

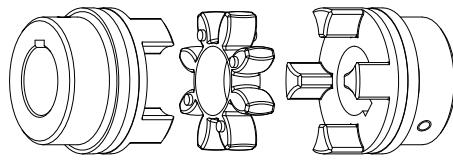


Torsionally flexible couplings: **ROTEX®** Torsionally flexible couplings

Description of coupling

ROTEX® - couplings are characterized by small dimensions, low weight and low mass moments of inertia yet transmit high torques. Running quality and service life of the coupling are improved by accurate all-over machining.

Their application is ideal for transmitting torque while damping torsional vibrations and absorbing shocks produced by the uneven operation of certain prime movers.

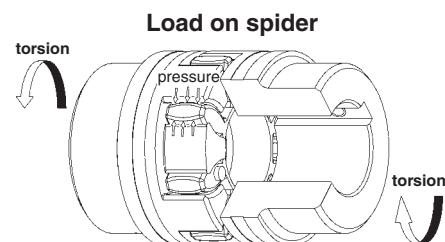


General description

ROTEX® - couplings are torsionally flexible and designed for positive torque transmission. They are fail-safe. Operational vibrations and shocks are efficiently damped and reduced. The two congruent coupling halves with concave claws on the inside are peripherally offset in relation to one another by half a pitch. In addition, they are designed in such a way as to enable an involute spider to be located between them.

The teeth of the spider are crowned to avoid edge pressure if the shafts are misaligned.

ROTEX® couplings are capable of compensating for axial, radial and angular displacements of the shafts to be connected.

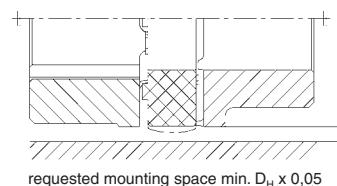


Performance

In contrast to other flexible couplings, the intermediate members of which are subject to bending stress and are therefore prone to earlier wear, the flexible teeth of ROTEX couplings are subject to pressure only. This gives the additional advantage of the individual teeth being able to accept considerably higher loads. The elastomer parts show deformation with load and excessive speeds. Sufficient space for expansion should be ensured (see drawing – deformation with load).

The maximum torsion angle with ROTEX couplings of any size amounts to 5°. They can be fitted both horizontally and vertically.

Deformation with load



Explosion-proof use

ROTEX® couplings are excellently suitable for power transmission in drives in hazardous areas. The couplings are certified according to EC Standard 94/9/EC (ATEX 95) as units of category 2G and thus suitable for the use in hazardous areas of zone 1 and 2. Please read our information in the respective Type Examination Certificate and the operating and mounting instructions under www.ktr.com.



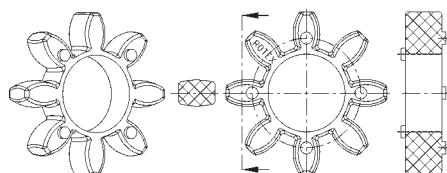
Spiders

An operating temperature range of - 40° to + 100° C ensures perfect operation. Transient temperature peaks up to + 120° C do not cause any damage on the coupling. Continuous improvement of materials has resulted in a standard spider of 92 Shore A which offers various advantages over usual polyurethane materials. For higher torques it is also possible to make use of a spider 95/98 Shore A or 64 Shore D-F.

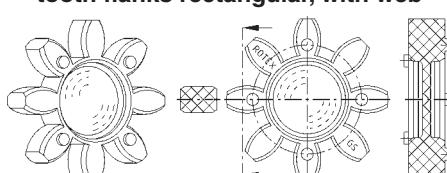
The spiders are extremely resistant to wear, oil, ozone and ageing. In addition, they are resistant to hydrolysis (ideal for tropical climates).

The high internal damping protects the drive against dynamic overload.

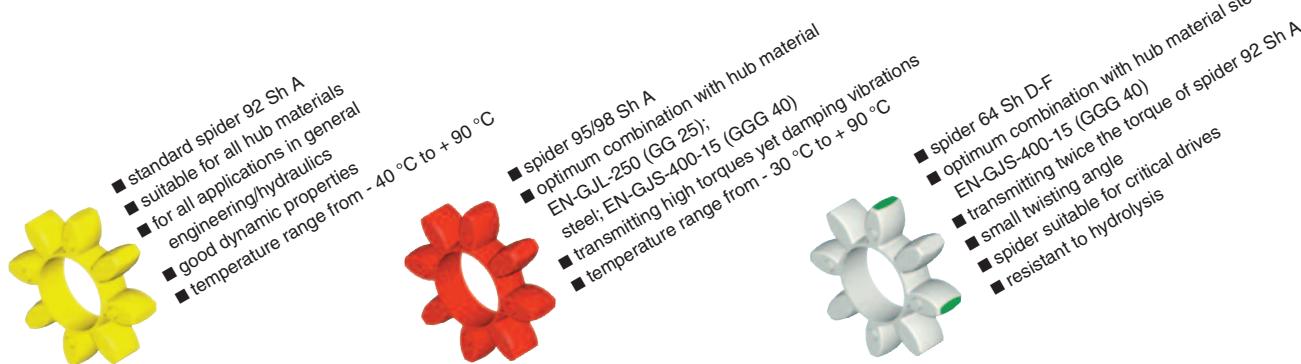
Standard spider tooth flanks crowned



GS spiders tooth flanks rectangular, with web



Spider types



Spider types – Materials, physics, properties

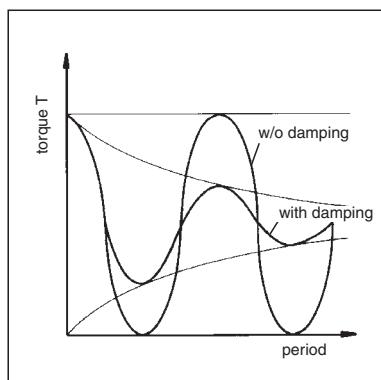
| Standard spiders | | | | | | |
|------------------------------|---------------------------------------|--------------|------------------------------|-----------------------------|-----------------------------|---|
| Spider type hardness-(Shore) | Identification colour | Material | Perm. temperature range (°C) | | Available for coupling size | Typical applications |
| | | | Continuous temperature | Max. temperature short time | | |
| 92 Sh A | yellow | polyurethane | - 40 to + 90 | - 50 to + 120 | size 14 – 180 | – for all applications in general engineering and hydraulics – Standard applications with average elasticity |
| 95/98 Sh A | red | polyurethane | - 30 to + 90 | - 40 to + 120 | size 14 – 180 | – good torque transmission with good damping properties |
| 64 Sh D-F | natural white with green tooth flanks | polyurethane | - 30 to + 110 | - 30 to + 130 | size 14 – 180 | – I.C. - engines – high air moisture, resistant to hydrolysis – displacement of critical speeds |

Spiders for special applications on request for:

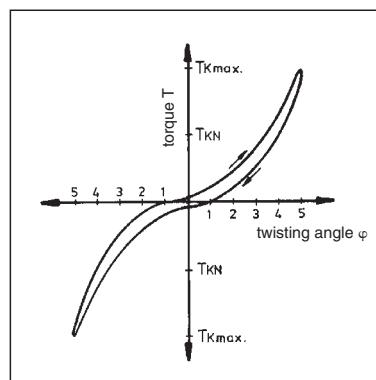
| Typical applications | Spider type hardness (Shore) | Identification colour | Material | Perm. temperature range (°C) | |
|---|------------------------------|-------------------------------|--------------|--|-----------------------------|
| | | | | Continuous temperature | Max. temperature short time |
| I.C.-engines, for high dynamic load, high air moisture/resistant to hydrolysis | 94 Sh A-T | blue with yellow tooth flanks | polyurethane | - 50 to + 110 | - 60 to + 130 |
| Drives with higher loads, small twisting angles - torsionally rigid, high ambient temperatures | 64 Sh D-H | green | hytrel | - 50 to + 110 | - 60 to + 150 |
| Small twisting angles and high torsion spring stiffness, high ambient temperature, good resistance to chemicals | 1) polyamide | - | PA | - 20 to + 130 1) | - 30 to + 150 1) |
| Small twisting angles and high torsion spring stiffness, very high ambient temperature, good resistance to chemicals, resistant to hydrolysis | PEEK | light grey | PEEK | up to + 180 (ATEX release up to a max. +160) | to + 250 |

1) Different properties depending on compound

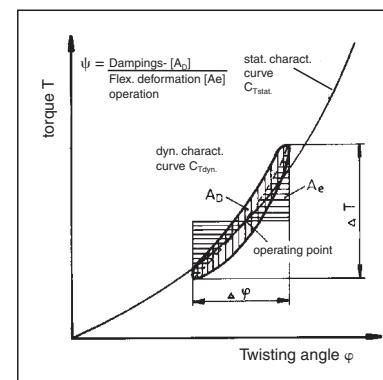
Comparison of loads



Twisting angle



Damping



Coupling selection

The ROTEX® coupling is selected in accordance with DIN 740 part 2. The coupling has to be dimensioned in a way that the permissible coupling load is not exceeded in any operating condition. For this purpose the actual loads have to be compared to the permissible parameters of the coupling.

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 $T_{K\max}$.

1.1 Load produced by rated torque

Taking into consideration the ambient temperature, the permissible rated torque T_{KN} of the coupling has to correspond at least to the rated torque T_N of the machine.

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

$$T_N [\text{Nm}] = 9550 \cdot \frac{P_{AN/LN} [\text{kW}]}{n [\text{1/min}]} \quad (1)$$

1.2 Load produced by torque shocks

The permissible maximum torque of the coupling has to correspond at least to the total of peak torque T_S and the rated torque T_N of the machine, taking into account the shock frequency Z and the ambient temperature.

$$T_{K\max} \geq T_S \cdot S_z \cdot S_t + T_N \cdot S_t \quad (2)$$

$$\text{Drive-sided shock } T_S = T_{AS} \cdot M_A \cdot S_A$$

$$\text{Load-sided shock } T_S = T_{LS} \cdot M_L \cdot S_L$$

$$M_A = \frac{J_L}{J_A + J_L} \quad M_L = \frac{J_A}{J_A + J_L} \quad (3)$$

This applies in case if the rated torque T_N of the machine is at the same time subject to shocks.

Knowing the mass distribution, shock direction and shock mode, the peak torque T_S can be calculated.

For drives with A. C.-motors with high masses on the load side we would recommend to calculate the peak driving torque with the help of our simulation programme.

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.

2.1 Load produced by rated torque

$$T_{KN} \geq T_N \cdot S_t \quad (4)$$

Taking into account the ambient temperature, the permissible rated torque T_{KN} of the coupling has to correspond at least to the rated torque T_N of the machine.

2.2 Passing through the resonance range

$$T_{K\max} \geq T_S \cdot S_t \quad (5)$$

Taking into account the temperature, the peak torque T_S arising when the resonance range is run through must not exceed the maximum torque $T_{K\max}$ of the coupling.

2.3 Load produced by vibratory torque shocks

$$T_{KW} \geq T_W \cdot S_t \quad (6)$$

Taking into account the ambient temperature, the permissible vibratory torque T_{KW} of the coupling must not be exceeded by the highest periodical vibratory torque T_W with operating speed.

$$P_{KW} \geq P_W \quad (7)$$

For higher operating frequencies $f > 10$, the heat produced by damping in the elastomer part is considered as damping power P_W .

The permissible damping power P_{KW} of the coupling depends on the ambient temperature and must not be exceeded by the damping power produced.

| 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 | $T_{K\max}$ | 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 |
| Damping power of coupling | P_{KW} | Permissible damping power with an ambient temperature of + 30 °C. |
| Rated torque of machine | T_N | Stationary rated torque on the coupling |
| Peak torque of the machine | T_S | Peak torque on the coupling |
| Peak torque on the driving side | T_{AS} | Peak torque with torque shock on the driving side, e. g. breakdown torque of the electric motor |

| Description | Symbol | Definition or explanation |
|--|----------|--|
| Peak torque of load side | T_{LS} | Peak torque with torque shock on load side, e. g. braking |
| Vibratory torque of machine | T_W | Amplitude of the vibratory torque effective on the coupling |
| Damping power of the machine | P_W | Damping power which is effective on the coupling due to the load produced by the vibratory torque |
| Moment of inertia of driving side | J_A | Total of moments of inertia existing on the driving or load side referring to the coupling speed |
| Moment of inertia of load side | J_L | |
| Rotational inertia coefficient of driving side | M_A | Factor taking into account the mass distribution with shocks and vibrations produced on the driving or load side |
| Rotational inertia coefficient of load side | M_L | $M_A = \frac{J_L}{J_A + J_L} \quad M_L = \frac{J_A}{J_A + J_L}$ |

Coupling selection

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 |

Permissible load on feather key of the coupling hub

The shaft-hub-connection has to be verified by the customer.

Permissible surface pressure according to DIN 6892 (method C).

Cast iron EN-GJL-250 (GG 25) 225 N/mm²
 material nodular iron EN-GJS-400-15 (GGG 40) 225 N/mm²
 material steel S355J2G3 (St 52.3) 250 N/mm²
 for other steel materials $p_{zul} = 0,9 \cdot R_{e02}$

Example of calculation of standard IEC motors shown on page 23:

Details of driving side:

| | |
|-----------------------------------|--|
| A. C. motor | type 315 M |
| Motor output | P = 132 kW |
| Speed | n = 1485 1/min |
| Moment of inertia of driving side | $J_A = 2,9 \text{ kgm}^2$ |
| Rated torque of driving side | $T_{AN} = 9550 \cdot \frac{132 \text{ kW}}{1485 \text{ 1/min}} = 849 \text{ Nm}$ |
| Driving torque | $T_{AS} = 2,5 \cdot T_{AN}$ $T_{AS} = 2,5 \cdot 849 = 2122,5 \text{ Nm}$ |
| Start-up frequency | $z = 6^{1/6}$ |
| Ambient temperature | = +60 °C |

Details of load side:

| | |
|--------------------------------|---------------------------|
| Screw compressor | |
| Rated torque of load side | $T_{LN} = 800 \text{ Nm}$ |
| Moment of inertia of load side | $J_L = 6,8 \text{ kgm}^2$ |

Coupling selection:

Load produced by rated torque:

$$\begin{aligned} T_{KN} &\geq T_N \cdot S_t \\ T_L &= T_{LN} \\ T_{KN} &\geq T_{LN} \cdot S_t = 800 \text{ Nm} \cdot 1,4 = 1120 \text{ Nm} \end{aligned}$$

Selected: ROTEX® size 90 - spider 92 Shore A with:

$$\begin{aligned} T_{KN} &= 2400 \text{ Nm} \\ T_{K \max} &= 4800 \text{ Nm} \end{aligned}$$

factors:

$$M_A = \frac{J_L}{J_A + J_L} = 0,7$$

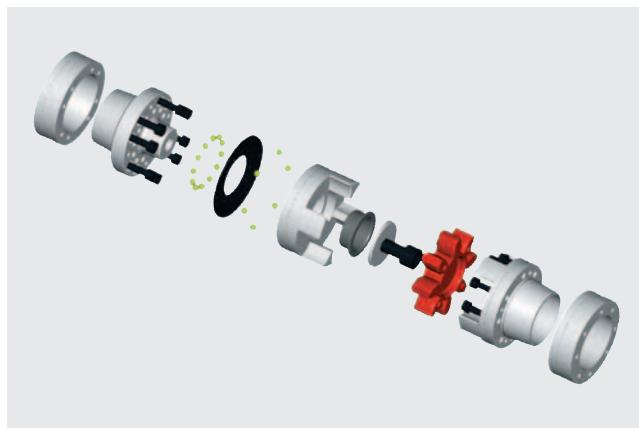
$$S_A = 1,8; S_Z = 1; S_t = 1,4$$

Load produced by torque shocks:

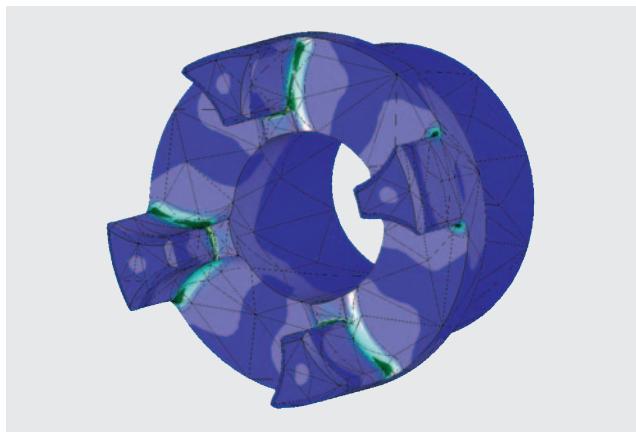
$$\begin{aligned} T_{K \max} &\geq T_S \cdot S_Z \cdot S_t \\ T_S &= T_{AS} \cdot M_A \cdot S_A \\ T_S &= 2122,5 \cdot 0,7 \cdot 1,8 \\ T_S &= 2674,4 \text{ Nm} \\ T_{K \max} &\geq 2674,4 \cdot 1 \cdot 1,4 \\ T_{K \max} &\geq 3744 \text{ Nm} \end{aligned}$$

KTR products developed by ...

3D-CAD-System



FEM calculation



ROTEX® Torsionally flexible couplings



Technical data

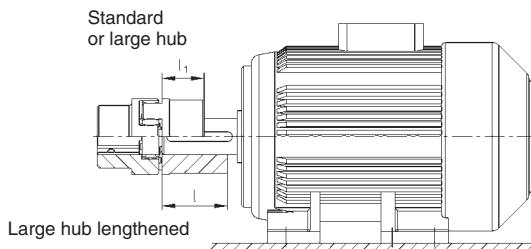
| ROTEX® sizes for all designs and materials | Max. speed [1/min] | | Twisting angle with | | Torque [Nm] | | | Damping power [W] with +30 °C P_kw | Torsion spring stiffness C_dyn [Nm rad^-1] | | | |
|--|--------------------|--------|---------------------|-----------|-------------|-------------|----------------|------------------------------------|--|-------------|-------------|-------------|
| | with V = 30 m/s | 40 m/s | T_KN φ | T_K max φ | Rated T_KN | Max T_K max | Vibratory T_kw | | 1,00 T_KN | 0,75 T_KN | 0,50 T_KN | 0,25 T_KN |
| Spider from polyurethane 92 Shore A; colour yellow | | | | | | | | | | | | |
| 14 | 19000 | — | 6,4° | 10° | 7,5 | 15 | 2,0 | — | 0,38x10³ | 0,31x10³ | 0,24x10³ | 0,14x10³ |
| 19 | 14000 | 19000 | | | 10 | 20 | 2,6 | 4,8 | 1,28x10³ | 1,05x10³ | 0,80x10³ | 0,47x10³ |
| 24 | 10600 | 14000 | | | 35 | 70 | 9,1 | 6,6 | 4,86x10³ | 3,98x10³ | 3,01x10³ | 1,79x10³ |
| 28 | 8500 | 11800 | | | 95 | 190 | 25 | 8,4 | 10,90x10³ | 8,94x10³ | 6,76x10³ | 4,01x10³ |
| 38 | 7100 | 9500 | | | 190 | 380 | 49 | 10,2 | 21,05x10³ | 17,26x10³ | 13,05x10³ | 7,74x10³ |
| 42 | 6000 | 8000 | | | 265 | 530 | 69 | 12,0 | 23,74x10³ | 19,47x10³ | 14,72x10³ | 8,73x10³ |
| 48 | 5600 | 7100 | | | 310 | 620 | 81 | 13,8 | 36,70x10³ | 30,09x10³ | 22,75x10³ | 13,49x10³ |
| 55 | 4750 | 6300 | | | 410 | 820 | 107 | 15,6 | 50,72x10³ | 41,59x10³ | 31,45x10³ | 18,64x10³ |
| 65 | 4250 | 5600 | 3,2° | 5° | 625 | 1250 | 163 | 18,0 | 97,13x10³ | 79,65x10³ | 60,22x10³ | 35,70x10³ |
| 75 | 3550 | 4750 | | | 1280 | 2560 | 333 | 21,6 | 113,32x10³ | 92,92x10³ | 70,26x10³ | 41,65x10³ |
| 90 | 2800 | 3750 | | | 2400 | 4800 | 624 | 30,0 | 190,09x10³ | 155,87x10³ | 117,86x10³ | 69,86x10³ |
| 100 | 2500 | 3350 | | | 3300 | 6600 | 858 | 36,0 | 253,08x10³ | 207,53x10³ | 156,91x10³ | 93,01x10³ |
| 110 | 2240 | 3000 | | | 4800 | 9600 | 1248 | 42,0 | 311,61x10³ | 255,52x10³ | 193,20x10³ | 114,52x10³ |
| 125 | 2000 | 2650 | | | 6650 | 13300 | 1729 | 48,0 | 474,86x10³ | 389,39x10³ | 294,41x10³ | 174,51x10³ |
| 140 | 1800 | 2360 | | | 8550 | 17100 | 2223 | 54,6 | 660,49x10³ | 541,60x10³ | 409,50x10³ | 242,73x10³ |
| 160 | 1500 | 2000 | | | 12800 | 25600 | 3328 | 75,0 | 890,36x10³ | 730,10x10³ | 552,03x10³ | 327,21x10³ |
| 180 | 1400 | 1800 | | | 18650 | 37300 | 4849 | 78,0 | 2568,56x10³ | 2106,22x10³ | 1592,51x10³ | 943,95x10³ |
| Spider from polyurethane 98 Shore A; from size 65 95 Shore A; colour red | | | | | | | | | | | | |
| 14 | 19000 | — | 6,4° | 10° | 12,5 | 25 | 3,3 | — | 0,56x10³ | 0,46x10³ | 0,35x10³ | 0,21x10³ |
| 19 | 14000 | 19000 | | | 17 | 34 | 4,4 | 4,8 | 2,92x10³ | 2,39x10³ | 1,81x10³ | 1,07x10³ |
| 24 | 10600 | 14000 | | | 60 | 120 | 16 | 6,6 | 9,93x10³ | 8,14x10³ | 6,16x10³ | 3,65x10³ |
| 28 | 8500 | 11800 | | | 160 | 320 | 42 | 8,4 | 26,77x10³ | 21,95x10³ | 16,60x10³ | 9,84x10³ |
| 38 | 7100 | 9500 | | | 325 | 650 | 85 | 10,2 | 48,57x10³ | 39,83x10³ | 30,11x10³ | 17,85x10³ |
| 42 | 6000 | 8000 | | | 450 | 900 | 117 | 12,0 | 54,50x10³ | 44,69x10³ | 33,79x10³ | 20,03x10³ |
| 48 | 5600 | 7100 | | | 525 | 1050 | 137 | 13,8 | 65,29x10³ | 53,54x10³ | 40,48x10³ | 24,00x10³ |
| 55 | 4750 | 6300 | | | 685 | 1370 | 178 | 15,6 | 94,97x10³ | 77,88x10³ | 58,88x10³ | 34,90x10³ |
| 65 | 4250 | 5600 | 3,2° | 5° | 940 | 1880 | 244 | 18,0 | 129,51x10³ | 106,20x10³ | 80,30x10³ | 47,60x10³ |
| 75 | 3550 | 4750 | | | 1920 | 3840 | 499 | 21,6 | 197,50x10³ | 161,95x10³ | 122,45x10³ | 72,58x10³ |
| 90 | 2800 | 3750 | | | 3600 | 7200 | 936 | 30,0 | 312,20x10³ | 256,00x10³ | 193,56x10³ | 114,73x10³ |
| 100 | 2500 | 3350 | | | 4950 | 9900 | 1287 | 36,0 | 383,26x10³ | 314,27x10³ | 237,62x10³ | 140,85x10³ |
| 110 | 2240 | 3000 | | | 7200 | 14400 | 1872 | 42,0 | 690,06x10³ | 565,85x10³ | 427,84x10³ | 253,60x10³ |
| 125 | 2000 | 2650 | | | 10000 | 20000 | 2600 | 48,0 | 1343,64x10³ | 1101,79x10³ | 833,06x10³ | 493,79x10³ |
| 140 | 1800 | 2360 | | | 12800 | 25600 | 3328 | 54,6 | 1424,58x10³ | 1168,16x10³ | 883,24x10³ | 523,54x10³ |
| 160 | 1500 | 2000 | | | 19200 | 38400 | 4992 | 75,0 | 2482,23x10³ | 2035,43x10³ | 1538,98x10³ | 912,22x10³ |
| 180 | 1400 | 1800 | | | 28000 | 56000 | 7280 | 78,0 | 3561,45x10³ | 2920,40x10³ | 2208,10x10³ | 1308,84x10³ |
| Spider from polyurethane 64 Shore D-F; colour natural white with green tooth marking 1) | | | | | | | | | | | | |
| 14 | 19000 | — | 4,5° | 7,0° | 16 | 32 | 4,2 | 9,0 | 0,76x10³ | 0,62x10³ | 0,47x10³ | 0,28x10³ |
| 19 | 14000 | 19000 | | | 21 | 42 | 5,5 | 7,2 | 5,35x10³ | 4,39x10³ | 3,32x10³ | 1,97x10³ |
| 24 | 10600 | 14000 | | | 75 | 150 | 19,5 | 9,9 | 15,11x10³ | 12,39x10³ | 9,37x10³ | 5,55x10³ |
| 28 | 8500 | 11800 | | | 200 | 400 | 52 | 12,6 | 27,52x10³ | 22,57x10³ | 17,06x10³ | 10,12x10³ |
| 38 | 7100 | 9500 | | | 405 | 810 | 105 | 15,3 | 70,15x10³ | 57,52x10³ | 43,49x10³ | 25,78x10³ |
| 42 | 6000 | 8000 | | | 560 | 1120 | 146 | 18,0 | 79,86x10³ | 65,49x10³ | 49,52x10³ | 29,35x10³ |
| 48 | 5600 | 7100 | | | 655 | 1310 | 170 | 20,7 | 95,51x10³ | 78,32x10³ | 59,22x10³ | 35,10x10³ |
| 55 | 4750 | 6300 | | | 825 | 1650 | 215 | 23,4 | 107,92x10³ | 88,50x10³ | 66,91x10³ | 39,66x10³ |
| 65 | 4250 | 5600 | 2,5° | 3,6° | 1175 | 2350 | 306 | 27,0 | 151,09x10³ | 123,90x10³ | 93,68x10³ | 55,53x10³ |
| 75 | 3550 | 4750 | | | 2400 | 4800 | 624 | 32,4 | 248,22x10³ | 203,54x10³ | 153,90x10³ | 91,22x10³ |
| 90 | 2800 | 3750 | | | 4500 | 9000 | 1170 | 45,0 | 674,52x10³ | 553,11x10³ | 418,20x10³ | 247,89x10³ |
| 100 | 2500 | 3350 | | | 6185 | 12370 | 1608 | 54,0 | 861,17x10³ | 706,16x10³ | 533,93x10³ | 316,48x10³ |
| 110 | 2240 | 3000 | | | 9000 | 18000 | 2340 | 63,0 | 1138,59x10³ | 933,64x10³ | 705,92x10³ | 418,43x10³ |
| 125 | 2000 | 2650 | | | 12500 | 25000 | 3250 | 72,0 | 1435,38x10³ | 1177,01x10³ | 889,93x10³ | 527,50x10³ |
| 140 | 1800 | 2360 | | | 16000 | 32000 | 4160 | 81,9 | 1780,73x10³ | 1460,20x10³ | 1104,05x10³ | 654,42x10³ |
| 160 | 1500 | 2000 | | | 24000 | 48000 | 6240 | 112,5 | 3075,80x10³ | 2522,16x10³ | 1907,00x10³ | 1130,36x10³ |
| 180 | 1400 | 1800 | | | 35000 | 70000 | 9100 | 117,0 | 6011,30x10³ | 4929,27x10³ | 3727,01x10³ | 2209,15x10³ |

Unless explicitly specified in your order, we will supply spiders with Shore hardness 92 A.

For peripheral speeds exceeding $V = 30 \text{ m/sec.}$, we would recommend only steel or nodular iron, respectively. Dynamic balancing required. 1) Hub material: EN-GJS-400-15 (GGG 40); steel

| Spider from polyurethane | 92 Shore A | 95/98 Shore A | 64 Shore D-F |
|-----------------------------|------------|---------------|--------------|
| Relative Damping $\psi [-]$ | 0,80 | 0,80 | 0,75 |
| Resonance factor $V_R [-]$ | 7,90 | 7,90 | 8,50 |

Selection of standard IEC motors



ROTEX® couplings for standard IEC motors, protection IP 54/IP 55 (spider 92 Shore A)

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

The arrangement of couplings is valid for an ambient temperature of up to + 30 °C. For the selection there is a minimum safety factor of 2 of the max. coupling torque (T_{Kmax}).

A detailed arrangement is possible according to catalogue, page 20 and 21. Drives with periodical torque curves must be selected according to DIN 740 part 2.

If requested, KTR will make the selection.

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

1) For dimensions see ROTEX® GS line

2) Motor hub from steel see page 27

Basic programme (cylindrical bores)/Inch bores

Basic programme (cylindrical bores)

| ROTEX® Size material | Component | Cylindrical finish bore [mm] H7 keyway to DIN 6885 sheet 1 [JS9] with thread for setscrew | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|-----------|---|----|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|---|--|--|--|--|--|--|--|
| | | un-/pilot bored | 6 | 8 | 9 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 22 | 24 | 25 | 26 | 28 | 30 | 32 | 35 | 38 | 40 | 42 | 45 | 48 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 100 | | | | | | | | |
| 14 | Sint | 1a | ● | | ● | ● | ● | ● | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Sint | 1a | ● | | | | | | | ● | ● | | | ● | ● | ● | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | Al-H | 1a | ●■ | ● | ● | ● | ● | ● | ●■ | ●■ | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | St | 1a | ●■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | AL-D | 1 | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | |
| | 1a | ● | | | | | | | | | | | | | | | | | | | ● | ● | | | | | | | | | | | | | | | | | | | | | | | | |
| | St | 1a | ●■ | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | |
| 24 | Al-D | 1 | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | |
| | 1a | ● | | | | | | | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | |
| | St | 1a | ●■ | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | |
| 28 | Al-D | 1 | ● | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | |
| | 1a | ● | | | | | | | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | |
| | St | 1a | ●■ | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | |
| 38 | St | 1 | ● | | | | | | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | |
| | 1a | ●■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | GG | 1 | ● | | | | | | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | |
| 42 | St | 1 | ● | | | | | | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | |
| | 1a | ●■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | GG | 1 | ● | | | | | | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | |
| 48 | St | 1 | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1a | ●■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | GG | 1 | ● | | | | | | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | |
| 55 | GG | 1 | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1a | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | St | 1 | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | GG | 1 | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | St | 1 | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | GG | 1 | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | St | 1 | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1a | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | GG | 1 | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 | St | 1 | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | GG | 1 | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | St | 1 | ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Inch bores

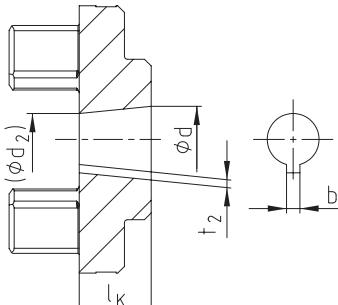
► = Basic programme

| Code | Ød | Ød inch | b ^{+0.05} | t ₂ ^{+0.2} | Code | Ød | Ød inch | b ^{+0.05} | t ₂ ^{+0.2} | Code | Ød | Ød inch | b ^{+0.05} | t ₂ ^{+0.2} | Code | Ød | Ød inch | b ^{+0.05} | t ₂ ^{+0.2} | Code | Ød | Ød inch | b ^{+0.05} | t ₂ ^{+0.2} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|----------------------|---------|--------------------|--------------------------------|------|------------------------|---------|--------------------|--------------------------------|------|------------------------|---------|--------------------|--------------------------------|------|------------------------|---------|--------------------|--------------------------------|------|------------------------|---------|--------------------|--------------------------------|----|------------------------|-------|------|------|----|------------------------|-------|------|------|----|------------------------|-------|------|------|-----|-------------------------|-------|------|------|----|------------------------|--------|------|------|----|-------------------------|-------|------|------|---|------------------------|-------|------|------|-----|------------------------|-------|------|------|----|------------------------|---|------|------|----|------------------------|-------|------|------|----|------------------------|--------|------|------|---|------------------------|-------|------|------|----|-------------------------|-------|------|------|---|------------------------|-------|------|------|----|-------------------------|-------|------|------|----|------------------------|-------|------|------|----|------------------------|-------|------|------|---|------------------------|-------|-------|------|----|-------------------------|-------|------|------|----|------------------------|---------|------|------|----|------------------------|---|------|------|---|------------------------|---|------|------|---|------------------------|-------|------|------|----|-------------------------|-------|------|------|---|-----------------------|-------|-------|------|----|-------------------------|-------|--------|------|----|-------------------------|-------|-------|------|----|-------------------------|-------|--------|------|----|-------------------------|-------|--------|-------|
| Tb | 9,5 ^{+0,03} | 3/8 | 3,17 | 11,1 | A | 19,05 ^{+0,03} | 3/4 | 4,78 | 21,3 | Sb | 28,58 ^{+0,03} | 1 1/8 | 6,35 | 31,5 | Sd | 28,58 ^{+0,03} | 1 1/8 | 7,93 | 32,1 | Ja | 31,70 ^{+0,07} | 1 1/4 | 7,93 | 34,4 | Jc | 31,71 ^{+0,03} | 1 1/4 | 7,93 | 35,3 | Js | 31,75 ^{+0,03} | 1 1/4 | 6,35 | 34,6 | K | 31,75 ^{+0,07} | 1 1/4 | 7,93 | 35,5 | DNK | 31,755 ^{+0,07} | 1 1/4 | 7,93 | 35,3 | Gf | 23,80 ^{+0,03} | 1 5/16 | 6,35 | 26,8 | Ma | 34,925 ^{+0,07} | 1 3/8 | 7,93 | 38,7 | M | 34,92 ^{+0,03} | 1 3/8 | 7,93 | 38,6 | RH1 | 34,93 ^{+0,07} | 1 3/8 | 9,55 | 37,8 | Bs | 25,38 ^{+0,03} | 1 | 6,37 | 28,3 | Ca | 38,07 ^{+0,03} | 1 1/2 | 7,93 | 42,0 | Cb | 36,50 ^{+0,03} | 1 1/16 | 9,55 | 40,9 | C | 38,07 ^{+0,03} | 1 1/2 | 9,55 | 42,5 | Sa | 28,575 ^{+0,07} | 1 1/8 | 6,35 | 31,7 | N | 41,25 ^{+0,03} | 1 5/8 | 9,55 | 45,6 | Nb | 41,275 ^{+0,07} | 1 5/8 | 9,55 | 45,8 | Ls | 44,42 ^{+0,03} | 1 3/4 | 9,55 | 48,8 | La | 44,45 ^{+0,03} | 1 3/4 | 11,0 | 48,1 | L | 44,45 ^{+0,07} | 1 3/4 | 11,11 | 49,4 | Lu | 47,625 ^{+0,07} | 1 1/8 | 12,7 | 53,5 | Da | 49,20 ^{+0,03} | 1 15/16 | 12,7 | 55,0 | Ds | 50,77 ^{+0,03} | 2 | 12,7 | 56,4 | D | 50,80 ^{+0,03} | 2 | 12,7 | 55,1 | P | 53,95 ^{+0,03} | 2 1/8 | 12,7 | 59,6 | Pa | 53,975 ^{+0,07} | 2 1/8 | 12,7 | 60,0 | U | 57,1 ^{+0,03} | 2 1/4 | 12,73 | 62,9 | Ub | 60,325 ^{+0,07} | 2 1/8 | 15,875 | 67,6 | Wa | 73,025 ^{+0,07} | 2 1/8 | 19,05 | 81,7 | Wd | 85,725 ^{+0,07} | 3 1/8 | 22,225 | 95,8 | Wf | 92,075 ^{+0,07} | 3 1/8 | 22,225 | 101,9 |
| DNB | 11,11 ^{M7} | 7/16 | 2,4 | 12,5 | Fa | 22,20 ^{+0,03} | 7/8 | 6,35 | 25,2 | DNI | 22,228 ^{H7} | 7/8 | 6,35 | 25,0 | Gs | 22,22 ^{+0,03} | 7/8 | 4,78 | 24,4 | G | 22,22 ^{+0,03} | 7/8 | 4,75 | 24,7 | Gb | 22,22 ^{+0,03} | 7/8 | 4,78 | 25,5 | F | 22,22 ^{+0,03} | 7/8 | 6,38 | 25,2 | Gd | 22,225 ^{M7} | 7/8 | 4,76 | 24,7 | Gf | 23,80 ^{+0,03} | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

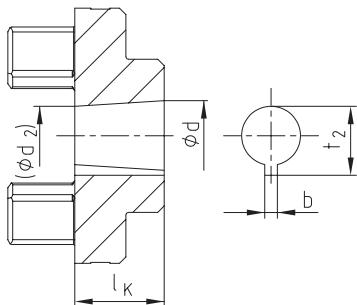
Taper bores · Spline bores (basic programme)

Taper bores

Taper 1:5



Taper 1:8 and 1:10

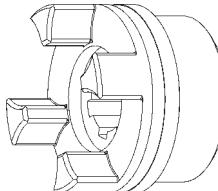


With codes N.../6 and N.../6a parallel to taper the respective pump code should be started before ...N and the respective size of coupling before and behind ...N.../.

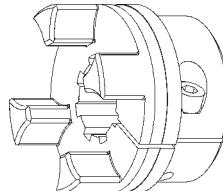
► = Basic programme

Spline bores

Design 1.3 hub with spline bore



Design 2.3 clamping hub with spline bore



| SAE involute spline | | | | |
|---------------------|---------|--------------|-------|--------------|
| Spline code | Size | Pitch circle | Pitch | No. of teeth |
| PH-S | 5/8" | 14,28 | 16/32 | 9 |
| PI-S | 3/4" | 17,46 | 16/32 | 11 |
| PB-S | 7/8" | 20,63 | 16/32 | 13 |
| PB-BS | 1" | 23,81 | 16/32 | 15 |
| PJ | 1 1/8" | 26,98 | 16/32 | 17 |
| PC-S | 1 1/4" | 29,63 | 12/24 | 14 |
| PA-S | 1 3/8" | 33,33 | 16/32 | 21 |
| PS-S | 1 1/2" | 35,98 | 12/24 | 17 |
| PD-S | 1 5/8" | 36,51 | 16/32 | 23 |
| PE-S | 1 9/16" | 42,86 | 16/32 | 27 |
| PK | 1 3/4" | 41,275 | 8/16 | 13 |
| PT-C | 2" | 47,625 | 8/16 | 15 |
| PQ-C | 2 1/4" | 53,975 | 8/16 | 17 |

2) spline correction different with DIN

Spline clamping hubs are often adapted to the shafts of hydraulic pumps/hydraulic motors. Please ask us about the corresponding hub length of the spline code!

| Taper 1:5 | | | | | |
|-----------|------------------|-------------------|------------------|----------------------|----------------|
| Code | Details of bores | | | | |
| | d + 0,05 | (d ₂) | b ^{JS9} | t ₂ + 0,1 | l _K |
| A-10 | 9,85 | 7,55 | 2 | 1,0 | 11,5 |
| B-17 | 16,85 | 13,15 | 3 | 1,8 | 18,5 |
| C-20 | 19,85 | 15,55 | 4 | 2,2 | 21,5 |
| Cs-22 | 21,95 | 17,65 | 3 | 1,8 | 21,5 |
| D-25 | 24,85 | 19,821 | 5 | 2,9 | 26,5 |
| E-30 | 29,85 | 23,55 | 6 | 2,6 | 31,5 |
| F-35 | 34,85 | 27,55 | 6 | 2,6 | 36,5 |
| G-40 | 39,85 | 32,85 | 6 | 2,6 | 35,0 |

| Taper 1:8 | | | | | |
|-------------|------------------|-------------------|----------|----------------------|----------------|
| Code | Details of bores | | | | |
| | d + 0,05 | (d ₂) | b + 0,05 | t ₂ + 0,1 | l _K |
| N.../ 1 | 9,7 | 7,575 | 2,4 | 10,85 | 17,0 |
| ...N.../ 1c | 11,6 | 9,5375 | 3 | 12,90 | 16,5 |
| ...N.../ 1e | 13,0 | 10,375 | 2,4 | 13,80 | 21,0 |
| ...N.../ 1d | 14,0 | 11,813 | 3 | 15,50 | 17,5 |
| ...N.../ 1b | 14,3 | 11,8625 | 3,2 | 15,65 | 19,5 |
| ...N.../ 2 | 17,287 | 14,287 | 3,2 | 18,24 | 24,0 |
| ...N.../ 2a | 17,287 | 14,287 | 4 | 18,94 | 24,0 |
| ...N.../ 2b | 17,287 | 14,287 | 3 | 18,34 | 24,0 |
| ...N.../ 3 | 22,002 | 18,6895 | 4 | 23,40 | 28,0 |
| ...N.../ 4 | 25,463 | 20,963 | 4,78 | 27,83 | 36,0 |
| ...N.../ 4b | 25,463 | 20,963 | 5 | 28,23 | 36,0 |
| ...N.../ 4a | 27,0 | 22,9375 | 4,78 | 28,80 | 32,5 |
| ...N.../ 4g | 28,45 | 23,6375 | 6 | 29,32 | 38,5 |
| ...N.../ 5 | 33,176 | 27,676 | 6,38 | 35,39 | 44,0 |
| ...N.../ 5a | 33,176 | 27,676 | 7 | 35,39 | 44,0 |

| Taper 1:10 | | | | | |
|------------|------------------|-------------------|------------------|----------------------|----------------|
| Code | Details of bores | | | | |
| | d + 0,05 | (d ₂) | b ^{JS9} | t ₂ + 0,1 | l _K |
| CX | 19,95 | 16,75 | 5 | 22,08 | 32 |
| DX | 24,95 | 20,45 | 6 | 26,68 | 45 |
| EX | 29,75 | 24,75 | 8 | 31,88 | 50 |

2) spline correction different with DIN
Spline clamping hubs are often adapted to the shafts of hydraulic pumps/hydraulic motors. Please ask us about the corresponding hub length of the spline code!

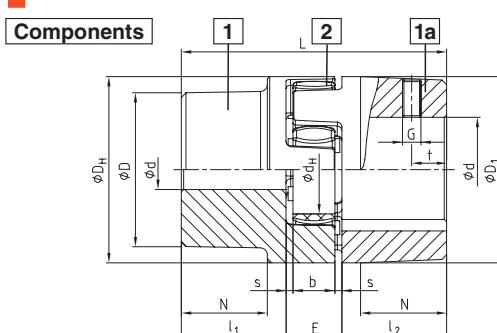
| Spline bores to DIN 5482 | | | | |
|--------------------------|--------------|-------|--------------|----------------------|
| Size | Pitch circle | Pitch | No. of teeth | Profile correction |
| A 17 x 14 | 14,40 | 1,6 | 9 | +0,600 ¹⁾ |
| A 25 x 22 | 22,4 | 1,6 | 14 | +0,550 |
| A 28 x 25 | 26,25 | 1,75 | 15 | +0,302 |
| A 30 x 27 | 28,00 | 1,75 | 16 | +0,327 |
| A 35 x 31 | 31,50 | 1,75 | 18 | +0,676 |
| A 40 x 36 | 38,00 | 1,9 | 20 | +0,049 |
| A 45 x 41 | 44,00 | 2 | 22 | +0,181 |
| A 50 x 45 | 48,00 | 2 | 24 | +0,181 |

| Spline bores to DIN 5480 | | | |
|--------------------------|--------------|--------|--------------|
| Spline code | Pitch circle | Module | No. of teeth |
| 20 x 1 x 18 x 7H | 18 | 1 | 18 |
| 20 x 1,25 x 14 x 7H | 17,5 | 1,25 | 14 |
| 25 x 1,25 x 18 x 7H | 22,5 | 1,25 | 18 |
| 28 x 1,25 x 21 x 7H | 26,25 | 1,25 | 21 |
| 30 x 2 x 13 x 7H | 26 | 2 | 13 |
| 30 x 2 x 14 x 8H | 28 | 2 | 14 |
| 35 x 2 x 16 x 8H | 32 | 2 | 16 |
| 40 x 2 x 18 x 7H | 36 | 2 | 18 |
| 45 x 2 x 21 x 7H | 41 | 2 | 21 |
| 48 x 2 x 22 x 9H | 44 | 2 | 22 |
| 50 x 2 x 24 x 7H | 48 | 2 | 24 |
| 60 x 2 x 28 x 8H | 56 | 2 | 28 |
| 75 x 3 x 24 x 7H | 72 | 3 | 24 |

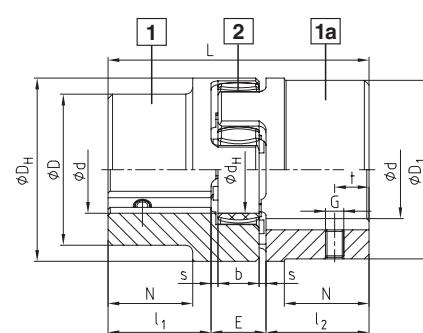
Shaft coupling design No. 001 - casted materials



- Torsionally flexible, maintenance-free
- Damping vibrations
- Axial plug-in, fail-safe
- Allover machining – good dynamic properties
- Compact design/small flywheel effect
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9
- Basic programme/stock programme see pages 24 and 25
- Approved according to EC Standard 94/9/EC (without aluminium AL-D)
- Mounting instructions under www.ktr.com



AL-D (thread opposite the keyway)



EN-GJL-250 / EN-GJS-400-15 (thread on the keyway)

| Size | Component | Spider (part 2) ¹⁾ | | | Dimensions [mm] | | | | | | | | | | | | |
|------------------|-----------|-------------------------------|---------|---------|-------------------------|---------|---------------------------------|----|----|-----|----------------|----------------|-------------------|------------------------------------|----|----|---------------------|
| | | Rated torque [Nm] | | | Finish bore d (min-max) | General | | | | | | | | Thread for setscrews ²⁾ | | | |
| | | 92 Sh A | 98 Sh A | 64 Sh D | | L | I ₁ ; I ₂ | E | b | s | D _H | d _H | D; D ₁ | N | G | t | T _A [Nm] |
| 14 ³⁾ | 1a | 7,5 | 12,5 | — | 6-16 | 35 | 11 | 13 | 10 | 1,5 | 30 | 10 | 30 | — | M4 | 5 | 1,5 |
| 19 | 1 | 10 | 17 | — | 6-19 | 66 | 25 | 16 | 12 | 2 | 41 | 18 | 32 | 20 | M5 | 10 | 2 |
| 24 | 1 | 35 | 60 | — | 9-24 | 78 | 30 | 18 | 14 | 2 | 56 | 27 | 40 | 24 | M5 | 10 | 2 |
| 28 | 1 | | | | 22-28 | | | | | | | | | | | | |
| | 1a | 95 | 160 | — | 10-28 | 90 | 35 | 20 | 15 | 2,5 | 66 | 30 | 48 | 28 | M8 | 15 | 10 |
| | | | | | 28-38 | | | | | | | | | | | | |

ROTEX® Cast iron EN-GJL-250 (GG 25)

| | | | | | | | | | | | | | | | | | | |
|----|----|------|------|------|--------|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|----|----|
| 38 | 1 | 190 | 325 | 405 | 12-38 | 114 | 45 | 24 | 18 | 3 | 80 | 38 | 66 | 78 | 37 | M8 | 15 | 10 |
| | 1a | | | | 38-45 | | | | | | | | | | | | | |
| | 1b | | | | 12-45 | | | | | | | | | | | | | |
| 42 | 1 | 265 | 450 | 560 | 14-42 | 126 | 50 | 26 | 20 | 3 | 95 | 46 | 75 | 94 | 40 | M8 | 20 | 10 |
| | 1a | | | | 42-55 | | | | | | | | | | | | | |
| | 1b | | | | 14-55 | | | | | | | | | | | | | |
| 48 | 1 | 310 | 525 | 655 | 15-48 | 140 | 56 | 28 | 21 | 3,5 | 105 | 51 | 85 | 104 | 45 | M8 | 20 | 10 |
| | 1a | | | | 48-60 | | | | | | | | | | | | | |
| | 1b | | | | 15-60 | | | | | | | | | | | | | |
| 55 | 1 | 410 | 685 | 825 | 20-55 | 160 | 65 | 30 | 22 | 4 | 120 | 60 | 98 | 118 | 52 | M10 | 20 | 17 |
| | 1a | | | | 55-70 | | | | | | | | | | | | | |
| | 1b | | | | 20-70 | | | | | | | | | | | | | |
| 65 | 1 | 625 | 940 | 1175 | 22-65 | 185 | 75 | 35 | 26 | 4,5 | 135 | 68 | 115 | 61 | M10 | 20 | 17 | |
| | 1a | | | | 65-80 | | | | | | | | | | | | | |
| | 1b | | | | 22-80 | | | | | | | | | | | | | |
| 75 | 1 | 1280 | 1920 | 2400 | 30-75 | 210 | 85 | 40 | 30 | 5 | 160 | 80 | 135 | 69 | M10 | 25 | 17 | |
| | 1a | | | | 75-95 | | | | | | | | | | | | | |
| | 1b | | | | 30-95 | | | | | | | | | | | | | |
| 90 | 1 | 2400 | 3600 | 4500 | 40-90 | 245 | 100 | 45 | 34 | 5,5 | 200 | 100 | 160 | 81 | M12 | 30 | 40 | |
| | 1a | | | | 90-110 | | | | | | | | | | | | | |
| | 1b | | | | 40-110 | | | | | | | | | | | | | |

ROTEX® Nodular iron EN-GJS-400-15 (GGG 40)

| | | | | | | | | | | | | | | | | | |
|-----|---|-------|-------|-------|--------|-----|-----|----|----|------|-----|-----|-----|-----|-----|----|-----|
| 100 | 1 | 3300 | 4950 | 6185 | 50-115 | 270 | 110 | 50 | 38 | 6 | 225 | 113 | 180 | 89 | M12 | 30 | 40 |
| 110 | 1 | 4800 | 7200 | 9000 | 60-125 | 295 | 120 | 55 | 42 | 6,5 | 255 | 127 | 200 | 96 | M16 | 35 | 80 |
| 125 | 1 | 6650 | 10000 | 12500 | 60-145 | 340 | 140 | 60 | 46 | 7 | 290 | 147 | 230 | 112 | M16 | 40 | 80 |
| 140 | 1 | 8550 | 12800 | 16000 | 60-160 | 375 | 155 | 65 | 50 | 7,5 | 320 | 165 | 255 | 124 | M20 | 45 | 140 |
| 160 | 1 | 12800 | 19200 | 24000 | 80-185 | 425 | 175 | 75 | 57 | 9 | 370 | 190 | 290 | 140 | M20 | 50 | 140 |
| 180 | 1 | 18650 | 28000 | 35000 | 85-200 | 475 | 195 | 85 | 64 | 10,5 | 420 | 220 | 325 | 156 | M20 | 50 | 140 |

= Material marking that the calculation/order is based on if no material is mentioned in the order.

1) Maximum torque of the coupling $T_{K\text{max}}$ = rated torque of the coupling $T_{K\text{Nenn}} \times 2$.

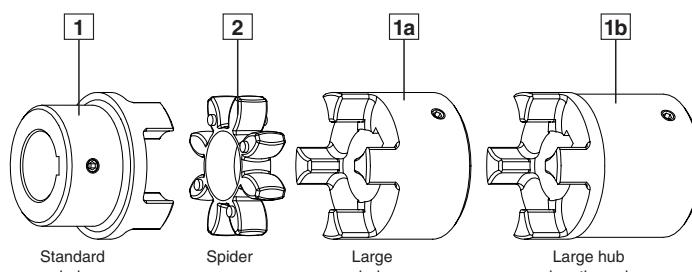
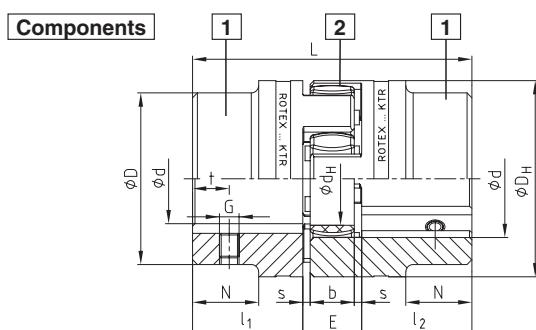
2) From size 125 thread for setscrews on request.

3) Material Al-H.

Shaft coupling design No. 001 - material steel



- Hubs from steel, specifically suitable for drive elements subject to high loads, e. g. steel mills, elevator drives, spline hubs, etc.)
- Torsionally flexible, maintenance-free, vibration-damping
- Axial plug-in, fail-safe
- Allover machining - good dynamic properties
- Compact design/small flywheel effect
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9
- Basic programme/stock programme see pages 24 and 25
- Approved according to EC Standard 94/9/EC (Explosion Certificate ATEX 95)
- Mounting instructions under www.ktr.com



Steel (thread on the keyway)

| ROTEX® steel | | | | | | | | | | | | | | | | | | |
|--------------|----------------|--|---------|---------|----------------------------|-----------------|---------------------------------|----|----|-----|----------------|----------------|-----------------|----|-----|----------------------|---------------------|--|
| Size | Compo- nent | Spider (part 2) ¹⁾ Rated torque [Nm] | | | Finish bore d (min-max) | Dimensions [mm] | | | | | | | Spec. for steel | | | Thread for setscrews | | |
| | | 92 Sh A | 98 Sh A | 64 Sh D | | L | I ₁ ; I ₂ | E | b | s | D _H | d _H | D | N | G | t | T _A [Nm] | |
| 14 | 1a | 7,5 | 12,5 | 16 | 0-16 | 35 | 11 | 13 | 10 | 1,5 | 30 | 10 | 30 | - | M4 | 5 | 1,5 | |
| | 1b | | | | | 50 | 18,5 | | | | | | | | | | | |
| 19 | 1a | 10 | 17 | 21 | 0-25 | 66 | 25 | 16 | 12 | 2 | 40 | 18 | 40 | - | M5 | 10 | 2 | |
| | 1b | | | | | 90 | 37 | | | | | | | | | | | |
| 24 | 1a | 35 | 60 | 75 | 0-35 | 78 | 30 | 18 | 14 | 2 | 55 | 27 | 55 | - | M5 | 10 | 2 | |
| | 1b | | | | | 118 | 50 | | | | | | | | | | | |
| 28 | 1a | 95 | 160 | 200 | 0-40 | 90 | 35 | 20 | 15 | 2,5 | 65 | 30 | 65 | - | M8 | 15 | 10 | |
| | 1b | | | | | 140 | 60 | | | | | | | | | | | |
| 38 | 1 | 190 | 325 | 405 | 0-48 | 114 | 45 | 24 | 18 | 3 | 80 | 38 | 70 | 27 | M8 | 15 | 10 | |
| | 1b | | | | | 164 | 70 | | | | | | 80 | - | | | | |
| 42 | 1 | 265 | 450 | 560 | 0-55 | 126 | 50 | 26 | 20 | 3 | 95 | 46 | 85 | 28 | M8 | 20 | 10 | |
| | 1b | | | | | 176 | 75 | | | | | | 95 | - | | | | |
| 48 | 1 | 310 | 525 | 655 | 0-62 | 140 | 56 | 28 | 21 | 3,5 | 105 | 51 | 95 | 32 | M8 | 20 | 10 | |
| | 1b | | | | | 188 | 80 | | | | | | 105 | - | | | | |
| 55 | 1 | 410 | 685 | 825 | 0-74 | 160 | 65 | 30 | 22 | 4 | 120 | 60 | 110 | 37 | M10 | 20 | 17 | |
| | 1b | | | | | 210 | 90 | | | | | | 120 | - | | | | |
| 65 | 1 | 625 | 940 | 1175 | 0-80 | 185 | 75 | 35 | 26 | 4,5 | 135 | 68 | 115 | 47 | M10 | 20 | 17 | |
| | 1b | | | | | 235 | 100 | | | | | | 135 | - | | | | |
| 75 | 1 | 1280 | 1920 | 2400 | 0-95 | 210 | 85 | 40 | 30 | 5 | 160 | 80 | 135 | 53 | M10 | 25 | 17 | |
| | 1b | | | | | 260 | 110 | | | | | | 160 | - | | | | |
| 90 | 1 | 2400 | 3600 | 4500 | 0-110 | 245 | 100 | 45 | 34 | 5,5 | 200 | 100 | 160 | 62 | M12 | 30 | 40 | |
| | 1b | | | | | 295 | 125 | | | | | | 200 | - | | | | |

| ROTEX® sintered steel | | | | | | | | | | | | | | | | |
|-----------------------|----------------|--|---------|---------------------------------|-----------------|---------------------------------|----|----|-----|----------------|----------------|----------------------|---|----|----|---------------------|
| Size | Compo- nent | Spider (part 2) ¹⁾ Rated torque [Nm] | | Finish bore d | Dimensions [mm] | | | | | | | Thread for setscrews | | | | |
| | | 92 Sh A | 98 Sh A | | L | I ₁ ; I ₂ | E | b | s | D _H | d _H | D | N | G | t | T _A [Nm] |
| 14 | 1a | 7,5 | 12,5 | unbored, 8, 10, 11, 12, 14 | 35 | 11 | 13 | 10 | 1,5 | 30 | 10 | 30 | - | M4 | 5 | 1,5 |
| 19 | 1a | 10 | 17 | unbored, 14, 16, 19, 20, 22, 24 | 66 | 25 | 16 | 12 | 2 | 40 | 18 | 40 | - | M5 | 10 | 2 |

► = If no material is mentioned in the order, the calculation/order is based on the material marked with

1) Maximum torque of the coupling $T_{K\max}$ = rated torque of the coupling $T_{K\text{Nom}}$ $\times 2$

ROTEX® 19 – 48 from stainless steel available from stock

- ROTEX® 19, 28 and 42 – hub material X10CrNiS 18-9 material number 1.4305 (V2A) DIN 17440

- ROTEX® 24, 38 and 48 – hub material X6CrNiMoTi17-12-2 material number 1.4571 (V4A) DIN 17440

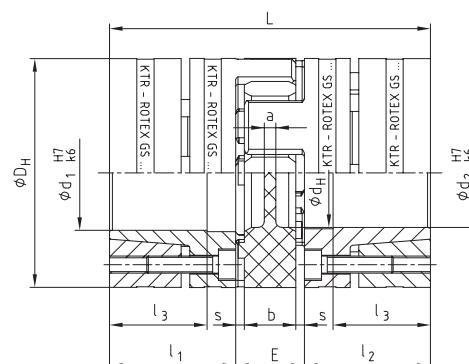
Order form:

| ROTEX®-38 | St | 92 | 1 – Ø 45 | 1a – Ø 25 | | |
|---------------|----------|-----------------------------|---------------|-------------|---------------|-------------|
| Coupling size | Material | Spider hardness Shore A] | Hub design | Finish bore | Hub design | Finish bore |

Shaft coupling design clamping ring hubs



- Torsionally flexible shaft coupling with integrated clamping system
- High smoothness of running, application up to a peripheral speed of 40 m/s
- For high friction torques (consider the selection in case of explosion protection use)
- Easy to assemble due to internal clamping screws
- Finish bore up to Ø 50 mm according to ISO fit H7, from Ø 55 mm according to ISO fit G7
-  Approved according to EC Standard 94/9/EC (Explosion Certificate ATEX 95)



| Size | Torques [Nm] ¹⁾ | | | | Dimensions [mm] | | | | | | | | | | Clamping screws | | | | Weight per hub with max. bore [kg] | Mass moment of inertia per hub with max. bore [kg m ²] |
|--|----------------------------|-------------------|--------------------|--------------------|------------------------------|----------------|-----|---------------------------------|----------------|----|----|-----|-----|-----|-----------------|---------------------|----------------|-------|------------------------------------|--|
| | 92 Sh A | | 98 Sh A | | D _H ³⁾ | d _H | L | l ₁ ; l ₂ | l ₃ | E | b | s | a | M | Number z | T _A [Nm] | M ₁ | | | |
| | T _{KN} | T _{Kmax} | T _{KN} | T _{Kmax} | | | | | | | | | | | | | | | | |
| ⁴⁾ Hub material – Aluminium (Al-H) optionally steel | | | | | | | | | | | | | | | | | | | | |
| 14 | 7,5 | 15 | 12,5 | 25 | 30 | 10,5 | 50 | 18,5 | 13,5 | 13 | 10 | 1,5 | 2,0 | M3 | 4 | 1,34 | M3 | 0,049 | 0,07 x 10 ⁻⁴ | |
| 19 | 10,0 | 20 | 17 | 34 | 40 | 18 | 66 | 25 | 18 | 16 | 12 | 2,0 | 3,0 | M4 | 6 | 3 | M4 | 0,120 | 0,31 x 10 ⁻⁴ | |
| 24 | 35,0 | 70 | 60 | 120 | 55 | 27 | 78 | 30 | 22 | 18 | 14 | 2,0 | 3,0 | M5 | 4 | 6 | M5 | 0,280 | 1,35 x 10 ⁻⁴ | |
| 28 | 95,0 | 190 | 160 | 320 | 65 | 30 | 90 | 35 | 27 | 20 | 15 | 2,5 | 4,0 | M5 | 8 | 6 | M5 | 0,450 | 3,13 x 10 ⁻⁴ | |
| 38 | 190,0 | 380 | 325 | 650 | 80 | 38 | 114 | 45 | 35 | 24 | 18 | 3,0 | 4,0 | M6 | 8 | 10 | M6 | 0,950 | 9,60 x 10 ⁻⁴ | |
| Hub and clamping ring material – Steel (St-H) | | | | | | | | | | | | | | | | | | | | |
| 42 | 265 | 530 | 450 | 900 | 95 | 46 | 126 | 50 | 35 | 26 | 20 | 3,0 | 4,0 | M8 | 4 | 35 | M8 | 2,30 | 31,7 x 10 ⁻⁴ | |
| 48 | 310 | 620 | 525 | 1050 | 105 | 51 | 140 | 56 | 41 | 28 | 21 | 3,5 | 4,0 | M10 | 4 | 69 | M10 | 3,08 | 52,0 x 10 ⁻⁴ | |
| 55 | 375 | 750 | 685 | 1370 | 120 | 60 | 160 | 65 | 45 | 30 | 22 | 4,0 | 4,5 | M10 | 4 | 69 | M10 | 4,67 | 103,0 x 10 ⁻⁴ | |
| 65 | - | - | 940 ²⁾ | 1880 ²⁾ | 135 | 68 | 185 | 75 | 55 | 35 | 26 | 4,5 | 4,5 | M12 | 4 | 120 | M12 | 6,70 | 191,0 x 10 ⁻⁴ | |
| 75 | - | - | 1920 ²⁾ | 3840 ²⁾ | 160 | 80 | 210 | 85 | 63 | 40 | 30 | 5,0 | 5,0 | M12 | 5 | 120 | M12 | 9,90 | 396,8 x 10 ⁻⁴ | |

1) Please note coupling selection on pages 104, 105, 116 2) Figures for 95 Sh A 3) OD_H + 2 mm with high speeds for expansion of spider

4) In case of using the spider 64 Sh D resp. short dimensioning we recommend the application of clamping ring hubs made of steel.

Please note the technical details shown on page 104 and 116 with the use of the ROTEX GS spider.

| Size | Bores d ₁ /d ₂ and the corresponding transmittable friction torques T _R of clamping ring hub in [Nm] ¹⁾ | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|------|------|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
| | 06 | 010 | 011 | 014 | 015 | 016 | 019 | 020 | 024 | 025 | 028 | 030 | 032 | 035 | 038 | 040 | 042 | 045 | 048 | 050 | 055 | 060 | 065 | 070 | 080 |
| 14 | 8,6 | 13,8 | 14,7 | 22,7 | | | | | | | | | | | | | | | | | | | | | |
| 19 | | 41 | 45 | 62 | 68 | 67 | 83 | 90 | | | | | | | | | | | | | | | | | |
| 24 | | | 48 | 67 | 74 | 72 | 90 | 97 | 112 | 120 | 143 | | | | | | | | | | | | | | |
| 28 | | | | | 142 | 154 | 189 | 188 | 237 | 250 | 280 | 307 | 310 | 353 | 389 | | | | | | | | | | |
| 38 | | | | | | | | | 269 | 337 | 356 | 398 | 436 | 442 | 501 | 533 | 572 | 615 | 644 | | | | | | |
| 42 | | | | | | | | | | 399 | 445 | 506 | 470 | 566 | 581 | 647 | 630 | 728 | 836 | 858 | | | | | |
| 48 | | | | | | | | | | | 650 | 685 | 809 | 841 | 926 | 916 | 1042 | 1181 | 1125 | 1311 | | | | | |
| 55 | | | | | | | | | | | | 918 | 954 | 1052 | 1040 | 1185 | 1220 | 1318 | 1359 | 1646 | 1662 | 1960 | | | |
| 65 | | | | | | | | | | | | 1568 | 1569 | 1768 | 1833 | 1968 | 2049 | 2438 | 2495 | 2898 | | | | | |
| 75 | | | | | | | | | | | | | | | | 2246 | 2338 | 2500 | 2620 | 3082 | 3179 | 3657 | 4235 | | |

The transmittable torques of the clamping connection consider the max. clearance with shaft fit k6 / bore H7, from Ø55 G7/m6. With bigger clearance the torque is reduced.

As shaft material – steel or spheroidal iron with a yield point of approx. 250 N/mm² or more can be used.

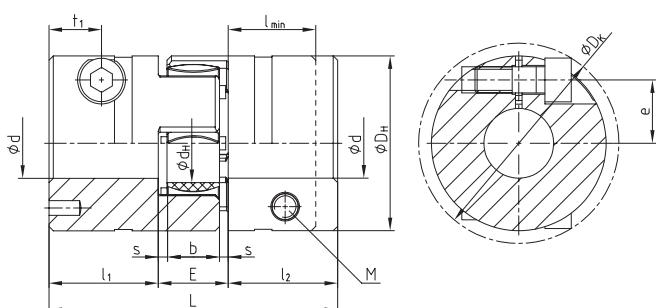
If hollow shafts are used, the strength must be checked (see KTR mounting instructions, KTR Standard 45510 at our homepage www.ktr.com).

| Order form: | ROTEX® 24 | | 98 Sh A | | 6.0 – Ø 24 | | | | 6.0 – Ø 20 | | | |
|-------------|---------------|--|-----------------|--|------------|--|-------------|--|------------|--|-------------|--|
| | Coupling size | | Spider hardness | | Hub design | | Finish bore | | Hub design | | Finish bore | |
| | | | | | | | | | | | | |

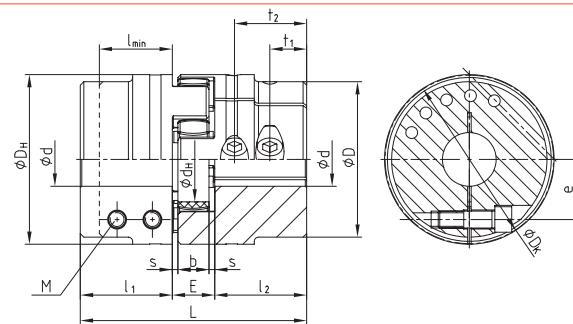
Shaft couplings design clamping hubs



- Standard hub material steel
- Suitable in combination with spline hubs according to DIN 5480, DIN 5482, SAE J498 (see page 25) and in addition DIN 9611, DIN 5463 (ISO 14), DIN 5481 and DIN 5472
- Balanced on the basis of 3D-CAD data
- Axial plug-in, fail-safe
- Protection assessed and confirmed in accordance with EU standard 94/9/EC (only for hub designs 2.1 and 2.3, hub design 2.0 only according to category 3)
- Mounting instructions under www.ktr.com



ROTEX® 19 - 28



ROTEX® 38 - 90

| Size | Dimensions [mm] | | | | | | | | | | | | | | | |
|------|-------------------|-----|--------------------------------|-------------------|----|----|-----|----------------|-----|----------------|-----|----------------|------------------|------------------|--------------------|---------------------|
| | d _{max.} | L | l ₁ /l ₂ | l _{min.} | E | b | s | D _H | D | d _H | M | D _K | t ₁ | t ₂ | e | T _A [Nm] |
| 19 | 20 ¹⁾ | 66 | 25 | 20 | 16 | 12 | 2 | 40 | - | 18 | M6 | 46,0 | 13 | - | 14,5 | 14 |
| 24 | 28 | 78 | 30 | 25 | 18 | 14 | 2 | 55 | - | 27 | M6 | 57,5 | 18 | - | 20,0 | 14 |
| 28 | 38 | 90 | 35 | 30 | 20 | 15 | 2,5 | 65 | - | 30 | M8 | 73,0 | 21 ²⁾ | - | 25,0 | 35 |
| 38 | 42 | 114 | 45 | 35 | 24 | 18 | 3 | 80 | 70 | 38 | M8 | 83,5 | 26 | - | 26,5 | 35 |
| 42 | 50 | 126 | 50 | 42 | 26 | 20 | 3 | 95 | 85 | 46 | M10 | 97,0 | 32 ²⁾ | - | 32,0 | 69 |
| 48 | 55 | 140 | 56 | 46 | 28 | 21 | 3,5 | 105 | 95 | 51 | M12 | 108,5 | 35 ²⁾ | - | 36,0 | 120 |
| 55 | 68 | 160 | 65 | 50 | 30 | 22 | 4 | 120 | 110 | 60 | M12 | 122,0 | 14 | 25 ²⁾ | 42,5 ³⁾ | 120 |
| 65 | 70 | 185 | 75 | 55 | 35 | 26 | 4,5 | 135 | 115 | 68 | M12 | 132,5 | 14 | 28 ²⁾ | 50,0 ³⁾ | 120 |
| 75 | 80 | 210 | 85 | 65 | 40 | 30 | 5 | 160 | 135 | 80 | M16 | 156,0 | 17 | 32 ²⁾ | 57,0 ³⁾ | 295 |
| 90 | 90 | 245 | 100 | 80 | 45 | 34 | 5,5 | 200 | 160 | 100 | M20 | 197,0 | 20 | 40 ²⁾ | 72,0 ³⁾ | 580 |

| Size | Bore area and the corresponding transmittable friction torques [Nm] of ROTEX® clamping design 2.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|--|--|--|--|
| | Ø8 | Ø10 | Ø11 | Ø14 | Ø15 | Ø16 | Ø18 | Ø19 | Ø20 | Ø22 | Ø24 | Ø25 | Ø28 | Ø30 | Ø32 | Ø35 | Ø38 | Ø40 | Ø42 | Ø45 | Ø48 | Ø50 | Ø55 | Ø60 | Ø65 | Ø70 | Ø75 | Ø80 | Ø85 | Ø90 | | | | |
| 19 | 44 | 46 | 47 | 51 | 52 | 53 | 55 | 57 | 58 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 59 | 60 | 64 | 65 | 66 | 68 | 70 | 71 | 73 | 76 | 77 | 80 | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | 139 | 141 | 144 | 148 | 150 | 152 | 157 | 161 | 163 | 170 | 174 | 178 | 185 | 191 | | | | | | | | | | | | | | | | | | |
| 38 | | | | 163 | 165 | 170 | 172 | 174 | 178 | 183 | 185 | 192 | 196 | 200 | 207 | 213 | 217 | 222 | | | | | | | | | | | | | | | | |
| 42 | | | | | | | 291 | 297 | 304 | 308 | 318 | 325 | 332 | 342 | 353 | 360 | 367 | 377 | 387 | 394 | | | | | | | | | | | | | | |
| 48 | | | | | | | | 466 | 476 | 486 | 491 | 506 | 516 | 526 | 542 | 557 | 567 | 577 | 592 | 607 | 618 | 643 | | | | | | | | | | | | |
| 55 | | | | | | | | | | | | | | | | 1185 | 1215 | 1245 | 1266 | 1286 | 1316 | 1347 | 1367 | 1417 | 1468 | 1519 | | | | | | | | |
| 65 | | | | | | | | | | | | | | | | | 1316 | 1347 | 1367 | 1387 | 1417 | 1448 | 1468 | 1519 | 1569 | 1620 | 1671 | | | | | | | |
| 75 | | | | | | | | | | | | | | | | | | 2869 | 2926 | 2983 | 3022 | 3117 | 3213 | 3309 | 3404 | 3500 | 3595 | | | | | | | |
| 90 | | | | | | | | | | | | | | | | | | 5220 | 5310 | 5400 | 5460 | 5610 | 5760 | 5910 | 6060 | 6210 | 6360 | 6510 | 6660 | | | | | |

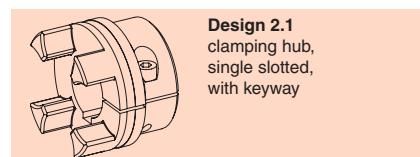
1) With design 2.1 dmax. Ø17 mm

2) With reduced hubs the dimension t₁ varies or the number of screws changes from 2-off to 1-off

3) t₁ and t₂ have a different e dimension



Design 2.0
clamping hub,
single slotted,
without keyway



Design 2.1
clamping hub,
single slotted,
with keyway



Design 2.3
clamping hub with
spline bore
(Please find a selection
from our spline bore pro-
gramme on page 25)

Order form:

| ROTEX® 24 | 98 Sh-A | 2.1 | Ø 24 | 2.0 | Ø 20 |
|---------------|-----------------|------------|-------------|------------|-------------|
| Coupling size | Spider hardness | Hub design | Finish bore | Hub design | Finish bore |

ROTEX® Torsionally flexible couplings

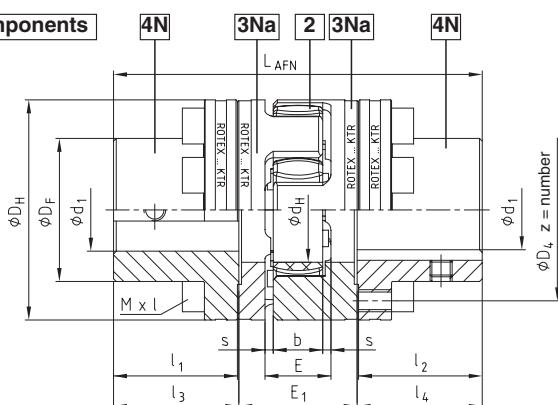
Flange programme

Designs AFN No. 002 and BFN No. 004



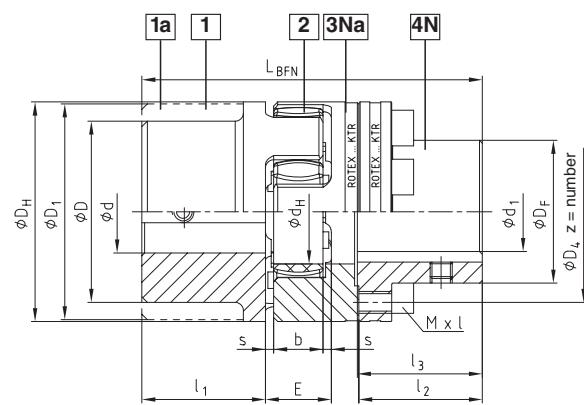
- Double flange design AFN and flange design BFN applicable to heavy machinery
 - Radial assembly of driving or driven machine after disassembly of driving flanges
 - For design AFN - spider interchangeable while coupling installed, without removal of driving or driven machine
 - Power flow can be disconnected while coupling is installed
 - Flange materials: comp. 4 N steel
comp. 3 Na EN-GJS-400-15 (GGG 40)
 - Finish bore according to ISO fit H7,
feather keyway according to DIN 6885 sheet 1 - JS 9
 - Approved according to EC Standard 94/9/EC
 - Mounting instructions under www.ktr.com

Components



Design AFN

—



Design BFN

| Size AFN BFN | Pilot bored Ø d Ø D Ø D ₁ | Component 4N [St] unbored or finish bored Ø d _{1max} | Dimensions | | | | | | | | | | Cyl. screws ³⁾ DIN EN ISO 4762 – 12.9 | | | | | |
|----------------------------------|--|---|----------------|----------------|----------------|----------------|---------------------------------|----|----------------|------|----|---------------------------------|---|------------------|--------|----------|------------------------------|--------------------------------------|
| | | | D _H | D _F | D ₄ | d _H | I ₁ ; I ₂ | E | E ₁ | s | b | I ₃ ; I ₄ | L _{AFN} | L _{BFN} | MxL | No. z | Pitch ²⁾ z x δ | T _A ¹⁾ [Nm] |
| 24 | | 24 | 55 | 36 | 45 | 27 | 30 | 18 | 33 | 2 | 14 | 30,5 | 94 | 86 | M5x16 | 8 | | 10 |
| 28 | | 28 | 65 | 42 | 54 | 30 | 35 | 20 | 39 | 2,5 | 15 | 35,5 | 110 | 100 | M6x20 | 8 | 8 x 45° | 17 |
| 38 | unbored from stock see shaft coupling on pages 26 and 27 basic programme see pages 24 and 25 | 38 | 80 | 52 | 66 | 38 | 45 | 24 | 43 | 3 | 18 | 45,5 | 134 | 124 | M8x22 | 8 | | 41 |
| 42 | | 42 | 95 | 62 | 80 | 46 | 50 | 26 | 48 | 3 | 20 | 51,0 | 150 | 138 | M8x25 | 12 | 16 x 22,5° | 41 |
| 48 | | 48 | 105 | 70 | 90 | 51 | 56 | 28 | 50 | 3,5 | 21 | 57,0 | 164 | 152 | M8x25 | 12 | 16 x 22,5° | 41 |
| 55 | | 55 | 120 | 80 | 102 | 60 | 65 | 30 | 60 | 4 | 22 | 66,0 | 192 | 176 | M10x30 | 8 | 8 x 45° | 83 |
| 65 | | 65 | 135 | 94 | 116 | 68 | 75 | 35 | 65 | 4,5 | 26 | 76,0 | 217 | 201 | M10x30 | 12 | 16 x 22,5° | 83 |
| 75 | | 75 | 160 | 108 | 136 | 80 | 85 | 40 | 75 | 5 | 30 | 86,5 | 248 | 229 | M12x40 | 15 | | 120 |
| 90 | | 100 | 200 | 142 | 172 | 100 | 100 | 45 | 82 | 5,5 | 34 | 101,5 | 285 | 265 | M16x40 | 15 | | 295 |
| 100 | | 110 | 225 | 158 | 195 | 113 | 110 | 50 | 97 | 6 | 38 | 111,5 | 320 | 295 | M16x50 | 15 | | 295 |
| 110 | | 125 | 255 | 178 | 218 | 127 | 120 | 55 | 103 | 6,5 | 42 | 122,0 | 347 | 321 | M20x50 | 15 | 20 x 18° | 580 |
| 125 | | 145 | 290 | 206 | 252 | 147 | 140 | 60 | 116 | 7 | 46 | 142,0 | 400 | 370 | M20x60 | 15 | | 580 |
| 140 | on request | 165 | 320 | 235 | 282 | 165 | 155 | 65 | 128 | 7,5 | 50 | 157,5 | 443 | 409 | M20x60 | 15 | | 580 |
| 160 | | 190 | 370 | 270 | 325 | 190 | 175 | 75 | 146 | 9 | 57 | 177,5 | 501 | 463 | M24x70 | 15 | | 1000 |
| 180 | | 220 | 420 | 315 | 375 | 220 | 195 | 85 | 159 | 10,5 | 64 | 198,0 | 555 | 515 | M24x80 | 18 | 24 x 15° | 1000 |

1) Screw tightening torque T_A [Nm].

2) Thread in driving flange between cams.

3) Coupling is delivered not assembled.



Order form:

| ROTEX®-38 | AFN | St / EN-GJS-400-15 | 92 | 4N – | Ø 38 | 4N – | Ø 35 |
|---------------|--------|--------------------|---------------------------|-----------|-------------|-----------|-------------|
| Coupling size | Design | Material | Spider hardness [Shore A] | Component | Finish bore | Component | Finish bore |

ROTEX® Torsionally flexible couplings

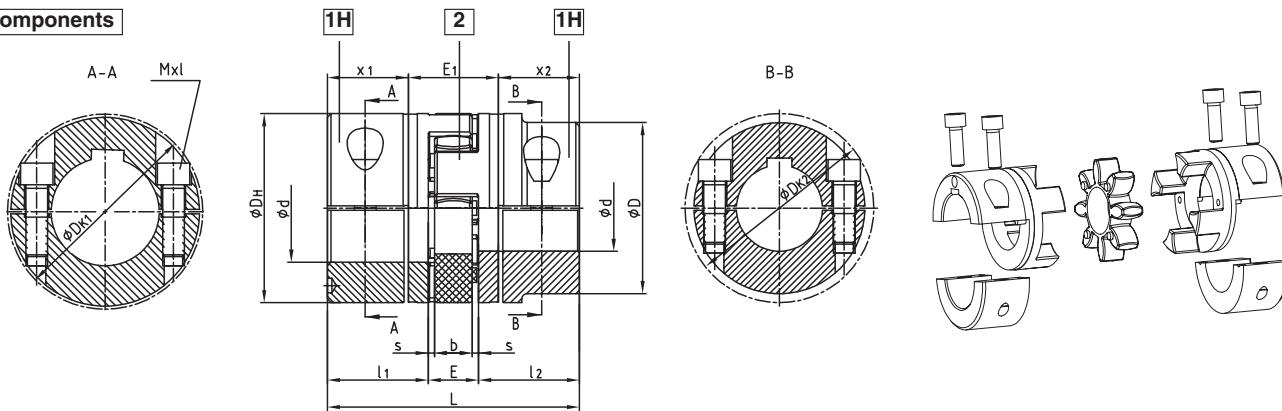
Flange programm

Design A-H



- Assembly/disassembly by means of 4 screws only
- Exchange of spider with no need to shift the driving and driven side (motor and pump)
- Positive-locking and frictionally engaged hub combinations to be assembled radially (dimension E₁ of design AFN = dimension E₁ of A-H)
- Finish bore according to ISO tolerance H7, feather key according to DIN 6885 sheet 1 - JS9
- Please order our separate dimension sheet (M425460)
- Approved according to EC Standard 94/9/EC (Explosion Certificate ATEX 95)
- Mounting instructions under www.ktr.com

Components



Design A-H

| Size A-H | Compo- nent | Finish bore Ød _{max} [mm] | Dimensions [mm] | | | | | | | | | | Cylinder screws DIN EN ISO 4762 | | |
|-------------------|----------------|---|--------------------|---------------------------------|----|----|-----|----------------|-----|-----------------|-----------------|--------------------------------|------------------------------------|--------|------------------------|
| | | | L | l ₁ ; l ₂ | E | b | s | D _H | D | D _{K1} | D _{K2} | x ₁ /x ₂ | E ₁ | MxL | T _A [Nm] |
| 19 | 1H | 20 | 66 | 25 | 16 | 12 | 2 | 40 | - | 46 | - | 17,5 | 31 | M6x16 | 14 |
| 24 | 1H | 28 | 78 | 30 | 18 | 14 | 2 | 55 | - | 57,5 | - | 22,5 | 33 | M6x20 | 14 |
| 28 | 1H | 38 | 90 | 35 | 20 | 15 | 2,5 | 65 | - | 73 | - | 25,5 | 39 | M8x25 | 35 |
| 38 | 1H | 45 | 114 | 45 | 24 | 18 | 3 | 80 | - | 83,5 | - | 35 | 43 | M8x30 | 35 |
| 42 | 1H | 50 | 126 | 50 | 26 | 20 | 3 | 95 | 85 | - | 93,5 | 39 | 48 | M10x30 | 69 |
| | | 55 | | | | | | | - | 97 | - | | | M10x35 | |
| 48 | 1H | 55 | 140 | 56 | 28 | 21 | 3,5 | 105 | 95 | - | 105 | 45 | 50 | M12x35 | 120 |
| | | 60 | | | | | | | - | 108,5 | - | | | M12x40 | |
| 55 | 1H | 65 | 160 | 65 | 30 | 22 | 4 | 120 | 110 | - | 119,5 | 50 | 60 | M12x40 | 120 |
| | | 70 | | | | | | | - | 122 | - | | | M12x45 | |
| 65 | 1H | 70 | 185 | 75 | 35 | 26 | 4,5 | 135 | 115 | - | 123,5 | 60 | 65 | M12x40 | 120 |
| | | 80 | | | | | | | - | 132,5 | - | | | M12x45 | |
| 75 | 1H | 80 | 210 | 85 | 40 | 30 | 5 | 160 | 135 | - | 147,5 | 67,5 | 75 | M16x50 | 295 |
| | | 90 | | | | | | | - | 158 | - | | | M16x60 | |
| 90 | 1H | 90 | 245 | 100 | 45 | 34 | 5,5 | 200 | 160 | - | 176 | 81,5 | 82 | M20x60 | 580 |
| | | 110 | | | | | | | - | 197 | - | | | M20x70 | |
| 100 ¹⁾ | 1H | 110 | 270 | 110 | 50 | 38 | 6 | 225 | 180 | - | 185,5 | 84 | 102 | M16x50 | 295 |
| 110 ¹⁾ | 1H | 120 | 295 | 120 | 55 | 42 | 6,5 | 255 | 200 | - | 208 | 90 | 115 | M20x60 | 580 |
| 125 ¹⁾ | 1H | 140 | 340 | 140 | 60 | 46 | 7 | 290 | 230 | - | 242,5 | 105 | 130 | M24x70 | 1000 |

1) From size 100: 4 clamping screws for each clamping hub.

Please note:

With maximum bore the feather keys are offset to each other by approx. 5°!

Hub materials: up to size 90 S355J2G3
from size 100 EN-GJS-400-15

Order form:

| ROTEX®-38 | A-H | 98 | 1H | Ø38 | 1H | Ø30 |
|---------------|--------|------------------------|-----------|-----------------------------|-----------|-----------------------------|
| Coupling size | Design | Spider hardness [Sh A] | Component | Finish bore Ød ₁ | Component | Finish bore Ød ₂ |

ROTEX® Torsionally flexible couplings

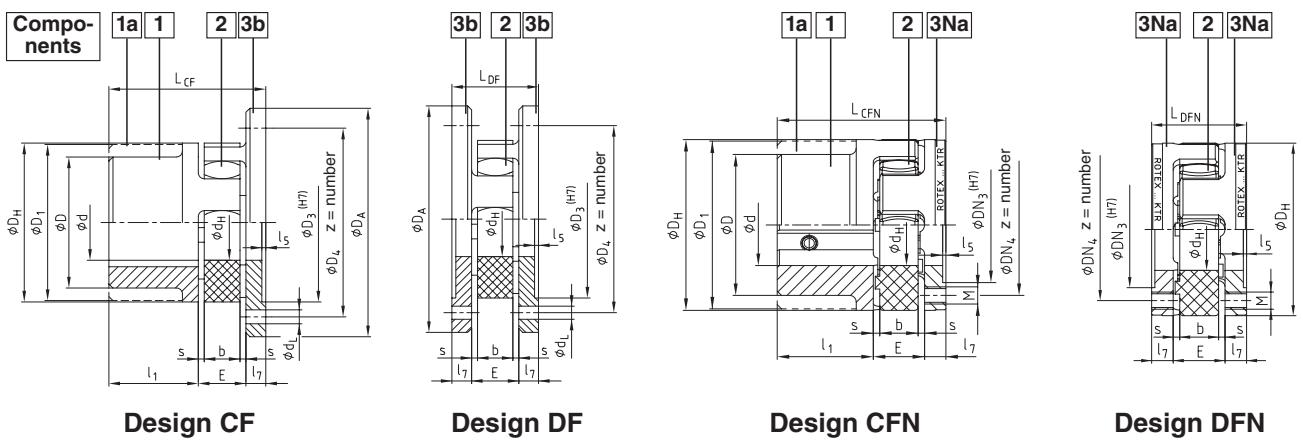
Flange programme

Designs CF a. CFN No. 005 and DF a. DFN No. 006

For advanced drive technology
KTR



- Flange designs applicable to heavy machinery
- CF and CFN - connection flange to shaft
- DF and DFN - double flange design for the connection of driving and driven machine, radial assembly possible without removal of other components, allowing for a quick replacement of spider
- CFN and DFN - particularly small outside diameters
- DF and DFN – compact design
- DFN - for customer-specific mounting flanges
- Flange material part 3b: EN-GJS-400-15 (GGG 40)
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9
- Approved according to EC Standard 94/9/EC (Explosion Certificate ATEX 95)

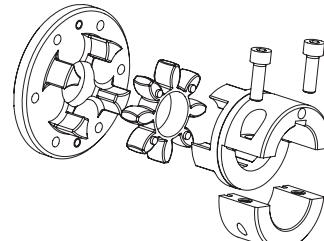


| Size CF/CFN DF/DFN 3b 3Na | Component | Pilot bore Ød, ØD ØD ₁ | General dimensions | | | | | | | Dimensions CF and DF | | | | | | | Dimensions CFN and DFN | | | | | | | |
|---------------------------------------|------------|--|--------------------|----------------|----------------|----|------|----|----------------|----------------------|----------------|----------------|----------------|----------|----------------|-----------------|------------------------|-----------------|-----------------|-----|----------|----------------------------|------------------|------------------|
| | | | D _H | d _H | I ₁ | E | s | b | I ₅ | I ₇ | D _A | D ₃ | D ₄ | No. z | d _L | L _{CF} | L _{DF} | DN ₃ | DN ₄ | M | No. z | Pitch z x $\frac{1}{2}$ | L _{CFN} | L _{DFN} |
| 24 | | | 55 | 27 | 30 | 18 | 2 | 14 | 1,5 | 8 | 80 | 55 | 65 | 5 | 4,5 | 56 | 34 | 36 | 45 | M5 | 8 | | 56 | 34 |
| 28 | | | 65 | 30 | 35 | 20 | 2,5 | 15 | 1,5 | 10 | 100 | 65 | 80 | 6 | 6,6 | 65 | 40 | 44 | 54 | M6 | 8 | 8x45° | 65 | 40 |
| 38 | | | 80 | 38 | 45 | 24 | 3 | 18 | 1,5 | 10 | 115 | 80 | 95 | 6 | 6,6 | 79 | 44 | 54 | 66 | M8 | 8 | | 79 | 44 |
| 42 | | | 95 | 46 | 50 | 26 | 3 | 20 | 2 | 12 | 140 | 95 | 115 | 6 | 9 | 88 | 50 | 65 | 80 | M8 | 12 | | 88 | 50 |
| 48 | | | 105 | 51 | 56 | 28 | 3,5 | 21 | 2 | 12 | 150 | 105 | 125 | 8 | 9 | 96 | 52 | 75 | 90 | M8 | 12 | 16x22,5° | 96 | 52 |
| 55 | | | 120 | 60 | 65 | 30 | 4 | 22 | 2 | 16 | 175 | 120 | 145 | 8 | 11 | 111 | 62 | 84 | 102 | M10 | 8 | 8x45° | 111 | 62 |
| 65 | | | 135 | 68 | 75 | 35 | 4,5 | 26 | 2 | 16 | 190 | 135 | 160 | 10 | 11 | 126 | 67 | 96 | 116 | M10 | 12 | 16x22,5° | 126 | 67 |
| 75 | | | 160 | 80 | 85 | 40 | 5 | 30 | 2,5 | 19 | 215 | 160 | 185 | 10 | 13,5 | 144 | 78 | 112 | 136 | M12 | 15 | | 144 | 78 |
| 90 | | | 200 | 100 | 100 | 45 | 5,5 | 34 | 3 | 20 | 260 | 200 | 225 | 12 | 13,5 | 165 | 85 | 145 | 172 | M16 | 15 | | 165 | 85 |
| 100 | | | 225 | 113 | 110 | 50 | 6 | 38 | 4 | 25 | 285 | 225 | 250 | 12 | 13,5 | 185 | 100 | 165 | 195 | M16 | 15 | | 185 | 100 |
| 110 | | | 255 | 127 | 120 | 55 | 6,5 | 42 | 4 | 26 | 330 | 255 | 290 | 12 | 18 | 201 | 107 | 180 | 218 | M20 | 15 | 20x18° | 201 | 107 |
| 125 | | | 290 | 147 | 140 | 60 | 7 | 46 | 5 | 30 | 370 | 290 | 325 | 16 | 18 | 230 | 120 | 215 | 252 | M20 | 15 | | 230 | 120 |
| 140 | | | 320 | 165 | 155 | 65 | 7,5 | 50 | 5 | 34 | 410 | 320 | 360 | 16 | 22 | 254 | 133 | 245 | 282 | M20 | 15 | | 254 | 133 |
| 160 | | | 370 | 190 | 175 | 75 | 9 | 57 | 5 | 38 | 460 | 370 | 410 | 16 | 22 | 288 | 151 | 280 | 325 | M24 | 15 | | 288 | 151 |
| 180 | on request | | 420 | 220 | 195 | 85 | 10,5 | 64 | 5,5 | 40 | 520 | 420 | 465 | 16 | 26 | 320 | 165 | 330 | 375 | M24 | 18 | 24x15° | 320 | 165 |

Other flanges (dimensions see page 30)

Further type: ROTEX® CF-H
flange drop-out center
design coupling

- Please order our separate dimension sheet (M412069).



Order form:

| | | | | | |
|-----------------------------------|--------|---------------------------|-----------------------|------------------------|-------------|
| ROTEX®-38 | CF | 92 | 3b - EN-GJS-400-15 | 1 EN-GJL-250 - Ø20 | |
| Coupling size | Design | Spider hardness [Shore A] | Component 3b material | Component and material | Finish bore |
| For design DF: 3b – EN-GJS-400-15 | | | | | |

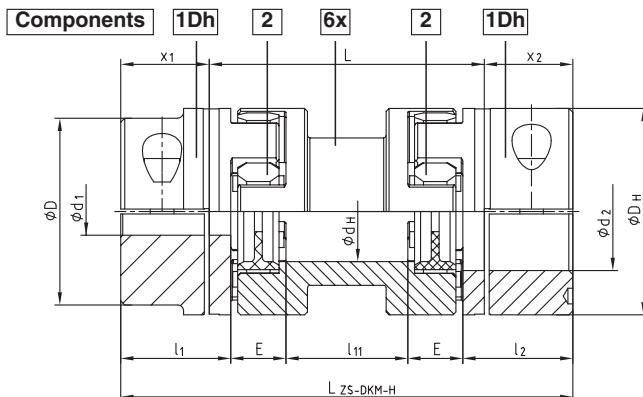
ROTEX® Torsionally flexible couplings

Double cardanic – the innovation in pump design

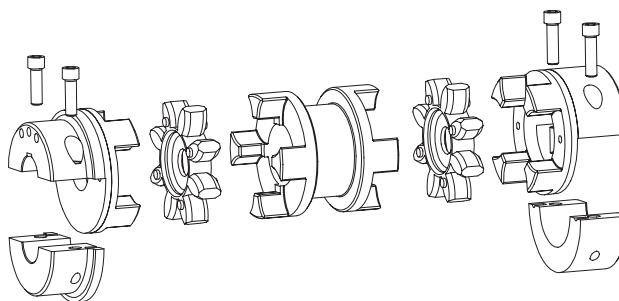
Type ZS-DKM-H



- Standard spacers up to 250 mm shaft distance dimension – ex stock
- Assembly/disassembly through 4 screws only
- Compensates for high shaft displacements due to double-cardanic design
- Remains torsionally symmetric in case of shaft displacements
- Reduced vibration and noise
- Low restoring forces → Increase of the total lifetime of all adjacent components (bearings, seals etc.)
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9
- Approved according to EC Standard 94/9/EC (Explosion Certificate ATEX 95)
- Mounting instructions under www.ktr.com



Type ZS-DKM-H



| Size ZS-DKM-H | Dismountable length L [mm] | Finish bored $\phi d_1/d_2$, max. [mm] | Spider (part 2) ¹⁾ T_{KN} [Nm] | Dimensions [mm] | | | | | | | | Cap screws DIN EN ISO 4762 – 12.9 | | | Max. displacements | | | | Weight ²⁾ [kg] |
|------------------|-------------------------------|---|--|-----------------|-----|-------|------------|------------|----------|-----|----------------|---|---------------|---------------|---------------------|---------------------|----------------|----------------|------------------------------|
| | | | | D_H | D | d_H | $l_1; l_2$ | $x_1; x_2$ | l_{11} | E | $L_{ZS-DKM-H}$ | M | T_A [Nm] | Axial [mm] | at $n = 1500$ 1/min | at $n = 3000$ 1/min | Radial [mm] | Angular [°] | |
| 24 | 100 | 28 | 35 | 55 | - | 27 | 30 | 22,5 | 49 | 18 | 145 | M6x20 | 14 | 1,4 | 1,17 | 0,87 | 1,40 | 1,60 | |
| | 140 | | | | | | | | 89 | | 185 | | | | 1,87 | | | | |
| 28 | 100 | 38 | 95 | 65 | - | 30 | 35 | 25,5 | 41 | 20 | 151 | M8x25 | 35 | 1,5 | 1,06 | 0,80 | 1,90 | 2,20 | |
| | 140 | | | | | | | | 81 | | 191 | | | | 1,76 | | | | |
| 38 | 100 | 45 | 190 | 80 | - | 38 | 45 | 35,5 | 33 | 24 | 171 | M8x30 | 35 | 1,8 | 0,99 | 0,74 | 3,90 | 4,10 | |
| | 140 | | | | | | | | 73 | | 211 | | | | 1,69 | | | | |
| 42 | 100 | 55 | 265 | 95 | 85 | 46 | 50 | 39,0 | 26 | 26 | 178 | M10x30 | 69 | 2,0 | 0,91 | 0,68 | 5,10 | 5,70 | |
| | 140 | | | | | | | | 66 | | 218 | | | | 1,60 | | | | |
| 48 | 100 | 60 | 310 | 105 | 95 | 51 | 56 | 45,0 | 22 | 28 | 190 | M12x35 | 120 | 2,1 | 0,87 | 0,65 | 7,10 | 7,90 | |
| | 140 | | | | | | | | 62 | | 230 | | | | 1,57 | | | | |
| 55 | 100 | | | | | | | | 10 | | 200 | | | | 0,70 | 0,52 | 0,75 | 9,50 | |
| | 140 | | | | | | | | 50 | | 240 | | | | 1,40 | 1,05 | | | |
| | 180 | | | | | 60 | 65 | 50,0 | 90 | 30 | 280 | | | | 2,09 | 1,57 | | | |
| | 200 | | | | | | | | 110 | | 300 | | | | 2,44 | 1,83 | | | |
| 65 | 140 | 80 | 625 | 135 | 115 | 68 | 75 | 60,0 | 40 | 35 | 260 | M12x40 | 120 | 2,6 | 1,31 | 0,98 | 16,10 | 16,80 | |
| | 180 | | | | | | | | 80 | | 300 | | | | 2,00 | 1,50 | | | |
| 75 | 140 | | | | | | | | 25 | | 275 | | | | 1,13 | 0,85 | 23,60 | 26,00 | |
| | 180 | | | | | | | | 65 | | 315 | | | | 1,83 | 1,37 | | | |
| | 200 | | | | | 80 | 85 | 67,5 | 85 | 40 | 335 | | | | 2,19 | 1,64 | | | |
| | 250 | | | | | | | | 135 | | 385 | | | | 3,05 | 2,29 | | | |
| 90 | 180 | 110 | 2400 | 200 | 160 | 100 | 100 | 81,5 | 53 | 45 | 343 | M20x60 | 580 | 3,4 | 1,71 | 1,28 | 48,90 | 52,60 | |
| | 250 | | | | | | | | 123 | | 413 | | | | 2,93 | 2,19 | | | |

1) Maximum torque of coupling $T_{Kmax.} = \text{nominal torque of coupling } T_{KN} \times 2$

Size 24 to 75 spider type 95/98 Sh A-GS; at size 90 spider type 95 Sh A with inner ring
ZS-DKM-H: transmittable torque according to 92 Sh A-GS

2) Refer to max. bore

ATTENTION: The standard line is only for the horizontal assembly. Vertical assembly on request.

Order form:

| ROTEX®-38 | ZS-DKM-H | 140 | 98 | Ø 38 | Ø 30 |
|---------------|----------|----------------------------|---------------------------|-----------------------------|-----------------------------|
| Coupling size | Type | Shaft distance dimension L | Spider hardness [Sh A-GS] | Finish bore Ød ₁ | Finish bore Ød ₂ |

ROTEX® Torsionally flexible couplings

Double-cardanic – the innovation in pump design

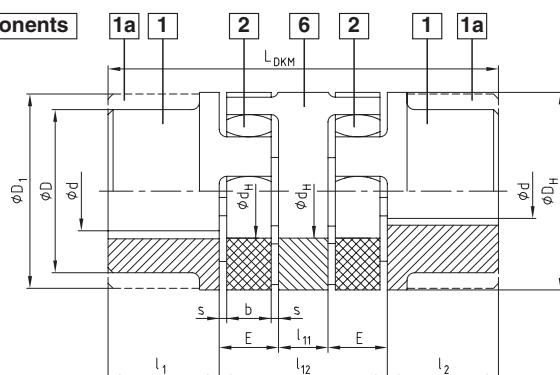
Type DKM No. 018

For advanced
drive
technology

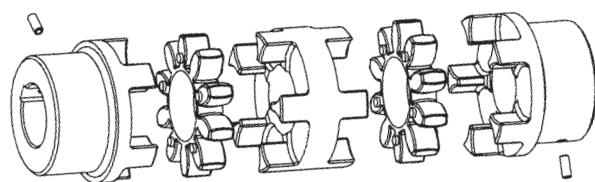


- For high shaft displacements
- 3-part double-cardanic
- Reduced vibration and noise
- The restoring forces resulting from displacements are very low
- Increase of the total lifetime of all adjacent components (bearings, seals etc.)
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9
- Approved according to EC Standard 94/9/EC (Explosion Certificate ATEX 95)
- Mounting instructions under www.ktr.com
- Double-cardanic design without the need for bearing support or external guarding

Components



Type DKM



| Size DKM | Pilot bore Ø_d Ø_D Ø_{D_1} | Spider (part 2) Nominal torque [Nm] | | | Dimensions [mm] | | | | | | | | Max. displacements at $n = 1500 \text{ } 1/\text{min}$ | | | |
|--------------------|--|--|---------|---------|-----------------|-------|------------|----------|----------|----|-----|----|---|----------------|----------------|---------------|
| | | 92 Sh-A | 98 Sh-A | 64 Sh-D | D_H | d_H | $l_1; l_2$ | l_{11} | l_{12} | E | s | b | L_{DKM} | Radial [mm] | Angular [°] | Axial [mm] |
| 19 | | 10 | 17 | 21 | 40 | 18 | 25 | 10 | 42 | 16 | 2 | 12 | 92 | 0,54 | 1,20 | 1,2 |
| 24 | | 35 | 60 | 75 | 55 | 27 | 30 | 16 | 52 | 18 | 2 | 14 | 112 | 0,53 | 0,90 | 1,4 |
| 28 | | 95 | 160 | 200 | 65 | 30 | 35 | 18 | 58 | 20 | 2,5 | 15 | 128 | 0,60 | 0,90 | 1,5 |
| 38 | | 190 | 325 | 405 | 80 | 38 | 45 | 20 | 68 | 24 | 3 | 18 | 158 | 0,77 | 1,00 | 1,8 |
| 42 | | 265 | 450 | 560 | 95 | 46 | 50 | 22 | 74 | 26 | 3 | 20 | 174 | 0,84 | 1,00 | 2,0 |
| 48 | | 310 | 525 | 655 | 105 | 51 | 56 | 24 | 80 | 28 | 3,5 | 21 | 192 | 1,00 | 1,10 | 2,1 |
| 55 | | 410 | 685 | 825 | 120 | 60 | 65 | 28 | 88 | 30 | 4 | 22 | 218 | 1,11 | 1,10 | 2,2 |
| 65 | see shaft coupling page 26 and 27 standard range page 24 and 25 | 625 | 940 | 1175 | 135 | 68 | 75 | 32 | 102 | 35 | 4,5 | 26 | 252 | 1,40 | 1,20 | 2,6 |
| 75 | | 1280 | 1920 | 2400 | 160 | 80 | 85 | 36 | 116 | 40 | 5 | 30 | 286 | 1,59 | 1,20 | 3,0 |
| 90 | | 2400 | 3600 | 4500 | 200 | 100 | 100 | 40 | 130 | 45 | 5,5 | 34 | 330 | 1,78 | 1,20 | 3,4 |

Further type: ZS-DKM1



For detailed information please ask for our total data sheet no. M 369832.

Order form:

| ROTEX®-38 | DKM | EN-GJL-250 | 98 | 1 – Ø 38 | 1 – Ø 30 |
|---------------|------|------------|---------------------------|-----------|-------------|
| Coupling size | Type | Material | Spider hardness [Shore A] | Component | Finish bore |
| | | | | | |

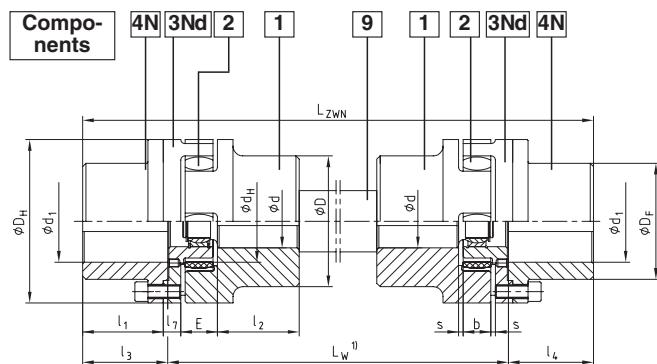
ROTEX® Torsionally flexible couplings

Intermediate shaft programme

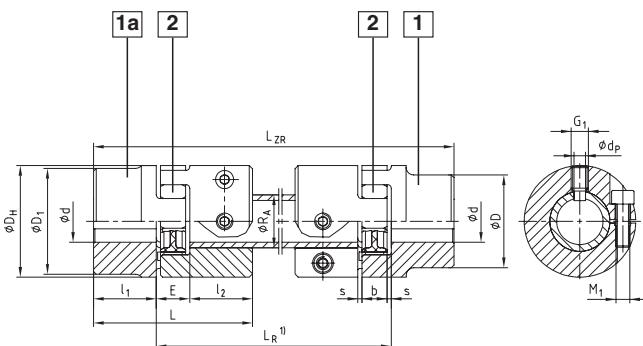
Designs ZWN No. 017 and ZR No. 037



- To connect shaft ends with extended shaft separations
- Double cardanic - thus able to compensate for high radial misalignments
- Good damping properties by the arrangement of two spiders
- Radial assembly possible without displacement of the driving or driven machine
- Design ZWN - intermediate shaft centered via the spherical plain bearings
- Design ZR - flexible within the GS spider - intermediate pipe with bearings, to be disassembled radially
- Designs ZWN and ZR - modification for customers from the stock programme
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9



Design ZWN



Design ZR with GS spider

| Dimensions of ZWN and ZR | | | | | | | | | | | | Dimensions of ZR | | | | | | | | | | |
|--------------------------|--|---|-----------------------|----------------|----------------|---------------------------------|-----|----|-----|---------------------------------|----------------|------------------|--|----------------|------------------------|----|-----------------|-----|------------------------------------|------------------------------------|------------------------------|-------------------------------------|
| Size ZWN ZR | Pilot bore Ød ØD ØD ₁ | Compo- nent 4N [St] finish bore Ød _{1max} | Materials see page 44 | | | | | | | | | L _{ZWN} | Intermediate pipe | | Clamping screw | | L _{ZR} | L | Locking screw G ₁ | Locking pin d _p [mm] | Axial displace- ment [mm] | Angular displace- ment [degrees] |
| | | | D _H | D _F | d _H | I ₁ ; I ₂ | E | s | b | I ₃ ; I ₄ | I ₇ | R _A | C ²⁾ Nm ² rad | M ₁ | T _A [Nm] | | | | | | | |
| 24 | | | 24 | 55 | 36 | 27 | 30 | 18 | 2 | 14 | 30,5 | 8 | 30x4 | 4522 | M6 | 10 | | 78 | M8 | 5,5 | 1,4 | 0,9 |
| 28 | | | 28 | 65 | 42 | 30 | 35 | 20 | 2,5 | 15 | 35,5 | 10 | 35x4 | 7611 | M8 | 25 | | 90 | M10 | 7 | 1,5 | 0,9 |
| 38 | | | 38 | 80 | 52 | 38 | 45 | 24 | 3 | 18 | 45,5 | 10 | 40x4 | 11870 | M8 | 25 | | 114 | M12 | 8,5 | 1,8 | 1,0 |
| 42 | | | 41 | 95 | 62 | 46 | 50 | 26 | 3 | 20 | 51,0 | 12 | 45x4 | 17487 | M10 | 49 | | 126 | M12 | 8,5 | 2,0 | 1,0 |
| 48 | | | 48 | 105 | 70 | 51 | 56 | 28 | 3,5 | 21 | 57,0 | 12 | 50x4 | 24648 | M12 | 86 | | 140 | M16 | 12 | 2,1 | 1,1 |
| 55 | | | 55 | 120 | 80 | 60 | 65 | 30 | 4 | 22 | 66,0 | 16 | 55x4 | 39662 | M10 | 49 | | 160 | M16 | 12 | 2,2 | 1,1 |
| 65 | see shaft coupling on pages 26 and 27 basic programme see pages 24 and 25 | | 65 | 135 | 94 | 68 | 75 | 35 | 4,5 | 26 | 76,0 | 16 | L _{ZWN} = L _w + 2 x I ₃ | | | | | 185 | M16 | 12 | 2,6 | 1,2 |
| 75 | | | 75 | 160 | 108 | 80 | 85 | 40 | 5 | 30 | 86,5 | 19 | L _{ZR} = L _R + 2 x I ₁ | | | | | 210 | M16 | 12 | 3,0 | 1,2 |
| 90 | | | 100 | 200 | 142 | 100 | 100 | 45 | 5,5 | 34 | 101,5 | 20 | | | | | | | | | | |
| 100 | | | 110 | 225 | 158 | 113 | 110 | 50 | 6 | 38 | 111,5 | 25 | | | | | | | | | | |
| 110 | | | 125 | 255 | 178 | 127 | 120 | 55 | 6,5 | 42 | 122,0 | 26 | | | | | | | | | | |
| 125 | | | 145 | 290 | 206 | 147 | 140 | 60 | 7 | 46 | 142,0 | 30 | | | | | | | | | | |

Selection indication for design ZR:

- Friction torques of clamping hubs have to be observed.
Please order dimension sheet no. 5020/000/017-757537.
- Material on request.

1) Please indicate the shaft distance dimension L_w or L_R in all inquiries and orders along with the maximum speed to review the critical whirling speed.

2) Torsion spring stiffness when the intermediate pipe is 1m

Design ZWNV - for vertical assembly with thrust bearing, see dimension sheet no. 5020/000/027-760390.

Order form:

| ROTEX®-38 | ZWN | 1200 | St / EN-GJS-400-15 | 92 | 4N – Ø 38 | 4N – Ø 30 | | |
|---------------|--------|------------------------------------|--------------------|---------------------------|------------|-------------|------------|-------------|
| Coupling size | Design | Shaft distance dim. L _w | Material | Spider hardness [Shore A] | Hub design | Finish bore | Hub design | Finish bore |

ROTEX® Torsionally flexible couplings

Brake drum/Disk brake

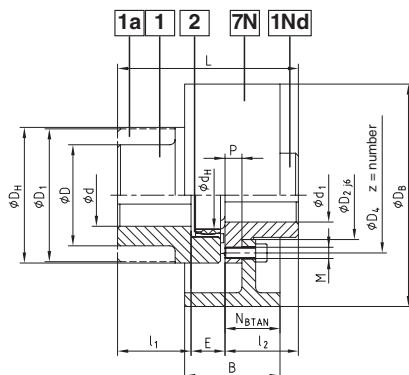
Designs BTAN No. 11 and SBAN No. 013

For advanced
drive
technology

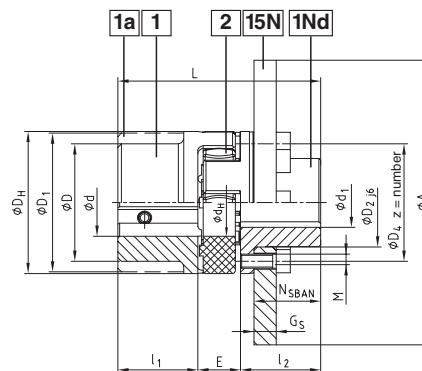


- Shaft coupling BTAN with brake drum to be mounted to external drum brakes with double shoes according to DIN 5431/15435
- Shaft coupling BTAN with disk for braking calipers
- Each coupling type to be combined with various sizes of brake drum disks (see dimension "N")
- The brake drum or disk brake has to be placed onto the shaft end with the biggest mass moment of inertia
- The maximum brake torque must not exceed the maximum torque of the coupling
- Designs BTAN and SBAN - modification for customer from the stock programme
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9
- Mounting instructions under www.ktr.com

Components



Brake drum design BTAN



Disk brake design SBAN

| Size BTAN SBAN | Pilot bore Ø ØD ØD ₁ | Part 1 Nd | Finish bore d ₁ max. | | Dimensions | | | | | | | | | | | | N BTAN | N SBAN |
|------------------------------------|---|------------|------------------------------------|-----|----------------|----------------|----------------|----------------|----|-------------------|-----|---------------------------------|----|-----|------|--|-------------------------|-------------------------|
| | | | EN-GJS- 400-15 (GGG) | St | D _H | D ₂ | D ₄ | d _H | z | pitch 1) z x 3 | M | I ₁ ; I ₂ | E | L | P | | | |
| 38 | see shaft couplings on pages 26 a. 27 | from stock | — | 34 | 80 | 50 | 66 | 38 | 8 | 8 x 45° | M8 | 45 | 24 | 114 | 7,5 | | 37,5 | |
| 42 | | | — | 42 | 95 | 60 | 80 | 46 | 12 | 16 x 22,5° | M8 | 50 | 26 | 126 | 9,5 | | 40,5 | |
| 48 | see basic programme on pages 24 a. 25 | | — | 48 | 105 | 68 | 90 | 51 | 12 | 16 x 22,5° | M8 | 56 | 28 | 140 | 10,5 | | 45,5 | |
| 55 | | | — | 55 | 120 | 78 | 102 | 60 | 8 | 8 x 45° | M10 | 65 | 30 | 160 | 12,5 | | 52,5 | |
| 65 | | | — | 65 | 135 | 92 | 116 | 68 | 12 | 16 x 22,5° | M10 | 75 | 35 | 185 | 13,5 | | 61,5 | |
| 75 | | unbored | — | 75 | 160 | 106 | 136 | 80 | 15 | | M12 | 85 | 40 | 210 | 15,5 | | 69,5 | |
| 90 | | on request | — | 100 | 200 | 140 | 172 | 100 | 15 | | M16 | 100 | 45 | 245 | 18,5 | | 81,5 | |
| 100 | | | 100 | — | 225 | 156 | 195 | 113 | 15 | 20 x 18° | M16 | 110 | 50 | 270 | 20,5 | | 89,5 | |
| 110 | | | 110 | — | 255 | 176 | 218 | 127 | 15 | | M20 | 120 | 55 | 295 | 23,5 | | 96,5 | |
| 125 | | | 130 | — | 290 | 204 | 252 | 147 | 15 | | M20 | 140 | 60 | 340 | 27,5 | | 112,5 | |

1) Thread in the hub between the cams

| Brake drum | ROTEX® BTAN coupling/ Brake drum size dimension „N“ | | | | | | | | | | | Speed 1/min [V] (30 m/s) | Disk brake | ROTEX® SBAN coupling/ Disk size dimension „N“ | | | | | | | | | | | Speed 1/min [V] (30 m/s) |
|---------------|--|----|----|----|----|-----|-----|-----|-----|--------|------|--------------------------------|------------|--|----|----|----|----|----|----|----|-----|-----|-----|--------------------------------|
| | DBxB | 38 | 42 | 48 | 55 | 65 | 75 | 90 | 100 | 110 | 125 | | | øAxGs | 38 | 42 | 48 | 55 | 65 | 75 | 90 | 100 | 110 | 125 | |
| 160x60 | 31 | | | | | | | | | | | 3550 | 200x12,5 | x | | | | | | | | | | | 2800 |
| 200x75 | 36 | 38 | 39 | 41 | | | | | | | | 2800 | 250x12,5 | x | x | x | | | | | | | | | 2240 |
| 250x95 | 44 | 46 | 47 | 49 | 50 | 52 | | | | | | 2240 | 315x16 | | x | x | x | x | x | | | | | | 1800 |
| 315x118 | | 55 | 56 | 58 | 59 | 61 | 64 | | | | | 1800 | 400x16 | | x | x | x | x | x | x | x | x | | | 1400 |
| 400x150 | 68 | 69 | 71 | 72 | 74 | 77 | 79 | 82 | | | | 1400 | 500x16 | | | x | x | x | x | x | x | x | x | | 1120 |
| 500x190 | | | | | 87 | 89 | 92 | 94 | 97 | 101 | 1120 | 630x20 | | | | x | x | x | x | x | x | x | x | 900 | |
| 630x236 | | | | | | 107 | 110 | 112 | 115 | 119 | 900 | 710x20 | | | | x | x | x | x | x | x | x | x | 800 | |
| 710x265 | | | | | | | 123 | 126 | 130 | 800 | | 800x25 | | | | | | | x | x | x | x | | 710 | |
| 800x300 | | | | | | | | 144 | 710 | 900x25 | | | | | | | | x | x | | | | | 630 | |

Other sizes on request according to dimension sheet no.: BTAN:M 380821
SBAN straight: M380822; cranked: M 370065
FNN hub: M 380823

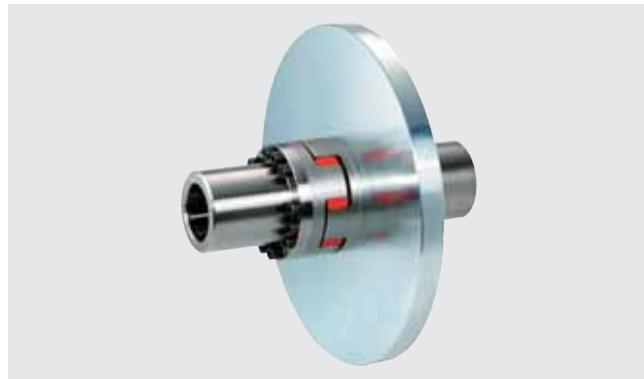
Order form:

| ROTEX®-38 | BTAN | 200 | 92 | 1Nd EN-GJL-250- | Ø 38 | 1/1a St – | Ø 30 |
|------------------|--------|--------------|---------------------------------|-----------------|----------------|----------------|----------------|
| Coupling size | Design | Ø brake drum | Spider hardness [Shore A] | Compo- nent | Finish bore | Compo- nent | Finish bore |

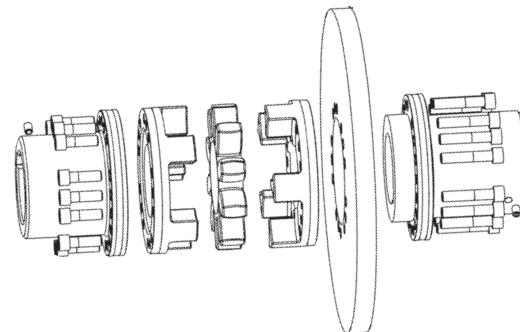
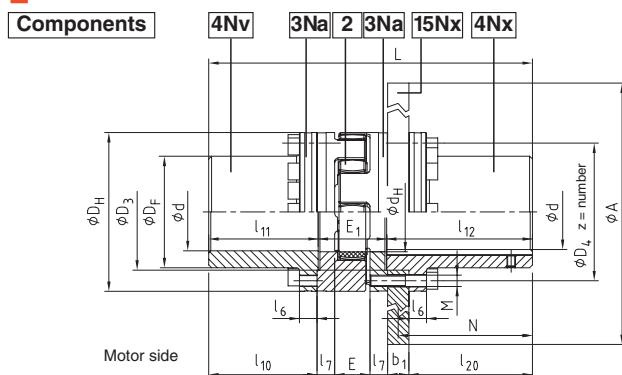
ROTEX® Torsionally flexible couplings

Disc brake

Design AFN-SB special



- Shaft coupling AFN-SB special with disk brake for braking calipers
- The disk brake has to be placed onto the shaft end with the biggest mass moment of inertia
- The maximum braking torque must not exceed the maximum torque of the coupling
- For details about ROTEX AFN-SB spec. please see our dimension sheet no. M 351054
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9
- Mounting instructions under www.ktr.com



| Size AFN-SB spec. | Finish bore d | | Dimensions | | | | | | | | | |
|-------------------------|---------------|------|------------|-------|---------------|-------|-------|-----|-------|------|---------|--------------------------|
| | min. | max. | D_H | D_F | $D_3^{H7}/h7$ | D_4 | d_H | E | E_1 | M | z No. | Pitch = $z \times$ angle |
| 65 | 22 | 65 | 135 | 94 | 96 | 116 | 68 | 35 | 65 | M 10 | 12 | 16 x 22,5° |
| 75 | 30 | 75 | 160 | 108 | 112 | 136 | 80 | 40 | 75 | M 12 | 15 | |
| 90 | 40 | 100 | 200 | 142 | 145 | 172 | 100 | 45 | 82 | M 16 | 15 | |
| 100 | 46 | 110 | 225 | 158 | 165 | 195 | 113 | 50 | 97 | M 16 | 15 | |
| 110 | 60 | 125 | 255 | 178 | 180 | 218 | 127 | 55 | 103 | M 20 | 15 | |
| 125 | 60 | 145 | 290 | 206 | 215 | 252 | 147 | 60 | 116 | M 20 | 15 | |
| 140 | 60 | 165 | 320 | 235 | 245 | 282 | 165 | 65 | 128 | M 20 | 15 | |
| 160 | 80 | 190 | 370 | 270 | 280 | 325 | 190 | 75 | 146 | M 24 | 15 | |

| Size AFN-SB spec. | Torque with ¹⁾ spider 95 Sh A [Nm] | | Max. speed [1/min.] | Max. ¹⁾ brake torque [Nm] | Dimensions | | | | | | | |
|-------------------------|---|------------|------------------------|---|------------|-------|----------|----------|----------|-------------------|-------------------|-------|
| | T_{KN} | T_{Kmax} | | | l_6 | l_7 | l_{10} | l_{11} | l_{12} | l_{20} | N | L |
| 65 | 940 | 1880 | 3450 | 1880 | 15 | 16 | 112,5 | 113,5 | 166,0 | 135 | 150 | 344,5 |
| 75 | 1920 | 3840 | 3250 | 3840 | 20 | 19 | 131,5 | 133,0 | 166,5 | 135 | 150 | 374,5 |
| 90 | 3600 | 7200 | 3000 | 7200 | 20 | 20 | 164,0 | 165,5 | 206,5 | 175 | 190 | 454,0 |
| 100 | 4950 | 9900 | 2800 | 9900 | 25 | 25 | 153,5 | 155,0 | 206,5 | 175 | 190 | 458,5 |
| 110 | 7200 | 14400 | 2600 | 14400 | 25 | 26 | 201,5 | 203,5 | 212,0 | 180 | 195 | 518,5 |
| 125 | 10000 | 20000 | 2250 | 20000 | 30 | 30 | 198,5 | 200,5 | 212,0 | 180 | 195 | 528,5 |
| 140 | 12800 | 25600 | 1800 | 25600 | 30 | 34 | 244,5 | 247,0 | 252,5 | 220 | 235 | 627,5 |
| 160 | 19200 | 38400 | 1500 | 38400 | 34 | 38 | 226,5 | 229,0 | 252,5 | 220 | 235 | 627,5 |
| | | | | | | | | | | 210 ²⁾ | 230 ²⁾ | |

| Size | Disc brake size $\varnothing A \times b_1$ | | | | | | | | | | |
|------|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| | 355 x 30 | 400 x 30 | 450 x 30 | 500 x 30 | 560 x 30 | 630 x 30 | 710 x 30 | 800 x 30 | 900 x 30 | 900 x 40 | 1000 x 40 |
| 65 | X | X | X | | | | | | | | |
| 75 | | X | X | X | | | | | | | |
| 90 | | | X | X | X | | | | | | |
| 100 | | | | X | X | X | | | | | |
| 110 | | | | X | X | X | X | | | | |
| 125 | | | | | | X | X | X | | | |
| 140 | | | | | | | X | X | X | X | X |
| 160 | | | | | | | X | X | X | X | X |

1) The max. braking torque must not exceed the maximum torque of the coupling.

2) Dimensions for a brake disk width b_1 of 40 mm.

Order form:

| ROTEX®-90 | AFN-SB-Spez. | 450 x 30 | 95 | 4Nv – Ø 90 | 4Nx – Ø 90 |
|---------------|--------------|-------------------------|---------------------------------|----------------|----------------|
| Coupling size | Design | Ø disk brake x width | Spider hardness [Shore A] | Compo- nent | Finish bore |

ROTEX® Torsionally flexible couplings

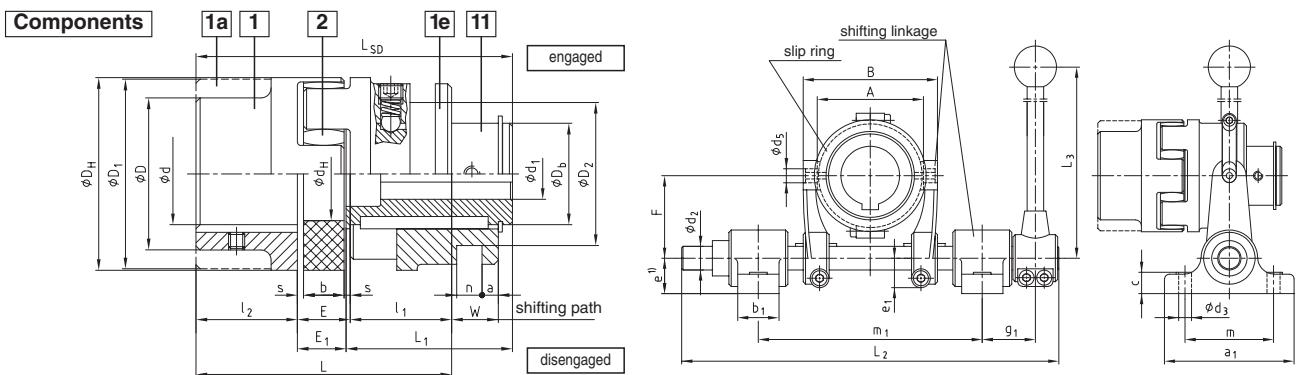
Shiftable at standstill

Design SD No. 015

For advanced drive technology
KTR



- Shiftable shaft coupling for all applications in general engineering
- Easy to engage and disengage driving or driven machines with standstill of machine
- Existing shifting hub to be combined with slip ring and shiftable linkage
- With pilot bored shifting hubs the requested shifting force must be set after final machining
- Other sizes on request according to M 370266
- Complete shifting device consisting of: separated slip ring from red bronze, shift fork, shifting shaft, shifting lever, eye type bearing
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9

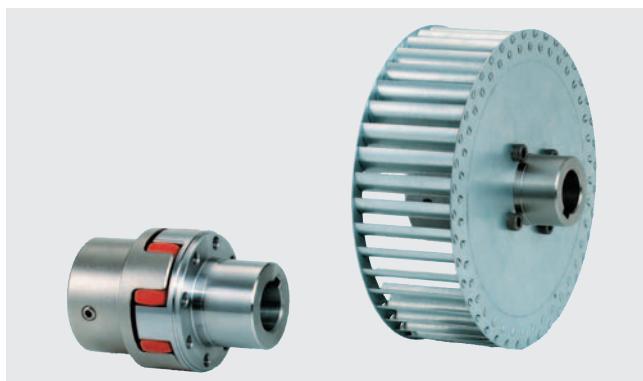


| Size SD | Standard hub part 1; 1a | Shifting hub part 11 | Dimensions | | | | | | | | | | | | | | Shifting force set in [N] | Slip ring size | Slip ring linkage size | | | |
|------------|-------------------------|---|----------------------|--------------------------------------|----------------|----------------------|----------------|----------------|---------------------------------|----|-----|----|----------------|-----|----------------|------|---------------------------|----------------|------------------------|-----|-----|---|
| | | | D; D; D ₁ | Finish bore d ₁ min max | D _H | D ₂ ± 0,1 | D _b | d _H | l ₁ ; l ₂ | E | s | b | E ₁ | L | L ₁ | W | a | n ± 0,1 | L _{SD} | | | |
| 24 | | | 8 | 18 | 55 | 41 | 30 | 27 | 30 | 18 | 2 | 14 | 16,5 | 78 | 51,5 | 16 | 6 | 98 | 110 | — | — | |
| 28 | | | 10 | 22 | 65 | 58 | 36 | 30 | 35 | 20 | 2,5 | 15 | 18 | 90 | 60 | 17,5 | 8 | 113 | 130 | — | — | |
| 38 | | | 12 | 28 | 80 | 70,5 | 45 | 38 | 45 | 24 | 3 | 18 | 22 | 114 | 73 | 21 | 8 | 12,5 | 140 | 150 | 1,1 | 1 |
| 42 | | | 14 | 32 | 95 | 70,5 | 50 | 46 | 50 | 26 | 3 | 20 | 24 | 126 | 82 | 23 | 8 | 12,5 | 156 | 180 | 1,1 | 1 |
| 48 | | | 15 | 40 | 105 | 89,5 | 60 | 51 | 56 | 28 | 3,5 | 21 | 25,5 | 140 | 90,5 | 24,5 | 6 | 17,5 | 172 | 200 | 2,2 | 2 |
| 55 | | | 18 | 48 | 120 | 112,5 | 70 | 60 | 65 | 30 | 4 | 22 | 27 | 160 | 103 | 26 | 6 | 18 | 195 | 250 | 3,3 | 3 |
| 65 | | | 20 | 55 | 135 | 112,5 | 80 | 68 | 75 | 35 | 4,5 | 26 | 32 | 185 | 120 | 30,5 | 7 | 18 | 227 | 280 | 3,3 | 3 |
| 75 | | | 25 | 65 | 160 | 130,5 | 95 | 80 | 85 | 40 | 5 | 30 | 37 | 210 | 135 | 35 | 6 | 20,5 | 257 | 350 | 4,4 | 3 |
| 90 | | | 28 | 75 | 200 | 164,5 | 110 | 100 | 100 | 45 | 5,5 | 34 | 41 | 245 | 152 | 39,5 | 8 | 25,5 | 293 | 350 | 5,5 | 4 |
| 100 | | | 30 | 80 | 225 | 164,5 | 115 | 113 | 110 | 50 | 6 | 38 | 46 | 270 | 169 | 44 | 14 | 25,5 | 325 | 380 | 5,5 | 4 |
| 110 | | | 35 | 85 | 255 | 164,5 | 125 | 127 | 120 | 55 | 6,5 | 42 | 51 | 295 | 184 | 48,5 | 18,5 | 25,5 | 355 | 450 | 5,5 | 4 |
| 125 | on request | see shaft coupling on pages 26 and 27 basic programme see pages 24 and 25 | 40 | 100 | 290 | 210,5 | 145 | 147 | 140 | 60 | 7 | 46 | 55,5 | 340 | 208,5 | 53 | 18,5 | 30,5 | 404 | 500 | 6,6 | 5 |

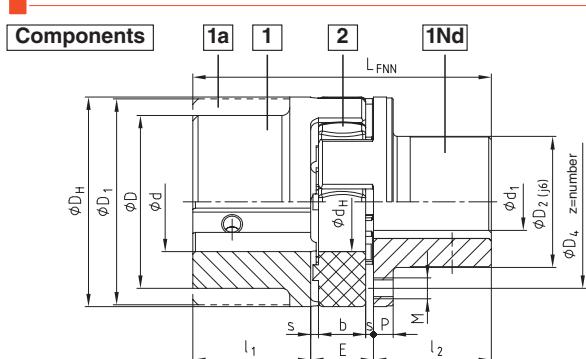
| Size SD | Dimensions of slip ring and shiftable linkage | | | | | | | | | | | | | | | | | Max. speed n for slip ring [1/min] | | |
|------------|---|----------------|----------------|----|----------------|----------------|----------------|-----------------|----------------|------|----------------|----------------|----------------|-----|--------------------|--------------------|-----|------------------------------------|------|------|
| | Size | a ₁ | b ₁ | c | d ₂ | d ₃ | d ₅ | e ¹⁾ | e ₁ | F | g ₁ | L ₂ | L ₃ | m | m ₁ min | m ₁ max | A | B | | |
| 38 | 1 | 110 | 35 | 18 | 20 | 11 | 12 | 30 | 25 | 70 | 55 | 320 | 400 | 75 | 180 | 190 | 90 | 114 | 3280 | |
| 42 | 1 | | | | | | | | | | | | | | | | | | | |
| 48 | 2 | | | | 25 | | | | 27 | 97,5 | 60 | 430 | 450 | | 240 | 270 | 111 | 151 | 2550 | |
| 55 | 3 | | | | | | | | | | | | | | | | | | | |
| 65 | 3 | 140 | 40 | | | 30 | | 17 | 40 | 32,5 | 120 | 70 | 490 | 600 | 100 | 280 | 310 | 140 | 180 | 2120 |
| 75 | 3 | | | | 25 | | | 13,5 | | | | | | | | | | 170 | 210 | 1710 |
| 90 | 4 | | | | | | | | | | | | | | | | | | | |
| 100 | 4 | 160 | 45 | | | 35 | | 21 | 50 | 37,5 | 147,5 | 70 | 565 | 750 | 120 | 321 | 365 | 200 | 244 | 1360 |
| 110 | 4 | | | | | | | | | | | | | | | | | | | |
| 125 | 5 | | | | | | | | | | | | | | | | | | | |

1) In case of a through base plate the dimension "e" of the shiftable linkage size 5 has to be increased by at least 10 mm.

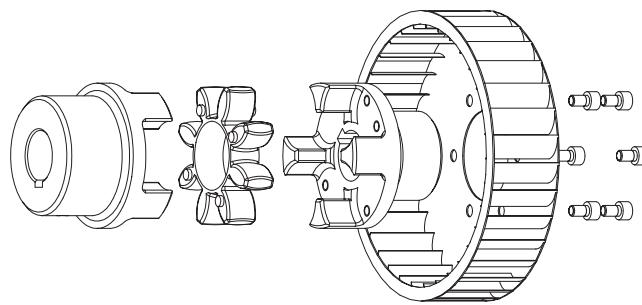
Designs FNN No. 021 and FNN with fan



- Damping vibrations and reducing noise
- Ideal compensation for misalignment due to crowned teeth
- Coupling as plug-in design
- Easy checking of wear by sight control
- Coupling to be equipped with any fan
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9



Design FNN



Design FNN with fan (type 1)

| Size FNN | Pilot bore $\varnothing d$ $\varnothing D$ $\varnothing D_1$ | Finish bore $\varnothing d_1$ max. part 1ND steel | Dimensions [mm] | | | | | | | | | | | | | |
|-------------|--|--|-----------------|-------|-------|-------|-----|-----|-----|------------|-----|------|----------|--------------------|------------|-----|
| | | | D_H | D_2 | D_4 | d_H | E | s | b | $I_1; I_2$ | P | M | Number z | Pitch z x angle | L_{FNN} | |
| 28 | | | 24 | 65 | 40 | 54 | 30 | 20 | 2,5 | 15 | 35 | 6,5 | M6 | 8 | 8 x 45° | 90 |
| 38 | | | 34 | 80 | 50 | 66 | 38 | 24 | 3 | 18 | 45 | 7,5 | M8 | 8 | | 114 |
| 42 | | | 42 | 95 | 60 | 80 | 46 | 26 | 3 | 20 | 50 | 9,5 | M8 | 12 | | 126 |
| 48 | | | 48 | 105 | 68 | 90 | 51 | 28 | 3,5 | 21 | 56 | 10,5 | M8 | 12 | 16 x 22,5° | 140 |
| 55 | see shaft coupling on pages 26 and 27 basic programme see pages 24 and 25 | | 55 | 120 | 78 | 102 | 60 | 30 | 4 | 22 | 65 | 12,5 | M10 | 8 | 8 x 45° | 160 |
| 65 | | | 65 | 135 | 92 | 116 | 68 | 35 | 4,5 | 26 | 75 | 13,5 | M10 | 12 | 16 x 22,5° | 185 |
| 75 | | | 75 | 160 | 106 | 136 | 80 | 40 | 5 | 30 | 85 | 15,5 | M12 | 15 | 20 x 18° | 210 |
| 90 | | | 100 | 200 | 140 | 172 | 100 | 45 | 5,5 | 34 | 100 | 18,5 | M16 | 15 | | 245 |

Other sizes on request

Type 1: Fan screwed on

The ROTEX® coupling can be supplied with the fan screwed on. Specific connection dimensions of customers such as pitch circle of threads, size of threads and number of centering of fans should be mentioned in your inquiry.



Type 2: Fans injection-moulded

Low prices due to production volumes depending on quantity.



Type 3: Fans pressed or glued on

Special surface forming (knurling according to DIN 82) allows the fan to be pressed or glued onto the hub collar.

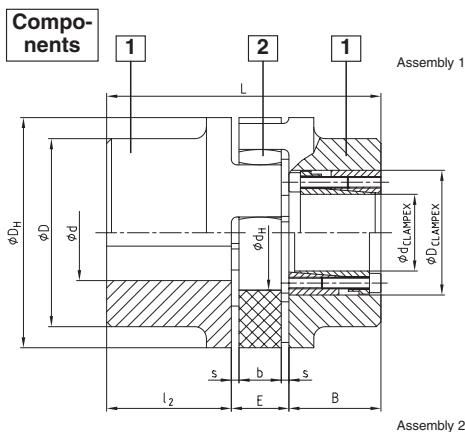


ROTEX® Torsionally flexible couplings

Further designs

Clamping hubs

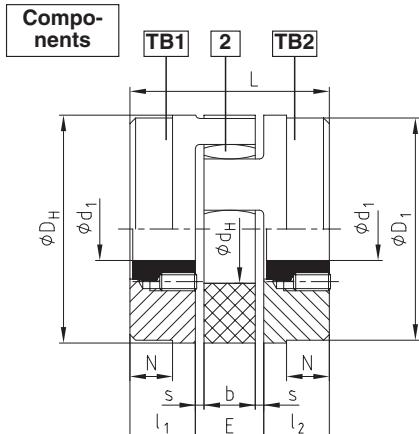
For advanced
drive
technology



| ROTEX® Size | Pilot bore Ød ØD ØD ₁ | Hub material | CLAMPEX® KTR 200 | | | | Dimensions [mm] | | | | | | | |
|-------------|---|--------------|------------------------------------|---|-----|----------------|-----------------|----|------|----------------|-----|----------------|-----|--|
| | | | Largest poss. KTR clamping set dxD | Transmittable torques and force T [Nm] F _{AX} [kN] | B | l ₂ | E | s | b | D _H | D | d _H | L | |
| 42 | see shaft couplings on pages 26 and 27 basic programme see pages 24 and 25 N-GIS-400-15 (GGG40) | Steel part 1 | 30x55 | 769 | 51 | 48 | 50 | 26 | 3 | 20 | 95 | — | 46 | |
| 48 | | | 35x60 | 1197 | 68 | 48 | 56 | 28 | 3,5 | 21 | 105 | — | 51 | |
| 55 | | | 45x75 | 2132 | 95 | 59 | 65 | 30 | 4 | 22 | 120 | — | 60 | |
| 65 | | | 45x75 | 2132 | 95 | 59 | 75 | 35 | 4,5 | 26 | 135 | 115 | 68 | |
| 75 | | | 50x80 | 3159 | 126 | 59 | 85 | 40 | 5 | 30 | 160 | 135 | 80 | |
| 90 | | | 65x95 | 4107 | 126 | 59 | 100 | 45 | 5,5 | 34 | 200 | 160 | 100 | |
| 100 | | | 65x95 | 4107 | 126 | 59 | 110 | 50 | 6 | 38 | 225 | 180 | 113 | |
| 110 | | | 70x110 | 7023 | 201 | 70 | 120 | 55 | 6,5 | 42 | 255 | 200 | 127 | |
| 125 | | | 80x120 | 8026 | 201 | 70 | 140 | 60 | 7 | 46 | 290 | 230 | 147 | |
| 140 | | | 95x135 | 11373 | 239 | 70 | 155 | 65 | 7,5 | 50 | 320 | 255 | 165 | |
| 160 | | | 110x155 | 16068 | 292 | 80 | 175 | 75 | 9 | 57 | 370 | 290 | 190 | |
| 180 | | | 120x165 | 21910 | 365 | 80 | 195 | 85 | 10,5 | 64 | 420 | 325 | 220 | |

ROTEX® design No. 001 with clamping set CLAMPEX® KTR 200
Modification for customer from the stock programme

| KTR 200 Size d x D | Length B | Transmittable torque and axial force DIN EN ISO 4762-12.9 | | Clamping screw z x M T _A [Nm] | KTR 200 Size d x D | Length B | Transmittable torque and axial force DIN EN ISO 4762-12.9 | | Clamping screw z x M T _A [Nm] | KTR 200 Size d x D | Length B | Transmittable torque and axial force DIN EN ISO 4762-12.9 | | Clamping screw z x M T _A [Nm] | | | |
|--------------------|----------|---|----------------------|--|--------------------|----------|---|----------------------|--|--------------------|----------|---|----------------------|--|-----|--------|----|
| | | T [Nm] | F _{AX} [kN] | | | | T [Nm] | F _{AX} [kN] | | | | T [Nm] | F _{AX} [kN] | | | | |
| 20x47 | 48 | 513 | 51 | 6xM6 | 17 | 38x65 | 48 | 1299 | 68 | 8xM6 | 17 | 65x95 | 59 | 4107 | 126 | 8xM8 | 41 |
| 22x47 | 48 | 564 | 51 | 6xM6 | 17 | 40x65 | 48 | 1368 | 68 | 8xM6 | 17 | 70x110 | 70 | 7023 | 201 | 8xM10 | 83 |
| 24x50 | 48 | 616 | 51 | 6xM6 | 17 | 42x75 | 59 | 1990 | 95 | 6xM8 | 41 | 75x115 | 70 | 7524 | 201 | 8xM10 | 83 |
| 25x50 | 48 | 641 | 51 | 6xM6 | 17 | 45x75 | 59 | 2132 | 95 | 6xM8 | 41 | 80x120 | 70 | 8026 | 201 | 8xM10 | 83 |
| 28x55 | 48 | 718 | 51 | 6xM6 | 17 | 48x80 | 59 | 3033 | 126 | 8xM8 | 41 | 85x125 | 70 | 10659 | 251 | 10xM10 | 83 |
| 30x55 | 48 | 769 | 51 | 6xM6 | 17 | 50x80 | 59 | 3159 | 126 | 8xM8 | 41 | 90x130 | 70 | 11286 | 251 | 10xM10 | 83 |
| 32x60 | 48 | 1094 | 68 | 8xM6 | 17 | 55x85 | 59 | 3475 | 126 | 8xM8 | 41 | 95x135 | 66 | 11373 | 239 | 10xM10 | 83 |
| 35x60 | 48 | 1197 | 68 | 8xM6 | 17 | 60x90 | 59 | 3791 | 126 | 8xM8 | 41 | for further details please see CLAMPEX® catalogue | | | | | |



| ROTEX® Size | Taper clamping bush | Dimensions [mm] | | | | | | | | Fixing screw for taper bush | | | | |
|-------------|---------------------|---------------------------------|----|-----|----|-----|----|----------------|----------------|-----------------------------|-------------|-------------|--------|---------------------|
| | | l ₁ , l ₂ | E | s | b | L | N | D _H | D ₁ | d _H | Size [inch] | Length [mm] | Number | T _A [Nm] |
| 28 | 1108 | 23 | 20 | 2,5 | 15 | 66 | — | 65 | 65 | 30 | 1/4" | 13 | 2 | 5,7 |
| 38 | 1108 | 23 | 24 | 3 | 18 | 70 | 15 | 80 | 78 | 38 | 1/4" | 13 | 2 | 5,7 |
| 42 | 1610 | 26 | 26 | 3 | 20 | 78 | 16 | 95 | 94 | 46 | 3/8" | 16 | 2 | 20 |
| 48 | 1615 | 39 | 28 | 3,5 | 21 | 106 | 28 | 105 | 104 | 51 | 3/8" | 16 | 2 | 20 |
| 55 | 2012 | 33 | 30 | 4 | 22 | 96 | 20 | 120 | 118 | 60 | 7/16" | 22 | 2 | 31 |
| 75 | 2517 | 52 | 40 | 5 | 30 | 144 | 36 | 160 | 135 | 80 | 1/2" | 25 | 2 | 49 |
| | •3020 | | | | | | | | | | 5/8" | 32 | | 92 |

- Only available for design TB 2
- TB1 modification for customer from the stock programme
- * 1. BSW thread

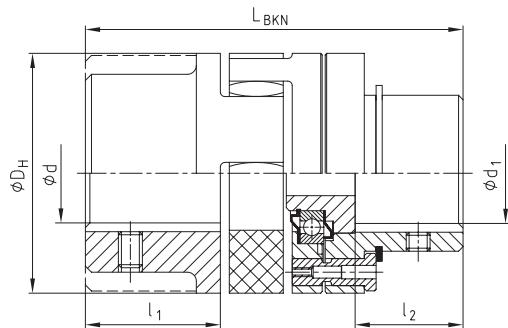
ROTEX® - design No. 001 with taper clamping bush
Coupling type TB 1/1; TB 2/2; TB 1/2 possible

* Please order our separate dimension sheet (M 373054).

| Size of taper bushes | Bore dimensions d ₁ available; H7 fit – keyways to DIN 6885 sheet 1 | | | | | | | | | | | | | |
|----------------------|--|----|----|----|----|----|----|----|----|----|----|-----|----|----|
| | * Bores with keyway (flat design) to DIN 6885 sheet 3 | | | | | | | | | | | | | |
| 1108 | 10 | 11 | 12 | 14 | 16 | 18 | 19 | 20 | 22 | 24 | 25 | 28* | | |
| 1610 | 14 | 16 | 18 | 19 | 20 | 22 | 24 | 25 | 28 | 30 | 32 | 35 | 38 | 40 |
| 1615 | 14 | 16 | 18 | 19 | 20 | 22 | 24 | 25 | 28 | 30 | 32 | 35 | 38 | 40 |
| 2012 | 14 | 16 | 18 | 19 | 20 | 22 | 24 | 25 | 28 | 30 | 32 | 35 | 38 | 40 |
| 2517 | 16 | 18 | 19 | 20 | 22 | 24 | 25 | 28 | 30 | 32 | 35 | 38 | 40 | 42 |
| 3020 | 25 | 28 | 30 | 35 | 38 | 40 | 42 | 45 | 48 | 50 | 55 | 60 | 70 | 75 |

ROTEX® Torsionally flexible couplings

Further designs Torque limiters



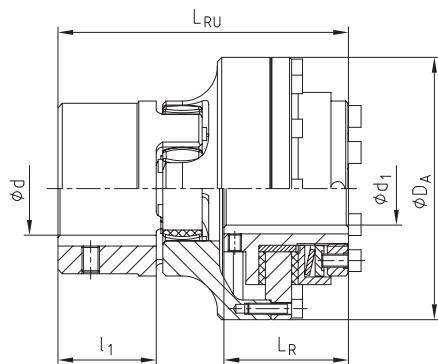
| ROTEX® Size | d | d ₁ max | l ₁ | l ₂ | L _{BKN} | D _H | Min. fracture torque [Nm] |
|-------------|---|--------------------|----------------|----------------|------------------|----------------|---------------------------|
| 28 | | 28 | 35 | 25 | 101 | 65 | 100 |
| 38 | | 38 | 45 | 35 | 125 | 80 | 190 |
| 42 | | 42 | 50 | 40 | 139 | 95 | 250 |
| 48 | | 48 | 56 | 46 | 153 | 105 | 300 |
| 55 | | 55 | 65 | 55 | 177 | 120 | 400 |
| 65 | | 65 | 75 | 65 | 202 | 135 | 500 |
| 75 | | 75 | 85 | 70 | 230 | 160 | 600 |
| 90 | | 100 | 100 | 85 | 266 | 200 | 700 |

ROTEX® BKN shear pin coupling, design BKN No. 009

Modification for customer from the stock programme.

Please mention the fracture torques with your order!

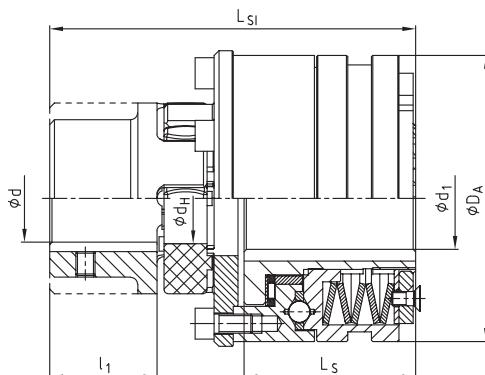
For further details please see dim. sheet no. 5020/000/009-760313



| ROTEX® Size | RUFLEX® Size | Slipping torques [Nm] | d | d ₁ max | D _A | l ₁ | L _R | L _{RU} |
|-------------|--------------|-----------------------|---|--------------------|----------------|----------------|----------------|-----------------|
| 14 | 00 | 0,5-5 | | 10 | 44 | 11 | 31 | 59 |
| 19 | 0 | 2-20 | | 20 ₁₎ | 63 | 25 | 33 | 78 |
| 24 | 01 | 5-70 | | 22 | 80 | 30 | 45 | 98 |
| 28 | 1 | 20-200 | | 25 | 98 | 35 | 52 | 113 |
| 38 | 2 | 25-400 | | 35 | 120 | 45 | 57 | 133 |
| 48 | 3 | 50-800 | | 45 | 162 | 56 | 68 | 166 |
| 75 | 4 | 90-1600 | | 55 | 185 | 85 | 78 | 205 |

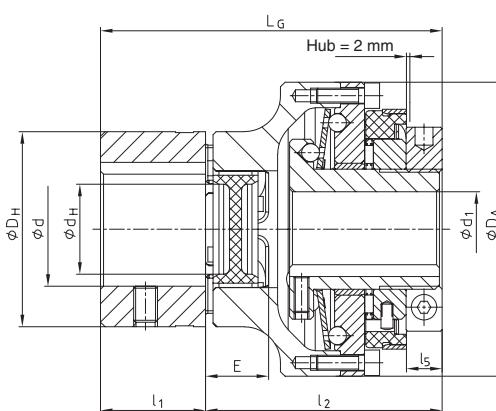
1) Finish bore exceeding ϕ 19, keyway according to 6885 sheet 3

ROTEX® - RUFLEX® - coupling with torque limiter,
design No. 070



| ROTEX® Size | KTR-SI design | KTR-SI Size | Ratchet torques [Nm] | d | d ₁ max | D _A | l ₁ | L _S | L _{SI} |
|-------------|---------------|-------------|----------------------|---|--------------------|----------------|----------------|----------------|-----------------|
| 28 | DK | 2 | 12-200 | | 35 | 100 | 35 | 56 | 124 |
| | SR a. SGR | 0 | 5-40 | | 20 | 55 | | 34,5 | 102 |
| 38 | DK | 3 | 25-450 | | 45 | 120 | 45 | 73 | 155 |
| | SR a. SGR | 1 | 12-100 | | 25 | 82 | | 48 | 129,5 |
| 48 | DK | 4 | 50-1000 | | 55 | 146 | 56 | 93,5 | 194 |
| | SR a. SGR | 2 | 25-200 | | 35 | 100 | | 56 | 155 |
| 55 | DK | 5 | 85-2000 | | 65 | 176 | 65 | 107 | 222,5 |
| | SR a. SGR | 3 | 50-450 | | 45 | 120 | | 73 | 186 |
| 75 | DK | - | - | | - | 85 | | - | - |
| | SR a. SGR | 4 | 100-2000 | | 55 | 146 | | 93,5 | 241,5 |
| 90 | DK | - | - | | - | - | 100 | - | - |
| | SR a. SGR | 5 | 170-3400 | | 65 | 176 | | 107 | 275,5 |

ROTEX® - KTR-SI coupling with torque limiter, design No. 070



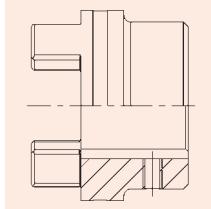
| ROTEX® GS Size | SYNTEX® Size | SYNTEX® torque range disk spring [Nm] | | | | Max. bore | D _A | D _H | d _H | E | L | L _G | l ₁ | l ₂ | l ₅ | |
|----------------|--------------|---------------------------------------|-----------------|-----------------|-----------------|-----------|----------------|----------------|----------------|----|----|----------------|----------------|----------------|----------------|----|
| | | DK ₁ | DK ₂ | SK ₁ | SK ₂ | | | | | | | | | | | |
| 24 | 20 | 6-20 | 15-30 | 10-20 | 20-65 | 28 | 20 | 80 | 55 | 27 | 18 | 45 | 100 | 30 | 70 | 10 |
| 28 | 25 | 20-60 | 45-90 | 25-65 | 40-100 | 38 | 25 | 98 | 65 | 30 | 20 | 50 | 113 | 35 | 78 | 11 |
| 38 | 35 | 25-80 | 75-150 | 30-100 | 70-180 | 45 | 35 | 120 | 80 | 38 | 24 | 60 | 136 | 45 | 91 | 13 |
| 48 | 50 | 60-180 | 175-300 | 80-280 | 160-400 | 62 | 50 | 162 | 105 | 51 | 28 | 70 | 167 | 56 | 111 | 14 |

SYNTEX® backlash-free, torsionally rigid overload coupling
with shaft coupling ROTEX® GS

Hub designs

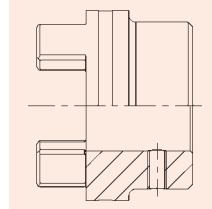
Due to the numerous applications of ROTEX® for many different mounting situations, this coupling system is available with various hub designs. These designs mainly differ in that they offer either positive or frictionally engaged connections, but mounting situations like, for example, gear shafts with integrated transmission cams or similar applications are covered, too.

Design 1.0 hub with keyway and fixing screw



Positive power transmission; permissible torque depends on the permissible surface pressure. Not suitable for backlash-free power transmission for heavily reversing operation.

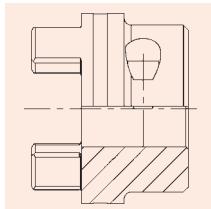
Design 1.1 hub without feather key, with setscrew



Positive torque transmission for connections pressed or glued in. (No ATEX release)

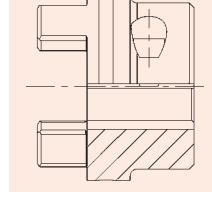
Design 1.3 hub with spline bore (page 25)

Design 2.0 clamping hub, single slotted, without keyway



Frictionally engaged, backlash-free shaft-hub-connection. Transmittable torques depend on the bore diameter. (Only for ATEX category 3)

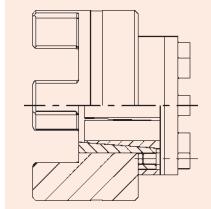
Design 2.1 clamping hub, single slotted, with keyway



Positive power transmission with additional frictional tightness. The frictional tightness avoids or reduces reversal backlash. Surface pressure of the keyway connection is reduced.

Design 2.3 clamping hub with spline bore (page 25/29)

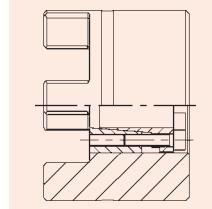
Design 4.2 with CLAMPEX® clamping set KTR 250



Frictionally engaged, backlash-free shaft-hub-connection for transmission of average torques.

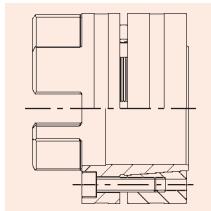
Design 4.1 w. CLAMPEX® clamping set KTR 200/

f. KTR 400 Ausf. 4.3



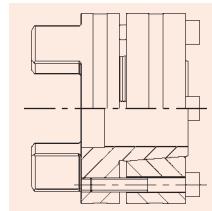
Frictionally engaged, backlash-free shaft-hub-connection for transmission of larger torques. Largest clamping set possible depends on the hub collar diameter. Clamping set screw fitting possible both internally and externally. For details of calculation please see CLAMPEX® catalogue.

Design 6.0 clamping ring hub (see ROTEX® GS series)



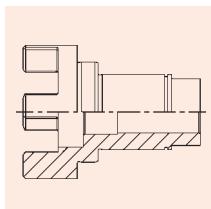
Integrated frictionally engaged shaft-hub-connection for transmission of higher torques. Screw fitting on elastomer side. For details about torques and dimensions see on page 28. Suitable for high speeds.

Design 6.5 clamping ring hub



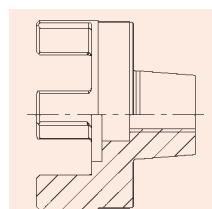
Design equal to 6.0, but clamping screws to be fitted externally. Suitable, for example, for disassembly of radial spacer tubes (special design).

Special hubs on request



Special lengthened hub/shaft with integrated cams.

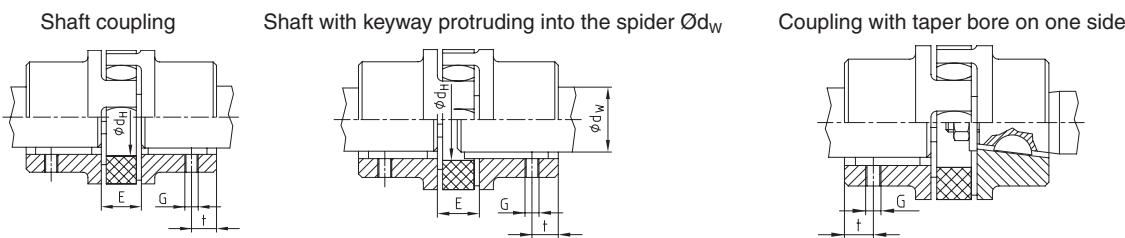
Special hubs on request



Special hub with external taper as a frictionally engaged connection.

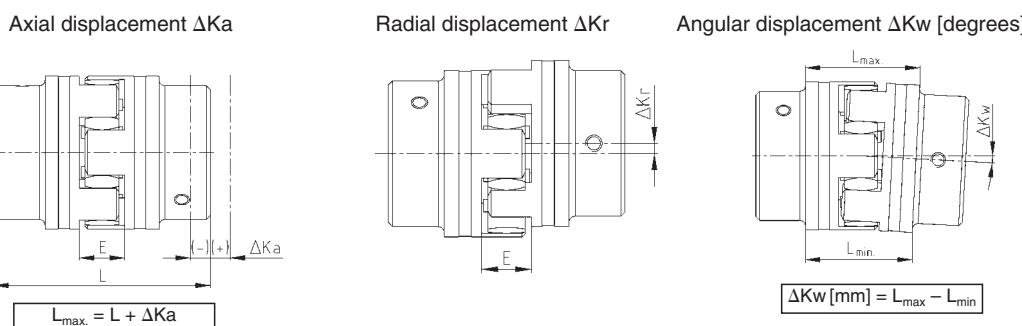
Installation · Displacements · Pull-off threads · Threads for setscrews

Installation



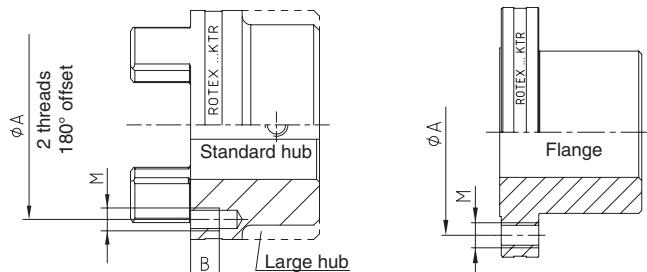
| ROTEX® Size | 14 | 19 | 24 | 28 | 38 | 42 | 48 | 55 | 65 | 75 | 90 | 100 | 110 | 125 | 140 | 160 | 180 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Mounting dimension | | | | | | | | | | | | | | | | | |
| Distance dimension E | 13 | 16 | 18 | 20 | 24 | 26 | 28 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 75 | 85 |
| Dimension d_H | 10 | 18 | 27 | 30 | 38 | 46 | 51 | 60 | 68 | 80 | 100 | 113 | 127 | 147 | 165 | 190 | 220 |
| Dimension d_W | 7 | 12 | 20 | 22 | 28 | 36 | 40 | 48 | 55 | 65 | 80 | 95 | 100 | 120 | 135 | 160 | 185 |
| Displacements | | | | | | | | | | | | | | | | | |
| Max. axial displacement ΔKa [mm] | -0,5 +1,0 | -0,5 +1,2 | -0,5 +1,4 | -0,7 +1,5 | -0,7 +1,8 | -1,0 +2,0 | -1,0 +2,1 | -1,0 +2,2 | -1,0 +2,6 | -1,5 +3,0 | -1,5 +3,4 | -1,5 +3,8 | -2,0 +4,2 | -2,0 +4,6 | -2,0 +5,0 | -2,5 +5,7 | -3,0 +6,4 |
| Max. radial displacement with n = 1500 1/min. ΔKr [mm] | 0,17 | 0,20 | 0,22 | 0,25 | 0,28 | 0,32 | 0,36 | 0,38 | 0,42 | 0,48 | 0,50 | 0,52 | 0,55 | 0,60 | 0,62 | 0,64 | 0,68 |
| Max. angular displacement with n = 1500 1/min. ΔKw [mm] | 1,2 0,67 | 1,2 0,82 | 0,9 0,85 | 0,9 1,05 | 1,0 1,35 | 1,0 1,70 | 1,1 2,00 | 1,1 2,30 | 1,2 2,70 | 1,2 3,30 | 1,2 4,30 | 1,2 4,80 | 1,3 5,60 | 1,3 6,50 | 1,2 6,60 | 1,2 7,60 | 1,2 9,00 |
| Pull-off threads | | | | | | | | | | | | | | | | | |
| Standard hub dimension A | — | 25 | 32 | 38 | 50 | 55 | 68 | 80 | 90 | 98 | 115 | 145 | 165 | 190 | 210 | 230 | 270 |
| Stand. hub from steel, large hub and flange dimension A | — | 32 | 45 | 54 | 66 | 80 | 90 | 102 | 116 | 136 | 172 | 195 | 222 | 252 | 282 | 325 | 375 |
| Dimension M | — | M4 | M5 | M6 | M8 | M8 | M8 | M10 | M10 | M12 | M16 | M16 | M16 | M20 | M20 | M24 | M24 |
| Dimension B | — | 6 | 6 | 8 | 10 | 10 | 10 | 12 | 12 | 15 | 20 | 20 | 20 | 25 | 25 | 30 | 30 |
| Threads for setscrews | | | | | | | | | | | | | | | | | |
| Dimension G | M4 | M5 | M5 | M8 | M8 | M8 | M8 | M10 | M10 | M10 | M12 | M12 | M16 | M16 | M20 | M20 | M20 |
| Dimension t | 5 | 10 | 10 | 15 | 15 | 20 | 20 | 20 | 20 | 25 | 30 | 30 | 35 | 40 | 45 | 50 | 50 |
| Tightening torque T_A [Nm] | 1,5 | 2 | 2 | 10 | 10 | 10 | 10 | 17 | 17 | 17 | 40 | 40 | 80 | 80 | 140 | 140 | 140 |

Displacements



The above-mentioned figures of displacement of flexible ROTEX® couplings are standard values taking into account the load of the coupling up to the rated torque T_{KN} and an operating speed $n = 1500$ 1/min along with an ambient temperature of + 30° C. For different operating conditions please order our data sheet KTR-N 20240 regarding displacements for ROTEX®. The displacement figures may only be used one by one - if they appear simultaneously, they must be limited in proportion. Care should be taken to maintain the distance dimension E accurately in order to allow for axial clearance of the coupling while in operation. In case of an axial shifting the dimension "L" has to be considered as a minimum dimension in order to keep the spider free from pressure on its faces. Detailed mounting instructions are shown on our homepage (<http://www.ktr.com>).

Fixing screws/Pull-off threads



Standard hubs with pull-off threads are produced on request only.

Standard flanges up to size 90 with 2 pull-off threads, from size 100 with 3 pull-off threads.

Fixing screws to DIN EN ISO 4762 for couplings with brake drums or disk brakes, spline clamping hubs

| Cap screw DIN EN ISO 4762 – 12.9 | | | | | | | |
|------------------------------------|----|----|-----|-----|-----|-----|------|
| M4 | M6 | M8 | M10 | M12 | M16 | M20 | M24 |
| Screw tightening torque T_A [Nm] | | | | | | | |
| 4,1 | 14 | 35 | 69 | 120 | 295 | 580 | 1000 |

ROTEX® Torsionally flexible couplings

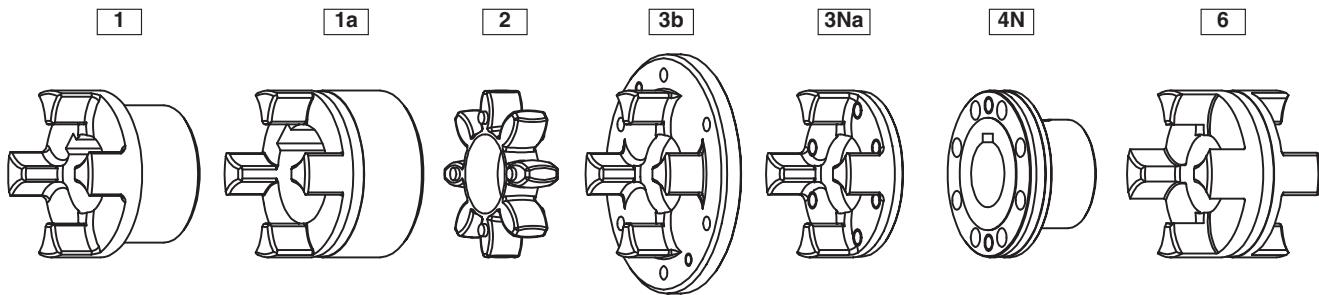
Weights - Mass moments of inertia

Individual components

For advanced
drive
technology



Components



ROTEX® components

| ROTEX® Size | Standard hub | | | | Large hub | | | Spider | Driving flange | | | Coupling flange | DKM-spacer | |
|-------------|-------------------------------|---------------------------|------------------------------|-------------------|--------------------|---------------------------|------------------|---|------------------------------|-------------------|------------------------------|-------------------|--------------------|--|
| | Part 1 | | | Part 1a | | Part 2 | | | Part 3b | Part 3Na | Part 4N | Part 6 | | |
| | Weight/Mass moment of inertia | | | | | | | | | | | | | |
| | Alu [kg] [kgm²] | EN-GJL-250 [kg] [kgm²] | EN-GJS-400-15 [kg] [kgm²] | St [kg] [kgm²] | Alu [kg] [kgm²] | EN-GJL-250 [kg] [kgm²] | S [kg] [kgm²] | Polyurethane (Vulkollan) [kg] [kgm²] | EN-GJS-400-15 [kg] [kgm²] | St [kg] [kgm²] | EN-GJS-400-15 [kg] [kgm²] | St [kg] [kgm²] | Alu [kg] [kgm²] | |
| 14 | – | – | – | – | 0,020 | – | – | 0,0046 | – | – | – | – | – | |
| | – | – | – | – | 0,000003 | – | – | – | – | – | – | – | – | |
| 19 | 0,054 | – | – | – | 0,066 | – | 0,18 | 0,009 | – | – | – | – | – | |
| | 0,00001 | – | – | – | 0,00002 | – | 0,00005 | 0,000003 | – | – | – | – | – | |
| 24 | 0,11 | – | – | – | 0,160 | – | 0,37 | 0,02 | 0,03 | 0,18 | – | 0,24 | 0,14 | |
| | 0,00004 | – | – | – | 0,00009 | – | 0,00021 | 0,00001 | 0,0003 | 0,00009 | – | 0,00009 | 0,00006 | |
| 28 | 0,18 | – | – | – | 0,255 | – | 0,64 | 0,03 | 0,58 | 0,30 | – | 0,39 | 0,22 | |
| | 0,00009 | – | – | – | 0,0002 | – | 0,00048 | 0,00002 | 0,0008 | 0,00021 | – | 0,0002 | 0,00013 | |
| 38 | 0,38 | 1,01 | – | 1,00 | 0,42 | 1,17 | 1,27 | 0,06 | 0,80 | – | 0,313 | 0,62 | 0,35 | |
| | 0,0003 | 0,0009 | – | 0,00098 | 0,00044 | 0,0012 | 0,0014 | 0,00005 | 0,001 | – | 0,00047 | 0,0005 | 0,00035 | |
| 42 | 0,58 | 1,56 | – | 1,81 | 0,71 | 1,88 | 1,84 | 0,09 | 1,41 | – | 0,76 | 1,05 | 0,51 | |
| | 0,0007 | 0,002 | – | 0,0025 | 0,0011 | 0,0029 | 0,0017 | 0,0001 | 0,004 | – | 0,0012 | 0,0011 | 0,0007 | |
| 48 | 0,80 | 2,15 | – | 2,43 | 0,90 | 2,55 | 2,74 | 0,11 | 1,62 | – | 0,89 | 1,38 | 0,67 | |
| | 0,0011 | 0,003 | – | 0,0041 | 0,0016 | 0,0047 | 0,0052 | 0,0002 | 0,005 | – | 0,0017 | 0,0018 | 0,001 | |
| 55 | – | 3,25 | – | 3,70 | – | 3,69 | 3,93 | 0,14 | 2,82 | – | 1,47 | 2,08 | 0,97 | |
| | – | 0,006 | – | 0,0082 | – | 0,0085 | 0,010 | 0,0003 | 0,012 | – | 0,0035 | 0,0035 | 0,002 | |
| 65 | – | 4,96 | – | 4,50 | – | – | 5,85 | 0,21 | 3,46 | – | 1,89 | 3,00 | 1,43 | |
| | – | 0,012 | – | 0,012 | – | – | 0,019 | 0,0005 | 0,017 | – | 0,0059 | 0,0064 | 0,004 | |
| 75 | – | 7,82 | – | 7,18 | – | – | 9,06 | 0,39 | 5,03 | – | 3,0 | 4,86 | 2,2 | |
| | – | 0,026 | – | 0,026 | – | – | 0,040 | 0,002 | 0,032 | – | 0,0125 | 0,015 | 0,009 | |
| 90 | – | 13,4 | – | 12,5 | – | – | 17,0 | 0,7 | 7,9 | – | 4,87 | 8,67 | 3,9 | |
| | – | 0,067 | – | 0,067 | – | – | 0,117 | 0,004 | 0,073 | – | 0,033 | 0,042 | 0,025 | |
| 100 | – | – | 16,8 | – | – | – | – | 0,9 | – | – | 7,55 | 12,6 | – | |
| | – | – | 0,11 | – | – | – | – | 0,007 | – | – | 0,063 | 0,077 | – | |
| 110 | – | – | 23,9 | – | – | – | – | 1,4 | – | – | 10,15 | 16,9 | – | |
| | – | – | 0,20 | – | – | – | – | 0,015 | – | – | 0,11 | 0,132 | – | |
| 125 | – | – | 35,6 | – | – | – | – | 1,9 | – | – | 14,9 | 26,0 | – | |
| | – | – | 0,39 | – | – | – | – | 0,025 | – | – | 0,21 | 0,27 | – | |
| 140 | – | – | 48,3 | – | – | – | – | 2,5 | – | – | 20,1 | 35,3 | – | |
| | – | – | 0,65 | – | – | – | – | 0,04 | – | – | 0,34 | 0,45 | – | |
| 160 | – | – | 70,3 | – | – | – | – | 3,9 | – | – | 30,4 | 53,1 | – | |
| | – | – | 1,26 | – | – | – | – | 0,08 | – | – | 0,70 | 0,89 | – | |
| 180 | – | – | 108 | – | – | – | – | 6,5 | – | – | 38,7 | 79,8 | – | |
| | – | – | 2,35 | – | – | – | – | 0,173 | – | – | 1,14 | 1,78 | – | |

Weight and mass moment of inertia each refer to the maximum finish bore without keyway.

ROTEX® Torsionally flexible couplings

Weights - Mass moments of inertia



Complete couplings

| Size | AFN | | BFN | | CF | | DF | | ZWN ¹⁾ | | SD | |
|------|----------------------|--|----------------------|--|----------------------|--|----------------------|--|----------------------|--|----------------------|--|
| | Weight in [kg] | Mass moment of inertia J kg [kgm ²] |
| 19 | — | — | — | — | — | — | — | — | — | — | 0,42 | 0,00008 |
| 24 | 0,86 | 0,00037 | 0,81 | 0,0004 | 0,61 | 0,0004 | 0,62 | 0,0005 | 1,62 | 0,0008 | 0,81 | 0,0003 |
| 28 | 1,41 | 0,00084 | 1,36 | 0,0009 | 1,08 | 0,001 | 1,19 | 0,0015 | 2,72 | 0,0018 | 1,42 | 0,0007 |
| 38 | 1,93 | 0,002 | 2,003 | 0,0019 | 1,87 | 0,002 | 1,66 | 0,0028 | 4,006 | 0,0038 | 2,71 | 0,0022 |
| 42 | 3,71 | 0,0047 | 3,46 | 0,0044 | 3,06 | 0,005 | 2,91 | 0,0072 | 6,92 | 0,0088 | 4,41 | 0,005 |
| 48 | 4,65 | 0,0072 | 4,53 | 0,0084 | 3,88 | 0,008 | 3,35 | 0,0097 | 9,06 | 0,0168 | 5,75 | 0,008 |
| 55 | 7,24 | 0,0143 | 6,94 | 0,0133 | 6,21 | 0,018 | 5,78 | 0,023 | 13,4 | 0,0266 | 9,1 | 0,017 |
| 65 | 9,99 | 0,025 | 10,06 | 0,0248 | 8,63 | 0,029 | 7,13 | 0,034 | 20,12 | 0,0496 | 13,0 | 0,033 |
| 75 | 16,11 | 0,057 | 16,07 | 0,0555 | 13,2 | 0,060 | 10,5 | 0,065 | 32,14 | 0,111 | 21,2 | 0,073 |
| 90 | 27,78 | 0,154 | 27,64 | 0,146 | 22,0 | 0,144 | 16,5 | 0,15 | 55,28 | 0,292 | 34,6 | 0,165 |
| 100 | 41,2 | 0,287 | 37,85 | 0,257 | 31,2 | 0,256 | 24,0 | 0,267 | 75,7 | 0,514 | 48,1 | 0,288 |
| 110 | 55,5 | 0,534 | 52,35 | 0,457 | 44,1 | 0,47 | 34,2 | 0,51 | 104,7 | 0,914 | 68,4 | 0,528 |
| 125 | 83,7 | 0,985 | 78,4 | 0,895 | 64,9 | 0,878 | 48,0 | 0,91 | 156,8 | 1,79 | 103,1 | 1,05 |
| 140 | 113,3 | 1,62 | 106,2 | 1,48 | 88,1 | 1,47 | 66,5 | 1,54 | 212,4 | 2,96 | 140,3 | 1,78 |
| 160 | 170,9 | 3,26 | 157,7 | 2,93 | 127,9 | 2,72 | 94,0 | 2,71 | 315,4 | 5,86 | 210,2 | 3,53 |
| 180 | 243,5 | 6,01 | 233 | 5,44 | 179,5 | 4,86 | 128,5 | 4,78 | 466 | 10,88 | 306,9 | 6,68 |

| Size | BTAN/SBAN without drum/without disk | |
|------|--|---|
| | Weight in [kg] | Mass moment of inertia J kg [kgm ²] |
| 28 | 0,90 | 0,0004 |
| 38 | 1,84 | 0,0016 |
| 42 | 2,84 | 0,0033 |
| 48 | 3,95 | 0,0052 |
| 55 | 6,02 | 0,0103 |
| 65 | 8,81 | 0,021 |
| 75 | 14,31 | 0,045 |
| 90 | 25,4 | 0,122 |
| 100 | 35,3 | 0,213 |
| 110 | 49,9 | 0,387 |
| 125 | 74,8 | 0,75 |
| 140 | 100,7 | 1,232 |
| 160 | 150,9 | 2,44 |
| 180 | 218,4 | 4,54 |

| Drum for BTAN ²⁾ | | |
|-------------------------------------|----------------------|---|
| Brake disk D _B x B | Weight in [kg] | Mass moment of inertia J kg [kgm ²] |
| 160 x 60 | 2,12 | 0,01 |
| 200 x 75 | 3,45 | 0,03 |
| 250 x 95 | 6,87 | 0,08 |
| 315 x 118 | 14,95 | 0,28 |
| 400 x 150 | 31,20 | 0,89 |
| 500 x 190 | 60,00 | 2,70 |
| 630 x 236 | 112,00 | 8,01 |
| 710 x 265 | 161,00 | 14,9 |
| 800 x 300 | 202,00 | 27,2 |

| Disk for SBAN ²⁾ | | |
|-------------------------------------|----------------------|---|
| Disk brake A x G _S | Weight in [kg] | Mass moment of inertia J kg [kgm ²] |
| 200 x 12,5 | 2,928 | 0,015367 |
| 250 x 12,5 | 4,662 | 0,037584 |
| 315 x 16 | 8,618 | 0,111829 |
| 400 x 16 | 15,230 | 0,315206 |
| 500 x 16 | 23,964 | 0,769963 |
| 630 x 20 | 47,716 | 2,426359 |
| 710 x 20 | 60,934 | 3,915100 |
| 800 x 25 | 94,913 | 7,878998 |
| 900 x 25 | 118,954 | 12,609089 |
| 1000 x 25 | 148,240 | 19,234941 |

Weights and mass moments of inertia refer to standard hub with maximum bore without keyway.

1) Weights and mass moments of inertia without intermediate shaft.

2) Selection of ROTEX® brake drum - disk brake please see page 36.



www.ktr.com