

POLY-NORM®

Short torsionally flexible shaft coupling

REVOLEX® KX

Torsionally flexible pin & bush coupling

POLY

Torsionally flexible coupling, not failsafe

Made for Motion



Table of contents



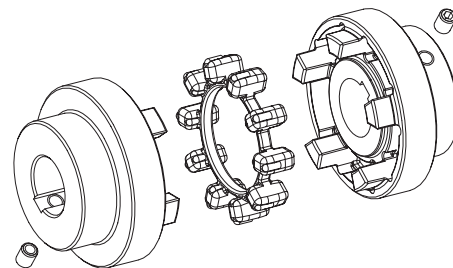
| | |
|---|----|
| POLY-NORM® | |
| Short torsionally flexible coupling | 51 |
| Description of coupling | 53 |
| Coupling selection | 54 |
| Technical data | 55 |
| Selection of standard IEC motors | 56 |
| Type AR | 57 |
| Type ADR (3-part design) | 58 |
| Type BTA and SBA with brake drum/brake disk | 59 |
| Type SB with brake disk | 60 |
| Type AZR | 61 |
| | |
| REVOLEX® KX | |
| Torsionally flexible pin & bush coupling | |
| Description of coupling | 62 |
| Coupling selection | 63 |
| Technical data | 65 |
| Type KX – casted material – | 66 |
| Type KX-D – casted material– | 67 |
| Type KX-D – material steel– | 68 |
| Type KX and KX-D with brake disk | 69 |
| Technical data of pin | 70 |
| Futher types | 70 |
| | |
| POLY | |
| Torsionally flexible, shear type coupling | |
| Description of coupling | 71 |
| Selection of standard IEC motors | 72 |
| Type PKD (2-part design) and PKD (3-part design) | 73 |
| Type PKA (dismountable coupling) | 74 |
| Displacements – Elastomer sets – Screws | 75 |

Description of coupling

General description

The POLY-NORM® coupling is a torsionally flexible, shear type shaft coupling. It has an axial plug-in design with a unique short overall length. The POLY-NORM® can be used in nearly all ranges of general engineering and is ideal for the pump industry.

The POLY-NORM® coupling compensates for all kinds of shaft misalignment while transmitting the torque safely.



Operation/Design

The coupling consists of two hubs, with fingers separated by elastomeric elements. The hubs are assembled blindly plugging the hub fingers into each other axially and the elastomer ring is trapped in a groove between both coupling hubs. The compact POLY-NORM® coupling transmits torque with the elastomer in compression.

All kinds of shaft misalignments, for example generated by inaccurate alignment of driving or driven elements, vibrations and shock loads are effectively absorbed by the POLY-NORM®.

The coupling is maintenance-free and used in general machinery, the pump industry and in compressors. Torques of up to 134,000 Nm are stocked in 22 different sizes and 7 designs. In addition to the standard coupling models, flange drop out center and spacer options are available in many variations.



Explosion-proof use

POLY-NORM® couplings are suitable for the use in drives in hazardous areas. The couplings are certified and confirmed according to EC Standard 94/9/EC (ATEX 95) and belong to category 2G/2D, are confirmed and thus suitable for the use in hazardous areas of zone 1, 2, 21 and 22.

Please read through our information in the respective Type Examination Certificate and the operating and mounting instructions under www.ktr.com.

In addition to ATEX marking an inspection certificate by DNV can be ordered for POLY-NORM® couplings.



Variety of components

The coupling can be adapted to many applications due to the many options that are possible with the building block arrangement. The POLY-NORM® components of a given model can be mixed and matched with each other to obtain different shaft distances using the same basic component.

On request, we can provide customized variations of the POLY-NORM® to fit your needs – for example, our POLY-NORM® overload coupling with RUFLEX® torque limiter. Just ask us!



Coupling selection

The selection of the POLY-NORM® coupling meets the DIN 740 part 2 specification. The coupling must be sized such that the coupling rated nominal torque is not exceeded in any operating condition. A comparison must be made between the application torque vs. the rating of the coupling. The selection process for torsionally flexible shaft couplings is described in detail in the ROTEX® catalogue which can be used for POLY-NORM® couplings as well. The torques T_{KN}/T_{Kmax} mentioned refer to the elastomer ring. The shaft-hub-connection has to be investigated by the customer.

| Service factor S_t for temperature | | | | |
|--------------------------------------|------------------|--------|--------|--------|
| | -30 °C +30 °C | +40 °C | +60 °C | +80 °C |
| S_t | 1,0 | 1,2 | 1,4 | 1,8 |

| Service factor S_z for starting frequency | | | | |
|---|-----|-----|-----|-----|
| starting frequency/h | 100 | 200 | 400 | 800 |
| S_z | 1,0 | 1,2 | 1,4 | 1,6 |

| Service factor S_A/S_L for shocks | |
|-------------------------------------|-----------|
| | S_A/S_L |
| gentle shocks | 1,5 |
| average shocks | 1,8 |
| heavy shocks | 2,5 |

Example of calculation – Pump drive with three-phase motor (linearized two-mass system):

Given: Details of machine on driving side

Motor power: $P = 75 \text{ kW}$
 Speed: $n = 1485 \text{ rpm}$
 Mass moment of inertia of driving side: $J_A = 1,06 \text{ kgm}^2$
 Starting frequency: $z = 6 \text{ 1/h} \rightarrow S_z = 1,0$
 Ambient temperature: $= + 60 \text{ °C} \rightarrow S_t = 1,4$

Given: Details of machine on load side

Pump
 Nominal load torque: $T_{LN} = 400 \text{ Nm}$
 Peak torque $T_{LS} = 300 \text{ Nm}$ (Peak value with shock load)
 Mass moment of inertia of load side: $J_L = 2,3 \text{ kgm}^2 \rightarrow S_L = 1,5$

Calculation

- Rated driving torque

$$T_{AN} [\text{Nm}] = 9550 \cdot P_{AN} [\text{kW}] / n_{AN} [\text{rpm}]$$

$$T_{AN} [\text{Nm}] = 9550 \cdot 75 [\text{kW}] / 1485 [\text{rpm}] = 484 \text{ Nm}$$

Coupling selection

- Load produced by rated torque

$$TKN \geq TLN \cdot S_t$$

$$TKN \geq 484 \text{ Nm} \cdot 1,4 = 678 \text{ Nm}$$

Selected:

POLY-NORM® AR Size 75

$TKN = 850 \text{ Nm}$

$TK_{max.} = 1700 \text{ Nm}$

- Load produced by torque shocks

$$TK_{max.} \geq TS \cdot S_z \cdot S_t$$

$$\text{Drive-sided shock} \\ TS = TAS \cdot MA \cdot SA$$

$$\text{Shock on driven side} \\ TS = T_{LS} \cdot M_L \cdot S_L$$

$$M_A = J_L / (J_A + J_L) = 0,68 \text{ bzw } M_L = J_A / (J_A + J_L) = 0,32$$

- Driving torque

$$TAS = 2,0 \cdot T_{AN} = 2,0 \cdot 484 \text{ Nm} = 968 \text{ Nm}$$

$$TS = 968 \text{ Nm} \cdot 0,68 \cdot 1,5 = 987 \text{ Nm}$$

$$TK_{max.} \geq 987 \text{ Nm} \cdot 1 \cdot 1,4 = 1381 \text{ Nm}$$

$$TK_{max.} \text{ with } 1700 \text{ Nm} \geq 1381 \text{ Nm} \quad \checkmark$$

$$TS = 300 \text{ Nm} \cdot 0,32 \cdot 1,5 = 144 \text{ Nm}$$

$$TK_{max.} \geq 144 \text{ Nm} \cdot 1 \cdot 1,4 + 400 \text{ Nm} \cdot 1,4 = 762 \text{ Nm}$$

$$TK_{max.} \text{ with } 1700 \text{ Nm} \geq 762 \text{ Nm} \quad \checkmark$$

Technical data

| POLY-NORM® Technical data | | | | | | | | | | | | | |
|---------------------------|-------------------------|-------------------------|---------------------------|----------------------------------|---------------------|--------------------|--|----------------------|---------------------|----------------------|--|------------------------|-------------------------|
| Size | Torque [Nm] | | | Max. speed [rpm] with V = 35 m/s | Twisting angle with | | Torsion spring stiffness C _{dyn} [Nm/rad] | | | | Max. permissible displacement [mm] ¹⁾ | | |
| | Nominal T _{KN} | Max. T _{Kmax.} | Vibratory T _{KW} | | T _{KN} | T _{Kmax.} | 1,0 T _{KN} | 0,75 T _{KN} | 0,5 T _{KN} | 0,25 T _{KN} | Axial ΔK _a | Radial ΔK _r | Angular ΔK _w |
| 28 | 40 | 80 | 16 | 9650 | | | 5200 | 3318 | 1867 | 897 | ± 1,0 | 0,20 | 1,2 |
| 32 | 60 | 120 | 24 | 8550 | | | 7820 | 4989 | 2821 | 1349 | ± 1,0 | 0,25 | 1,4 |
| 38 | 90 | 180 | 36 | 7650 | | | 13540 | 8639 | 4885 | 2336 | ± 1,0 | 0,25 | 1,5 |
| 42 | 150 | 300 | 60 | 6950 | | | 26250 | 16748 | 9471 | 4528 | ± 1,0 | 0,25 | 1,7 |
| 48 | 220 | 440 | 88 | 6300 | | | 29896 | 19074 | 10786 | 5157 | ± 1,5 | 0,30 | 1,8 |
| 55 | 300 | 600 | 120 | 5650 | | | 38500 | 24563 | 13891 | 6641 | ± 1,5 | 0,30 | 2,0 |
| 60 | 410 | 820 | 164 | 5150 | | | 67600 | 43129 | 23200 | 11661 | ± 1,5 | 0,30 | 2,2 |
| 65 | 550 | 1100 | 220 | 4750 | | | 81800 | 52188 | 26994 | 14111 | ± 1,5 | 0,35 | 2,4 |
| 75 | 850 | 1700 | 340 | 4200 | | | 122900 | 78410 | 40557 | 21200 | ± 1,5 | 0,40 | 2,7 |
| 85 | 1350 | 2700 | 540 | 3650 | | | 243045 | 155063 | 74858 | 41925 | ± 1,5 | 0,40 | 3,0 |
| 90 | 2000 | 4000 | 800 | 3300 | | | 361571 | 230682 | 111364 | 62371 | ± 1,5 | 0,45 | 3,4 |
| 100 | 2900 | 5800 | 1160 | 2950 | | | 548200 | 349752 | 168846 | 94565 | ± 3,0 | 0,50 | 3,9 |
| 110 | 3900 | 7800 | 1560 | 2650 | | | 792300 | 505487 | 244028 | 136672 | ± 3,0 | 0,60 | 4,3 |
| 125 | 5500 | 11000 | 2200 | 2350 | | | 1023240 | 652827 | 315158 | 176509 | ± 3,0 | 0,60 | 4,8 |
| 140 | 7200 | 14400 | 2880 | 2100 | | | 1640430 | 1046594 | 508533 | 282974 | ± 3,0 | 0,60 | 5,5 |
| 160 | 10000 | 20000 | 4000 | 1900 | | | 2090930 | 1334013 | 648188 | 360685 | ± 3,0 | 0,65 | 6,1 |
| 180 | 13400 | 26800 | 5360 | 1650 | | | 2670700 | 1703907 | 827917 | 460696 | ± 3,0 | 0,65 | 6,0 |
| NEW 200 | 19000 | 38000 | 7600 | 1450 | | | | | | | ± 4,0 | 0,65 | 7,8 |
| NEW 220 | 30000 | 60000 | 12000 | 1300 | | | | | | | ± 4,0 | 0,70 | 8,7 |
| NEW 240 | 43000 | 86000 | 17200 | 1200 | | | | | | | ± 4,0 | 0,70 | 9,6 |
| NEW 260 | 55000 | 110000 | 22000 | 1000 | | | | | | | ± 4,0 | 0,85 | 11,3 |
| NEW 280 | 67000 | 134000 | 26800 | 950 | | | | | | | ± 4,0 | 0,95 | 12,2 |

¹⁾ Displacement with n = 1500 rpm

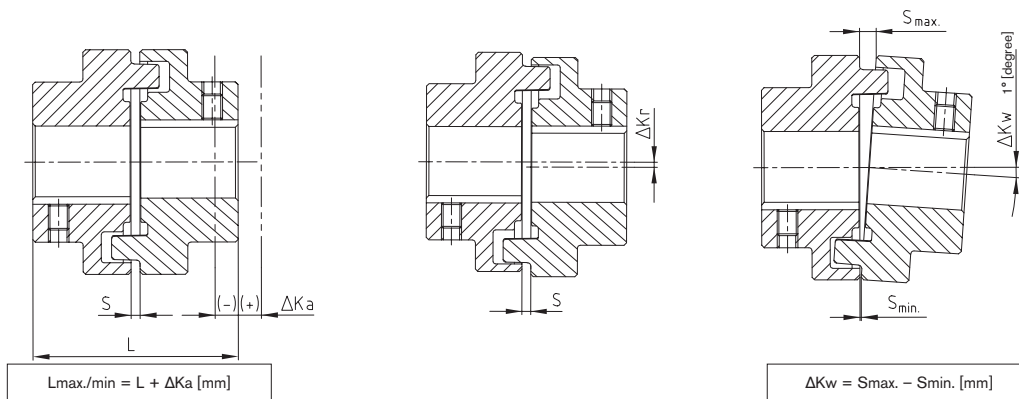
Angular and radial displacement may occur at the same time. The sum of all displacements must not exceed the figures set forth in the table. Couplings may be dynamically balanced on request. (Semi-wedge balancing G 6,3 with 1500 rpm). For circumferential speeds exceeding V = 20 m/s we would recommend dynamic balancing.

Displacements

Axial displacement ΔK_a

Radial displacement ΔK_r

Angular displacement ΔK_w



Assembly Guidelines

During assembly, the coupling halves must be mounted in a way that the coupling hub faces are flush to the end of the shafts. The alignment of the shafts must be adjusted that radial and the angular displacements are minimal. The life of the coupling and bearings is extended by accurate alignment. Steps must be taken to ensure that the alignment will not change during all operating conditions. Shaft displacements which cannot be avoided must not exceed the figures indicated in the table. Angular and radial displacements can occur at the same time but the sum of these displacements must not exceed the figures set forth in the table above. See the KTR mounting instructions, KTR standard 49510 at our homepage www.ktr.com.

General information about the elastomer

| | |
|------------------------------------|---|
| Material/Hardness | Perbunan [NBR]/78 Shore-A |
| Permanent temperature range [°C] | -30 to + 80 |
| Max. temperature (short time) [°C] | -50 to + 120 |
| Applications | General engineering Pump industry ATEX applications Chemical industry Applications of average elasticity |
| Resistant to | Gasoline, diesel Acids, bases Tropics (Salt) water (hot/cold) Oils, greases Propane, butane Natural gas, city gas |



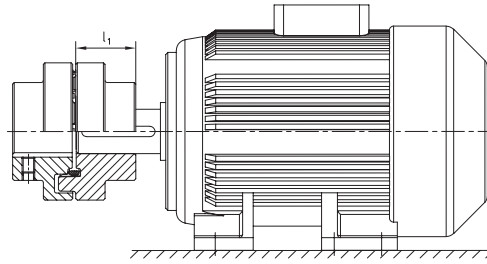
Elastomer ring NBR 78 Shore-A



Elastomer ring Viton

Elastomer ring Viton [FKM] 60 Shore-A for the high-temperature range on request

Selection of standard IEC motors



| POLY-NORM® couplings for standard IEC motors, protection IP 54/IP 55 (elastomer ring 78 Shore-A) | | | | | | | | | | | | | | |
|--|-------------------|--------------|---------------------------------|---------------|-------------------------|---------------------------------|---------------|-------------------------|---------------------------------|---------------|-------------------------|--------------------------------|---------------|-------------------------|
| Size | A. C. motor 50 Hz | | Motor output n= 3000 rpm 2-pole | | POLY-NORM coupling size | Motor output n= 1500 rpm 4-pole | | POLY-NORM coupling size | Motor output n= 1000 rpm 6-pole | | POLY-NORM coupling size | Motor output n= 750 rpm 8-pole | | POLY-NORM coupling size |
| | 2-pole | 4, 6, 8 pole | Output P [kW] | Torque T [Nm] | | Output P [kW] | Torque T [Nm] | | Output P [kW] | Torque T [Nm] | | Output P [kW] | Torque T [Nm] | |
| 56 | 9 x 20 | | 0,09 | 0,32 | | 0,06 | 0,43 | | 0,037 | 0,43 | | | | |
| | | | 0,12 | 0,41 | | 0,09 | 0,64 | | 0,045 | 0,52 | | | | |
| 63 | 11 x 23 | | 0,18 | 0,62 | | 0,12 | 0,88 | | 0,06 | 0,7 | | | | |
| | | | 0,25 | 0,86 | | 0,18 | 1,3 | | 0,09 | 1,1 | | | | |
| 71 | 14 x 30 | | 0,37 | 1,3 | | 0,25 | 1,8 | | 0,18 | 2 | | 0,09 | 1,4 | |
| | | | 0,55 | 1,9 | | 0,37 | 2,5 | | 0,25 | 2,8 | | 0,12 | 1,8 | |
| 80 | 19 x 40 | | 0,75 | 2,5 | 28/32 | 0,55 | 3,7 | 28/32 | 0,37 | 3,9 | 28/32 | 0,18 | 2,5 | 28/32 |
| | | | 1,1 | 3,7 | | 0,75 | 5,1 | | 0,55 | 5,8 | | 0,25 | 3,5 | |
| 90S | 24 x 50 | | 1,5 | 5 | | 1,1 | 7,5 | | 0,75 | 8 | | 0,37 | 5,3 | |
| 90L | | | 2,2 | 7,4 | | 1,5 | 10 | | 1,1 | 12 | | 0,55 | 7,9 | |
| 100L | 28 x 60 | | 3 | 9,8 | | 2,2 | 15 | | 1,5 | 15 | | 0,75 | 11 | |
| | | | | | | 3 | 20 | | | | | 1,1 | 16 | |
| 112M | | | 4 | 13 | | 4 | 27 | | 2,2 | 22 | | 1,5 | 21 | |
| | | | 5,5 | 18 | | | | | 3 | 30 | | 2,2 | 30 | |
| 132S | 38 x 80 | | 7,5 | 25 | 38 | 5,5 | 36 | 38 | 4 | 40 | 38 | 3 | 40 | 38 |
| 132M | | | | | | 7,5 | 49 | | 5,5 | 55 | | | | |
| | | | | | | | | | | | | | | |
| 160M | 42 x 110 | | 11 | 36 | 42 | 11 | 72 | 42 | 7,5 | 75 | 42 | 4 | 54 | 42 |
| | | | 15 | 49 | | | | | | | | 5,5 | 74 | |
| 160L | | | 18,5 | 60 | | 15 | 98 | | 11 | 109 | | 7,5 | 100 | |
| 180M | 48 x 110 | | 22 | 71 | 48 | 18,5 | 121 | 48 | | | 48 | | | 48 |
| 180L | | | | | | 22 | 144 | | 15 | 148 | | 11 | 145 | |
| | | | | | | | | | | | | | | |
| 200L | 55 x 110 | | 30 | 97 | | 30 | 196 | 55 | 18,5 | 181 | 55 | 15 | 198 | 55 |
| | | | 37 | 120 | 55 | | | | 22 | 215 | | | | |
| 225S | 55 x 110 | | | | | 37 | 240 | | | | 60 | 18,5 | 244 | 60 |
| 225M | 60 x 140 | | 45 | 145 | | 45 | 292 | 60 | 30 | 293 | | 22 | 290 | 60 |
| 250M | 60 x 140 | 65 x 140 | 55 | 177 | 60 | 55 | 356 | 65 | 37 | 361 | 65 | 30 | 392 | 65 |
| 280S | 75 x 140 | | 75 | 241 | | 75 | 484 | 75 | 45 | 438 | 75 | 37 | 483 | 75 |
| 280M | | | 90 | 289 | 65 | 90 | 581 | | 55 | 535 | | 45 | 587 | 75 |
| 315S | | | 110 | 353 | | 110 | 707 | | 75 | 727 | | 55 | 712 | 85 |
| 315M | 80 x 170 | | 132 | 423 | 75 | 132 | 849 | 85 | 90 | 873 | 85 | 75 | 971 | |
| | | | 160 | 513 | | 160 | 1030 | | 110 | 1070 | | 90 | 1170 | 90 |
| 315L | 65 x 140 | | 200 | 641 | | 200 | 1290 | 90 | 132 | 1280 | | 110 | 1420 | |
| | | | | | 85 | | | | 160 | 1550 | | 132 | 1710 | |
| 315 | 85 x 170 | | 250 | 802 | | 250 | 1600 | 100 | 200 | 1930 | 100 | 160 | 2070 | 100 |
| | | | 315 | 1010 | | 315 | 2020 | | 250 | 2410 | 110 | 200 | 2580 | 110 |
| | | | 355 | 1140 | 90 | 355 | 2280 | | 315 | 3040 | 125 | 250 | 3220 | 125 |
| 355 | 75 x 140 | 95 x 170 | 400 | 1280 | | 400 | 2570 | 110 | 400 | 3850 | | 315 | 4060 | 125 |
| | | | 500 | 1600 | | 500 | 3210 | | | | | | | |
| | | | 560 | 1790 | 100 | 560 | 3580 | 125 | 450 | 4330 | 140 | 355 | 4570 | 140 |
| 400 | 80 x 170 | 110 x 210 | 630 | 2020 | | 630 | 4030 | | 500 | 4810 | | 400 | 5150 | |
| | | | 710 | 2270 | 110 | 710 | 4540 | 140 | 560 | 5390 | | 450 | 5790 | 160 |
| | | | 800 | 2560 | | 800 | 5120 | | 630 | 6060 | 160 | 500 | 6420 | |
| 450 | 90 x 170 | 120 x 200 | 900 | 2880 | 125 | 900 | 5760 | 160 | 710 | 6830 | | 560 | 7190 | 180 |
| | | | 1000 | 3200 | | 1000 | 6400 | | 800 | 7690 | 180 | 630 | 8090 | 180 |

The coupling is selected for an ambient temperature up to + 30 °C. The coupling was selected for normal operation. The respective couplings have a minimum operating factor of $f_{min} = 1,35$. Drives with periodical torque curves must be selected according to DIN 740 part 2. On request the selection is made by KTR.

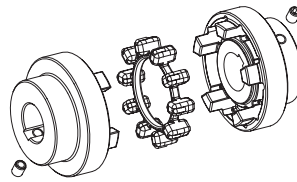
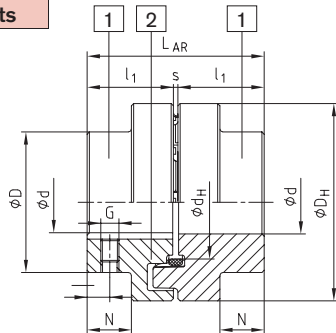
Torque T = rated torque according to Siemens catalogue M 11 · 1994/95..

Type AR

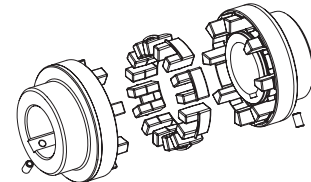


- Torsionally flexible, reduces vibrations
- Fail-safe
- Maintenance-free
- Very short design
- Axial plug-in
- According to DIN 740
- Ex Approved according to EC Standard 94/9/EC
- Detailed mounting instructions and further information available at www.ktr.com

Components



Size 28-125



Size 140-280

Components:

Type AR

1 = Standard hub (GJL)

2 = Elastomer ring (up to size 180: NBR 78 Sh-A; up to size 200: T-PUR® 84 Sh-A)

POLY-NORM® Type AR

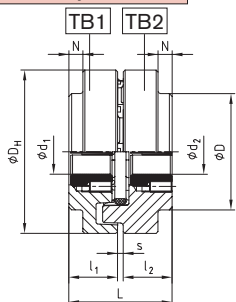
| Size | Elastomer ring (part 2) ¹⁾ | | Max. finish bore ϕd_2 ²⁾ | Dimensions [mm] | | | | | | | | | Mass moment of inertia [kgm ²] ³⁾ | AR ³⁾ Weight [kg] |
|---------|---------------------------------------|--------------------|---|-----------------|----------------|----|----------------|-----|----------------|-----------------------------------|-----|----|--|------------------------------|
| | T _{KN} | T _{Kmax.} | | General | | | | | | Thread for setscrew ²⁾ | | | | |
| | | | | L _{AR} | l ₁ | s | D _H | D | d _H | N | G | t | | |
| 28 | 40 | 80 | 30 | 59 | 28 | 3 | 69 | 46 | 36,5 | 12 | M5 | 7 | 0,0004 | 0,9 |
| 32 | 60 | 120 | 35 | 68 | 32 | 4 | 78 | 53 | 41,5 | 14 | M8 | 7 | 0,0008 | 1,4 |
| 38 | 90 | 180 | 40 | 80 | 38 | 4 | 87 | 62 | 50 | 19,5 | M8 | 10 | 0,0016 | 2,0 |
| 42 | 150 | 300 | 45 | 88 | 42 | 4 | 96 | 69 | 55,5 | 20 | M8 | 10 | 0,0026 | 2,7 |
| 48 | 220 | 440 | 50 | 101 | 48 | 5 | 106 | 78 | 64 | 24 | M8 | 15 | 0,0042 | 3,7 |
| 55 | 300 | 600 | 60 | 115 | 55 | 5 | 118 | 90 | 73 | 29 | M8 | 14 | 0,0070 | 5,5 |
| 60 | 410 | 820 | 65 | 125 | 60 | 5 | 129 | 97 | 81 | 33 | M8 | 15 | 0,0112 | 6,9 |
| 65 | 550 | 1100 | 70 | 135 | 65 | 5 | 140 | 105 | 86 | 36 | M10 | 20 | 0,0174 | 8,8 |
| 75 | 850 | 1700 | 80 | 155 | 75 | 5 | 158 | 123 | 100 | 42,5 | M10 | 20 | 0,028 | 13,5 |
| 85 | 1350 | 2700 | 90 | 175 | 85 | 5 | 182 | 139 | 116 | 48,5 | M10 | 25 | 0,052 | 19,5 |
| 90 | 2000 | 4000 | 95 | 185 | 90 | 5 | 200 | 148 | 128 | 49 | M12 | 25 | 0,090 | 23,2 |
| 100 | 2900 | 5800 | 110 | 206 | 100 | 6 | 224 | 165 | 143 | 55 | M12 | 25 | 0,160 | 31,9 |
| 110 | 3900 | 7800 | 50-120 | 226 | 110 | 6 | 250 | 185 | 158 | 60 | M16 | 30 | 0,317 | 38,0 |
| 125 | 5500 | 11000 | 55-140 | 256 | 125 | 6 | 280 | 210 | 178 | 70 | M16 | 35 | 0,570 | 55,2 |
| 140 | 7200 | 14400 | 65-155 | 286 | 140 | 6 | 315 | 235 | 216 | 76,5 | M20 | 35 | 1,030 | 92,6 |
| 160 | 10000 | 20000 | 75-175 | 326 | 160 | 6 | 350 | 265 | 246 | 94,5 | M20 | 45 | 1,746 | 126,9 |
| 180 | 13400 | 26800 | 75-200 | 366 | 180 | 6 | 400 | 300 | 290 | 111,5 | M20 | 50 | 3,239 | 181,8 |
| NEW 200 | 19000 | 38000 | 85-200 | 408 | 200 | 8 | 450 | 335 | - | 126 | M24 | 50 | 5,728 | 263,7 |
| NEW 220 | 30000 | 60000 | 95-220 | 448 | 220 | 8 | 500 | 370 | - | 140 | M24 | 50 | 9,489 | 355,9 |
| NEW 240 | 43000 | 86000 | 105-240 | 488 | 240 | 8 | 550 | 405 | - | 154 | M24 | 50 | 14,963 | 466,3 |
| NEW 260 | 55000 | 110000 | 115-260 | 530 | 260 | 10 | 650 | 440 | - | 158 | M24 | 60 | 29,504 | 672,2 |
| NEW 280 | 67000 | 134000 | 125-280 | 570 | 280 | 10 | 700 | 475 | - | 172 | M24 | 60 | 42,451 | 836,6 |

¹⁾ Standard material perbunane (NBR) 78 Shore A, size 140 - 280 double tooth elastomers, selection see page 54

²⁾ Bores H7 with keyway DIN 6885 sheet 1 [JS9] and threads for setscrews on the feather keyway.

³⁾ Referring to average bore

Components



POLY-NORM® for taper clamping bush

| Size | Taper clamping bush | Dimensions [mm] | | | Fastening screws ¹⁾ for taper clamping bush | | | Size | Taper clamping bush | Dimensions [mm] | | | Fixing screws ¹⁾ for taper clamping bush | | | | |
|------|---------------------|--------------------------------------|---------------------------------|---|--|-------------|---------|------|---------------------|---------------------|--------------------------------------|---------------------------------|---|-------------|-------------|---------|---------------------|
| | | max. d ₁ ; d ₂ | l ₁ ; l ₂ | L | Size [Inch] | Length [mm] | SW [mm] | | | T _A [Nm] | max. d ₁ ; d ₂ | l ₁ ; l ₂ | L | Size [Inch] | Length [mm] | SW [mm] | T _A [Nm] |
| 32 | 1108 | 25 | 25,5 | | 1/4" | 13 | 3 | 5,7 | 75 | 2517 | 60 | 52,5 | | 1/2" | 25 | 6 | 49 |
| 42 | 1210 | 32 | 31,0 | | 3/8" | 16 | 5 | 20 | 85 | 2517 | 60 | 46,5 | | 1/2" | 25 | 6 | 49 |
| 48 | 1610 | 40 | 30,0 | | 3/16" | 16 | 5 | 20 | 3030 | 75 | 82 | | 3/8" | 32 | 8 | 90 | |
| | 1615 | 40 | 42,5 | | 3/8" | 16 | 5 | 20 | 90 | 3020 | 75 | 52,0 | | 5/8" | 32 | 8 | 92 |
| 60 | 2012 | 50 | 38,5 | | 7/16" | 22 | 6 | 31 | 100 | 3535 | 90 | 98,0 | | 1/2" | 38 | 10 | 115 |
| 65 | 2517 | 60 | 62,5 | | 1/2" | 25 | 6 | 49 | 125 | 4040 | 100 | 111,5 | | 5/8" | 45 | 12 | 172 |

¹⁾ 2 fastening screws except for 3535/4040 3 fixing screws.


Coupling design TB 1 Cam-sided screwing - TB 2 Collar-sided screwing
Combination possible! Please order our separate data sheet M407045.

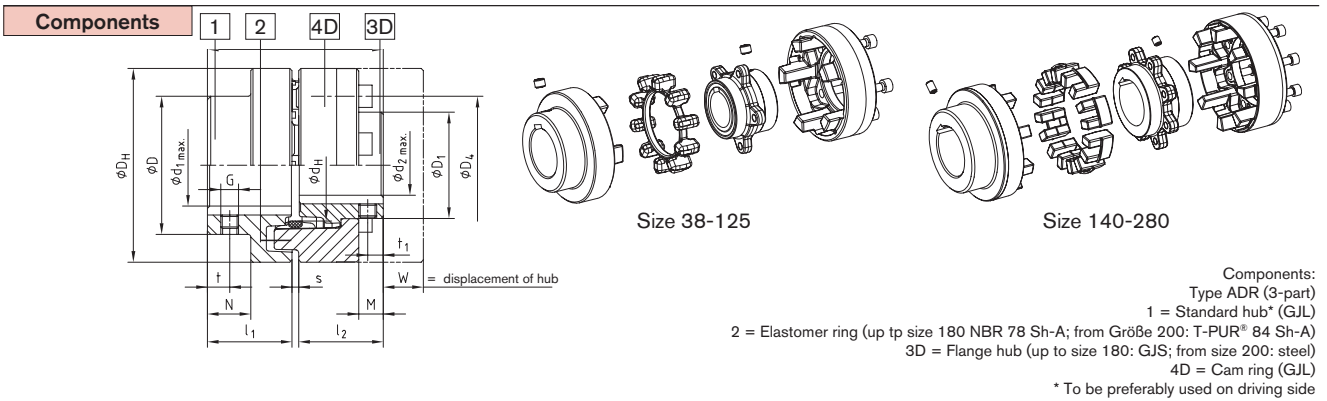
Ordering example:

| POLY-NORM® 38 | AR | Ø38 | Ø30 |
|---------------|------|-------------|-------------|
| Coupling size | Type | Finish bore | Finish bore |

Type ADR (3-part design)



- Torsionally flexible, reduces vibrations
- Elastomer ring can be replaced while being mounted
- Fail-safe
- Maintenance-free
- Short design
- Axial plug-in
- According to DIN 740
-  Approved according to EC Standard 94/9/EC
- Detailed mounting instructions and further information available at www.ktr.com



POLY-NORM® Type ADR

| Size | Elastomer ring torque [Nm] ¹⁾ | | Dimensions [mm] | | | | | | | | | | | | | | | |
|---------|--|--------|--------------------------------|--------|---------|---------------------------------|----|----------------|-----|----------------|----------------|-------|------|----|---------------------|----|----------------|---------------------|
| | | | Max. finish bore ²⁾ | | General | | | | | | | | | | Thread for setscrew | | | |
| | | | d1 | d2 | LADR | l ₁ ; l ₂ | s | D _H | D | D ₁ | d _H | N | M | W | G | t | t ₁ | T _A [Nm] |
| 38 | 90 | 180 | 40 | 34 | 80 | 38 | 4 | 87 | 62 | 48 | 50 | 19,5 | 11,0 | 12 | M8 | 10 | 7 | 10 |
| 42 | 150 | 300 | 45 | 38 | 88 | 42 | 4 | 96 | 69 | 54 | 55,5 | 20 | 12,0 | 16 | M8 | 10 | 7 | 10 |
| 48 | 220 | 440 | 50 | 44 | 101 | 48 | 5 | 106 | 78 | 62 | 64 | 24 | 13,7 | 16 | M8 | 15 | 7 | 10 |
| 55 | 300 | 600 | 60 | 50 | 115 | 55 | 5 | 118 | 90 | 72 | 73 | 29 | 18,7 | 15 | M8 | 14 | 14 | 10 |
| 60 | 410 | 820 | 65 | 56 | 125 | 60 | 5 | 129 | 97 | 80 | 81 | 33 | 22,2 | 14 | M8 | 15 | 15 | 10 |
| 65 | 550 | 1100 | 70 | 60 | 135 | 65 | 5 | 140 | 105 | 86 | 86 | 36 | 26,7 | 11 | M10 | 20 | 20 | 17 |
| 75 | 850 | 1700 | 80 | 68 | 155 | 75 | 5 | 158 | 123 | 98 | 100 | 42,5 | 27,8 | 16 | M10 | 20 | 20 | 17 |
| 85 | 1350 | 2700 | 90 | 78 | 175 | 85 | 5 | 182 | 139 | 112 | 116 | 48,5 | 33,7 | 18 | M10 | 25 | 25 | 17 |
| 90 | 2000 | 4000 | 95 | 85 | 185 | 90 | 5 | 200 | 148 | 122 | 128 | 49 | 31,5 | 26 | M12 | 25 | 25 | 40 |
| 100 | 2900 | 5800 | 110 | 95 | 206 | 100 | 6 | 224 | 165 | 136 | 143 | 55 | 37,5 | 28 | M12 | 25 | 25 | 40 |
| 110 | 3900 | 7800 | 50-120 | 105 | 226 | 110 | 6 | 250 | 185 | 150 | 158 | 60 | 39,5 | 30 | M16 | 30 | 30 | 80 |
| 125 | 5500 | 11000 | 55-140 | 115 | 256 | 125 | 6 | 280 | 210 | 168 | 178 | 70 | 48,0 | 35 | M16 | 35 | 35 | 80 |
| 140 | 7200 | 14400 | 65-155 | 55-135 | 286 | 140 | 6 | 315 | 235 | 195 | 216 | 76,5 | 47,0 | 59 | M20 | 35 | 35 | 140 |
| 160 | 10000 | 20000 | 75-175 | 65-155 | 326 | 160 | 6 | 350 | 265 | 225 | 246 | 94,5 | 65,0 | 43 | M20 | 45 | 45 | 140 |
| 180 | 13400 | 26800 | 75-200 | 65-175 | 366 | 180 | 6 | 400 | 300 | 255 | 290 | 111,5 | 79,0 | 33 | M20 | 50 | 50 | 140 |
| NEW 200 | 19000 | 38000 | 85-200 | 200 | 408 | 200 | 8 | 450 | 335 | 290 | - | 126 | 95 | 7 | M24 | 50 | 50 | 240 |
| NEW 220 | 30000 | 60000 | 95-220 | 220 | 448 | 220 | 8 | 500 | 370 | 320 | - | 140 | 103 | 8 | M24 | 50 | 50 | 240 |
| NEW 240 | 43000 | 86000 | 105-240 | 240 | 488 | 240 | 8 | 550 | 405 | 350 | - | 154 | 119 | 1 | M24 | 50 | 50 | 240 |
| NEW 260 | 55000 | 110000 | 115-260 | 260 | 530 | 260 | 10 | 650 | 440 | 380 | - | 158 | 109 | 34 | M24 | 60 | 60 | 240 |
| NEW 280 | 67000 | 134000 | 125-280 | 280 | 570 | 280 | 10 | 700 | 475 | 410 | - | 172 | 109 | 29 | M24 | 60 | 60 | 240 |

Classification of cap crews DIN EN ISO 4762-12.9

| Size | M x l [mm] | Number z | Separation z x angle | D ₄ [mm] | T _A [Nm] ³⁾ | Size | M x l [mm] | Number z | Separation z x angle | D ₄ [mm] | T _A [Nm] ³⁾ |
|------|------------|----------|----------------------|---------------------|-----------------------------------|------|------------|----------|----------------------|---------------------|-----------------------------------|
| 38 | M6x16 | 5 | 5x72 | 62 | 10 | 110 | M16x40 | 8 | 8x45 | 183 | 210 |
| 42 | M8x16 | 5 | 5x72 | 69 | 25 | 125 | M20x40 | 8 | 8x45 | 202 | 410 |
| 48 | M8x20 | 6 | 6x60 | 78 | 25 | 140 | M20x50 | 8 | 8x45 | 237 | 410 |
| 55 | M8x20 | 6 | 6x60 | 88 | 25 | 160 | M20x55 | 9 | 9x40 | 267 | 410 |
| 60 | M8x20 | 6 | 6x60 | 98 | 25 | 180 | M20x60 | 10 | 10x36 | 304 | 410 |
| 65 | M10x20 | 6 | 6x60 | 104 | 49 | 200 | M20x60 | 10 | 10x36 | 342 | 580 |
| 75 | M10x25 | 6 | 6x60 | 120 | 49 | 220 | M24x70 | 10 | 10x36 | 378 | 1000 |
| 85 | M12x25 | 6 | 6x60 | 138 | 86 | 240 | M27x70 | 10 | 10x36 | 416 | 1500 |
| 90 | M16x30 | 6 | 6x60 | 149 | 210 | 260 | M30x90 | 10 | 10x36 | 480 | 2000 |
| 100 | M16x30 | 6 | 6x60 | 163 | 210 | 280 | M30x90 | 10 | 10x36 | 520 | 2000 |

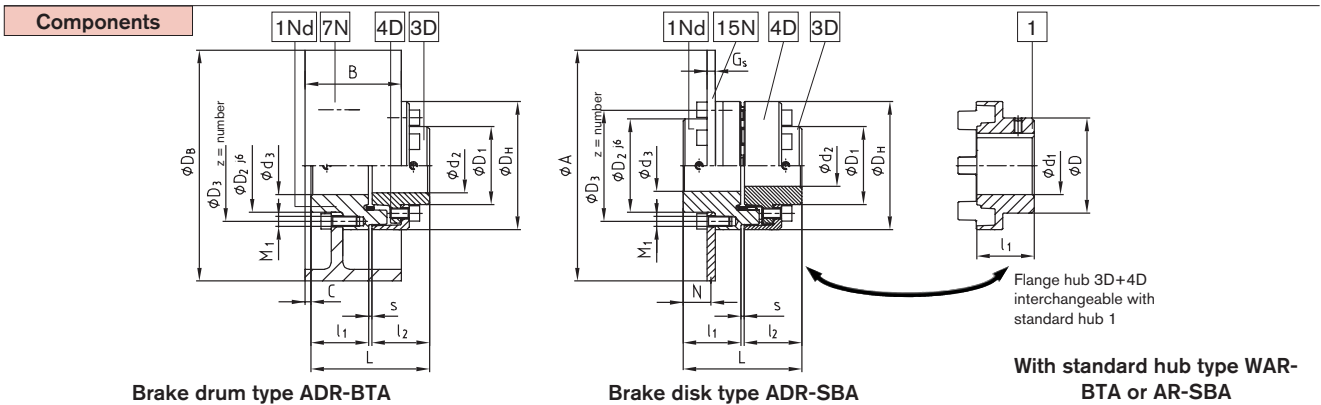
¹⁾ Standard material Perbunan (NBR) 78 Shore A, size 140 - 280 double tooth elastomers, selection see page 54
²⁾ Bore H7 with keyway to DIN 6885 sheet 1(JS9) with thread for set screws
³⁾ Screw tightening torque acc. to 8.8

| | | | | |
|-------------------|---------------|------|---------------------|---------------------|
| Ordering example: | POLY-NORM® 65 | ADR | d ₁ =Ø55 | d ₂ =Ø60 |
| | Coupling size | Type | Finish bore | Finish bore |

Type BTA and SBA with brake drum/brake disk for brake stop



- Shaft coupling POLY-NORM® ADR-BTA with brake drum to be mounted to external drum brakes with double shoes according to DIN 15431/15435
- Shaft coupling POLY-NORM® ADR-SBA with disk for braking calipers
- Each coupling type to be combined with various sizes of brake drum disks (see selection)
- The brake drum or brake disk has to be placed onto the shaft end with the biggest mass moment of inertia
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9



| POLY-NORM® type AR-BTA, AR-SBA, ADR-BTA and ADR-SBA | | | | | | | | | | | | | | |
|---|---|-------------------|---|------------------|-----|--------|----------------|----------------|----------------|----------|----------------|---------------------------------|---|-----|
| Size | Torque of elastomer ring [Nm] ¹⁾ | | D; D ₁ | Dimensions [mm] | | | | | | | | | | |
| | T _{KN} | T _{Kmax} | | Finish bore max. | | | D _H | D ₂ | D ₃ | z | M ₁ | l ₁ ; l ₂ | s | L |
| 38 | 90 | 180 | For dimension diameter ϕD , ϕD_1 please see our company catalogue on page 57 and 58 | 40 | 34 | 38 | 87 | 61 | 75 | 5 x 72° | M6 | 38 | 4 | 80 |
| 42 | 150 | 300 | | 45 | 38 | 42 | 96 | 68 | 82 | 5 x 72° | M8 | 42 | 4 | 90 |
| 48 | 220 | 440 | | 50 | 44 | 48 | 106 | 77 | 92 | 6 x 60° | M8 | 48 | 5 | 101 |
| 55 | 300 | 600 | | 60 | 50 | 55 | 118 | 88 | 104 | 6 x 60° | M8 | 55 | 5 | 115 |
| 60 | 410 | 820 | | 65 | 56 | 60 | 129 | 96 | 114 | 6 x 60° | M8 | 60 | 5 | 125 |
| 65 | 550 | 1100 | | 70 | 60 | 65 | 140 | 104 | 122 | 6 x 60° | M10 | 65 | 5 | 135 |
| 75 | 850 | 1700 | | 80 | 68 | 75 | 158 | 121 | 140 | 6 x 60° | M10 | 75 | 5 | 155 |
| 85 | 1350 | 2700 | | 90 | 78 | 85 | 182 | 137 | 160 | 6 x 60° | M12 | 85 | 5 | 175 |
| 90 | 2000 | 4000 | | 95 | 85 | 90 | 200 | 146 | 174 | 6 x 60° | M16 | 90 | 5 | 185 |
| 100 | 2900 | 5800 | | 110 | 95 | 100 | 224 | 164 | 195 | 6 x 60° | M16 | 100 | 6 | 206 |
| 110 | 3900 | 7800 | | 50-120 | 105 | 50-110 | 250 | 184 | 218 | 8 x 45° | M16 | 110 | 6 | 226 |
| 125 | 5500 | 11000 | | 55-140 | 115 | 55-125 | 280 | 208 | 245 | 8 x 45° | M20 | 125 | 6 | 256 |
| 140 | 7200 | 14400 | | 65-155 | 135 | 65-140 | 315 | 233 | 276 | 8 x 45° | M20 | 140 | 6 | 286 |
| 160 | 10000 | 20000 | | 75-175 | 155 | 75-160 | 350 | 263 | 308 | 9 x 40° | M20 | 160 | 6 | 326 |
| 180 | 13400 | 26800 | | 75-200 | 175 | 75-180 | 400 | 298 | 349 | 10 x 36° | M20 | 180 | 6 | 366 |

| POLY-NORM® BTA | | | | | | | | | | | | | | POLY-NORM® SBA | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------------|----|----|----|----|----|------|------|----|-----|-----|-----|-----|----------------|-----|---------------------------------------|--|-------------------|-------|-------|----|----|----|------|------|----|-----|-----|-----|-----|------|------|---------------------------------------|------|------|-------|------|
| POLY-NORM® Size | 38 | 42 | 48 | 55 | 60 | 65 | 75 | 85 | 90 | 100 | 110 | 125 | 140 | 160 | 180 | Speed rpm with v=60 m/s ³⁾ | POLY-NORM® Size | 38 | 42 | 48 | 55 | 60 | 65 | 75 | 85 | 90 | 100 | 110 | 125 | 140 | 160 | 180 | Speed rpm with v=60 m/s ³⁾ | | | | |
| $\phi D_b \times B$ Brake drum ²⁾ | Dimensions [mm] C | | | | | | | | | | | | | | | | $\phi A \times G$ brake disk ²⁾ | Dimensions [mm] N | | | | | | | | | | | | | | | | | | | |
| 160x60 | 4 | | | | | | | | | | | | | | | 7150 | 200x12,5 | 13,75 | | | | | | | | | | | | | | 5725 | | | | | |
| 200x75 | 9 | 8 | 4 | | | | | | | | | | | | | 5725 | 250x12,5 | 13,75 | 14,75 | 18,75 | | | | | | | | | | | | | 4575 | | | | |
| 250x95 | 17 | 16 | 20 | 7 | 3 | 0 | | | | | | | | | | 4575 | 315x16 | | 13 | 17 | 22 | 26 | 29 | 35,5 | | | | | | | | | 3625 | | | | |
| 315x118 | | 25 | 21 | 16 | 12 | 9 | 2,5 | -3,5 | | | | | | | | 3625 | 400x16 | | | 17 | 22 | 26 | 29 | 35,5 | 41,5 | 42 | 48 | | | | | | 2850 | | | | |
| 400x150 | | | 34 | 28 | 25 | 22 | 15,5 | 9,5 | 9 | 3 | | | | | | 2850 | 500x16 | | | | 22 | 26 | 29 | 35,5 | 41,5 | 42 | 48 | 54 | 64 | | | | 2275 | | | | |
| 500x190 | | | | | | | | | | 18 | 12 | -2 | | | | 2275 | 630x20 | | | | | | | | | | | 46 | 52 | 62 | 69 | 86 | | 1800 | | | |
| 630x236 | | | | | | | | | | | | | | | | 1800 | 710x20 | | | | | | | | | | | 46 | 52 | 62 | 69 | 86 | 104 | 1600 | | | |
| 710x265 | | | | | | | | | | | | | | | | 1600 | 800x25 | | | | | | | | | | | | | | 43,5 | 49,5 | 59,5 | 66,5 | 83,5 | 101,5 | 1425 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 49,5 | 59,5 | 66,5 | 83,5 | 101,5 | 1250 |

¹⁾ Standard material Perbunan [NBR], selection see page 54

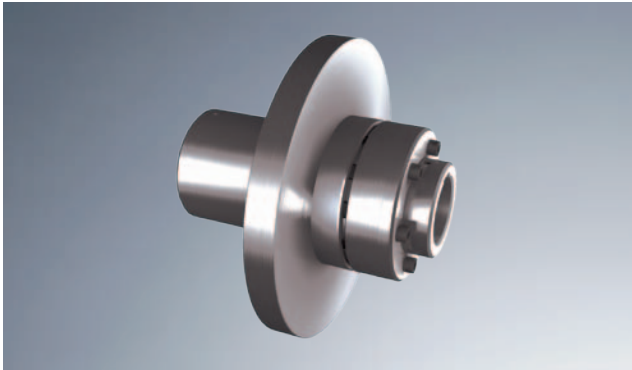
²⁾ Steel

³⁾ Dynamical balancing necessary

Further sizes on request

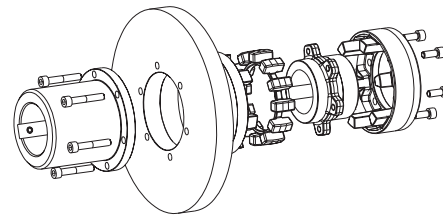
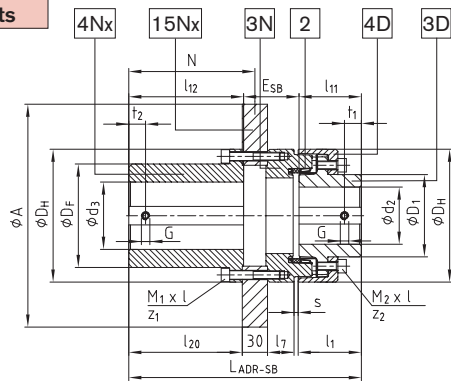
| | | | | | |
|-------------------|---------------|---------|----------------------|-----------------------------|-----------------------------|
| Ordering example: | POLY-NORM® 38 | ADR-BTA | $\phi 200 \times 75$ | $d_2 = \phi 32 \text{ NnD}$ | $d_3 = \phi 25 \text{ NnD}$ |
| | Coupling size | Type | ϕ brake drum | Component with finish bore | Component with finish bore |

Type ADR-SB with brake disk for brake stop



- Shaft coupling POLY-NORM® ADR-SB with disk for brake callipers
- Each coupling type to be combined with various diameters of brake disks
- Elastomer ring, driving flange and brake disk to be replaced while being assembled
- The brake disk has to be placed onto the shaft end with the biggest mass moment of inertia
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9

Components



- Components
- 2 = Elastomer ring
 - 3D = Flange hub
 - 4D = Cam ring
 - 3N = Driving flange
 - 15Nx = Brake disk
 - 4Nx = Coupling flange

Type ADR-SB with brake disk

| POLY-NORM® Type ADR-SB | | | | | | | | | | | | | | | | | | | |
|------------------------|--|-------------------|-----------------------|----------------|-----------------|-----|----------------|---|-----------------|-----------------|----------------|----------------|-----------------|---------------------|----------------|-------|-----|--------------------------------|---------------------|
| Size | Elastomer ring torque [Nm] ¹⁾ | | Max. finish bore [mm] | | Dimensions [mm] | | | | | | | | | | | | | Thread for setscrew | |
| | T _{KN} | T _{Kmax} | d ₂ | d ₃ | D _H | N | l ₂ | s | l ₁₁ | l ₁₂ | D _F | l ₇ | l ₂₀ | L _{ADR-SB} | D ₁ | E | G | t ₁ /t ₂ | T _A [Nm] |
| 55 | 300 | 600 | 50 | 60 | 118 | 150 | 55 | 5 | 54,7 | 136,5 | 88 | 24,0 | 135 | 249,0 | 72 | 57,8 | M8 | 15 | 10 |
| 60 | 410 | 820 | 56 | 65 | 129 | 150 | 50 | 5 | 59,2 | 136,5 | 97 | 25,0 | 135 | 255,0 | 80 | 59,3 | M8 | 20 | 10 |
| 65 | 550 | 1100 | 60 | 70 | 140 | 150 | 65 | 5 | 63,7 | 136,5 | 105 | 26,5 | 135 | 261,5 | 86 | 61,3 | M10 | 20 | 17 |
| 75 | 850 | 1700 | 68 | 80 | 158 | 150 | 75 | 5 | 74,0 | 136,5 | 123 | 31,5 | 135 | 276,5 | 98 | 66,0 | M10 | 20 | 17 |
| 85 | 1350 | 2700 | 78 | 90 | 182 | 150 | 85 | 5 | 84,7 | 136,5 | 139 | 35,0 | 135 | 290,0 | 112 | 68,8 | M10 | 25 | 17 |
| 90 | 2000 | 4000 | 85 | 100 | 200 | 150 | 90 | 5 | 89,5 | 136,5 | 148 | 39,5 | 135 | 299,5 | 122 | 73,5 | M12 | 25 | 40 |
| 100 | 2900 | 5800 | 95 | 110 | 224 | 190 | 100 | 6 | 95,5 | 177,0 | 165 | 43,0 | 175 | 354,0 | 136 | 81,5 | M12 | 25 | 40 |
| 110 | 3900 | 7800 | 105 | 120 | 250 | 190 | 110 | 6 | 105,5 | 177,0 | 185 | 48,0 | 175 | 369,0 | 150 | 86,5 | M16 | 30 | 80 |
| 125 | 5500 | 11000 | 115 | 140 | 280 | 195 | 125 | 6 | 120,5 | 182,0 | 210 | 53,0 | 180 | 394,0 | 168 | 91,5 | M16 | 35 | 80 |
| 140 | 7200 | 14400 | 135 | 160 | 315 | 195 | 140 | 6 | 130,0 | 182,0 | 235 | 60,5 | 180 | 416,5 | 195 | 104,5 | M20 | 35 | 140 |
| 160 | 10000 | 20000 | 155 | 180 | 350 | 195 | 160 | 6 | 150,0 | 182,0 | 265 | 62,5 | 180 | 438,5 | 225 | 106,5 | M20 | 45 | 140 |

| Classification of brake disks and cap screws | | | | | | | |
|--|--|---|-----------------------|---------------------------------------|--|-----------------------|---------------------------------------|
| Size | ØA brake disk [mm]/ thickness 30 mm ^{2) 3)} | Cap screws DIN EN ISO 4762 for brake disk | | | Cap screws DIN EN ISO 4762 for flange hub/cam ring | | |
| | | M ₁ x l | Number z ₁ | Tightening torque T _A [Nm] | M ₂ x l | Number z ₂ | Tightening torque T _A [Nm] |
| 55 | 250 — 450 | M8x20 | 6 | 10 | M8x20 | 6 | 25 |
| 60 | 250 — 500 | M8x20 | 6 | 10 | M8x20 | 6 | 25 |
| 65 | 315 — 500 | M8x55 | 6 | 35 | M10x20 | 6 | 49 |
| 75 | 315 — 560 | M10x60 | 6 | 69 | M10x25 | 6 | 49 |
| 85 | 355 — 560 | M10x60 | 6 | 69 | M12x25 | 6 | 86 |
| 90 | 400 — 710 | M12x65 | 6 | 120 | M16x30 | 6 | 210 |
| 100 | 400 — 800 | M12x65 | 6 | 120 | M16x30 | 6 | 210 |
| 110 | 450 — 900 | M16x75 | 8 | 295 | M16x40 | 8 | 210 |
| 125 | 450 — 900 | M16x75 | 8 | 295 | M20x40 | 8 | 410 |
| 140 | 500 — 900 | M20x80 | 8 | 410 | M20x50 | 8 | 410 |
| 160 | 560 — 900 | M20x90 | 9 | 410 | M20x55 | 9 | 410 |

¹⁾ Standard material Perbunan [NBR] 78 Shore-A, selection see page 54

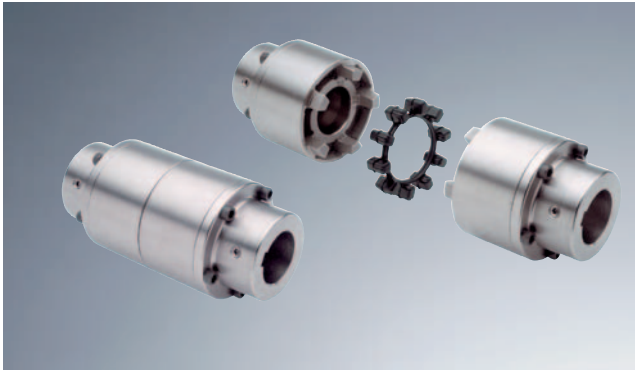
²⁾ Steel

³⁾ For circumferential speeds exceeding 20 m/s (referring to the outside diameter Ø D_H) dynamic balancing is necessary. Maximum circumferential speed = 60 m/s (referring to the brake disk diameter ØA)

Further sizes on request.

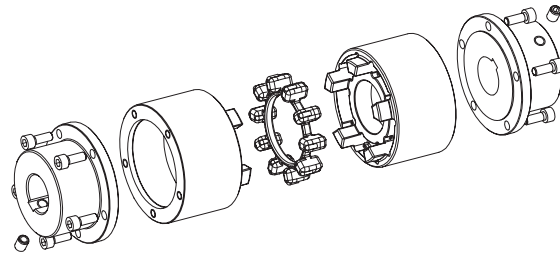
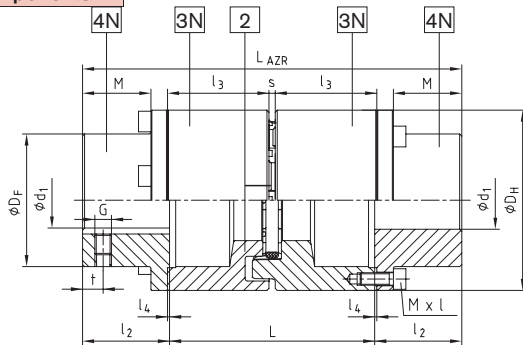
| | | | | | |
|--------------------------|---------------|--------|---------------------|----------------------------|----------------------------|
| Ordering example: | POLY-NORM® 75 | ADR-SB | Ø500 x 30 | 3D d2 - Ø60 NnD | 4Nx d3 - Ø70 NnD |
| | Coupling size | Type | Brake disk ØA/width | Component with finish bore | Component with finish bore |

Type AZR



- Bridging large shaft gaps with (standard) spacers
- Allows to replace the elastomer with no need to disassemble the driving and driven machine
- No movement of driver and driven components is necessary for disassembly of pump thrust bearing
- Customized types available (AZVR)
- Approved and certified according to EC Standard 94/9/EC
- Detailed mounting instructions and further information available at www.ktr.com

Components



Components:

Type AZR

2 = Elastomer ring (NBR 78 Sh-A)

3N = Driving flange (GJL)

4N = Coupling flange (Steel)

| POLY-NORM® Type AZR | | | | | | | | | | | | | | | | | | | |
|---------------------|---------------------------------|-------------------------------------|-------------------|---|------------------|----------------|----------------|---|----------------|----------------|----------------|------|--------|---------------------|---------------------|----|--------|--|-------------------------------|
| Size | Drop out center length L [mm] * | Elastomer ring (p. 2) ¹⁾ | | Max. finish bore ²⁾ Ø d ₁ | Dimensions [mm] | | | | | | | | | | | | | Mass moment of inertia ³⁾ [kgm ²] | AZR Weight ³⁾ [kg] |
| | | T _{KN} | T _{Kmax} | | General | | | | | | | | | | | | | | |
| | | | | | L _{AZR} | l ₂ | l ₃ | s | l ₄ | D _H | D _F | M | Mxl | T _A [Nm] | Thread for setscrew | | | | |
| G | t | | | | | | | | | | | | | | | | | | |
| 28 | 100 | 40 | 80 | 30 | 170 | 35 | 49,5 | 3 | 1 | 69 | 46 | 26 | M6x18 | 14 | M5 | 7 | 0,0020 | 2,4 | |
| | 140 | | | | 210 | | 69,5 | | | | | | | | | | 0,0030 | 2,9 | |
| 32 | 100 | 60 | 120 | 35 | 170 | 35 | 49 | 4 | 1 | 78 | 53 | 26 | M6x18 | 14 | M8 | 7 | 0,0042 | 3,2 | |
| | 140 | | | | 210 | | 69 | | | | | | | | | | 0,0062 | 3,9 | |
| 38 | 100 | 90 | 180 | 40 | 184 | 42 | 49 | 4 | 1 | 87 | 62 | 33 | M6x20 | 14 | M8 | 10 | 0,0048 | 4,3 | |
| | 140 | | | | 224 | | 69 | | | | | | | | | | 0,0068 | 5,1 | |
| 42 | 100 | 150 | 300 | 45 | 190 | 45 | 49 | 4 | 1 | 96 | 69 | 35 | M6x20 | 14 | M8 | 10 | 0,0094 | 5,1 | |
| | 140 | | | | 230 | | 69 | | | | | | | | | | 0,0128 | 6,0 | |
| 48 | 100 | 220 | 440 | 50 | 204 | 52 | 49 | 5 | 1,5 | 106 | 78 | 41,5 | M6x20 | 14 | M8 | 15 | 0,0170 | 6,6 | |
| | 140 | | | | 244 | | 69 | | | | | | | | | | 0,0216 | 7,5 | |
| 55 | 100 | 300 | 600 | 60 | 210 | 55 | 49 | 5 | 1,5 | 118 | 88 | 43,5 | M8x25 | 35 | M8 | 14 | 0,0188 | 9,4 | |
| | 140 | | | | 250 | | 89 | | | | | | | | | | 0,0240 | 10,8 | |
| 60 | 140 | 410 | 820 | 65 | 290 | 60 | 49 | 5 | 1,5 | 129 | 97 | 47,5 | M8x25 | 35 | M8 | 15 | 0,0232 | 12,2 | |
| | 180 | | | | 220 | | 89 | | | | | | | | | | 0,0326 | 11,2 | |
| 65 | 140 | 550 | 1100 | 70 | 300 | 65 | 69 | 5 | 1,5 | 140 | 105 | 51,5 | M8x25 | 35 | M10 | 20 | 0,0414 | 13,0 | |
| | 180 | | | | 230 | | 89 | | | | | | | | | | 0,0504 | 14,6 | |
| 75 | 140 | 850 | 1700 | 80 | 270 | 75 | 69 | 5 | 1,5 | 158 | 123 | 60,5 | M10x30 | 69 | M10 | 20 | 0,0564 | 14,0 | |
| | 180 | | | | 310 | | 89 | | | | | | | | | | 0,0730 | 15,8 | |
| 85 | 140 | 1350 | 2700 | 90 | 290 | 85 | 69 | 5 | 1,5 | 182 | 139 | 69,5 | M10x30 | 69 | M10 | 25 | 0,1008 | 25,6 | |
| | 180 | | | | 310 | | 89 | | | | | | | | | | 0,1332 | 29,8 | |
| 90 | 140 | 2000 | 4000 | 100 | 310 | 90 | 69 | 5 | 1,5 | 200 | 148 | 73,5 | M12x35 | 120 | M12 | 25 | 0,1570 | 32,1 | |
| | 180 | | | | 340 | | 89 | | | | | | | | | | 0,1658 | 35,2 | |
| 100 | 140 | 2900 | 5800 | 110 | 320 | 100 | 69 | 6 | 2 | 224 | 165 | 83 | M12x35 | 120 | M12 | 25 | 0,2466 | 38,2 | |
| | 180 | | | | 360 | | 89 | | | | | | | | | | 0,2880 | 42,2 | |
| | 250 | | | | 430 | | 124 | | | | | | | | | | 0,3566 | 49,3 | |
| | 140 | | | | 340 | | 69 | | | | | | | | | | 0,3988 | 50,0 | |
| | 180 | | | | 380 | | 89 | | | | | | | | | | 0,4450 | 54,8 | |
| | 250 | | | | 450 | | 124 | | | | | | | | | | 0,5465 | 63,2 | |

¹⁾ Standard material Perbunan [NBR] 78 Shore-A, selection see page 54

²⁾ Bores H7 with keyway DIN 6885 sheet 1 [JS9] and threads for setscrews on the feather keyway

³⁾ Referring to average bore

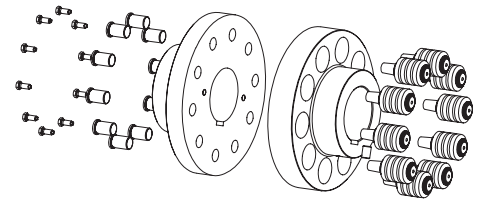
*For other extendable lengths (L=120/160/195/215) it is possible to combine two driving flanges 3N with various lengths (as an example: driving flanges POLY-NORM® 85 for extendable length 140 and 250 result in an extendable length of 195 mm (140 mm + 250 mm = 390 mm 390 mm/2 = 195 mm)

| | | | | | |
|-------------------|---------------|------|------------------------------|-------------|-------------|
| Ordering example: | POLY-NORM® 42 | AZR | 140 | Ø38 | Ø42 |
| | Coupling size | Type | 140 Drop out center length L | Finish bore | Finish bore |

Description of coupling

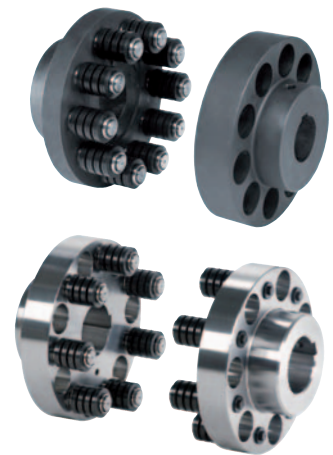
General description




REVOLEX® KX is a torsionally flexible, fail-safe pin & bush coupling. It can be plugged in axially and is characterized by its short design. In addition, REVOLEX® KX allows for an easy disassembly of the elastomer rings including the pins while being assembled. Taking into account the transmittable torque, REVOLEX® KX is based on the POLY-NORM® coupling. The REVOLEX® KX coupling compensates for every kind of shaft misalignment while transmitting the torque safely.



Operation/Arrangement

The coupling consists of two hubs. The torque is transmitted via the steel pins with their taper elastomer rings. As a result all kinds of shaft misalignment, for example caused by inaccurate alignment of the driving or driven elements, is compensated for reliably and vibrations and shocks are compensated for excellently. The coupling is maintenance-free and is used in general engineering and the pump industry, materials handling technology technology, etc. For an optimum adjustment to the different applications, 21-off sizes are available covering torques up to 1.220.000 Nm. Apart from the standard programme customized solutions are available.



| General information on the elastomer rings | | | |
|--|---|--|---|
| Material | Perbunan (NBR) | Natural rubber (NR) | Perbunan (NBR) |
| Hardness | 80 Shore A | 80 Shore A | 80 Shore A |
| Permanent temperature range [°C] | - 30 to + 80 | - 50 to + 70 | - 30 to + 80 |
| Max. temperature (short-term) [°C] | - 50 to +120 | - | - |
| Colour | black | black | blue |
| Applications | STANDARD | Temperatures below zero | Electrically insulating and backlash-free, e. g. ropeway drives |
| |  |  |  |

Use in explosion-proof areas

REVOLEX® KX couplings are suitable for the use on drives in hazardous areas. The couplings are certified according to EC Standard 94/9/EC (ATEX 95) and belong to category 2G/2D, are confirmed and thus suitable for the use in hazardous areas of zone 1, 2, 21 and 22. Please read our information in the respective Type Examination Certificate and the operating and mounting instructions at www.ktr.com.

In addition to ATEX marking an inspection certificate by DNV can be ordered for REVOLEX® KX couplings.



Coupling selection

The selection of the REVOLEX® KX coupling has to be dimensioned in a way that the permissible coupling load is not exceeded with any operating condition. For this purpose a comparison between the loads that arise and the permissible coupling parameters has to be performed. The torques T_{KN}/T_{Kmax} mentioned refer to the connection of pins. The shaft-hub-connection needs to be investigated by the customer.

1. Drives without periodical torsional vibrations

e. g. centrifugal pumps, fans, screw compressors, etc. The coupling is selected taking into account the rated torques T_{KN} and maximum torque T_{Kmax} .

1.1 Load by rated torque

Determination of the actual rated torque T_N of the machine.

$$T_N [\text{Nm}] = 9550 \cdot P [\text{kW}] / n [\text{rpm}]$$

Taking into account the operating factor S_B and the temperature factor S_t , the permissible rated torque T_{KN} of the coupling has to be at least as high as the rated torque T_N of the machine.

$$T_{KN} \geq T_N \cdot S_B \cdot S_t$$

1.2 Taking into account short-term shocks

As an example: for the startup or braking of drives two times the rated torque of the coupling is admitted for up to 10 times an hour.

$$T_{Kmax} \geq 2 \cdot T_{KN}$$

1.3 Determination of the required operating factor S_B

see table

It is necessary to consult with the engineering department of KTR if:

- the operating speed is close to the critical speed (see page 65)
- the ambient temperature exceeds 80 °C
- more than 10 starts per hour are performed

2. Drives with periodical torsional vibrations.

For drives subject to high torsional vibrations, e. g. diesel engines, piston compressors, piston pumps, generators, etc., it is necessary to perform a torsional vibration calculation to ensure a safe operation. If requested, we perform the torsional vibration calculation and the coupling selection in our company. For necessary details please see KTR standard 20004.

| Description | Symbol | Definition or explanation |
|------------------------------|------------|--|
| Rated torque of coupling | T_{KN} | Torque that can continuously be transmitted over the entire permissible speed range |
| Maximum torque of coupling | T_{Kmax} | Torque that can be transmitted as dynamic load $\geq 10^5$ times or 5×10^4 as vibratory load, respectively, during the entire operating life of the coupling |
| Vibratory torque of coupling | T_{KW} | Torque amplitude of the permissible periodical torque fluctuation with a frequency of 10 Hz and a basic load of T_{KN} or dynamic load up to T_{KN} , respectively |
| Rated torque of machine | T_N | Stationary rated torque on the coupling |

| Service factor S_t for temperature | | | | |
|--------------------------------------|------------------|--------|--------|--------|
| | -30 °C +30 °C | +40 °C | +60 °C | +80 °C |
| S_t | 1,0 | 1,2 | 1,4 | 1,8 |

Permissible load on feather key of the coupling hubs

The shaft-hub-connection has to be verified by the customer. Permissible surface pressure according to DIN 6892 (method C).

Cast iron GJL 225 N/mm²
Nodular iron GJS 225 N/mm²
Steel 250 N/mm²

Example of calculation:

Kneading machine drive with rotary current motor

Details of machine on driving side:

Rotary current motor size 560
Motor power $P = 1000$ kW
Speed $n = 991$ rpm

General details:

Ambient temperature = +40 °C

Coupling selection:

Load by rated torque:

$$T_N [\text{Nm}] = 9550 \cdot 1000 [\text{kW}] / 991 \text{ rpm} = 9636,7 \text{ Nm}$$

Operating factor $S_B = 1,75$ (see page 64)

Temperature factor $S_t = 1,2$ (see table)

Calculation of coupling torque:

$$T_{KN} \geq T_N \cdot 1,75 \cdot 1,2 = 20237 \text{ Nm}$$

→ Selected: REVOLEX® KX-170

Coupling selection

The operating factors listed are based on experiences estimating the operating behaviour of driving and driven combinations. For a periodic impulse of the machine or driving or braking of big masses it is necessary to perform a selection in accordance with DIN 740.

| Operating factor S_B | |
|------------------------------------|------|
| Construction machines | 1,25 |
| Manoeuvre winches | 1,25 |
| Swing gears | 1,50 |
| Miscellaneous winches | 1,75 |
| Filters, cable winches | 1,75 |
| Multi-bucket excavators | 1,75 |
| Running gears (caterpillars) | 1,75 |
| Impellers | 1,75 |
| Cutter heads | 1,75 |
| Cutter drives | 2,00 |
| Construction lifts | 1,25 |
| Concrete mixers | 1,25 |
| Road construction machines | 1,25 |
| Conveyors | |
| Bucket elevators | 1,50 |
| Freight lifts | 1,75 |
| Hauling winches | 1,25 |
| Apron conveyors | 1,25 |
| Rubber belt conveyors (bulk) | 1,25 |
| Boom plate bucket conveyors | 1,25 |
| Rotary conveyors | 1,25 |
| Steel plate conveyors | 1,25 |
| Worm conveyors | 1,25 |
| Steel belt conveyors | 1,25 |
| Conveyors | 1,75 |
| Rubber belt conveyor (bulk) | 1,75 |
| Inclined lifts | 1,75 |
| Shaking slides | 2,00 |
| Generators | |
| Frequency converters | 1,75 |
| Generators | 1,75 |
| Rubber & nylon industry | |
| Rubber calenders and rolling mills | 1,75 |
| Mixers | 1,75 |
| Extruders | 1,75 |
| Kneading machines | 1,75 |
| Lifters/cranes | |
| Luffing gears | 1,00 |
| Swing and sliding gears | 1,25 |
| Running gears | 1,75 |
| Lifting gears | 1,75 |
| Woodworking machinery | |
| Planing machines | 1,25 |
| Barking machines | 1,75 |
| Saw frames | 1,75 |
| Compressors | |
| Centrifugal compressors | 1,00 |
| Rotary compressors | 1,25 |
| Metal industry | |
| Plate tilters | 1,25 |
| Wire pulls | 1,25 |
| Winders | 1,25 |
| Crawlers | 1,25 |
| Roller levellers | 1,25 |
| Winding drums | 1,50 |
| Wire drawing machines | 1,75 |
| Roller tables (light-weight) | 1,75 |
| Plate shears | 1,75 |
| Block pushers | 1,75 |
| Blooming and slabbing | 1,75 |
| De-scalers | 1,75 |
| Cold rolling mills | 1,75 |
| Billet shears | 1,75 |
| Plugging machines | 1,75 |
| Continuous casting machines | 1,75 |
| Shifting devices | 1,75 |

| Operating factor S_B | |
|---|------|
| Metal industry | |
| Roller tables (heavy-weight) | 2,00 |
| Mixers | |
| Constant density | 1,50 |
| Variable density | 1,75 |
| Mills | |
| Centrifugal mills | 1,75 |
| Beater mills | 1,75 |
| Autogenous mills | 1,75 |
| Hammer and ball mills | 2,00 |
| Food-processing industry | |
| Sugarcane harvesters | 1,25 |
| Sugar-beet harvesters | 1,25 |
| Sugar-beet washing | 1,25 |
| Kneading machines | 1,75 |
| Sugarcane breakers | 1,75 |
| Sugarcane mills | 1,75 |
| Oil industry | |
| Filter presses for paraffin | 1,50 |
| Rotary furnaces | 1,75 |
| Paper machines | |
| Couch rolls | 1,75 |
| Calenders | 1,75 |
| Wet presses | 1,75 |
| Pumps | |
| Centrifugal pumps (light liquid) | 1,00 |
| Centrifugal pumps (viscous liquid) | 1,25 |
| Gear and vane pumps | 1,25 |
| Screw type pumps | 1,50 |
| Piston pumps, plunger pumps and press pumps | 2,00 |
| Agitator | |
| Light liquid | 1,00 |
| Viscous liquid | 1,25 |
| Liquid with constant density | 1,25 |
| Liquid with variable density | 1,50 |
| Liquid mixed with solids | 1,75 |
| Filters | |
| Screening drums | 1,50 |
| Textile industry | |
| Winders | 1,25 |
| Printing and dyeing machines | 1,25 |
| Tanning barrels | 1,25 |
| Shredders | 1,50 |
| Fans, ventilators and blowers | |
| Centrifugal fans | 1,75 |
| Industrial fans | 1,75 |
| Rotary blowers | 1,75 |
| Fans (axial / radial) | 1,75 |
| Fans for cooling towers | 1,75 |
| Induced draught ventilators | 1,75 |
| Sewage plants | |
| Rakes | 1,0 |
| Worm pumps | 1,25 |
| Concentrators | 1,25 |
| Mixers | 1,25 |
| Aerators | 1,75 |
| Machine tools | |
| Scissors | 1,25 |
| Dressing rollers | 1,50 |
| Bending machines | 1,50 |
| Hole punching machines | 1,75 |
| Levelling machines | 1,75 |
| Hammers | 1,75 |
| Presses | 1,75 |
| Forging presses | 1,75 |

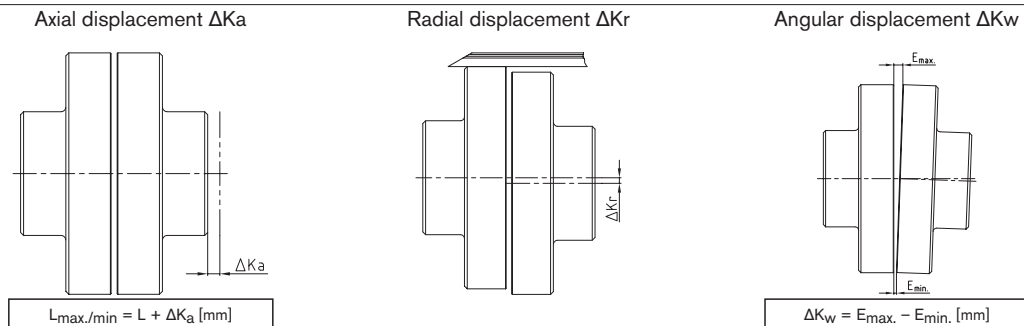
Technical data

| REVOLEX® KX Technical data | | | | | | | | | | | |
|----------------------------|----------------------------|----------------|------------------|--|----------------|--|-------------------|--|-----------------------|-----------------------|-----------------------|
| Size | Torque [Nm] NBR 80 Sh-A | | | Casted material | | Steel | | Dyn. torsion spring stiffness [Nm/rad] | | | |
| | Nominal TKN | Max. TKmax. | Vibratory TKW | Max. speed [rpm] with V = 35 m/s | Max. bore [mm] | Max. speed [rpm] with V = 60 m/s | Max. bore [mm] | 0,25xTKN | 0,50xTKN | 0,75xTKN | 1,00xTKN |
| KX 105 | 6485 | 12970 | 2594 | 2000 | 110/125 | 3475 | 120/135 | 1,053x10 ⁶ | 1,545x10 ⁶ | 2,225x10 ⁶ | 3,060x10 ⁶ |
| KX 120 | 10080 | 20160 | 4032 | 1800 | 125/145 | 3100 | 140/155 | 1,242x10 ⁶ | 1,675x10 ⁶ | 2,350x10 ⁶ | 3,167x10 ⁶ |
| KX 135 | 14030 | 28060 | 5612 | 1600 | 140/150 | 2725 | 160/165 | 1,728x10 ⁶ | 2,331x10 ⁶ | 3,270x10 ⁶ | 4,407x10 ⁶ |
| KX 150 | 17960 | 35920 | 7184 | 1450 | 160 | 2500 | 185 | 2,213x10 ⁶ | 2,985x10 ⁶ | 4,187x10 ⁶ | 5,643x10 ⁶ |
| KX 170 | 26360 | 52720 | 10544 | 1250 | 180 | 2150 | 220 | 3,250x10 ⁶ | 4,480x10 ⁶ | 7,500x10 ⁶ | 9,970x10 ⁶ |
| KX 190 | 36160 | 72320 | 14464 | 1100 | 205 | 1900 | 245 | 4,458x10 ⁶ | 6,145x10 ⁶ | 1,029x10 ⁷ | 1,367x10 ⁷ |
| KX 215 | 48160 | 96320 | 19264 | 1000 | 230 | 1725 | 275 | 5,938x10 ⁶ | 8,185x10 ⁶ | 1,370x10 ⁷ | 1,822x10 ⁷ |
| KX 240 | 65740 | 131480 | 26296 | 900 | 250 | 1550 | 310 | 7,850x10 ⁶ | 1,675x10 ⁷ | 2,575x10 ⁷ | 3,465x10 ⁷ |
| KX 265 | 91480 | 182960 | 36592 | 800 | 285 | 1375 | 350 | 1,092x10 ⁷ | 2,331x10 ⁷ | 3,583x10 ⁷ | 4,822x10 ⁷ |
| KX 280 | 123530 | 247060 | 49412 | 720 | 315 | 1225 | 385 | 1,475x10 ⁷ | 3,147x10 ⁷ | 4,838x10 ⁷ | 6,511x10 ⁷ |
| KX 305 | 152840 | 305680 | 61136 | 675 | 330 | 1150 | 405 | 1,830x10 ⁷ | 3,904x10 ⁷ | 6,002x10 ⁷ | 8,076x10 ⁷ |
| KX 330 | 188470 | 376940 | 75388 | 625 | 355 | 1075 | 435 | 2,250x10 ⁷ | 4,802x10 ⁷ | 7,382x10 ⁷ | 9,934x10 ⁷ |
| KX 355 | 230110 | 460220 | 92044 | - | - | 975 | 465 | 2,748x10 ⁷ | 5,863x10 ⁷ | 9,013x10 ⁷ | 1,213x10 ⁸ |
| KX 370 | 302500 | 605000 | 121000 | - | - | 900 | 550 | 3,614x10 ⁷ | 7,712x10 ⁷ | 1,186x10 ⁸ | 1,595x10 ⁸ |

| REVOLEX® KX-D Technical data | | | | | | | | | | | |
|------------------------------|----------------------------|----------------|------------------|--|----------------|--|----------------------------|--|------------------------|-----------------------|-----------------------|
| Size | Torque [Nm] NBR 80 Sh A | | | Casted material | | Steel | | Dyn. torsion spring stiffness [Nm/rad] | | | |
| | Nominal TKN | Max. TKmax. | Vibratory TKW | Max. speed [rpm] with V = 35 m/s | Max. bore [mm] | Max. speed [rpm] with V = 60 m/s | Max. bore [mm] | 0,25xTKN | 0,50xTKN | 0,75xTKN | 1,00xTKN |
| KX-D 75 | 3800 | 7600 | 1520 | - | - | 4500 | 90 | 0,641x10 ⁶ | 0,941x10 ⁶ | 1,355x10 ⁶ | 1,864x10 ⁶ |
| KX-D 85 | 5000 | 10000 | 2000 | - | - | 4175 | 100 | 0,834x10 ⁶ | 1,224x10 ⁶ | 1,763x10 ⁶ | 2,425x10 ⁶ |
| KX-D 95 | 6600 | 13200 | 2640 | - | - | 3845 | 110 | 1,077x10 ⁶ | 1,580x10 ⁶ | 2,277x10 ⁶ | 3,131x10 ⁶ |
| KX-D 105 | 8650 | 17300 | 3460 | 2000 | 110 | 3475 | 120 | 1,404x10 ⁶ | 2,060x10 ⁶ | 2,967x10 ⁶ | 4,081x10 ⁶ |
| KX-D 120 | 14110 | 28220 | 5640 | 1800 | 125 | 3100 | 140 | 1,742x10 ⁶ | 2,350x10 ⁶ | 3,297x10 ⁶ | 4,443x10 ⁶ |
| KX-D 135 | 18690 | 37380 | 7476 | 1600 | 140 | 2725 | 160 | 2,304x10 ⁶ | 3,108x10 ⁶ | 4,360x10 ⁶ | 5,876x10 ⁶ |
| KX-D 150 | 23100 | 46200 | 9240 | 1450 | 160 | 2500 | 185 | 2,880x10 ⁶ | 3,885x10 ⁶ | 5,450x10 ⁶ | 7,345x10 ⁶ |
| KX-D 170 | 36900 | 73800 | 14760 | 1250 | 180 | 2150 | 220 | 4,550x10 ⁶ | 6,272x10 ⁶ | 1,050x10 ⁷ | 1,396x10 ⁷ |
| KX-D 190 | 48210 | 96420 | 19284 | 1100 | 205 | 1900 | 245 | 5,980x10 ⁶ | 8,243x10 ⁶ | 1,380x10 ⁷ | 1,834x10 ⁷ |
| KX-D 215 | 61900 | 123800 | 24760 | 1000 | 230 | 1725 | 275 | 7,634x10 ⁶ | 1,052x10 ⁷ | 1,762x10 ⁷ | 2,342x10 ⁷ |
| KX-D 240 | 92030 | 184060 | 36812 | 900 | 250 | 1550 | 310 | 1,101x10 ⁷ | 2,350x10 ⁷ | 3,613x10 ⁷ | 4,861x10 ⁷ |
| KX-D 265 | 121900 | 243800 | 48760 | 800 | 285 | 1375 | 350 | 1,456x10 ⁷ | 3,108x10 ⁷ | 4,778x10 ⁷ | 6,429x10 ⁷ |
| KX-D 280 | 158800 | 317600 | 63520 | 720 | 315 | 1225 | 385 | 1,896x10 ⁷ | 4,047x10 ⁷ | 6,221x10 ⁷ | 8,371x10 ⁷ |
| KX-D 305 | 191060 | 382120 | 76424 | 675 | 330 | 1150 | 405 | 2,287x10 ⁷ | 4,880x10 ⁷ | 7,502x10 ⁷ | 1,009x10 ⁸ |
| KX-D 330 | 251200 | 502400 | 100480 | 625 | 355 | 1075 | 435 | 3,001x10 ⁷ | 6,403x10 ⁷ | 9,843x10 ⁷ | 1,324x10 ⁸ |
| KX-D 355 | 300000 | 600000 | 120000 | 575 | 380 | 975 | 450 | 3,572x10 ⁷ | 7,622x10 ⁷ | 1,172x10 ⁸ | 1,577x10 ⁸ |
| KX-D 370 | 400000 | 800000 | 160000 | 535 | 450 | 900 | 530 | 4,518x10 ⁷ | 9,640x10 ⁷ | 1,482x10 ⁸ | 1,994x10 ⁸ |
| KX-D 470 | 510000 | 1020000 | 204000 | - | - | 855 | 520 | 6,325x10 ⁷ | 1,350x10 ⁸ | 2,075x10 ⁸ | 2,208x10 ⁸ |
| KX-D 520 | 715000 | 1430000 | 286000 | - | - | 740 | acc. to customer's request | 8,832x10 ⁷ | 1,885x10 ⁸ | 2,897x10 ⁸ | 3,083x10 ⁸ |
| KX-D 590 | 950000 | 1900000 | 380000 | - | - | 660 | acc. to customer's request | 1,177x10 ⁸ | 2,5107x10 ⁸ | 3,859x10 ⁸ | 4,107x10 ⁸ |
| KX-D 650 | 1220000 | 2440000 | 488000 | - | - | 590 | acc. to customer's request | 1,512x10 ⁸ | 3,226x10 ⁸ | 4,959x10 ⁸ | 5,277x10 ⁸ |

Couplings can be dynamically balanced on request (semi-key balancing G 6,3 with speed acc. customer's specifications). For peripheral speeds exceeding V = 30 m/s, we would recommend dynamically balancing.

Displacements

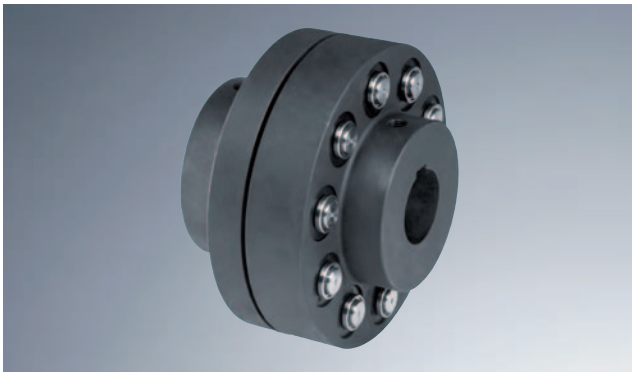



| Displacements | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------|-----------|-----------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|
| Size (KX and KX-D) | 75 | 85 | 95 | 105 | 120 | 135 | 150 | 170 | 190 | 215 | 240 | 265 | 280 | 305 | 330 | 355 | 370 | 470 | 520 | 590 | 650 | |
| Max. axial displacement ΔK_a [mm] | $\pm 1,5$ | $\pm 1,5$ | $\pm 1,5$ | ± 2 | ± 2 | ± 2 | $\pm 2,5$ | $\pm 2,5$ | $\pm 2,5$ | $\pm 2,5$ | $\pm 2,5$ | $\pm 2,5$ | $\pm 2,5$ | $\pm 2,5$ | ± 4 | ± 4 | ± 4 | ± 4 | ± 4 | ± 4 | ± 4 | ± 4 |
| Max. radial displacement ΔK_r [mm] or max. angular displacement ΔK_w [mm] with speed n | 250 rpm | 0,95 | 1,1 | 1,1 | 1,2 | 1,3 | 1,4 | 1,5 | 1,7 | 1,9 | 2,0 | 2,2 | 2,5 | 2,7 | 2,9 | 3,1 | 3,3 | 3,5 | 3,8 | 4,4 | 4,9 | 5,4 |
| | 500 rpm | 0,70 | 0,80 | 0,80 | 0,9 | 0,9 | 1,0 | 1,1 | 1,2 | 1,3 | 1,4 | 1,6 | 1,7 | 1,9 | 2,0 | 2,2 | 2,3 | 2,5 | 2,8 | 3,1 | 3,5 | 3,8 |
| | 750 rpm | 0,60 | 0,65 | 0,65 | 0,7 | 0,8 | 0,8 | 0,9 | 1,0 | 1,1 | 1,2 | 1,3 | 1,4 | 1,6 | 1,7 | 1,8 | 1,9 | 2,0 | 2,2 | 2,4 | - | - |
| | 1000 rpm | 0,50 | 0,55 | 0,55 | 0,6 | 0,7 | 0,7 | 0,8 | 0,9 | 0,9 | 1,0 | 1,1 | 1,2 | 1,4 | 1,4 | 1,5 | 1,7 | 1,8 | - | - | - | - |
| | 1500 rpm | 0,40 | 0,45 | 0,45 | 0,5 | 0,5 | 0,6 | 0,6 | 0,7 | 0,8 | 0,8 | 0,9 | 1,0 | - | - | - | - | - | - | - | - | - |
| 2000 rpm | 0,35 | 0,40 | 0,40 | 0,4 | 0,5 | 0,5 | 0,5 | 0,6 | 0,7 | - | - | - | - | - | - | - | - | - | - | - | - | |
| 3000 rpm | 0,30 | 0,35 | 0,35 | 0,4 | 0,4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

Assembly instructions

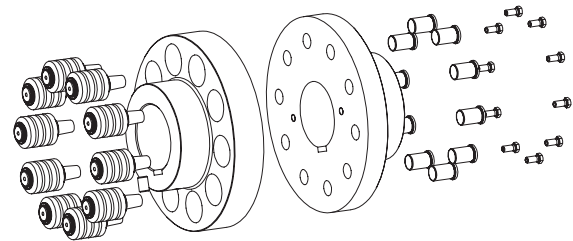
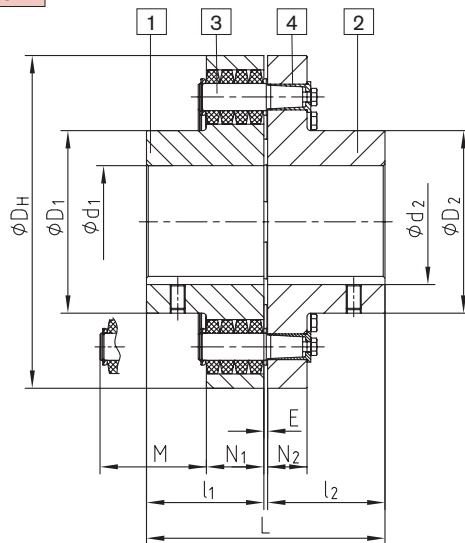
The permissible misalignment figures of the flexible REVOLEX® KX couplings mentioned are general standard values, taking into account the coupling load up to the rated torque T_{KN} of the coupling and an ambient temperature of + 30° C. The displacement figures may only be used separately - if various kinds of displacement arise in parallel, the displacement figures may only be used proportionately. For the assembly of the coupling please make sure that the distance dimension E is adhered to accurately to make sure that the coupling remains flexible during operation. See KTR assembly instructions, KTR standard 49410 at our homepage www.ktr.com.

Type KX – casted material –



- Vibration-reducing, short design
- Radial assembly/disassembly
- Axial plug-in, fail-safe
- All-over machining → good dynamic properties
- Protected surfaces
- Standard hub material GJL (GJS or steel available on request)
-  Approved and certified according to EC Standard 94/9/EC

Components



- Components
Type KX
1 = Hub part 1
2 = Hub part 2
3 = Complete pin
4 = KX sleeve (hardened and corrosion-resistant)

| REVOLEX® KX | | | | | | | | | | | | | | | | |
|-------------|---------------------------|-------------------|--------------------------------|---------------------------|----------------|-----------------|---------------------------------|---|----------------|----------------|----------------|----------------|----------------|-----|---|-----------------------------------|
| Size | Torque ¹⁾ [Nm] | | Max. speed ²⁾ [rpm] | Finish bore [min. - max.] | | Dimensions [mm] | | | | | | | | | Mass moments of inertia ³⁾ [kgm ²] | Approx. weight ³⁾ [kg] |
| | T _{KN} | T _{Kmax} | | d ₁ | d ₂ | L | l ₁ ; l ₂ | E | D _H | D ₁ | D ₂ | N ₁ | N ₂ | M* | | |
| KX 105 | 6485 | 12970 | 2000 | 34-110 | 34-125 | 237 | 117 | 3 | 330 | 180 | 202 | 56 | 30 | 76 | 0,771 | 62 |
| KX 120 | 10080 | 20160 | 1800 | 50-125 | 50-145 | 270 | 132 | 6 | 370 | 206 | 225 | 76 | 46 | 100 | 1,611 | 96 |
| KX 135 | 14030 | 28060 | 1600 | 70-140 | 70-150 | 300 | 147 | 6 | 419 | 230 | 240 | 76 | 46 | 100 | 2,685 | 123 |
| KX 150 | 17960 | 35920 | 1450 | 82-160 | | 336 | 165 | 6 | 457 | 256 | 260 | 76 | 46 | 100 | 3,887 | 162 |
| KX 170 | 26360 | 52720 | 1250 | 95-180 | | 382 | 188 | 6 | 533 | 292 | 292 | 92 | 63 | 130 | 9,165 | 273 |
| KX 190 | 36160 | 72320 | 1100 | 110-205 | | 428 | 211 | 6 | 597 | 330 | 330 | 92 | 63 | 130 | 14,765 | 360 |
| KX 215 | 48160 | 96320 | 1000 | 125-230 | | 480 | 237 | 6 | 660 | 368 | 368 | 92 | 63 | 145 | 22,771 | 465 |
| KX 240 | 65740 | 131480 | 900 | 140-250 | | 534 | 264 | 6 | 737 | 407 | 407 | 122 | 76 | 167 | 43,484 | 695 |
| KX 265 | 91480 | 182960 | 800 | 160-285 | | 590 | 292 | 6 | 826 | 457 | 457 | 122 | 76 | 170 | 70,143 | 910 |
| KX 280 | 123530 | 247060 | 720 | 180-315 | | 628 | 311 | 6 | 927 | 508 | 508 | 122 | 76 | 189 | 112,637 | 1183 |
| KX 305 | 152840 | 305680 | 675 | 180-330 | | 654 | 324 | 6 | 991 | 533 | 533 | 122 | 76 | 202 | 146,974 | 1369 |
| KX 330 | 188470 | 376940 | 625 | 200-355 | | 666 | 330 | 6 | 1067 | 572 | 572 | 122 | 76 | 208 | 198,005 | 1598 |

* Drop-out center dimension

¹⁾ Standard material NBR 80 Shore-A, selection see page 63

²⁾ Higher speeds on request

³⁾ Referring to max. bore

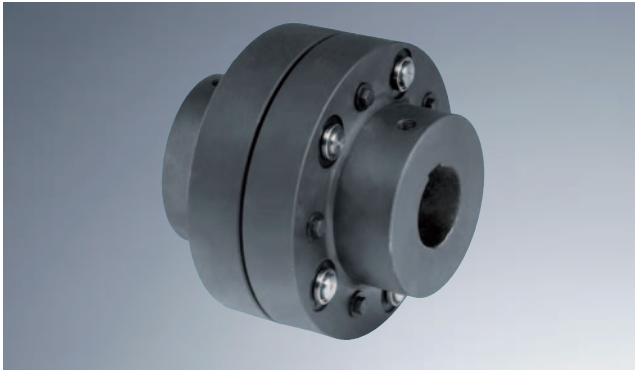
Finish bore acc. to ISO tolerance H7, feather keyway acc. to DIN 6885 sheet 1 - JS9.


If requested, coupling is dynamically balanced (semi-key balancing G 6,3; speed as per customer's details). For circumferential speeds exceeding 30 m/s we would recommend dynamic balancing.

Ordering example:

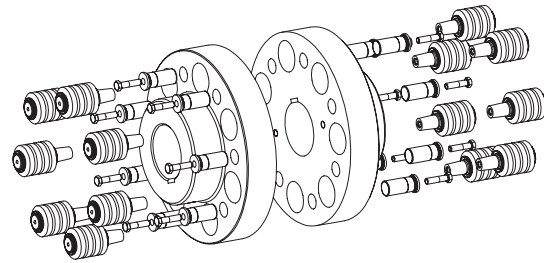
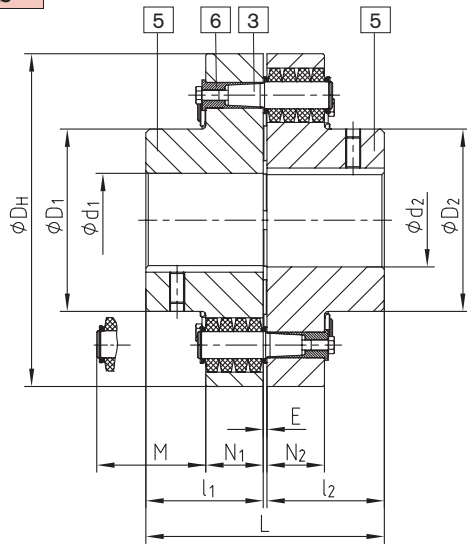
| | | | |
|---------------------------|----------|-------------|-------------|
| REVOLEX® KX 170 | GJL | Part 1 Ø120 | Part 2 Ø150 |
| Size and type of coupling | Material | Finish bore | Finish bore |

Type KX-D – casted material –



- Vibration-reducing, short design
- Radial assembly/disassembly
- Axial plug-in, fail-safe
- All-over machining → good dynamic properties
- Standard hub material GJL (GJS on request)
- Pins are arranged alternately
- Increase of transmittable torque by up to 40 % compared to REVOLEX® KX
-  Approved and certified according to EC Standard 94/9/EC

Components



Components Type KX-D
5 = Hub part 5
3 = Complete pin
6 = KX-D sleeve (hardened and corrosion-resistant)

| REVOLEX® KX-D | | | | | | | | | | | | | |
|---------------|---------------------------|--------------------|--------------------------------|--|-----------------|---------------------------------|---|----------------|---------------------------------|---------------------------------|-----|---|----------------------------------|
| Size | Torque ¹⁾ [Nm] | | Max. speed ²⁾ [rpm] | Finish bore [min. - max.] d ₁ ; d ₂ | Dimensions [mm] | | | | | | | Mass moments of inertia ³⁾ [kgm ²] | Approx weight ³⁾ [kg] |
| | T _{KN} | T _{Kmax.} | | | L | l ₁ ; l ₂ | E | D _H | D ₁ ; D ₂ | N ₁ ; N ₂ | M* | | |
| KX-D 105 | 8650 | 17300 | 2000 | 34-110 | 237 | 117 | 3 | 330 | 180 | 56 | 76 | 0,907 | 68 |
| KX-D 120 | 14110 | 28220 | 1800 | 50-125 | 270 | 132 | 6 | 370 | 206 | 76 | 100 | 1,867 | 108 |
| KX-D 135 | 18690 | 37380 | 1600 | 70-140 | 300 | 147 | 6 | 419 | 230 | 76 | 100 | 3,144 | 145 |
| KX-D 150 | 23100 | 46200 | 1450 | 82-160 | 336 | 165 | 6 | 457 | 256 | 76 | 100 | 4,573 | 180 |
| KX-D 170 | 36900 | 73800 | 1250 | 95-180 | 382 | 188 | 6 | 533 | 292 | 92 | 130 | 10,259 | 291 |
| KX-D 190 | 48210 | 96420 | 1100 | 110-205 | 428 | 211 | 6 | 597 | 330 | 92 | 130 | 16,601 | 385 |
| KX-D 215 | 61900 | 123800 | 1000 | 125-230 | 480 | 237 | 6 | 660 | 368 | 92 | 130 | 25,495 | 498 |
| KX-D 240 | 92030 | 184060 | 900 | 140-250 | 534 | 264 | 6 | 737 | 407 | 122 | 170 | 50,147 | 760 |
| KX-D 265 | 121900 | 243800 | 800 | 160-285 | 590 | 292 | 6 | 826 | 457 | 122 | 170 | 80,796 | 997 |
| KX-D 280 | 158800 | 317600 | 720 | 180-315 | 628 | 311 | 6 | 927 | 508 | 122 | 170 | 129,979 | 1301 |
| KX-D 305 | 191060 | 382120 | 675 | 180-330 | 654 | 324 | 6 | 991 | 533 | 122 | 170 | 170,016 | 1509 |
| KX-D 330 | 251200 | 502400 | 625 | 200-355 | 666 | 330 | 6 | 1067 | 572 | 122 | 170 | 227,451 | 1755 |
| KX-D 355 | 300000 | 600000 | 575 | 225-450 | 721 | 356 | 9 | 1156 | 610 | 164 | 220 | 415,259 | 2263 |
| KX-D 370 | 400000 | 800000 | 535 | 225-530 | 773 | 382 | 9 | 1250 | 720 | 164 | 220 | 586,686 | 2701 |

* Drop-out center dimension


¹⁾ Standard material NBR 80 Shore-A, selection see page 63

²⁾ Higher speeds on request

³⁾ Referring to max. bore

Finish bore acc. to ISO tolerance H7, feather keyway acc. to DIN 6885 sheet 1 - JS9.

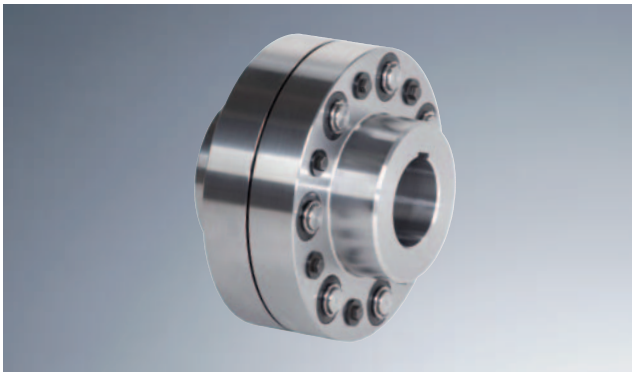
If requested, coupling is dynamically balanced (semi-key balancing G 6,3; speed as per customer's details). For circumferential speeds exceeding 30 m/s we would recommend dynamic balancing.


 = with pilot bore available from stock

Ordering example:

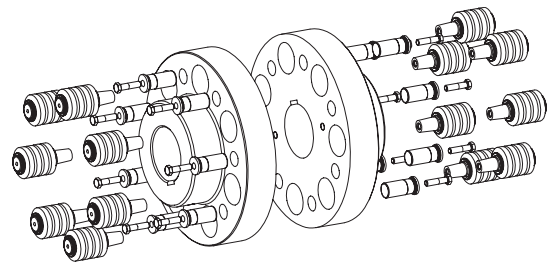
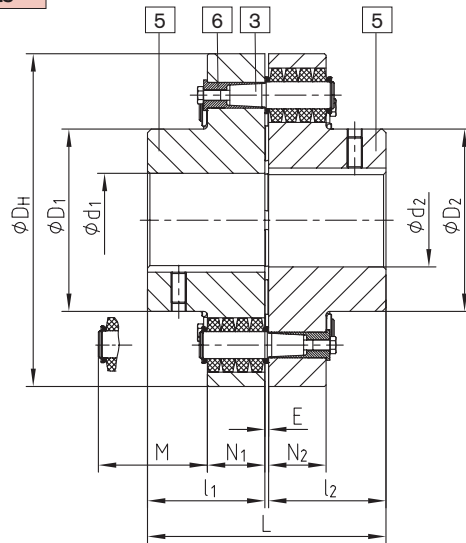
| | | | |
|---------------------------|----------|-------------|-------------|
| REVOLEX® KX-D 170 | GJL | Ø120 | Ø150 |
| Size and type of coupling | Material | Finish bore | Finish bore |

Type KX-D – material steel –



- Reducing vibrations, short design
- Radial assembly/disassembly
- Axial plug-in, fail-safe
- All-over machining → good dynamic properties
- Hub material steel, specifically suitable for drive elements subject to high loads or high circumferential speeds
- Pins are arranged alternately
- Increase of transmittable torque by up to 40 % compared to REVOLEX® KX
-  Approved and certified according to EC Standard 94/9/EC

Components



Components
Type KX-D
5 = Hub part 5
3 = Complete pin
6 = KX-D sleeve (hardened and corrosion-resistant)

| REVOLEX® KX-D | | | | | | | | | | | | | |
|---------------|---------------------------|--------------------|--------------------------------|---|--------------------|-------------------|----|-------|-------------------|------------|-----|---|-----------------------------------|
| Size | Torque ¹⁾ [Nm] | | Max. speed ²⁾ [rpm] | Finish bore [min. - max.] $d_1; d_2$ | Dimensions [mm] | | | | | | | Mass moments of inertia ³⁾ [kgm ²] | Approx. weight ³⁾ [kg] |
| | T _{KN} | T _{Kmax.} | | | L | $l_1; l_2$ | E | D_H | $D_1; D_2$ | $N_1; N_2$ | M* | | |
| KX-D 75 | 3800 | 7600 | 4500 | 0-90 | 193 | 95 | 3 | 255 | 136 | 56 | 76 | 0,325 | 39 |
| KX-D 85 | 5000 | 10000 | 4175 | 0-100 | 213 | 105 | 3 | 274 | 152 | 56 | 76 | 0,440 | 46 |
| KX-D 95 | 6600 | 13200 | 3825 | 0-110 | 227 | 112 | 3 | 298 | 168 | 56 | 76 | 0,624 | 56 |
| KX-D 105 | 8650 | 17300 | 3475 | 0-120 | 237 | 117 | 3 | 330 | 180 | 56 | 76 | 0,907 | 80 |
| KX-D 120 | 14110 | 28220 | 3100 | 0-140 | 270 | 132 | 6 | 370 | 206 | 76 | 100 | 1,867 | 124 |
| KX-D 135 | 18690 | 37380 | 2725 | 70-160 | 300 | 147 | 6 | 419 | 230 | 76 | 100 | 3,144 | 165 |
| KX-D 150 | 23100 | 46200 | 2500 | 82-185 | 336 | 165 | 6 | 457 | 256 | 76 | 100 | 4,573 | 205 |
| KX-D 170 | 36900 | 73800 | 2150 | 95-220 | 382 | 188 | 6 | 533 | 292 | 92 | 130 | 10,259 | 322 |
| KX-D 190 | 48210 | 96420 | 1900 | 110-245 | 428 | 211 | 6 | 597 | 330 | 92 | 130 | 16,601 | 431 |
| KX-D 215 | 61900 | 123800 | 1725 | 125-275 | 480 | 237 | 6 | 660 | 368 | 92 | 130 | 25,495 | 559 |
| KX-D 240 | 92030 | 184060 | 1550 | 140-310 | 534 | 264 | 6 | 737 | 407 | 122 | 170 | 50,147 | 833 |
| KX-D 265 | 121900 | 243800 | 1375 | 160-350 | 590 | 292 | 6 | 826 | 457 | 122 | 170 | 80,796 | 1099 |
| KX-D 280 | 158800 | 317600 | 1225 | 180-385 | 628 | 311 | 6 | 927 | 508 | 122 | 170 | 129,979 | 1436 |
| KX-D 305 | 191060 | 382120 | 1150 | 180-405 | 654 | 324 | 6 | 991 | 533 | 122 | 170 | 170,016 | 1669 |
| KX-D 330 | 251200 | 502400 | 1075 | 200-435 | 666 | 330 | 6 | 1067 | 572 | 122 | 170 | 227,451 | 1954 |
| KX-D 355 | 300000 | 600000 | 975 | 225-450 | 721 | 356 | 9 | 1156 | 610 | 164 | 220 | 415,259 | 2451 |
| KX-D 370 | 400000 | 800000 | 900 | 225-530 | 773 | 382 | 9 | 1250 | 720 | 164 | 220 | 584,686 | 2925 |
| KX-D 470 | 510000 | 1020000 | 855 | 240-520 | 969 ⁴⁾ | 480 ⁴⁾ | 9 | 1340 | 705 ⁴⁾ | 164 | 220 | 785,489 | 3631 |
| KX-D 520 | 715000 | 1430000 | 760 | 240-520 ⁴⁾ | 1089 ⁴⁾ | 540 ⁴⁾ | 9 | 1540 | 780 ⁴⁾ | 164 | 220 | 1264,725 | 5155 |
| KX-D 590 | 950000 | 1900000 | 680 | 260-590 ⁴⁾ | 1212 ⁴⁾ | 600 ⁴⁾ | 12 | 1735 | 885 ⁴⁾ | 164 | 220 | 2081,885 | 6895 |
| KX-D 650 | 1220000 | 2440000 | 610 | 280-650 ⁴⁾ | 1332 ⁴⁾ | 660 ⁴⁾ | 12 | 1935 | 975 ⁴⁾ | 164 | 220 | 3228,297 | 8893 |

* Drop-out center dimension required

¹⁾ Standard material NBR 80 Shore-A, selection see page 63


²⁾ Higher speeds on request

³⁾ Referring to max. bore

⁴⁾ Variable according to customer's requests

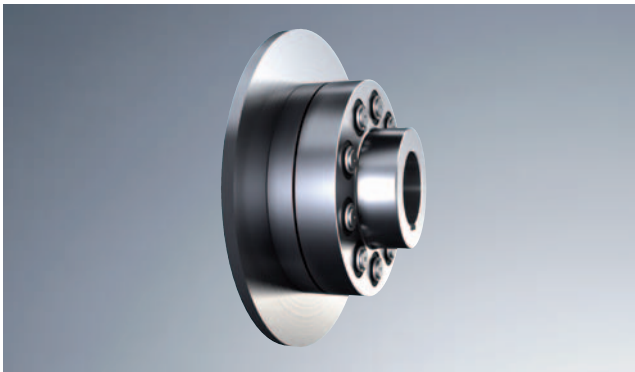
Finish bore acc. to ISO tolerance H7, feather keyway acc. to DIN 6885 sheet 1 - JS9.

If requested, coupling is dynamically balanced (semi-key balancing G 6,3; speed as per customer's details). For circumferential speeds exceeding 30 m/s we would recommend dynamic balancing.

 = with pilot bore available from stock

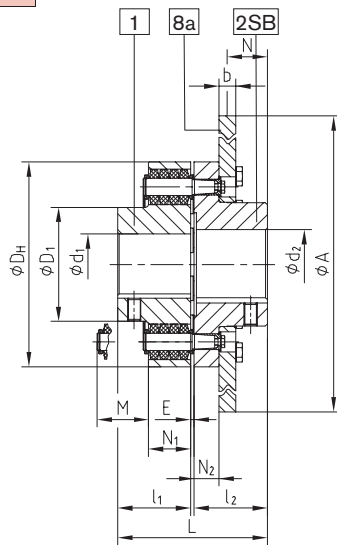
| | | | | |
|-------------------|---------------------------|----------|-------------|-------------|
| Ordering example: | REVOLEX® KX-D 170 | Steel | Ø120 | Ø150 |
| | Size and type of coupling | Material | Finish bore | Finish bore |

Type KX and KX-D with brake disk

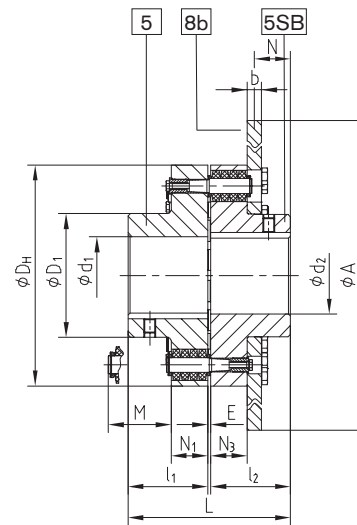


- Shaft coupling with brake disk
- The maximum braking torque must not exceed the maximum torque of the coupling
- The brake disk has to be placed onto the shaft end with the biggest mass moment of inertia
- Radial assembly/disassembly
- Axial plug-in, fail-safe
- Pins can be replaced while being assembled
- All-over machining → good dynamic properties
- Examples of applications are large fans, turbine drives, belt conveyor drives, etc.

Components



KX



KX-D

REVOLEX® KX and KX-D type SB

| Size | Torque ¹⁾ [Nm] KX | | Torque ¹⁾ [Nm] KX-D | | Finish bore KX GJL [min. - max.] | | Finish bore KX-D [min. - max.] | | Dimensions [mm] | | | | | | | | |
|------|------------------------------|--------------------|--------------------------------|--------------------|----------------------------------|----------------|-------------------------------------|---------------------------------------|-----------------|---------------------------------|---|----------------|----------------|----------------|----------------|----------------|-----|
| | T _{KN} | T _{Kmax.} | T _{KN} | T _{Kmax.} | d ₁ | d ₂ | GJL d ₁ ; d ₂ | Steel d ₁ ; d ₂ | L | l ₁ ; l ₂ | E | D _H | D ₁ | N ₁ | N ₂ | N ₃ | M* |
| 105 | 6485 | 12970 | 8650 | 17300 | 34-110 | 34-125 | 34-110 | 0-120 | 237 | 117 | 3 | 330 | 180 | 56 | 29 | 55 | 76 |
| 120 | 10080 | 20160 | 14110 | 28220 | 50-125 | 50-145 | 50-125 | 0-140 | 270 | 132 | 6 | 370 | 206 | 76 | 45 | 75 | 100 |
| 135 | 14030 | 28060 | 18690 | 37380 | 70-140 | 70-150 | 70-140 | 70-160 | 300 | 147 | 6 | 419 | 230 | 76 | 45 | 75 | 100 |
| 150 | 17960 | 35920 | 23100 | 46200 | 82-160 | | 82-160 | 82-185 | 336 | 165 | 6 | 457 | 256 | 76 | 45 | 75 | 100 |
| 170 | 26360 | 52720 | 36900 | 73800 | 95-180 | | 95-180 | 95-220 | 382 | 188 | 6 | 533 | 292 | 92 | 62 | 91 | 130 |
| 190 | 36160 | 72320 | 48210 | 96420 | 110-205 | | 110-205 | 110-245 | 428 | 211 | 6 | 597 | 330 | 92 | 62 | 91 | 130 |
| 215 | 48160 | 96320 | 61900 | 123800 | 125-230 | | 125-230 | 125-275 | 480 | 237 | 6 | 660 | 368 | 92 | 62 | 91 | 145 |
| 240 | 65740 | 131480 | 92030 | 184060 | 140-250 | | 140-250 | 140-310 | 534 | 264 | 6 | 737 | 407 | 122 | 75 | 121 | 167 |

Selection of coupling/disk brake dimension "N"

| Size | Brake disk ØA x b ³⁾ | | | | | | | | | | | |
|------|---------------------------------|------|---------|------|---------|------|---------|------|---------|------|----------|------|
| | Ø560x30 | | Ø630x30 | | Ø710x30 | | Ø800x30 | | Ø900x30 | | Ø1000x30 | |
| | KX | KX-D | KX | KX-D | KX | KX-D | KX | KX-D | KX | KX-D | KX | KX-D |
| 105 | 73 | 47 | 73 | 47 | | | | | | | | |
| 120 | 72 | 42 | 72 | 42 | | | | | | | | |
| 135 | | | 87 | 57 | 87 | 57 | | | | | | |
| 150 | | | | | 105 | 75 | 105 | 75 | | | | |
| 170 | | | | | 111 | 82 | 111 | 82 | | | | |
| 190 | | | | | | | 134 | 105 | 134 | 105 | | |
| 215 | | | | | | | 160 | 131 | 160 | 131 | 160 | 131 |
| 240 | | | | | | | 174 | 128 | 174 | 128 | 174 | 128 |

* Drop-out center dimension required

¹⁾ Standard material NBR 80 Shore-A, selection see page 63

²⁾ Higher speeds on request

³⁾ Maximum circumferential speed = 60 m/s referring to maximum outside diameter.

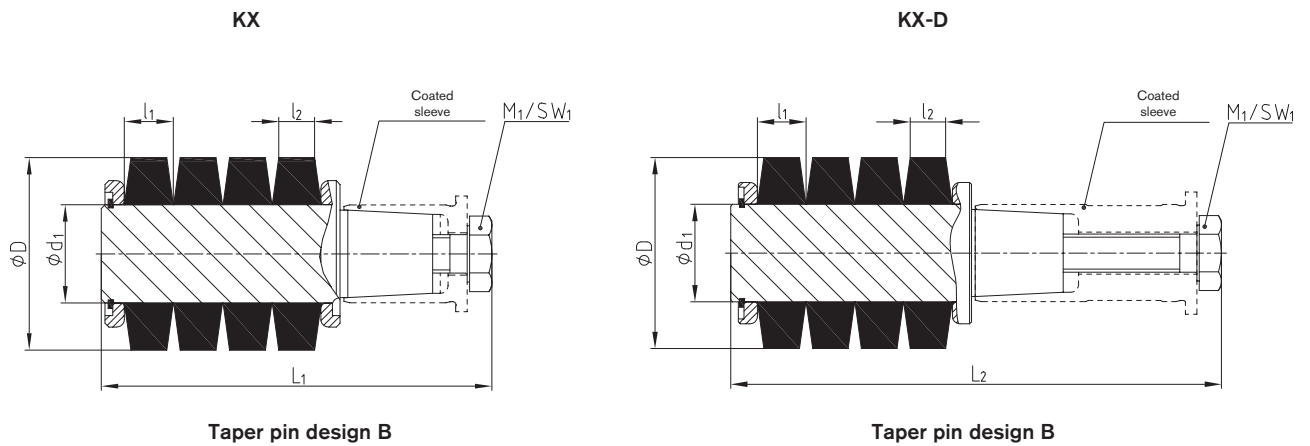
Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9.

If requested, coupling is dynamically balanced (semi-key balancing G 6,3; speed as per customer's details). For circumferential speeds exceeding 30 m/s (referring to outside diameter ØA) we would recommend dynamic balancing.

Ordering example:

| | | | | |
|---------------------------|------|------------|-------------|-------------|
| REVOLEX® KX 170 | SB | Ø710x30 | 1 - Ø120 | 2SB - Ø150 |
| Size and type of coupling | Type | Brake disk | Finish bore | Finish bore |

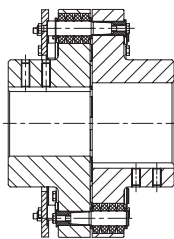
Technical data of pin



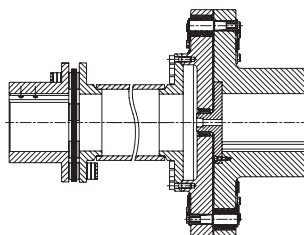
| Technical data | | | | | | | | | | | | |
|----------------|------|--------|------|-------------------------------|-------|-------|----------------|-------|-------|-------------------|--------|------------------------------|
| Size | Pin | | | Component 3.2 | | | Component 3.1b | | | Component 3.4b | | Tightening torque T_A [Nm] |
| | Size | Number | | Elastomer ring NBR 80 Shore A | | | Pin | | | Screw DIN 931/933 | | |
| | | KX | KX-D | D | l_1 | l_2 | d_1 | L_1 | L_2 | M_1 | SW_1 | |
| KX 75 | 3 | - | 10 | | | | | | | | | |
| KX 85 | 3 | - | 12 | 50,0 | 12,7 | 9,0 | 25,40 | 103 | 129 | M10 | 16 | 67 |
| KX 95 | 3 | - | 14 | | | | | | | | | |
| KX 105 | 3 | 12 | 16 | | | | | | | | | |
| KX 120 | 4 | 10 | 14 | | | | | | | | | |
| KX 135 | 4 | 12 | 16 | 63,0 | 17,8 | 12,5 | 30,60 | 147,5 | 178 | M12 | 18 | 115 |
| KX 150 | 4 | 14 | 18 | | | | | | | | | |
| KX 170 | 5 | 10 | 14 | | | | | | | | | |
| KX 190 | 5 | 12 | 16 | 85,5 | 22,9 | 15,2 | 43,20 | 191 | 220 | M16 | 24 | 290 |
| KX 215 | 5 | 14 | 18 | | | | | | | | | |
| KX 240 | 6 | 10 | 14 | | | | | | | | | |
| KX 265 | 6 | 12 | 16 | | | | | | | | | |
| KX 280 | 6 | 14 | 18 | 113,7 | 30,5 | 20,3 | 58,40 | 244 | 290 | M24 | 36 | 970 |
| KX 305 | 6 | 16 | 20 | | | | | | | | | |
| KX 330 | 6 | 18 | 24 | | | | | | | | | |
| KX 355 | 7 | - | 16 | | | | | | | | | |
| KX 370 | 7 | - | 20 | 150 | 41 | 28 | 75 | - | 387 | M30 | 46 | 1950 |
| KX 470 | 7 | - | 22 | | | | | | | | | |

Further types

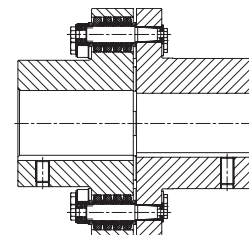
Type AB
with limited axial backlash



Intermediate shaft type
with RADEX®-N

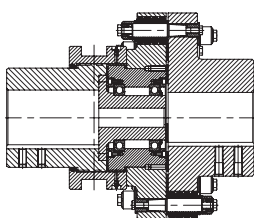


Backlash-free type

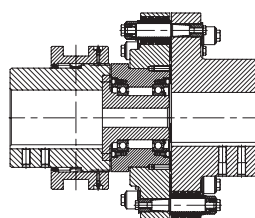


Type KX-D SD
shiftable

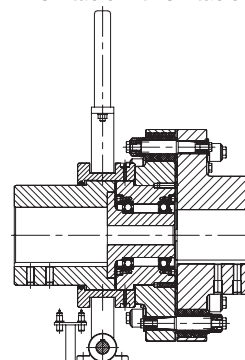
connected



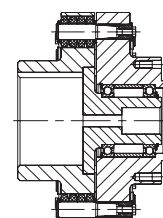
separated



Type KX-D SD
shiftable with shiftable linkage



Type KX-D
with cardan shaft connection

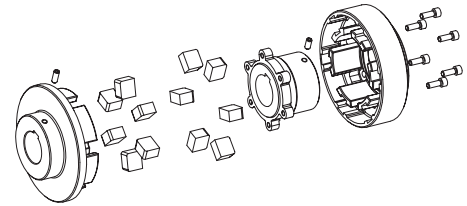


Description of coupling

General description

The POLY coupling is a torsionally flexible, not fail-safe coupling for general machinery. It is assembled by axial plug-in and is characterized by excellent dampening properties. Its unique features are the flexible elastomeric elements (sets) that are located in both coupling halves.

The benefit of POLY – A much greater number of flexible elements and thus a larger effective mass of the elastomer to accept vibration and to dissipate the heat caused by torsional vibrations when compared to similar competitive couplings with elements only in one half.



Coupling selection

The coupling selection must be done on the base of POLY-NORM® or ROTEX®.

Operation/Design

The coupling consists of two hubs with fingers that are separated by elastomeric elements which are assembled by axial blind plug-in to each other. Elastomer elements are placed into the slots of both coupling hubs.

All kinds of shaft misalignments, for example generated by inaccurate alignment of the driving or driven components, are effectively absorbed in this way.

The coupling is maintenance-free and used in general engineering, the pump industry and in compressors. It handles torque ranges of up to 6100 Nm and is stocked in 15 different sizes and 3 designs which can be optimally adapted to the respective application. In addition to our standard coupling models, a variety of drop out center couplings are available.



Explosion-proof use

POLY couplings are suitable for power transmission in drives in hazardous areas. The couplings are certified according to EC Standard 94/9/EC (ATEX 95) and belong to category 2G/2D, are confirmed and thus suitable for the use in hazardous areas of zone 1, 2, 21 and 22. Please read our information in the respective Type Examination Certificate and the operating and mounting instructions at www.ktr.com.



Variation of components

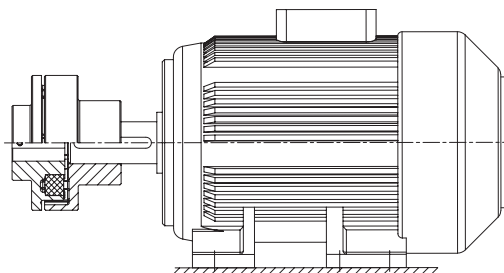
The coupling can be adapted to many applications due to the many options that are possible with the building block arrangement. The POLY components of a given model can be mixed and matched with each other to obtain different shaft distances using the same basic component.



General information on the elastomer set

| | |
|------------------------------------|--|
| Material/Hardness | Perbunan [NBR]/92 Shore A |
| Permanent temperature range [°C] | - 30 to + 80 |
| Max. temperature (short time) [°C] | - 50 to + 120 |
| Applications | General machine construction Pump industry ATEX applications Chemical industry Standard applications of average elasticity |
| Resistant to | Gasoline, diesel Acids, bases Tropics (Salt) Water (hot/cold) Oils, greases Propane, butane Natural gas, city gas |

Selection of standard IEC motors



| POLY couplings for standard IEC motors, protection IP 54/IP 55 | | | | | | | | | | | | | |
|--|--------------------|----------------------------------|---------------|--------------------|----------------------------------|---------------|--------------------|----------------------------------|---------------|--------------------|---------------------------------|---------------|--------------------|
| A. C. motor 50 Hz | | Motor output n= 3000 rpm 2 poles | | POLY coupling size | Motor output n= 1500 rpm 4 poles | | POLY coupling size | Motor output n= 1000 rpm 6 poles | | POLY coupling size | Motor output n= 750 rpm 8 poles | | POLY coupling size |
| Size | Shaft end dxl [mm] | | Output P [kW] | | Torque T [Nm] | Output P [kW] | | Torque T [Nm] | Output P [kW] | | Torque T [Nm] | Output P [kW] | |
| 56 | 9 x 20 | | 0,09 | 0,32 | | 0,06 | 0,43 | 0,037 | 0,43 | | | | |
| | | | 0,12 | 0,41 | | 0,09 | 0,64 | 0,045 | 0,52 | | | | |
| 63 | 11 x 23 | | 0,18 | 0,62 | | 0,12 | 0,88 | 0,06 | 0,7 | | | | |
| | | | 0,25 | 0,86 | 8 | 0,18 | 1,3 | 0,09 | 1,1 | 8 | | | 8 |
| 71 | 14 x 30 | | 0,37 | 1,3 | | 0,25 | 1,8 | 0,18 | 2 | | 0,09 | 1,4 | |
| | | | 0,55 | 1,9 | | 0,37 | 2,5 | 0,25 | 2,8 | | 0,12 | 1,8 | |
| 80 | 19 x 40 | | 0,75 | 2,5 | | 0,55 | 3,7 | 0,37 | 3,9 | | 0,18 | 2,5 | |
| | | | 1,1 | 3,7 | | 0,75 | 5,1 | 0,55 | 5,8 | | 0,25 | 3,5 | |
| 90S | 24 x 50 | | 1,5 | 5 | | 1,1 | 7,5 | 0,75 | 8 | | 0,37 | 5,3 | |
| 90L | | | 2,2 | 7,4 | | 1,5 | 10 | 1,1 | 12 | | 0,55 | 7,9 | |
| 100L | 28 x 60 | | 3 | 9,8 | 9 | 2,2 | 15 | 1,5 | 15 | 9 | 0,75 | 11 | 9 |
| | | | | | | 3 | 20 | | | | 1,1 | 16 | |
| 112M | | | 4 | 13 | | 4 | 27 | 2,2 | 22 | | 1,5 | 21 | |
| 132S | 38 x 80 | | 5,5 | 18 | | 5,5 | 36 | 3 | 30 | | 2,2 | 30 | |
| | | | 7,5 | 25 | 10 | | | 4 | 40 | 10 | 3 | 40 | 10 |
| 132M | | | | | | 7,5 | 49 | 5,5 | 55 | | | | |
| 160M | 42 x 110 | | 11 | 36 | | 11 | 72 | 7,5 | 75 | | 4 | 54 | |
| | | | 15 | 49 | 12 | | | | | | 5,5 | 74 | |
| 160L | | | 18,5 | 60 | | 15 | 98 | 11 | 109 | 14 | 7,5 | 100 | 14 |
| 180M | 48 x 110 | | 22 | 71 | | 18,5 | 121 | | | | | | |
| 180L | | | | | | 22 | 144 | 15 | 148 | | 11 | 145 | |
| 200L | 55 x 110 | | 30 | 97 | | 30 | 196 | 18,5 | 181 | | 15 | 198 | 15 |
| | | | 37 | 120 | 15 | | | 22 | 215 | 15 | | | |
| 225S | 55 x 110 | | | | | 37 | 240 | | | | 18,5 | 244 | 17 |
| 225M | 60 x 140 | 60 x 140 | 45 | 145 | | 45 | 292 | 30 | 293 | 19 | 22 | 290 | 19 |
| 250M | 60 x 140 | 65 x 140 | 55 | 177 | 17 | 55 | 356 | 37 | 361 | | 30 | 392 | 19 |
| 280S | 75 x 140 | | 75 | 241 | | 75 | 484 | 45 | 438 | 20 | 37 | 483 | 20 |
| 280M | | | 90 | 289 | 19* | 90 | 581 | 55 | 535 | 20 | 45 | 587 | 20 |
| 315S | 80 x 170 | | 110 | 353 | | 110 | 707 | 75 | 727 | 22 | 55 | 712 | 22 |
| 315M | | | 132 | 423 | | 132 | 849 | 90 | 873 | 25 | 75 | 971 | 25 |
| 315L | 65 x 140 | 80 x 170 | 160 | 513 | 20* | 160 | 1030 | 110 | 1070 | | 90 | 1170 | 25 |
| | | | 200 | 641 | | 200 | 1290 | 132 | 1280 | 28 | 110 | 1420 | 28 |
| | | | | | 22* | | | 160 | 1550 | 28 | 132 | 1710 | 28 |
| 315 | 85 x 170 | | 250 | 802 | | 250 | 1600 | 200 | 1930 | | 160 | 2070 | 30 |
| | | | 315 | 1010 | | 315 | 2020 | 250 | 2410 | 30 | 200 | 2580 | 30 |
| 355 | 75 x 140 | 95 x 170 | 355 | 1140 | | 355 | 2280 | | | | | | 35 |
| | | | 400 | 1280 | | 400 | 2570 | 315 | 3040 | | 250 | 3220 | 35 |
| | | | 500 | 1600 | | 500 | 3210 | 400 | 3850 | 35 | 315 | 4060 | |
| | | | 560 | 1790 | | 560 | 3580 | 450 | 4330 | | 355 | 4570 | |
| 400 | 80 x 170 | 110 x 210 | 630 | 2020 | | 630 | 4030 | 500 | 4810 | | 400 | 5150 | 40 |
| | | | 710 | 2270 | | 710 | 4540 | 560 | 5390 | 40 | 450 | 5790 | 40 |
| | | | 800 | 2560 | | 800 | 5120 | 630 | 6060 | | 500 | 6420 | |
| 450 | 90 x 170 | 120 x 210 | 900 | 2880 | | 900 | 5760 | | | | | | |
| | | | 1000 | 3200 | | 1000 | 6400 | | | | | | |

The coupling is selected for an ambient temperature up to + 30 °C. The coupling was selected for normal operation. The respective couplings have a minimum operating factor of $f_{min.} = 1,35$. Drives with periodical torque courses must be selected according to DIN 740 part 2. On request the selection is made by KTR.

Torque T = rated torque according to Siemens catalogue M 11 · 1994/95..

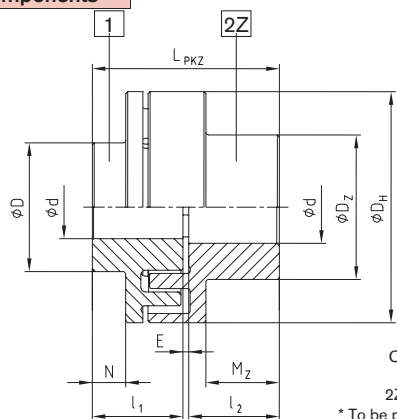
* dynamic balancing is necessary

Type PKZ (2-part design) and PKD (3-part design)

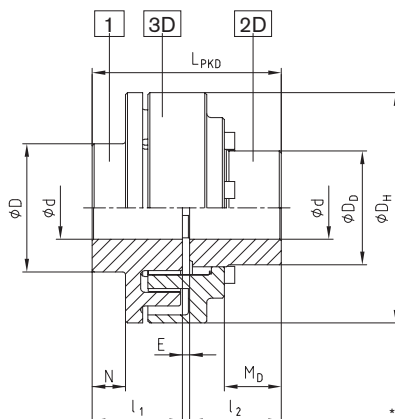


- Torsionally flexible, maintenance-free
- Damping vibrations
- Shear type
- Axial plug-in
- Short overall length / minimum distance between shafts
- In type PKD the elastomer elements can be replaced while being assembled
- Approved and certified according to EC Standard 94/9/EC
- Detailed mounting instructions and further information available at www.ktr.com

Components



Type PKZ (Z) – (Size 8 to 30)



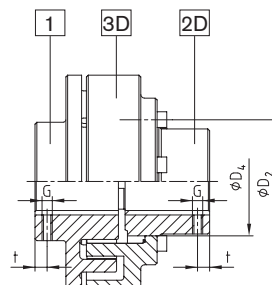
Type PKD (D) – (Size 15 to 35)

Components: Type PKD (D)
1 = Cam section* (GJL)
2D = Flange hub (steel)
3D = Cam ring (GJL)
* To be preferably used drive-sided

POLY PKZ and PKD

| Size | Nominal torque ¹⁾ TKN [Nm] | Max. speed ²⁾ n [rpm] | Max. finish bore ϕd [mm] | | | Dimensions [mm] | | | | | | | | | | | | Thread for setscrew | | | Weight ³⁾ [kg] |
|----------|--|-------------------------------------|-----------------------------------|---------|---------|-----------------|-----|-------|-------|------------|-------|-------|----|---|-------|--------------|-------------------|---------------------|----|------------|------------------------------|
| | | | part 1 | part 2Z | part 2D | D_H | D | D_Z | D_D | $l_1; l_2$ | M_Z | M_D | N | E | D_2 | $D_4(H7/h7)$ | L_{PKZ}/L_{PKD} | G | t | T_A [Nm] | |
| 8 (Z) | 42 | 5000 | 20 | 28 | — | 86 | 43 | 50 | — | 35 | 25 | — | 3 | 3 | — | — | 73 | M5 | 18 | 2 | 1,7 |
| 9 (Z) | 72 | 5000 | 28 | 38 | — | 97 | 55 | 65 | — | 41 | 30 | — | 7 | 3 | — | — | 85 | M8 | 23 | 10 | 2,7 |
| 10 (Z) | 100 | 5000 | 32 | 42 | — | 107 | 60 | 70 | — | 45 | 35 | — | 10 | 4 | — | — | 94 | M8 | 27 | 10 | 3,5 |
| 12 (Z) | 170 | 5000 | 38 | 48 | — | 131 | 70 | 80 | — | 55 | 43 | — | 12 | 4 | — | — | 114 | M8 | 30 | 10 | 5,4 |
| 14 (Z) | 210 | 4800 | 45 | 55 | — | 142 | 80 | 93 | — | 60 | 46 | — | 17 | 4 | — | — | 124 | M8 | 10 | 10 | 7,6 |
| 15 (Z;D) | 320 | 4300 | 50 | 60 | 50 | 157 | 90 | 100 | 74,5 | 65 | 52 | 33 | 21 | 4 | 90 | 75 | 134 | M8 | 15 | 10 | 8,6 |
| 17 (Z;D) | 400 | 3800 | 60 | 65 | 60 | 176 | 100 | 110 | 87 | 70 | 56 | 43,5 | 26 | 4 | 106 | 90 | 144 | M8 | 15 | 10 | 12 |
| 19 (Z;D) | 660 | 3500 | 75 | 75 | 70 | 195 | 125 | 125 | 106 | 75 | 64 | 48 | 27 | 4 | 126 | 107 | 154 | M8 | 15 | 10 | 18 |
| 20 (Z;D) | 820 | 3300 | 65 | 75 | 70 | 205 | 115 | 127 | 104 | 80 | 65 | 45 | 23 | 4 | 123 | 105 | 164 | M8 | 15 | 10 | 20 |
| 22 (Z) | 1100 | 3000 | 85 | 85 | — | 224 | 140 | 140 | — | 90 | 75 | — | 38 | 4 | — | — | 184 | M10 | 20 | 17 | 25 |
| 25 (Z;D) | 1600 | 2700 | 90 | 90 | 95 | 257 | 150 | 150 | 138 | 100 | 84 | 67 | 43 | 5 | 162 | 140 | 205 | M12 | 20 | 40 | 35 |
| 28 (Z;D) | 2500 | 2350 | 100 | 100 | 110 | 288 | 165 | 165 | 158 | 110 | 90 | 65 | 44 | 5 | 178 | 160 | 225 | M12 | 20 | 40 | 53 |
| 30 (Z;D) | 3950 | 2200 | 110 | 110 | 110 | 308 | 180 | 180 | 165 | 130 | 108 | 89 | 58 | 5 | 202 | 170 | 265 | M16 | 20 | 80 | 66 |
| 35 (D) | 6100 | 1850 | 130 | — | 145 | 373 | 210 | — | 209 | 160 | — | 102 | 70 | 5 | 240 | 210 | 325 | M16 | 25 | 80 | 125 |

¹⁾ Maximum torque $T_{Kmax} = T_{KN} \times 2$; Standard material of elastomer: Perbunan (NBR) 92 Shore A; Standard hub material: GJL
²⁾ Speeds for $v = 30$ m/sec. For peripheral speeds exceeding $v = 30$ m/sec. we recommend dynamic balancing
³⁾ Referring to average bore



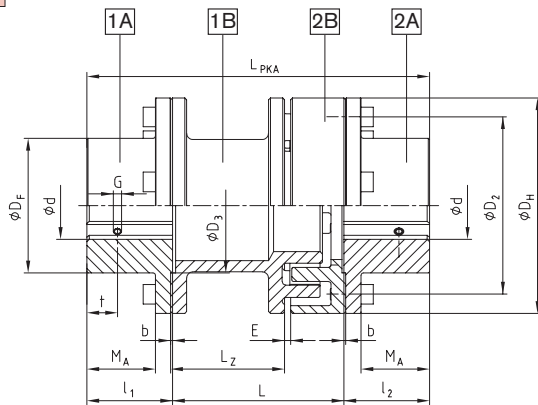
| Ordering example | POLY | PKD | 28 | $d_1 \phi 90$ | $d_2 \phi 80$ |
|------------------|---------------|------|------|--------------------|--------------------|
| | Coupling type | Type | Size | Finish bore part 1 | Finish bore part 2 |

Type PKA (dismountable coupling)



- Torsionally flexible, maintenance-free
- Damping vibrations
- Not fail-safe
- Axial plug-in
- Separation of power flow possible while being assembled
- Bridging large shaft distances by (standard) drop-out centers
- Approved and certified according to EC Standard 94/9/EC
- Detailed mounting instructions and further information available at www.ktr.com

Components



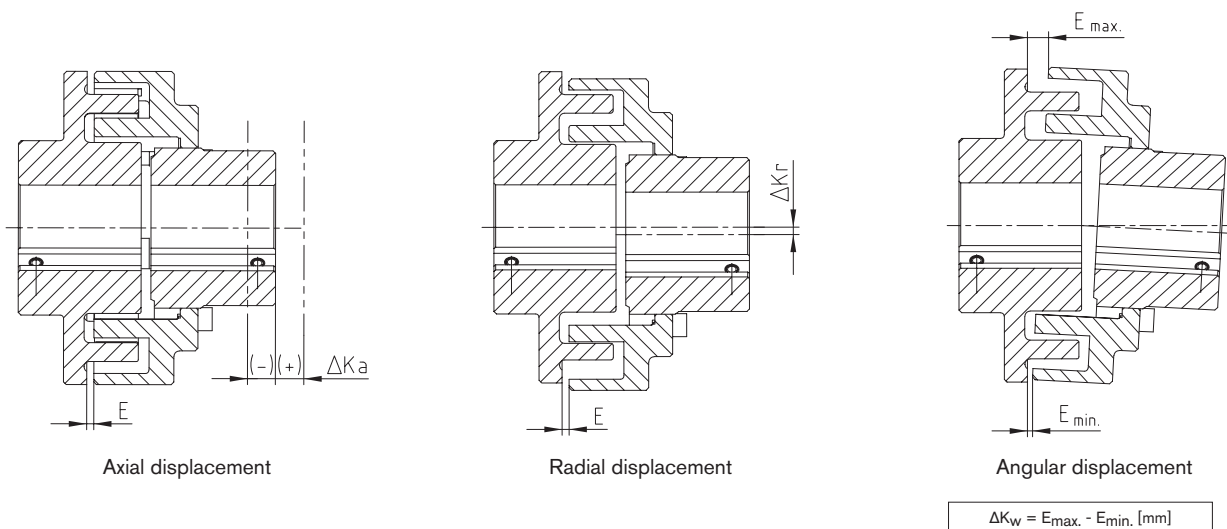
Components: Type PKA
 1A/2A = Coupling flange (steel)
 1B = Spacer (GJL)
 2B = Driving flange (GJL)
 1A and 1B to be preferably used drive-sided

| POLY Type PKA | | | | | | | | | | | | | | | | | | | |
|---------------|----------------------------|-----------------------|--|-----------------|----------------|----------------|----------------|---------------------------------|-----|----------------|---|-----|------|-----|-----|---------------------|---------------------|-------|-------------|
| Size | Nominal torque TKN [Nm] | Max. speed n [rpm] | Finish bore d _{max} [mm] part 1A/2A | Dimensions [mm] | | | | | | | | | | | | Thread for setscrew | | | Weight [kg] |
| | | | | D _H | D _F | D ₂ | D ₃ | l ₁ , l ₂ | b | M _A | E | L | LPKA | LZ | G | t | T _A [Nm] | | |
| 8 | 42 | 5000 | 38 | 86 | 55 | 70 | 60 | 35 | 1,5 | 25,5 | 3 | 100 | 170 | 66 | M5 | 15 | 2 | 3,04 | |
| | | | | | | | | | | | | 100 | 182 | 63 | | | | | 4,26 |
| 9 | 72 | 5000 | 45 | 97 | 70 | 85 | 70 | 41 | 1,5 | 30,5 | 3 | 140 | 222 | 103 | M8 | 15 | 10 | 4,66 | |
| | | | | | | | | | | | | 140 | 232 | 101 | | | | 5,88 | |
| 10 | 100 | 5000 | 50 | 107 | 78 | 93 | 80 | 46 | 1,5 | 35,5 | 4 | 100 | 192 | 61 | M8 | 20 | 10 | 5,42 | |
| | | | | | | | | | | | | 140 | 232 | 101 | | | | 5,88 | |
| 12 | 170 | 5000 | 60 | 131 | 95 | 113 | 90 | 55 | 1,5 | 43,0 | 4 | 100 | 210 | 55 | M8 | 20 | 10 | 9,49 | |
| | | | | | | | | | | | | 140 | 250 | 95 | | | | 10,15 | |
| 14 | 210 | 4800 | 70 | 142 | 105 | 125 | 100 | 60 | 1,5 | 48,0 | 4 | 100 | 220 | 54 | M8 | 25 | 10 | 11,46 | |
| | | | | | | | | | | | | 140 | 260 | 94 | | | | 12,23 | |
| 15 | 320 | 4300 | 70 | 157 | 110 | 135 | 110 | 65 | 1,5 | 49,5 | 4 | 140 | 270 | 93 | M8 | 25 | 10 | 15,63 | |
| | | | | | | | | | | | | 180 | 310 | 133 | | | | 16,50 | |
| 17 | 400 | 3800 | 80 | 176 | 125 | 150 | 110 | 70 | 1,5 | 54,5 | 4 | 100 | 240 | 53 | M8 | 25 | 10 | 18,79 | |
| | | | | | | | | | | | | 140 | 280 | 93 | | | | 19,60 | |
| 20 | 820 | 3300 | 100 | 205 | 150 | 175 | 130 | 80 | 2,0 | 61,0 | 4 | 180 | 320 | 133 | M8 | 30 | 10 | 20,41 | |
| | | | | | | | | | | | | 140 | 300 | 81 | | | | 30,96 | |
| 25 | 1600 | 2700 | 125 | 257 | 195 | 225 | 150 | 100 | 2,0 | 81,0 | 5 | 180 | 340 | 121 | M12 | 40 | 40 | 54,73 | |
| | | | | | | | | | | | | 250 | 450 | 191 | | | | 59,60 | |

Ordering example:

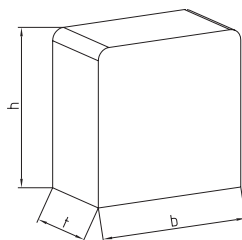
| | | | | | |
|---------------|------|------|-----------------------|---------------------|---------------------|
| POLY | PKA | 15 | 140 | Ø38 | Ø40 |
| Coupling type | Type | Size | Dismountable length L | Finish bore part 1A | Finish bore part 2A |

Displacements — Elastomer elements — Screws



Radial and angular displacements may occur simultaneously.
The combined sum $V = \Delta K_r + (E_{max} - E_{min})$ must not exceed the values listed in the table .

| Displacements [mm] | | | | | | | | | | | | | | | |
|---|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Coupling size | | 8 | 9 | 10 | 12 | 14 | 15 | 17 | 19 | 20 | 22 | 25 | 28 | 30 | 35 |
| Max. axial displacement ΔK_a [mm] | | ±1 | ±1 | ±1 | ±2 | ±2 | ±2 | ±2 | ±2 | ±2 | ±2 | ±2 | ±2 | ±2 | ±3 |
| Max. radial displacement ΔK_r | n=750 rpm | 0,8 | 0,8 | 0,8 | 0,8 | 0,8 | 1,0 | 1,0 | 1,0 | 1,0 | 1,0 | 1,0 | 1,0 | 1,2 | 1,2 |
| or max. angular displacement | n=1000 rpm | 0,7 | 0,7 | 0,7 | 0,7 | 0,7 | 0,9 | 0,9 | 0,9 | 0,9 | 0,9 | 0,9 | 0,9 | 1,1 | 1,1 |
| ΔK_w or sum V | n=1500 rpm | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 0,7 | 0,7 | 0,7 | 0,7 | 0,7 | 0,7 | 0,7 | 0,7 | 0,9 |



| Elastomer sets NBR (building block) | | | | | | | | | | | | | | | |
|-------------------------------------|---|------|----|----|------|----|------|----|------|------|------|------|------|------|------|
| Coupling size | | 8 | 9 | 10 | 12 | 14 | 15 | 17 | 19 | 20 | 22 | 25 | 28 | 30 | 35 |
| Set size | | 1 | | | 2 | | 3 | | 3a | 4 | 3b | 4Ü | 5 | 6Ü | 7Ü |
| Number of sets | | 8 | 10 | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 20 |
| Dimensions of elastomer sets | b | 18,4 | | | 24,9 | | 27,2 | | 27,7 | 34,9 | 29,6 | 35,1 | 40 | 43,3 | 45,7 |
| | t | 10 | | | 15,3 | | 16,1 | | 18,4 | 19,6 | 18,4 | 22,9 | 22,2 | 28,6 | 25,0 |
| | h | 18,9 | | | 23,9 | | 24,6 | | 26,8 | 34,6 | 29,6 | 35 | 40,6 | 41,1 | 60,0 |

| Type PKD — Dimensions of cyl. screws DIN EN ISO 4762 | | | | | | | | | | | | | | | |
|--|---|----|----|----|----|----|-----|-----|----|-----|----|-----|-----|-----|-----|
| Coupling size | | 8 | 9 | 10 | 12 | 14 | 15 | 17 | 19 | 20 | 22 | 25 | 28 | 30 | 35 |
| Screw size | M | — | — | — | — | — | M8 | M8 | M8 | M10 | M8 | M10 | M10 | M12 | M12 |
| | I | — | — | — | — | — | 30 | 25 | 25 | 30 | 30 | 30 | 40 | 40 | 55 |
| Number | | — | — | — | — | — | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 10 |
| Tightening torque T_A [Nm] | | — | — | — | — | — | 25 | 25 | 25 | 25 | 25 | 49 | 49 | 86 | 86 |
| Type PKA — Dimensions of cyl. screws DIN EN ISO 4762 | | | | | | | | | | | | | | | |
| Screw size | M | M6 | M6 | M6 | M8 | M8 | M10 | M10 | — | M10 | — | M10 | — | — | — |
| | I | 16 | 18 | 18 | 20 | 20 | 25 | 25 | — | 30 | — | 30 | — | — | — |
| Number | | 4 | 5 | 5 | 5 | 5 | 6 | 6 | — | 6 | — | 8 | — | — | — |
| Tightening torque T_A [Nm] | | 10 | 10 | 10 | 25 | 25 | 49 | 49 | — | 49 | — | 49 | — | — | — |

Standard bore H7 with keyway DIN 6885 sheet 1 [JS9] and threads for setscrews on the feather keyway.
Please see our detailed mounting instructions at our website www.ktr.com.

