.96 | 3.24 | 3.52 | 3.85 | 4.18 | 4.49 | 4.85 | 5.20 | 5.58 | 6.05 | 6.49 | 7.31 | 0.07                                                | 0.28               | 0.40               | 0.62   |
|                     |         | 2500                                   | 1.34                                                | 1.85 | 2.42 | 3.02 | 3.32 | 3.60 | 3.94 | 4.27 | 4.59 | 4.96 | 5.32 | 5.71 | 6.18 | 6.63 | 7.45 | 0.08                                                | 0.29               | 0.41               | 0.64   |
|                     |         | 2600                                   | 1.35                                                | 1.89 | 2.47 | 3.09 | 3.39 | 3.68 | 4.03 | 4.37 | 4.69 | 5.07 | 5.43 | 5.83 | 6.30 | 6.75 | 7.58 | 0.08                                                | 0.30               | 0.43               | 0.67   |
|                     |         | 2700                                   | 1.37                                                | 1.92 | 2.51 | 3.15 | 3.46 | 3.76 | 4.11 | 4.45 | 4.79 | 5.17 | 5.53 | 5.94 | 6.42 | 6.87 | 7.69 | 0.08                                                | 0.31               | 0.45               | 0.69   |
|                     |         | 2800                                   | 1.38                                                | 1.94 | 2.55 | 3.21 | 3.52 | 3.83 | 4.19 | 4.54 | 4.88 | 5.26 | 5.63 | 6.04 | 6.52 | 6.98 | 7.79 | 0.09                                                | 0.32               | 0.46               | 0.72   |
|                     |         | 2900                                   | 1.39                                                | 1.97 | 2.60 | 3.26 | 3.58 | 3.90 | 4.26 | 4.62 | 4.96 | 5.35 | 5.73 | 6.14 | 6.62 | 7.07 | 7.88 | 0.09                                                | 0.33               | 0.48               | 0.74   |
|                     |         | 3000                                   | 1.40                                                | 2.00 | 2.63 | 3.31 | 3.64 | 3.96 | 4.33 | 4.69 | 5.04 | 5.44 | 5.82 | 6.23 | 6.71 | 7.16 | 7.95 | 0.09                                                | 0.34               | 0.50               | 0.77   |
|                     |         | 3100                                   | 1.41                                                | 2.02 | 2.67 | 3.36 | 3.70 | 4.02 | 4.40 | 4.77 | 5.12 | 5.52 | 5.90 | 6.31 | 6.79 | 7.24 | 8.01 | 0.09                                                | 0.36               | 0.51               | 0.80   |
|                     |         | 3200                                   | 1.42                                                | 2.04 | 2.70 | 3.41 | 3.75 | 4.08 | 4.46 | 4.83 | 5.19 | 5.59 | 5.97 | 6.38 | 6.86 | 7.30 | 8.06 | 0.10                                                | 0.37               | 0.53               | 0.82   |
|                     |         | 3300                                   | 1.43                                                | 2.06 | 2.74 | 3.45 | 3.80 | 4.13 | 4.52 | 4.89 | 5.25 | 5.66 | 6.04 | 6.45 | 6.93 | 7.36 | 8.09 | 0.10                                                | 0.38               | 0.55               | 0.85   |
|                     |         | 3400                                   | 1.43                                                | 2.07 | 2.76 | 3.49 | 3.84 | 4.18 | 4.57 | 4.95 | 5.31 | 5.72 | 6.10 | 6.51 | 6.98 | 7.41 | 8.11 | 0.10                                                | 0.39               | 0.56               | 0.87   |
|                     |         | 3500                                   | 1.43                                                | 2.09 | 2.79 | 3.53 | 3.88 | 4.23 | 4.62 | 5.00 | 5.37 | 5.77 | 6.15 | 6.56 | 7.03 | 7.44 | 8.11 | 0.11                                                | 0.40               | 0.58               | 0.90   |
|                     |         | 3600                                   | 1.44                                                | 2.10 | 2.82 | 3.57 | 3.92 | 4.27 | 4.67 | 5.05 | 5.42 | 5.82 | 6.20 | 6.61 | 7.06 | 7.47 |      | 0.11                                                | 0.41               | 0.60               | 0.92   |
| 3700                | 1.44    | 2.11                                   | 2.84                                                | 3.60 | 3.96 | 4.31 | 4.71 | 5.10 | 5.46 | 5.87 | 6.24 | 6.64 | 7.09 | 7.48 |      | 0.11 | 0.42 | 0.61                                                | 0.95               |                    |        |
| 3800                | 1.43    | 2.12                                   | 2.86                                                | 3.63 | 3.99 | 4.34 | 4.75 | 5.14 | 5.50 | 5.90 | 6.28 | 6.67 | 7.11 | 7.48 |      | 0.12 | 0.44 | 0.63                                                | 0.98               |                    |        |
| 3900                | 1.43    | 2.13                                   | 2.88                                                | 3.65 | 4.02 | 4.38 | 4.78 | 5.17 | 5.53 | 5.93 | 6.30 | 6.69 | 7.11 | 7.47 |      | 0.12 | 0.45 | 0.65                                                | 1.00               |                    |        |
| 4000                | 1.43    | 2.14                                   | 2.89                                                | 3.68 | 4.05 | 4.40 | 4.81 | 5.20 | 5.56 | 5.96 | 6.32 | 6.70 | 7.11 | 7.45 |      | 0.12 | 0.46 | 0.66                                                | 1.03               |                    |        |
| 4100                | 1.42    | 2.14                                   | 2.91                                                | 3.70 | 4.07 | 4.43 | 4.84 | 5.22 | 5.59 | 5.98 | 6.34 | 6.70 | 7.10 |      |      | 0.12 | 0.47 | 0.68                                                | 1.05               |                    |        |
| 4200                | 1.42    | 2.14                                   | 2.92                                                | 3.72 | 4.09 | 4.45 | 4.86 | 5.24 | 5.60 | 5.99 | 6.34 | 6.70 | 7.07 |      |      | 0.13 | 0.48 | 0.70                                                | 1.08               |                    |        |
| 4300                | 1.41    | 2.15                                   | 2.93                                                | 3.73 | 4.11 | 4.47 | 4.88 | 5.26 | 5.61 | 6.00 | 6.34 | 6.68 | 7.04 |      |      | 0.13 | 0.49 | 0.71                                                | 1.10               |                    |        |
| 4400                | 1.40    | 2.14                                   | 2.93                                                | 3.74 | 4.12 | 4.48 | 4.89 | 5.27 | 5.62 | 6.00 | 6.33 | 6.66 | 7.00 |      |      | 0.13 | 0.51 | 0.73                                                | 1.13               |                    |        |
| 4500                | 1.39    | 2.14                                   | 2.94                                                | 3.75 | 4.13 | 4.49 | 4.90 | 5.27 | 5.62 | 5.99 | 6.31 | 6.63 | 6.94 |      |      | 0.14 | 0.52 | 0.74                                                | 1.15               |                    |        |
| 4600                | 1.37    | 2.14                                   | 2.94                                                | 3.76 | 4.14 | 4.49 | 4.90 | 5.27 | 5.61 | 5.97 | 6.29 |      |      |      |      | 0.14 | 0.53 | 0.76                                                | 1.18               |                    |        |
| 4700                | 1.36    | 2.13                                   | 2.94                                                | 3.76 | 4.14 | 4.50 | 4.90 | 5.27 | 5.60 | 5.95 | 6.25 |      |      |      |      | 0.14 | 0.54 | 0.78                                                | 1.21               |                    |        |
| 4800                | 1.34    | 2.12                                   | 2.94                                                | 3.76 | 4.14 | 4.49 | 4.89 | 5.26 | 5.59 | 5.92 | 6.21 |      |      |      |      | 0.15 | 0.55 | 0.79                                                | 1.23               |                    |        |
| 4900                | 1.33    | 2.11                                   | 2.93                                                | 3.76 | 4.13 | 4.49 | 4.88 | 5.24 | 5.56 | 5.89 | 6.16 |      |      |      |      | 0.15 | 0.56 | 0.81                                                | 1.26               |                    |        |
| 5000                | 1.31    | 2.10                                   | 2.92                                                | 3.75 | 4.13 | 4.48 | 4.87 | 5.22 | 5.53 | 5.85 | 6.11 |      |      |      |      | 0.15 | 0.57 | 0.83                                                | 1.28               |                    |        |
| 5100                | 1.29    | 2.09                                   | 2.91                                                | 3.74 | 4.11 | 4.46 | 4.85 | 5.19 | 5.50 |      |      |      |      |      |      | 0.16 | 0.59 | 0.84                                                | 1.31               |                    |        |
| 5200                | 1.27    | 2.07                                   | 2.90                                                | 3.73 | 4.10 | 4.45 | 4.82 | 5.16 | 5.46 |      |      |      |      |      |      | 0.16 | 0.60 | 0.86                                                | 1.33               |                    |        |
| 5300                | 1.25    | 2.05                                   | 2.89                                                | 3.71 | 4.08 | 4.42 | 4.79 | 5.12 | 5.41 |      |      |      |      |      |      | 0.16 | 0.61 | 0.88                                                | 1.36               |                    |        |
| 5400                | 1.22    | 2.04                                   | 2.87                                                | 3.69 | 4.06 | 4.40 | 4.76 | 5.08 | 5.35 |      |      |      |      |      |      | 0.16 | 0.62 | 0.89                                                | 1.39               |                    |        |
| 5500                | 1.20    | 2.01                                   | 2.85                                                | 3.67 | 4.03 | 4.37 | 4.72 | 5.03 | 5.29 |      |      |      |      |      |      | 0.17 | 0.63 | 0.91                                                | 1.41               |                    |        |
| 5600                | 1.17    | 1.99                                   | 2.83                                                | 3.64 | 4.00 | 4.33 | 4.68 |      |      |      |      |      |      |      |      | 0.17 | 0.64 | 0.93                                                | 1.44               |                    |        |
| 5700                | 1.14    | 1.97                                   | 2.80                                                | 3.61 | 3.97 | 4.29 | 4.63 |      |      |      |      |      |      |      |      | 0.17 | 0.65 | 0.94                                                | 1.46               |                    |        |
| 5800                | 1.11    | 1.94                                   | 2.78                                                | 3.58 | 3.93 | 4.25 | 4.58 |      |      |      |      |      |      |      |      | 0.18 | 0.67 | 0.96                                                | 1.49               |                    |        |
| 5900                | 1.08    | 1.91                                   | 2.75                                                | 3.55 | 3.89 | 4.20 | 4.52 |      |      |      |      |      |      |      |      | 0.18 | 0.68 | 0.98                                                | 1.51               |                    |        |
| 6000                | 1.05    | 1.88                                   | 2.72                                                | 3.51 | 3.85 | 4.15 | 4.45 |      |      |      |      |      |      |      |      |      |      |                                                     |                    |                    |        |



**FOR  $\beta = 180^\circ$  AND  $L_d = 2280$  mm**



### Table 67

| Pulleys             | v [m/s] | n <sub>k</sub><br>[min <sup>-1</sup> ] | Datum diameter of small pulley d <sub>dk</sub> [mm]                         |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       | Additional power [kW]<br>per belt for speed ratio i |                    |                    |        |
|---------------------|---------|----------------------------------------|-----------------------------------------------------------------------------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------------------------------------|--------------------|--------------------|--------|
|                     |         |                                        | 90                                                                          | 100  | 106  | 112  | 118  | 125  | 132   | 140   | 160   | 180   | 190   | 200   | 212   | 224   | 250   | 280   | 1.01<br>to<br>1.05                                  | 1.06<br>to<br>1.26 | 1.27<br>to<br>1.57 | > 1.57 |
|                     |         |                                        |                                                                             |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |                                                     |                    |                    |        |
| Statically balanced | 5       | 700                                    | 1.70                                                                        | 2.01 | 2.20 | 2.38 | 2.56 | 2.77 | 2.98  | 3.21  | 3.79  | 4.35  | 4.63  | 4.90  | 5.23  | 5.55  | 6.22  | 6.98  | 0.03                                                | 0.12               | 0.18               | 0.28   |
|                     |         | 950                                    | 2.12                                                                        | 2.52 | 2.76 | 2.99 | 3.23 | 3.49 | 3.76  | 4.06  | 4.79  | 5.51  | 5.86  | 6.20  | 6.61  | 7.01  | 7.85  | 8.78  | 0.04                                                | 0.17               | 0.24               | 0.37   |
|                     |         | 1450                                   | 2.82                                                                        | 3.39 | 3.72 | 4.05 | 4.37 | 4.75 | 5.11  | 5.53  | 6.53  | 7.49  | 7.95  | 8.40  | 8.94  | 9.45  | 10.52 | 11.66 | 0.07                                                | 0.26               | 0.37               | 0.57   |
|                     |         | 2850                                   | 4.16                                                                        | 5.06 | 5.59 | 6.10 | 6.60 | 7.16 | 7.70  | 8.30  | 9.67  | 10.86 | 11.39 | 11.87 | 12.39 | 12.82 | 13.51 | 13.82 | 0.13                                                | 0.50               | 0.72               | 1.12   |
|                     |         | 100                                    | 0.37                                                                        | 0.42 | 0.46 | 0.49 | 0.53 | 0.57 | 0.61  | 0.65  | 0.76  | 0.87  | 0.93  | 0.98  | 1.04  | 1.11  | 1.24  | 1.40  | 0.00                                                | 0.02               | 0.03               | 0.04   |
|                     |         | 200                                    | 0.64                                                                        | 0.75 | 0.82 | 0.88 | 0.94 | 1.01 | 1.09  | 1.17  | 1.37  | 1.57  | 1.67  | 1.76  | 1.88  | 1.99  | 2.24  | 2.52  | 0.01                                                | 0.04               | 0.05               | 0.08   |
|                     |         | 300                                    | 0.89                                                                        | 1.04 | 1.13 | 1.22 | 1.31 | 1.41 | 1.52  | 1.63  | 1.92  | 2.20  | 2.34  | 2.47  | 2.63  | 2.80  | 3.14  | 3.53  | 0.01                                                | 0.05               | 0.08               | 0.12   |
|                     |         | 400                                    | 1.11                                                                        | 1.31 | 1.42 | 1.54 | 1.65 | 1.78 | 1.91  | 2.06  | 2.43  | 2.78  | 2.96  | 3.13  | 3.34  | 3.54  | 3.98  | 4.47  | 0.02                                                | 0.07               | 0.10               | 0.16   |
|                     |         | 500                                    | 1.32                                                                        | 1.56 | 1.70 | 1.83 | 1.97 | 2.13 | 2.29  | 2.47  | 2.90  | 3.33  | 3.54  | 3.75  | 4.00  | 4.24  | 4.77  | 5.36  | 0.02                                                | 0.09               | 0.13               | 0.20   |
|                     |         | 600                                    | 1.51                                                                        | 1.79 | 1.95 | 2.11 | 2.27 | 2.46 | 2.64  | 2.85  | 3.36  | 3.85  | 4.10  | 4.34  | 4.63  | 4.91  | 5.51  | 6.19  | 0.03                                                | 0.11               | 0.15               | 0.24   |
|                     |         | 700                                    | 1.70                                                                        | 2.01 | 2.20 | 2.38 | 2.56 | 2.77 | 2.98  | 3.21  | 3.79  | 4.35  | 4.63  | 4.90  | 5.23  | 5.55  | 6.22  | 6.98  | 0.03                                                | 0.12               | 0.18               | 0.28   |
|                     |         | 800                                    | 1.87                                                                        | 2.22 | 2.43 | 2.63 | 2.84 | 3.07 | 3.30  | 3.56  | 4.20  | 4.83  | 5.14  | 5.44  | 5.80  | 6.15  | 6.90  | 7.73  | 0.04                                                | 0.14               | 0.20               | 0.32   |
|                     |         | 900                                    | 2.04                                                                        | 2.42 | 2.65 | 2.87 | 3.10 | 3.36 | 3.61  | 3.90  | 4.60  | 5.29  | 5.62  | 5.95  | 6.34  | 6.73  | 7.54  | 8.44  | 0.04                                                | 0.16               | 0.23               | 0.35   |
|                     |         | 1000                                   | 2.19                                                                        | 2.61 | 2.86 | 3.11 | 3.35 | 3.63 | 3.91  | 4.22  | 4.98  | 5.72  | 6.09  | 6.44  | 6.86  | 7.28  | 8.15  | 9.12  | 0.05                                                | 0.18               | 0.25               | 0.39   |
|                     |         | 1100                                   | 2.35                                                                        | 2.80 | 3.07 | 3.33 | 3.59 | 3.89 | 4.19  | 4.53  | 5.35  | 6.14  | 6.53  | 6.91  | 7.36  | 7.80  | 8.73  | 9.75  | 0.05                                                | 0.19               | 0.28               | 0.43   |
|                     |         | 1200                                   | 2.49                                                                        | 2.98 | 3.26 | 3.55 | 3.83 | 4.15 | 4.47  | 4.83  | 5.70  | 6.55  | 6.96  | 7.36  | 7.84  | 8.31  | 9.28  | 10.34 | 0.06                                                | 0.21               | 0.31               | 0.47   |
|                     |         | 1300                                   | 2.63                                                                        | 3.15 | 3.45 | 3.75 | 4.05 | 4.39 | 4.73  | 5.11  | 6.04  | 6.94  | 7.37  | 7.80  | 8.29  | 8.78  | 9.80  | 10.90 | 0.06                                                | 0.23               | 0.33               | 0.51   |
|                     |         | 1400                                   | 2.76                                                                        | 3.31 | 3.63 | 3.95 | 4.27 | 4.63 | 4.99  | 5.39  | 6.37  | 7.31  | 7.76  | 8.21  | 8.73  | 9.23  | 10.29 | 11.42 | 0.07                                                | 0.25               | 0.36               | 0.55   |
|                     |         | 1500                                   | 2.89                                                                        | 3.47 | 3.81 | 4.14 | 4.48 | 4.86 | 5.23  | 5.66  | 6.68  | 7.66  | 8.14  | 8.60  | 9.14  | 9.66  | 10.74 | 11.90 | 0.07                                                | 0.26               | 0.38               | 0.59   |
|                     |         | 1600                                   | 3.01                                                                        | 3.62 | 3.98 | 4.33 | 4.68 | 5.08 | 5.47  | 5.91  | 6.98  | 8.00  | 8.49  | 8.97  | 9.53  | 10.07 | 11.17 | 12.33 | 0.07                                                | 0.28               | 0.41               | 0.63   |
|                     |         | 1700                                   | 3.13                                                                        | 3.76 | 4.14 | 4.51 | 4.87 | 5.29 | 5.70  | 6.16  | 7.27  | 8.32  | 8.83  | 9.32  | 9.89  | 10.44 | 11.56 | 12.73 | 0.08                                                | 0.30               | 0.43               | 0.67   |
|                     |         | 1800                                   | 3.24                                                                        | 3.90 | 4.30 | 4.68 | 5.06 | 5.49 | 5.92  | 6.40  | 7.55  | 8.63  | 9.15  | 9.65  | 10.24 | 10.80 | 11.92 | 13.08 | 0.08                                                | 0.32               | 0.46               | 0.71   |
|                     |         | 1900                                   | 3.35                                                                        | 4.04 | 4.45 | 4.85 | 5.24 | 5.69 | 6.13  | 6.62  | 7.81  | 8.92  | 9.45  | 9.95  | 10.56 | 11.12 | 12.25 | 13.38 | 0.09                                                | 0.33               | 0.48               | 0.75   |
|                     |         | 2000                                   | 3.45                                                                        | 4.17 | 4.59 | 5.00 | 5.41 | 5.88 | 6.33  | 6.84  | 8.06  | 9.20  | 9.74  | 10.26 | 10.86 | 11.42 | 12.54 | 13.64 | 0.09                                                | 0.35               | 0.51               | 0.79   |
|                     |         | 2100                                   | 3.55                                                                        | 4.29 | 4.73 | 5.16 | 5.58 | 6.06 | 6.53  | 7.05  | 8.30  | 9.46  | 10.01 | 10.53 | 11.13 | 11.69 | 12.80 | 13.86 | 0.10                                                | 0.37               | 0.53               | 0.83   |
|                     |         | 2200                                   | 3.64                                                                        | 4.41 | 4.86 | 5.30 | 5.73 | 6.23 | 6.71  | 7.25  | 8.52  | 9.70  | 10.25 | 10.78 | 11.38 | 11.94 | 13.02 | 14.02 | 0.10                                                | 0.39               | 0.56               | 0.87   |
|                     |         | 2300                                   | 3.73                                                                        | 4.53 | 4.99 | 5.44 | 5.89 | 6.39 | 6.89  | 7.44  | 8.74  | 9.93  | 10.48 | 11.01 | 11.61 | 12.16 | 13.20 | 14.14 | 0.11                                                | 0.41               | 0.58               | 0.91   |
|                     |         | 2400                                   | 3.82                                                                        | 4.63 | 5.11 | 5.58 | 6.03 | 6.55 | 7.06  | 7.62  | 8.94  | 10.14 | 10.69 | 11.22 | 11.81 | 12.35 | 13.35 | 14.20 | 0.11                                                | 0.42               | 0.61               | 0.95   |
|                     |         | 2500                                   | 3.90                                                                        | 4.74 | 5.23 | 5.70 | 6.17 | 6.70 | 7.21  | 7.78  | 9.12  | 10.33 | 10.88 | 11.40 | 11.98 | 12.51 | 13.46 | 14.21 | 0.12                                                | 0.44               | 0.64               | 0.99   |
|                     |         | 2600                                   | 3.98                                                                        | 4.84 | 5.34 | 5.83 | 6.30 | 6.84 | 7.37  | 7.94  | 9.30  | 10.51 | 11.06 | 11.57 | 12.13 | 12.64 | 13.52 |       | 0.12                                                | 0.46               | 0.66               | 1.02   |
|                     |         | 2700                                   | 4.05                                                                        | 4.93 | 5.44 | 5.94 | 6.43 | 6.98 | 7.51  | 8.09  | 9.46  | 10.66 | 11.21 | 11.71 | 12.25 | 12.73 | 13.55 |       | 0.13                                                | 0.48               | 0.69               | 1.06   |
|                     |         | 2800                                   | 4.12                                                                        | 5.02 | 5.54 | 6.05 | 6.54 | 7.10 | 7.64  | 8.23  | 9.60  | 10.80 | 11.34 | 11.82 | 12.35 | 12.80 | 13.53 |       | 0.13                                                | 0.49               | 0.71               | 1.10   |
|                     |         | 2900                                   | 4.19                                                                        | 5.11 | 5.64 | 6.15 | 6.65 | 7.22 | 7.77  | 8.36  | 9.73  | 10.92 | 11.44 | 11.92 | 12.42 | 12.84 | 13.47 |       | 0.14                                                | 0.51               | 0.74               | 1.14   |
|                     |         | 3000                                   | 4.25                                                                        | 5.19 | 5.73 | 6.25 | 6.76 | 7.33 | 7.88  | 8.48  | 9.85  | 11.03 | 11.53 | 11.99 | 12.45 | 12.84 | 13.37 |       | 0.14                                                | 0.53               | 0.76               | 1.18   |
|                     |         | 3100                                   | 4.31                                                                        | 5.26 | 5.81 | 6.34 | 6.86 | 7.43 | 7.99  | 8.59  | 9.96  | 11.11 | 11.60 | 12.03 |       |       |       |       | 0.15                                                | 0.55               | 0.79               | 1.22   |
|                     |         | 3200                                   | 4.36                                                                        | 5.33 | 5.89 | 6.43 | 6.95 | 7.53 | 8.09  | 8.69  | 10.05 | 11.17 | 11.64 | 12.05 |       |       |       |       | 0.15                                                | 0.56               | 0.81               | 1.26   |
|                     |         | 3300                                   | 4.41                                                                        | 5.39 | 5.96 | 6.50 | 7.03 | 7.62 | 8.18  | 8.78  | 10.13 | 11.22 | 11.66 | 12.04 |       |       |       |       | 0.15                                                | 0.58               | 0.84               | 1.30   |
|                     |         | 3400                                   | 4.46                                                                        | 5.45 | 6.03 | 6.58 | 7.11 | 7.70 | 8.26  | 8.86  | 10.19 | 11.24 | 11.66 | 12.00 |       |       |       |       | 0.16                                                | 0.60               | 0.86               | 1.34   |
|                     |         | 3500                                   | 4.50                                                                        | 5.51 | 6.09 | 6.64 | 7.17 | 7.77 | 8.33  | 8.93  | 10.23 | 11.24 | 11.63 | 11.94 |       |       |       |       | 0.16                                                | 0.62               | 0.89               | 1.38   |
|                     |         | 3600                                   | 4.54                                                                        | 5.56 | 6.14 | 6.70 | 7.24 | 7.83 | 8.39  | 8.98  | 10.26 | 11.23 |       |       |       |       |       |       | 0.17                                                | 0.63               | 0.92               | 1.42   |
| 3700                | 4.57    | 5.60                                   | 6.19                                                                        | 6.75 | 7.29 | 7.88 | 8.44 | 9.03 | 10.28 | 11.19 |       |       |       |       |       |       | 0.17  | 0.65  | 0.94                                                | 1.46               |                    |        |
| 3800                | 4.60    | 5.64                                   | 6.24                                                                        | 6.80 | 7.34 | 7.93 | 8.48 | 9.06 | 10.28 | 11.13 |       |       |       |       |       |       | 0.18  | 0.67  | 0.97                                                | 1.50               |                    |        |
| 3900                | 4.63    | 5.68                                   | 6.27                                                                        | 6.84 | 7.38 | 7.96 | 8.51 | 9.08 | 10.26 | 11.05 |       |       |       |       |       |       | 0.18  | 0.69  | 0.99                                                | 1.54               |                    |        |
| 4000                | 4.65    | 5.71                                   | 6.31                                                                        | 6.87 | 7.41 | 7.99 | 8.53 | 9.09 | 10.23 | 10.94 |       |       |       |       |       |       | 0.19  | 0.71  | 1.02                                                | 1.58               |                    |        |
| 4100                | 4.67    | 5.73                                   | 6.33                                                                        | 6.90 | 7.43 | 8.01 | 8.54 | 9.09 | 10.18 |       |       |       |       |       |       |       | 0.19  | 0.72  | 1.04                                                | 1.62               |                    |        |
| 4200                | 4.68    | 5.75                                   | 6.35                                                                        | 6.92 | 7.45 | 8.02 | 8.55 | 9.08 | 10.11 |       |       |       |       |       |       |       | 0.20  | 0.74  | 1.07                                                | 1.65               |                    |        |
| 4300                | 4.69    | 5.77                                   | 6.37                                                                        | 6.93 | 7.46 | 8.02 | 8.54 | 9.06 | 10.02 |       |       |       |       |       |       |       | 0.20  | 0.76  | 1.09                                                | 1.69               |                    |        |
| 4400                | 4.70    | 5.78                                   | 6.38                                                                        | 6.94 | 7.46 | 8.02 | 8.52 | 9.02 | 9.92  |       |       |       |       |       |       |       | 0.21  | 0.78  | 1.12                                                | 1.73               |                    |        |
| 4500                | 4.70    | 5.78                                   | 6.38                                                                        | 6.93 | 7.45 | 8.00 | 8.49 | 8.97 | 9.80  |       |       |       |       |       |       |       | 0.21  | 0.79  | 1.14                                                | 1.77               |                    |        |
| 4600                | 4.70    | 5.78                                   | 6.37                                                                        | 6.93 | 7.44 | 7.97 | 8.45 |      |       |       |       |       |       |       |       |       | 0.22  | 0.81  | 1.17                                                | 1.81               |                    |        |
| 4700                | 4.69    | 5.77                                   | 6.36                                                                        | 6.91 | 7.41 | 7.94 | 8.39 |      |       |       |       |       |       |       |       |       | 0.22  | 0.83  | 1.19                                                | 1.85               |                    |        |
| 4800                | 4.68    | 5.76                                   | 6.35                                                                        | 6.89 | 7.38 | 7.89 | 8.33 |      |       |       |       |       |       |       |       |       | 0.22  | 0.85  | 1.22                                                | 1.89               |                    |        |
| 4900                | 4.66    | 5.74                                   | 6.32                                                                        | 6.86 | 7.34 | 7.84 | 8.26 |      |       |       |       |       |       |       |       |       | 0.23  | 0.86  | 1.25                                                | 1.93               |                    |        |
| 5000                | 4.64    | 5.72                                   | 6.29                                                                        | 6.82 | 7.29 | 7.77 | 8.17 |      |       |       |       |       |       |       |       |       | 0.23  | 0.88  | 1.27                                                | 1.97               |                    |        |
|                     |         |                                        | v > 30 m/s.<br>Please consult our<br>Application Engineering<br>Department. |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |                                                     |                    |                    |        |
|                     |         |                                        | (25) (30)                                                                   |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       | v [m/s]                                             |                    |                    |        |
|                     |         |                                        | Dynamically balanced (for details see DIN 2211)                             |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       | Pulleys                                             |                    |                    |        |



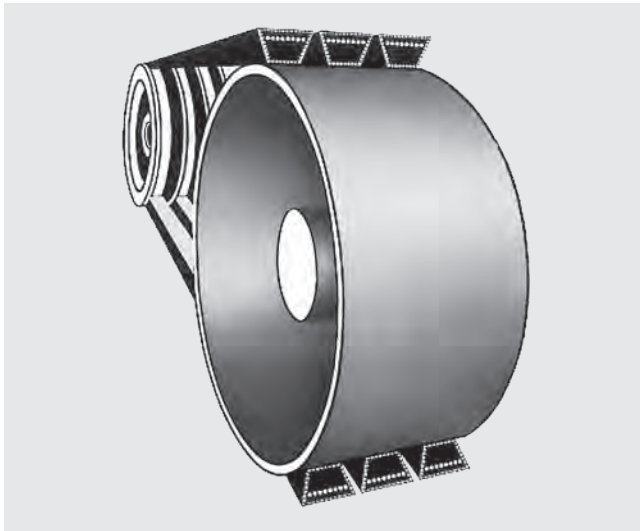
## SPECIAL DRIVES

### V-FLAT DRIVES

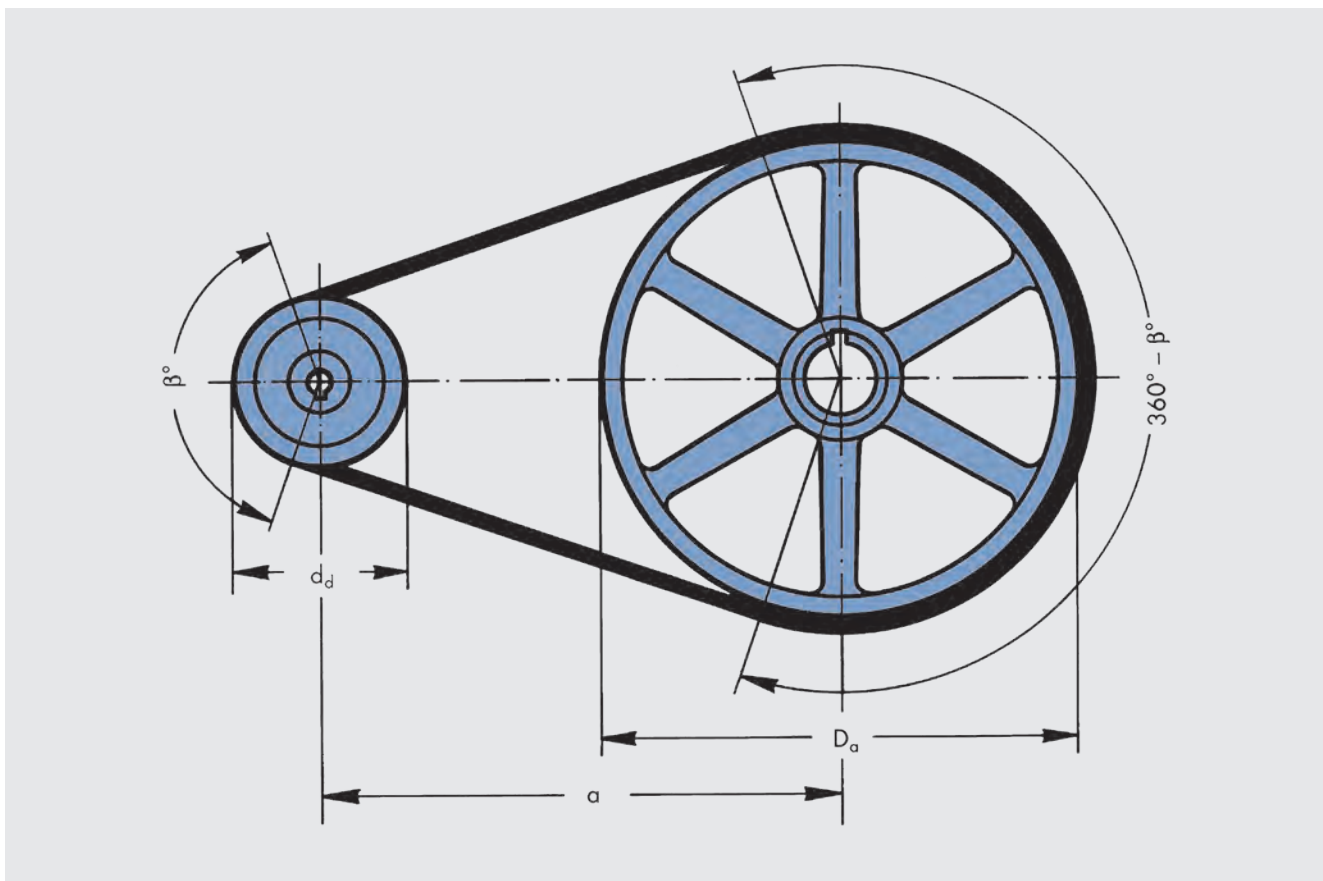


The V-flat drive comprises one grooved pulley and one flat pulley. This type of gear can, under certain conditions, be used for drives with intermittent loading or with large moments of inertia. As flywheels or flat pulleys are often

already present, the costs of the drive can be reduced. When changing over a flat belt drive to a V-flat drive, it will usually be economical to continue to use the flat pulley.



|           |                                                                       |                      |
|-----------|-----------------------------------------------------------------------|----------------------|
| $a$       | = drive centre distance                                               | [mm]                 |
| $b$       | = face width of the flat pulley                                       | [mm]                 |
| $b_v$     | = bottom width of the belt                                            | [mm]                 |
| $b_2$     | = face width of the grooved pulley                                    | [mm]                 |
| $D_a$     | = outside diameter of the flat pulley                                 | [mm]                 |
| $D_Z$     | = correction factor for determination of the theoretical diameter     | [mm]                 |
| $d_a$     | = outside diameter of the grooved pulley                              | [mm]                 |
| $d_d$     | = datum diameter of the grooved pulley                                | [mm]                 |
| $F_1$     | = contact area of V-belt and flat pulley                              | [cm <sup>2</sup> ]   |
| $f$       | = correction factor for calculating the face width of the flat pulley | [mm]                 |
| $h$       | = height of crown per 100 mm pulley face width                        | [mm]                 |
| $i$       | = speed ratio                                                         |                      |
| $L_{ath}$ | = calculated outside length of the kraftband                          | [mm]                 |
| $L_{dth}$ | = calculated datum length of the V-belt                               | [mm]                 |
| $p_f$     | = specific surface pressure                                           | [N/cm <sup>2</sup> ] |
| $P$       | = power to be transmitted by the belt drive                           | [kW]                 |
| $S_n$     | = circumferential force                                               | [N]                  |
| $\alpha$  | = arc of contact on the flat pulley = $360^\circ - \beta$             | [°]                  |
| $k_f$     | = factor                                                              |                      |
|           | datum length $L_d \triangleq$ pitch length $L_w$                      |                      |



# SPECIAL DRIVES

## V-FLAT DRIVES



### Calculating V-flat drives

The calculation of V-flat drives is based on the same method as presented on pages 83 to 85. In order to ensure reliability and efficiency, the V-flat belt drive must meet the following requirements:

- The small pulley must always be V-grooved.
- When using single belts, only classic V-belts in profiles Z/10, A/13, B/17, C/22, D/32, E/40 must be used.
- Wedge belts must never be used as their narrow base and larger relative height tends to make them turn and twist.
- All optibelt KB kraftbands – both with wedge belts and classic V-belts – are particularly suitable for this type of drive due to their single belt characteristic. Turning over even under extreme shock load conditions is prevented.
- A V-flat drive is particularly economic when

$$kf = \frac{D_a - d_d}{a} \text{ is between } 0.5 \text{ and } 1.15$$

The optimum drive dimensioning is achieved when  $kf = 0.85$ . If the factor  $kf$  is outside the recommended range, it is more economical to design a standard V-belt drive.

- The following recommendations result from these requirements:

|                 | Classic V-belts                    | Kraftbands                         |
|-----------------|------------------------------------|------------------------------------|
| Speed ratio     | $i = \frac{D_a + D_z}{d_d} \geq 3$ | $i = \frac{D_a + D_z}{d_a} \geq 3$ |
| Centre distance | $a_{zul} \geq D_a$                 | $a_{zul} \geq D_a$                 |
|                 | $a = \frac{D_a - d_d}{0.85}$       | $a = \frac{D_a - d_a}{0.85}$       |
| kf factor       | $kf = \frac{D_a - d_d}{a}$         | $kf = \frac{D_a - d_a}{a}$         |
|                 | $0.5 \leq kf_{zul} \leq 1.15$      |                                    |

- When calculating the number of belts and the belt tension, it should be noted that a special arc of contact factor  $c_1$  must be used as shown in the following table.

Table 69: Arc of contact factor  $c_1$  (only for V-flat drives)

| $kf = \frac{D_a - d_d}{a}$ | $\beta =$ | $c_1$ |
|----------------------------|-----------|-------|
| 0                          | 180°      | 0.75  |
| 0.07                       | 176°      | 0.76  |
| 0.15                       | 170°      | 0.77  |
| 0.22                       | 167°      | 0.79  |
| 0.29                       | 163°      | 0.79  |
| 0.35                       | 163°      | 0.79  |
| 0.40                       | 156°      | 0.81  |
| 0.45                       | 153°      | 0.81  |
| 0.50                       | 150°      | 0.82  |
| 0.57                       | 146°      | 0.83  |
| 0.64                       | 143°      | 0.84  |
| 0.70                       | 140°      | 0.85  |
| 0.75                       | 137°      | 0.85  |
| 0.80                       | 134°      | 0.86  |
| 0.85                       | 130°      | 0.86  |
| 0.92                       | 125°      | 0.84  |
| 1.00                       | 120°      | 0.82  |
| 1.07                       | 115°      | 0.80  |
| 1.15                       | 110°      | 0.78  |
| 1.21                       | 106°      | 0.77  |
| 1.30                       | 100°      | 0.73  |
| 1.36                       | 96°       | 0.72  |
| 1.45                       | 90°       | 0.70  |

- For classic V-belts, the length is calculated using the datum length  $L_d$ , and for kraftbands using the outside length  $L_a$ . Therefore, the correction factor  $D_z$  must be added to the outside diameter of the flat pulley in order to approximate the theoretical design diameter.

### Correction factor $D_z$ for determination of the theoretical design diameter

Classic V-belts

| Profile  | Z/10 | A/13 | B/17 | C/22 | D/32 | E/40 |
|----------|------|------|------|------|------|------|
| $D_z$ mm | 7    | 10   | 13   | 18   | 23   | 25   |

Kraftbands

| Profile  | 3V/9J | 5V/15J | 8V/25J | SPZ | SPA | SPB | SPC | A/HA | B/HB | C/HC | D/HD |
|----------|-------|--------|--------|-----|-----|-----|-----|------|------|------|------|
| $D_z$ mm | 13    | 23     | 41     | 12  | 15  | 19  | 26  | 12   | 20   | 24   | 35   |

### Calculation of the datum length for classic V-belts

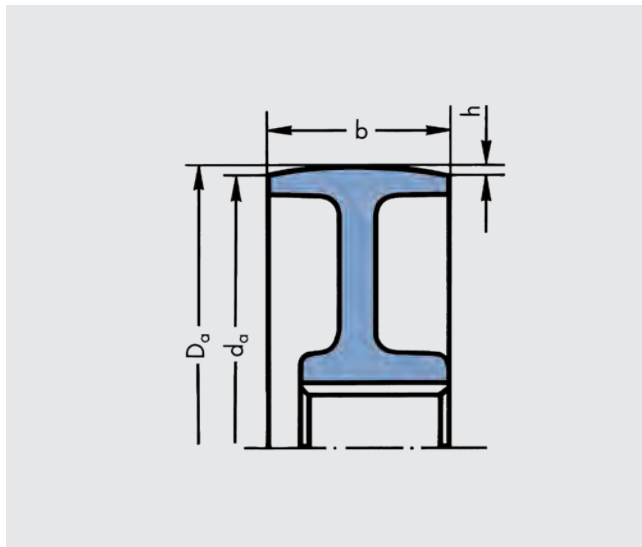
$$L_{dth} \approx 2a + 1.57 (d_d + D_a + D_z) + \frac{(D_a + D_z - d_d)^2}{4a}$$

### Calculation of the outside length for kraftbands

$$L_{ath} \approx 2a + 1.57 (d_a + D_a + D_z) + \frac{(D_a + D_z - d_a)^2}{4a}$$

Length conversion factors are given on pages 167/168.  
Datum length  $L_d \triangleq$  pitch length  $L_w$

- The flat pulley should be shaped cylindrically. With existing flat pulleys that are re-used for the V-flat belt drive, the height of the crown should be checked.



The following conditions must be met:

### Maximum crown height

$$h_{\max} = 1 \text{ mm per } 100 \text{ mm pulley face width}$$

$$h = \frac{D_a - d_a}{2} \quad (h < h_{\max})$$

In addition, the pulley face width must be calculated or checked as shown in the following example:

Given/Calculated:

V-grooved pulley 6 grooves  
Profile B/17  
Drive centre distance a 850 mm

Solution:

$$b = b_2 + f$$

$$b = 120 + 35 = \mathbf{155 \text{ mm}}$$

$b_2$  for classic V-belts, page 49, table 14.

$b_2$  for kraftbands, page 53, table 20

f from table 70.

Selected standard flat pulley according to DIN 111 with crown width  $b = \mathbf{160 \text{ mm}}$

**Table 70: Additional factor f for determining the crown width of the flat pulley**

| Z/10, SPZ,<br>A/13/HA, 3V/9J |    | SPB, 5V/15J |    | C/22/HC, SPC |    | D/32/HD, 8V/25J |    | E/40      |    |
|------------------------------|----|-------------|----|--------------|----|-----------------|----|-----------|----|
| a                            | f  | a           | f  | a            | f  | a               | f  | a         | f  |
| < 500                        | 20 | < 750       | 25 | < 1000       | 30 | < 1250          | 40 | < 1750    | 45 |
| 500-750                      | 25 | 750-1000    | 35 | 1000-1250    | 40 | 1250-1750       | 50 | 1750-2250 | 60 |
| > 750                        | 30 | > 1000      | 40 | > 1250       | 50 | > 1750          | 65 | > 2250    | 75 |

### Calculation of the specific surface pressure on the flat pulley

#### Calculation of the effective belt tension $S_n$ [N]

$$S_n = \frac{P \cdot 1000}{v}$$

#### Surface pressure on flat pulley $p_f$ [N/cm<sup>2</sup>]\*

$$p_f = \frac{S_n}{F_l}$$

#### Area of belt contact on flat pulley $F_l$ [cm<sup>2</sup>]

$$F_l = \frac{D_a \cdot \pi \cdot \alpha \cdot b_u \cdot z}{36000}$$

#### Recommended surface pressure $p_f$ [N/cm<sup>2</sup>]\*

$$p_f \leq 4 \text{ N/cm}^2^*$$

$$* 10 \text{ N/cm}^2 = 1 \text{ Bar} = 10^5 \text{ Pascal}$$

Formula:

#### Calculation of the static belt tension for V-flat belt drives $T$ [N]

$$T = \frac{500 \cdot (2.25 - c_1) \cdot P_B}{c_1 \cdot z \cdot v} + k \cdot v^2$$

**In addition to the calculation method on pages 83 to 85 the static belt tension for V-flat drives must be calculated according to the formulae given here.**

# SPECIAL DRIVES

## PRODUCT DESCRIPTION

optibelt **OPTIMAX HF**

## ENDLESS HIGH PERFORMANCE FLAT BELTS



### Structure

The raw material of the optibelt OPTIMAX HF high performance flat belt is polyester yarn. This will be woven to endless sleeves and then covered with a high-quality rubber compound on both sides.



optibelt OPTIMAX HF high performance flat belts are produced in two different types that differ in thickness and strength.

Type HF 150 is intended for general use, whereas type 075 is only intended for special drives.

### Characteristics

optibelt OPTIMAX HF are particularly distinguished by the following features:

- High flexibility
- Very small pulley diameters (HF 075 from 6 mm)
- High belt speeds
- High efficiency
- Low noise development and low vibration
- Low maintenance requirement
- Good chemical and ozone resistance
- High friction values (0.5  $\mu$ )

A special advantage of this drive element is the low thickness. As a result, very small pulley diameters are possible, which almost always leads to a considerable cost reduction. Due to the use of high-quality synthetic materials, a very high strength is reached despite the low belt thickness.

In addition, the raw materials used guarantee a temperature resistance of  $-30^{\circ}\text{C}$  to  $+110^{\circ}\text{C}$ . With optibelt OPTIMAX HF high performance flat belts, belt speeds of up to 50 m/s are easily possible. No noise and vibrations occur.

Due to its low elongation, this belt can be used even for drives with fixed centre distance for low power transmission systems.

Without engendering the risk of a reduced lifetime, idlers can be used in a flat belt drive. This can be done for tensioning or power reduction.

The high-quality neoprene rubber compound makes optibelt OPTIMAX HF high performance flat belts conditionally resistant to oil, fat, solvent and moisture.

optibelt OPTIMAX HF are electrically conductive; an ISO 1813 certificate can be issued on request.

### Application areas

For power transmission, optibelt OPTIMAX HF belts are particularly used in drives with a medium torque or high speeds. Examples of this include: Tool, wood processing, textile, printing, dyeing as well as agricultural machines, etc.

For all the machines listed, we recommend type HF 150, as its low elongation, high strength and sufficient elasticity largely neutralize any impacts and vibrations that occur. Type HF 075 is especially useful when high precision is required where smooth running and tolerances are concerned. It is therefore used for computers and office equipment as well as small devices.

In addition, the HF 075 can be used for small conveying applications.

**Table 71**

| Type          | Thickness<br>[mm] | Thickness tolerance<br>[mm] | Width tolerance<br>[mm] | Minimum pulley<br>diameter<br>[mm] | Weight per metre<br>per 1 mm belt width<br>[g/m] |
|---------------|-------------------|-----------------------------|-------------------------|------------------------------------|--------------------------------------------------|
| <b>HF 075</b> | 0.5               | $\pm 0.15$                  | $\pm 0.5$               | 6                                  | 0.7                                              |
| <b>HF 150</b> | 0.9               | $\pm 0.15$                  | $\pm 0.5$               | 15                                 | 1.12                                             |





**Table 72**

**Standard range of optibelt OPTIMAX HF TYPE 150 [L; mm]**

|     |     |      |      |      |      |      |      |
|-----|-----|------|------|------|------|------|------|
| 200 | 690 | 970  | 1270 | 1570 | 1880 | 2270 | 3100 |
| 400 | 695 | 980  | 1280 | 1580 | 1890 | 2280 | 3150 |
| 410 | 700 | 990  | 1290 | 1590 | 1900 | 2290 | 3200 |
| 420 | 710 | 1000 | 1300 | 1600 | 1920 | 2300 | 3250 |
| 430 | 720 | 1010 | 1310 | 1610 | 1930 | 2320 | 3300 |
| 440 | 730 | 1020 | 1320 | 1620 | 1940 | 2340 | 3400 |
| 450 | 740 | 1030 | 1330 | 1630 | 1950 | 2350 | 3500 |
| 460 | 750 | 1040 | 1340 | 1640 | 1960 | 2370 | 3600 |
| 470 | 760 | 1050 | 1350 | 1650 | 1970 | 2380 | 3700 |
| 480 | 770 | 1060 | 1360 | 1660 | 1980 | 2400 | 3790 |
| 490 | 780 | 1070 | 1370 | 1670 | 2000 | 2430 |      |
| 500 | 790 | 1080 | 1380 | 1680 | 2020 | 2440 |      |
| 510 | 800 | 1090 | 1390 | 1700 | 2030 | 2450 |      |
| 520 | 810 | 1100 | 1400 | 1710 | 2040 | 2480 |      |
| 530 | 820 | 1110 | 1410 | 1720 | 2050 | 2500 |      |
| 540 | 830 | 1120 | 1420 | 1730 | 2060 | 2520 |      |
| 550 | 840 | 1130 | 1430 | 1740 | 2070 | 2550 |      |
| 560 | 850 | 1140 | 1440 | 1750 | 2090 | 2570 |      |
| 570 | 860 | 1150 | 1450 | 1760 | 2100 | 2600 |      |
| 580 | 870 | 1160 | 1460 | 1770 | 2110 | 2650 |      |
| 590 | 880 | 1170 | 1470 | 1780 | 2120 | 2660 |      |
| 600 | 890 | 1180 | 1480 | 1790 | 2130 | 2700 |      |
| 610 | 900 | 1190 | 1490 | 1800 | 2140 | 2750 |      |
| 620 | 910 | 1200 | 1500 | 1810 | 2150 | 2780 |      |
| 630 | 920 | 1210 | 1510 | 1820 | 2190 | 2800 |      |
| 640 | 930 | 1220 | 1520 | 1830 | 2200 | 2850 |      |
| 650 | 935 | 1230 | 1530 | 1840 | 2210 | 2900 |      |
| 660 | 940 | 1240 | 1540 | 1850 | 2220 | 2950 |      |
| 670 | 950 | 1250 | 1550 | 1860 | 2240 | 3000 |      |
| 680 | 960 | 1260 | 1560 | 1870 | 2250 | 3050 |      |

#### Widths

This standard range can be supplied up to a length of 460 mm in any width from 3 to 330 mm.  
 With a belt length of more than 460 mm, the optibelt OPTIMAX HF is available in any width from 3 to 420 mm.

#### Non standard lengths

In addition to these standard lengths, any length between 200 and 3850 mm can be delivered on request.

#### Tolerances

Length tolerance:

- < 600 mm nominal length  $\pm 5$  mm
- $\geq 600$  mm nominal length  $\pm 0.5$  %

Width tolerance:

$\pm 0.5$  mm

#### Delivery options

Type HF 150: The standard range is available from stock.

Type HF 075: Production goods

# SPECIAL DRIVES

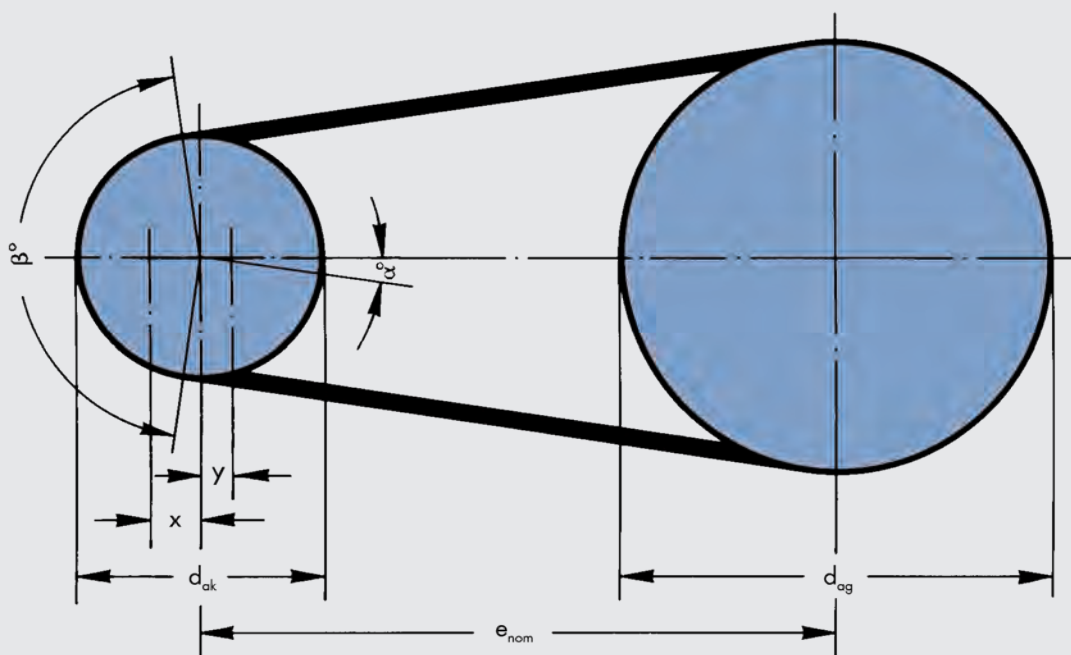
## CALCULATION

### optibelt **OPTIMAX HF**

#### ABBREVIATIONS USED IN FORMULAS



|           |                                                          |       |                  |                                                                                                            |       |
|-----------|----------------------------------------------------------|-------|------------------|------------------------------------------------------------------------------------------------------------|-------|
| A         | = Length addition value                                  | [mm]  | $n_k$            | = Speed of small pulley                                                                                    | [rpm] |
| B         | = Width of the flat belt                                 | [mm]  | $n_1$            | = Speed of driver pulley                                                                                   | [rpm] |
| $B^*$     | = $\frac{\text{Standard width}}{10}$                     | [mm]  | $n_2$            | = Speed of driven pulley                                                                                   | [rpm] |
| $c_o$     | = Base drive service factor                              |       | P                | = Power to be transmitted by the belt drive                                                                | [kW*] |
| $c_1$     | = Arc of contact correction factor                       |       | $P_B$            | = Design power                                                                                             | [kW*] |
| $c_2$     | = Total drive service factor                             |       | $P_N$            | = Power rating per 10 mm flat belt width                                                                   | [kW*] |
| $c_4$     | = Additional factor                                      |       | R                | = Elongation factor                                                                                        |       |
| $d_{ag}$  | = Outside diameter of large pulley                       | [mm]  | $S_a$            | = Minimum shaft loading                                                                                    | [N]   |
| $d_{ak}$  | = Outside diameter of small pulley                       | [mm]  | v                | = Belt speed                                                                                               | [m/s] |
| $d_{a1}$  | = Outside diameter of driver pulley                      | [mm]  | x                | = Minimum allowance above drive centre distance $e_{nom}$ for tensioning and retensioning of the flat belt | [mm]  |
| $d_{a2}$  | = Outside diameter of driven pulley                      | [mm]  | y                | = Minimum allowance below drive centre distance $e_{nom}$ for installation of the flat belt                | [mm]  |
| e         | = Drive centre distance                                  | [mm]  | $\alpha$         | = Angle of belt run = $90^\circ - \frac{\beta}{2}$                                                         | [°]   |
| $e_{nom}$ | = Centre distance with a standard belt length calculated | [mm]  | $\beta$          | = Arc of contact on small pulley                                                                           | [°]   |
| i         | = Speed ratio                                            |       | * 1 kW = 1 kNm/s |                                                                                                            |       |
| $L_{iSt}$ | = Standard inside length of flat belt                    | [mm]  |                  |                                                                                                            |       |
| $L_{bth}$ | = Calculated inside length of flat belt                  | [mm]  |                  |                                                                                                            |       |
| $L^*$     | = Measured length after tensioning                       | [mm]  |                  |                                                                                                            |       |
| $n_g$     | = Speed of large pulley                                  | [rpm] |                  |                                                                                                            |       |



# SPECIAL DRIVES

## CALCULATION

optibelt **OPTIMAX HF**

### BASE DRIVE SERVICE FACTOR $c_0$ –

### ARC OF CONTACT CORRECTION FACTOR $c_1$ – ADDITIONAL FACTOR $c_4$

#### Base drive service factor $c_0$

The base drive service factor  $c_0$  takes into account the type of drive and driven machine. It applies exclusively to two-pulley drives and for a daily operating time of less than ten hours. No special conditions have been taken into account. Please observe the additional factor  $c_4$ . Since it is practically impossible to condense every possible combination of drive unit, driven machine, and operating conditions into a standard-compliant short version, the drive

service factors are **guide values**. In special cases, e.g. increased starting torque (direct starting with fans), drives with a high switching frequency, extraordinary impact load, considerable mass acceleration and deceleration, the drive service factor must be increased. In cases of doubt, we recommend that you contact our consulting engineers.

Table 73

| Examples for work machines                                                                                                                                                                                          | Examples for drive machines |                                                                                                         |                                                  |                                                                                                           |                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                     | Small motors                | Single-phase and three-phase AC motors with normal starting torque (up to 1.8 times the nominal torque) | Single-phase AC motor with star-delta connection | Single-phase and three-phase AC motors with high starting torque (more than 1.8 times the nominal torque) | Single-phase and three-phase AC motors with high starting torque (more than 1.8 times the nominal torque) and direct starting |
| <b>Light duty drives</b><br>Centrifugal pumps, fans, etc.                                                                                                                                                           | 1.0                         | 1.2                                                                                                     | 1.3                                              | 1.5                                                                                                       | 1.6                                                                                                                           |
| <b>Medium duty drives</b><br>Textile machines, paper mills, presses, tool machines, wood processing machines, machines in the paper industry, rotating presses, printing machines, lifting tools, oil burners, etc. | 1.2                         | 1.4                                                                                                     | 1.5                                              | 1.7                                                                                                       | 1.8                                                                                                                           |
| <b>Heavy duty drives</b><br>Weaving looms, combing machines in the textile industry, calenders, crushers, cranes, ball mills, piston compressors, agricultural machines, band saws and circular saws, etc.          | 1.4                         | 1.6                                                                                                     | 1.7                                              | 1.9                                                                                                       | 2.0                                                                                                                           |

#### Arc of contact correction factor $c_1$

The arc of contact correction factor  $c_1$  corrects the power rating  $P_N$ , when the arc of contact of the belt is smaller than  $180^\circ$ , since the  $P_N$  value of the arc of contact  $\beta = 180^\circ$  was determined on the small pulley  $d_{ak}$ .

#### Additional factor $c_4$

If special conditions need to be taken into account on a drive, the additional factor  $c_4$  is to be added to the base drive service factor  $c_0$ .

Table 74

| $\frac{d_{ag} - d_{ak}}{e_{nom}}$ | $\beta \approx$ | $c_1$ |
|-----------------------------------|-----------------|-------|
| 0                                 | $180^\circ$     | 1.00  |
| 0.15                              | $170^\circ$     | 0.94  |
| 0.35                              | $160^\circ$     | 0.89  |
| 0.50                              | $150^\circ$     | 0.84  |
| 0.70                              | $140^\circ$     | 0.78  |
| 0.85                              | $130^\circ$     | 0.72  |
| 1.00                              | $120^\circ$     | 0.66  |
| 1.15                              | $< 120^\circ$   | 0.60  |

Table 75

| Operating conditions                 | $c_4$ |
|--------------------------------------|-------|
| Daily operating time $\geq 10$ hours | 0.20  |
| Strong exposure to dust              | 0.30  |
| Multi-pulley drive                   | 0.40  |
| Reversing operation                  | 1.00  |
| Fixed centre distance                | 1.00  |



# SPECIAL DRIVES

## CALCULATION

optibelt **OPTIMAX HF**

## FORMULAS AND CALCULATION EXAMPLE



### Driving machine

Three-phase AC motor with direct starting  
 $P = 5 \text{ kW}$   
 $n_1 = 3000 \text{ rpm}$

### Operating conditions

Starting: under load  
Centre distance: selectable between 550 and 600 mm  
Pulley diameter: freely selectable  
Operating conditions: normal  
Operational hours per day: >10 hours

### Driven machine

Textile machine  
 $P = 5 \text{ kW}$   
 $n_2 = 5376 \text{ rpm}$

### Formulas

#### Total drive service factor

$c_2 = c_0 + c_4$   
 $c_0$  from table 73, page 130  
 $c_4$  from table 75, page 130

#### Design power

$P_B = P \cdot c_2$

#### Speed ratio

$i = \frac{n_1}{n_2} = \frac{d_{a2}}{d_{a1}}$

#### Outside diameter of flat belt pulleys

$d_{a1}$  = selected from DIN 111  
 $d_{a2} = d_{a1} \cdot i$   
 $d_{a1} = \frac{d_{a2}}{i}$

#### Drive centre distance (preliminary)

$e$  selectable between 550 and 600 mm

#### Inside length of the flat belt

$L_{ith} \approx 2e + 1.57(d_{ag} + d_{ak}) + \frac{(d_{ag} - d_{ak})^2}{4e}$

### Calculation example

$c_2 = 1.8 + 0.2 = \mathbf{2.0}$

$P_B = 5 \text{ kW} \cdot 2.0 = \mathbf{10 \text{ kW}}$

$i = \frac{3000 \text{ min}^{-1}}{5376 \text{ min}^{-1}} = \mathbf{0.56}$

$d_{a1} = \mathbf{224 \text{ mm}}$  selected  
 $d_{a2} = 224 \text{ mm} \cdot 0.56 = 125.4 \text{ mm}$   
 $d_{a2} = \mathbf{125 \text{ mm}}$  selected from DIN 111

$e = \mathbf{580 \text{ mm}}$  preliminary

$L_{ith} \approx 2 \cdot 580 + 1.57 \cdot 349 + \frac{99^2}{4 \cdot 580} \approx 1712 \text{ mm}$   
Next standard inside length  
selected from table 72, page 128  
 $L_{iSt} = \mathbf{1710 \text{ mm}}$

# SPECIAL DRIVES

## CALCULATION

### optibelt **OPTIMAX HF**

#### FORMULAS AND CALCULATION EXAMPLE



##### Formulas

###### Drive centre distance

Design from  $L_{iSt}$  and  $L_{iTh}$

$$\text{(if } L_{iSt} > L_{iTh}) \quad e_{nom} \approx e + \frac{L_{iSt} - L_{iTh}}{2}$$

$$\text{(if } L_{iSt} < L_{iTh}) \quad e_{nom} \approx e - \frac{L_{iTh} - L_{iSt}}{2}$$

###### Minimum allowance $x/y$ of the centre distance $e_{nom}$

$x = 1.0 \%$  from  $L_{iSt}$

$y = 0.5 \%$  from  $L_{iSt}$

###### Speed of the flat belt

$$v = \frac{d_{ak} \cdot n_k}{19100} \quad (v_{max} \approx 50 \text{ m/s})$$

###### Arc of contact correction factor and arc of contact

$$\frac{d_{ag} - d_{ak}}{e_{nom}}$$

$\beta$  approximately and  $c_1$  from table 74, page 130

###### Nominal power per 10 mm flat belt width

$P_N$  from table 76, page 133

###### Width of the flat belt

$$B = \frac{P \cdot c_2 \cdot 10}{P_N \cdot c_1}$$

###### Minimum static shaft loading

$$S_a \approx 120 \cdot B^* \quad B^* = \frac{\text{Standard width}}{10}$$

###### Determination of the belt tension with length addition value

$A = L \cdot R$  (L and R see page 133)

$L^* = L + A$

##### Calculation example

$$e_{nom} \approx 580 \text{ mm} - \frac{1712 \text{ mm} - 1710 \text{ mm}}{2} = \mathbf{579 \text{ mm}}$$

$$x = \mathbf{17.0 \text{ mm}}$$

$$y = \mathbf{8.5 \text{ mm}}$$

$$v = \frac{125 \text{ mm} \cdot 5376 \text{ min}^{-1}}{19100} = \mathbf{35.18 \text{ m/s}}$$

$$\frac{224 \text{ mm} - 125 \text{ mm}}{579 \text{ mm}}$$

$$c_1 = \mathbf{0.94}$$

$$\beta \approx \mathbf{170^\circ}$$

$$P_N = \mathbf{3.18 \text{ kW}}$$
 by linear interpolation

$$B = \frac{5 \text{ kW} \cdot 2 \cdot 10}{3.18 \text{ kW} \cdot 0.94} = 33.5 \text{ mm}$$

Design:

**1 pc. optibelt OPTIMAX HF high performance flat belt  
HF 150/1710 x 35**

$$S_a \approx 120 \cdot 3.5 \approx \mathbf{420 \text{ N}}$$

$$A = 1710 \text{ mm} \cdot 0.007 = \mathbf{11.97 \text{ mm}}$$

$$L^* = 1710 \text{ mm} + 10 \text{ mm} = \mathbf{1720 \text{ mm}}$$

# SPECIAL DRIVES

## CALCULATION

### optibelt **OPTIMAX HF**

## NOMINAL POWER AND TENSION



Table 76

| Belt speed<br>v [m/s] | Transferable power per<br>10 mm belt width [kW] |        |
|-----------------------|-------------------------------------------------|--------|
|                       | HF 075                                          | HF 150 |
| 2                     | 0.07                                            | 0.18   |
| 3                     | 0.12                                            | 0.22   |
| 4                     | 0.18                                            | 0.37   |
| 5                     | 0.22                                            | 0.46   |
| 6                     | 0.27                                            | 0.56   |
| 7                     | 0.31                                            | 0.65   |
| 8                     | 0.36                                            | 0.75   |
| 9                     | 0.40                                            | 0.82   |
| 10                    | 0.45                                            | 0.89   |
| 11                    | 0.49                                            | 0.93   |
| 12                    | 0.53                                            | 1.11   |
| 13                    | 0.57                                            | 1.21   |
| 14                    | 0.61                                            | 1.31   |
| 15                    | 0.64                                            | 1.41   |
| 16                    | 0.68                                            | 1.51   |
| 17                    | 0.72                                            | 1.57   |
| 18                    | 0.76                                            | 1.63   |
| 19                    | 0.79                                            | 1.69   |
| 20                    | 0.83                                            | 1.75   |
| 21                    | 0.86                                            | 1.82   |
| 22                    | 0.89                                            | 1.89   |
| 23                    | 0.91                                            | 1.99   |
| 24                    | 0.94                                            | 2.09   |
| 25                    | 0.96                                            | 2.19   |
| 26                    | 0.99                                            | 2.28   |
| 27                    | 1.00                                            | 2.39   |
| 28                    | 1.02                                            | 2.50   |
| 29                    | 1.03                                            | 2.60   |
| 30                    | 1.05                                            | 2.70   |
| 31                    | 1.06                                            | 2.81   |
| 32                    | 1.07                                            | 2.91   |
| 33                    | 1.07                                            | 3.01   |
| 34                    | 1.08                                            | 3.11   |
| 35                    | 1.08                                            | 3.18   |
| 36                    | 1.08                                            | 3.25   |
| 37                    | 1.07                                            | 3.33   |
| 38                    | 1.06                                            | 3.40   |
| 39                    | 1.05                                            | 3.48   |
| 40                    | 1.03                                            | 3.55   |
| 41                    | 1.02                                            | 3.58   |
| 42                    | 1.00                                            | 3.60   |
| 43                    | 0.98                                            | 3.63   |
| 44                    | 0.95                                            | 3.65   |
| 45                    | 0.93                                            | 3.66   |
| 46                    | 0.90                                            | 3.70   |
| 47                    | 0.85                                            | 3.73   |
| 48                    | 0.80                                            | 3.75   |
| 49                    | 0.75                                            | 3.78   |
| 50                    | 0.70                                            | 3.80   |

### Tension of flat belts

The correct level of belt tension is of enormous importance for trouble-free transmission of power and for achieving an acceptable belt service life.

Often tension which is either too high or too low results in early belt failure. A belt which is over tensioned often causes bearing failure in the drive or driven machine. It has been shown that common tensioning instructions, such as using the "thumb pressure deflection method", are not suitable for obtaining optimum tension for operating at full efficiency.

Over or undertensioning of the drive can be avoided if the tension is calculated, set or checked according to the following method.

### Tension through span force

An optimum tension is achieved if a span force of 300 N per 10 mm belt width is applied for type HF 150.

This belt tension approximately corresponds to an elongation of 0.7 % of the belt length.

Type HF 075 can be tensioned according to the same method, with the exception that the span force is 150 N per 10 mm belt width and an elongation of 0.8 % of the belt length can be expected.

The span force can easily be checked on a belt width of up to 50 mm with the aid of optibelt TT using the frequency measuring method. If the frequency has been determined, the span force can be calculated as follows:

$$T = 4 \cdot k \cdot L^2 \cdot f^2$$

T = Belt tension [kN]

k = Weight per metre per mm belt width [g/m]

L = Belt tension [m]

f = Frequency [Hz]

### Checking the tension with a length addition value

The length (L) of the relevant flat belt is measured in an untensioned condition on the top surface of the belt.

Calculate the length addition value "A" by using the formula:

$$A = L \cdot R \text{ (elongation value)}$$

R = 0.007 for type HF 150

R = 0.008 for type HF 075

This length addition value A should then be added to the measured length.

The flat belts are now tensioned until the calculated length is reached (length + length addition value A). The belt is then correctly tensioned.

If the drive is to be retensioned, the belt must first be slackened off so that it can be measured in a tension-free state.

After that, follow the procedure described above.

A = Length addition value [mm]

L = Length of flat belt [mm]

L\* = Measured length after tensioning [mm]

R = Elongation factor [mm]

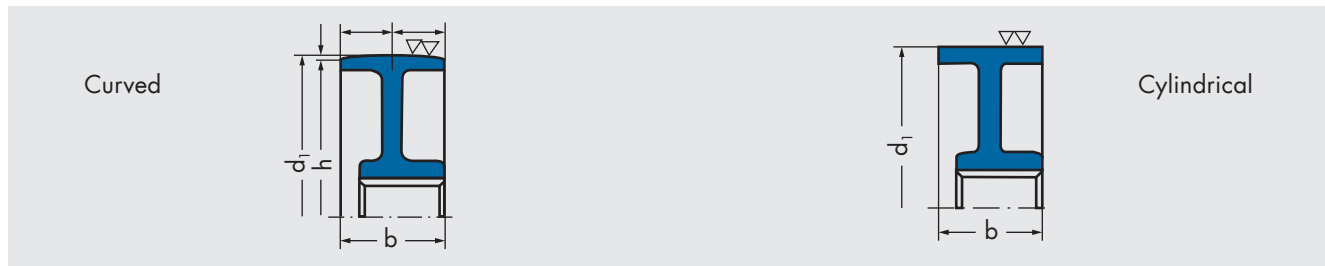


# SPECIAL DRIVES

optibelt **OPTIMAX HF**

## FLAT BELT PULLEYS

### STANDARDS – SELECTION CRITERIA – TYPES



Flat belt pulleys are an essential part of the flat belt drive. They are mainly manufactured of GG 20 cast iron according to DIN 1691 and supplied with a pilot hole, pre-fabricated hole or with a clamping bush system. Other materials, such as steel or aluminium can also be used depending on the drive conditions.

When selecting the flat belt pulleys, the following must be adhered to:

- Use standardized pulley diameters. If this is not possible for structural reasons, a standardized diameter should be selected for the largest pulley.
- Do not use less than the minimum pulley diameter in the interest of the belt lifetime and the efficiency of the drive.

#### Minimum pulley diameter

Type HF 075 = 6 mm

Type HF 150 = 15 mm

- If users produce their own flat belt pulleys, a standard-compliant design and finish must be ensured (DIN 111).
- Flat belt pulleys are generally balanced on a level (statically), quality grade G 16, according to VDI 2060.

- Balancing on two levels (dynamically), quality grade G 6.3, becomes necessary if:
  1.  $v > 30$  m/s or
  2. The ratio of diameter to pulley face width is  $d : b < 4$  with  $v > 20$  m/s.
- Flanged pulleys should be avoided if possible.

#### Pulley face widths

When selecting flat belt pulleys, a suitable width must be ensured. The following rule applies: Belt width plus 10 %.

#### Pulley type

The flat belt pulley should be of cylindrical or curved design. When using curved pulleys, the crown height specified in DIN 111 must be observed (also see tables).

Table 77

| Diameter $d_1$ [mm] | Crown height $h$ [mm] | Run out tolerance $t$ [mm] |
|---------------------|-----------------------|----------------------------|
| Nominal size        | Permissible deviation |                            |
| 40                  | $\pm 0.5$             | 0.2                        |
| 50                  | $\pm 0.6$             |                            |
| 63                  | $\pm 0.8$             |                            |
| 71                  | $\pm 1$               |                            |
| 80                  | $\pm 1.2$             |                            |
| 90                  | $\pm 1.2$             | 0.3                        |
| 100                 | $\pm 1.6$             |                            |
| 112                 | $\pm 2$               |                            |
| 125                 | $\pm 2.5$             |                            |
| 140                 | $\pm 2.5$             | 0.4                        |
| 160                 | $\pm 3.2$             |                            |
| 180                 | $\pm 3.2$             |                            |
| 200                 | $\pm 3.2$             |                            |
| 224                 | $\pm 3.2$             | 0.5                        |
| 250                 | $\pm 3.2$             |                            |
| 280                 | $\pm 3.2$             |                            |
| 315                 | $\pm 3.2$             |                            |
| 355                 | $\pm 3.2$             |                            |

In the case of diameters  $< 400$  mm, the crown height does not depend on the pulley face width (DIN 111).

Table 78

| Diameter $d_1$ [mm]        | Crown height $h$ [mm] | Run out tolerance $t$ [mm] |
|----------------------------|-----------------------|----------------------------|
| Nominal size               | Perm. dev.            |                            |
| 400                        | $\pm 4$               | 0.5                        |
| 450                        | $\pm 4$               | 0.6                        |
| 500                        | $\pm 4$               | 0.6                        |
| 560                        | $\pm 5$               | 0.6                        |
| 630                        | $\pm 5$               | 0.8                        |
| 710                        | $\pm 5$               | 0.8                        |
| 800                        | $\pm 6.3$             | 0.8                        |
| 900                        | $\pm 6.3$             | 0.8                        |
| 1000                       | $\pm 8$               | 1                          |
| 1120                       | $\pm 8$               | 1                          |
| 1250                       | $\pm 8$               | 1                          |
| 1400                       | $\pm 10$              | 1                          |
| 1600                       | $\pm 10$              | 1                          |
| 1800                       | $\pm 10$              | 1.2                        |
| 2000                       | $\pm 10$              | 1.2                        |
| Pulley face width $b$ [mm] | $\leq 125$            | $\leq 400$                 |

Idlers are grooved or flat pulleys that do not transmit any power in a drive system. Due to the fact that additional flexing stress is created in the belt, it is recommended that idlers are only used sparingly under the following conditions if possible:

- with fixed drive centres in order to produce the required tension and to take up the maximum possible belt stretch and wear.
- as an idler pulley when dealing with extremely long free belt spans that are subject to twisting.
- as outside idlers where the arc of contact on one of the loaded pulleys is too low. Their inclusion increases the arc of contact and often reduces excessive slip or eliminates the need to increase the number of belts.
- as idler pulleys and guide idlers on drives where pulleys are not all on the same plane such as quarter turn drives.
- to guide belts past obstructions.
- as pneumatically, hydraulically or spring loaded idlers to maintain a constant tension.
- as clutching idlers with which the driven pulley can be engaged or disengaged. Complex clutches are no longer required. Because of their single belt characteristics, optibelt KB kraftbands are particularly suited for these applications.

If, for the reasons listed above, it is absolutely essential to employ idlers, the following criteria should be considered when designing the drive:

- idler configuration
- position of the idler in the belt span
- idler diameter
- idler design
- adjustment allowance of the idler for installation and initial and subsequent tensioning of the belt
- correction of the power rating  $P_N$

### Idler configuration

In principle, idlers can be used as inside or outside idlers depending on the drive situation. Unless design requirements call for an outside idler, the inside idler is usually more advantageous. Its diameter can be kept smaller than that of the outside idler.

Depending on the belt type, **inside idlers** can either be grooved or flat pulleys.

**Table 79: Profile dimensions**

| Belt type                                                                                    | V-grooved pulley | Flat pulley |
|----------------------------------------------------------------------------------------------|------------------|-------------|
| High performance wedge belts<br>DIN 7753 Part 1<br>SPZ; SPA; SPB; SPC                        | •                |             |
| High performance wedge belts<br>ARPM/MPTA<br>3V/9N; 5V/15N; 8V/25N                           | •                |             |
| Classic V-belts DIN 2215<br>Z/10; A/13; B/17; 20; C/22; 25;<br>D/32; E/40                    | •                | •           |
| Kraftbands with high performance<br>wedge belts<br>3V/9J; 5V/15J; 8V/25J; SPA; SPZ; SPB; SPC | •                | •           |
| Kraftbands<br>with classic V-belts<br>A/HA; B/HB; C/HC; D/HD                                 | •                | •           |

For raw edge V-belts and kraftbands the same requirements as given in table 79 apply.

Inside idlers reduce the arc of contact on the loaded pulleys and with it the arc of contact correction factor  $c_1$ . When calculating the number of belts, the arc of contact correction factor should be selected for the position of the idler at the point of maximum belt stretch (see table 81, page 137).

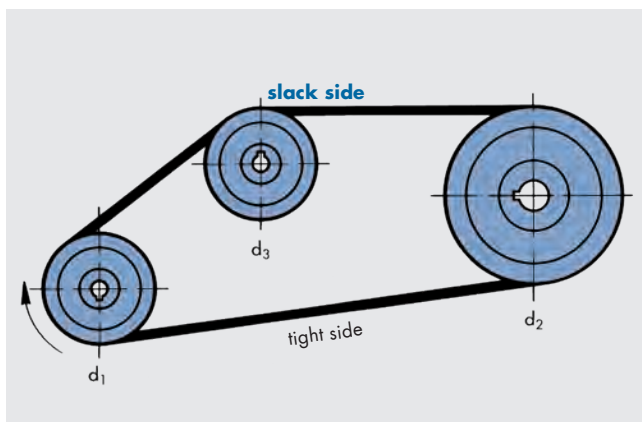
**Outside idlers** generally have to be flat pulleys as they are running on the back of the belt. They increase the arc of contact. Care must be taken to ensure that the maximum possible belt stretch is taken up and that contact with the opposite span is prevented. The reverse bending caused by outside idlers will lead to a reduction of the belt service life.

Special V-belt constructions on request.

### Position of the idler in the belt span

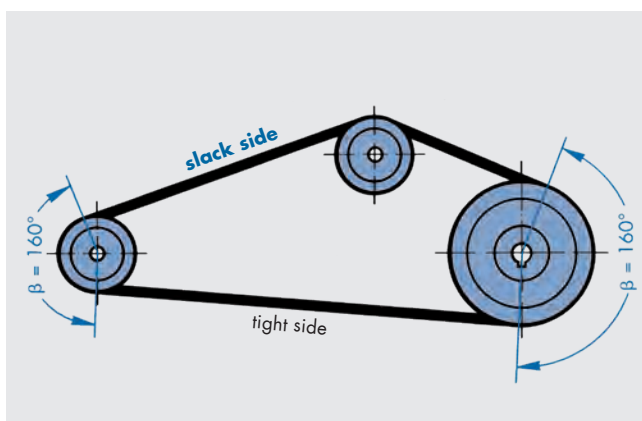
Theoretical power transmission formulas and actual practice have shown that idlers should, wherever possible, be placed in the slack side of the drive. The tension idler force can be reduced very significantly then. A spring loaded idler must not be employed in a reversing drive as the slack and tight sides of the drive are constantly changing. Our Application Engineering Department will be pleased to assist you when spring loaded idlers present special problems.

Fig. 1



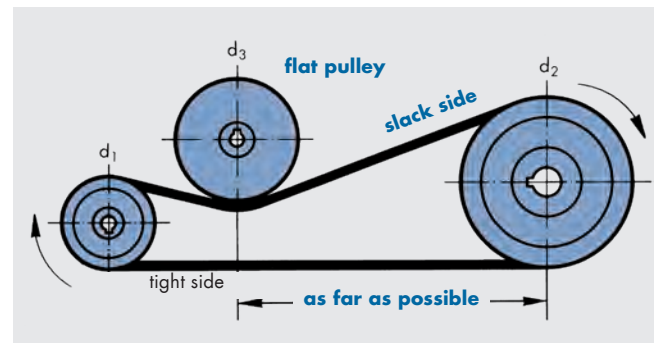
Grooved pulleys can be used as inside idlers anywhere on the slack side. Where possible, however, the arc of contact should be the same on both pulleys when the idler reaches its end position, i.e. belt stretch is at its maximum.

Fig. 2



Flat pulleys, whether used as inside or outside idlers, are to be placed as far as possible away from the grooved pulley on to which the belt runs next. Any alignment errors between the idler and the pulley and the resultant sideways movement of the belt on the pulley are thus avoided.

Fig. 3



On drives with long belt spans, grooved pulleys are the preferred choice for inside idlers because with flat pulleys transverse vibrations and belt turnover can occur.

### Minimum diameter for idlers

Inside idlers should not be smaller than the recommended minimum pulley diameter ( $d_{d \min}$ ) for the belt section concerned (see page 49, table 14)

Inside idler  $\geq$  minimum pulley diameter for the belt section concerned

The presence of an outside idler exposes the belt additionally to a varying bending load. Due to this load, outside idlers must be at least 1.35 times greater than the minimum pulley diameter for the particular belt section.

Outside idler  $\geq 1.35 \cdot \min.$  pulley diameter for the belt section concerned

The belt service life is significantly reduced if the minimum recommended idler diameter is less than the recommended size. The use of an Optibelt special construction can significantly improve service life.

### Idler design

Grooved pulleys which are used as idlers can usually have standard groove dimensions. On drives with too severe vibration and long drive centre distances, it is recommended that deep grooved pulleys are used.

Flat pulleys should, if possible, be cylindrical and not crowned. Flanged pulleys are recommended as belt guides. The edges formed by the contact surface and pulley flange should be sharp. Round edges encourage the belt to run on the flanges causing it to turn over.

The face width or the contact surface between the two flanges is calculated as follows:

$$b = b_2 + m$$

$b$  = face width/contact surface [mm]

$b_2$  = face width of the grooved pulley [mm]

$m$  = additional value [mm]

| Profile           | Additional value $m$ [mm] |
|-------------------|---------------------------|
| SPZ, 3V/9N, Z/10  | 15                        |
| SPA, A/13         | 20                        |
| SPB, 5V/15N, B/17 | 25                        |
| SPC, C/22         | 30                        |
| 8V/25N            | 35                        |
| D/32              | 40                        |
| E/40              | 45                        |

This also applies to raw edge V-belts

### Drive calculation

Calculating the length and determining the number of belts is basically the same as for 2-pulley drives. Certain details are, however, to be noted:

1. Calculate the belt length over two pulleys using the formula: see notes on standards page 178.

$$L_{dth} \approx 2a + 1.57 (d_{dg} + d_{dk}) + \frac{(d_{dg} - d_{dk})^2}{4a}$$

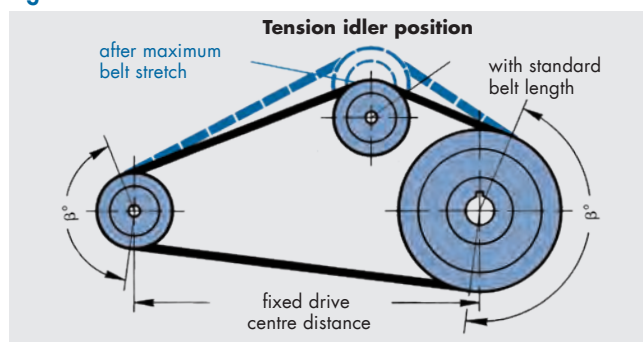
2. As the belt has to be fitted without force with fixed centre distances, the double adjustment  $y$  must be added to the belt length  $L_{dth}$  (see pages 80/81).

$$L_d = L_{dth} + 2y$$

3. The next largest standard length  $L_{dst}$  should then be selected. A check should be made, usually on the drawing, to determine whether the belt can be adequately tensioned with the idler in the outermost position. In this idler position, both the standard length  $L_{dst}$  and the double adjustment  $x$  must be taken up (see pages 80/81).

$$L_d \text{ for idler end position} = L_{dst} + 2x$$

Fig. 4



### Number of belts

The use of idlers increases the bending stress in the belts. To avoid a reduction in belt service life, the idler correction factor  $c_4$  must also be included in the calculation. This correction factor takes into account the number of idlers that are larger than the minimum diameter.

Table 80

| Number of idlers | $c_4$ |
|------------------|-------|
| 0                | 1.00  |
| 1                | 0.91  |
| 2                | 0.86  |
| 3                | 0.81  |

The nominal power rating  $P_N$  per belt is, as before, based on the smallest loaded pulley.

Calculation of the arc of contact correction factor  $c_1$  must be based on the smallest contact angle of the loaded pulley which occurs when the belt is stretched to its maximum limit.

Table 81: Arc of contact correction factor  $c_1$

| $\beta =$ | $c_1$ | $\beta =$ | $c_1$ |
|-----------|-------|-----------|-------|
| 75°       | 0.82  | 175°      | 1.00  |
| 80°       | 0.84  | 180°      | 1.00  |
| 85°       | 0.86  | 185°      | 1.00  |
| 90°       | 0.88  | 190°      | 1.00  |
| 95°       | 0.90  | 195°      | 1.01  |
| 100°      | 0.91  | 200°      | 1.01  |
| 105°      | 0.92  | 205°      | 1.01  |
| 110°      | 0.93  | 210°      | 1.01  |
| 115°      | 0.94  | 215°      | 1.01  |
| 120°      | 0.95  | 220°      | 1.01  |
| 125°      | 0.96  | 225°      | 1.01  |
| 130°      | 0.96  | 230°      | 1.01  |
| 135°      | 0.97  | 240°      | 1.02  |
| 140°      | 0.97  | 250°      | 1.02  |
| 145°      | 0.98  |           |       |
| 150°      | 0.98  |           |       |
| 155°      | 0.99  |           |       |
| 160°      | 0.99  |           |       |
| 165°      | 0.99  |           |       |
| 170°      | 1.00  |           |       |

The following formula for determining the number of belts is obtained using the idler correction factor  $c_4$ :

$$z = \frac{P \cdot c_2}{P_N \cdot c_1 \cdot c_3 \cdot c_4}$$

# SPECIAL DRIVES

## TWIST DRIVES



Drives with crossing belt spans are often simply termed twist drives. These can be drives where the shafts are not parallel, whose pulleys and idlers are not all arranged on one plane, or drives with two parallel but counter rotating shafts. Because of the twisting of the belt, this type of drive requires a certain degree of lateral bending flexibility. Due to the cross section of V-belts, flat belts are better suited for this application. In most cases twist drives use single V-belts, but drives using belt sets are also possible. The crossing of the belt spans and the non-aligned entry of the belt into the pulley leads to a reduction of the belt service life. The entry and exit angle between the belt and the pulley plane should not be more than  $5^\circ$ .

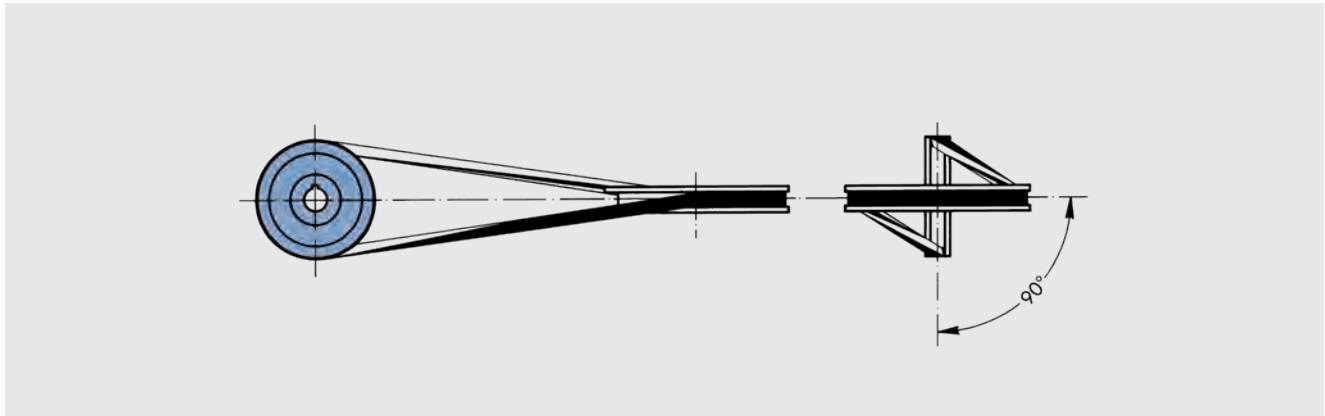
The required inclination of the shafts and the pulleys relative to each other and the belt entry and exit angles should be confirmed by practical tests. In addition, certain critical drives may have a considerably improved safety factor if special constructions by Optibelt are used. The most important types of twist drives and the according design guidelines are illustrated below.

### Quarter twist drive

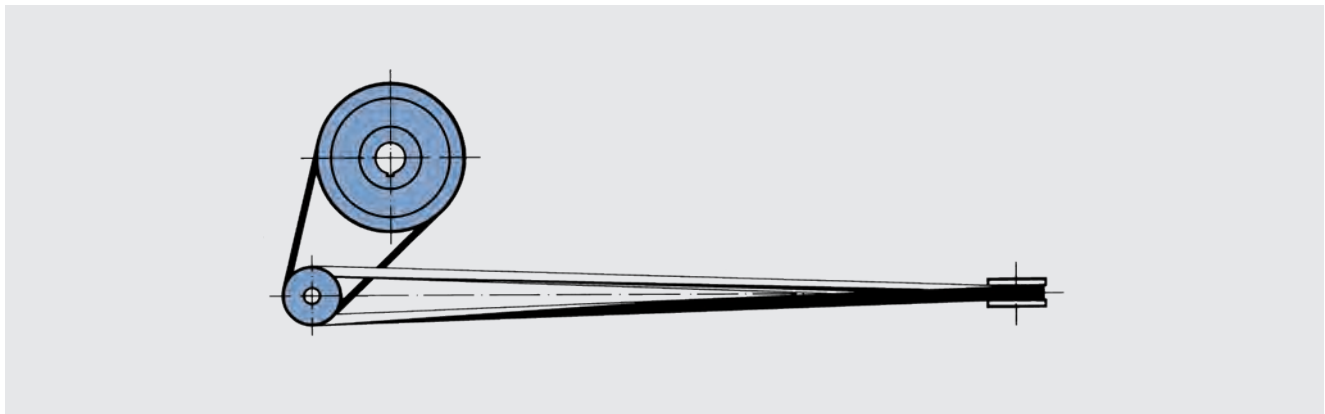
The term quarter twist drive is used to describe systems where the shafts are at an angle of  $90^\circ$  to each other. The ratio  $i$  or  $1 : i$  of quarter twist drives should not exceed 2.5.

Where this is not possible, a two stage drive should be employed, in which one stage is a standard V-belt drive.

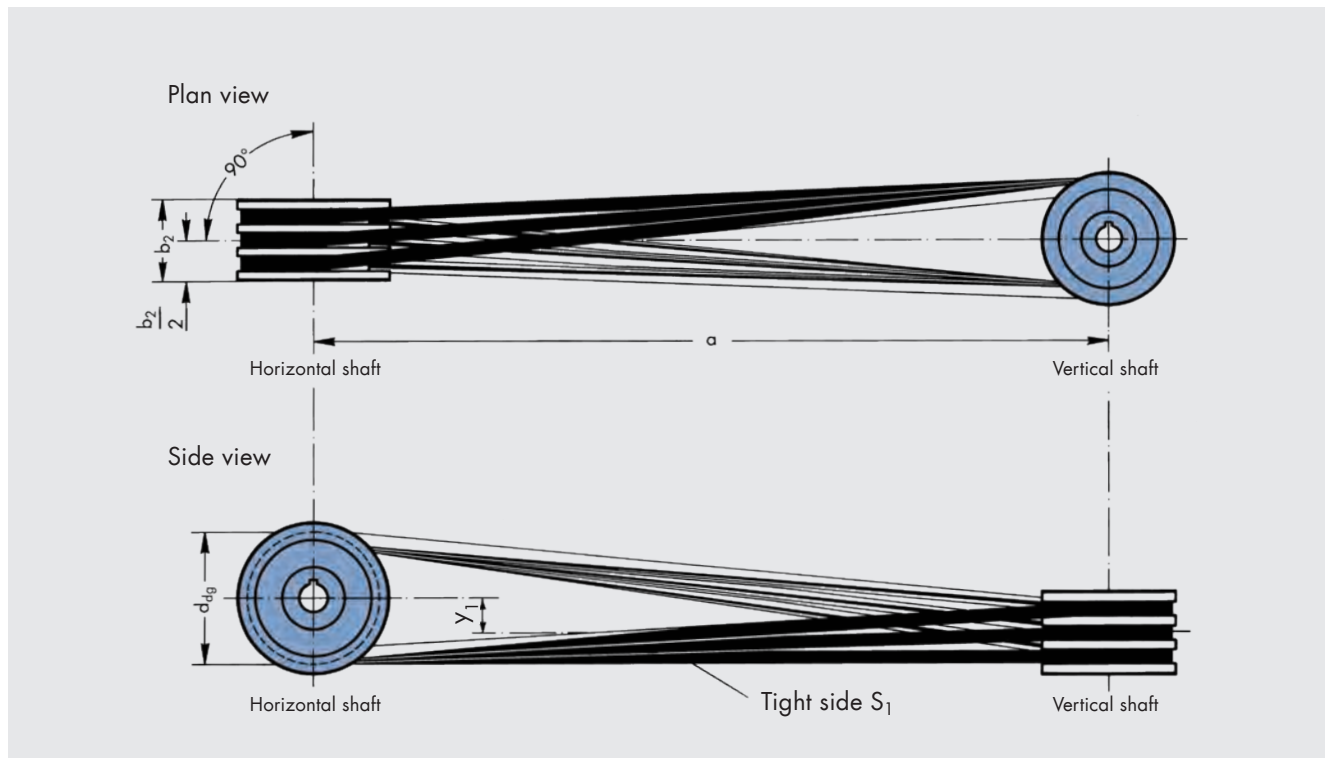
### Quarter twist drive – ratio $i$ or $1 : i < 2.5$



### Quarter twist drive – ratio $i$ or $1 : i > 2.5$



### Design guidelines for quarter twist drives



1.  $a_{\min} = 5.5 (d_{dg} + b_2)$
2. The drive must be aligned in such a way that a straight line drawn through the centre of the vertical shaft runs through the centre of the face  $b_2$  of the pulley on the horizontal shaft (plan view). The horizontal shaft must be at right angles to this straight line.
3. The horizontal centre line of the pulley on the horizontal shaft must be above and at a distance  $y_1$  from the centre line of the pulley on the vertical shaft (side view). The distance  $y_1$  changes with the centre distance "a".

**Table 82**

| Drive centre distance a [mm] | $y_1$ [mm]<br>Classic V-belts | $y_1$ [mm]<br>Wedge belts |
|------------------------------|-------------------------------|---------------------------|
| 1200 ≤ 1500                  | 5                             | –                         |
| > 1500 ≤ 2000                | 8                             | 5                         |
| > 2000 ≤ 2500                | 12                            | 8                         |
| > 2500 ≤ 3000                | 17                            | 10                        |
| > 3000 ≤ 3500                | 25                            | 15                        |
| > 3500 ≤ 4000                | 35                            | 25                        |
| > 4000 ≤ 4500                | 45                            | 30                        |
| > 4500 ≤ 5000                | 55                            | 40                        |
| > 5000 ≤ 5500                | 65                            | 45                        |
| > 5500 ≤ 6000                | 80                            | 55                        |
| > 6000                       | 100                           | 65                        |

4. The direction of rotation must be arranged so that the tight side  $S_1$  is at the bottom.
5. Deep grooved pulleys should be specified if possible for single belt drives. This ensures an improved entry and exit of the belt, thus preventing turnover.
6. Never specify deep grooved pulleys when using kraftbands. Kraftband pulleys should always be used. We recommend, in any case, consulting our Application Engineering Department.
7. When calculating the number of belts, the examples given on pages 83 to 85 should be followed. An arc of contact correction factor  $c_1 = 1$  must always be used.
8. The static belt tension "T" should be calculated using the formula on page 126.
9. The drive or work machine must be adjustable so that the belt can be fitted without force, the necessary tension can be applied and the belt stretch and wear can be taken up during its service life.

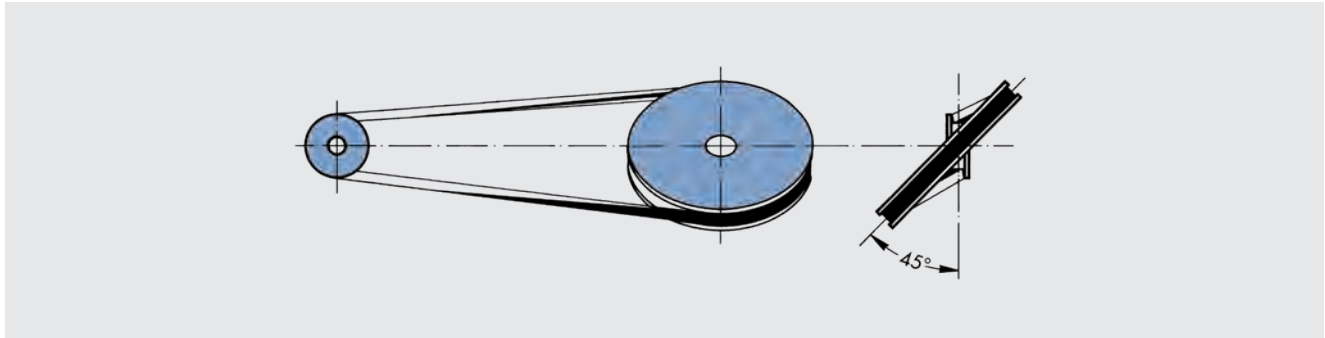


### Eighth twist drives

Eighth twist drives are seldom necessary. The shafts in this drive system are at an angle of  $45^\circ$  to each other.

### Design guidelines

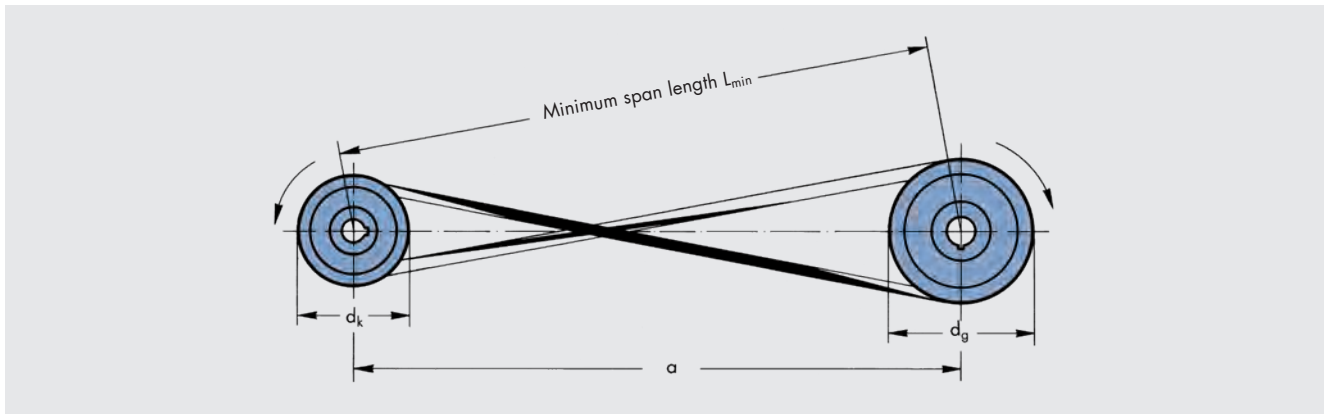
1.  $a_{\min} = 4 (d_{dg} + b_2)$
2. Otherwise the design guidelines for quarter twist drives are applicable.



### Drives with $180^\circ$ twist

The driver and the driven shafts are, as with conventional drives, parallel to each other. The belt is twisted  $180^\circ$  so

that both spans cross. A change in direction is thus achieved at very little cost.



### Design guidelines

1. In order to enable a perfect running of the belts in the pulley grooves, the belt span length must not be less than the minimum given in the following table.
2. If possible, the crossover point of both belt spans should be arranged in the centre of the drive. The rubbing of the belt spans against each other is at a minimum at this point. In order to avoid contact completely, it is recommended that a guide pulley is placed in the slack side  $S_2$  near the crossover point.

Table 83

| Profile     | Minimum span length<br>$L_{\min}$<br>[mm] |
|-------------|-------------------------------------------|
| SPZ. 3V/9N  | 350                                       |
| SPA         | 400                                       |
| SPB. 5V/15N | 450                                       |
| SPC         | 600                                       |
| 8V/25N      | 700                                       |
| A/13        | 460                                       |
| B/17        | 560                                       |
| C/22        | 720                                       |
| D/32        | 940                                       |
| E/40        | 1150                                      |

3. Length calculation

$$L \approx 2a + 1.57 (d_g + d_k) + \frac{(d_g + d_k)^2}{4a}$$

4. Otherwise. the design guidelines as described in points 4 to 9 for quarter twist drives apply.

◀ These values also apply for raw edge belts.

# SPECIAL DRIVES

## DRIVE ELEMENTS WITH ARAMID STRUCTURES



Aramid is an organic polyamide fibre that is manufactured in a complex chemical process. It may be used wherever maximum stress resistance and reliability are required. The processing of this fibre requires the highest level of experience and know-how as well as sophisticated testing facilities. Aramid is used as the tension cord material for highly loaded V-belts and kraftbands.

### Structure and properties

Compared to materials commonly used for tension cords e.g. polyesters, aramid stands out due to its extremely low-stretch properties.

Its tensile strength is twice as high as that of a standard fibre in the same thickness.

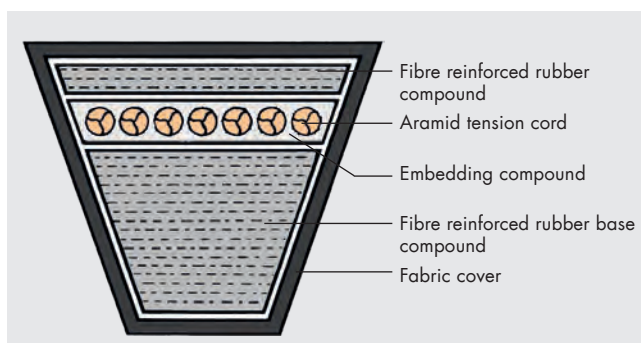
|           | Tensile strength<br>[cN/tex] | Stretching at break<br>[%] | Tension at 2 % [cN/tex] |
|-----------|------------------------------|----------------------------|-------------------------|
| Polyester | 81                           | 14                         | 15                      |
| Aramid    | 190                          | 4                          | 73                      |

cN = Centi-Newton Thread weight: 1 tex = 1 g/1000 m

Despite its extreme strength, this fibre is remarkably flexible and has sufficient elasticity to absorb shock loads or vibration.

These properties, which are of special importance for V-belts and kraftbands, result in huge improvements in comparison to conventional constructions.

Optibelt V-belts in aramid cord structure comprise:



The high quality, specially processed aramid tension cord is embedded in a special rubber compound. The upper and substructure are thus supported effectively. These consist of a fibre reinforced polychloroprene rubber compound. The cover fabric is treated with a rubber compound on both sides and covers the whole belt.

### Applications areas

The advantages of Optibelt V-belts and kraftbands with aramid tension cords are best applicable where

- high power transmission is required
- there is only small installation space
- there is little adjustment range
- high temperature influences occur

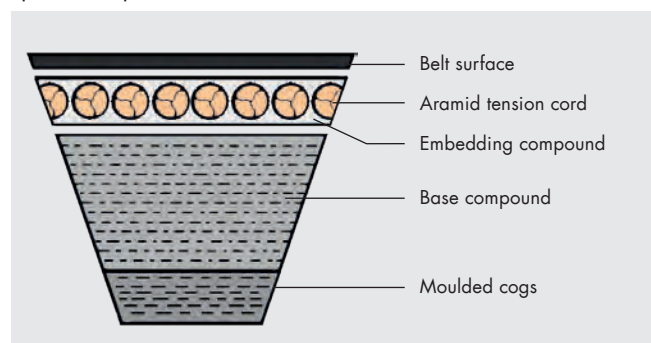
Thus, with the same number of belts and unchanged drive parameters, significantly higher power levels can be transmitted without reducing the service life of the belts. Even drive constructions that have previously had to be classified as critical may now be considered risk free. From now on, load limits apply as safety buffer zones; minimal belt stretch results in virtually maintenance-free running.

For these reasons Optibelt V-belts and kraftbands with aramid tension cord are to be found on drives with exceptional loading requirements –

- on critical drives in industrial applications
- on special machines
- on agricultural machinery
- on horticultural machinery

**Attention:** With two-pulley drives, particular requirements are placed on the shafts and bearings. It is recommended to use spring-loaded idlers (inside/outside idlers) with aramid V-belts / aramid kraftbands.

A discussion of all the relevant criteria would be beyond the scope of this manual. We therefore recommend contacting our Application Engineering Department to discuss your special requirements.



Special applications can also be designed with raw edge V-belts and kraftbands employing aramid tension cords.

### Drive calculation

Calculation should follow the example given on pages 83 to 85.

Please ask for the higher power ratings.

# SPECIAL DRIVES

## DRIVE ELEMENTS WITH ARAMID STRUCTURES



Diagram 6

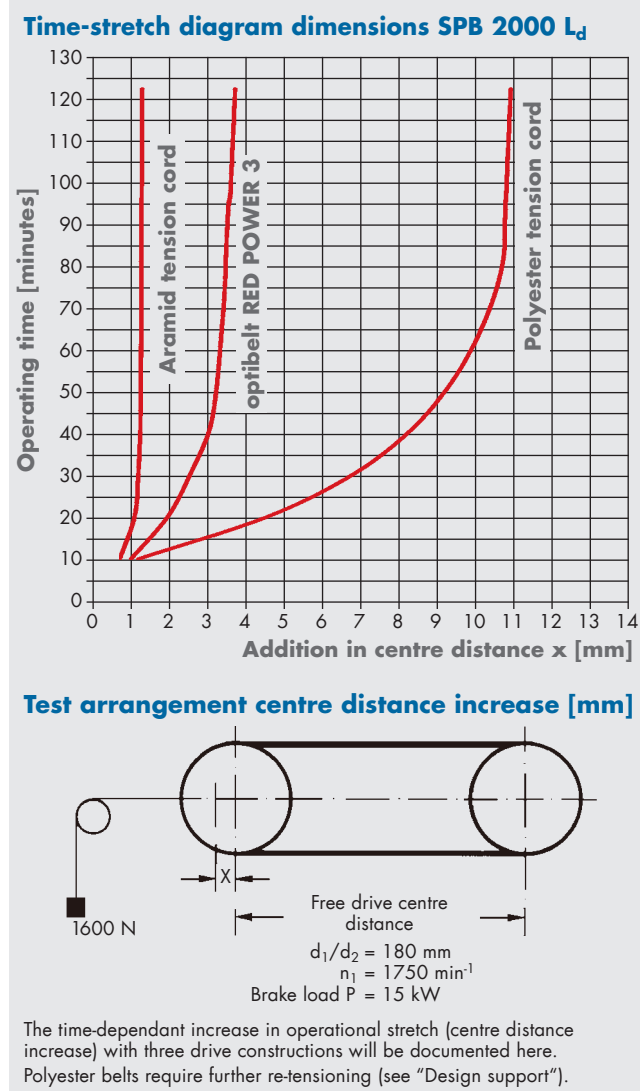
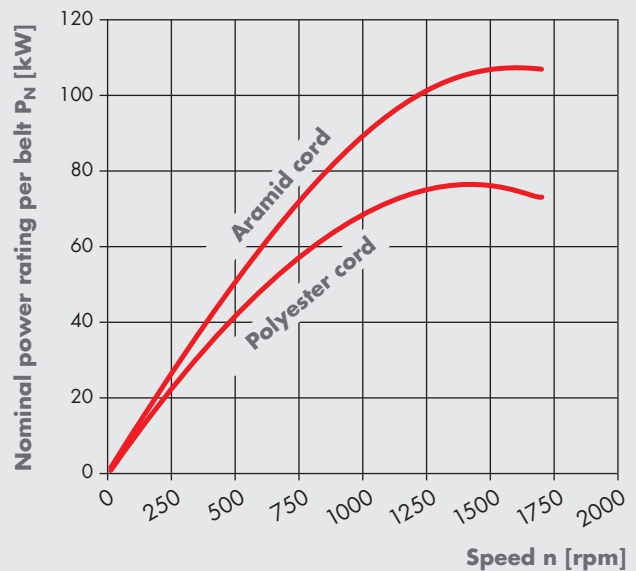


Diagram 7

### Power rating diagram belt size 8V 2000 L<sub>d</sub>

Datum diameter of the small pulley  $d_{ak} = 450 \text{ mm}$

Speed ratio  $i > 1.57$



### Profiles/Lengths

Raw edge and wrapped Optibelt V-belts and kraftbands are available with aramid to DIN/ISO and ARPM/MPTA. Lengths and minimum order quantities on request.

### Special information:

Aramid belts are to be ordered in sets.  
V-belts/kraftbands are to be ordered in sets.

| Profile    | Length                              |                                      | Range                                    |
|------------|-------------------------------------|--------------------------------------|------------------------------------------|
| V-belts    |                                     |                                      | As per the<br>Optibelt standard<br>range |
| SPZ        | ≥ 1000 L <sub>w</sub>               | ≤ 3550 L <sub>w</sub>                |                                          |
| SPA        | ≥ 1000 L <sub>w</sub>               | ≤ 4500 L <sub>w</sub>                |                                          |
| SPB        | ≥ 1250 L <sub>w</sub>               | ≤ 8000 L <sub>w</sub>                |                                          |
| SPC        | ≥ 2000 L <sub>w</sub>               | ≤ 12500 L <sub>w</sub>               |                                          |
| 3V/9N      | ≥ 3V 400 / 9N 1016 L <sub>a</sub>   | ≤ 3V 1400 / 9N 3556 L <sub>a</sub>   |                                          |
| 5V/15N     | ≥ 5V 500 / 15N 1270 L <sub>a</sub>  | ≤ 5V 3550 / 15N 9017 L <sub>a</sub>  |                                          |
| 8V/25N     | ≥ 8V 1000 / 25N 2540 L <sub>a</sub> | ≤ 8V 5000 / 25N 12700 L <sub>a</sub> |                                          |
| Kraftbands |                                     |                                      |                                          |
| 3V/9J      | ≥ 3V 500 / 9J 1270 L <sub>a</sub>   | ≤ 3V 1400 / 9J 3556 L <sub>a</sub>   |                                          |
| 5V/15J     | ≥ 5V 500 / 15J 1270 L <sub>a</sub>  | ≤ 5V 3550 / 15J 9017 L <sub>a</sub>  |                                          |
| 8V/25J     | ≥ 8V 1000 / 25J 2540 L <sub>a</sub> | ≤ 8V 4750 / 25J 12065 L <sub>a</sub> |                                          |

Further profiles and length ranges as well as minimum order quantities on request.

Datum length  $L_d \triangleq$  pitch length  $L_w$ ; outside length =  $L_a$

For proper power transmission and for achieving an acceptable belt service life, the correct belt tension is of the utmost importance.

Too low or too high belt tension will lead to the premature failure of the belts. Over tensioning often leads to bearing failure on the driver or the driven machine. Experience has shown that unscientific belt tensioning methods, such as the "thumb pressure method", are not suitable for applying the optimum tension to the drive for maximum efficiency. It is therefore recommended that for each drive the required static belt tension "T" is calculated using the formulas by Optibelt. This tension is the lowest possible required by a drive to transmit the highest power level from the drive, taking account of the normal amount of slip.

Once the belt has been fitted and the initial tension has been applied, it should be checked using an Optibelt tension gauge.

The belt should be monitored regularly during the first hours of operation. Experience has shown that the first re-tensioning should be carried out after approximately 30 minutes to four hours operating under full load. In doing so, the initial stretch is absorbed.

After approximately 24 hours of operation, it is often recommended to check the drive and re-tension the belts if necessary, particularly when not continuously run under full load. The time between checks can be significantly increased then. Also see our installation and maintenance advice on pages 156 to 157.

Too high or too low tension of the drive will be avoided if the belt tension is calculated, set and checked using one of the following methods.

### I. Checking the belt tension by span deflection

This method provides an indirect measurement of the calculated or actual static belt tension. It is applicable for belt sections SPZ, SPA, SPB, SPC, 3V/9N, 5V/15N, Z/10, A/13, B/17, 20, C/22, 25, D/32, XPZ, XPA, XPB, XPC, 3VX, 5VX, ZX/X10, AX/X13, BX/X17, CX/X22.

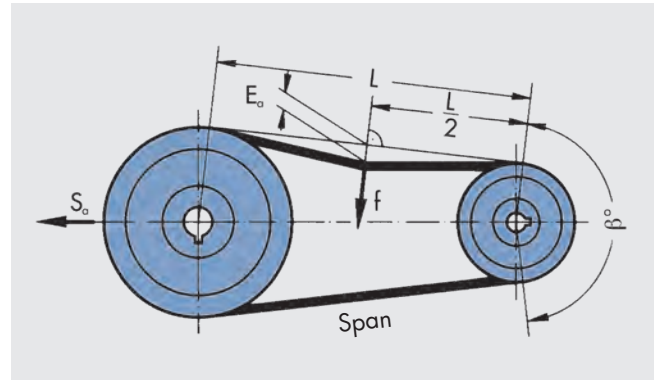
|                |                                                 |      |
|----------------|-------------------------------------------------|------|
| E              | = belt deflection per 100 mm span length        | [mm] |
| E <sub>a</sub> | = belt deflection for a given span length       | [mm] |
| f              | = load used to set belt tension                 | [N]  |
| k              | = constant for calculation of centrifugal force |      |
| L              | = drive span length                             | [mm] |
| S <sub>a</sub> | = minimum static shaft load                     | [N]  |
| T              | = minimum static tension per belt               | [N]  |

1. Calculation of the static belt tension using the following formula:

$$T \approx \frac{500 \cdot (2.04 - c_1) \cdot P_B}{c_1 \cdot z \cdot v} + k \cdot v^2$$

During new installation, the drive is to be tensioned with 1.3 T.

2. Determine the belt deflection per 100 mm span length E from the belt tension/deflection diagrams 8 to 11.



3. Calculate the belt deflection for a given span length E<sub>a</sub> for the actual drive span length L.

$$E_a \approx \frac{E \cdot L}{100}$$

$$L = a_{nom} \cdot \sin \frac{\beta}{2}$$

Apply test load "f" (taken from diagrams 8 to 11 for the appropriate belt profile) to the centre of, and perpendicular to, the span as illustrated above. Measure the deflection and if necessary adjust the centres until the correct belt tension is achieved.

### II. Checking the belt tension via speed measurement

This method checks belt tension using the theoretical slip. The speed of the driver and driven pulleys are measured first in an unloaded condition and then under load.

|                 |                                      |       |
|-----------------|--------------------------------------|-------|
| S               | = slip                               | [%]   |
| n <sub>1L</sub> | = driver pulley speed.<br>no load    | [rpm] |
| n <sub>2L</sub> | = driven pulley speed.<br>no load    | [rpm] |
| n <sub>1B</sub> | = driver pulley speed.<br>under load | [rpm] |
| n <sub>2B</sub> | = driven pulley speed.<br>under load | [rpm] |

Formula for calculating the slip:

$$S = \left(1 - \frac{n_{1L}/n_{2L}}{n_{1B}/n_{2B}}\right) \cdot 100$$

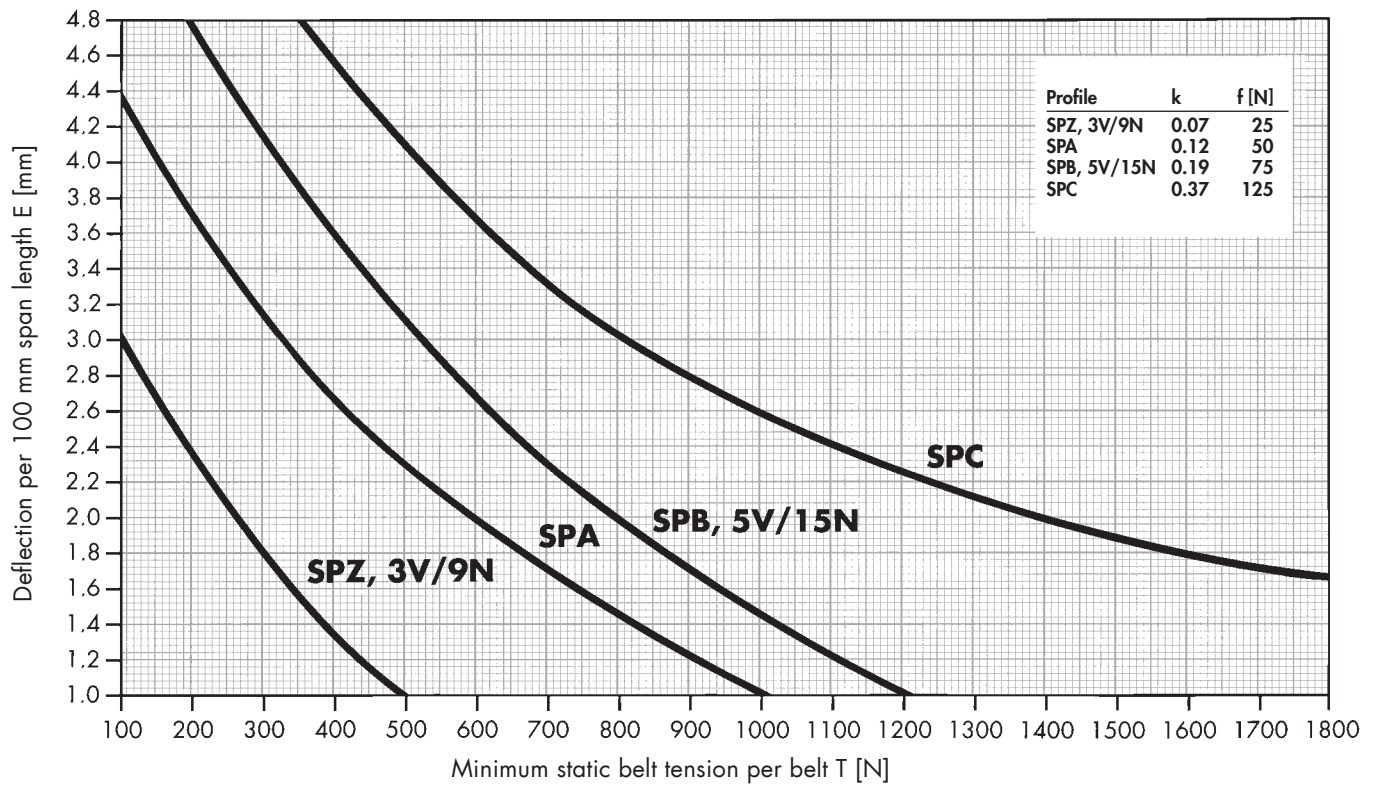
At the rated loading, the slip should not exceed 1 %. The belt service life is considerably shortened due to incorrectly low tension or overloading with a slip of over 2 %.

# DESIGN SUPPORT

## BELT TENSION FOR OPTIBELT V-BELTS



**Diagram 8: Belt tension characteristics for optibelt SK high performance wedge belts DIN 7753 Part 1**



**Diagram 9: Belt tension characteristics for optibelt VB classic V-belts DIN 2215**

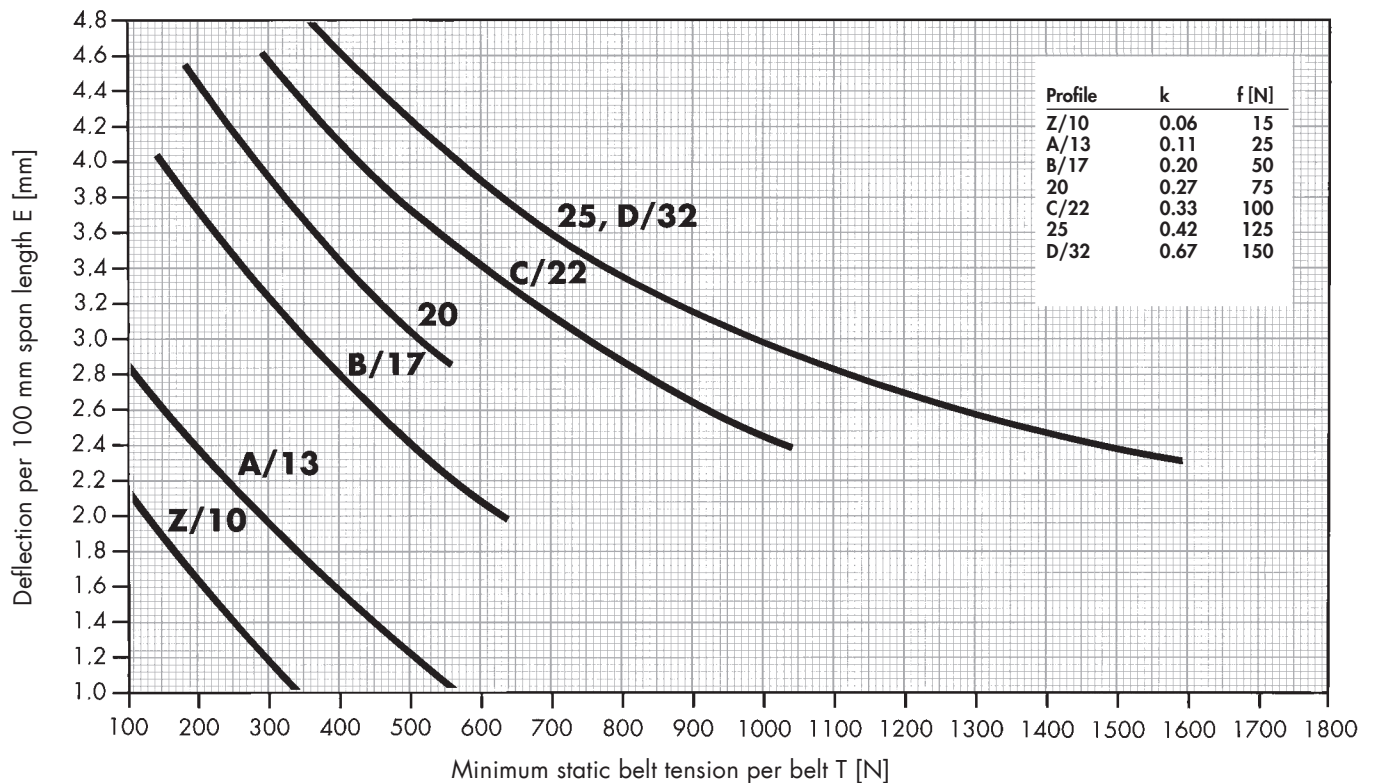






Diagram 10: Belt tension characteristics for optibelt X-POWER M=S wedge belts – raw edge, cogged

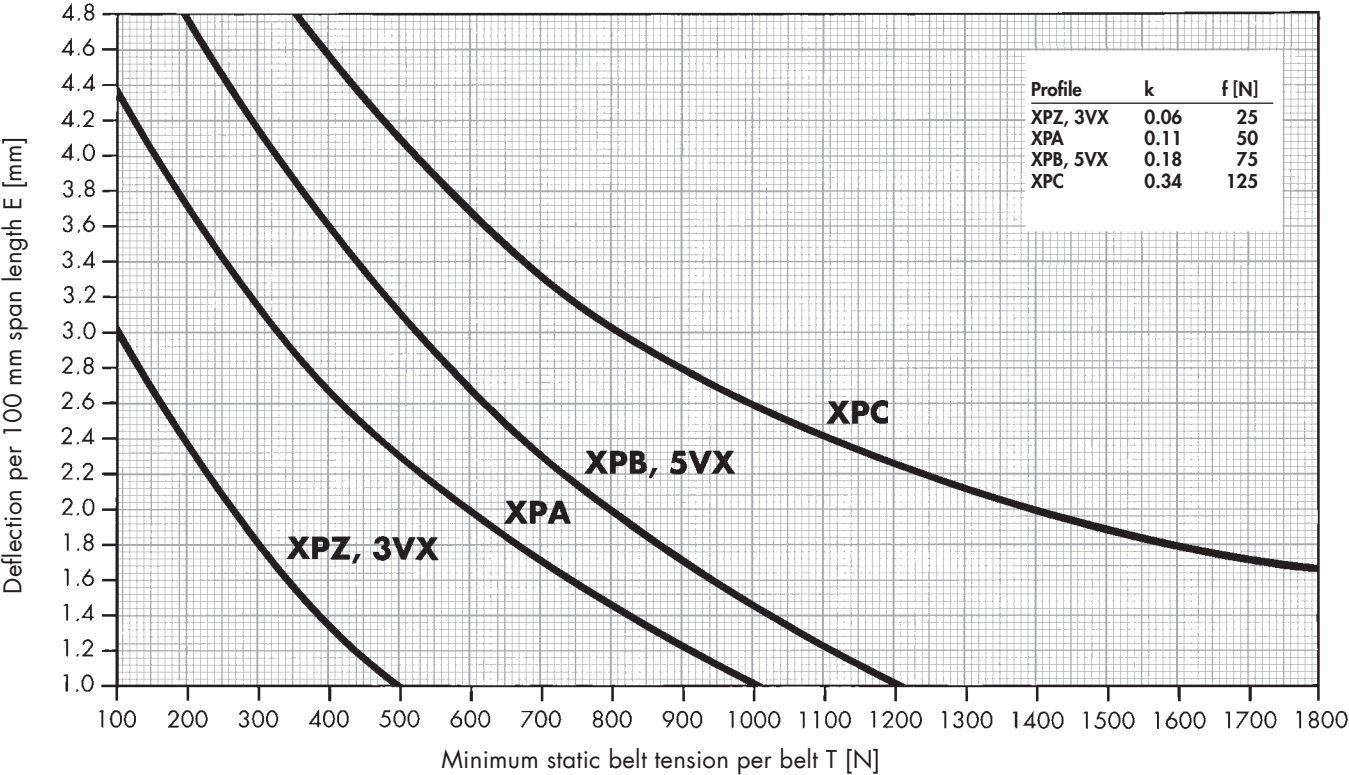
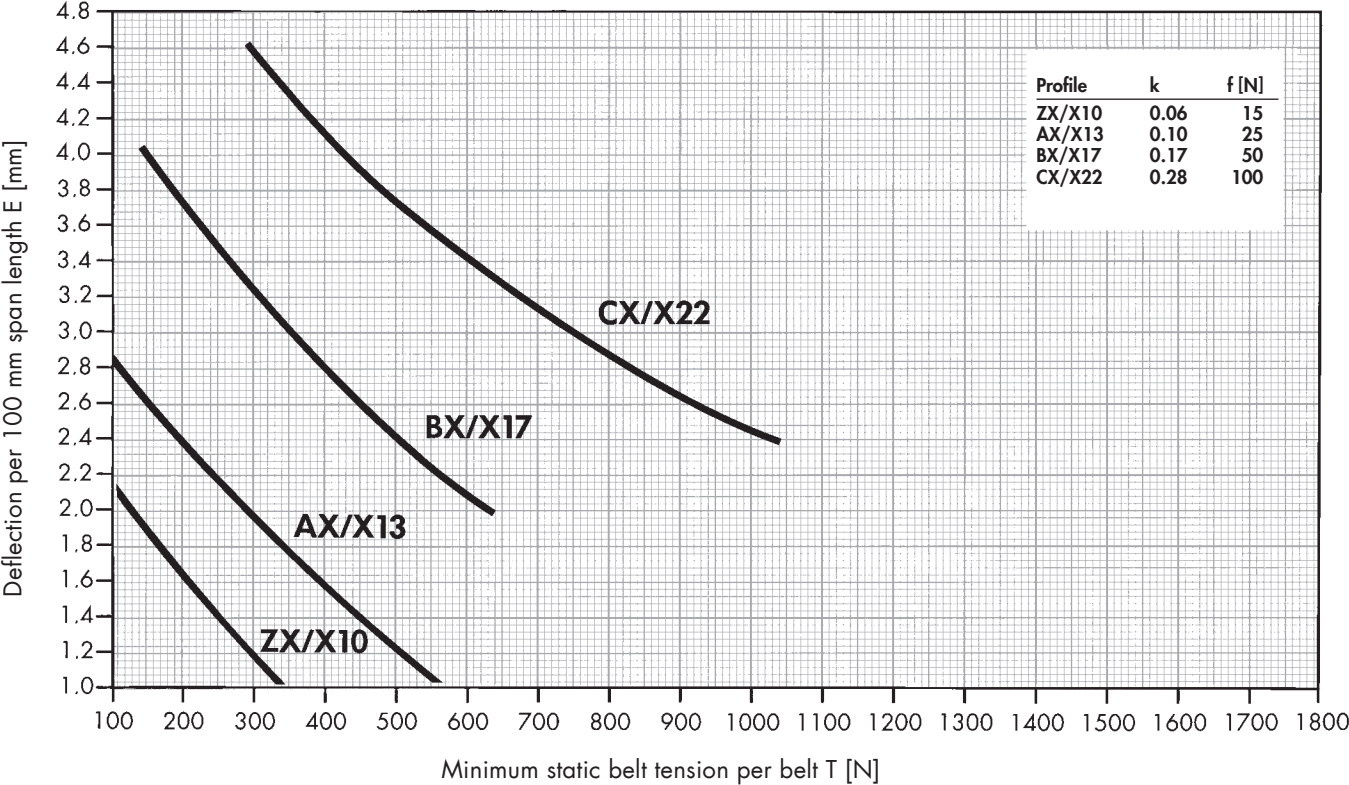


Diagram 11: Belt tension characteristics for optibelt SUPER TX M=S V-belts – raw edge, cogged





# DESIGN SUPPORT

## BELT TENSION FOR OPTIBELT V-BELTS AND optibelt **KB** KRAFTBANDS



### III. Belt tensioning via "length addition value" method

It has become evident that span deflection methods are not ideal for checking the tension of kraftbands of all profiles. and of individual belts. The following, very simple method for the setting and checking of belt tension is therefore recommended:

Example:

$$P_B = 1136 \text{ kW}$$

$$c_1 = 0.97$$

$$v = 25.91 \text{ m/s}$$

Drive arrangement with one set comprising:

2 optibelt KB kraftbands 4-8V 3750/25J 9525 L<sub>0</sub>

2 optibelt KB kraftbands 5-8V 3750/25J 9525 L<sub>0</sub>

1. Calculation of the static belt tension "T":

$$T \approx \frac{500 \cdot (2.04 - c_1) \cdot P_B}{c_1 \cdot z \cdot v} + k \cdot v^2$$

$$T \approx \frac{500 \cdot (2.04 - 0.97) \cdot 1136}{0.97 \cdot 18 \cdot 25.91} + 0.69 \cdot 25.91^2 = 1807 \text{ N}$$

2. Measure the setting length "M" of the kraftband or the single belt, on the top surface of the kraftband or on the belt top surface when not tensioned. However the belt can be measured when fitted to the drive, provided that it is completely **without** tension.

3. Procedure

- a) Install the kraftband or the single belt on the pulleys. Provisionally tighten the belt in order to seat it into the pulley grooves.
- b) Next, completely slacken the kraftband or the single belt.
- c) Mark two lines on the top of the belt, with distance "M". The lines must be marked on the free span length, not where the belt is on the pulley ("M" should ideally be 1000 mm minimum or a multiple of it).

**Important:** The longer the measured profile, the more accurate the tension setting will be.

4. Calculate the length additional value "A" using the formula:

$$A = \frac{M \cdot R}{1000}$$

R = stretch factor from table 84 page 147

"M" selected 4000 mm

$$A = \frac{4000 \cdot 5.5}{1000} = 22.0 \text{ mm}$$

5. Tighten the kraftband or the single belt until the length calculated under point 4 is reached. The drive is now correctly tensioned.

Tighten the kraftband until the length additional value is reached. This will set the correct tension.

6. If the drive has to be re-tensioned, the belts have to be slackened first so that they can be re-measured completely free of tension. After that, the procedure described in paragraphs 3 to 5 applies.

**At initial installation, the static belt tension must be multiplied by 1.3.**

# DESIGN SUPPORT

## BELT TENSION FOR OPTIBELT V-BELTS AND optibelt **KB** KRAFTBANDS



Table 84: Length addition per 1000 mm belt length

| Profile                                               | Kraftband   | 3V/9J | 5V/15J | 8V/25J | SPZ  | SPA  | SPB  | SPC  | A/HA | B/HB | C/HC | D/HD |
|-------------------------------------------------------|-------------|-------|--------|--------|------|------|------|------|------|------|------|------|
|                                                       | Single belt | 3V/9N | 5V/15N | 8V/25N | SPZ  | SPA  | SPB  | SPC  | A/13 | B/17 | C/22 | D/32 |
| Minimum static belt tension per rib/single belt T [N] |             | [mm]  | [mm]   | [mm]   | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| 50                                                    |             | 0.8   |        |        | 0.8  | 0.8  |      |      | 0.8  |      |      |      |
| 75                                                    |             | 1.2   |        |        | 1.2  | 1.0  |      |      | 1.0  |      |      |      |
| 100                                                   |             | 1.6   |        |        | 1.6  | 1.3  |      |      | 1.3  |      |      |      |
| 125                                                   |             | 2.1   |        |        | 2.1  | 1.6  |      |      | 1.6  |      |      |      |
| 150                                                   |             | 2.6   |        |        | 2.6  | 1.9  |      |      | 1.9  | 0.8  |      |      |
| 175                                                   |             | 3.0   |        |        | 3.0  | 2.2  |      |      | 2.2  | 0.9  |      |      |
| 200                                                   |             | 3.5   |        |        | 3.5  | 2.5  |      |      | 2.5  | 1.1  |      |      |
| 225                                                   |             | 4.0   |        |        | 4.0  | 2.8  |      |      | 2.8  | 1.2  |      |      |
| 250                                                   |             | 4.5   |        |        | 4.5  | 3.0  |      |      | 3.0  | 1.4  |      |      |
| 275                                                   |             | 4.9   |        |        | 4.9  | 3.3  |      |      | 3.3  | 1.5  |      |      |
| 300                                                   |             | 5.3   | 1.3    |        | 5.3  | 3.6  | 1.3  |      | 3.6  | 1.6  | 1.6  |      |
| 350                                                   |             | 6.4   | 1.7    |        | 6.4  | 4.2  | 1.7  |      | 4.2  | 1.8  | 1.8  |      |
| 400                                                   |             | 7.6   | 2.0    |        | 7.6  | 4.7  | 2.0  |      | 4.7  | 2.0  | 2.1  |      |
| 450                                                   |             | 8.7   | 2.4    |        | 8.7  | 5.3  | 2.4  |      | 5.3  | 2.2  | 2.3  |      |
| 500                                                   |             | 10.0  | 2.7    |        | 10.0 | 5.8  | 2.7  |      | 5.8  | 2.5  | 2.5  |      |
| 550                                                   |             |       | 3.1    |        |      |      | 3.1  |      |      | 2.7  | 2.7  |      |
| 600                                                   |             |       | 3.4    |        |      |      | 3.4  | 2.0  |      | 3.0  | 2.9  | 2.0  |
| 650                                                   |             |       | 3.8    |        |      |      | 3.8  | 2.2  |      | 3.2  | 3.1  | 2.2  |
| 700                                                   |             |       | 4.1    |        |      |      | 4.1  | 2.4  |      | 3.5  | 3.4  | 2.4  |
| 800                                                   |             |       | 4.8    |        |      |      | 4.8  | 2.8  |      | 4.2  | 3.8  | 2.7  |
| 900                                                   |             |       | 5.5    |        |      |      | 5.5  | 3.3  |      | 4.8  | 4.2  | 2.9  |
| 1000                                                  |             |       | 6.2    |        |      |      | 6.2  | 3.7  |      | 5.3  | 4.7  | 3.3  |
| 1100                                                  |             |       | 6.9    |        |      |      | 6.9  | 4.1  |      |      | 5.1  | 3.6  |
| 1200                                                  |             |       | 7.6    | 2.9    |      |      | 7.6  | 4.5  |      |      | 5.5  | 3.9  |
| 1300                                                  |             |       | 8.3    | 3.3    |      |      | 8.3  | 5.0  |      |      |      | 4.2  |
| 1400                                                  |             |       | 9.0    | 3.7    |      |      | 9.0  | 5.4  |      |      |      | 4.5  |
| 1500                                                  |             |       | 9.7    | 4.1    |      |      | 9.7  | 5.8  |      |      |      | 4.8  |
| 1600                                                  |             |       | 10.4   | 4.6    |      |      | 10.4 | 6.3  |      |      |      | 5.1  |
| 1700                                                  |             |       | 11.1   | 5.0    |      |      | 11.1 | 6.8  |      |      |      | 5.5  |
| 1800                                                  |             |       | 11.8   | 5.5    |      |      | 11.8 | 7.3  |      |      |      | 5.8  |
| 1900                                                  |             |       |        | 6.0    |      |      |      | 7.8  |      |      |      |      |
| 2000                                                  |             |       |        | 6.5    |      |      |      | 8.3  |      |      |      |      |
| 2100                                                  |             |       |        | 7.0    |      |      |      | 8.8  |      |      |      |      |
| 2200                                                  |             |       |        | 7.5    |      |      |      | 9.3  |      |      |      |      |
| 2300                                                  |             |       |        | 8.0    |      |      |      | 9.8  |      |      |      |      |
| 2400                                                  |             |       |        | 8.6    |      |      |      |      |      |      |      |      |
| 2500                                                  |             |       |        | 9.6    |      |      |      |      |      |      |      |      |
| 2600                                                  |             |       |        | 10.6   |      |      |      |      |      |      |      |      |
| 2700                                                  |             |       |        | 11.7   |      |      |      |      |      |      |      |      |
| 2800                                                  |             |       |        | 12.8   |      |      |      |      |      |      |      |      |
| 2900                                                  |             |       |        | 13.5   |      |      |      |      |      |      |      |      |
| 3000                                                  |             |       |        | 14.2   |      |      |      |      |      |      |      |      |
| 3100                                                  |             |       |        | 14.9   |      |      |      |      |      |      |      |      |
| 3200                                                  |             |       |        | 15.6   |      |      |      |      |      |      |      |      |
| 3300                                                  |             |       |        | 16.3   |      |      |      |      |      |      |      |      |
| Factor k for kraftbands                               |             | 0.12  | 0.25   | 0.69   | 0.12 | 0.16 | 0.25 | 0.55 | 0.16 | 0.27 | 0.45 | 0.85 |
| Factor k for single belts                             |             | 0.07  | 0.19   | 0.57   | 0.07 | 0.12 | 0.19 | 0.37 | 0.11 | 0.20 | 0.33 | 0.67 |

Intermediate values may be determined by linear interpolation.  
The values only apply to drives with V-grooved pulleys.  
Values for V-flat drives on request.

# DESIGN SUPPORT

## CALCULATING THE AXIAL LOAD/SHAFT LOAD UNDER DYNAMIC CONDITIONS



Using drives that have electric motors as drive machines and are/or will be designed according to DIN 2211 Part 3, ensures that the dynamic stress that occurs can be absorbed by the appropriate shafts and bearings of the motor.

However drives with

- electric motors out with the DIN standards for the determined dependencies of pulley diameter and power.
- combustion engines.
- turbines as well as
- heavy duty drives such as stone crushers, calenders or heavily loaded mills

**have been found to require determination of the dynamic bearing load**, i.e. the loads that occur for shafts and bearings on the input or output drive units.

Precise calculation of the "Dynamic axial load" prevents unnecessary costs due to

- premature failure of the bearing.
- breaking of the shaft.
- over dimensioned bearings and shafts.

In the case of 2-pulley drives, the driver and driven shafts and the bearings are subjected to the same dynamic axial force, but in opposite directions. When idlers are employed, the magnitude and the direction of the axial force are almost always different on each pulley. If the magnitude and direction of the dynamic axial force is to be determined, a graphical solution, using a vector diagram for the dynamic forces in the tight side  $S_1$  and the slack side  $S_2$ , is recommended.

If only the magnitude of the dynamic axial force has to be determined, this can be achieved using the formula for " $S_{a \text{ dyn}}$ ". Both procedures will be illustrated in the following example.

Data from the calculation examples given on pages 83 to 85  
 $P_B = 171.6 \text{ kW}$   $c_1 = 1.00$   
 $v = 21.76 \text{ m/s}$   $\beta = 170^\circ$

### Dynamic tension on the tight side during belt operation

$$S_1 \approx \frac{1020 \cdot P_B}{c_1 \cdot v}$$

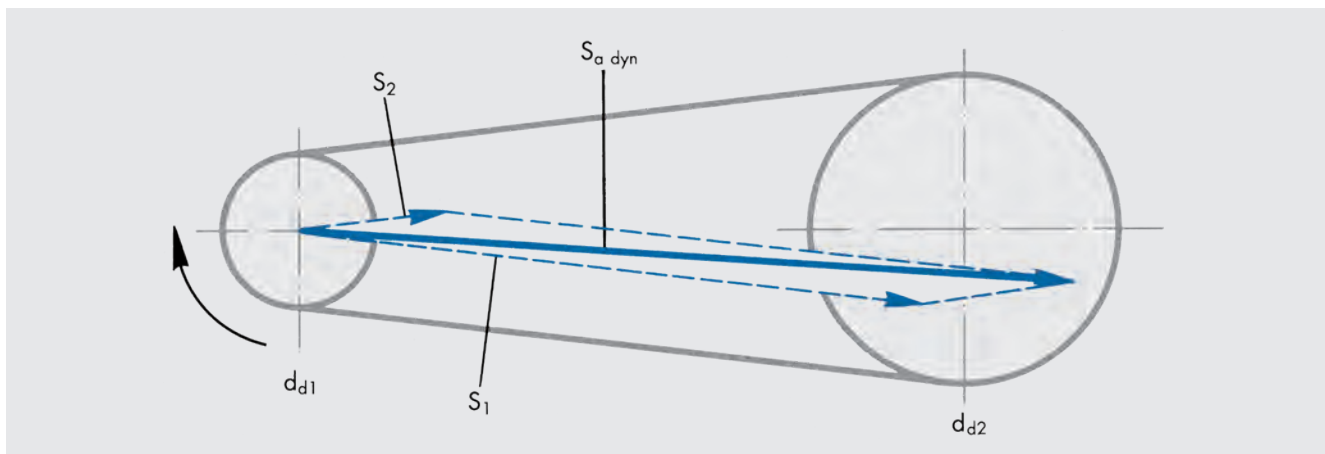
$$S_1 \approx \frac{1020 \cdot 171.6}{1.0 \cdot 21.76} \approx \mathbf{8044 \text{ N}}$$

### Dynamic tension on the slack side during belt operation

$$S_2 \approx \frac{1000 \cdot (1.02 - c_1) \cdot P_B}{c_1 \cdot v}$$

$$S_2 \approx \frac{1000 \cdot (1.02 - 1.0) \cdot 171.6}{1.0 \cdot 21.76} \approx \mathbf{158 \text{ N}}$$

## A) Graphical solution



## B) Solution using the formula $S_{a \text{ dyn}}$

### Axial load under dynamic conditions

$$S_{a \text{ dyn}} \approx \sqrt{S_1^2 + S_2^2 - 2 \cdot S_1 \cdot S_2 \cdot \cos \beta}$$

$$S_{a \text{ dyn}} \approx \sqrt{8044^2 + 158^2 - 2 \cdot 8044 \cdot 158 \cdot 0.9848} \approx \mathbf{8200 \text{ N}}$$

# DESIGN SUPPORT

## TECHNICAL TOOLS

### FREQUENCY METER / TENSION TESTER **optibelt TT**



The optibelt TT frequency tension tester is an appliance that is used to check the tension of drive belts by means of measuring frequency. Thanks to a compact design, this product offers universal application possibilities in machine construction, in the automotive industry and many other technical applications. The optibelt TT can even be effortlessly used in difficult-to-reach places so that the tension values of V-belts, ribbed belts and timing belts can be easily and quickly checked.

After start up, the device is immediately ready for obtaining data. The measuring head is held over the belt to be tested (two red LED light points help to position it). The belt is made to vibrate by striking it with a finger or an object. The optibelt TT begins recording data and displays the result in Hertz [Hz]. The condition, colour and type of the belt have no effect upon the measurement. The sample calculation below uses the data from the CAP calculation on page 86.

#### Calculation of frequency

$$f = \sqrt{\frac{T \cdot 10^6}{4 \cdot k \cdot L^2}}$$

$$f = \sqrt{\frac{1484 \text{ N} \cdot 10^6}{4 \cdot 0.377 \frac{\text{kg}}{\text{m}} \cdot 2189.3^2 \text{ mm}^2}} = 14.33 \text{ Hz} \approx 14.3 \text{ Hz}$$

#### Calculation of static belt tension

$$T = 4 \cdot 10^{-6} \cdot k \cdot L^2 \cdot f^2$$

$$T = 4 \cdot 10^{-6} \cdot 0.377 \frac{\text{kg}}{\text{m}} \cdot 2189.3^2 \text{ mm}^2 \cdot 14.33^2 \text{ Hz}^2 = 1484.24 \text{ N} \approx 1484 \text{ N}$$

$T \triangleq$  belt tension [N]  
 $k \triangleq$  meter weight [kg/m]  
 $L \triangleq$  span length [mm]  
 $f \triangleq$  frequency [Hz]

#### Advantages of optibelt TT

- Two trouble-free measuring methods:  
EM: electro magnetic wave  
AC: acceleration, integrated
- Usable also for long centre distances by all-time wide frequency range:  
AC: 1 - 10 Hz  
EM: 6 - 600 Hz
- Easy handling of the measuring head: two red LED points on the belt help to find the correct position
- For hard accessible belt span: measuring head on flexible goose-neck (EM) or with 250 mm cable (AC)
- Safe meter-reading by big display: width 43 mm and height 58 mm, illuminated and colored
- Long running time and environment-friendly by high capacity, rechargeable battery (USB) and changeability
- Chargeable via USB
- No interference in loud and bright environments
- Automatic switch-off function

#### The optibelt TT:

A guarantee for longer durability of your V-belts, ribbed belts, and timing belts!

## DESIGN SUPPORT

### TECHNICAL TOOLS

#### FREQUENCY METER / TENSION TESTER **optibelt TT LINE**



##### Advantages of optibelt TT DATA

- Comfortable input and selection of belt drive data on touch screen; show own company logo on start display
- Use own belt drive data and general belt set values from optibelt TT database and span length calculation
- Simultaneous display: set, measuring values; simple decision to okay / not okay: select and register tolerances
- Save measurement results and new belt drive data in optibelt TT DATA: Micro SD slot including Micro SD card
- PC synchronisation for database administration with optibelt TT DATA software: USB cable, Micro SD card; optibelt TT DATA update
- Use data from CAP 7.0 in optibelt TT DATA: Send belt drive identification and set values to TT DATA software

##### Advantages of optibelt TT RFID

- Integrated optibelt TT RFID Reader loads belt drive data directly from the machine: RFID LABEL with data set
- RFID database administration on optibelt TT RFID or. more comfortable on PC: optibelt TT DATA/RFID software
- RFID LABEL data in- and output with optibelt TT RFID or with PC: optional USB RFID Reader Dongle
- RFID LABEL with free print area for address data of machine and user; adhesive backside, on paper rolls
- Print and data input of RFID LABEL with RFID printer: Data e-mailing, RFID LABEL by post
- Easy mounting of RFID LABEL on the machine: 6 mm thick. adhesive and screwable RFID PLATE

# Follow soon!

# DESIGN SUPPORT

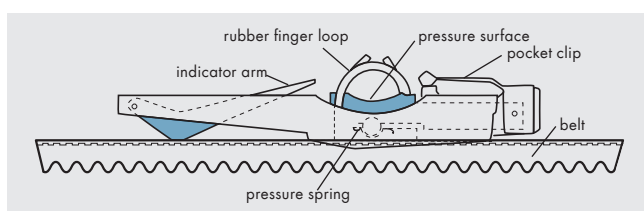
## TECHNICAL TOOLS

### optibelt OPTIKRIK TENSION GAUGES



#### This gauge offers a simple method of belt tensioning.

It helps e.g. mechanics during the maintenance of belt drives when technical data is not known and the optimum tension therefore cannot be calculated. This method requires only knowledge of the diameter of the small pulley and the belt profile. The Optibelt tension gauge is used to directly read the belt tension. By reducing or increasing the belt tension the desired value is achieved. For different tensioning values, optibelt OPTIKRIK 0, I, II, III with corresponding measurement ranges are available.



#### Instructions for use

1. The gauge is placed in the middle between the two pulleys on the back of the belt, in the case of sets of belts ideally on the belt in the middle. (Before doing so, please press the indicator completely into the gauge body.)
2. Place the gauge loosely on the belt to be measured and slowly press a finger onto the pressure surface.
3. Try not to touch the gauge with more than one finger during the measuring process.
4. When you feel or hear a definite "click", immediately release the pressure, the indicator arm stays in the measured position.
5. Carefully lift the gauge without moving the indicator arm. Read the belt tension (see fig.). Read the measurement at the exact point where the top of the indicator arm crosses the scale.
6. Reduce or increase the belt tension according to the measurement result until it is within the desired tension level



# DESIGN SUPPORT

## BELT TENSION FOR WRAPPED OPTIBELT V-BELTS



| Profile                | Diameter of the small pulley<br>[mm] | Static belt tension [N]          |                                       |                      |                            |                                               |                                  |                            |
|------------------------|--------------------------------------|----------------------------------|---------------------------------------|----------------------|----------------------------|-----------------------------------------------|----------------------------------|----------------------------|
|                        |                                      | optibelt RED POWER 3             |                                       | Standard (wrapped)   |                            | optibelt BLUE POWER                           |                                  |                            |
|                        |                                      | Initial installation new V-belts | Initial installation existing V-belts | Initial installation | Operation after running in | Diameter of the small pulley                  | Initial installation new V-belts | Operation after running in |
| <b>SPZ;<br/>3V/9N</b>  | ≤ 71                                 | 250                              | 200                                   | 200                  | 150                        | —                                             | —                                | —                          |
|                        | > 71 ≤ 90                            | 300                              | 250                                   | 250                  | 200                        |                                               |                                  |                            |
|                        | > 90 ≤ 125                           | 400                              | 300                                   | 350                  | 250                        |                                               |                                  |                            |
|                        | > 125*                               |                                  |                                       |                      |                            |                                               |                                  |                            |
| <b>SPA</b>             | ≤ 100                                | 400                              | 300                                   | 350                  | 250                        | —                                             | —                                | —                          |
|                        | > 100 ≤ 140                          | 500                              | 400                                   | 400                  | 300                        |                                               |                                  |                            |
|                        | > 140 ≤ 200                          | 600                              | 450                                   | 500                  | 400                        |                                               |                                  |                            |
|                        | > 200*                               |                                  |                                       |                      |                            |                                               |                                  |                            |
| <b>SPB;<br/>5V/15N</b> | ≤ 160                                | 700                              | 550                                   | 650                  | 500                        | ≤ 180<br>> 180 ≤ 236<br>> 236 ≤ 400<br>> 400* | 780<br>1100<br>1500              | 600<br>850<br>1100         |
|                        | > 160 ≤ 224                          | 850                              | 650                                   | 700                  | 550                        |                                               |                                  |                            |
|                        | > 224 ≤ 355                          | 1000                             | 800                                   | 900                  | 700                        |                                               |                                  |                            |
|                        | > 355*                               |                                  |                                       |                      |                            |                                               |                                  |                            |
| <b>SPC</b>             | ≤ 355                                | 1400                             | 1100                                  | 1000                 | 800                        | ≤ 280<br>> 280 ≤ 375<br>> 375 ≤ 700<br>> 700* | 1600<br>2500<br>3100             | 1200<br>1900<br>2400       |
|                        | > 355 ≤ 560                          | 1600                             | 1200                                  | 1400                 | 1100                       |                                               |                                  |                            |
|                        | > 560*                               | 1900                             | 1500                                  | 1800                 | 1400                       |                                               |                                  |                            |
|                        |                                      |                                  |                                       |                      |                            |                                               |                                  |                            |
| <b>Z/10</b>            | > 50 ≤ 71                            | —                                | —                                     | 120                  | 90                         | —                                             | —                                | —                          |
|                        | > 71 ≤ 100                           |                                  |                                       | 140                  | 110                        |                                               |                                  |                            |
|                        | > 100*                               |                                  |                                       |                      |                            |                                               |                                  |                            |
|                        |                                      |                                  |                                       |                      |                            |                                               |                                  |                            |
| <b>A/13</b>            | ≤ 80                                 | —                                | —                                     | 150                  | 110                        | —                                             | —                                | —                          |
|                        | > 80 ≤ 100                           |                                  |                                       | 200                  | 150                        |                                               |                                  |                            |
|                        | > 100 ≤ 132                          |                                  |                                       | 300                  | 250                        |                                               |                                  |                            |
|                        | > 132*                               |                                  |                                       |                      |                            |                                               |                                  |                            |
| <b>B/17</b>            | ≤ 125                                | —                                | —                                     | 300                  | 250                        | —                                             | —                                | —                          |
|                        | > 125 ≤ 160                          |                                  |                                       | 400                  | 300                        |                                               |                                  |                            |
|                        | > 160 ≤ 200                          |                                  |                                       | 500                  | 400                        |                                               |                                  |                            |
|                        | > 200*                               |                                  |                                       |                      |                            |                                               |                                  |                            |
| <b>C/22</b>            | ≤ 200                                | —                                | —                                     | 700                  | 500                        | —                                             | —                                | —                          |
|                        | > 200 ≤ 250                          |                                  |                                       | 800                  | 600                        |                                               |                                  |                            |
|                        | > 250 ≤ 355                          |                                  |                                       | 900                  | 700                        |                                               |                                  |                            |
|                        | > 355*                               |                                  |                                       |                      |                            |                                               |                                  |                            |
| <b>D/32</b>            | ≤ 355                                | —                                | —                                     | 1000                 | 750                        | —                                             | —                                | —                          |
|                        | > 355*                               |                                  |                                       | 1200                 | 900                        |                                               |                                  |                            |

**8V**

Check of belt tension via length addition value

\* Tension values for these pulleys must be calculated.

### Tension gauges:

optibelt OPTIKRIK 0 Measuring range: 70 - 150 N  
 optibelt OPTIKRIK I Measuring range: 150 - 600 N  
 optibelt OPTIKRIK II Measuring range: 500 - 1400 N  
 optibelt OPTIKRIK III Measuring range: 1300 - 3100 N

The tension values (static belt tension) are reference values, if no exact drive data is available. These values are given for maximum power transmission (per belt).

### Calculation basis

Wedge belts speed  $v = 5$  to 42 m/s  
 Classic V-belts speed  $v = 5$  to 30 m/s

# DESIGN SUPPORT

## BELT TENSION FOR RAW EDGE OPTIBELT V-BELTS



| Profile              | Diameter of the small pulley<br><br>[mm] | Static belt tension [N]                             |                            |                                 |                            |
|----------------------|------------------------------------------|-----------------------------------------------------|----------------------------|---------------------------------|----------------------------|
|                      |                                          | optibelt SUPER X-POWER M=S<br>optibelt SUPER TX M=S |                            | optibelt SUPER XE-POWER PRO M=S |                            |
|                      |                                          | Initial installation                                | Operation after running in | Initial installation            | Operation after running in |
| <b>XPZ; 3VX/9NX</b>  | ≤ 71                                     | 250                                                 | 200                        | 300                             | 250                        |
|                      | > 71 ≤ 90                                | 300                                                 | 250                        | 350                             | 300                        |
|                      | > 90 ≤ 125                               | 400                                                 | 300                        | 500                             | 400                        |
|                      | > 125*                                   |                                                     |                            |                                 |                            |
| <b>XPA</b>           | ≤ 100                                    | 400                                                 | 300                        | 500                             | 400                        |
|                      | > 100 ≤ 140                              | 500                                                 | 400                        | 600                             | 500                        |
|                      | > 140 ≤ 200                              | 600                                                 | 450                        | 700                             | 550                        |
|                      | > 200*                                   |                                                     |                            |                                 |                            |
| <b>XPB; 5VX/15NX</b> | ≤ 160                                    | 700                                                 | 550                        | 850                             | 650                        |
|                      | > 160 ≤ 224                              | 850                                                 | 650                        | 1000                            | 800                        |
|                      | > 224 ≤ 355                              | 1000                                                | 800                        | 1200                            | 950                        |
|                      | > 355*                                   |                                                     |                            |                                 |                            |
| <b>XPC</b>           | ≤ 250                                    | 1400                                                | 1100                       | 1700                            | 1300                       |
|                      | > 250 ≤ 355                              | 1600                                                | 1200                       | 1900                            | 1500                       |
|                      | > 355 ≤ 560                              | 1900                                                | 1500                       | 2300                            | 1800                       |
|                      | > 560*                                   |                                                     |                            |                                 |                            |
| <b>ZX/X10</b>        | ≤ 50                                     | 120                                                 | 90                         |                                 |                            |
|                      | > 50 ≤ 71                                | 140                                                 | 110                        |                                 |                            |
|                      | > 71 ≤ 100                               | 160                                                 | 130                        |                                 |                            |
|                      | > 100*                                   |                                                     |                            |                                 |                            |
| <b>AX/X13</b>        | ≤ 80                                     | 200                                                 | 150                        |                                 |                            |
|                      | > 80 ≤ 100                               | 250                                                 | 200                        |                                 |                            |
|                      | > 100 ≤ 132                              | 400                                                 | 300                        |                                 |                            |
|                      | > 132*                                   |                                                     |                            |                                 |                            |
| <b>BX/X17</b>        | ≤ 125                                    | 450                                                 | 350                        |                                 |                            |
|                      | > 125 ≤ 160                              | 500                                                 | 400                        |                                 |                            |
|                      | > 160 ≤ 200                              | 600                                                 | 450                        |                                 |                            |
|                      | > 200*                                   |                                                     |                            |                                 |                            |
| <b>CX/X22</b>        | ≤ 200                                    | 800                                                 | 600                        |                                 |                            |
|                      | > 200 ≤ 250                              | 900                                                 | 700                        |                                 |                            |
|                      | > 250 ≤ 355                              | 1000                                                | 800                        |                                 |                            |
|                      | > 355*                                   |                                                     |                            |                                 |                            |
| <b>DX/X32</b>        | ≤ 355                                    | 1000                                                | 750                        |                                 |                            |
|                      | > 355*                                   | 1200                                                | 900                        |                                 |                            |

\* Tension values for these pulleys must be calculated.

### Tension gauges:

optibelt OPTIKRIK 0 Measuring range: 70 - 150 N  
 optibelt OPTIKRIK I Measuring range: 150 - 600 N  
 optibelt OPTIKRIK II Measuring range: 500 - 1400 N  
 optibelt OPTIKRIK III Measuring range: 1300 - 3100 N

The tension values (static belt tension) are reference values, if no exact drive data is available. These values are given for maximum power transmission (per belt).

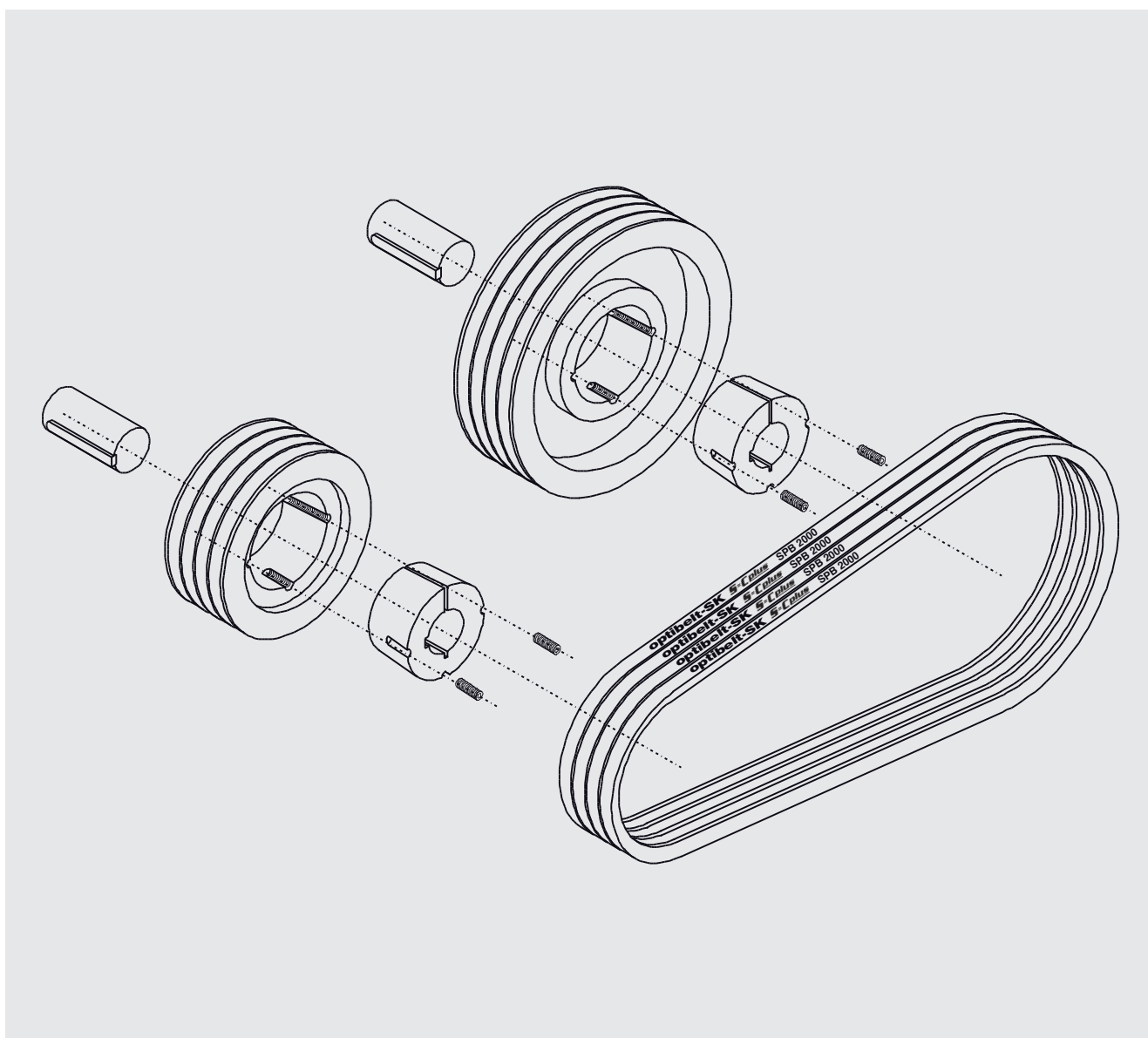
### Calculation basis

Wedge belts speed  $v = 5$  to  $42$  m/s  
 Classic V-belts speed  $v = 5$  to  $30$  m/s

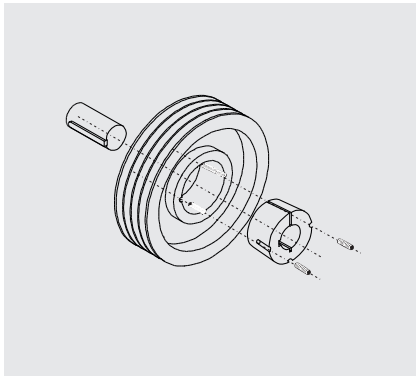


## DESIGN SUPPORT

## INSTALLATION AND MAINTENANCE SUPPORT



**Safety:** Before starting any maintenance work, it is extremely important that any machine components are in a safe position which cannot be changed during maintenance work. In addition, safety recommendations of the manufacturer are to be strictly observed.



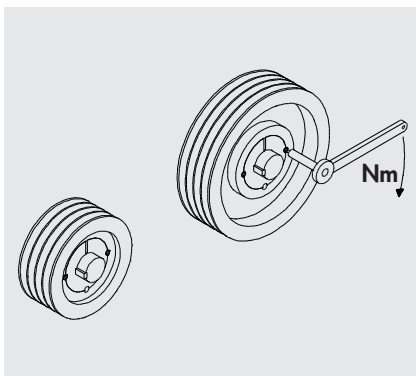
### optibelt KS V-GROOVED PULLEY WITH TAPER BUSH

The V-grooved pulleys are to be checked for damage and correct dimensions before installation.

#### Installation

1. All shiny surfaces like bore and tapered surface of the pulley have to be cleaned and degreased. Insert taper bush in hub and align all connecting bores. Half tapped holes have to face half plain bores.
2. Stud screws (TB 1008-3030) and/or cap head screws (TB 3525-5050) should be slightly greased and screwed in. Do not yet tighten the screws.

3. Clean and degrease the shaft. Push pulley with taper bush to the desired position on the shaft. See alignment of the V-grooved pulley.
4. When using a key, it has to be inserted in the hub of the shaft first. Between key and bore hub there needs to be a certain tolerance.
5. With a socket wrench according to DIN 911 stud screws and/or cap head screws have to be tightened equally using the tightening torque stated in the table.
6. After a short operating time (0.5 to 1 hour) check tightening torque of the screws and correct if necessary.
7. In order to prevent the entering of foreign substances, fill empty connection bores with grease.



### TAPER BUSHES. SCREW TIGHTENING TORQUE

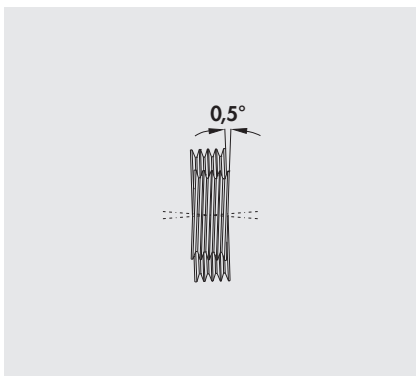
| Dimension                       | Wrench size | Number of screws | Tightening torque [Nm] |
|---------------------------------|-------------|------------------|------------------------|
| TB 1008, 1108                   | 3           | 2                | 5.7                    |
| TB 1210, 1215, 1310, 1610, 1615 | 5           | 2                | 20.0                   |
| TB 2012                         | 6           | 2                | 31.0                   |
| TB 2517                         | 6           | 2                | 49.0                   |
| TB 3020, 3030                   | 8           | 2                | 92.0                   |
| TB 3525, 3535                   | 10          | 3                | 115.0                  |
| TB 4040                         | 12          | 3                | 172.0                  |
| TB 4545                         | 14          | 3                | 195.0                  |
| TB 5050                         | 14          | 3                | 275.0                  |

### HORIZONTAL ALIGNMENT OF SHAFTS

Motor and drive shafts are to be aligned using a spirit level, if necessary.

#### Note!

Maximum shaft deviation 0.5°

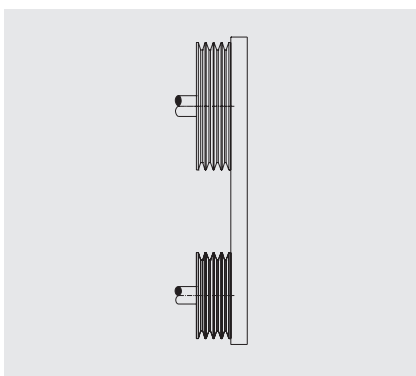


### VERTICAL ALIGNMENT OF THE V-GROOVED PULLEYS

The alignment of the V-grooved pulleys is checked before and after tightening the taper bushes with an alignment rail.

#### Note!

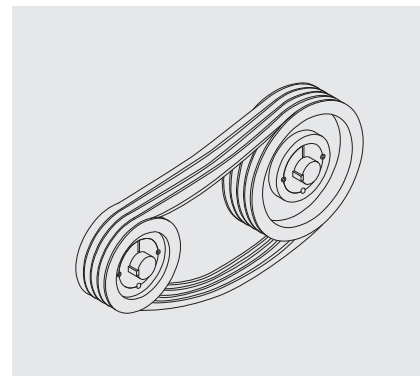
Check whether the face widths of the V-grooved pulleys have the same sizes. A possible deviation of the face width has to be taken into account. With a symmetrical face set-up, the distance of the parallel, to the smaller face is half the deviation.



### INITIAL INSTALLATION

Always install the V-belts without force. Installations using screw drivers, crowbars etc, cause external and internal damage to the belt. V-belts installed under force might only run for several days. A proper installation of the belt saves time and money.

If the installation space is too small, the V-grooved pulleys with belts should be slid onto the shafts.

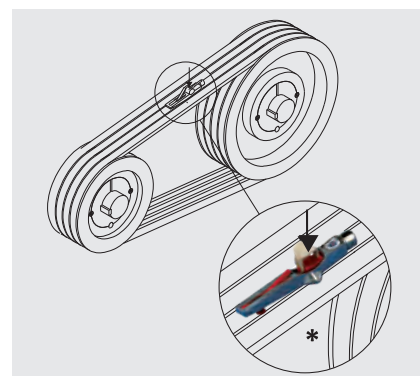


### BELT TENSION

Use belt tensioning values according to Optibelt recommendations. Set the belt tension with parallel motor and machine shafts. Operate the belt for some rotations and check the belt tension again. In our experience, belt tension should be checked again after an operating time of about 0.5 to 4 hours and then be corrected, if necessary.

For further information about belt tensioning see page 151-153.

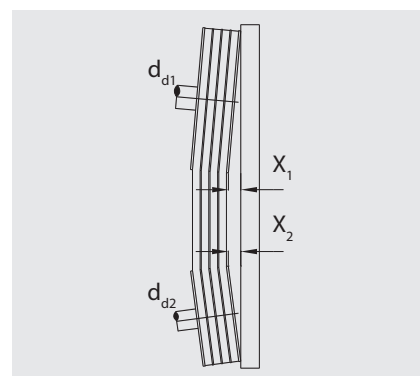
\* **optibelt OPTIKRIK**



### ALLOWED SHAFT DEVIATION

After applying the initial installation tension, the distances  $X_1$ ,  $X_2$  between the two pulleys  $d_{d1}$ ,  $d_{d2}$  and the alignment rail on axis level should be measured. alternatively with the optibelt LASER POINTER. The maximum allowed values for the distance  $X$  from the table should not be exceeded, depending on the diameter  $d_d$ . Depending on the pulley diameter, the intermediate values for  $X$  should be interpolated.

| Pulley diameter<br>$d_{d1}$ , $d_{d2}$ | Maximum allowed deviation<br>$X_1$ , $X_2$ |
|----------------------------------------|--------------------------------------------|
| 112 mm                                 | 0.5 mm                                     |
| 224 mm                                 | 1.0 mm                                     |
| 450 mm                                 | 2.0 mm                                     |
| 630 mm                                 | 3.0 mm                                     |
| 900 mm                                 | 4.0 mm                                     |
| 1100 mm                                | 5.0 mm                                     |
| 1400 mm                                | 6.0 mm                                     |
| 1600 mm                                | 7.0 mm                                     |



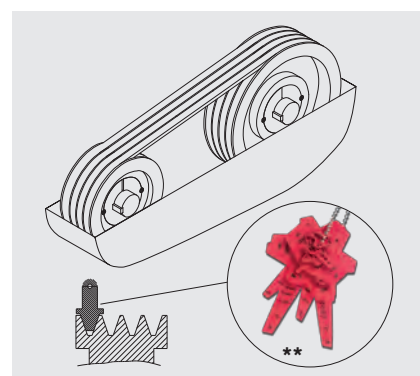
### DRIVE CHECKING

We recommend checking the drive regularly. e.g. after each 3 to 6 months. V-grooved pulleys are to be checked for wear and consistency. Use the Optibelt profile and V-groove gauge tools.

When changing V-grooved pulleys with taper bushes (see fig. on page 158) the following aspects have to be observed:

1. Loosen all screws. Unscrew out one or two screws depending on the bush size. grease them and screw them into the set bores.
2. Tighten the screw or screws equally until the bush releases from the hub and the pulley can be moved freely on the shaft.
3. Remove the pulley with the bush from the shaft.

\*\* **Profile and V-groove gauge**

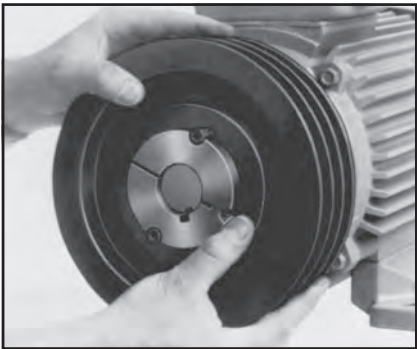
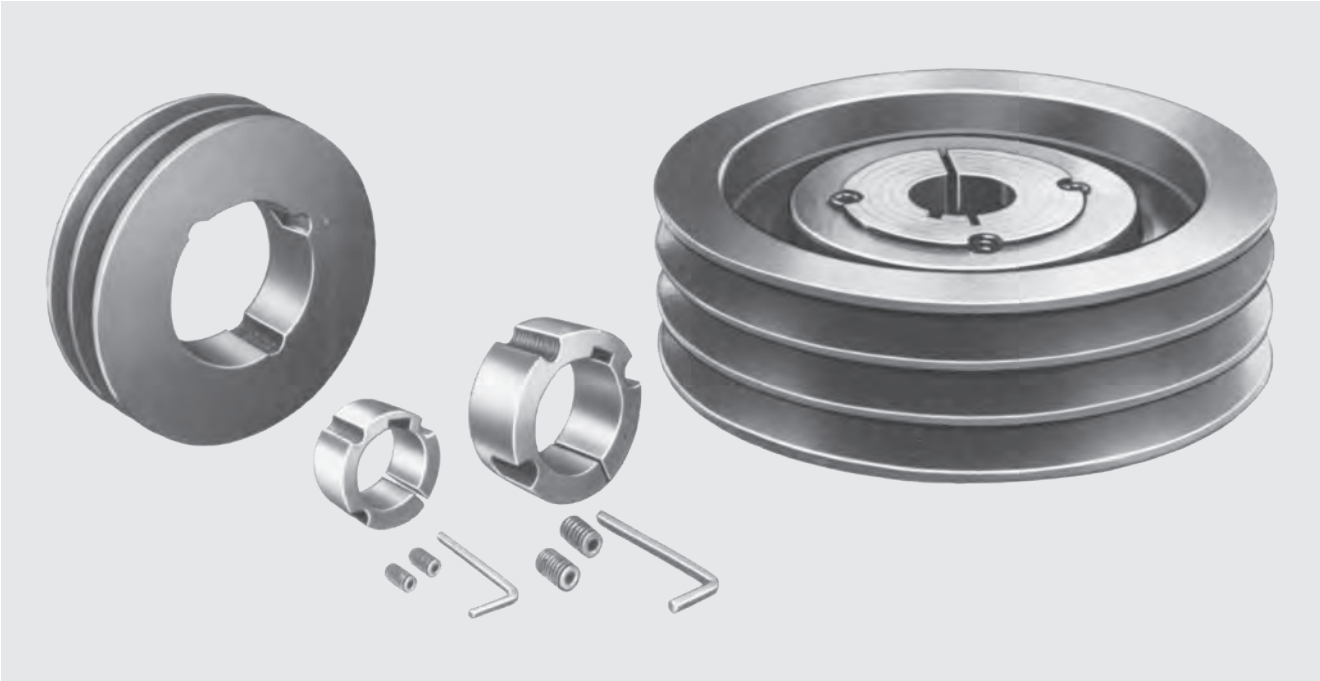




# DESIGN SUPPORT

## INSTALLATION AND MAINTENANCE SUPPORT

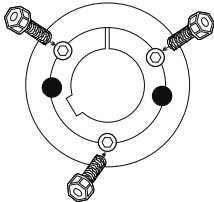
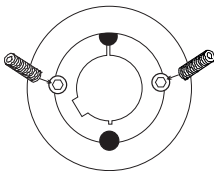
### V-GROOVED PULLEYS WITH TAPER BUSHES



#### Installation

Dimension  
TB 1008-3030

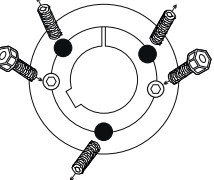
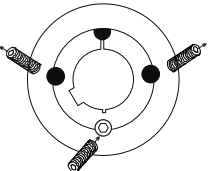
Dimension  
TB 3525-5050



#### Removal

Dimension  
TB 1008-3030

Dimension  
TB 3525-5050





- **Storage length**

Properly stored drive belts retain their quality and properties for a period of up to 6 years if the following conditions are met.

However, when stored under adverse conditions or handled incorrectly, the physical properties of most rubber products will be impaired.

- **Storage area**

The storage area should be dry and dust-free. Drive belts must not be stored together with chemicals, solvents, fuels, lubricants, acids, etc.

- **Temperature**

Drive belts should be stored at temperatures between +15 °C and +25 °C. Lower temperatures usually have no negative effect on the drive belts. However, since belts may become very rigid at low temperatures, they should be warmed to approximately +20 °C before installation and use to avoid breaking and cracking. Radiators and supply pipes must be shielded. Drive belts should be stored at least 1 metre away from heat sources.

- **Light**

Drive belts should be protected from light, especially direct sunlight and strong artificial light with high ultraviolet radiation (ozone formation) such as naked fluorescent tubes. The use of suitable room lighting is advisable.

- **Ozone**

In order to counteract the harmful effects of ozone, storage rooms must not contain any appliances that generate ozone, such as fluorescent lights, mercury vapour lamps or high-voltage electrical equipment. Combustion gases and vapours which could lead to the formation of ozone by photochemical processes, must be avoided or eliminated.

- **Moisture**

Damp storage areas are unsuitable. Care must be taken to ensure that condensation does not develop. The most favourable relative air humidity is below 65 %.

- **Proper storage**

Because stress can promote both permanent deformation and cracking, care must be taken to ensure that drive belts are stored without stress i.e. without tension, compression or any other form of pressure. If V-belts have to be stored horizontally and stacked on top of each other, it is recommended that the stack height does not exceed 300 mm in order to avoid permanent deformation. If, in order to save space, drive belts are hung, the diameter of the cylinder on which the belts rest should be at least ten times the height of the belt profile.

- **Cleaning**

Dirty rubber drive belts can be cleaned using a 1:10 mixture of glycerine and methyl spirits or with brake cleaner. Petrol, benzene, turpentine, or similar should not be used.

In addition, sharp objects, wire brushes, emery paper etc. must be avoided under all circumstances, as these can cause mechanical damage to the belt.

- **Reference to standards**

Further information can be found in DIN 7716.

**optibelt S=C Plus and optibelt M=S belts do not need to be stored in sets as they can be used in sets without measuring.**

# DESIGN SUPPORT

## PROPERTIES



| This table is intended to simplify the selection of the suitable Optibelt drive element according to the specific drive conditions. Detailed information is given in the according chapters of this manual. | Temperature resistance from ... to ... [°C] |                    | Oil resistance  |                | Electrically conductive                 | S=C Plus SetConstant <sup>1)</sup><br>M=S Matched Sets <sup>2)</sup><br>Applies only for single belts | Mining industry approval | Smooth running  | Permanent stretch |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------|-----------------|----------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------|-----------------|-------------------|----------------|
|                                                                                                                                                                                                             | Standard design                             | Special design XHR | Standard design | Special design |                                         |                                                                                                       |                          |                 | Standard design   | Special design |
| <b>optibelt SK /<br/>optibelt SK KB<br/>high performance<br/>wedge belts/kraftbands</b>                                                                                                                     | -40<br>+70                                  | -30<br>+90         | good            | excellent      | yes                                     | yes <sup>1)</sup>                                                                                     | yes                      | medium/<br>good | low               | very low       |
| <b>optibelt RED POWER 3 /<br/>optibelt KB RED POWER 3<br/>high performance<br/>wedge belts/kraftbands</b>                                                                                                   | -30<br>+100                                 |                    | good            |                | yes                                     | yes <sup>1)</sup>                                                                                     |                          | good            | very low          |                |
| <b>optibelt BLUE POWER /<br/>optibelt KB BLUE POWER<br/>high performance<br/>wedge belts/kraftbands</b>                                                                                                     | - 30<br>+100                                |                    | good            |                | yes                                     |                                                                                                       |                          | excellent       | very low          |                |
| <b>optibelt<br/>SUPER XE-POWER PRO</b>                                                                                                                                                                      | - 40<br>+120                                |                    | limited         |                | yes                                     | yes <sup>2)</sup>                                                                                     |                          | excellent       | very low          |                |
| <b>optibelt SUPER X-POWER<br/>M=S / optibelt KBX /<br/>optibelt SUPER TX M=S<br/>raw edge, cogged<br/>V-belts</b>                                                                                           | -30<br>+90                                  |                    | good            |                | yes                                     | yes <sup>2)</sup>                                                                                     |                          | good            | very low          |                |
| <b>optibelt MARATHON X</b>                                                                                                                                                                                  | - 40<br>+120                                |                    | limited         |                | yes*                                    | yes*                                                                                                  |                          | excellent       | very low          |                |
| <b>optibelt MARATHON 2<br/>M=S<br/>automotive V-belts</b>                                                                                                                                                   | -30<br>+90                                  |                    | good            |                | yes*                                    | yes <sup>2)</sup>                                                                                     |                          | excellent       | very low          |                |
| <b>optibelt VB<br/>classic V-belts</b>                                                                                                                                                                      | -40<br>+70                                  | -30<br>+90         | limited         | excellent      | yes                                     | yes <sup>1)</sup>                                                                                     | yes                      | medium/<br>good | low               | very low       |
| <b>optibelt DK<br/>double-sided V-belts</b>                                                                                                                                                                 | -35<br>+85                                  |                    | good            |                | yes                                     |                                                                                                       |                          | medium          | low               |                |
| <b>optibelt VARIO POWER<br/>variable speed belts</b>                                                                                                                                                        | -30<br>+90                                  |                    | good            |                | yes                                     |                                                                                                       |                          | excellent       | very low          |                |
| <b>optibelt RB<br/>ribbed belts</b>                                                                                                                                                                         | -30<br>+90                                  | - 30<br>+120       | good            |                | • PJ<br>PK, PL<br>special constructions |                                                                                                       |                          | excellent       | low               |                |

\* on request

• after testing/examination

| Recommended<br>max. belt speed<br>m/s | Efficiency | Behaviour under<br>shock loading | Vibration tendency | Synchronous | Recommended<br>max. speed ratio           | Suitable for<br>outside<br>idlers |                         | Maintenance                   | <b>Main application areas</b><br>For some application areas and applications different belt types are suitable. The suitable belt is then determined individually for each case. |
|---------------------------------------|------------|----------------------------------|--------------------|-------------|-------------------------------------------|-----------------------------------|-------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       |            |                                  |                    |             |                                           | Standard<br>construction          | Special<br>construction |                               |                                                                                                                                                                                  |
| ≤ 42                                  | up to 97%  | good                             | low                | no          | up to 1 : 10                              | no                                | yes                     | low                           | Compressors, mixers, rotary print machines, extruders, screw compressors, weaving machines, axial fans, rotary pumps                                                             |
| ≤ 55*                                 | up to 97%  | good                             | low                | no          | up to 1 : 10                              | yes                               |                         | maintenance-free              | Fans, pumps, mixers, mills, special machines, lathes and drilling machines, grinding machines                                                                                    |
| ≤ 50*                                 | up to 97%  | limited                          | low                | no          | up to 1 : 10                              | yes                               |                         |                               | Medium to large, heavy to very heavy drives in the machine building industry                                                                                                     |
| ≤ 55*                                 | up to 97%  | good                             | low                | no          | up to 1 : 12                              | yes                               |                         | maintenance-free              | Fans, ventilators, compressors, pumps, mixers, crushing mills, special machines, lathes and drills, grinding machines                                                            |
| depends on profile ≤ 55*              | up to 97%  | good                             | low                | no          | up to 1 : 12                              | no                                | yes                     | low maintenance               | Fans, pumps, mixers, mills, special machines, lathes and drilling machines, grinding machines                                                                                    |
| ≤ 55                                  | up to 97%  | good                             | low                | no          | up to 1 : 12                              | yes                               |                         | To car makers' specifications | Cars and light commercial vehicles                                                                                                                                               |
| ≤ 42                                  | up to 97%  | good                             | low                | no          | up to 1 : 12                              | no                                | yes                     | To car makers' specifications | Commercial vehicles                                                                                                                                                              |
| ≤ 30                                  | up to 97%  | good                             | low                | no          | up to 1 : 12                              | no                                | yes                     | low                           | Pumps, presses, crushers, disk saws, box column drilling machines, plane machines, concrete mixers, compactors, lawn mowers, aerators, baling presses, shredders                 |
| ≤ 30                                  | up to 95%  | good                             | low                | no          | up to 1 : 5                               | yes                               |                         | low                           | Special drives with changing rotary directions, weaving looms, sweepers, harvesters                                                                                              |
| depends on profile ≤ 42               | up to 95%  | good                             | low                | no          | up to 1 : 12 for 2 variable speed pulleys | no                                | yes                     | low                           | Special drives, compact units, snow mobile drives, multi-colour offset printing machines, variable speed pulley sets, threshing drum drives, winding machines, lathes            |
| depends on profile ≤ 60               | up to 96%  | good                             | very low           | no          | up to 1 : 35                              | yes                               |                         | low                           | Offset machines, washing machines, milling machines, electric floor polishers, auxiliaries, main spindle drives                                                                  |

\*  $v > 42$  m/s. Please contact our Application Engineering Department.

# DESIGN SUPPORT

## PROPERTIES



| <p>This table is intended to simplify the selection of the suitable Optibelt drive element according to the specific drive conditions. Detailed information is given in the according chapters of this manual.</p> | Temperature resistance from ... to ... [°C] |                            | Oil resistance  | Electrically conductive | Smooth running | Permanent stretch |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----------------------------|-----------------|-------------------------|----------------|-------------------|
|                                                                                                                                                                                                                    | Standard design                             | Special design XHR and XCR | Standard design |                         |                |                   |
| <b>optibelt OMEGA.</b><br><b>optibelt OMEGA HP +</b><br><b>optibelt OMEGA HL</b><br><b>timing belts</b>                                                                                                            | - 30<br>+100                                | - 40<br>+140               | limited         | yes•                    | medium/good    | none              |
| <b>optibelt ZR</b><br><b>timing belts</b>                                                                                                                                                                          | - 30<br>+100                                | - 30<br>+140               | limited         | no                      | medium         | none              |
| <b>optibelt ALPHA</b><br><b>polyurethane</b><br><b>timing belts</b>                                                                                                                                                | -30<br>+80                                  |                            | good            | no                      | medium         | none              |
| <b>optibelt RR</b><br><b>round belts</b>                                                                                                                                                                           | -10<br>+80                                  |                            | good            | no                      | medium         | high              |
| <b>optibelt KK</b><br><b>V-beltting</b>                                                                                                                                                                            | -10<br>+80                                  |                            | good            | no                      | medium         | high              |
| <b>optibelt OPTIMAT OE</b><br><b>open-ended V-belts,</b><br><b>DIN 2216, punched</b>                                                                                                                               | -20<br>+70                                  |                            | limited         | no                      | medium         | high              |
| <b>optibelt PKR</b><br><b>endless timing belts</b><br><b>with patterned top</b><br><b>surface</b>                                                                                                                  | -30<br>+70                                  |                            | limited         | yes                     | medium         | low               |
| <b>optibelt OPTIMAX HF</b><br><b>endless high</b><br><b>performance</b><br><b>flat belts</b>                                                                                                                       | - 20<br>+110                                |                            | limited         | no                      | excellent      | low               |

• partly after testing/examination



| Recommended<br>max. belt speed<br>m/s | Efficiency    | Behaviour with<br>shock loads | Vibration behaviour    | Synchronous running | Recommended<br>max. conversion | Suitable<br>for<br>outside idlers |                   | Maintenance              | <b>Main application areas</b><br>For some application areas and applications different belt types are suitable. The suitable belt is then determined individually for each case.                                                                                       |
|---------------------------------------|---------------|-------------------------------|------------------------|---------------------|--------------------------------|-----------------------------------|-------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       |               |                               |                        |                     |                                | Standard<br>design                | Special<br>design |                          |                                                                                                                                                                                                                                                                        |
| depends<br>on profile<br>≤ 80         | up to<br>98 % | sensitive                     | depends<br>on<br>speed | yes                 | up to<br>1 : 10                | yes                               | yes               | maintenance-<br>free     | Textile machines, spinning machines, weaving machines, printing machines, paper machines, woodworking machines, machine tools, linear units, roller conveyors, ski systems, packaging machines, gate and door openers, lifting devices, mixers, extruders, compressors |
| depends<br>on profile<br>≤ 80         | up to<br>98 % | sensitive                     | depends<br>on<br>speed | yes                 | up to<br>1 : 10                | yes                               | yes               | maintenance-<br>free     | Copying machines, household appliances, swivel arm robots, gripper drives, belt grinders, camshaft drives, brush drives, clocks, X-Ray devices, enveloping machines, cameras, plotters, slot machines, main machines and feeders, feed drives, material feed, printers |
| depends<br>on profile<br>≤ 80         | up to<br>98 % | sensitive                     | depends<br>on<br>speed | yes                 | up to<br>1 : 10                | yes                               | yes               | maintenance-<br>free     | Cameras, plotters, printers, slot machines, main machines and feeders, feed drives, material feed, test conveyance, flight models                                                                                                                                      |
| ≤ 20                                  | up to<br>95 % | good                          | low                    | no                  | up to<br>1 : 10                | yes                               | yes               | frequent<br>retensioning | Special machinery                                                                                                                                                                                                                                                      |
| ≤ 20                                  | up to<br>95 % | good                          | low                    | no                  | up to<br>1 : 10                | yes                               | yes               | frequent<br>retensioning | Packaging machines, conveyor units, enamelling lines, accumulating conveyor                                                                                                                                                                                            |
| ≤ 20                                  | up to<br>90 % | good                          | medium                 | no                  | up to<br>1 : 10                | limited                           |                   | frequent<br>retensioning | Where installation conditions are difficult                                                                                                                                                                                                                            |
| depends<br>on profile<br>≤ 20         | up to<br>95 % | good                          | low                    | no                  | up to<br>1 : 10                | limited                           | yes               | low                      | Conveyor units in the wood industry, in concrete factories, in the agricultural industry, ceramic industry, glass industry, at airports, in seaports and inland ports                                                                                                  |
| ≤ 70                                  | up to<br>95 % | good                          | very<br>low            | no                  | up to<br>1 : 12                | yes                               |                   | low                      | Water turbines, emergency power generators, saw gates, hackers, screw compressors, roller drives, transmission drives, conical drives, cross cutters, floor cleaners, multi-drives, crushers, close belts, hammer mills                                                |





| Problem                                                        | Causes                                                                                                                                                                                                                                             | Remedies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Belt failure shortly after installation (belt snaps)</b>    | <p>Forced installation, causing damage to the tension cord</p> <p>Entry of foreign objects during operation</p> <p>Drive undersized, not enough belts</p> <p>Drive jammed</p>                                                                      | <p>Follow installation instructions for easy installation</p> <p>Fit protective guard</p> <p>Check drive design and determine new dimensions</p> <p>Remove cause</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Breaks and cracks in the base of the belt (brittleness)</b> | <p>Outside idler pulley in use that does not comply with the positioning and sizes recommended by us</p> <p>Pulley diameter too small</p> <p>Excessive heat</p> <p>Excessive cold</p> <p>Excessive belt slip</p> <p>Contamination by chemicals</p> | <p>Observe Optibelt recommendations, e.g. increase the diameter; replace with an inside idler on the slack side of the drive; use optibelt RED POWER 3 or an Optibelt special design</p> <p>Re-design using recommended minimum pulley diameters; use an Optibelt special design, or optibelt SUPER X-POWER M=S, optibelt SUPER TX M=S</p> <p>Remove or screen heat source; improve ventilation; use optibelt SUPER X-POWER M=S, optibelt SUPER TX M=S or V-belt with aramid cord construction</p> <p>Warm the belt before operation; use Optibelt special design (extra cold resistant)</p> <p>Re-tension drive according to installation instructions; check drive design and re-design if necessary</p> <p>Protect drive from contamination source; use Optibelt special design</p> |
| <b>Severe belt vibration</b>                                   | <p>Drive underdimensioned</p> <p>Centre distance significantly longer than recommended</p> <p>High shock load</p> <p>Belt tension too low</p> <p>Unbalanced V-pulleys</p>                                                                          | <p>Check drive design and modify if necessary</p> <p>Shorten centre distance; use an inside idler in the drive slack side; re-design using optibelt KB kraftbands</p> <p>Use optibelt KB kraftbands; use an inside idler in the drive slack side; use an Optibelt special construction</p> <p>Correct tension</p> <p>Balance pulleys</p>                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Belts cannot be re-tensioned</b>                            | <p>Insufficient allowance for centre distance in drive design</p> <p>Excessive stretch caused by inadequate performance</p> <p>Incorrect belt length</p>                                                                                           | <p>Modify drive to allow for the Optibelt recommended adjustment</p> <p>Carry out drive calculation and re-design</p> <p>Use shorter belts</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

Should other problems occur, please contact our Application Engineering Department. They will require comprehensive technical details in order to provide you with solutions.

# DESIGN SUPPORT

## PROBLEM – CAUSES – REMEDIES



| Problem                                      | Causes                                                                                                                                                                                                                                                                                      | Remedies                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Belts turning over</b>                    | Poor drive alignment<br>Incorrect belt/pulley groove profile<br>Excessive wear in pulley grooves<br>Excessive vibration<br><br>Belt tension too low<br>Foreign matter in the pulley grooves                                                                                                 | Realign pulleys<br>Match belt and pulley groove profile<br>Renew pulleys<br>Use an inside idler on drive slack side; use optibelt KB kraftbands<br>Re-tension drive<br>Remove foreign matter and screen drive                                                                                                                                                        |
| <b>Excessive wear on belt edges</b>          | Starting torque too high<br>Incorrect pulley groove angle<br>Excessive pulley groove wear<br>Incorrect belt/pulley groove profile<br>Poor pulley alignment<br>Pulley diameter below recommended minimum<br><br>Belt tension too low<br>Belt rubbing against or catching on protruding parts | Check drive design and re-design<br>Re-machine or replace pulleys<br>Replace pulleys<br>Match belt and pulley groove profile<br>Realign pulleys<br>Increase pulley diameter (re-design drive); use Optibelt special constructions. optibelt SUPER X-POWER M=S or optibelt SUPER TX M=S<br>Check tension and re-tension<br>Remove protruding parts; re-position drive |
| <b>Excessive running noise</b>               | Poor pulley alignment<br>Belt tension too low<br>Drive overloaded                                                                                                                                                                                                                           | Realign pulleys<br>Check tension and re-tension<br>Check drive design and re-design if necessary                                                                                                                                                                                                                                                                     |
| <b>Belt swelling or softening and sticky</b> | Contamination by oil, grease, chemicals                                                                                                                                                                                                                                                     | Protect drive from contamination source; use optibelt SUPER X-POWER M=S or optibelt SUPER TX M=S or Optibelt special design 05; clean pulley grooves with petrol, alcohol or brake cleaner before installation of new belts                                                                                                                                          |
| <b>Uneven belt stretch</b>                   | Worn or badly manufactured pulley grooves<br>Used belts mixed with new belts on the drive<br>Belts from different manufacturers used on same drive                                                                                                                                          | Replace pulleys<br><br>Replace with a completely new set of belts<br>Belt sets must comprise belts from one manufacturer only – optibelt S=C Plus, optibelt SUPER TX M=S, optibelt SUPER X-POWER M=S                                                                                                                                                                 |

Should other problems occur, please contact our Application Engineering Department. They will require comprehensive technical details in order to provide you with solutions.

# DESIGN SUPPORT

## LENGTH MEASUREMENT CONDITIONS AND CONVERSION FACTORS



### Belt length measurement

The belt is placed over two identically sized measuring pulleys of the groove design shown in the following drawings. The dimensions are given in the tables 85 to 91 on pages 167/168.

By moving to the adjustable pulley the force  $Q$  is applied on the belt. Before measuring the drive centre distance  $a$ , the belt should be rotated three times under load. This ensures that the belt is well seated in the pulley, an essential pre-condition for the accuracy of the resulting measurement.

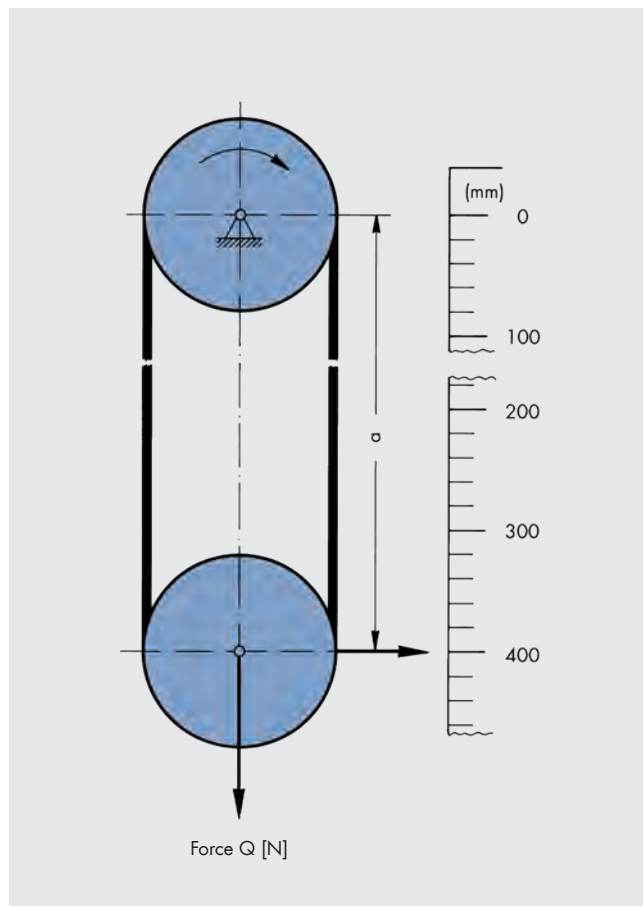
The length is obtained by adding the diameter of the pulley to twice the drive centre distance  $a$ .

$$L_d = 2 a + U_d$$

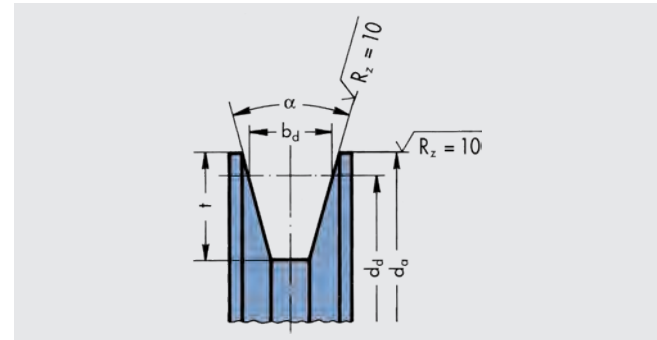
$$L_a = 2 a + U_a$$

Length conversion factors are given in the tables on pages 167/168 and 171/172.

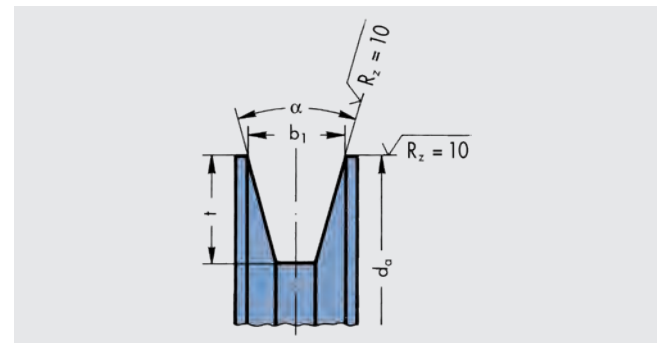
### Arrangement for measuring belt length



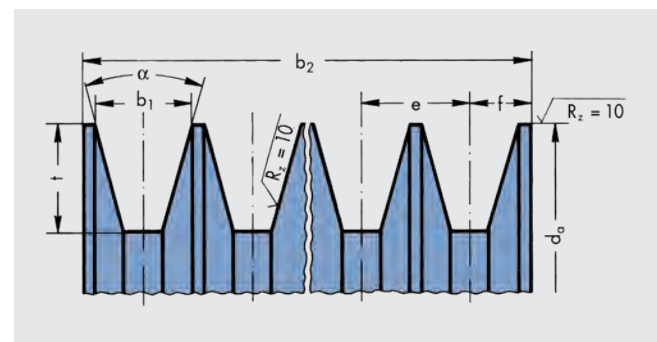
### Measuring pulley for wedge belts DIN 7753 Part 1 and classic V-belts DIN 2215



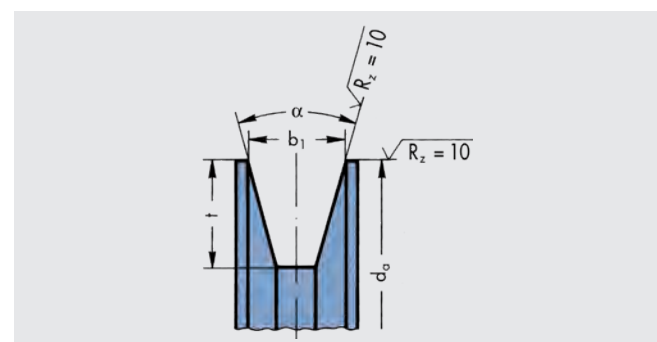
### Measuring pulley for wedge belts ARPM/MPTA



### Measuring pulley for kraftbands



### Measuring pulley for double-sided V-belts



# DESIGN SUPPORT

## LENGTH MEASUREMENT CONDITIONS AND CONVERSION FACTORS



**Table 85: optibelt SK high performance wedge belts**  
 optibelt SUPER X-POWER M=S wedge belts – raw edge, cogged  
 optibelt SUPER XE-POWER PRO M=S high performance wedge belts – raw edge, cogged  
 Measuring pulleys and force according to DIN 7753 Part 1 and ISO 4183

| Profile         | Datum circumference<br>$U_d$<br>$= d_d \cdot \pi$ | Datum diameter<br>$d_d$<br>$\pm 0.05$ | Outside diameter<br>$d_a$<br>$\pm 0.05$ | Datum width<br>$b_d$ | Groove angle<br>$\alpha^\circ$<br>$\pm 10'$ | Groove depth<br>$t_{\min}$ | Measuring force<br>$Q$ [N] | Outside length<br>$L_a$ [mm]                      | Inside length<br>$L_i$ [mm]                       |
|-----------------|---------------------------------------------------|---------------------------------------|-----------------------------------------|----------------------|---------------------------------------------|----------------------------|----------------------------|---------------------------------------------------|---------------------------------------------------|
| <b>SPZ; XPZ</b> | 300                                               | 95.49                                 | 100                                     | 8.50                 | 36                                          | 11                         | 360                        | $L_a \approx L_i + 13$<br>$L_a \approx L_i + 51$  | $L_i \approx L_d - 38$<br>$L_i \approx L_a - 51$  |
| <b>SPA; XPA</b> | 450                                               | 143.24                                | 149                                     | 11.00                | 36                                          | 14                         | 560                        | $L_a \approx L_i + 18$<br>$L_a \approx L_i + 63$  | $L_i \approx L_d - 45$<br>$L_i \approx L_a - 63$  |
| <b>SPB; XPB</b> | 600                                               | 190.99                                | 198                                     | 14.00                | 36                                          | 18                         | 900                        | $L_a \approx L_i + 22$<br>$L_a \approx L_i + 82$  | $L_i \approx L_d - 60$<br>$L_i \approx L_a - 82$  |
| <b>SPC; XPC</b> | 1000                                              | 318.31                                | 328                                     | 19.00                | 36                                          | 24                         | 1500                       | $L_a \approx L_i + 30$<br>$L_a \approx L_i + 113$ | $L_i \approx L_d - 83$<br>$L_i \approx L_a - 113$ |

**Table 86: optibelt SK high performance wedge belts**  
 optibelt SUPER X-POWER M=S wedge belts – raw edge, cogged  
 optibelt SUPER XE-POWER PRO M=S high performance wedge belts – raw edge, cogged  
 Measuring pulleys and force according to ARPM/MPA

| Profile                 | Outside circumference<br>$U_a$<br>$= d_a \cdot \pi$ | Outside diameter<br>$d_a$<br>$\pm 0.13$ | Upper groove width<br>$b_1$<br>$\pm 0.13$ | Groove angle<br>$\alpha^\circ$<br>$\pm 15'$ | Groove depth<br>$t_{\min}$ | Measuring force<br>$Q$ [N] | Inside length<br>$L_i$ [mm] |
|-------------------------|-----------------------------------------------------|-----------------------------------------|-------------------------------------------|---------------------------------------------|----------------------------|----------------------------|-----------------------------|
| <b>3V/9N; 3VX/9NX</b>   | 300                                                 | 95.50                                   | 8.90                                      | 38                                          | 9.00                       | 445                        | $L_i \approx L_a - 42$      |
| <b>5V/15N; 5VX/15NX</b> | 600                                                 | 191.00                                  | 15.24                                     | 38                                          | 15.00                      | 1000                       | $L_i \approx L_a - 71$      |
| <b>8V/25N</b>           | 1000                                                | 318.30                                  | 25.40                                     | 38                                          | 25.50                      | 2225                       | $L_i \approx L_a - 120$     |

**Table 87: optibelt VB classic V-belts**  
 optibelt SUPER TX M=S classic V-belts – raw edge, cogged  
 Measuring pulleys and force according to DIN 2215 und ISO 4183

| Profile             | Datum circumference<br>$U_d$<br>$= d_d \cdot \pi$ | Datum diameter<br>$d_d$<br>$\pm 0.05$ | Outside diameter<br>$d_a$<br>$\pm 0.05$ | Datum width<br>$b_d$ | Groove angle<br>$\alpha^\circ$<br>$\pm 10'$ | Groove depth<br>$t_{\min}$ | Measuring force<br>$Q$ [N] | Outside length<br>$L_a$ [mm]                      | Datum length<br>$L_d$ [mm]                       |
|---------------------|---------------------------------------------------|---------------------------------------|-----------------------------------------|----------------------|---------------------------------------------|----------------------------|----------------------------|---------------------------------------------------|--------------------------------------------------|
| <b>5</b>            | 70                                                | 22.28                                 | 24.88                                   | 4.20                 | 32                                          | 5                          | 30                         | $L_a \approx L_i + 19$<br>$L_a \approx L_d + 8$   | $L_d \approx L_i + 11$<br>$L_d \approx L_a - 8$  |
| <b>Y/6</b>          | 90                                                | 28.65                                 | 31.85                                   | 5.30                 | 32                                          | 6                          | 40                         | $L_a \approx L_i + 25$<br>$L_a \approx L_d + 10$  | $L_d \approx L_i + 15$<br>$L_d \approx L_a - 10$ |
| <b>8</b>            | 140                                               | 44.56                                 | 48.56                                   | 6.70                 | 32                                          | 8                          | 80                         | $L_a \approx L_i + 31$<br>$L_a \approx L_d + 12$  | $L_d \approx L_i + 19$<br>$L_d \approx L_a - 12$ |
| <b>Z/10; ZX/X10</b> | 180                                               | 57.30                                 | 62.30                                   | 8.50                 | 34                                          | 10                         | 110                        | $L_a \approx L_i + 38$<br>$L_a \approx L_d + 16$  | $L_d \approx L_i + 22$<br>$L_d \approx L_a - 16$ |
| <b>A/13; AX/X13</b> | 300                                               | 95.50                                 | 102.10                                  | 11.00                | 34                                          | 12                         | 200                        | $L_a \approx L_i + 50$<br>$L_a \approx L_d + 20$  | $L_d \approx L_i + 30$<br>$L_d \approx L_a - 20$ |
| <b>B/17; BX/X17</b> | 400                                               | 127.32                                | 135.72                                  | 14.00                | 34                                          | 15                         | 300                        | $L_a \approx L_i + 69$<br>$L_a \approx L_d + 29$  | $L_d \approx L_i + 40$<br>$L_d \approx L_a - 29$ |
| <b>20</b>           | 520                                               | 165.52                                | 175.12                                  | 17.00                | 34                                          | 18                         | 750                        | $L_a \approx L_i + 79$<br>$L_a \approx L_d + 31$  | $L_d \approx L_i + 50$<br>$L_d \approx L_a - 31$ |
| <b>C/22; CX/X22</b> | 700                                               | 222.82                                | 234.22                                  | 19.00                | 34                                          | 20                         | 750                        | $L_a \approx L_i + 88$<br>$L_a \approx L_d + 30$  | $L_d \approx L_i + 58$<br>$L_d \approx L_a - 30$ |
| <b>25</b>           | 800                                               | 254.65                                | 267.25                                  | 21.00                | 34                                          | 22                         | 750                        | $L_a \approx L_i + 100$<br>$L_a \approx L_d + 39$ | $L_d \approx L_i + 60$<br>$L_d \approx L_a - 39$ |
| <b>D/32</b>         | 1000                                              | 318.31                                | 334.52                                  | 27.00                | 36                                          | 28                         | 1400                       | $L_a \approx L_i + 126$<br>$L_a \approx L_d + 51$ | $L_d \approx L_i + 75$<br>$L_d \approx L_a - 51$ |
| <b>E/40</b>         | 1800                                              | 572.96                                | 596.96                                  | 32.00                | 36                                          | 36                         | 1800                       | $L_a \approx L_i + 157$<br>$L_a \approx L_d + 77$ | $L_d \approx L_i + 80$<br>$L_d \approx L_a - 77$ |

# DESIGN SUPPORT

## LENGTH MEASUREMENT CONDITIONS AND CONVERSION FACTORS



**Table 88: optibelt KB kraftbands with high performance wedge belts**  
Measuring pulleys and force

| Profile       | Outside circumference<br>$U_a = d_a \cdot \pi$ | Outside diameter<br>$d_a \pm 0.13$ | Upper groove width<br>$b_1 \pm 0.13$ | Groove angle<br>$\alpha^\circ \pm 15'$ | Groove depth<br>$t_{\min}$ | Groove pitch<br>$e$ | Tolerance<br>$e^{1)}$ | $\Sigma$ Tol.<br>$e^{2)}$ | Force per rib<br>$Q$ [N] | Inside length<br>$L_i$ [mm] |
|---------------|------------------------------------------------|------------------------------------|--------------------------------------|----------------------------------------|----------------------------|---------------------|-----------------------|---------------------------|--------------------------|-----------------------------|
| <b>3V/9J</b>  | 300                                            | 95.50                              | 8.90                                 | 38                                     | 9.00                       | 10.30               | $\pm 0.25$            | $\pm 0.5$                 | 445                      | $L_i \approx L_a - 42$      |
| <b>5V/15J</b> | 600                                            | 191.00                             | 15.20                                | 38                                     | 15.00                      | 17.50               | $\pm 0.25$            | $\pm 0.5$                 | 1000                     | $L_i \approx L_a - 71$      |
| <b>8V/25J</b> | 1000                                           | 318.30                             | 25.40                                | 38                                     | 25.50                      | 28.60               | $\pm 0.40$            | $\pm 0.8$                 | 2225                     | $L_i \approx L_a - 120$     |

**Table 89: optibelt KB kraftbands**  
Measuring pulleys and force

| Profile    | Datum circumference<br>$U_d = d_d \cdot \pi$ | Datum diameter<br>$d_d \pm 0.13$ | Outside diameter<br>$d_a \pm 0.13$ | Datum width<br>$b_d$ | Groove angle<br>$\alpha^\circ \pm 15'$ | Groove depth<br>$t_{\min}$ | Groove pitch<br>$e$ | Tolerance<br>$e^{1)}$ | $\Sigma$ Tol.<br>$e^{2)}$ | Force per rib<br>$Q$ [N] | Datum length<br>$L_d$ [mm] |
|------------|----------------------------------------------|----------------------------------|------------------------------------|----------------------|----------------------------------------|----------------------------|---------------------|-----------------------|---------------------------|--------------------------|----------------------------|
| <b>SPZ</b> | 300                                          | 95.49                            | 100.00                             | 8.50                 | 36                                     | 11.00                      | 12.00               | $\pm 0.30$            | $\pm 0.5$                 | 360                      | $L_d \approx L_a - 13$     |
| <b>SPA</b> | 450                                          | 143.24                           | 149.00                             | 11.00                | 36                                     | 14.00                      | 15.00               | $\pm 0.30$            | $\pm 0.5$                 | 560                      | $L_d \approx L_a - 18$     |
| <b>SPB</b> | 600                                          | 190.99                           | 198.00                             | 14.00                | 36                                     | 18.00                      | 19.00               | $\pm 0.40$            | $\pm 0.8$                 | 900                      | $L_d \approx L_a - 22$     |
| <b>SPC</b> | 1000                                         | 318.31                           | 328.00                             | 19.00                | 36                                     | 24.00                      | 25.50               | $\pm 0.40$            | $\pm 0.8$                 | 1500                     | $L_d \approx L_a - 30$     |

**Table 90: optibelt KB kraftbands with classic V-belts**  
Measuring pulleys and force

| Profile     | Outside circumference<br>$U_a = d_a \cdot \pi$ | Outside diameter<br>$d_a \pm 0.13$ | Upper groove width<br>$b_1 \pm 0.13$ | Groove angle<br>$\alpha^\circ \pm 15'$ | Groove depth<br>$t_{\min}$ | Groove pitch<br>$e$ | Tolerance<br>$e^{1)}$ | $\Sigma$ Tol.<br>$e^{2)}$ | Force per rib<br>$Q$ [N] | Inside length<br>$L_i$ [mm] |
|-------------|------------------------------------------------|------------------------------------|--------------------------------------|----------------------------------------|----------------------------|---------------------|-----------------------|---------------------------|--------------------------|-----------------------------|
| <b>A/HA</b> | 254                                            | 80.85                              | 12.45                                | 32                                     | 12.50                      | 15.88               | $\pm 0.38$            | $\pm 0.8$                 | 300                      | $L_i \approx L_a - 36$      |
| <b>B/HB</b> | 381                                            | 121.28                             | 16.00                                | 32                                     | 14.50                      | 19.05               | $\pm 0.38$            | $\pm 0.8$                 | 450                      | $L_i \approx L_a - 62$      |
| <b>C/HC</b> | 635                                            | 202.13                             | 22.33                                | 34                                     | 20.00                      | 25.40               | $\pm 0.38$            | $\pm 0.8$                 | 850                      | $L_i \approx L_a - 75$      |
| <b>D/HD</b> | 889                                            | 282.96                             | 31.98                                | 34                                     | 28.00                      | 36.53               | $\pm 0.38$            | $\pm 0.8$                 | 1000                     | $L_i \approx L_a - 111$     |

1) Tolerance for the medium distance  $e$  between two adjacent grooves

2) Sum of all deviations from the nominal size  $e$  for all groove distances on one pulley must not exceed the given values.

**Table 91: optibelt DK double-sided V-belts**  
Measuring pulleys and force according to ISO 5289

| Profile        | Outside circumference<br>$U_a = d_a \cdot \pi$ | Outside diameter<br>$d_a$ | Upper groove width<br>$b_1$ | Groove angle<br>$\alpha^\circ \pm 20'$ | Groove depth<br>$t_{\min}$ | Measuring force<br>$Q$ [N] |
|----------------|------------------------------------------------|---------------------------|-----------------------------|----------------------------------------|----------------------------|----------------------------|
| <b>AA/HAA</b>  | 300                                            | 95.49                     | 12.60                       | 34                                     | 8                          | 300                        |
| <b>BB/HBB</b>  | 400                                            | 127.32                    | 16.20                       | 34                                     | 10                         | 450                        |
| <b>CC/HCC</b>  | 600                                            | 190.99                    | 22.30                       | 34                                     | 14                         | 850                        |
| <b>DD/HDD</b>  | 900                                            | 286.48                    | 32.00                       | 34                                     | 20                         | 1400                       |
| <b>22 x 22</b> | 600                                            | 190.99                    | 22.30                       | 34                                     | 14                         | 750                        |
| <b>25 x 22</b> | 942                                            | 300.00                    | 25.00                       | 34                                     | 22                         | 1200                       |

# DESIGN SUPPORT

## LENGTH TOLERANCES



Table 92: Endless wedge belts DIN 7753 Part 1

| Profile                                  | Datum length [mm] | Length tolerance [mm]<br>Allowed deviation<br>of the datum lengths |                | Set tolerances [mm]<br>Allowed deviation between<br>datum lengths $L_d$ of the belts in one<br>and the same set on<br>multi-grooved belt drives |                      |                              |                               |
|------------------------------------------|-------------------|--------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------|-------------------------------|
|                                          |                   | Optibelt<br>wrapped                                                | DIN 7753       | Optibelt<br>wrapped                                                                                                                             | Optibelt<br>raw edge | DIN 7753/ISO 4184<br>wrapped | DIN 7753/ISO 4184<br>raw edge |
| SPZ/XPZ<br>SPA/XPA<br>SPB/XPB<br>SPC/XPC | > 630 ≤ 900       | DIN                                                                | ± 6 to ± 9     | 2                                                                                                                                               | 2                    | 2                            | 2                             |
|                                          | > 900 ≤ 1250      | DIN                                                                | ± 9 to ± 12    | 2                                                                                                                                               | 4                    | 2                            | 4                             |
|                                          | > 1250 ≤ 2000     | ± 2                                                                | ± 12 to ± 20   | ± 2                                                                                                                                             | 6                    | 2                            | 6                             |
|                                          | > 2000 ≤ 3150     | ± 2                                                                | ± 20 to ± 32   | ± 2                                                                                                                                             | 6                    | 4                            | 6                             |
|                                          | > 3150 ≤ 5000*    | ± 2                                                                | ± 32 to ± 50   | ± 2                                                                                                                                             | 10*                  | 6                            | 10*                           |
|                                          | > 5000 ≤ 8000     | ± 4                                                                | ± 50 to ± 80   | ± 4                                                                                                                                             |                      | 10                           |                               |
|                                          | > 8000 ≤ 10000    | ± 6                                                                | ± 80 to ± 100  | ± 6                                                                                                                                             |                      | 16                           |                               |
|                                          | > 10000 ≤ 12500   | ± 8                                                                | ± 100 to ± 125 | ± 8                                                                                                                                             |                      |                              |                               |

Table 93: Classic V-belts DIN 2215

| Profile                                                                                                   | Datum length [mm] | Length tolerance [mm]<br>Allowed deviation<br>of the datum lengths |            | Set tolerances [mm]<br>Allowed deviation between<br>datum lengths $L_d$ of the belts in one<br>and the same set on<br>multi-grooved belt drives |                      |                              |                               |
|-----------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------|-------------------------------|
|                                                                                                           |                   | Optibelt<br>wrapped                                                | DIN 2215   | Optibelt<br>wrapped                                                                                                                             | Optibelt<br>raw edge | DIN 2215/ISO 4184<br>wrapped | DIN 2215/ISO 4184<br>raw edge |
| 5<br>Y/6<br>8<br>Z/10; ZX/X10<br>A/13; AX/X13<br>B/17; BX/X17<br>20<br>C/22; CX/X22<br>25<br>D/32<br>E/40 | ≤ 250             | DIN                                                                | + 8/- 4    | 2                                                                                                                                               |                      | 2                            | 2                             |
|                                                                                                           | > 250 ≤ 315       | DIN                                                                | + 9/- 4    | 2                                                                                                                                               |                      | 2                            | 2                             |
|                                                                                                           | > 315 ≤ 400       | DIN                                                                | + 10/- 5   | 2                                                                                                                                               |                      | 2                            | 2                             |
|                                                                                                           | > 400 ≤ 500       | DIN                                                                | + 11/- 6   | 2                                                                                                                                               |                      | 2                            | 2                             |
|                                                                                                           | > 500 ≤ 630       | DIN                                                                | + 13/- 6   | 2                                                                                                                                               | 2                    | 2                            | 2                             |
|                                                                                                           | > 630 ≤ 800       | DIN                                                                | + 15/- 7   | 2                                                                                                                                               | 2                    | 2                            | 2                             |
|                                                                                                           | > 800 ≤ 900       | DIN                                                                | + 17/- 8   | 2                                                                                                                                               | 2                    | 2                            | 2                             |
|                                                                                                           | > 900 ≤ 1250      | DIN                                                                | + 19/- 10  | 4                                                                                                                                               | 4                    | 4                            | 4                             |
|                                                                                                           | > 1250 ≤ 1600     | ± 2                                                                | + 23/- 11  | ± 2                                                                                                                                             | 4                    | 4                            | 4                             |
|                                                                                                           | > 1600 ≤ 2000     | ± 2                                                                | + 27/- 13  | ± 2                                                                                                                                             | 4                    | 4                            | 4                             |
|                                                                                                           | > 2000 ≤ 2500     | ± 2                                                                | + 31/- 16  | ± 2                                                                                                                                             | 6                    | 8                            | 8                             |
|                                                                                                           | > 2500 ≤ 3150     | ± 2                                                                | + 37/- 18  | ± 2                                                                                                                                             | 8                    | 8                            | 8                             |
|                                                                                                           | > 3150 ≤ 4000*    | ± 2                                                                | + 44/- 22  | ± 2                                                                                                                                             | 8*                   | 12                           | 12*                           |
|                                                                                                           | > 4000 ≤ 5000     | ± 2                                                                | + 52/- 26  | ± 2                                                                                                                                             |                      | 12                           |                               |
|                                                                                                           | > 5000 ≤ 6300     | ± 4                                                                | + 63/- 32  | ± 4                                                                                                                                             |                      | 20                           |                               |
|                                                                                                           | > 6300 ≤ 8000     | ± 4                                                                | + 77/- 38  | ± 4                                                                                                                                             |                      | 20                           |                               |
|                                                                                                           | > 8000 ≤ 10000    | ± 6                                                                | + 93/- 46  | ± 6                                                                                                                                             |                      | 32                           |                               |
|                                                                                                           | > 10000 ≤ 12500   | ± 8                                                                | + 112/- 56 | ± 8                                                                                                                                             |                      | 32                           |                               |
|                                                                                                           | > 12500 ≤ 15000   | DIN                                                                | + 140/- 70 | DIN                                                                                                                                             |                      | 48                           |                               |
|                                                                                                           | > 15000 ≤ 20000   | DIN                                                                | + 170/- 85 | DIN                                                                                                                                             |                      | 48                           |                               |

\* Maximum production length for raw edge V-belts ≤ 3550 mm

optibelt S=C Plus and optibelt M=S V-belts can be used in sets without measuring.



Table 94: Endless wedge belts ARPM/MPTA

| Profile                                          | Length designation | Outside length [mm] | Length tolerance [mm]<br>Allowed deviation from outside lengths<br>Replace complete belt sets! |           | Set tolerance [mm]<br>Allowed deviation between the outside lengths $L_o$ of the belts in one and the same set on multi-grooved belt drives<br>Replace complete belt sets! |          |           |
|--------------------------------------------------|--------------------|---------------------|------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------|
|                                                  |                    |                     | Optibelt wrapped                                                                               | ARPM/MPTA | Optibelt wrapped                                                                                                                                                           | raw edge | ARPM/MPTA |
| 3V/9N<br>3VX/9NX<br>5V/15N<br>5VX/15NX<br>8V/25N | 265 ≤ 500          | 673 ≤ 1 270         | acc. ARPM/MPTA                                                                                 | ± 8       | 4                                                                                                                                                                          | 4        | 4         |
|                                                  | 530                | 1 346               | ± 2                                                                                            | ± 10      | ± 2                                                                                                                                                                        | 4        | 4         |
|                                                  | 560                | 1 422               | ± 2                                                                                            | ± 10      | ± 2                                                                                                                                                                        | 6        | 6         |
|                                                  | 600 ≤ 800          | 1 524 ≤ 2 032       | ± 2                                                                                            | ± 10      | ± 2                                                                                                                                                                        | 6        | 6         |
|                                                  | 800 ≤ 1 000        | 2 032 ≤ 2 540       | ± 2                                                                                            | ± 13      | ± 2                                                                                                                                                                        | 6        | 6         |
|                                                  | 1 000 ≤ 1 060      | 2 540 ≤ 2 692       | ± 2                                                                                            | ± 15      | ± 2                                                                                                                                                                        | 6        | 6         |
|                                                  | 1 120 ≤ 1 400      | 2 845 ≤ 3 556       | ± 2                                                                                            | ± 15      | ± 2                                                                                                                                                                        | 10*      | 10        |
|                                                  | 1 500 ≤ 1 900      | 3 810 ≤ 4 826       | ± 2                                                                                            | ± 20      | ± 2                                                                                                                                                                        |          | 10        |
|                                                  | 2 000 ≤ 2 360      | 5 080 ≤ 5 994       | ± 4                                                                                            | ± 20      | ± 4                                                                                                                                                                        |          | 10        |
|                                                  | 2 500 ≤ 3 000      | 6 350 ≤ 7 620       | ± 4                                                                                            | ± 20      | ± 4                                                                                                                                                                        |          | 16        |
|                                                  | 3 150 ≤ 3 750      | 8 001 ≤ 9 525       | ± 6                                                                                            | ± 25      | ± 6                                                                                                                                                                        |          | 16        |
|                                                  | 4 000              | 10 160              | ± 8                                                                                            | ± 25      | ± 8                                                                                                                                                                        |          | 16        |
|                                                  | 4 250 ≤ 4 500      | 10 795 ≤ 11 430     | ± 8                                                                                            | ± 30      | ± 8                                                                                                                                                                        |          | 16        |
|                                                  | 4 750 ≤ 5 000      | 12 065 ≤ 12 700     | ± 12                                                                                           | ± 30      | ± 12                                                                                                                                                                       |          | 24        |

Table 95: Double-sided V-belts

| Profile                                                    | Reference length [mm] | Length tolerance [mm]<br>Allowed deviation of the reference lengths | Set tolerance [mm]<br>Allowed deviation between the reference length of the double-sided V-belts in one and the same set on multi-grooved belt drives |
|------------------------------------------------------------|-----------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| AA/HAA<br>BB/HBB<br>CC/HCC<br>DD/HDD<br>22 x 22<br>25 x 22 | 1 250 < 1 320         | + 8/- 16                                                            | 4                                                                                                                                                     |
|                                                            | 1 320 < 1 700         | + 9/- 18                                                            | 4                                                                                                                                                     |
|                                                            | 1 700 < 2 120         | + 11/- 22                                                           | 5                                                                                                                                                     |
|                                                            | 2 120 < 2 650         | + 13/- 26                                                           | 6.3                                                                                                                                                   |
|                                                            | 2 650 < 3 350         | + 15/- 30                                                           | 8                                                                                                                                                     |
|                                                            | 3 350 < 4 250         | + 18/- 36                                                           | 10                                                                                                                                                    |
|                                                            | 4 250 < 5 300         | + 22/- 44                                                           | 12.5                                                                                                                                                  |
|                                                            | 5 300 < 6 700         | + 26/- 52                                                           | 16                                                                                                                                                    |
|                                                            | 6 700 < 8 500         | + 32/- 64                                                           | 20                                                                                                                                                    |
|                                                            | 8 500 < 10 000        | + 39/- 78                                                           | 25                                                                                                                                                    |

Table 96: Kraftbands with high performance wedge belts and classic V-belts

| Profile                                      | Length and set tolerances |
|----------------------------------------------|---------------------------|
| 3V/9J; 3VX/9JX<br>5V/15J; 5VX/15JX<br>8V/25J | see table 94. ARPM/MPTA   |
| SPZ; SPA; SPB; SPC                           | see table 92. DIN/ISO     |
| A/HA<br>B/HB<br>C/HC<br>D/HD                 | DIN/ASAE                  |

\* Maximum production length for raw edge V-belts ≤ 3550 mm

# TABLES

## CONVERSION FACTORS



### optibelt SK high performance wedge belts DIN 7753 Part 1

| Profile | Cross-section<br>b x h ≈ | Bottom<br>belt<br>width<br>b <sub>u</sub> ≈ | Nominal<br>width<br>b <sub>d</sub> | Belt length                         |                                                                               |                                |                                                                               | Recommended<br>minimum<br>pulley diameter<br>[mm] |     | Meter<br>weight<br>[≈ kg/m] |
|---------|--------------------------|---------------------------------------------|------------------------------------|-------------------------------------|-------------------------------------------------------------------------------|--------------------------------|-------------------------------------------------------------------------------|---------------------------------------------------|-----|-----------------------------|
|         |                          |                                             |                                    | Nominal<br>length                   | Outside length<br>L <sub>a</sub>                                              | Pitch length<br>L <sub>d</sub> | Inside length<br>L <sub>i</sub>                                               |                                                   |     |                             |
| SPZ     | 9.7 x 8                  | 4.2                                         | 8.5                                | Nominal<br>length<br>L <sub>d</sub> | L <sub>a</sub> ≈ L <sub>d</sub> + 13<br>L <sub>i</sub> ≈ L <sub>i</sub> + 51  | —                              | L <sub>i</sub> ≈ L <sub>d</sub> – 38<br>L <sub>i</sub> ≈ L <sub>a</sub> – 51  | Nominal<br>diameter<br>d <sub>d</sub>             | 63  | 0.074                       |
| SPA     | 12.7 x 10                | 5.8                                         | 11.0                               |                                     | L <sub>a</sub> ≈ L <sub>d</sub> + 18<br>L <sub>i</sub> ≈ L <sub>i</sub> + 63  | —                              | L <sub>i</sub> ≈ L <sub>d</sub> – 45<br>L <sub>i</sub> ≈ L <sub>a</sub> – 63  |                                                   | 90  | 0.123                       |
| SPB     | 16.3 x 13                | 7.3                                         | 14.0                               |                                     | L <sub>a</sub> ≈ L <sub>d</sub> + 22<br>L <sub>i</sub> ≈ L <sub>i</sub> + 82  | —                              | L <sub>i</sub> ≈ L <sub>d</sub> – 60<br>L <sub>i</sub> ≈ L <sub>a</sub> – 82  |                                                   | 140 | 0.195                       |
| SPC     | 22.0 x 18                | 9.6                                         | 19.0                               |                                     | L <sub>a</sub> ≈ L <sub>d</sub> + 30<br>L <sub>i</sub> ≈ L <sub>i</sub> + 113 | —                              | L <sub>i</sub> ≈ L <sub>d</sub> – 83<br>L <sub>i</sub> ≈ L <sub>a</sub> – 113 |                                                   | 224 | 0.377                       |

### optibelt SK high performance wedge belts ARPM/MPPTA

|        |           |     |   |                            |   |                         |                         |                              |     |       |
|--------|-----------|-----|---|----------------------------|---|-------------------------|-------------------------|------------------------------|-----|-------|
| 3V/9N  | 9.0 x 8   | 4.2 | — | Outside<br>length<br>$L_o$ | — | $L_d \approx L_o - 4*$  | $L_i \approx L_o - 42$  | Outside<br>diameter<br>$d_o$ | 67  | 0.074 |
| 5V/15N | 15.0 x 13 | 7.3 | — |                            | — | $L_d \approx L_o - 11*$ | $L_i \approx L_o - 71$  |                              | 151 | 0.195 |
| 8V/25N | 25.0 x 23 | 9.6 | — |                            | — | —                       | $L_i \approx L_o - 120$ |                              | 315 | 0.575 |

\* The conversion factor  $L_d$  to  $L_o$  is used when a profile according to DIN 7753 Part 1 is to be replaced by the corresponding profile according to ARPM/MPPTA.

### optibelt SUPER X-POWER M=S wedge belts – raw edge, cogged – DIN 7753 Part 1

### optibelt SUPER XE-POWER PRO M=S high performance wedge belts – raw edge, cogged – DIN 7753 Part 1

|     |           |     |      |                            |                                                   |   |                                                   |                              |     |       |
|-----|-----------|-----|------|----------------------------|---------------------------------------------------|---|---------------------------------------------------|------------------------------|-----|-------|
| XPZ | 9.7 x 8   | 4.2 | 8.5  | Nominal<br>length<br>$L_d$ | $L_o \approx L_d + 13$<br>$L_o \approx L_i + 51$  | — | $L_i \approx L_d - 38$<br>$L_i \approx L_o - 51$  | Nominal<br>diameter<br>$d_d$ | 56  | 0.065 |
| XPA | 12.7 x 10 | 5.8 | 11.0 |                            | $L_o \approx L_d + 18$<br>$L_o \approx L_i + 63$  | — | $L_i \approx L_d - 45$<br>$L_i \approx L_o - 63$  |                              | 71  | 0.111 |
| XPB | 16.3 x 13 | 7.3 | 14.0 |                            | $L_o \approx L_d + 22$<br>$L_o \approx L_i + 82$  | — | $L_i \approx L_d - 60$<br>$L_i \approx L_o - 82$  |                              | 112 | 0.183 |
| XPC | 22.0 x 18 | 9.6 | 19.0 |                            | $L_o \approx L_d + 30$<br>$L_o \approx L_i + 113$ | — | $L_i \approx L_d - 83$<br>$L_i \approx L_o - 113$ |                              | 180 | 0.340 |

### optibelt SUPER X-POWER M=S wedge belts – raw edge, cogged – ARPM/MPPTA

### optibelt SUPER XE-POWER PRO M=S high performance wedge belts – raw edge, cogged – ARPM/MPPTA

|          |           |     |   |                            |   |                         |                        |                              |     |       |
|----------|-----------|-----|---|----------------------------|---|-------------------------|------------------------|------------------------------|-----|-------|
| 3VX/9NX  | 9.0 x 8   | 4.2 | — | Outside<br>length<br>$L_o$ | — | $L_d \approx L_o - 4*$  | $L_i \approx L_o - 42$ | Outside<br>diameter<br>$d_o$ | 56  | 0.065 |
| 5VX/15NX | 15.0 x 13 | 7.3 | — |                            | — | $L_d \approx L_o - 11*$ | $L_i \approx L_o - 71$ |                              | 112 | 0.183 |

\* The conversion factor  $L_d$  to  $L_o$  is used when a profile according to DIN 7753 Part 1 is to be replaced by the corresponding profile according to ARPM/MPPTA.

### optibelt SUPER TX M=S V-belts – raw edge, cogged

|        |           |      |      |                            |                                                  |   |                                                  |                              |     |       |
|--------|-----------|------|------|----------------------------|--------------------------------------------------|---|--------------------------------------------------|------------------------------|-----|-------|
| ZX/X10 | 10.0 x 6  | 5.9  | 8.5  | Nominal<br>length<br>$L_d$ | $L_o \approx L_i + 38$<br>$L_o \approx L_d + 16$ | — | $L_i \approx L_d - 22$<br>$L_i \approx L_o - 38$ | Nominal<br>diameter<br>$d_d$ | 40  | 0.062 |
| AX/X13 | 13.0 x 8  | 7.5  | 11.0 |                            | $L_o \approx L_i + 50$<br>$L_o \approx L_d + 20$ | — | $L_i \approx L_d - 30$<br>$L_i \approx L_o - 50$ |                              | 63  | 0.099 |
| BX/X17 | 17.0 x 11 | 9.4  | 14.0 |                            | $L_o \approx L_i + 69$<br>$L_o \approx L_d + 29$ | — | $L_i \approx L_d - 40$<br>$L_i \approx L_o - 69$ |                              | 90  | 0.165 |
| CX/X22 | 22.0 x 14 | 12.3 | 19.0 |                            | $L_o \approx L_i + 88$<br>$L_o \approx L_d + 30$ | — | $L_i \approx L_d - 58$<br>$L_i \approx L_o - 88$ |                              | 140 | 0.276 |

### optibelt VB classic V-belts DIN 2215

|      |             |      |      |                            |                                                   |                                                  |   |                              |     |       |
|------|-------------|------|------|----------------------------|---------------------------------------------------|--------------------------------------------------|---|------------------------------|-----|-------|
| 5    | 5.0 x 3     | 2.8  | 4.2  | Nominal<br>length<br>$L_d$ | $L_o \approx L_i + 19$<br>$L_o \approx L_d + 8$   | $L_d \approx L_i + 11$<br>$L_d \approx L_o - 8$  | — | Nominal<br>diameter<br>$d_d$ | 20  | 0.018 |
| Y/6  | 6.0 x 4     | 3.3  | 5.3  |                            | $L_o \approx L_i + 25$<br>$L_o \approx L_d + 10$  | $L_d \approx L_i + 15$<br>$L_d \approx L_o - 10$ | — |                              | 28  | 0.026 |
| 8    | 8.0 x 5     | 4.5  | 6.7  |                            | $L_o \approx L_i + 31$<br>$L_o \approx L_d + 12$  | $L_d \approx L_i + 19$<br>$L_d \approx L_o - 12$ | — |                              | 40  | 0.042 |
| Z/10 | 10.0 x 6    | 5.9  | 8.5  |                            | $L_o \approx L_i + 38$<br>$L_o \approx L_d + 16$  | $L_d \approx L_i + 22$<br>$L_d \approx L_o - 16$ | — |                              | 50  | 0.064 |
| A/13 | 13.0 x 8    | 7.5  | 11.0 |                            | $L_o \approx L_i + 50$<br>$L_o \approx L_d + 20$  | $L_d \approx L_i + 30$<br>$L_d \approx L_o - 20$ | — |                              | 71  | 0.109 |
| B/17 | 17.0 x 11   | 9.4  | 14.0 |                            | $L_o \approx L_i + 69$<br>$L_o \approx L_d + 29$  | $L_d \approx L_i + 40$<br>$L_d \approx L_o - 29$ | — |                              | 112 | 0.196 |
| 20   | 20.0 x 12.5 | 11.4 | 17.0 |                            | $L_o \approx L_i + 79$<br>$L_o \approx L_d + 31$  | $L_d \approx L_i + 50$<br>$L_d \approx L_o - 31$ | — |                              | 160 | 0.266 |
| C/22 | 22.0 x 14   | 12.3 | 19.0 |                            | $L_o \approx L_i + 88$<br>$L_o \approx L_d + 30$  | $L_d \approx L_i + 58$<br>$L_d \approx L_o - 30$ | — |                              | 180 | 0.324 |
| 25   | 25.0 x 16   | 14.0 | 21.0 |                            | $L_o \approx L_i + 100$<br>$L_o \approx L_d + 39$ | $L_d \approx L_i + 60$<br>$L_d \approx L_o - 39$ | — |                              | 250 | 0.420 |
| D/32 | 32.0 x 20   | 18.2 | 27.0 |                            | $L_o \approx L_i + 126$<br>$L_o \approx L_d + 51$ | $L_d \approx L_i + 75$<br>$L_d \approx L_o - 51$ | — |                              | 355 | 0.668 |
| E/40 | 40.0 x 25   | 22.8 | 32.0 |                            | $L_o \approx L_i + 157$<br>$L_o \approx L_d + 77$ | $L_d \approx L_i + 80$<br>$L_d \approx L_o - 77$ | — |                              | 500 | 0.958 |

# TABLES

## CONVERSION FACTORS



### optibelt KB kraftbands / optibelt BLUE POWER kraftbands with high performance wedge belts to ISO 5290/ARPM/MPTA

| Profile   | Height<br>h ≈ | Bottom<br>belt width<br>b <sub>u</sub> ≈<br>of the<br>single belt | Belt length                         |                                  |                                |                                       | Recommended<br>minimum pulley<br>diameter<br>[mm] | Meter<br>weight<br>per rib<br>[≈ kg/m] |
|-----------|---------------|-------------------------------------------------------------------|-------------------------------------|----------------------------------|--------------------------------|---------------------------------------|---------------------------------------------------|----------------------------------------|
|           |               |                                                                   | Nominal<br>length                   | Outside length<br>L <sub>a</sub> | Datum length<br>L <sub>d</sub> | Inside length<br>L <sub>i</sub>       |                                                   |                                        |
| 3V/9J     | 9.9           | 4.2                                                               | Outside<br>length<br>L <sub>a</sub> | —                                | —                              | L <sub>i</sub> ≈ L <sub>a</sub> - 42  | Outside<br>diameter<br>d <sub>a</sub>             | 0.122                                  |
| 5V/15J    | 15.1          | 7.3                                                               |                                     | —                                | —                              | L <sub>i</sub> ≈ L <sub>a</sub> - 71  |                                                   | 0.252                                  |
| 5V/15J BP | 15.1          | 7.3                                                               |                                     | —                                | —                              | L <sub>i</sub> ≈ L <sub>a</sub> - 71  |                                                   | 0.253                                  |
| 8V/25J    | 25.5          | 9.6                                                               |                                     | —                                | —                              | L <sub>i</sub> ≈ L <sub>a</sub> - 120 |                                                   | 0.693                                  |
| 8V/25J BP | 25.5          | 9.6                                                               |                                     | —                                | —                              | L <sub>i</sub> ≈ L <sub>a</sub> - 120 |                                                   | 0.702                                  |

### optibelt KB kraftbands / optibelt BLUE POWER kraftbands with high performance wedge belts

|        |      |     |                                   |                                      |   |   |                                     |     |       |
|--------|------|-----|-----------------------------------|--------------------------------------|---|---|-------------------------------------|-----|-------|
| SPZ    | 10.5 | 5.4 | Datum<br>length<br>L <sub>d</sub> | L <sub>a</sub> ≈ L <sub>d</sub> + 13 | — | — | Datum<br>diameter<br>d <sub>d</sub> | 80  | 0.120 |
| SPA    | 12.5 | 7.0 |                                   | L <sub>a</sub> ≈ L <sub>d</sub> + 18 | — | — |                                     | 112 | 0.166 |
| SPB    | 15.6 | 8.8 |                                   | L <sub>a</sub> ≈ L <sub>d</sub> + 22 | — | — |                                     | 160 | 0.261 |
| SPB BP | 15.6 | 8.8 |                                   | L <sub>a</sub> ≈ L <sub>d</sub> + 22 | — | — |                                     | 200 | 0.283 |
| SPC    | 22.6 | 9.3 |                                   | L <sub>a</sub> ≈ L <sub>d</sub> + 24 | — | — |                                     | 250 | 0.555 |
| SPC BP | 22.6 | 9.3 |                                   | L <sub>a</sub> ≈ L <sub>d</sub> + 24 | — | — |                                     | 300 | 0.567 |

### optibelt KB kraftbands with classic V-belts

|   |      |      |                                   |                                       |                                      |   |                                     |     |       |
|---|------|------|-----------------------------------|---------------------------------------|--------------------------------------|---|-------------------------------------|-----|-------|
| A | 9.9  | 7.5  | Datum<br>length<br>L <sub>d</sub> | L <sub>a</sub> ≈ L <sub>i</sub> + 36  | L <sub>d</sub> ≈ L <sub>i</sub> + 30 | — | Datum<br>diameter<br>d <sub>d</sub> | 80  | 0.163 |
| B | 13.0 | 9.4  |                                   | L <sub>a</sub> ≈ L <sub>i</sub> + 62  | L <sub>d</sub> ≈ L <sub>i</sub> + 40 | — |                                     | 125 | 0.266 |
| C | 16.2 | 12.3 |                                   | L <sub>a</sub> ≈ L <sub>i</sub> + 75  | L <sub>d</sub> ≈ L <sub>i</sub> + 58 | — |                                     | 200 | 0.447 |
| D | 22.4 | 18.2 |                                   | L <sub>a</sub> ≈ L <sub>i</sub> + 111 | L <sub>d</sub> ≈ L <sub>i</sub> + 75 | — |                                     | 355 | 0.798 |

### optibelt KB kraftbands according to US standard ASAE S 211. ...

|    |      |      |                                     |   |   |                                       |                                       |     |       |
|----|------|------|-------------------------------------|---|---|---------------------------------------|---------------------------------------|-----|-------|
| HA | 9.9  | 7.5  | Outside<br>length<br>L <sub>a</sub> | — | — | L <sub>i</sub> ≈ L <sub>a</sub> - 36  | Outside<br>diameter<br>d <sub>a</sub> | 80  | 0.163 |
| HB | 13.0 | 9.4  |                                     | — | — | L <sub>i</sub> ≈ L <sub>a</sub> - 62  |                                       | 125 | 0.266 |
| HC | 16.2 | 12.3 |                                     | — | — | L <sub>i</sub> ≈ L <sub>a</sub> - 75  |                                       | 200 | 0.447 |
| HD | 22.4 | 18.2 |                                     | — | — | L <sub>i</sub> ≈ L <sub>a</sub> - 111 |                                       | 355 | 0.798 |

The width of the kraftband is dependent upon the number of ribs.

### optibelt DK double-sided V-belts to DIN 7722 / ISO 5289

| Profile | Cross-section<br>b x h ≈ | Bottom<br>belt width<br>b <sub>u</sub> ≈ | Nominal<br>length   | Belt length                          | Recommended<br>minimum<br>pulley diameter<br>[mm] | Meter<br>weight<br>[≈ kg/m] |
|---------|--------------------------|------------------------------------------|---------------------|--------------------------------------|---------------------------------------------------|-----------------------------|
| AA/HAA  | 13 x 10                  | —                                        | Reference<br>length | Reference length ≈ centre length - 4 | 80                                                | 0.150                       |
| BB/HBB  | 17 x 13                  | —                                        |                     | Reference length ≈ centre length - 8 | 125                                               | 0.250                       |
| CC/HCC  | 22 x 17                  | —                                        |                     | Reference length ≈ centre length + 3 | 224                                               | 0.440                       |
| DD/HDD  | 32 x 25                  | —                                        |                     | Reference length = centre length     | 355                                               | 0.935                       |

### optibelt DK double-sided V-belts – special profiles

|         |         |   |                     |                                  |     |       |
|---------|---------|---|---------------------|----------------------------------|-----|-------|
| 22 x 22 | 22 x 22 | — | Reference<br>length | Reference length = centre length | 280 | 0.511 |
| 25 x 22 | 25 x 22 | — |                     | Reference length = centre length | 280 | 0.625 |

### optibelt MARATHON X / optibelt MARATHON 2 M=S automotive V-belts

| Profile     | Cross-section<br>b x h ≈ | Bottom<br>belt width<br>b <sub>u</sub> ≈ | Nominal<br>width<br>b <sub>d</sub> | Belt length                         |                                      |                                      | Recommended<br>minimum<br>pulley diameter<br>[mm]               | Meter<br>weight<br>[≈ kg/m] |
|-------------|--------------------------|------------------------------------------|------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|-----------------------------------------------------------------|-----------------------------|
|             |                          |                                          |                                    | Nominal<br>length                   | Pitch length<br>L <sub>d</sub>       | Inside length<br>L <sub>i</sub>      |                                                                 |                             |
| AVX 10/9.5  | 10 x 8                   | 4.9                                      | 8.5                                | Outside<br>length<br>L <sub>a</sub> | L <sub>d</sub> ≈ L <sub>a</sub> - 13 | L <sub>i</sub> ≈ L <sub>a</sub> - 51 | According to agreement<br>and check with<br>automotive industry | 0.076                       |
| AVX 13/12.5 | 13 x 10                  | 5.8                                      | 11.0                               |                                     | L <sub>d</sub> ≈ L <sub>a</sub> - 18 | L <sub>i</sub> ≈ L <sub>a</sub> - 63 |                                                                 | 0.118                       |
| 15A         | 16.6 x 10.4              | 9.2                                      | —                                  |                                     | L <sub>d</sub> ≈ L <sub>a</sub> - 0  | L <sub>i</sub> ≈ L <sub>a</sub> - 65 | 76                                                              | 0.139                       |
| 17A         | 18.2 x 10.8              | 10.6                                     | —                                  |                                     | L <sub>d</sub> ≈ L <sub>a</sub> - 10 | L <sub>i</sub> ≈ L <sub>a</sub> - 68 | 76                                                              | 0.157                       |
| 20A         | 21.4 x 12.4              | 12.6                                     | —                                  |                                     | L <sub>d</sub> ≈ L <sub>a</sub> - 20 | L <sub>i</sub> ≈ L <sub>a</sub> - 78 | 89                                                              | 0.236                       |

# CONVEYOR ELEMENTS

## PRODUCT DESCRIPTION



Optibelt has developed a series of conveyor elements for the economical conveyance of goods in a varied range of applications.

- optibelt PKR endless V-belts DIN 2215 with patterned top surfaces
- optibelt PKR endless V-belts DIN 2215 with light coloured fabric cover and patterned top surfaces within the standard belt height
- optibelt KB kraftbands with patterned top surfaces
- optibelt optimat PKR open-ended V-belts DIN 2216 with patterned top surfaces
- optibelt optimat FK open-ended conveyor belts, punched
- optibelt optimax HF high performance flat belts

### Construction/Quality

Optibelt conveyor elements consist of the basic belt and the top surface. These parts are specially connected via vulcanisation. The variety of applications required constructions with numerous patterns available in different qualities. Both pattern and surface quality should be adapted to the individual application.

Table 97

| Type/Colour  | Temperature resistance [°C] | Hardness (Shore A) | Oil resistance | Loss of colour |
|--------------|-----------------------------|--------------------|----------------|----------------|
| SBR-NR/light | -40 to + 70                 | 55* / 65**         | no             | no             |
| CR/black     | -25 to +100                 | ≈ 65               | limited        | yes            |

CR/black is available as standard. We would be pleased to inform you about the production of the other constructions.

SBR = Styrene-Butadiene-Rubber

NR = Natural Rubber

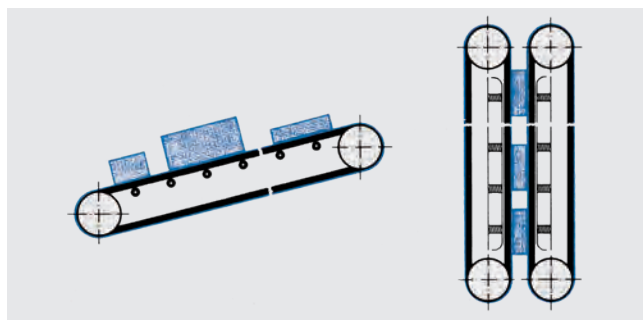
CR = Chloroprene Rubber

\* ≈ 55 for top surfaces above the standard height

\*\* ≈ 65 for top surfaces within the standard height

### Properties

Special surfaced belts are used instead of expensive conventional type conveyor belts. They run individually, or in sets arranged adjacent to each other, transporting goods



horizontally, or inclined up or down. Vertical conveying is also possible if the belts are arranged top surface to top surface, gripping the goods between them.

### Applications areas

Here are just a few examples of the wide range of applications in which Optibelt conveyor belts are used successfully.

For the conveyance of:

- doors, cupboard parts, veneer and plastic panels in the woodworking industry
- body parts and sharp-edged sheet metal in the automotive industry
- cardboard and boxes in the packaging industry
- roof tiles, concrete slabs and block paving stones
- tiles
- flat glass
- postal items
- bowling balls on bowling lanes

In addition to the conveyance options, these belts are also used for

- labelling and sealing of tins and jars in the canning industry
- lifting, chopping and sorting of beet, potatoes, salad, cauliflower, Brussels sprouts and other vegetables in the agricultural industry

Due to their single belt characteristics and high surface load, optibelt KB kraftbands with patterned top surfaces are especially suitable in conveyor systems and lifting platforms for:

- the conveyance of cargo containers
- loading and clearing of airplanes and railway wagons
- stowing and unloading of ship cargos

### optibelt KB with top surface



### Drive and guide pulleys

The drive and guide pulleys should be V-grooved pulleys. The minimum diameters should be selected according to the standard recommendations for V-belts and kraftbands. See the chapter on V-grooved pulleys.

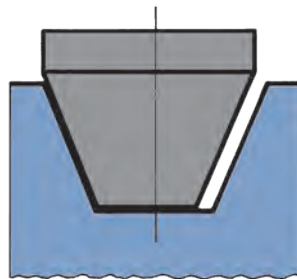
Due to the relatively low transporting speed (experience has shown that it is usually less than 1 m/s) and the resulting low flex rate, pulley diameters can be reduced to approximately 10% below the recommended minimum. With greater reduction, there is danger that the top surface separates from the V-belt base.

The driver pulley should be arranged at the discharge end of the conveyor so that the goods are pulled along.

### Support idlers/tracks

In most cases, support idlers or tracks are required to prevent the belt from sagging under load.

Support idlers may be flat faced or V-grooved pulleys. The dimensions of the pulley grooves should support the base of the conveyor belt in the base of the groove so only one edge can run on the groove flank, and thus cannot get stuck in the groove.



The diameter and the number of support idlers required depend on the length of the conveying span and the weight and size of the goods to be conveyed.

Supporting tracks, generally made of plastic, are either flat or with a key seat to improve guidance of the conveyor belt. As with the support idlers, the grooves must have an adequate width.

### Adjustment of the drive centre distance allowances

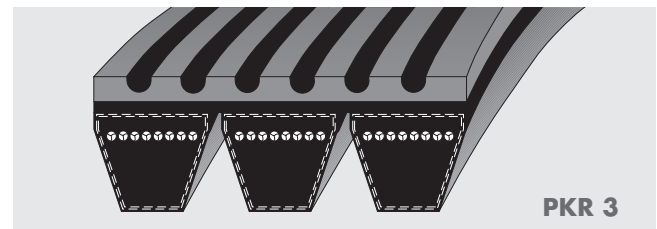
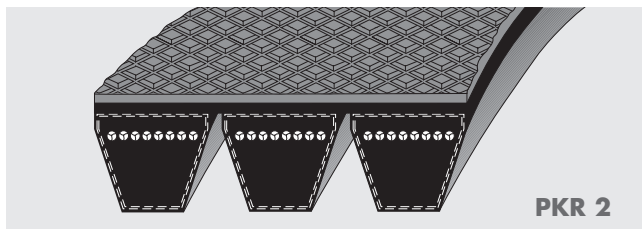
The tables on pages 80 to 82 show the drive centre distance allowances for special purpose conveyor belts and kraftbands.

### Tensioning options

An adequate belt tension is essential to the reliable operation of the conveyor system. Tension is applied by adjusting the drive centre distance or, when the centres are fixed, by tension idlers.

When idlers are employed, they should be arranged inside the belt if possible, as otherwise the alternating flexing of the belt will reduce its service life.

## optibelt KB KRAFTBANDS WITH PATTERNED TOP SURFACE



| Pattern type | Top surface height<br>standard<br>[mm] | maximum<br>[mm] | Pitch<br>[mm] | Groove<br>width<br>[mm] |
|--------------|----------------------------------------|-----------------|---------------|-------------------------|
| PKR 0        | 3                                      | 5               | —             | —                       |
| PKR 1        | 3                                      | 5               | 10            | —                       |
| PKR 2        | 3                                      | 5               | —             | —                       |
| PKR 3        | 5                                      | —               | —             | 3.7                     |

| Type/Colour  | Temperature<br>resistance<br>[°C] | Hardness<br>(Shore A) | Oil<br>resistance | Loss of<br>colour |
|--------------|-----------------------------------|-----------------------|-------------------|-------------------|
| SBR-NR/light | -40 to + 70                       | ≈ 55                  | no                | no                |
| CR/black     | -25 to +100                       | ≈ 65                  | limited           | yes               |

SBR = Styrene-Butadiene-Rubber  
NR = Natural Rubber  
CR = Chloroprene Rubber

Table 98

| Profile | Cross-sectional<br>dimensions of the belt<br>[mm] | Kraftband height<br>without top<br>surface [mm] | Length<br>designation | Length<br>[mm]              | Maximum<br>production length<br>[mm] | Pattern type |       |       |       |
|---------|---------------------------------------------------|-------------------------------------------------|-----------------------|-----------------------------|--------------------------------------|--------------|-------|-------|-------|
|         |                                                   |                                                 |                       |                             |                                      | PKR 0        | PKR 1 | PKR 2 | PKR 3 |
| 3V/9J   | 9 x 8                                             | 9.9                                             | 500 ≤ 1400            | 1400 ≤ 3556 L <sub>a</sub>  | 4250                                 | •            | •     | •     | —     |
| 5V/15J  | 15 x 13                                           | 15.1                                            | 500 ≤ 3550            | 1400 ≤ 9017 L <sub>a</sub>  | 10000                                | •            | •     | •     | —     |
| 8V/25J  | 25 x 23                                           | 25.5                                            | 1000 ≤ 4750           | 2540 ≤ 12065 L <sub>a</sub> | 15000                                | •            | •     | •     | —     |
| SPB     | 16.3 x 13                                         | 15.6                                            | —                     | 2400 ≤ 6000 L <sub>d</sub>  | 6000                                 | •            | •     | •     | —     |
| A/HA    | 13 x 8                                            | 9.9                                             | —                     | 1400 ≤ 5000 L <sub>i</sub>  | 8000                                 | •            | •     | •     | —     |
|         |                                                   |                                                 |                       | 2850 ≤ 8000 L <sub>i</sub>  | on request                           | —            | —     | —     | •     |
| B/HB    | 17 x 11                                           | 13.0                                            | —                     | 1400 ≤ 7100 L <sub>i</sub>  | 10000                                | •            | •     | •     | —     |
| C/HC    | 22 x 14                                           | 16.2                                            | —                     | 2286 ≤ 7100 L <sub>i</sub>  | 12000                                | •            | •     | •     | —     |

L<sub>a</sub> = outside length; L<sub>i</sub> = inside length; L<sub>d</sub> = datum length

Product Range: see pages 38-40. Minimum order quantities: on request.

# CONVEYOR ELEMENTS

optibelt **PKR** ENDLESS V-BELTS AND

optibelt **KB** KRAFTBANDS WITH PATTERNED TOP SURFACE



Table 99

| Pattern types | Top surface height |                 | Pitch<br>[mm] | Groove<br>width<br>[mm] |
|---------------|--------------------|-----------------|---------------|-------------------------|
|               | standard<br>[mm]   | maximum<br>[mm] |               |                         |
| <b>PKR 0</b>  | 3                  | 5               | —             | —                       |
| <b>PKR 1</b>  | 3                  | 5               | 10            | —                       |
| <b>PKR 2</b>  | 3                  | 5               | —             | —                       |
| <b>PKR 5</b>  | 5                  | —               | 13            | —                       |

Table 100

| Type/Colour         | Temperature<br>resistance<br>[°C] | Hardness<br>(Shore A) | Oil<br>resistance | Loss of<br>colour |
|---------------------|-----------------------------------|-----------------------|-------------------|-------------------|
| <b>SBR-NR/light</b> | -40 to + 70                       | ≈ 55*/65**            | no                | no                |
| <b>CR/black</b>     | -25 to +100                       | ≈ 65                  | limited           | yes               |

SBR = Styrene-Butadiene-Rubber

NR = Natural Rubber

CR = Chloroprene Rubber

\* ≈ 55 for top surfaces above the standard height

\*\* ≈ 65 for top surfaces within the standard height

Table 101

| Top surfaces <b>above</b> the standard height |                              |                                                              |              |       |       |                      | Top surfaces 3 or 5 mm above the standard height                                                        |                                                                                  |
|-----------------------------------------------|------------------------------|--------------------------------------------------------------|--------------|-------|-------|----------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Profile                                       | Stand-<br>ard height<br>[mm] | Standard<br>insight length range<br>[mm]                     | Pattern Type |       |       |                      | Minimum order quantities for V-belts<br>with patterned top surface<br><b>PKR 0; PKR 1; PKR 2; PKR 5</b> |                                                                                  |
|                                               |                              |                                                              | PKR 0        | PKR 1 | PKR 2 | PKR 5                | for standard<br>range<br>(as listed on<br>pages 29 to 33)                                               | for non-stand-<br>ard length<br>ranges<br>(sizes not included<br>in this manual) |
| <b>A/13</b>                                   | 8.0                          | 1 200 ≤ 5 000 <sup>1)</sup>                                  | •            | •     | •     | —                    | 18 pieces                                                                                               | 31 pieces                                                                        |
| <b>B/17</b>                                   | 11.0                         | 1 200 ≤ 2 000 <sup>1)</sup><br>2 001 ≤ 7 100 <sup>1)</sup>   | •            | •     | •     | —                    | 15 pieces<br>15 pieces                                                                                  | 50 pieces<br>42 pieces                                                           |
| <b>20</b>                                     | 12.5                         | 1 850 ≤ 2 000 <sup>2)</sup><br>2 001 ≤ 8 000 <sup>2)</sup>   | •            | •     | •     | —                    | 13 pieces<br>13 pieces                                                                                  | 21 pieces<br>36 pieces                                                           |
| <b>C/22</b>                                   | 14.0                         | 1 850 ≤ 2 000 <sup>2)</sup><br>2 001 ≤ 10 000 <sup>2)</sup>  | •            | •     | •     | —                    | 12 pieces<br>12 pieces                                                                                  | 57 pieces<br>48 pieces                                                           |
| <b>25</b>                                     | 16.0                         | 1 850 ≤ 2 000 <sup>2)</sup><br>2 001 ≤ 10 000 <sup>2)</sup>  | •            | •     | •     | —                    | 11 pieces<br>11 pieces                                                                                  | 51 pieces<br>42 pieces                                                           |
| <b>D/32</b>                                   | 20.0                         | 2 850 ≤ 12 500 <sup>2)</sup><br>2 850 ≤ 12 500 <sup>2)</sup> | •            | •     | •     | —<br>• <sup>3)</sup> | 9 pieces<br>8 pieces                                                                                    | 22 pieces<br>8 pieces                                                            |
| <b>E/40</b>                                   | 25.0                         | —                                                            | —            | —     | —     | —                    | on request                                                                                              | on request                                                                       |

1) Maximum production length on request

2) Maximum production length 21.000 mm

3) Only available in CR/black

Profile Z/10 on request

Table 102

| Top surfaces <b>within</b> the standard height |              |       |                               |
|------------------------------------------------|--------------|-------|-------------------------------|
| Standard<br>insight length range<br>[mm]       | Pattern Type |       | Mini-<br>mum<br>quan-<br>tity |
|                                                | PKR 0        | PKR 2 |                               |
| 3 550 ≤ 10 000 <sup>1)</sup>                   | •            | •     | 10                            |
| 2 850 ≤ 21 000 <sup>1)</sup>                   | •            | •     | 10                            |
| 3 550 ≤ 21 000 <sup>1)</sup>                   | •            | •     | 8                             |
| 3 550 ≤ 21 000 <sup>1)</sup>                   | •            | •     | 8                             |
| 2 850 ≤ 21 000 <sup>1)</sup>                   | •            | •     | 8                             |
| 2 850 ≤ 21 000 <sup>1)</sup>                   | •            | •     | 6                             |
| 4 000 ≤ 21 000 <sup>1)</sup>                   | •            | •     | 5                             |

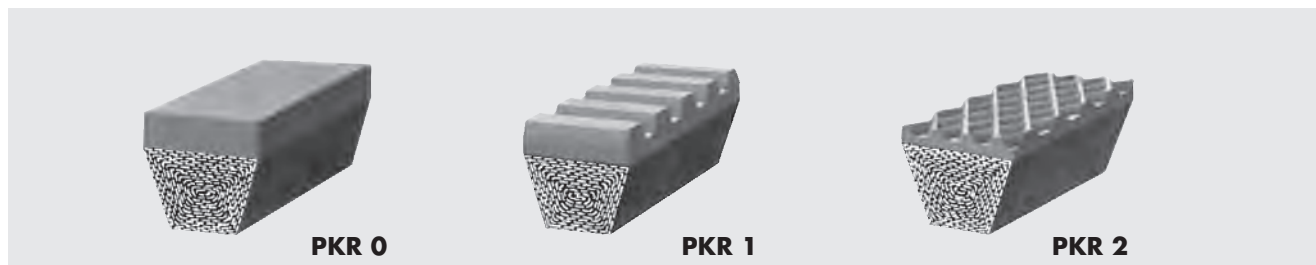
When ordering please give the overall height of the V-belt including top surface. For this purpose, you need the designation of the profile described as follows:

Profile B/17 – top surface within the standard height = 17 x 11  
 Profile B/17 – with additional 3 mm top surface = 17 x 14  
 Profile B/17 – with additional 5 mm top surface = 17 x 16



# CONVEYOR ELEMENTS

## optimat **PKR** OPEN-ENDED V-BELTS DIN 2216 WITH PATTERNED TOP SURFACE



**Table 103**

| Profile     | PKR 0<br>CR/red-brown |   | PKR 0<br>SBR-NR/light |   | PKR 1 |   | PKR 2 |   |
|-------------|-----------------------|---|-----------------------|---|-------|---|-------|---|
|             | S                     | P | S                     | P | S     | P | S     | P |
| <b>Z/10</b> | •                     | • | —                     | — | —     | — | —     | — |
| <b>A/13</b> | •                     | • | •                     | • | •     | • | •     | • |
| <b>B/17</b> | •                     | • | •                     | • | •     | • | •     | • |
| <b>C/22</b> | •                     | • | •                     | • | •     | • | •     | • |
| <b>25</b>   | •                     | • | •                     | • | •     | • | •     | • |
| <b>D/32</b> | •                     | • | •                     | • | •     | • | —     | — |

S = standard; P = polyester

**Table 104**

| Pattern types                             | Top surface height |              | Pitch<br>[mm] |
|-------------------------------------------|--------------------|--------------|---------------|
|                                           | standard<br>[mm]   | max.<br>[mm] |               |
| <b>PKR 0</b>                              | 2                  | 3            | —             |
| <b>PKR 1<br/>A/13;<br/>B/17;<br/>C/22</b> | 3                  | 3            | 10            |
| <b>PKR 1<br/>25; D/32</b>                 | 5                  | 5            | 10            |
| <b>PKR 2</b>                              | 3                  | —            | —             |

**Table 105**

| Type/Colour            | Temperature<br>resistance<br>[°C] | Hardness<br>(Shore A) | Oil<br>resistance | Loss of<br>colour |
|------------------------|-----------------------------------|-----------------------|-------------------|-------------------|
| <b>PKR 0</b>           |                                   |                       |                   |                   |
| CR/red brown           | −25 to +100                       | ≈ 50                  | limited           | no                |
| SBR-NR/light           | −40 to + 70                       | ≈ 45                  | no                | no                |
| <b>PKR 1 and PKR 2</b> |                                   |                       |                   |                   |
| NR/red brown           | −40 to + 70                       | ≈ 48                  | no                | no                |
| SBR-NR/light           | −40 to + 70                       | ≈ 45                  | no                | no                |
| CR/red brown           | −25 to +100                       | ≈ 50                  | limited           | no                |
| CR/black               | −25 to +100                       | ≈ 68                  | limited           | yes               |

# CONVEYOR ELEMENTS

optibelt **RR** ROUND BELTS, optibelt **KK** PLASTIC BELTS



| Profile | Width x Height [mm] | Roll length [m] | Diameter [mm] | Roll length [m] | Weight [≈ kg/m] |
|---------|---------------------|-----------------|---------------|-----------------|-----------------|
| 8       | 8 x 5               | 50              | 2             | 200             | 0.004           |
| Z/10    | 10 x 6              | 50              | 3             | 200             | 0.009           |
| A/13    | 13 x 8              | 50              | 4             | 200             | 0.016           |
| B/17    | 17 x 11             | 50              | 5             | 200             | 0.024           |
| C/22    | 22 x 14             | 25              | 6             | 100             | 0.035           |
|         |                     |                 | 7             | 100             | 0.048           |
|         |                     |                 | 8             | 100             | 0.064           |
|         |                     |                 | 10            | 100             | 0.096           |
|         |                     |                 | 12            | 50              | 0.132           |
|         |                     |                 | 15            | 50              | 0.211           |

optibelt RR round belts and optibelt KK plastic belts are especially suitable as conveyor elements in the food industry, ceramic industry, and for applications in contact with oil and chemicals. They can also be used as drive elements for specific capacity ranges. Optibelt supplies different qualities that can be easily distinguished due to their different colours.

Minimum lengths for endless connection:

|              |                              |
|--------------|------------------------------|
| Round belts: | 200 mm                       |
| V-belts:     | Profile Z/10 to A/13: 300 mm |
|              | Profile B/17: 500 mm         |
|              | Profile C/22: 700 mm         |

## optibelt **KK** PLASTIC V-BELTS WITH PATTERNED TOP SURFACE (WHITE. 92 SHORE A) PLASTIC V-BELTS WITH POINTED ROOF PROFILE



| Profile | Width x Height [mm] | Roll length [m] | Form | Profile | Roll length [m] |
|---------|---------------------|-----------------|------|---------|-----------------|
| 8       | 8 x 5               | 50              | 1    | A/13    | 25              |
| Z/10    | 10 x 6              | 50              | 2    | A/13    | 25              |
| A/13    | 13 x 8              | 50              | 1    | B/17    | 25              |
| B/17    | 17 x 11             | 50              | 2    | B/17    | 25              |
| C/22    | 22 x 14             | 25              | 1    | C/22    | 25              |
|         |                     |                 | 2    | C/22    | 25              |

### Federal Republic of Germany

|                    |                                                                                                              |
|--------------------|--------------------------------------------------------------------------------------------------------------|
| DIN 109 Sheet 1    | – Drive Elements; Circumferential Speeds                                                                     |
| DIN 109 Sheet 2    | – Drive Elements; Centre Distances for V-Belt Drives                                                         |
| DIN 111            | – Pulleys for Flat Transmission Belts; Dimensions. Nominal Torques                                           |
| DIN 111 Sheet 2    | – Pulleys for Flat Transmission Belts; Classification for Electrical Machines                                |
| DIN 2211 Sheet 1   | – Grooved Pulleys for Narrow V-Belts; Dimensions. Materials                                                  |
| DIN 2211 Sheet 2   | – Grooved Pulleys for Narrow V-Belts; Inspections of Grooves                                                 |
| DIN 2211 Sheet 3   | – Grooved Pulleys for Narrow V-Belts; Classification for Electrical Machines                                 |
| DIN 2215           | – Endless V-Belts, Classical Profiles; Minimum Datum Diameter of the Pulleys, Internal and Datum Belt Length |
| DIN 2216           | – Open-Ended V-Belts; Dimensions                                                                             |
| DIN 2217 Sheet 1   | – V-Belt Pulleys for Classical Profiles; Dimensions. Materials                                               |
| DIN 2217 Sheet 2   | – V-Belt Pulleys for Classical Profiles; Inspections of Grooves                                              |
| DIN 2218           | – Endless V-Belts, Classic Profiles for Mechanical Engineering; Calculation of Drives, Performance Data      |
| DIN 7716           | – Rubber Products; Requirements for Storage, Cleaning and Maintenance                                        |
| DIN 7719 Part 1    | – Endless Wide V-Belts for Industrial Speed Changers; Belts and Groove Profiles for Corresponding Pulleys    |
| DIN 7719 Part 2    | – Endless Wide V-Belts for Industrial Speed Changers; Measurement of Centre Distance Variations              |
| DIN 7721 Part 1    | – Synchronous Belt Drives, Metric Pitch; Synchronous Belts                                                   |
| DIN 7721 Part 2    | – Synchronous Belt Drives. Metric Pitch; Tooth Space Profile of Synchronous Pulleys                          |
| DIN 7722           | – Endless Hexagonal Belts for Agricultural Machines and Groove Profiles of Corresponding Pulleys             |
| DIN 7753 Part 1    | – Endless Narrow V-Belts for Mechanical Engineering; Dimensions                                              |
| DIN 7753 Part 2    | – Endless Narrow V-Belts for Mechanical Engineering; Drive Calculation, Performance Data                     |
| DIN 7753 Part 3    | – Endless Narrow V-Belts for the Automotive Industry; Dimensions                                             |
| DIN 7753 Part 4    | – Endless Narrow V-Belts for the Automotive Industry; Fatigue Testing                                        |
| DIN 7867           | – V-Ribbed Belts and Pulleys                                                                                 |
| DIN/ISO 5290       | – Grooved Pulleys for Joined Narrow V-Belts; Groove Profiles 9J; 15J; 20J; 25J                               |
| DIN 22100-7        | – Articles from Synthetics for Use in Underground Mines, Paragraph 5.4 – V-Belts                             |
| DIN EN 60695-11-10 | – Fire Hazard Testing                                                                                        |

|              |                                                                                                                  |
|--------------|------------------------------------------------------------------------------------------------------------------|
| ISO 2790     | – Narrow V-Belt Drives for the Automotive Industry; Dimensions                                                   |
| ISO 3410     | – Endless Speed Changer Belts and Pulleys for Agricultural Machinery                                             |
| ISO 4183     | – Grooved Pulleys for Classical V-Belts and Narrow V-Belts                                                       |
| ISO 4184     | – Classical V-Belts and Narrow V-Belts; Lengths                                                                  |
| ISO 5256     | – Synchronous Belt Drives; Belt Tooth Pitch Code Part 1 MXL; XL; L; H; XH; XXH Part 2 MXL; XXL Metric Dimensions |
| ISO 5287     | – Narrow V-Belt Drives for the Automotive Industry; Fatigue Test                                                 |
| ISO 5288     | – Vocabulary from Timing Belt Drives                                                                             |
| ISO 5289     | – Endless Double Profile V-Belts and Pulleys for Agricultural Machinery                                          |
| ISO 5290     | – Grooved Pulleys for Joined Narrow V-Belts; Profiles: 9J; 15J; 20J; 25J                                         |
| ISO 5291     | – Grooved Pulleys for Joined Classical V-Belts; Profiles: AJ; BJ; CJ; DJ                                         |
| ISO 5292     | – Industrial V-Belt Drives; Calculations of the Performance Data and Centre Distance                             |
| ISO 5295     | – Timing Belts; Calculations of the Performance Data and Centre Distance – “Inch Pitch”                          |
| ISO 8370-1   | – Dynamic Test to Determine Pitch Zone Location with V-Belts                                                     |
| ISO 8370-2   | – Dynamic Test to Determine Pitch Zone Location with V-Ribbed Belts                                              |
| ISO/DIS 8419 | – Belt Drives; Joined Narrow V-Belts; Lengths in Effective System; 9N/J, 15N/J, 25N/J                            |
| ISO 9010     | – Synchronous Belt Drives – Automotive Belts                                                                     |
| ISO 9011     | – Synchronous Belt Drives – Automotive Pulleys                                                                   |
| ISO 9563     | – Antistatic Endless Synchronous Belts; Electrical Conductibility; Characteristics and Testing Method            |
| ISO 9980     | – Belt Drives; V-Belt Pulleys, Geometric Inspection of Grooves                                                   |
| ISO 9981     | – Belt Drives – Pulleys and V-Ribbed Belts for the Automotive Industry; PK Profile                               |
| ISO 9982     | – Belt Drives; Pulleys and V-Ribbed Belts for Industrial Requirements; Geometric Data PH, PJ, PK, PL, PM         |
| ISO 11749    | – Belt Drives – V-Ribbed Belts for the Automotive Industry; Fatigue Testing                                      |
| ISO 12046    | – Synchronous Belt Drives – Automotive Belts – Physical Characteristics                                          |
| ISO 13050    | – Synchronous Belt Drives – Metric Pitch, Curvilinear Profile Systems G, H, R and S, Belts and Pulleys           |
| ISO 17396    | – Synchronous Belt Drives – Metric Pitch, Trapezoidal Profile Systems T and AT, Belts and Pulleys                |
| ISO 19347    | – Synchronous belt drives – Imperial pitch trapezoidal profile system – Belts and pulleys                        |

### ISO – International Organization for Standardization

|          |                                                                                                           |
|----------|-----------------------------------------------------------------------------------------------------------|
| ISO 22   | – Widths of Flat Transmission Belts and Corresponding Pulleys                                             |
| ISO 63   | – Flat Belt Drives; Lengths                                                                               |
| ISO 99   | – Diameter of the Belt Pulleys for Flat Belts                                                             |
| ISO 100  | – Bulging Height of the Belt Pulleys for Flat Belts                                                       |
| ISO 155  | – Belt Pulleys; Limiting Values for Adjustment of Centre Distances                                        |
| ISO 254  | – Quality, Finish and Balance of Belt Pulleys                                                             |
| ISO 255  | – Pulleys for Classical V-Belts and Narrow V-Belts; Geometric Testing of Grooves                          |
| ISO 1081 | – Vocabulary from V-Belts, V-Ribbed Belts and Pulleys                                                     |
| ISO 1604 | – Endless Speed Changer Belts and Pulleys for Mechanical Engineering                                      |
| ISO 1813 | – Electrical Conductivity of V-Belts, Kraftbands, V-Ribbed Belts, Wide V-Belts and Double Profile V-Belts |
| ISO 2230 | – Please Consult DIN 7716                                                                                 |

### USA

|                |                                                                |
|----------------|----------------------------------------------------------------|
| RMA/ARPM IP-20 | – Classical V-Belts and Sheaves (A; B; C; D; Cross Profiles)   |
| RMA/ARPM IP-21 | – Double (Hexagonal) Belts (AA; BB; CC; DD Cross Profiles)     |
| RMA/ARPM IP-22 | – Narrow Multiple V-Belts (3V; 5V; and 8V Cross Profiles)      |
| RMA/ARPM IP-23 | – Single V-Belts (2L; 3L; 4L; and 5L Cross Profiles)           |
| RMA/ARPM IP-24 | – Synchronous Belts (MXL; XL; L; H; XH; and XXH Belt Profiles) |
| RMA/ARPM IP-25 | – Variable Speed V-Belts (12 Cross Profiles)                   |
| RMA/ARPM IP-26 | – V-Ribbed Belts (PH; PJ; PK; PL; and PM Cross Profiles)       |
| RMA/ARPM IP-27 | – Curvilinear Toothed Synchronous Belts (8M – 14M Pitches)     |
| ASAE S 211.... | – V-Belt Drives for Agricultural Machines                      |
| SAE J636b      | – V-Belts and Pulleys                                          |
| SAE J637       | – Automotive V-Belt Drives                                     |

# DATA SHEET

## FOR THE CALCULATION/CHECKING OF DRIVES



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(stamp)

For test ☐ New drive ☐  
For initial production ☐ Existing drive ☐  
For series production ☐ Usage \_\_\_\_\_ belts/year

Fitted with:

| Number | Size | Manufacturer |
|--------|------|--------------|
|        |      |              |

### Prime Mover

Type (e.g. electric motor, diesel engine 3 cyl.) \_\_\_\_\_  
Size of starting torque (e.g. MA = 1.8 MN) \_\_\_\_\_  
Method of starting (e.g. star delta) \_\_\_\_\_  
Operational hours per day \_\_\_\_\_ hours  
Number of starts \_\_\_\_\_ per hour ☐ per day ☐  
Rational reverses \_\_\_\_\_ per minute ☐ per hour ☐  
\*Power: P normal \_\_\_\_\_ kW  
P maximum \_\_\_\_\_ kW  
or maximum torque \_\_\_\_\_ Nm at  $n_1$  \_\_\_\_\_ r.p.m.  
\*Speed  $n_1$  \_\_\_\_\_ r.p.m.  
Position of shafts: horizontal ☐ vertical ☐  
angled ☐  $\alpha$  \_\_\_\_\_ °  
Maximum allowable shaft loading  $S_{a \max}$  \_\_\_\_\_ N  
\*Datum or outside diameter of pulley:  
 $d_{d1}$  \_\_\_\_\_ mm  $d_{a1}$  \_\_\_\_\_ mm  
 $d_{d1 \min}$  \_\_\_\_\_ mm  $d_{a1 \min}$  \_\_\_\_\_ mm  
 $d_{d1 \max}$  \_\_\_\_\_ mm  $d_{a1 \max}$  \_\_\_\_\_ mm  
Pulley face width  $b_{2 \max}$  \_\_\_\_\_ mm

Speed ratio  $i$  \_\_\_\_\_  
•Centre distance  $a$  \_\_\_\_\_ mm  
Tension/guide pulleys: inside ☐  
outside ☐  
 $d_d$  \_\_\_\_\_ mm V-pulley ☐  
 $d_a$  \_\_\_\_\_ mm flat pulley ☐

**Operating Conditions:** Ambient temperature

Exposure to oil ☐  
water ☐  
acid ☐  
dust ☐

\* required  
• optional

### Driven Machine

Type (e.g. lathe, compressor) \_\_\_\_\_  
Start: loaded ☐ unloaded ☐  
Nature of load: constant ☐ pulsating ☐  
shock ☐  
Rating: P normal \_\_\_\_\_ kW  
P maximum \_\_\_\_\_ kW  
or maximum torque \_\_\_\_\_ Nm at  $n_2$  \_\_\_\_\_ r.p.m.  
Speed  $n_2$  \_\_\_\_\_ r.p.m.  
 $n_{2 \min}$  \_\_\_\_\_ r.p.m.  
 $n_{2 \max}$  \_\_\_\_\_ r.p.m.  
Maximum allowable shaft loading  $S_{a \max}$  \_\_\_\_\_ N  
Datum or outside diameter of pulley:  
 $d_{d2}$  \_\_\_\_\_ mm  $d_{a2}$  \_\_\_\_\_ mm  
 $d_{d2 \min}$  \_\_\_\_\_ mm  $d_{a2 \min}$  \_\_\_\_\_ mm  
 $d_{d2 \max}$  \_\_\_\_\_ mm  $d_{a2 \max}$  \_\_\_\_\_ mm  
Pulley face width  $b_{2 \max}$  \_\_\_\_\_ mm

$i_{\min}$  \_\_\_\_\_  $i_{\max}$  \_\_\_\_\_  
 $a_{\min}$  \_\_\_\_\_ mm  $a_{\max}$  \_\_\_\_\_ mm  
in drive slack side ☐  
in drive tight side ☐  
movable ☐ (e.g. spring loaded) \_\_\_\_\_  
fixed ☐  
\_\_\_\_\_ °C minimum  
\_\_\_\_\_ °C maximum  
(e.g. oil mist, droplets) \_\_\_\_\_  
(e.g. spray) \_\_\_\_\_  
(type, concentration, temperature) \_\_\_\_\_  
(type) \_\_\_\_\_

Special conditions: Where the drive is subjected to unusual conditions, e.g. inside or outside idler pulleys, 3- or multi-pulley drives, as well as drives with reverse rotational direction, drawings are required. Please use the back of this data sheet for sketches.

Details about the drive:

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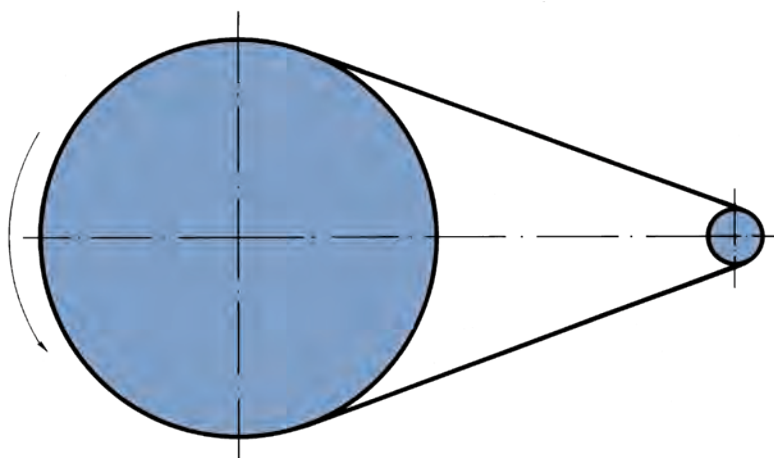
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# DATA SHEET

## FOR THE CALCULATION/CHECKING OF CONVEYOR SYSTEMS



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(stamp)

For one off use ☐ New drive ☐  
For series production ☐ Existing drive ☐  
Usage \_\_\_\_\_ belts/year

Fitted with:

| Number | Section/Length | Top surface | Manufacturer |
|--------|----------------|-------------|--------------|
|        |                |             |              |

### Prime Mover

Type (e.g. geared motor) \_\_\_\_\_  
Size of starting torque (e.g. MA = 1.8 MN) \_\_\_\_\_  
Method of starting (e.g. star delta) \_\_\_\_\_  
Start \_\_\_\_\_ under load ☐  
\_\_\_\_\_ unloaded ☐  
Operational hours per day \_\_\_\_\_ hours  
Number of starts \_\_\_\_\_ per hour ☐ per day ☐  
Power: P normal \_\_\_\_\_ kW  
P maximum \_\_\_\_\_ kW  
or maximum torque \_\_\_\_\_ Nm at  $n_1$  \_\_\_\_\_ r.p.m.  
Rotational speed  $n_1$  \_\_\_\_\_ r.p.m.  
Rotational speed  $n_2$  \_\_\_\_\_ r.p.m.  
Conveying speed min. \_\_\_\_\_ m/min  
max. \_\_\_\_\_ m/min  
Continuously variable yes ☐  
no ☐

Maximum allowable shaft loading  $S_{a \max}$  \_\_\_\_\_ N

Datum or outside diameter of the driver pulley:

$d_{d1}$  \_\_\_\_\_ mm  $d_{a1}$  \_\_\_\_\_ mm  
 $d_{d1 \min}$  \_\_\_\_\_ mm  $d_{a1 \min}$  \_\_\_\_\_ mm  
 $d_{d1 \max}$  \_\_\_\_\_ mm  $d_{a1 \max}$  \_\_\_\_\_ mm

Datum or outside diameter of the guide pulleys:

$d_{d2}$  \_\_\_\_\_ mm  $d_{a2}$  \_\_\_\_\_ mm  
 $d_{d2 \min}$  \_\_\_\_\_ mm  $d_{a2 \min}$  \_\_\_\_\_ mm  
 $d_{d2 \max}$  \_\_\_\_\_ mm  $d_{a2 \max}$  \_\_\_\_\_ mm

Speed ratio  $i$  \_\_\_\_\_  $i_{\min}$  \_\_\_\_\_  $i_{\max}$  \_\_\_\_\_

Position of shafts: horizontal ☐ vertical ☐  
angled ☐  $\angle$  \_\_\_\_\_ °

Overall width of the system \_\_\_\_\_ mm

Drive centre distance  $a$  \_\_\_\_\_ mm  $a_{\min}$  \_\_\_\_\_ mm  $a_{\max}$  \_\_\_\_\_ mm

Allowance for tensioning - \_\_\_\_\_ mm + \_\_\_\_\_ mm

Tension/guide pulleys: inside ☐  
outside ☐

$d_d$  \_\_\_\_\_ mm  $d_a$  \_\_\_\_\_ mm

Supporting pulleys V-pulleys ☐ flat pulleys ☐  
Bearings plain ☐ ball ☐  
Number \_\_\_\_\_ pieces  
 $d_d$  \_\_\_\_\_ mm  $d_a$  \_\_\_\_\_ mm  
Spacing  $t$  \_\_\_\_\_ pieces  
Support rails flat ☐ V-grooved ☐  
Material (e.g. steel, plastic) \_\_\_\_\_

### Conveyed Material

Type (e.g. concrete slabs) \_\_\_\_\_  
Condition of the corners round ☐  
sharp ☐  
Conditions of the contact surface rough ☐  
smooth ☐  
Conveyed horizontally ☐ vertically ☐  
inclined ☐  $\angle$  \_\_\_\_\_ °  
downwards ☐ upwards ☐  
Dimensions  $l \times w \times h$  [mm] \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_  
Motion continuous ☐ cycled ☐  
collected ☐

### Operating Conditions

Ambient temperature \_\_\_\_\_ °C minimum  
\_\_\_\_\_ °C maximum  
Exposure to oil ☐ (e.g. oil mist) \_\_\_\_\_  
water ☐ (e.g. spray) \_\_\_\_\_  
acid ☐ (type, concentration, temperature) \_\_\_\_\_  
dust ☐ (type) \_\_\_\_\_  
In the open air yes ☐  
no ☐

The back of this data sheet is provided for sketches of the drive arrangement. Please include the dimensions of all the pulleys and idlers used in the proposed design.





#### Details about the conveyor system:

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