Torsionally flexible couplings:

ROTEX®
Torsionally flexible couplings

POLY-NORM®
Short torsionally flexible shaft couplings

POLY
Torsionally flexible couplings, not failsafe

REVOLEX®
Compression sleeve couplings

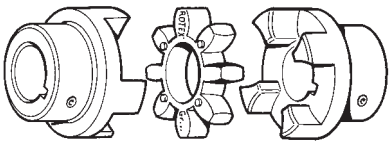
Tyre couplings
Flexible, torsionally flexible couplings

Pin & bush couplings
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.



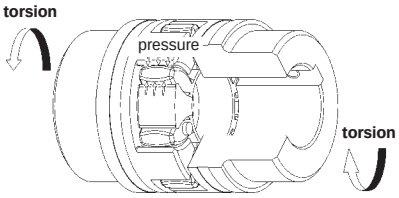
General description

ROTEX® - couplings are torsionally flexible and designed for positive torque transmission. They are fail-safe. Operational vibrations and shocks are efficiently dampened and reduced. The two congruent coupling halves with concave claws on the inside are periphally 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.

load on spider

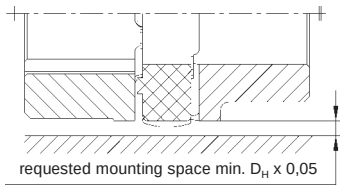


Performance

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.

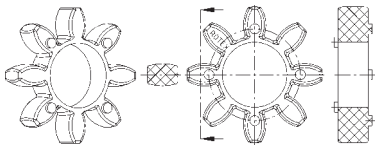
Spiders

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.

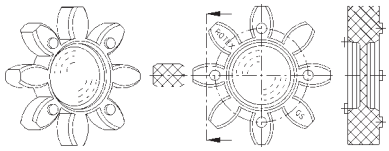
The spiders are extremely resistant to wear, oil, ozone and ageing.
In addition, they are resistant to hydrolysis (ideal for tropical climates).

The high internal damping protects the drive against dynamic overload.

standard spider
tooth flanks crowned



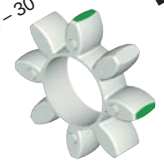
GS spiders
tooth flanks rectangular, with web



Spider types

- standard spider 92 Sh A
- suitable for all hub materials
- for all applications in general engineering/hydraulics
- good dynamic properties
- temperature range from – 40 °C to + 90 °C

- spider 95/98 Sh A
- spider 95/98 Sh A
- optimum combination with hub material EN-GJL-250 (GG 25); steel; EN-GJS-400-15 (GGG 40)
- transmitting high torques yet damping vibrations
- temperature range from – 30 °C to + 90 °C



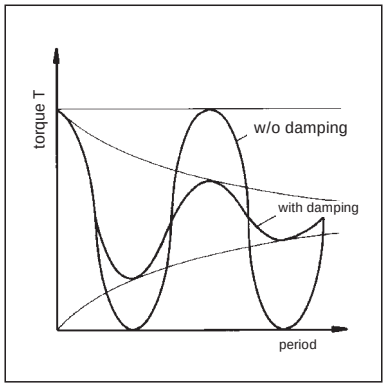
- spider 64 Sh D-F
- optimum combination with hub material steel; EN-GJS-400-15 (GGG 40)
- transmitting twice the torque of spider 92 Sh A
- small twisting angle
- spider suitable for critical drives
- resistant to hydrolysis

Spider types – Materials, physics, properties

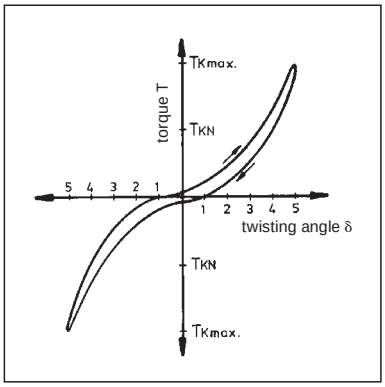
Standard spiders						
Spider type hardness- (Shore)	Identification colour	Material	Perm. temperature range (°C)		Available for coupling size	Typical applications
			Continuous temperature	Max. temperature short time		
92 Sh A	yellow	polyurethane	– 40 to + 90	– 50 to + 120	size 14 – 180	– for all applications 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	PA	white	polyamide	– 20 to + 110	– 30 to + 120

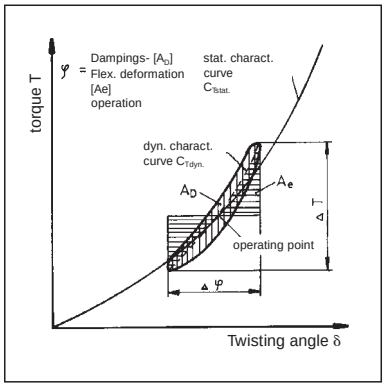
Comparison of loads



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**

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

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.

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

1.2 **Load produced by torque shocks**

$$T_{K\,max} \geq T_S \cdot S_z \cdot S_t + T_N \cdot S_t$$

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.

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

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

$$M_A = \frac{J_L}{J_A + J_L} \qquad M_L = \frac{J_A}{J_A + J_L}$$

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**

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

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**

$$T_{K\,max} \geq T_S \cdot S_t$$

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_{Kmax} of the coupling.

2.3 **Load produced by vibratory torque shocks**

$$T_{KW} \geq T_W \cdot S_t$$

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.

$$P_{KW} \geq P_W$$

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 > 10^5 times or 5 x 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 Moment of inertia of load side	J_A J_L	Total of moments of inertia existing on the driving or load side referring to the coupling speed
Rotational inertia coefficient of driving side Rotational inertia coefficient of load side	M_A M_L	Factor taking into account the mass distribution with shocks and vibrations produced on the driving or load side $M_A = \frac{J_L}{J_A + J_L}$ $M_L = \frac{J_A}{J_A + J_L}$

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

In addition to the selection of the suitable material, the permissible load on the feather key has to be considered for the coupling selection.

Unless otherwise specified in your order, we will deliver the coupling in the material cast iron, quality EN-GJL-250 (GG 25).

In general engineering the following values are specified as permissible surface pressure in the feather key, each taking into account the material:

material cast iron EN-GJL-250 (GG 25) 120 N/mm²
material nodular iron EN-GJS-400-15 (GGG 40) 180 N/mm²
material steel S355J2G3 (St 52.3) 210 N/mm²

For steel 30 % less than the apparent yield point is supposed.

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 — $J_A = 2{,}9\ kgm^2$
Rated torque of driving side — $T_{AN} = 9550 \cdot \frac{132\ kW}{1485\ 1/min} = 849\ Nm$
Driving torque — $T_{AS} = 2{,}5 \cdot T_{AN}$; $T_{AS} = 2{,}5 \cdot 849 = 2122{,}5\ Nm$
Start-up frequency — $z = 6\ ^1/_h$
Ambient temperature — = + 60 °C

Details of load side:

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

Coupling selection:

Load produced by rated torque:

$T_{KN} \geq T_N \cdot S_t$
$T_L = T_{LN}$
$T_{KN} \geq T_{LN} \cdot S_t = 800\ Nm \cdot 1{,}4 = 1120\ Nm$

Selected: ROTEX® size 90 - spider 92 Shore A with:
$T_{KN} = 2400\ Nm$
$T_{K\,max} = 4800\ Nm$

Load produced by torque shocks:

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

$T_{K\,max} \geq 2674{,}4 \cdot 1 \cdot 1{,}4$
$T_{K\,max} \geq 3744\ Nm$

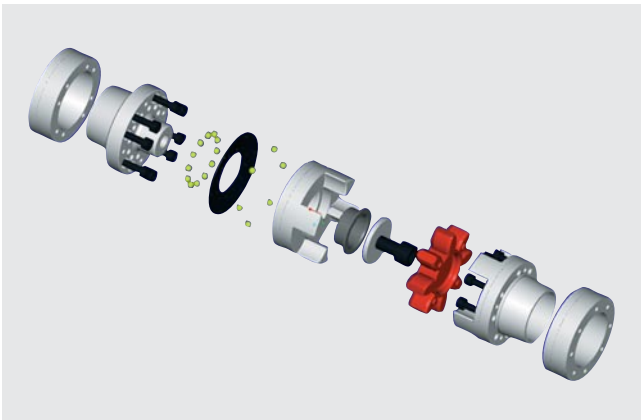
factors:

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

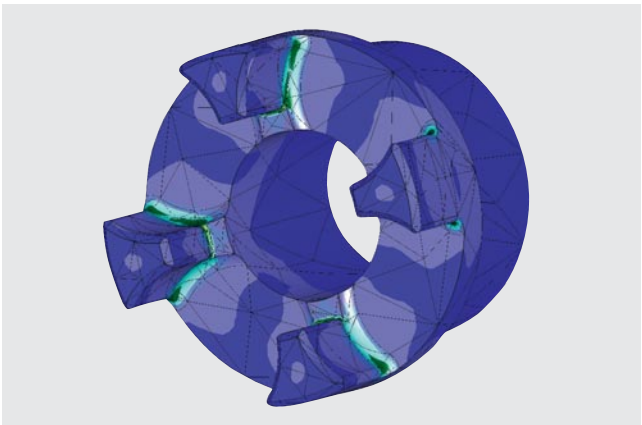
$S_A = 1{,}8;\ S_Z = 1;\ S_t = 1{,}4$

KTR products developed by . . .

3D-CAD-System



FEM calculation



Technical data

ROTEX® sizes for all designs and materials	Max. speed [1/min] with V = 30 m/s	40 m/s	Twisting angle with T_{KN} φ	$T_{K\,max}$ φ	Torque [Nm] Rated T_{KN}	Max $T_{K\,max}$	Vibratory T_{KW}	Damping power [W] with +30 °C P_{KW}	Torsion spring stiffness C_{dyn} [Nm/rad] 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.

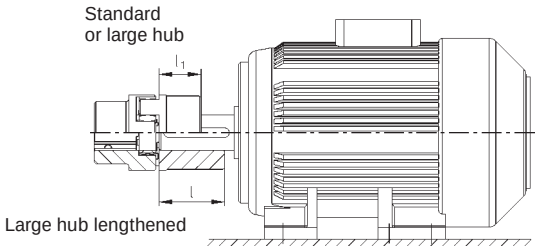
For peripheral speeds exceeding V = 30 m/sec., we would recommend only steel or nodular iron, respectively. Dynamic balancing required. 1) Hub material: EN-GJS-400-15 (GGG 40); steel

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

ROTEX® Torsionally flexible couplings

For advanced drive technology KTR

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 dxl [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		0,12	0,88		0,06	0,7				
			0,25	0,86	14	0,18	1,3	14	0,09	1,1	14			
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		0,55	3,7		0,37	3,9		0,18	2,5	
			1,1	3,7	19	0,75	5,1	19	0,55	5,8	19	0,25	3,5	19
90S	24 x 50		1,5	5		1,1	7,5		0,75	8		0,37	5,3	
90L			2,2	7,4		1,5	10		1,1	12		0,55	7,9	
100L	28 x 60		3	9,8	24	2,2	15	24	1,5	15	24	0,75	11	24
						3	20					1,1	16	
112M			4	13		4	27		2,2	22		1,5	21	
132S	38 x 80		5,5	18	28	5,5	36	28	3	30	28	2,2	30	28
			7,5	25										
132M						7,5	49		4	40		3	40	
									5,5	55				
160M	42 x 110		11	36		11	72		7,5	75		4	54	
			15	49	38			38			38	5,5	74	38
160L			18,5	60		15	98		11	109		7,5	100	
180M	48 x 110		22	71		18,5	121							
180L						22	144	42	15	148	42	11	145	42
200L	55 x 110		30	97	42	30	196		18,5	181		15	198	
			37	120					22	215				
225S	55 x 110	60 x 140				37	240	48				18,5	244	48
225M			45	145		45	292	55	30	293	55	22	290	55
250M	60 x 140	65 x 140	55	177	48	55	356		37	361	65 [2]	30	392	65
280S		75 x 140	75	241	55	75	484	65 [2]	45	438		37	483	65 [2]
280M			90	289		90	581		55	535		45	587	75 [2]
315S			110	353		110	707	75 [2]	75	727	75 [2]	55	712	
315M	65 x 140	80 x 170	132	423	65	132	849		90	873		75	971	
			160	513		160	1030		110	1070		90	1170	90
315L			200	641		200	1290	90	132	1280	90	110	1420	
					75				160	1550		132	1710	
315		85 x 170	250	802		250	1600		200	1930		160	2070	
			315	1010		315	2020		250	2410	100	200	2580	100
			355	1140		355	2280	100						
355	75 x 140	95 x 170	400	1280	90	400	2570		315	3040	110	250	3220	110
			500	1600		500	3210	110	400	3850	125	315	4060	125
			560	1790		560	3580	125	450	4330		355	4570	
400	80 x 170	110 x 210	630	2020		630	4030		500	4810		400	5150	140
			710	2270	100	710	4540		560	5390	140	450	5790	
			800	2560		800	5120	140	630	6060		500	6420	
450	90 x 170	120 x 210	900	2880	110	900	5760		710	6830	160	560	7190	160
			1000	3200		1000	6400	160	800	7690		630	8090	

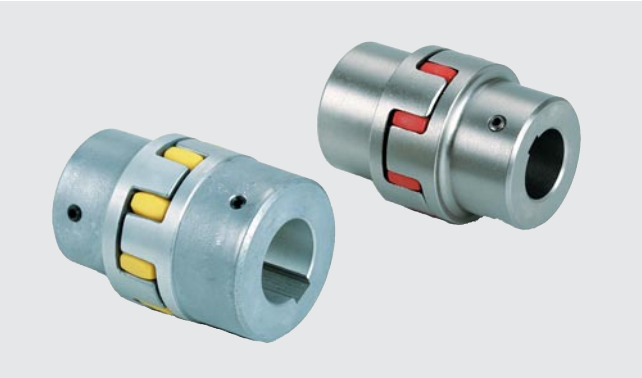
The arrangement of couplings is valid for an ambient temperature of up to + 30 °C. For the selection there is a minimum safety factor of 2 of the max. coupling torque ($T_{Kmax.}$).
A detailed arrangement is possible according to catalogue, page 20 and 21. Drives with periodical torque curves must be selected according to DIN 740 part 2.
If requested, KTR will make the selection.

1) For dimensions see ROTEX® GS line
2) Motor hub from steel see page 25

ROTEX® Torsionally flexible couplings

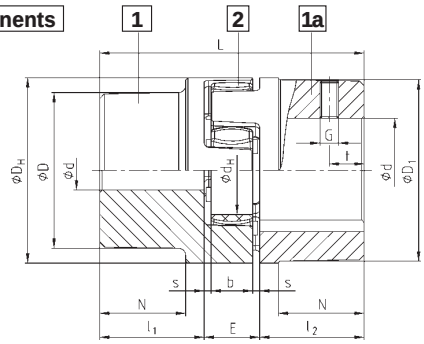
For advanced drive technology KTR

Shaft coupling design No. 001 - casted materials

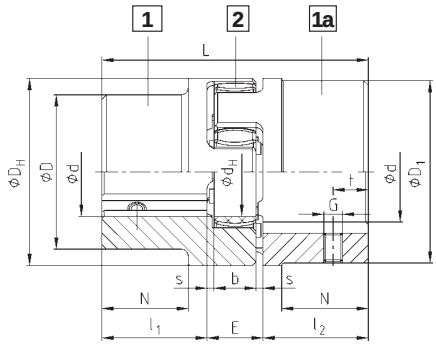


- Torsionally flexible, maintenance-free
- Damping vibrations
- Axial plug-in, fail-safe
- Allover machining – good dynamic properties
- Compact design/small flywheel effect
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9
- Basic programme/stock programme see pages 37 and 38
- Ⓔx Approved according to EC Standard 94/9/EC (without aluminium AL-D)
- Mounting instructions under www.ktr.com

Components



AL-D (thread opposite the keyway)



EN-GJL-250 (GG 25) / EN-GJS-400-15 (GGG 40)
(thread on the keyway)

ROTEX® Aluminium diecast (Al-D)

Size	Compo-nent	Spider (part 2) [1] Rated torque [Nm]			Dimensions [mm]										Thread for setscrews	
					Finish bore	General										
		92 Sh A	98 Sh A	64 Sh D	d (min-max)	L	l_1; l_2	E	b	s	D_H	d_H	D; D_1	N	G [2]	t
14	1a	7,5	12,5	–	6-16	35	11	13	10	1,5	30	10	30	–	M4	5
19	1	10	17	–	6-19	66	25	16	12	2	41	18	32	20	M5	10
	1a				19-24								41			
24	1	35	60	–	9-24	78	30	18	14	2	56	27	40	24	M5	10
	1a				22-28								56			
28	1	95	160	–	10-28	90	35	20	15	2,5	67	30	48	28	M8	15
	1a				28-38								67			

ROTEX® Cast iron EN-GJL-250 (GG 25)

38	1	190	325	405	12-38	114	45	24	18	3	80	38	66	37	M8	15
	1a				38-45								78			
	1b					164	70							62		
42	1	265	450	560	14-42	126	50	26	20	3	95	46	75	40	M8	20
	1a				42-55								94			
	1b					176	75							65		
48	1	310	525	655	15-48	140	56	28	21	3,5	105	51	85	45	M8	20
	1a				48-60								104			
	1b					188	80							69		
55	1	410	685	825	20-55	160	65	30	22	4	120	60	98	52	M10	20
	1a				55-70								118			
65	1	625	940	1175	22-65	185	75	35	26	4,5	135	68	115	61	M10	20
75	1	1280	1920	2400	30-75	210	85	40	30	5	160	80	135	69	M10	25
90	1	2400	3600	4500	40-90	245	100	45	34	5,5	200	100	160	81	M12	30

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

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

1) Maximum torque of the coupling $T_{Kmax.}$ = rated torque of the coupling $T_{K\ Nenn.}$ x 2

2) From size 125 thread for setscrews on request.

Order form:

ROTEX®-38	EN-GJL-250	92	1 – Ø 38		1 – Ø 25	
Coupling size	Material	Spider hardness [Shore A]	Hub design	Finish bore	Hub design	Finish bore

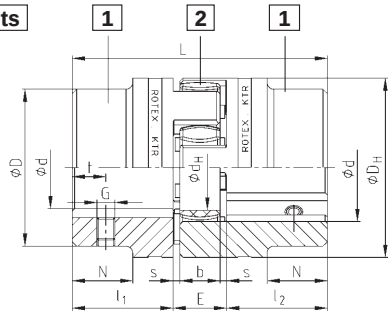
ROTEX® Torsionally flexible couplings

For advanced drive technology KTR

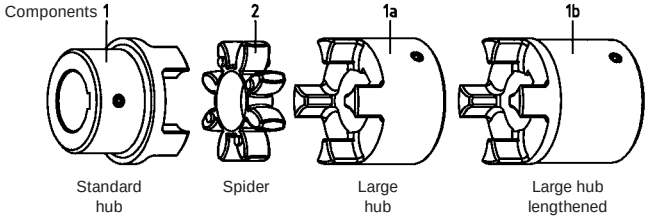
Shaft coupling design No. 001 - material steel

- 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 37 and 38
- Ex Approved according to EC Standard 94/9/EC (Explosion Certificate ATEX 95)
- Mounting instructions under www.ktr.com

Components



Steel (thread on the keyway)



ROTEX® steel

Size	Compo-nent	Spider (part 2) 1) Rated torque [Nm]			Dimensions [mm]										
					Finish bore d (min-max)	General							Spec. for steel		Thread for setscrews	
		92 Sh A	98 Sh A	64 Sh D		L	l_1; l_2	E	b	s	D_H	d_H	D	N	G	t
19	1a	10	17	21	0-25	66	25	16	12	2	40	18	40	–	M5	10
	1b					90	37									
24	1a	35	60	75	0-35	78	30	18	14	2	55	27	55	–	M5	10
	1b					118	50									
28	1a	95	160	200	0-40	90	35	20	15	2,5	65	30	65	–	M8	15
	1b					140	60									
38	1	190	325	405	0-48	114	45	24	18	3	80	38	70	27	M8	15
	1b					164	70						80	–		
42	1	265	450	560	0-55	126	50	26	20	3	95	46	85	28	M8	20
	1b					176	75						95	–		
48	1	310	525	655	0-62	140	56	28	21	3,5	105	51	95	32	M8	20
	1b					188	80						105	–		
55	1	410	685	825	0-74	160	65	30	22	4	120	60	110	37	M10	20
	1b					210	90						120	–		
65	1	625	940	1175	0-80	185	75	35	26	4,5	135	68	115	47	M10	20
	1b					235	100						135	–		
75	1	1280	1920	2400	0-95	210	85	40	30	5	160	80	135	53	M10	25
	1b					260	110						160	–		
90	1	2400	3600	4500	0-110	245	100	45	34	5,5	200	100	160	62	M12	30
	1b					295	125						200	–		

ROTEX® sintered steel

Size	Compo-nent	Spider (part 2) 1) Rated torque [Nm]		Dimensions [mm]										
				Finish bore d	General								Thread for setscrews	
		92 Sh A	98 Sh A		L	l_1; l_2	E	b	s	D_H	d_H	D	N	G	t
14	1a	7,5	12,5	unbored, 8, 10, 11, 12, 14	35	11	13	10	1,5	30	10	30	-	M4	5
19	1a	10	17	unbored, 14, 16, 19, 20, 22, 24	66	25	16	12	2	40	18	40	-	M5	10

◣ = If no material is mentioned in the order, the calculation/order is based on the material marked with
1) Maximum torque of the coupling $T_{Kmax.}$ = rated torque of the coupling $T_{K\ Nenn.}$ x 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

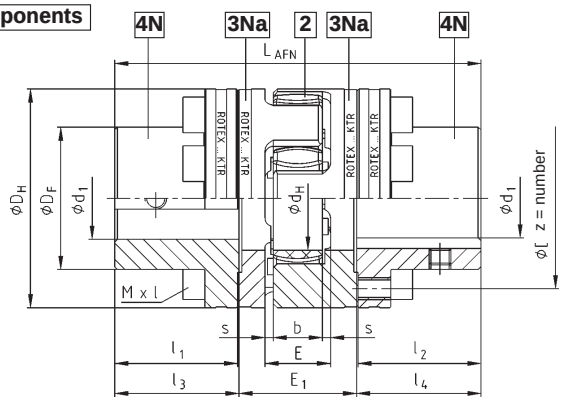
ROTEX® Torsionally flexible couplings

Flange programme

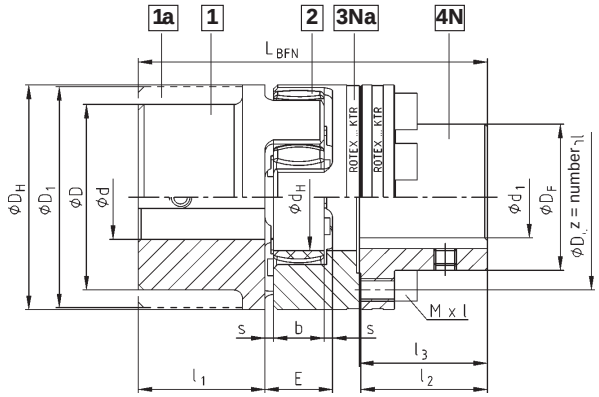
Designs AFN No. 002 and BFN No. 004

- 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 - JS9
- Approved according to EC Standard 94/9/EC
- Mounting instructions under www.ktr.com

Components



Design AFN



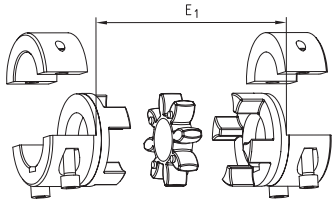
Design BFN

Size AFN BFN		Pilot bored Ød ØD ØD1	Component 4N [St] unbored or finish bored Ø d1max	Dimensions DH	DF	D4	dH	l1; l2	E	E1	s	b	l3; l4	LAFN	LBFN	Cap screws 3) DIN EN ISO 4762 – 12.9 M x l	No. z	Pitch 2) z x ϑ	TA 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 24 and 25 basic programme see pages 37 and 38	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		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	on request		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			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.

Further type: **ROTEX® A-H shell hub alternatively to type AFN**

- Can be radially assembled (E_1dimension type AFN equal to E_1 dimension type A-H)
- Spider can be exchanged without displacing the drive and the driven side (engine and pump)
- Positive and frictionally engaged hub connection
- Easy to assemble
- Please order our separate dimension sheet (M410076).



Order form:

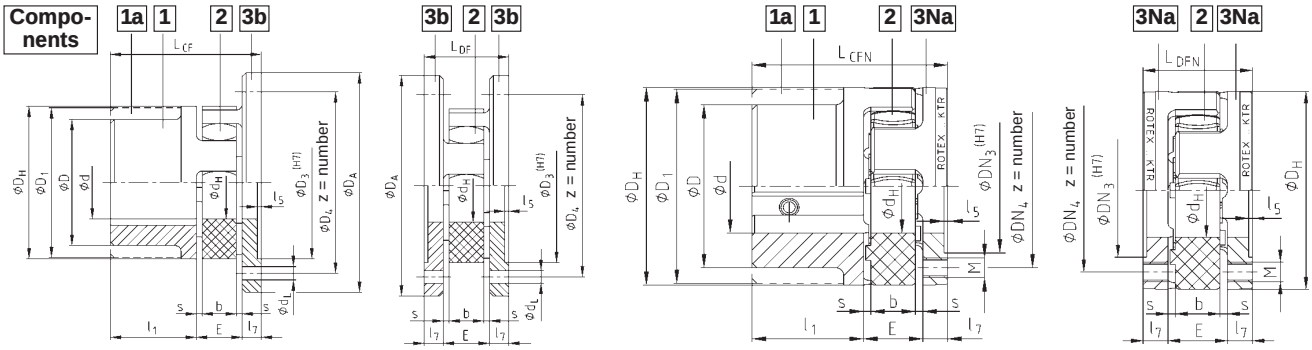
ROTEX®-38	AFN	St / EN-GJS-400-15	92	4N – Ø 38		4N – Ø 35	
Coupling size	Design	Material	Spider hardness [Shore A]	Compo-nent	Finish bore	Compo-nent	Finish bore

ROTEX® Torsionally flexible couplings

Flange programme

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

- 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
- Ⓔx Approved according to EC Standard 94/9/EC
  (Explosion Certificate ATEX 95)



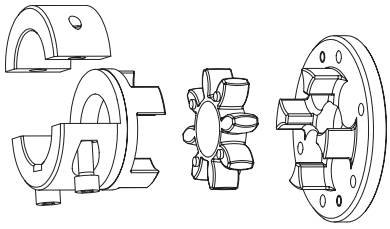
Design CF **Design DF** **Design CFN** **Design DFN**

Size CF/CFN DF/DFN	Com-ponent 3b 3Na	Pilot bore Ød, ØD ØD$_1$	General dimensions								Dimensions CF and DF							Dimensions CFN and DFN						
			D_H	d_H	l_1	E	s	b	l_5	l_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 ∢	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	stock programme	24 and 25	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	16x22,5°	88	50
48		37 and 38	105	51	56	28	3,5	21	2	12	150	105	125	8	9	96	52	75	90	M8	12		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		see pages	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		shaft coupling on pages	160	80	85	40	5	30	2,5	19	215	160	185	10	14	144	78	112	136	M12	15		144	78
90			200	100	100	45	5,5	34	3	20	260	200	225	12	14	165	85	145	172	M16	15		165	85
100		basic programme	225	113	110	50	6	38	4	25	285	225	250	12	14	185	100	165	195	M16	15		185	100
110	on request	see pages	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			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 26)

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

- Please order our separate dimension sheet (M412069).



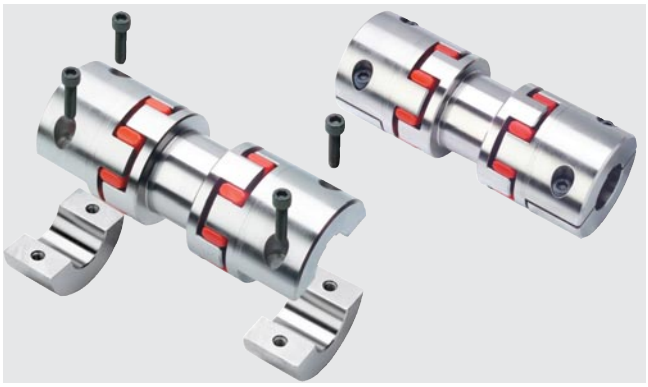
Order form:

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

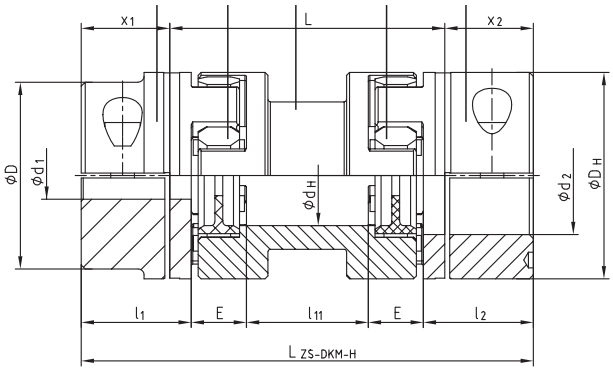
Double cardanic – the innovation in pump design

Type ZS-DKM-H

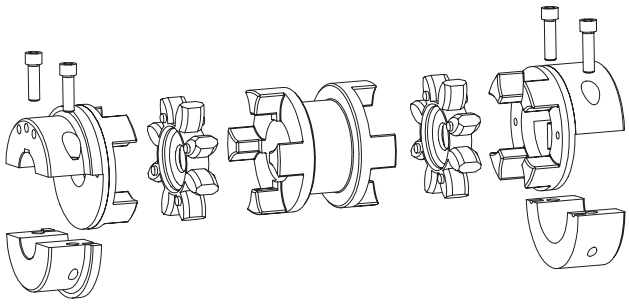


- Standard spacers up to 250 mm shaft distance dimension – ex stock
- Assembly/disassembly through 4 screws only
- Compensates for high shaft displacements due to double-cardanic design
- Remains torsionally symmetric in case of shaft displacements
- Reduced vibration and noise
- Low restoring forces ⏵ 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
- Ⓔx Approved according to EC Standard 94/9/EC (Explosion Certificate ATEX 95)
- Mounting instructions under www.ktr.com

Components 1Dh 2 6x 2 1Dh



Type ZS-DKM-H



Size ZS-DKM-H	Dismountable length L [mm]	finish bored Ød1/d2 max. [mm]	Spider (part 2) 1) TKN [Nm]	Dimensions [mm] DH	D	dH	l1; l2	x1; x2	l11	E	LZS-DKM-H	Cap screws DIN EN ISO 4762 – 12.9 M	TA	Max. displacements at n = 1500 1/min Radial [mm]	Angular [°]	Axial [mm]	Weight 2) [kg]
24	100	28	35	55	-	27	30	22,5	49	18	145	M6x20	14x	1,17		1,4	1,40
	140								89		185			1,87			1,60
28	100	38	95	65	-	30	35	25,5	41	20	151	M8x25	35	1,06		1,5	1,90
	140								81		191			1,76			2,20
38	100	45	190	80	-	38	45	35,5	33	24	171	M8x30	35	0,99		1,8	3,90
	140								73		211			1,69			4,10
42	100	55	265	95	85	46	50	39,0	26	26	178	M10x30	69	0,91		2,0	5,10
	140								66		218			1,60			5,70
48	100	60	310	105	95	51	56	45,0	22	28	190	M12x35	120	0,87		2,1	7,10
	140								62		230			1,57			7,90
	100								10		200			0,70	1,0		9,50
55	140	70	410	120	110	60	65	50,0	50	30	240	M12x40	120	1,40		2,2	11,20
	180								90		280			2,09			12,30
65	140	80	625	135	115	68	75	60,0	40	35	260	M12x40	120	1,31		2,6	16,10
	180								80		300			2,00			16,80
	140								25		275			1,13			23,60
75	180	90	1280	160	135	80	85	67,5	65	40	315	M16x50	295	1,83		3,0	26,00
	250								135		385			3,05			29,50
90	180	110	2400	200	160	100	100	81,5	53	45	343	M20x60	580	1,71		3,4	48,90
	250								123		413			2,93			52,60

1) Maximum torque of coupling $T_{K\,max.}$ = nominal torque of coupling T_{KN} x 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 Ød1	Finish bore Ød2

ROTEX® Torsionally flexible couplings

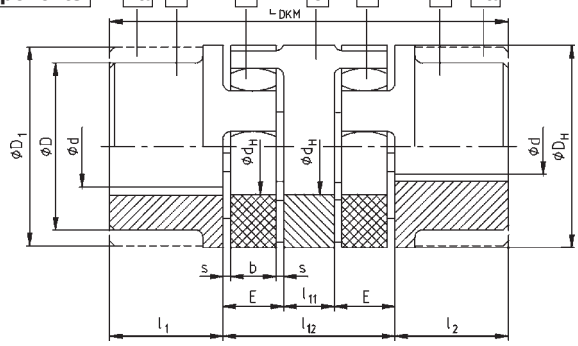
Double-cardanic – the innovation in pump design

Type DKM

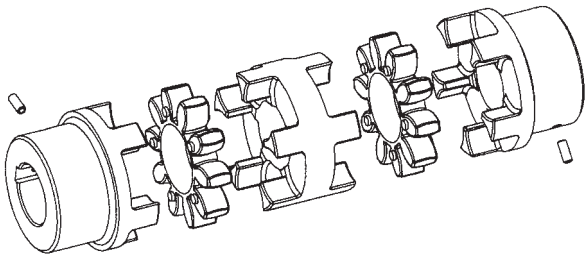
For advanced drive technology KTR

- 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
- Ⓔx 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 1a 1 2 6 2 1 1a



Type DKM



Size DKM	Pilot bore Ød ØD ØD1	Spider (part 2) Nominal torque [Nm]			Dimensions [mm]									Max. displacements at n = 1500 1/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	see shaft coupling page 24 and 25 standard range page 37 and 38	10	17	21	40	18	25	10	42	16	2	12	92	0,65		1,2
24		35	60	75	55	27	30	16	52	18	2	14	112	0,89		1,4
28		95	160	200	65	30	35	18	58	20	2,5	15	128	1,00		1,5
38		190	325	405	80	38	45	20	68	24	3	18	158	1,15		1,8
42		265	450	560	95	46	50	22	74	26	3	20	174	1,26	1,5	2,0
48		310	525	655	105	51	56	24	80	28	3,5	21	192	1,36		2,1
55		410	685	825	120	60	65	28	88	30	4	22	218	1,52		2,2
65		625	940	1175	135	68	75	32	102	35	4,5	26	252	1,75		2,6
75		1280	1920	2400	160	80	85	36	116	40	5	30	286	2,0		3,0
90		2400	3600	4500	200	100	100	40	130	45	5,5	34	330	2,5		3,4

Further type: ZS-DKM1

For detailed information please ask for our total data sheet no. M 359949.

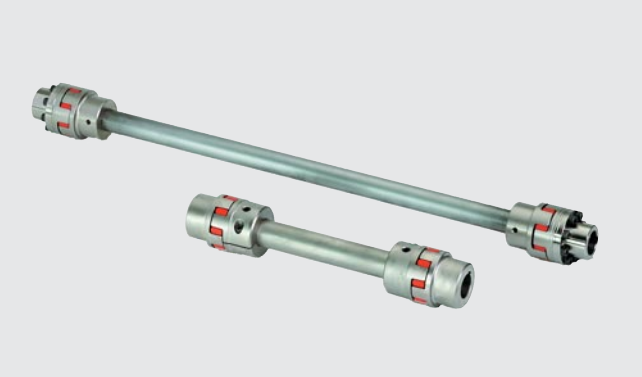
Order form:

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

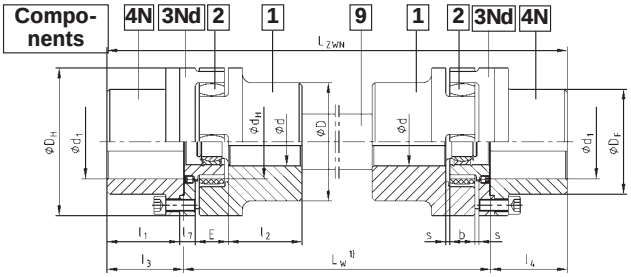
ROTEX® Torsionally flexible couplings

Intermediate shaft programme

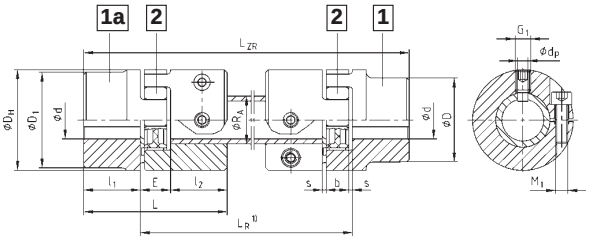
Designs ZWN No. 017 and ZR No. 037



- 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 41									L_{ZWN}	Intermediate pipe		Clamping screw		L_{ZR}	L	Locking screw G_1	Locking pin d_p [mm]	Axial displacement [mm]	Angular displace-ment [degrees]
			D_H	D_F	d_H	l_1; l_2	E	s	b	l_3; l_4	l_7		R_A	$C^{2)}$ Nm²/rad	M_1	T_A [Nm]						
24	see shaft coupling on pages 24 and 25 basic programme see pages 37 and 38	24	55	36	27	30	18	2	14	30,5	8	$L_{ZWN} = L_W + 2 \times l_3$	30x4	4522	M6	10	$L_{ZR} = L_R + 2 \times l_1$	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		65	135	94	68	75	35	4,5	26	76,0	16		65x5	68329	M12	86		185	M16	12	2,6	1,2
75		75	160	108	80	85	40	5	30	86,5	19		75x5	108000	M16	210		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 shaft is 1m

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

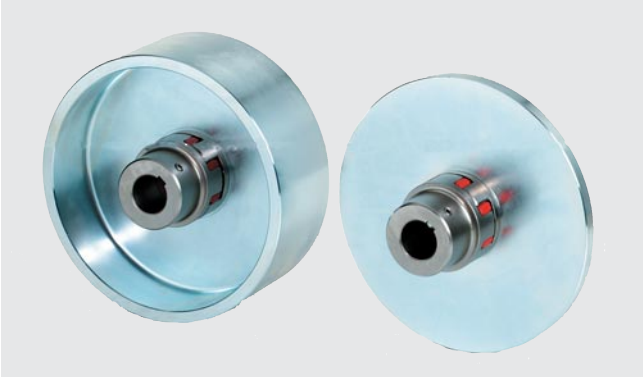
Order form:

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

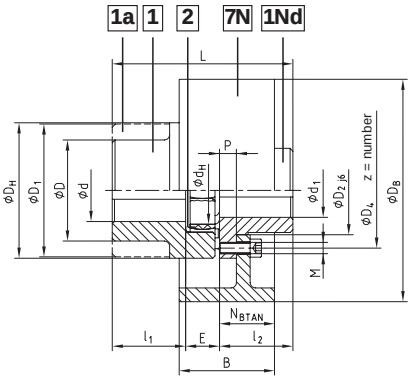
Brake drum / Disk brake

Designs BTAN No. 11 and SBAN No. 013

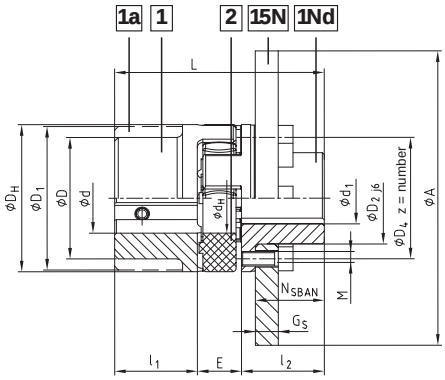


- Shaft coupling BTAN with brake drum to be mounted to ex-ternal drum brakes with double shoes according to DIN 5431/15435
- Shaft coupling BTAN with disk for braking calipers
- Each coupling type to be combined with various sizes of brake drum disks (see dimension "N")
- The brake drum or disk brake 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 Ød ØD $ØD_1$	Part 1Nd	Finish bore d_1 max. EN-GJS-400-15 (GGG)	Finish bore d_1 max. St	Dimensions D_H	D_2	D_4	d_H	z	pitch 1) z x ϑ	M	l_1; l_2	E	L	P	N BTAN	N SBAN
38	see shaft couplings on pages 24 a. 25 basic programme on pages 37 a. 38	unbored from stock	–	34	80	50	66	38	8	8 x 45°	M8	45	24	114	7,5	see selection below	37,5
42			–	42	95	60	80	46	12	16 x 22,5°	M8	50	26	126	9,5		40,5
48			–	48	105	68	90	51	12		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			–	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/	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										3800
200x75	36	38	39	41							2800	**250x12,5**	x	x	x								3056
250x95	44	46	47	49	50	52					2240	**315x16**		x	x	x	x	x					2425
315x118		55	56	58	59	61	64				1800	**400x16**			x	x	x	x	x	x	x		1910
400x150		68	69	71	72	74	77	79	82		1400	**500x16**				x	x	x	x	x	x	x	1528
500x190					87	89	92	94	97	101	1120	**630x20**					x	x	x	x	x	x	1213
630x236						107	110	112	115	119	900	**710x20**					x	x	x	x	x	x	1076
710x265								123	126	130	800	**800x25**							x	x	x	x	955
800x300										144	710	**900x25**									x	x	849

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

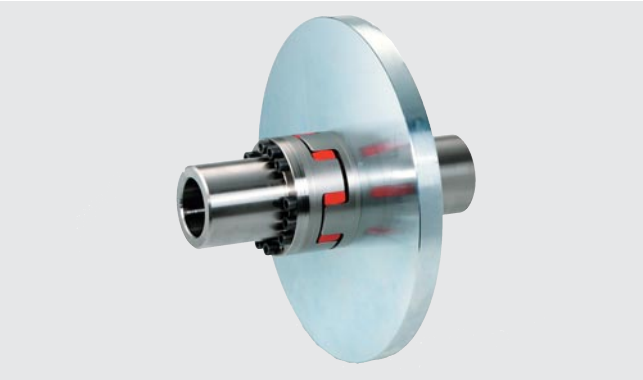
Order form:

ROTEX®-38	BTAN	200 EN-GJL-250	92	d_A EN-GJL-250 – Ø 38		d_B St – Ø 30	
Coupling size	Design	Ø brake drum and material	Spider hardness [Shore A]	Compo-nent	Finish bore	Compo-nent	Finish bore

ROTEX® Torsionally flexible couplings

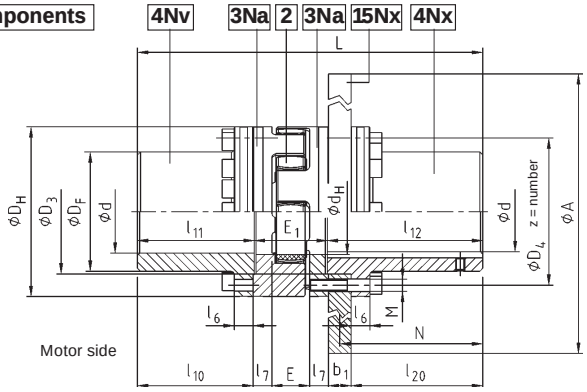
Disc brake

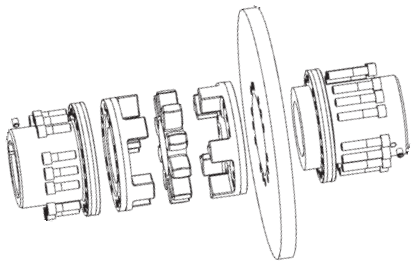
Design AFN-SB special



- 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

Components 4Nv | 3Na | 2 | 3Na | 15Nx | 4Nx





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 x 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	20 x 18°
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	135	150	344,5
75	1920	3840	3250	3840	20	19	131,5	133	166,5	135	150	374,5
90	3600	7200	3000	7200	20	20	164	165,5	206,5	175	190	454
100	4950	9900	2800	9900	25	25	153,5	155	206,5	175	190	458,5
110	7200	14400	2600	14400	25	26	201,5	203,5	212	180	195	518,5
125	10000	20000	2250	20000	30	30	198,5	200,5	212	180	195	528,5
140	12800	25600	1800	25600	30	34	244,5	247	252,5	220 210[2]	235 230[2]	627,5
160	19200	38400	1500	38400	34	38	226,5	229	252,5	220 210[2]	235 230[2]	627,5

Size	Disc brake size ØA x 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	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	Compo-nent	Finish bore

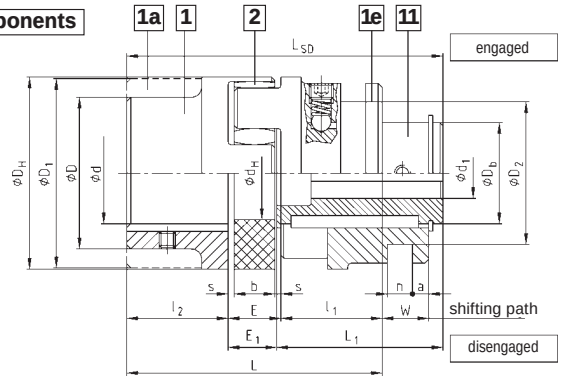
ROTEX® Torsionally flexible couplings

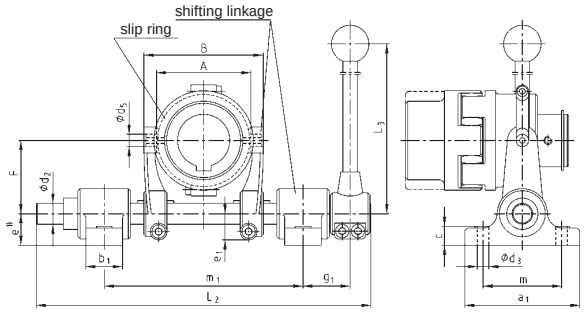
Shiftable at standstill

Design SD No. 015

- 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

Components





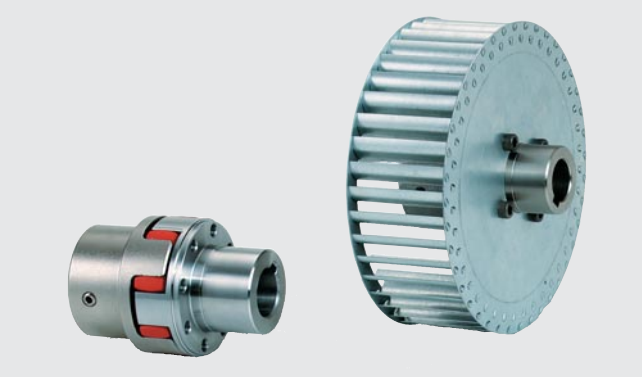
Size SD		Standard hub part 1; 1a	Shifting hub part 11		Dimensions															Shifting force set in (N)	Slip ring size	Shiftabe linkage size
		d; D; D_1	Finish bore d_1 min	Finish bore d_1 max	D_H	D_2 ± 0,1	D_b	d_H	l_1; l_2	E	s	b	E_1	L	L_1	W	a	n ± 0,1	L_{SD}			
24	unbored from stock	see shaft coupling on pages 24 and 25 basic programme see pages 37 and 38	8	18	55	41	30	27	30	18	2	14	16,5	78	51,5	16	6	6	98	110	–	–
28			10	22	65	58	36	30	35	20	2,5	15	18	90	60	17,5	8	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	on request		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			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																		
	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	Max. speed n for slip ring [1/min]
38	1	110	35	18	20	11	12	30	25	70	55	320	400	75	180	190	90	114	3280
42	1																		
48	2	140	40	25	25	13,5	17	40	27	97,5	60	430	450	100	240	270	111	151	2550
55	3				30				32,5	120	70	490	600		280	310	140	180	2120
65	3																		
75	3																170	210	1710
90	4	160	45		35		21	50	37,5	147,5	70	565	750	120	321	365	200	244	1360
100	4																		
110	4																		
125	5				40		25		46	190	80	630	1068		365	410	250	300	855

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.

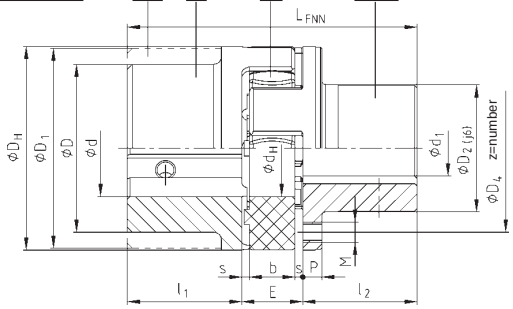
ROTEX® Torsionally flexible couplings

Designs FNN No. 021 and FNN with fan

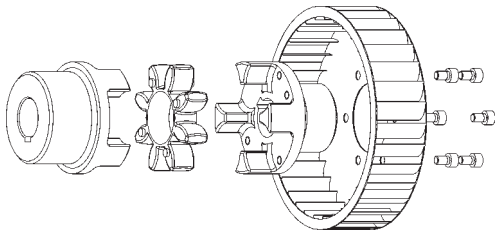


- Damping vibrations and reducing noise
- Ideal compensation for misalignment due to crowned teeth
- Coupling as plug-in design
- Easy checking of wear by sight control
- Coupling to be equipped with any fan
- Please order our separate dimension sheet (M 380823) and our leaflet of ROTEX® with fan
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9

Components 1a 1 2 1Nd



Design FNN



Design FNN with fan (type 1)

Size FNN	Pilot bore Ød ØD ØD1	Finish bore Ød1 max. part 1Nd steel	Dimensions (mm)												
			D_H	D_2	D_4	d_H	E	s	b	l_1; l_2	P	M	Number z	Pitch z x angle	L_{FNN}
28	see shaft coupling on pages 24 and 25 basic programme see pages 37 and 38	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	16 x 22,5°	126
48		48	105	68	90	51	28	3,5	21	56	10,5	M8	12		140
55		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.

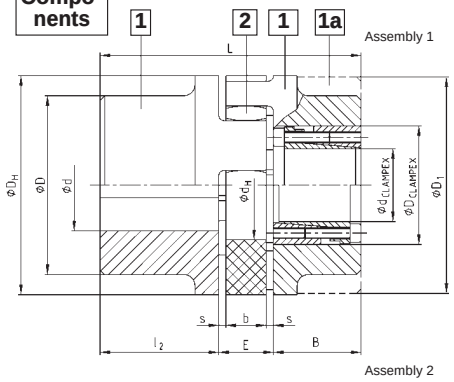
ROTEX® Torsionally flexible couplings

Further designs

Clamping hubs

For advanced drive technology KTR

Compo-nents



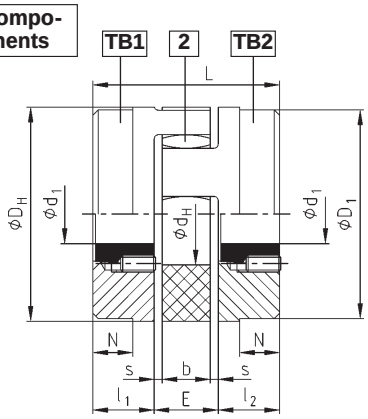
ROTEX® Size	Pilot bore Ød ØD ØD$_1$	Hub material	CLAMPEX® KTR 200 Largest poss. KTR clamping set dxD	Transmittable torques and force T [Nm]	F_{AX} [KN]	B	Dimensions [mm] l_2	E	s	b	D_H	D	D_1	d_H	L
42	see shaft couplings on pages 24 and 25 basic programme see pages 37 and 38	Steel part 1a	30x55	769	51	48	50	26	3	20	95	–	95	46	length L = l_1+ E + B_1 (clamping set)
48			35x60	1197	68	48	56	28	3,5	21	105	–	105	51	
55			45x75	2132	95	59	65	30	4	22	120	–	120	60	
65		Steel part 1	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		N-GJS-400-15 (GGG40) part 1	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 T [Nm]	F_{AX} [KN]	Clamping screw DIN EN ISO 4762 – 12.9 z x M	T_A [Nm]	KTR 200 Size d x D	Length B	Transmittable torque and axial force T [Nm]	F_{AX} [KN]	Clamping screw DIN EN ISO 4762 – 12.9 z x M	T_A [Nm]	KTR 200 Size d x D	Length B	Transmittable torque and axial force T [Nm]	F_{AX} [KN]	Clamping screw DIN EN ISO 4762 – 12.9 z x M	T_A [Nm]
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					

Compo-nents



ROTEX® Size	Taper clamping bush	Dimensions [mm] l_1; l_2	E	s	b	L	N	D_H	D_1	d_H	Fixing screw for taper bush 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

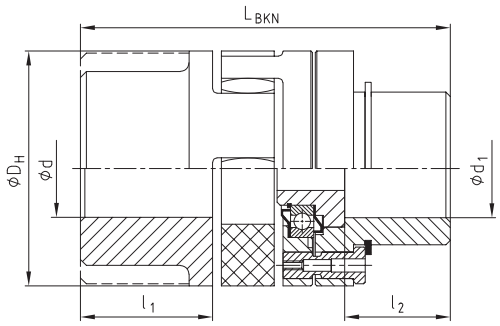
- Please order our separate dimension sheet (M 373054).

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	42*				
1615	14	16	18	19	20	22	24	25	28	30	32	35	38	40	42*				
2012	14	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	
2517	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	60
3020	25	28	30	35	38	40	42	45	48	50	55	60	65	70	75				

ROTEX® Torsionally flexible couplings

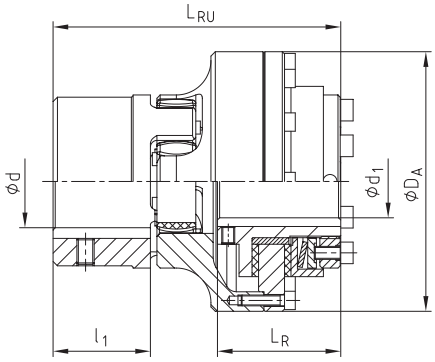
Further designs

Torque limiters



ROTEX® Size	d	$d_{1\,max}$	l_1	l_2	L_{BKN}	D_H	Min. fracture torque [Nm]
28	see shaft coupling on pages 24 and 25 basic programme see pages 37 and 38	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

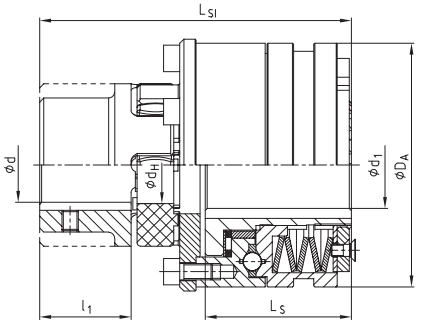
ROTEX® BKN shear pin coupling, design BKN No. 009
Modification for customer from the stock programme.
Please mention the fracture torques with your order!
For further details please see dim. sheet no. 5020/000/009-760313



ROTEX® Size	RUFLEX® Size	Slipping torques [Nm]	d	d_1 max	D_A	l_1	L_R	L_{RU}
14	00	0,5-5	see shaft coulings on pages 24 +25 basic programme see p. 37+ 38	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

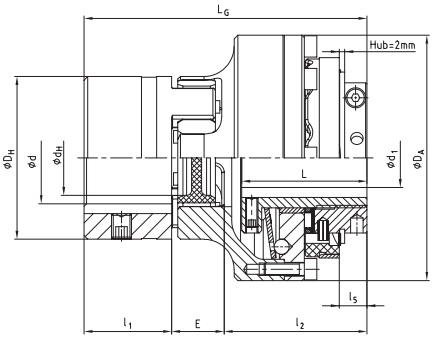
1) Finish bore exceeding ø 19, keyway according to 6885 sheet 3

ROTEX® - RUFLEX® - coupling with torque limiter, design No. 043



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	see shaft coupling on page 24 and 25 basic programme see page 37 and 38	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	50-100		55	146	56	93,5	194
	SR a. SGR	2	25-200		35	100		56	155
55	DK	5	85-250		65	176	65	107	222,5
	SR a. SGR	3	50-450		45	120		73	186
75	DK	-	-		-	-	85	-	-
	SR a. SGR	4	100-800		55	146		93,5	241,5
90	DK	-	-		-	-	100	-	-
	SR a. SGR	5	170-1800		65	176		107	275,5

ROTEX® - KTR-SI coupling with torque limiter, design No. 030



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	d	d_1									
24	20	6-20	15-30	10-35	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

Basic programme (cylindrical bores) / Inch bores

Basic programme (cylindrical bores)

ROTEX® Size	material	Compo-nent	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	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	60	65	70	75	80	85	90
14	Sint	1a	●		●		●	●	●	●																									
19	Sint	1a	●							●		●		●	●	●	●																		
14	Al-H	1a	●■	●	●	●	●	●■	●■	●■	●	●																							
	Al-D	1	●				●	●	●	●	●	●	●	●																					
19		1a	●												●		●																		
	St	1a	●■				●	●	●	●	●	●	●	●■	●		●■	●																	
	Al-D	1	●				●	●	●	●	●	●	●	●	●	●	●																		
24		1a	●														●	●	●																
	St	1a	●■				●		●	●	●	●	●	●	●	●	●■	●	●■	●															
	Al-D	1	●						●	●		●	●	●	●	●	●	●	●																
28		1a	●																●	●	●	●	●												
	St	1a	●■						●	●	●	●	●	●	●	●	●	●	●■	●	●	●	●■												
	St	1	●														●	●	●	●	●	●	●												
38		1a	●■																																
	GG	1	●									●	●	●	●	●	●	●	●	●	●	●	●												
		1a	●■																			●■	●	●■	●										
	St	1	●															●	●		●	●	●	●	●										
42		1a	●■																																
	GG	1	●									●	●		●	●	●	●	●	●	●	●	●	●	●										
		1a	●■																					●■	●	●■	●	■							
	St	1	●																				●												
48		1a	●■																																
	GG	1	●															●		●	●	●	●	●	●	●	●								
		1a	●■																							●■	●	●■	●■						
55	GG	1	●																	●	●	●	●	●	●	●	●	●	●						
		1a	●																											●	●	●			
65	GG	1	●																			●		●	●	●	●	●	●	●	●				
	St	1	●																										●				●		
75	GG	1	●																					●		●	●	●	●	●	●	●	●		
	St	1	●																									●	●	●	●		●	●	
90	GG	1	●																									●	●	●	●	●	●	●	●
	St	1	●																											●	●		●	●	

● Standard length ■ Large hub lengthened GG = EN-GJS-250

Inch bores

Code	Ød	Ød inch	b$^{+0,05}$	$t_2$$^{+0,2}$
Tb	9,5$^{+0,03}$	3/8	3,17	11,1
DNB	11,11^{M7}	7/16	2,4	12,5
T	12,69^{H7}	1/2	4,75	14,6
Ta	12,7$^{+0,03}$	1/2	3,17	14,3
DNC	13,45^{H7}	17/32	3,17	14,9
E	15,87$^{+0,03}$	5/8	3,17	17,5
Es	15,88$^{+0,03}$	5/8	4,0	17,7
DND	15,852^{H7}	5/8	4,75	18,1
Ed	15,87$^{+0,03}$	5/8	4,75	18,1
DNH	17,465^{H7}	11/16	4,75	19,6
Ad	19,02$^{+0,03}$	3/4	3,17	20,7
As	19,02$^{+0,03}$	3/4	4,78	21,3

Code	Ød	Ød inch	b$^{+0,05}$	$t_2$$^{+0,2}$
A	19,05$^{+0,03}$	3/4	4,78	21,3
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
F	22,22$^{+0,03}$	7/8	6,38	25,2
Gd	22,225^{M7}	7/8	4,76	24,7
Gf	23,80$^{+0,03}$	15/16	6,35	26,8
Bs	25,38$^{+0,03}$	1	6,37	28,3
H	25,40$^{+0,03}$	1	4,78	27,8
DNF	25,38^{H7}	1	6,35	28,4
Hs	25,40$^{+0,03}$	1	6,35	28,7

Code	Ød	Ød inch	b$^{+0,05}$	$t_2$$^{+0,2}$
Sa	28,575^{M7}	1 1/8	6,35	31,7
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^{H7}	1 1/4	7,93	34,4
Js	31,75$^{+0,03}$	1 1/4	6,35	34,6
K	31,75^{K7}	1 1/4	7,93	35,5
Ma	34,925^{M7}	1 3/8	7,93	38,7
M	34,92$^{+0,03}$	1 3/8	7,93	38,6
RH1	34,93^{M7}	1 3/8	9,55	37,8
Cb	36,50$^{+0,03}$	1 7/16	9,55	40,9
Ca	38,07$^{+0,03}$	1 1/2	7,93	42,0
C	38,07$^{+0,03}$	1 1/2	9,55	42,5

Code	Ød	Ød inch	b$^{+0,05}$	$t_2$$^{+0,2}$
Nb	41,275^{M7}	1 5/8	9,55	45,8
Ls	44,42$^{+0,03}$	1 3/4	9,55	48,8
L	44,45^{K7}	1 3/4	11,11	49,4
Lu	47,625^{M7}	1 7/8	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
Pa	53,975^{M7}	2 1/8	12,7	60,0
Ub	60,325^{M7}	2 3/8	15,875	67,6
Wa	73,025^{M7}	2 7/8	19,05	81,7
Wd	85,725^{M7}	3 3/8	22,225	95,8
Wf	92,075^{M7}	3 5/8	22,225	101,9

ROTEX® Size	Mate-rial	Com-ponent	Code inch bores (basic programme)						
14	Al-H	1a					Ed *		
19	St	1a	A	Ed	Gs				
	Al-D	1	A	Es					
24	St	1a	A	G	F	Ta	Gd		
	Al-D	1	A	G	F				
28	St	1a	A	G	F	K			
	Al-D	1	A	G					
38	EN-GJL-250	1	A	G	F	K	Bs	DNI	Sb

ROTEX® Size	Mate-rial	Com-ponent	Code inch bores (basic programme)						
38	Al-D	1			F				
42	EN-GJL-250	1	C	G	F	K	Bs	Ma	
		1a					L		
	Al-D	1			Nb				
48	EN-GJL-250	1	C	G		K			
55	EN-GJL-250	1	C			K	L		
65	EN-GJL-250	1	C	Pa		K			
75	EN-GJL-250	1	C			K			

* Large hub lengthened

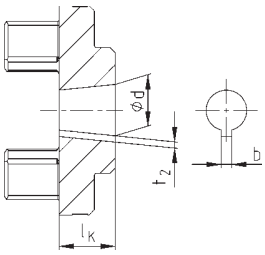
ROTEX® Torsionally flexible couplings

For advanced drive technology KTR

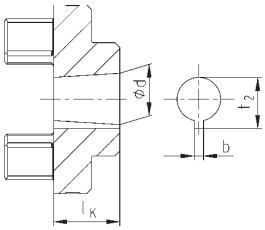
Taper bores · Spline bores (basic programme)

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.../.

Taper 1:5

Code	Details of bores			
	d +0,05	b JS9	t_2 +0,1	l_K
A 10	9,85	2	1,0	11,5
B 17	16,85	3	1,8	18,5
C 20	19,85	4	2,2	21,5
Cs 22	21,95	3	1,8	21,5
D 25	24,85	5	2,9	26,5
E 30	29,85	6	2,6	31,5
F 35	34,85	6	2,6	36,5
G 40	39,85	6	2,6	41,5

Taper 1:10

Code	Details of bores			
	d +0,05	b JS9	t_2 +0,1	l_K
CX	19,95	5	22,08	32
DX	24,95	6	26,68	45
EX	29,75	8	31,88	50

Taper 1:8

Code	Details of bores			
	d +0,05	b +0,05	t_2 +0,1	l_K
... N.../ 1	9,7	2,4	10,85	17,0
... N.../ 1c	11,6	3	12,90	16,5
... N.../ 1e	13,0	2,4	13,80	21,0
... N.../ 1d	14,0	3	15,50	17,5
... N.../ 1b	14,3	3,2	15,65	19,5
... N.../ 2	17,287	3,2	18,24	24,0
... N.../ 2a	17,287	4	18,94	24,0
... N.../ 2b	17,287	3	18,34	24,0
... N.../ 3	22,002	4	23,40	28,0
... N.../ 4	25,463	4,78	27,83	36,0
... N.../ 4b	25,463	5	28,23	36,0
... N.../ 4a	27,0	4,78	28,80	32,5
... N.../ 4g	28,45	6	29,32	38,5
... N.../ 5	33,176	6,38	35,39	44,0
... N.../ 5a	33,176	7	35,39	44,0
... N.../ 6	43,057	7,95	3,378	51,0
... N.../ 6a	41,15	8	3,1	42,5

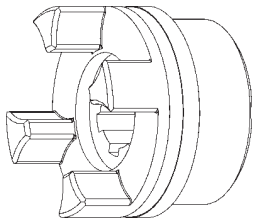
Taper 1:5 Code	ROTEX® basic programme (size/material)								
	19		24		28		38		42
	St	Al-D	St	Al-D	St	Al-D	GG 1)	Al-D	GG 1)
A 10	●	●							
B 17			●	●	●	●	●	●	
C 20			●		●		●		
D 25					●		●		●

Taper 1:8 Code	ROTEX® basic programme (size/material)								
	19		24		28		38		42
	St	Al-D	St	Al-D	St	Al-D	GG 1)	Al-D	GG 1)
...N.../1	●	●	●	●	●				
...N.../1d	●		●	●					
...N.../2			●	●	●	●	●		
...N.../2a			●	●	●	●	●		
...N.../3					●	●	●		●

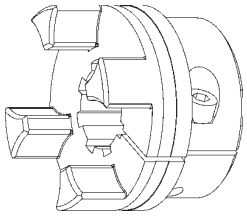
1) EN-GJL-250

Spline bores

Design 1.3 hub with spline bore



Design 2.3 clamping hub with spline bore



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
30 x 2 x 13 x 7H	26	2	13
30 x 2 x 14 x 7H	26	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

SAE involute spline

Spline code	Size	Pitch circle	Pitch	No. of teeth	Angle
PH-S	5/8"	14,28	16/32	9	30°
PI	3/4"	17,46	16/32	11	30°
PB	7/8"	20,63	16/32	13	30°
PB-S	7/8"	20,63	16/32	13	30°
PB-B	1"	23,81	16/32	15	30°
PJ	1 1/8"	26,98	16/32	17	30°
PC	1 1/4"	29,63	12/24	14	30°
PA-S	1 3/8"	33,33	16/32	21	30°
PS-S	1 1/2"	33,88	12/24	17	30°
PD	1 1/2"	36,51	16/32	23	30°
PD-S	1 1/2"	36,51	16/32	23	30°
PE	1 3/4"	42,86	16/32	27	30°
PK	1 3/4"	41,275	8/16	13	30°
PF	2 9/16"	63,50	16/32	40	30°

Spline bores to DIN 5482

Spline code	Size	Pitch circle	Pitch	No. of teeth	Profile correction
P 8217	A 17 x 14	14,40	1,6	9	+0,600
P 8228	A 28 x 25	26,25	1,75	15	+0,302
P 8230	A 30 x 27	28,00	1,75	16	+0,327
P 8235	A 35 x 31	31,50	1,75	18	+0,676
P 8240	A 40 x 36	38,00	1,9	20	+0,049
P 8245	A 45 x 41	44,00	2	22	+0,181
P 8250	A 50 x 45	48,00	2	24	+0,181

Code	SAE involute splines (ROTEX® size)								
	24	28	38	42	48	55	65	75	90
PH-S	■●	●							
PB	■								
PB-S	■●	●	●	●					
PB-B		■●	●	■●	●	●		●	
PC			●	●	●	●			
PA-S				●	■●				
PS-S				●	■●				
PD-S						■			
PK							●	●	●

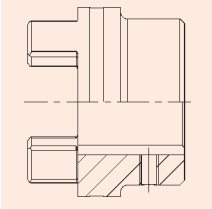
Code	DIN 5482 options (ROTEX® size)					
	24	42	48	55	65	75
P 8235		■				
P 8245			■●	■●	●	
DIN 5480 options						
20 x 1,25 x 14 x 7H	■					
25 x 1,25 x 18 x 7H	■					
30 x 2 x 14 x 7H	●		●			
35 x 2 x 16 x 8H			■			
40 x 2 x 18 x 7H			●	■		
50 x 2 x 24 x 7H				●	■●	■●

Preferred designs: ■ Type 1.3 hub with spline bore/for end plate/with recess ● Type 2.3 clamping hub with spline bore

Hub designs

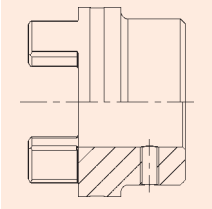
Due to the numerous applications of ROTEX® for many different mounting situations, this coupling system is available with various hub designs. These designs mainly differ in that they offer either positive or frictionally engaged connections, but mounting situations like, for example, gear shafts with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

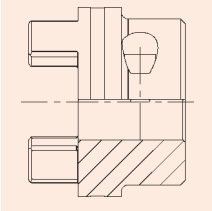
Design 1.1 hub without feather key, with setscrew



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

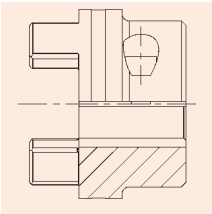
Design 1.3 hub with spline bore (page 38)

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)

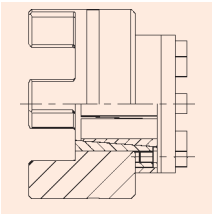
Design 2.1 clamping hub, single slotted, with keyway



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

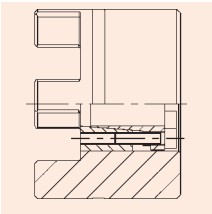
Design 2.3 clamping hub with spline bore (page 38)

Design 4.0 with CLAMPEX® clamping set KTR 250



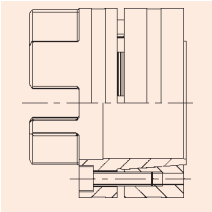
Frictionally engaged, backlash-free shaft-hub-connection for transmission of average torques.

Design 5.0 w. CLAMPEX® clamping set KTR 200/KTR 400



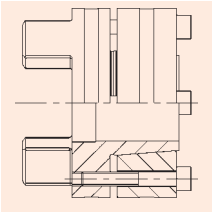
Frictionally engaged, backlash-free shaft-hub-connection for transmission of larger torques. Largest clamping set possible depends on the hub collar diameter. Clamping set screw fitting possible both internally and externally. For details of calculation please see CLAMPEX® catalogue.

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



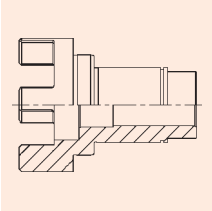
Integrated frictionally engaged shaft-hub-connection for transmission of higher torques. Screw fitting on elastomer side. For details about torques and dimensions see ROTEX® GS catalogue on page 104. Suitable for high speeds.

Design 6.5 clamping ring hub



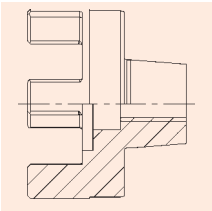
Design equal to 6.0, but clamping screws to be fitted externally. Suitable, for example, for disassembly of radial spacer tubes (special design).

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.

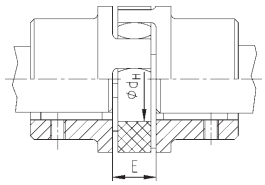
ROTEX® Torsionally flexible couplings

For advanced drive technology KTR

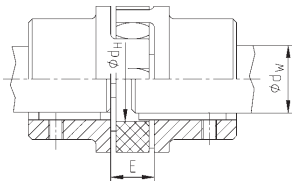
Installation · Displacements · Pull-off threads

Installation

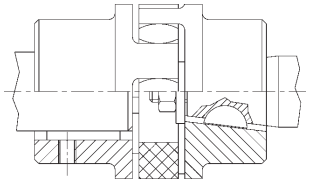
Shaft coupling



Shaft with keyway protruding into the spider Ød$_W$



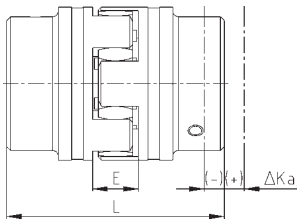
Coupling with taper bore on one side



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
ΔKw [degrees] Max. angular displacement	1,2	1,2	0,9	0,9	1,0	1,0	1,1	1,1	1,2	1,2	1,2	1,2	1,3	1,3	1,2	1,2	1,2
with n = 1500 1/min. ΔKw [mm]	0,67	0,82	0,85	1,05	1,35	1,70	2,00	2,30	2,70	3,30	4,30	4,80	5,60	6,50	6,60	7,60	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

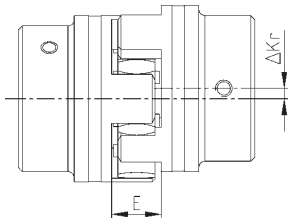
Displacements

Axial displacement ΔKa

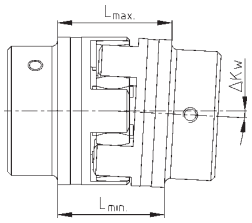


$L_{max.} = L + \Delta Ka$

Radial displacement ΔKr



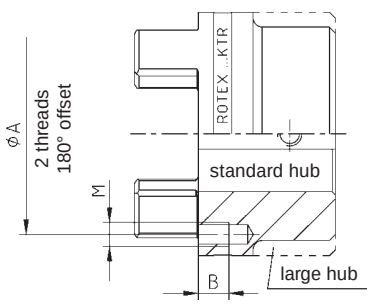
Angular displacement ΔKw [degrees]

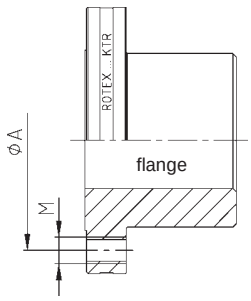


$\Delta K_W [mm] = L_{max} - L_{min}$

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 912 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

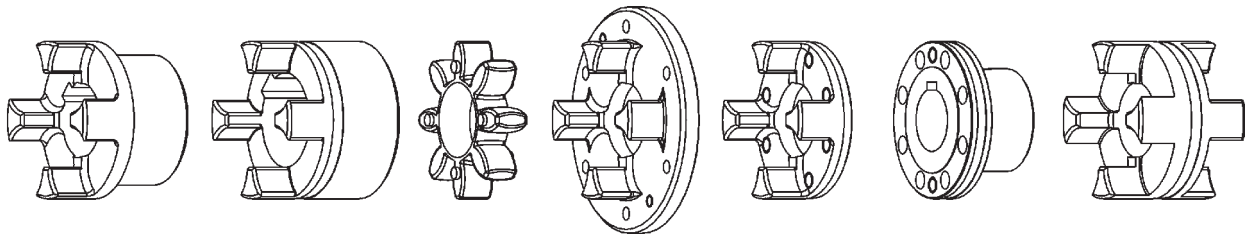
ROTEX® Torsionally flexible couplings

Weights - Mass moments of inertia

Individual components

Components

1 1a 2 3b 3Na 4N 6



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 [kgm²]	Weight in [kg]	Mass moment of inertia J kg [kgm²]	Weight in [kg]	Mass moment of inertia J kg [kgm²]	Weight in [kg]	Mass moment of inertia J kg [kgm²]	Weight in [kg]	Mass moment of inertia J kg [kgm²]	Weight in [kg]	Mass moment of inertia J kg [kgm²]
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 [kgm²]
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 [kgm²]
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 [kgm²]
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 31.

REVOLEX®
Compression sleeve couplings

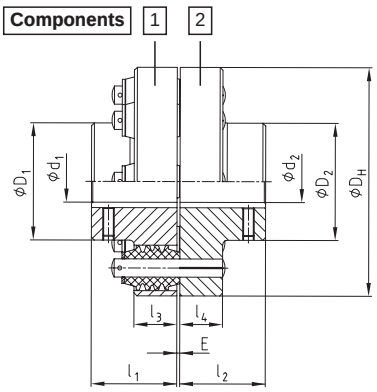
Tyre couplings
Flexible, torsionally flexible couplings

Pin & bush couplings
Flexible couplings

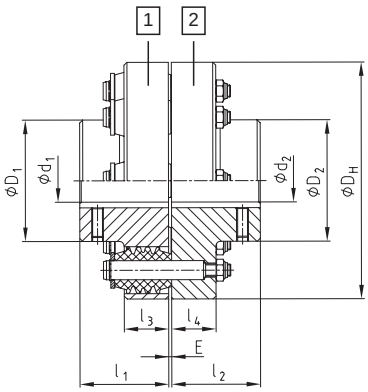
REVOLEX®
Torsionally flexible compression sleeve couplings

For advanced drive technology KTR

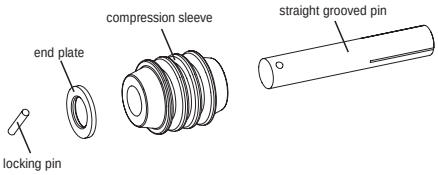
Size 20/25 – 40/50



Size 50/55 – 300/320



Size 20/25 – 40/50



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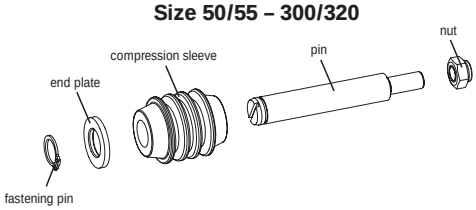
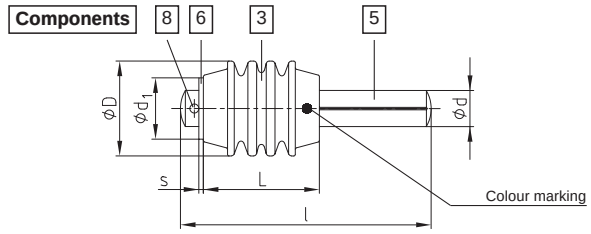


REVOLEX® Size	Finish bore [1] with material steel				Dimensions [mm]						No. of pins/ compress. sleeves	Dimensions of compression sleeves			Torque [Nm]	
	Part 1 – d_1		Part 2 – d_2		D_H	l_1; l_2	l_3	l_4	E			D	d	L	T_{KN}	$T_{Kmax.}$
	min.	max.	min.	max.					min.	max.						
20/25	10	20	10	25	87	30	21		3	6	2	19,8	8	25,0	18	36
25/30	12	28	12	30	97	35	21		3	6	4	19,8	8	25,0	44	88
30/40	16	32	16	40	112	40	26		3	6	6	24,8	10	30,0	100	200
40/50	19	45	19	52	130	50	26		3	6	8	24,8	10	30,0	225	450
50/55	19	55	19	55	160	60	30		2	4	8	31,5	12,8	38,5	500	1000
65/75	24	75	24	75	190	75	30		2	4	10	31,5	12,8	38,5	850	1700
75/90	30	85	30	85	225	90	37		2,5	5	10	39,4	15,8	46,5	1400	2800
90/100	35	100	35	100	270	100	45		3	6	8	49,3	19,8	54,6	2100	4200
100/110	40	120	40	120	300	120	45		3	6	10	49,3	19,8	54,6	3150	6300
110/125	45	120	45	135	340	140	55		3	6	8	62,3	24,8	64,6	4700	9400
125/140	55	145	55	145	380	160	55		3	6	10	62,3	24,8	64,6	7000	14000
140/160	65	165	65	165	440	180	68		3,5	7	8	79,2	32,8	78,7	10500	13650
160/180	75	170	75	185	500	200	68		3,5	7	10	79,2	32,8	78,7	15500	20150
180/200	85	180	85	200	560	220	83	76	4	8	10	99,0	40	94,8	24000	31200
200/220	95	200	95	220	640	250	83	76	4	8	12	99,0	40	94,8	35000	45500
220/250	110	220	110	250	750	280	102	93	4,5	9	10	123,8	50	115,0	53000	68900
250/280	125	250	125	280	880	320	102	93	4,5	9	14	123,8	50	115,0	79000	102700
280/320	140	280	140	320	960	350	128	115	5	10	12	158,5	63	143,5	115000	149500
300/320	140	300	140	320	1040	375	128	115	5	10	14	158,5	63	143,5	158000	205400

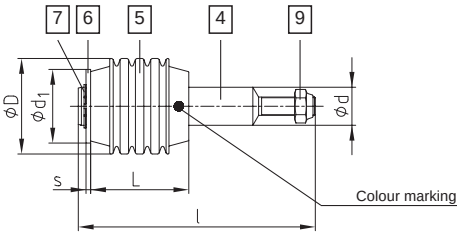
1) Finish bores depend on D_1 and D_2.

Dimensions of REVOLEX® compression sleeves

Size 20/25 – 40/50



Size 50/55 – 300/320



REVOLEX® Size	No. of pins/ compress. sleeves	Component 3		Components 4 and 5				Component 6		Comp. 7	Comp. 8	Comp. 9
		Compression sleeves		Pin / Straight grooved pin				End plate		Fastening pin	Locking pin	Nut
		D	L [3]	d	l	l [1]	l [2]	d_1	s			
20/25	2	19,8	25,0	8	51	51		13	1,5		Ø2,5 x 12	
25/30	4	19,8	25,0	8	51	51		13	1,5		Ø2,5 x 12	
30/40	6	24,8	30,0	10	62	62		16	1,5		Ø3 x 16	
40/50	8	24,8	30,0	10	62	62		16	1,5		Ø3 x 16	
50/55	8	31,5	38,5	12,8	86	100	102	24	2	13 x 1		M 8
65/75	10	31,5	38,5	12,8	86	100	102	24	2	13 x 1		M 8
75/90	10	39,4	46,5	15,8	101,5	115,5	121,5	28	2,5	16 x 1		M 8
90/100	8	49,3	54,6	19,8	121	136,5	141	38	3	20 x 1,2		M10
100/110	10	49,3	54,6	19,8	121	136,5	141	38	3	20 x 1,2		M10
110/125	8	62,3	64,6	24,8	144	162	169	48	3	25 x 1,2		M12
125/140	10	62,3	64,6	24,8	144	162	169	48	3	25 x 1,2		M12
140/160	8	79,2	78,7	32,8	177,5	196,5	202,5	62	4	33 x 1,5		M16
160/180	10	79,2	78,7	32,8	177,5	196,5	202,5	62	4	33 x 1,5		M16
180/200	10	99,0	94,8	40	208		238	76	4	40 x 1,75		M20
200/220	12	99,0	94,8	40	208		238	76	4	40 x 1,75		M20
220/250	10	123,8	115,0	50	249		279	92	4	50 x 2		M24
250/280	14	123,8	115,0	50	249		279	92	4	50 x 2		M24
280/320	12	158,5	143,5	63	307			140	6	62 x 2		M30
300/320	14	158,5	143,5	63	307			140	6	62 x 2		M30

Sleeve types	DG	F	ÖG
Colour marking of the sleeves	white	yellow	purple

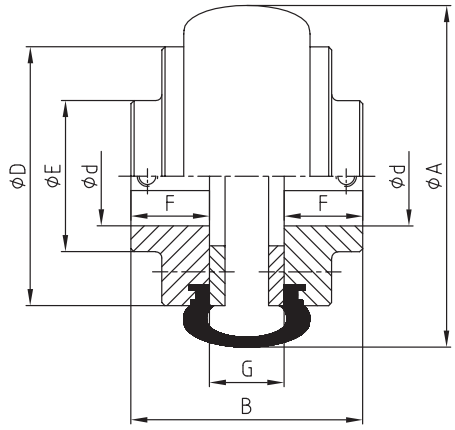
1) for type s
2) for type z
3) uncompressed length

Tyre couplings

Flexible, torsionally flexible couplings

Type KT

- Highly flexible, not failsafe tyre coupling
- Drive and driven machine can be radially disassembled
- Compensation for larger shaft misalignments
- Temperature range from - 40 °C to + 65 °C (natural rubber)
  - 25 °C to + 75 °C with fabric insert on request
- Hub materials/pressure rings: grey cast iron EN GJL-250 (GG 25)/steel S355J2G3 (St 52.3)
- Finish bore according to ISO fit H7
- Feather keyway according to DIN 6885 page 1 - JS9
- Couplings only available on request



Size	Screws			Size	Screws		
	M_1	z = No.	T_A [Nm]		M_1	z = No.	T_A [Nm]
KT-40	M 6x25	8	15	KT-90	M10x50	12	74
KT-45	M 6x30	8	15	KT-100	M12x50	12	128
KT-50	M 6x35	8	15	KT-110	M14x70	12	205
KT-60	M 6x30	10	15	KT-120	M16x70	12	315
KT-70	M 8x40	12	37	KT-140	M20x70	12	615
KT-80	M 8x50	12	37	KT-160	M24x80	12	1060
KT-85	M10x45	12	74	KT-180	M24x90	12	1060

Size	Torques [Nm]		Max. speed 1) [1/min]	Finish bore d (min-max)	Dimensions [mm]						Weight [kg]
	T_{KN}	$T_{Kmax.}$			A	B	D	E	F	G	
KT-40	22	44	4500	10 - 30	104	67	82	-	22	22	2,1
KT-45	39	78	4400	10 - 32	120	73	94	-	25	24	2,3
KT-50	57	114	4300	14 - 38	133	92	100	-	32	25	4,2
KT-60	112	224	3400	15 - 48	165	112	125	73	38	33	5,3
KT-70	172	344	2900	15 - 55	197	132	144	82	45	40	8,4
KT-80	269	538	2700	20 - 65	211	150	167	95	51	43	12,5
KT-85	325	650	2550	20 - 70	222	153	180	103	53	44	14,5
KT-90	387	774	2430	20 - 76	235	164	190	110	57	46	15,6
KT-100	536	1072	2250	25 - 85	254	178	216	124	60	48	22,0
KT-110	757	1514	2050	30 - 90	279	180	233	134	65	44	29,2
KT-120	1258	2516	1820	35 - 102	314	207	264	152	76	49	42,9
KT-140	1999	3998	1590	50 - 120	359	204	313	195	89	24	63,8
KT-160	3308	6616	1420	60 - 140	402	220	345	216	102	30	89,9
KT-180	5825	11650	1210	70 - 150	470	258	398	266	114	46	145

1) higher speeds on request

Guidelines for operating factor S_B

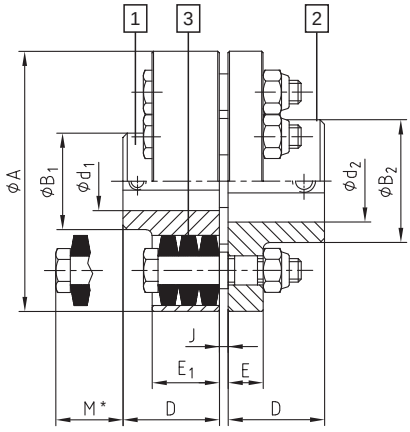
Application	S_B - E. motor	S_B - I. C. engine
with constant operation and low masses to be accelerated: e. g. centrifugal pumps, small ventilators, light conveyor units, ...	1,25	3,0
with unconstant operation and medium masses to be accelerated: e. g. machine tools, screw-type compressors, piston pumps, ...	1,5	3,0
with unconstant operation and large masses to be accelerated and heavy shocks: e. g. punches, piston compressors, hammer drives, cranes, ...	2,0	4,0
with unconstant operation and very large masses to be accelerated and heavy shocks: e. g. large marine propelling screws, piston compressors 1-2 cylinders, ...	3,0	5,0

Flexible pin & bush couplings

Standard (tapered, profiled Perbunan sleeve)

Type KX

- Torsionally flexible and failsafe
- Drive and driven machine can be radially disassembled
- Profiled NBR sleeves with bolts can be exchanged without displacing the aggregates
- Cylindrically profiled Perbunan NBR sleeve (single black buffers) 75 ± 5 Shore A with high damping properties
- Compensation for shaft misalignments
- Temperature range from - 15 °C to + 80 °C (higher temperatures on request)
- Hub material: grey cast iron EN GJL-250 (GG 25)
- Finish bore according to ISO fit H7
- Feather keyway according to DIN 6885 page 1 - JS9
- Couplings only available on request



Size	Bolts			Size	Bolts		
	M_1	z = No.	T_A [Nm]		M_1	z = No.	T_A [Nm]
KX-020	M 8	6	25	KX-105	M20	12	431
KX-030	M10	4	50	KX-120	M24	10	745
KX-038	M10	6	50	KX-135	M24	12	745
KX-042	M10	8	50	KX-150	M24	14	745
KX-048	M12	6	87	KX-170	M36	10	2586
KX-058	M12	8	87	KX-190	M36	12	2586
KX-070	M12	10	87	KX-215	M36	14	2586
KX-075	M20	8	431	KX-240	M48	10	3024
KX-085	M20	10	431	KX-265	M48	12	3024

Size	Torques [Nm]		Max. speed 1) [1/min]	Finish bore [min. - max.]		Dimensions [mm]								Approx. weight [kg]
	T_{KN}	$T_{Kmax.}$		d_1	d_2	A	B_1	B_2	D	E	E_1	J	M *	
KX-020	53	106	6400	12-20	12-28	89	33	42	33	12	23	3	23	1,8
KX-030	111	222	4500	12-32	12-38	127	58	64	41	12	26	3	26	3,5
KX-038	177	354	4300	15-38	15-42	132	64	72	48	12	26	3	20	4,9
KX-042	269	538	3900	15-42	15-48	146	78	83	56	12	26	3	12	6,3
KX-048	467	934	3300	21-48	21-55	171	82	90	61	17	33	3	26	10,4
KX-058	721	1442	2900	21-58	21-65	193	98	106	68	17	33	3	19	14,2
KX-070	1024	2048	2600	28-70	28-75	216	117	128	76	17	33	3	11	19,8
KX-075	2452	4904	2200	28-75	28-80	254	130	145	88	30	56	3	46	36,9
KX-085	3390	6780	2000	28-85	28-105	279	148	166	100	30	56	3	34	48,5
KX-105	5084	10168	1730	34-105	34-120	330	180	202	117	30	56	3	22	76,4
KX-120	8474	16948	1570	61-120	61-130	370	206	232	132	46	76	6	45	121
KX-135	11520	23040	1360	67-135		419	230	240	147	46	76	6	30	163
KX-150	15140	30280	1250	82-150		457	256	260	165	46	76	6	12	209
KX-170	23500	47000	1070	96-170		533	292	292	188	63	92	6	43	305
KX-190	32650	65300	960	122-190		597	330	330	211	63	92	6	20	397
KX-215	42370	84740	860	135-215		660	368	368	237	63	92	6	30	508
KX-240	71360	142720	775	152-240		737	407	407	264	76	122	6	43	736
KX-265	94910	189820	690	165-265		826	457	457	292	76	122	6	15	976

* drop-out center dimension
1) higher speeds on request

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

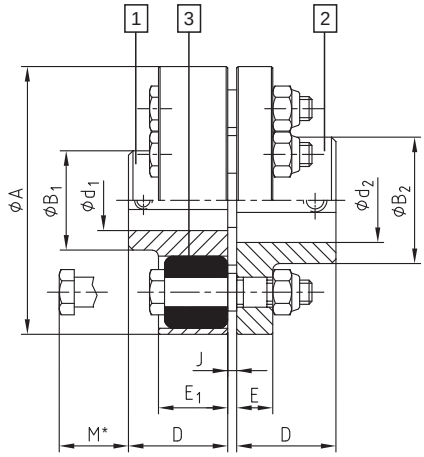
	S_A/S_L
Gentle shocks	1,5
Average shocks	1,8
Heavy shocks	2,5

Flexible pin & bush couplings

(Cylindrical Polyurethane sleeve)

Type KB

- Torsinally flexible and failsafe
- Drive and driven machine can be radially disassembled
- PUR sleeves can be exchanged with bolts without displacing the aggregates
- Cylindrical Polyurethane PUR sleeve (buffer colour: dark green) 80 + 5 Shore A
- Compensation for shaft misalignments
- Temperature range from - 20 °C to + 80 °C (higher temperatures on request)
- Hub material: grey cast iron EN GJL-250 (GG 25)
- Finish bore according to ISO fit H7
- Feather keyway according to DIN 6885 page 1 - JS9
- Couplings only available on request



Size	Bolts		
	M_1	z = No.	T_A [Nm]
KB-20/28	M 8	6	25
KB-32/38	M10	4	50
KB-38/42	M10	6	50
KB-42/48	M10	8	50
KB-48/55	M12	6	87
KB-58/65	M12	8	87
KB-70/75	M12	10	87
KB-75/80	M20	8	431
KB-85/105	M20	10	431
KB-105/120	M20	12	431
KB-120/135	M24	10	745

Size	Torques [Nm]		Max. speed 1) [1/min]	Finish bore [min. - max.]		Dimensions [mm]								Approx. weight [kg]
	T_{KN}	$T_{Kmax.}$		d_1	d_2	A	B_1	B_2	D	E	E_1	J	M *	
KB-20/28	111	222	6400	12-20	12-28	89	33	42	33	12	23	3	23	3,5
KB-30/32	177	354	4500	12-32	12-38	127	58	64	41	12	26	3	26	4,9
KB-38/42	269	538	4300	15-38	15-42	132	64	72	48	12	26	3	20	6,3
KB-42/48	467	934	3900	15-42	15-48	146	78	83	56	12	26	3	12	10,4
KB-48/55	721	1442	3300	21-48	21-55	171	82	90	61	17	33	3	26	14,2
KB-58/65	1024	2048	2900	21-58	21-65	193	98	106	68	17	33	3	19	19,8
KB-70/75	2452	4904	2600	28-70	28-75	216	117	128	76	17	33	3	11	36,9
KB-75/80	3390	6780	2200	28-75	28-80	254	130	145	88	30	56	3	46	48,5
KB-85/105	5084	10168	2000	28-85	28-105	279	148	166	100	30	56	3	34	76,4
KB-105/120	8474	16948	1730	34-105	34-120	330	180	202	117	30	56	3	22	121
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Quality Approval

Development

Partnership

Research

Service

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