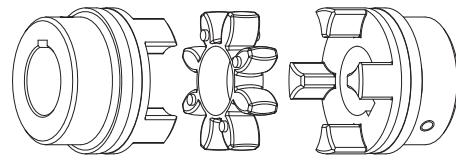


Torsionally flexible couplings: **ROTEX®** Torsionally flexible couplings

Description of coupling

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

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

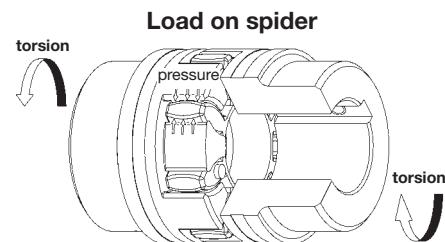


General description

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

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

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

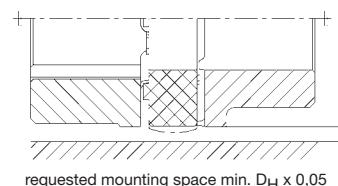


Performance

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

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

Deformation with load



Explosion-proof use

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



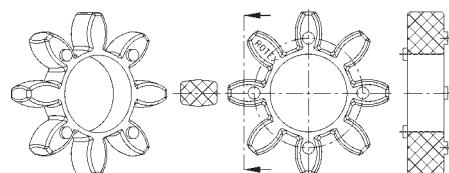
Spiders

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

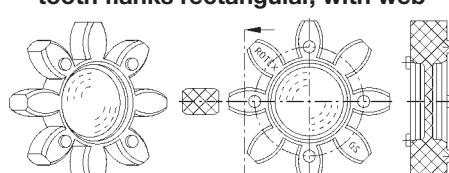
The spiders are extremely resistant to wear, oil, ozone and ageing. In addition, they are resistant to hydrolysis (ideal for tropical climates).

The high internal damping protects the drive against dynamic overload.

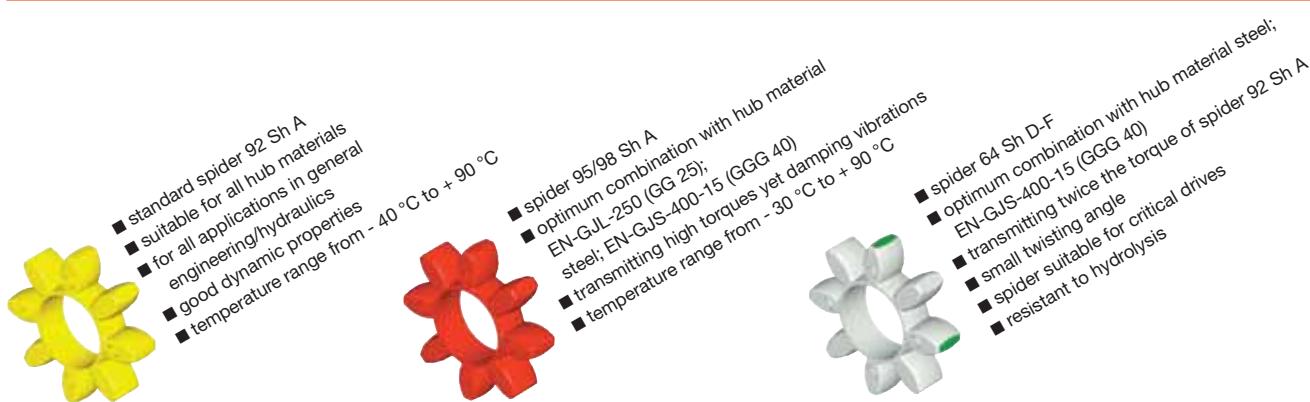
Standard spider tooth flanks crowned



GS spiders tooth flanks rectangular, with web



Spider types



Spider types – Materials, physics, properties

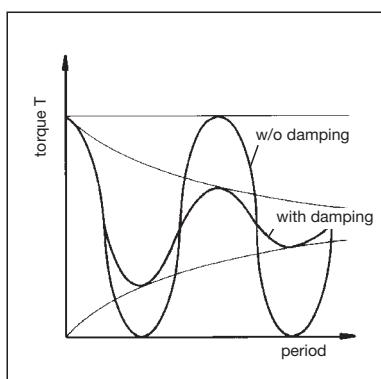
Spider type hardness-(Shore)	Identification colour	Material	Perm. temperature range (°C)		Available for coupling size	Typical applications
			Continuous temperature	Max. temperature short time		
92 Sh A	yellow	polyurethane	- 40 to + 90	- 50 to + 120	size 14 – 180	– for all applications in general engineering 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:

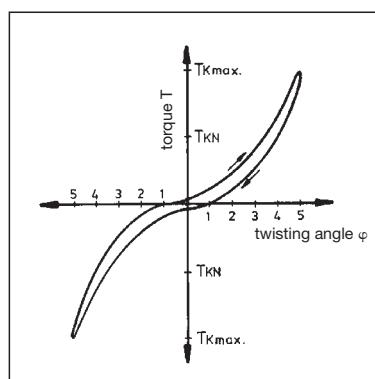
Typical applications	Spider type hardness (Shore)	Identification colour	Material	Perm. temperature range (°C)	
				Continuous temperature	Max. temperature short time
For high dynamic load, high air moisture/resistant to hydrolysis	94 Sh A-T	blue with yellow tooth flanks	polyurethane	- 50 to + 110	- 60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

1) Different properties depending on compound

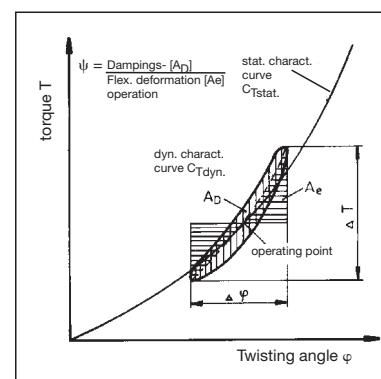
Comparison of loads



Twisting angle



Damping



Coupling selection

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

1 Drives without periodical torsional vibrations

e. g. centrifugal pumps, fans, screw compressors, etc.

The coupling is selected taking into account the rated torques T_{KN} and maximum torque $T_{K \max}$.

1.1 Load produced by rated torque

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

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

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

1.2 Load produced by torque shocks

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

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.

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

$$\text{Drive-sided shock } T_S = T_{AS} \cdot M_A \cdot S_A \quad (3)$$

$$\text{Load-sided shock } T_S = T_{LS} \cdot M_L \cdot S_L \quad (4)$$

$$M_A = \frac{J_L}{J_A + J_L} \quad M_L = \frac{J_A}{J_A + J_L} \quad (5)$$

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

2.1 Load produced by rated torque

$$T_{KN} \geq T_N \cdot S_t \quad (6)$$

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

2.2 Passing through the resonance range

$$T_{K \max} \geq T_S \cdot S_t \quad (7)$$

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

2.3 Load produced by vibratory torque shocks

$$T_{KW} \geq T_W \cdot S_t \quad (8)$$

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

$$P_{KW} \geq P_W \quad (9)$$

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

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

Description	Symbol	Definition or explanation
Rated torque of coupling	T_{KN}	Torque that can continuously be transmitted over the entire permissible speed range
Maximum torque of coupling	$T_{K \max}$	Torque that can be transmitted as dynamic load $\geq 10^5$ times or 5×10^4 as vibratory load, respectively, during the entire operating life of the coupling
Vibratory torque of coupling	T_{KW}	Torque amplitude of the permissible periodical torque fluctuation with a frequency of 10 Hz and a basic load of T_{KN} or dynamic load up to T_{KN} , respectively
Damping power of coupling	P_{KW}	Permissible damping power with an ambient temperature of + 30 °C.
Rated torque of machine	T_N	Stationary rated torque on the coupling
Peak torque of the machine	T_S	Peak torque on the coupling
Peak torque on the driving side	T_{AS}	Peak torque with torque shock on the driving side, e. g. breakdown torque of the electric motor

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

Coupling selection

Service factor S_t for temperature

	-30 °C +30 °C	+40 °C	+60 °C	+80 °C
S_t	1,0	1,2	1,4	1,8

Service factor S_Z for starting frequency

starting frequency/h	100	200	400	800
S_Z	1,0	1,2	1,4	1,6

Service factor S_A/S_L for shocks

	S_A/S_L
gentle shocks	1,5
average shocks	1,8
heavy shocks	2,5

Permissible load on feather key of the coupling hub

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

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

Cast iron EN-GJL-250 (GG 25) 225 N/mm²
 material nodular iron EN-GJS-400-15 (GGG 40) 225 N/mm²
 material steel S355J2G3 (St 52.3) 250 N/mm²
 for other steel materials $p_{zul} = 0,9 \cdot R_e (R_{p0,2})$

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

Details of driving side:

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

Details of load side:

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

Coupling selection:

Load produced by rated torque:

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

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

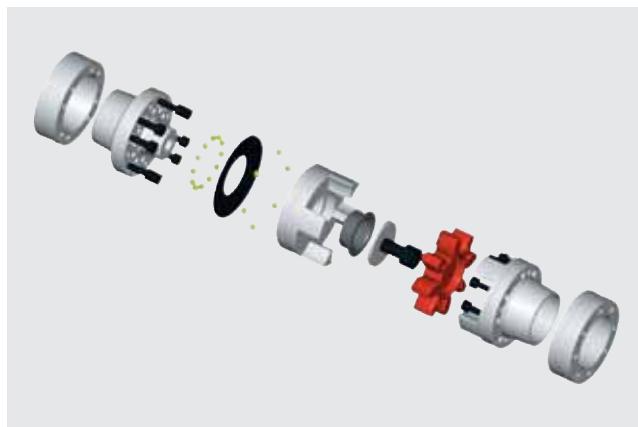
$$\begin{aligned} T_{KN} &= 2400 \text{ Nm} \\ T_{K \max} &= 4800 \text{ Nm} \end{aligned}$$

Load produced by torque shocks:

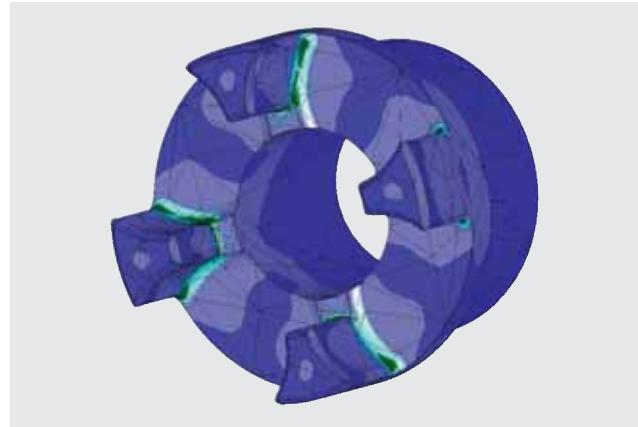
$$\begin{aligned} T_{K \max} &\geq T_S \cdot S_Z \cdot S_t && \text{factors:} \\ T_S &= T_{AS} \cdot M_A \cdot S_A \\ T_S &= 2122,5 \cdot 0,7 \cdot 1,8 \\ T_S &= 2674,4 \text{ Nm} \\ M_A &= \frac{J_L}{J_A + J_L} = 0,7 \\ T_{K \max} &\geq 2674,4 \cdot 1 \cdot 1,4 \\ T_{K \max} &\geq 3744 \text{ Nm} &&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

KTR products developed by . . .

3D-CAD-System



FEM calculation



Technical data

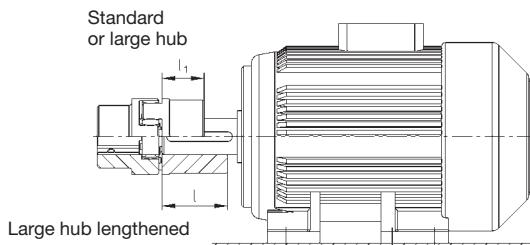
ROTEX® sizes for all designs and materials	Max. speed [1/min] with V = 30 m/s 40 m/s	Twisting angle with		Torque [Nm]			Damping power [W] with +30 °C P _{KW}	Torsion spring stiffness C _{dyn} [$\frac{\text{Nm}}{\text{rad}}$]			
		T _{KN} φ	T _{K max} φ	Rated T _{KN}	Max T _{K max}	Vibratory T _{KW}		1,00 T _{KN}	0,75 T _{KN}	0,50 T _{KN}	0,25 T _{KN}
Spider from polyurethane 92 Shore A; colour yellow											
14	19000	–	6,4°	10°	7,5	15	2,0	–	0,38x10 ³	0,31x10 ³	0,24x10 ³
19	14000	19000			10	20	2,6	4,8	1,28x10 ³	1,05x10 ³	0,80x10 ³
24	10600	14000			35	70	9,1	6,6	4,86x10 ³	3,98x10 ³	3,01x10 ³
28	8500	11800			95	190	25	8,4	10,90x10 ³	8,94x10 ³	6,76x10 ³
38	7100	9500			190	380	49	10,2	21,05x10 ³	17,26x10 ³	13,05x10 ³
42	6000	8000			265	530	69	12,0	23,74x10 ³	19,47x10 ³	14,72x10 ³
48	5600	7100			310	620	81	13,8	36,70x10 ³	30,09x10 ³	22,75x10 ³
55	4750	6300			410	820	107	15,6	50,72x10 ³	41,59x10 ³	31,45x10 ³
65	4250	5600	3,2°	5°	625	1250	163	18,0	97,13x10 ³	79,65x10 ³	60,22x10 ³
75	3550	4750			1280	2560	333	21,6	113,32x10 ³	92,92x10 ³	70,26x10 ³
90	2800	3750			2400	4800	624	30,0	190,09x10 ³	155,87x10 ³	117,86x10 ³
100	2500	3350			3300	6600	858	36,0	253,08x10 ³	207,53x10 ³	156,91x10 ³
110	2240	3000			4800	9600	1248	42,0	311,61x10 ³	255,52x10 ³	193,20x10 ³
125	2000	2650			6650	13300	1729	48,0	474,86x10 ³	389,39x10 ³	294,41x10 ³
140	1800	2360			8550	17100	2223	54,6	660,49x10 ³	541,60x10 ³	409,50x10 ³
160	1500	2000			12800	25600	3328	75,0	890,36x10 ³	730,10x10 ³	552,03x10 ³
180	1400	1800			18650	37300	4849	78,0	2568,56x10 ³	2106,22x10 ³	1592,51x10 ³
Spider from polyurethane 98 Shore A; from size 65 95 Shore A; colour red											
14	19000	–	6,4°	10°	12,5	25	3,3	–	0,56x10 ³	0,46x10 ³	0,35x10 ³
19	14000	19000			17	34	4,4	4,8	2,92x10 ³	2,39x10 ³	1,81x10 ³
24	10600	14000			60	120	16	6,6	9,93x10 ³	8,14x10 ³	6,16x10 ³
28	8500	11800			160	320	42	8,4	26,77x10 ³	21,95x10 ³	16,60x10 ³
38	7100	9500			325	650	85	10,2	48,57x10 ³	39,83x10 ³	30,11x10 ³
42	6000	8000			450	900	117	12,0	54,50x10 ³	44,69x10 ³	33,79x10 ³
48	5600	7100			525	1050	137	13,8	65,29x10 ³	53,54x10 ³	40,48x10 ³
55	4750	6300			685	1370	178	15,6	94,97x10 ³	77,88x10 ³	58,88x10 ³
65	4250	5600	3,2°	5°	940	1880	244	18,0	129,51x10 ³	106,20x10 ³	80,30x10 ³
75	3550	4750			1920	3840	499	21,6	197,50x10 ³	161,95x10 ³	122,45x10 ³
90	2800	3750			3600	7200	936	30,0	312,20x10 ³	256,00x10 ³	193,56x10 ³
100	2500	3350			4950	9900	1287	36,0	383,26x10 ³	314,27x10 ³	237,62x10 ³
110	2240	3000			7200	14400	1872	42,0	690,06x10 ³	565,85x10 ³	427,84x10 ³
125	2000	2650			10000	20000	2600	48,0	1343,64x10 ³	1101,79x10 ³	833,06x10 ³
140	1800	2360			12800	25600	3328	54,6	1424,58x10 ³	1168,16x10 ³	883,24x10 ³
160	1500	2000			19200	38400	4992	75,0	2482,23x10 ³	2035,43x10 ³	1538,98x10 ³
180	1400	1800			28000	56000	7280	78,0	3561,45x10 ³	2920,40x10 ³	2208,10x10 ³
Spider from polyurethane 64 Shore D-F; colour natural white with green tooth marking¹⁾											
14	19000	–	4,5°	7,0°	16	32	4,2	9,0	0,76x10 ³	0,62x10 ³	0,47x10 ³
19	14000	19000			21	42	5,5	7,2	5,35x10 ³	4,39x10 ³	3,32x10 ³
24	10600	14000			75	150	19,5	9,9	15,11x10 ³	12,39x10 ³	9,37x10 ³
28	8500	11800			200	400	52	12,6	27,52x10 ³	22,57x10 ³	17,06x10 ³
38	7100	9500			405	810	105	15,3	70,15x10 ³	57,52x10 ³	43,49x10 ³
42	6000	8000			560	1120	146	18,0	79,86x10 ³	65,49x10 ³	49,52x10 ³
48	5600	7100			655	1310	170	20,7	95,51x10 ³	78,32x10 ³	59,22x10 ³
55	4750	6300			825	1650	215	23,4	107,92x10 ³	88,50x10 ³	66,91x10 ³
65	4250	5600	2,5°	3,6°	1175	2350	306	27,0	151,09x10 ³	123,90x10 ³	93,68x10 ³
75	3550	4750			2400	4800	624	32,4	248,22x10 ³	203,54x10 ³	153,90x10 ³
90	2800	3750			4500	9000	1170	45,0	674,52x10 ³	553,11x10 ³	418,20x10 ³
100	2500	3350			6185	12370	1608	54,0	861,17x10 ³	706,16x10 ³	533,93x10 ³
110	2240	3000			9000	18000	2340	63,0	1138,59x10 ³	933,64x10 ³	705,92x10 ³
125	2000	2650			12500	25000	3250	72,0	1435,38x10 ³	1177,01x10 ³	889,93x10 ³
140	1800	2360			16000	32000	4160	81,9	1780,73x10 ³	1460,20x10 ³	1104,05x10 ³
160	1500	2000			24000	48000	6240	112,5	3075,80x10 ³	2522,16x10 ³	1907,00x10 ³
180	1400	1800			35000	70000	9100	117,0	6011,30x10 ³	4929,27x10 ³	3727,01x10 ³

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

For peripheral speeds exceeding V = 35 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	0,80	0,75
Resonance factor V _R [-]	7,90	7,90	8,50

Selection of standard IEC motors



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

A. C. motor 50 Hz			Motor output n = 3000 1/min 2-pole		ROTEX® coupling size	Motor output n = 1500 1/min 4-pole		ROTEX® coupling size	Motor output n = 1000 1/min 6-pole		ROTEX® coupling size	Motor output n = 750 1/min 8-pole		ROTEX® coupling size				
Size	Shaft end dxi [mm]		Output P [kW]	Torque T [Nm]		Output P [kW]	Torque T [Nm]		Output P [kW]	Torque T [Nm]		Output P [kW]	Torque T [Nm]					
	2-pole	4,6,8 pole																
56	9 x 20		0,09	0,32	9 ¹⁾	0,06	0,43	9 ¹⁾	0,037	0,43	9 ¹⁾							
			0,12	0,41		0,09	0,64		0,045	0,52								
63	11 x 23		0,18	0,62	14	0,12	0,88	14	0,06	0,7	14							
			0,25	0,86		0,18	1,3		0,09	1,1								
71	14 x 30		0,37	1,3		0,25	1,8		0,18	2		0,09	1,4	14				
			0,55	1,9		0,37	2,5		0,25	2,8		0,12	1,8					
80	19 x 40		0,75	2,5	19	0,55	3,7	19	0,37	3,9	19	0,18	2,5					
			1,1	3,7		0,75	5,1		0,55	5,8		0,25	3,5	19				
90S	24 x 50		1,5	5		1,1	7,5		0,75	8		0,37	5,3					
			2,2	7,4		1,5	10		1,1	12		0,55	7,9					
100L	28 x 60		3	9,8	24	2,2	15	24	1,5	15	24	0,75	11	24				
			4	13		3	20		2,2	22		1,1	16					
112M			5,5	18		5,5	36	28	3	30	28	2,2	30	28				
	38 x 80		7,5	25		7,5	49		4	40		3	40					
132S			11	36	38	11	72	38	7,5	75	38	4	54					
			15	49		15	98		11	109		5,5	74	38				
160L			18,5	60		18,5	121		11	109		7,5	100					
	48 x 110		22	71		22	144	42	15	148	42	11	145	42				
180M			30	97	42	30	196		18,5	181		15	198					
			37	120		37	240		22	215								
225S	55 x 110		45	145		45	292	48	30	293	55	18,5	244	48				
	60 x 140		55	177		55	356		37	361		22	290					
250M	60 x 140		75	241	55	75	484	65 ²⁾	45	438	65 ²⁾	30	392	65				
	75 x 140		90	289		90	581		55	535		37	483					
280S			110	353		110	707	75 ²⁾	75	727	75 ²⁾	45	587	75 ²⁾				
	80 x 170		132	423		132	849		90	873		55	712					
315M	65 x 140		160	513	75	160	1030	90	110	1070	90	75	971					
			200	641		200	1290		132	1280		110	1420	90				
315L	85 x 170		250	802	75	250	1600		160	1550		132	1710					
			315	1010		315	2020		200	1930		160	2070					
355	75 x 140		355	1140		355	2280	100	250	2410	100	200	2580	100				
	95 x 170		400	1280		400	2570		315	3040		250	3220					
400	80 x 170		500	1600		500	3210	110	400	3850	125	315	4060	125				
			560	1790		560	3580		450	4330		355	4570					
440	110 x 210		630	2020	100	630	4030	125	500	4810	140	400	5150	140				
			710	2270		710	4540		560	5390		450	5790					
450	90 x 170		800	2560	110	800	5120	140	630	6060	160	500	6420					
			900	2880		900	5760		710	6830		560	7190	160				
450	120 x 210		1000	3200	110	1000	6400	160	800	7690	160	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.

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

1) For dimensions see ROTEX® GS line

2) Motor hub from steel see page 27

ROTEX® Torsionally flexible couplings

For advanced
drive
technology

The KTR logo consists of the letters "KTR" in a bold, black, sans-serif font. A registered trademark symbol (®) is located at the bottom right of the "T". Below the letters is a stylized, downward-pointing chevron shape.

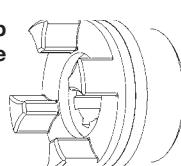
Cylindrical bores · Spline bores

Basic programme (cylindrical bores)

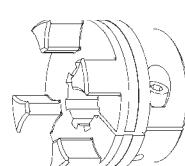
● Standard length

■ Large hub lengthened

Design 1.3 hub with spline bore



Design 2.3 clamping hub with spline bore



SAE involute spline					
Spline code	Size	Pitch circle	Pitch	No. of teeth	Angle
PH-S	5/8"	14,28	16/32	9	30°
PI-S	3/4"	17,46	16/32	11	30°
PB-S	7/8"	20,63	16/32	13	30°
PB-BS	1"	23,81	16/32	15	30°
PJ	11/8"	26,98	16/32	17	30°
PC-S	11/4"	29,63	12/24	14	30°
PA-S	13/8"	33,33	16/32	21	30°
PS-S	11/2"	35,98	12/24	17	30°
PD-S	11/2"	36,51	16/32	23	30°
PE-S	13/4"	42,86	16/32	27	30°
PK	13/4"	41,275	8/16	13	30°
PT-C	2"	47,625	8/16	15	30°
PQ-C	21/4"	53,975	8/16	17	30°

Spline bores to DIN 5482				
Size	Pitch circle	Pitch	No. of teeth	Profile correction
A 17 x 14	14,40	1,6	9	+0,600 ¹⁾
A 20 x 17	19,20	1,6	12	-0,2
A 25 x 22	22,4	1,6	14	+0,550
A 28 x 25	26,25	1,75	15	+0,302
A 30 x 27	28,00	1,75	16	+0,327
A 35 x 31	31,50	1,75	18	+0,676
A 40 x 36	38,00	1,9	20	+0,049
A 45 x 41	44,00	2	22	+0,181
A 50 x 47	50,00	—	—	—

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

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

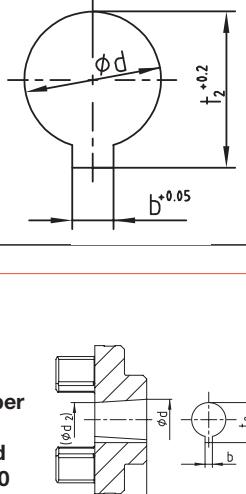
2) spline correction different with DIN

**Other spline bores, taper bores and
inch bores on request.**

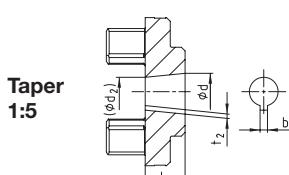
Inch bores · Taper bores

Basic programme (Inch bores)

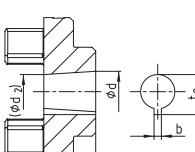
ROTEX® Size				19		24		28		38		42		48		55	65	75	90
Material				St	AL-D	St	AL-D	St	AL-D	GG	GG	St	GG	GG	GG	GG	GG	GG	
Code	Ød	Ød Zoll	b ^{+0,05}	t ₂ ^{+0,2}															
Tb	9,5 ^{+0,03}	3/8	3,17	11,1															
DNB	11,11 ^{M7}	7/16	2,4	12,5															
T	12,69 ^{H7}	1/2	4,75	14,6															
Ta	12,7 ^{+0,03}	1/2	3,17	14,3	●		●												
DNC	13,45 ^{H7}	17/32	3,17	14,9															
Do	14,29 ^{+0,03}	9/16	3,17	15,6															
E	15,87 ^{+0,03}	5/8	3,17	17,5															
S	15,87 ^{+0,03}	5/8	3,97	17,9															
Es	15,88 ^{+0,03}	5/8	4,00	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															
A	19,05 ^{+0,03}	3/4	4,78	21,3	●		●	●	●	●									
Fa	22,20 ^{+0,03}	7/8	6,35	25,2															
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															
Hs	25,40 ^{+0,03}	1	6,35	28,7															
R	26,95 ^{+0,03}	1 1/16	4,78	29,3															
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	31,7 ^{H7}	1 3/16	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															
Ks	31,75 ^{+0,03}	1 1/4	7,93	36,6															
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		●		●											
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															
U	57,10 ^{+0,03}	2 1/4	12,7	62,9															
Ub	60,325 ^{M7}	2 1/8	15,875	67,6															
Wd	85,725 ^{M7}	3 3/8	22,225	95,8															
Wf	92,075 ^{M7}	3 3/8	22,225	101,9															



Taper bores



Taper 1:8 and 1:10



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

= Basic programme

Taper 1:5					
Code	Details of bores				
	d + 0,05	(d ₂)	b ^{J59}	t ₂ + 0,1	l _K
A-10	9,85	7,55	2	1,0	11,5
B-17	16,85	13,15	3	1,8	18,5
C-20	19,85	15,55	4	2,2	21,5
Cs-22	21,95	17,65	3	1,8	21,5
D-25	24,85	19,821	5	2,9	26,5
E-30	29,85	23,55	6	2,6	31,5
F-35	34,85	27,55	6	2,6	36,5
G-40	39,85	32,85	6	2,6	35,0

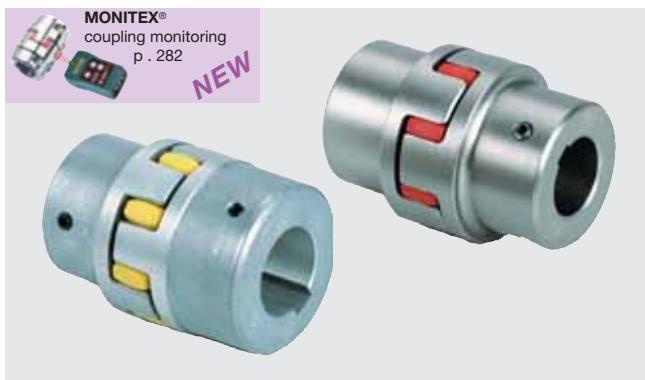
Taper 1:8

Code	Details of bores				
	d + 0,05	(d ₂)	b ^{J59}	t ₂ + 0,1	l _K
CX	19,95	16,75	5	22,08	32
DX	24,95	20,45	6	26,68	45
EX	29,75	24,75	8	31,88	50

Taper 1:10

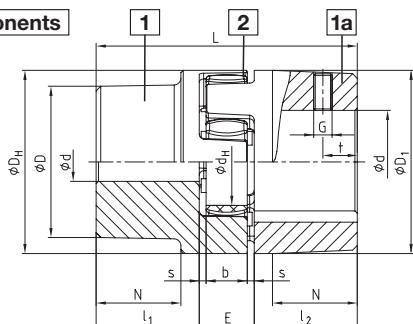
Code	Details of bores				
	d + 0,05	(d ₂)	b ^{J59}	t ₂ + 0,1	l _K
CX	19,95	16,75	5	22,08	32
DX	24,95	20,45	6	26,68	45
EX	29,75	24,75	8	31,88	50

Shaft coupling design No. 001 - casted materials

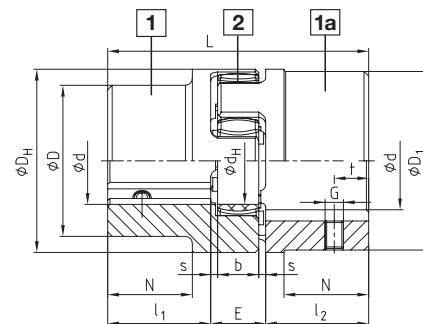


- Torsionally flexible, maintenance-free
- Damping vibrations
- Axial plug-in, fail-safe
- Allover machining – good dynamic properties
- Compact design/small flywheel effect
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9
- Basic programme/stock programme see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

Components



AL-D (thread opposite the keyway)



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

ROTEX® Aluminium diecast (Al-D)																		
Size	Component	Spider (part 2) ¹⁾			Finish bore d (min-max)	Dimensions [mm]												
		92 Sh A	98 Sh A	64 Sh D		General					Thread for setscrews ²⁾							
14 ³⁾	1a	7,5	12,5	-	6-16	35	11	13	10	1,5	30	10	30	-	M4	5	1,5	
19	1	10	17	-	6-19	66	25	16	12	2	41	18	32	20	M5	10	2	
24	1	35	60	-	9-24	78	30	18	14	2	56	27	40	24	M5	10	2	
28	1	95	160	-	10-28	90	35	20	15	2,5	66	30	48	28	M8	15	10	
	1a				28-38							66						

ROTEX® Cast iron EN-GJL-250 (GG 25)

38	1	190	325	405	12-40	114	45	24	18	3	80	38	66	37	M8	15	10
	1a				38-48								78				
	1b				12-48								62				
42	1	265	450	560	14-45	126	50	26	20	3	95	46	75	40	M8	20	10
	1a				42-55								94				
	1b				14-55								65				
48	1	310	525	655	15-52	140	56	28	21	3,5	105	51	85	45	M8	20	10
	1a				48-62								104				
	1b				15-62								69				
55	1	410	685	825	20-60	160	65	30	22	4	120	60	98	52	M10	20	17
	1a				55-74								118				
	1b				20-74								120				
65	1	625	940	1175	22-70	185	75	35	26	4,5	135	68	115	61	M10	20	17
	1a				65-80								135				
	1b				22-80								-				
75	1	1280	1920	2400	30-80	210	85	40	30	5	160	80	135	69	M10	25	17
	1a				75-95								160				
	1b				30-95								-				
90	1	2400	3600	4500	40-97	245	100	45	34	5,5	200	100	160	81	M12	30	40
	1a				90-110								200				
	1b				40-110								-				

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

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

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

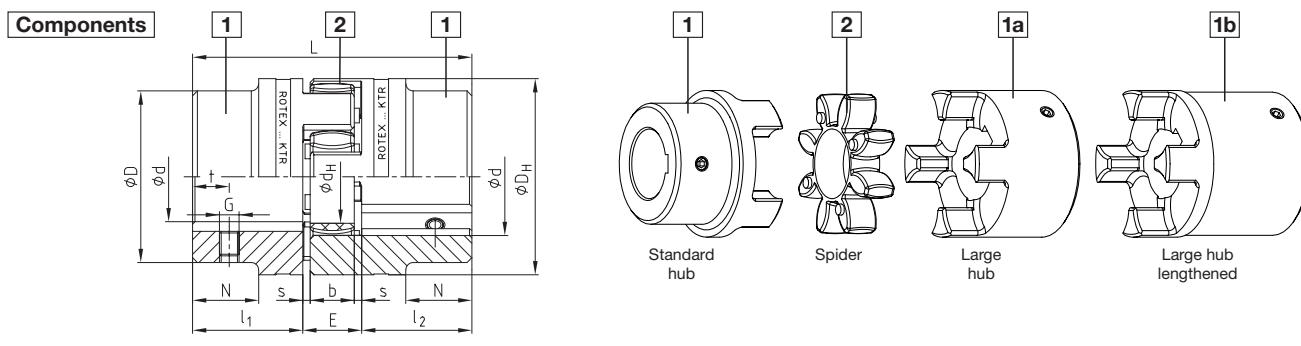
1) Maximum torque of the coupling T_{Kmax} = rated torque of the coupling T_K Nenn. $\times 2$. 2) From size 125 thread for setscrews on request.

3) Material Al-H.

Shaft coupling design No. 001 - material steel



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



Steel (thread on the keyway)

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

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

¹⁾ = 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. × 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

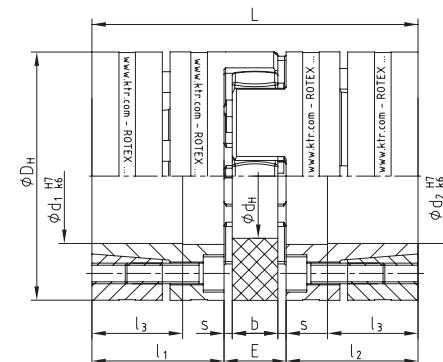
Order form:

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

Shaft coupling design clamping ring hubs



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



Size	Torques [Nm] ¹⁾				Dimensions [mm]								Clamping screws				Weight per hub with max. bore [kg]	Mass moment of inertia per hub with max. bore [kg m ²]
	92 Sh A	98 Sh A	T _{KN}	T _{Kmax}	D _H ³⁾	d _H	L	l ₁ ; l ₂	l ₃	E	b	s	M	Number z	T _A [Nm]	M1		
⁴⁾ Hub material – Aluminium (Al-H) optionally steel Clamping ring material – Steel (St-H)																		
14	7,5	15	12,5	25	30	10,5	50	18,5	13,5	13	10	1,5	M3	4	1,34	M3	0,049	0,07 x 10 ⁻⁴
19	10,0	20	17	34	40	18	66	25	18	16	12	2,0	M4	6	3	M4	0,120	0,31 x 10 ⁻⁴
24	35,0	70	60	120	55	27	78	30	22	18	14	2,0	M5	4	6	M5	0,280	1,35 x 10 ⁻⁴
28	95,0	190	160	320	65	30	90	35	27	20	15	2,5	M5	8	6	M5	0,450	3,13 x 10 ⁻⁴
38	190,0	380	325	650	80	38	114	45	35	24	18	3,0	M6	8	10	M6	0,950	9,60 x 10 ⁻⁴
Hub and clamping ring material – Steel (St-H)																		
42	265	530	450	900	95	46	126	50	35	26	20	3,0	M8	4	35	M8	2,30	31,7 x 10 ⁻⁴
48	310	620	525	1050	105	51	140	56	41	28	21	3,5	M10	4	69	M10	3,08	52,0 x 10 ⁻⁴
55	375	750	685	1370	120	60	160	65	45	30	22	4,0	M10	4	69	M10	4,67	103,0 x 10 ⁻⁴
65	-	-	940 ²⁾	1880 ²⁾	135	68	185	75	55	35	26	4,5	M12	4	120	M12	6,70	191,0 x 10 ⁻⁴
75	-	-	1920 ²⁾	3840 ²⁾	160	80	210	85	63	40	30	5,0	M12	5	120	M12	9,90	396,8 x 10 ⁻⁴

1) Please note coupling selection on pages 104, 105, 117 2) Figures for 95 Sh A 3) $\text{OD}_H + 2 \text{ mm}$ with high speeds for expansion of spider

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

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

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

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

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

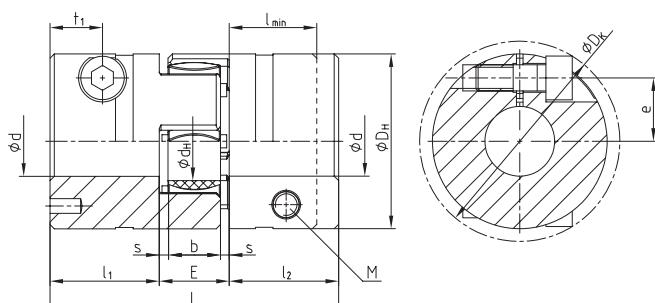
If hollow shafts are used, the strength must be checked (see KTR mounting instructions, KTR Standard 45510 at our homepage www.ktr.com).

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

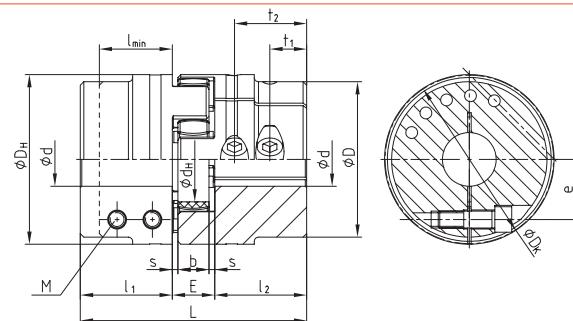
Shaft couplings design clamping hubs



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



ROTEX® 19 - 28



ROTEX® 38 - 90

Size	Dimensions [mm]															
	d _{max.}	L	l _{1/l_2}	l _{min.}	E	b	s	D _H	D	d _H	M	D _K	t ₁	t ₂	e	T _A [Nm]
19	20 ¹⁾	66	25	20	16	12	2	40	-	18	M6	46,0	12	-	14,5	14
24	28	78	30	25	18	14	2	55	-	27	M6	57,5	12	-	20,0	14
28	38	90	35	30	20	15	2,5	65	-	30	M8	73,0	14 ²⁾	-	25,0	35
38	42	114	45	35	24	18	3	80	70	38	M8	77,5	19	-	26,5	35
42	50	126	50	42	26	20	3	95	85	46	M10	93,5	18 ²⁾	-	32,0	69
48	55	140	56	46	28	21	3,5	105	95	51	M12	105,0	21 ²⁾	-	36,0	120
55	68	160	65	50	30	22	4	120	110	60	M12	119,5	26	51 ²⁾	42,5 ³⁾	120
65	70	185	75	55	35	26	4,5	135	115	68	M12	132,5	33	61 ²⁾	50,0 ³⁾	120
75	80	210	85	65	40	30	5	160	135	80	M16	158,0	36	68 ²⁾	57,0 ³⁾	295
90	90	245	100	80	45	34	5,5	200	160	100	M20	197,0	40	80 ²⁾	72,0 ³⁾	580

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

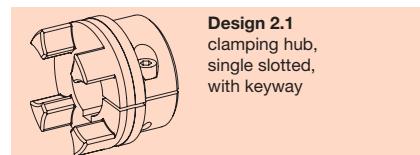
1) With design 2.1 dmax. Ø17 mm

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

3) t₁ and t₂ have a different e dimension



Design 2.0
clamping hub,
single slotted,
without keyway



Design 2.1
clamping hub,
single slotted,
with keyway



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

Order form:

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

ROTEX® Torsionally flexible couplings

Flange programme

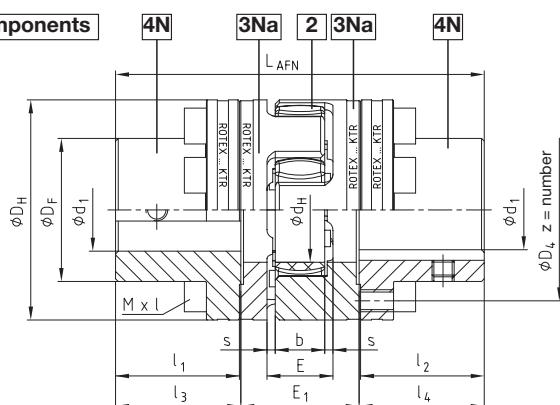
Designs AFN No. 002 and BFN No. 004

For advanced
drive
technology



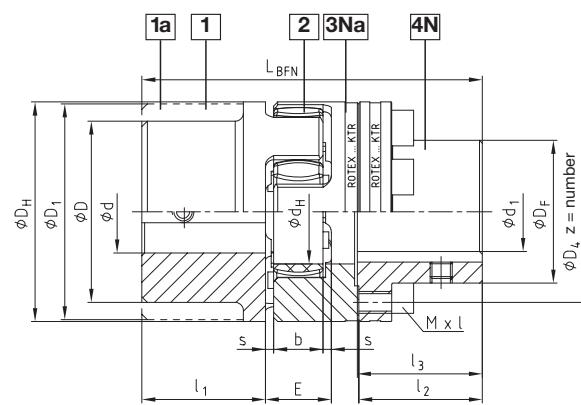
- Double flange design AFN and flange design BFN applicable to heavy machinery
- Radial assembly of driving or driven machine after disassembly of driving flanges
- For design AFN - spider interchangeable while coupling installed, without removal of driving or driven machine
- Power flow can be disconnected 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

Components



Design BFN

Size AFN BFN	Pilot bored ϕD ϕD_1	Component 4N [St] unbored or finish bored $\phi d_{1\max}$	Dimensions										Cyl. screws ³⁾ DIN EN ISO 4762-12.9					
			D_H	D_F	D_4	d_H	$l_1; l_2$	E	E_1	s	b	$l_3; l_4$	L_{AFN}	L_{BFN}	$M \times l$	No. z	Pitch ²⁾ $z \times \frac{\pi}{2}$	T_A ¹⁾ [Nm]
24		24	55	36	45	27	30	18	33	2	14	30,5	94	86	M5x16	8	10	
28		28	65	42	54	30	35	20	39	2,5	15	35,5	110	100	M6x20	8	8 x 45°	17
38	unbored from stock see shaft coupling page 26 and 27 basic programme see pages 24 and 25	38	80	52	66	38	45	24	43	3	18	45,5	134	124	M8x22	8	41	
42		42	95	62	80	46	50	26	48	3	20	51,0	150	138	M8x25	12	41	
48		48	105	70	90	51	56	28	50	3,5	21	57,0	164	152	M8x25	12	16 x 22,5°	41
55		55	120	80	102	60	65	30	60	4	22	66,0	192	176	M10x30	8	8 x 45°	83
65		65	135	94	116	68	75	35	65	4,5	26	76,0	217	201	M10x30	12	16 x 22,5°	83
75		75	160	108	136	80	85	40	75	5	30	86,5	248	229	M12x40	15	120	
90		100	200	142	172	100	100	45	82	5,5	34	101,5	285	265	M16x40	15	295	
100		110	225	158	195	113	110	50	97	6	38	111,5	320	295	M16x50	15	295	
110		125	255	178	218	127	120	55	103	6,5	42	122,0	347	321	M20x50	15	20 x 18°	580
125		145	290	206	252	147	140	60	116	7	46	142,0	400	370	M20x60	15	580	
140		165	320	235	282	165	155	65	128	7,5	50	157,5	443	409	M20x60	15	580	
160	on request	190	370	270	325	190	175	75	146	9	57	177,5	501	463	M24x70	15	1000	
180		220	420	315	375	220	195	85	159	10,5	64	198,0	555	515	M24x80	18	24 x 15°	1000

1) Screw tightening torque T_A [Nm].

2) Thread in driving flange between cams.

3) Coupling is delivered not assembled.

Order form:

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

ROTEX® Torsionally flexible couplings

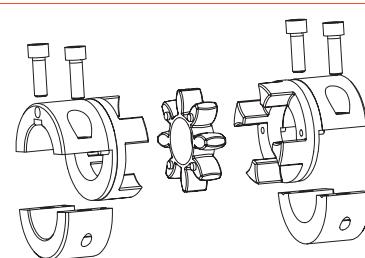
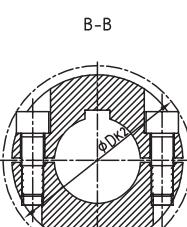
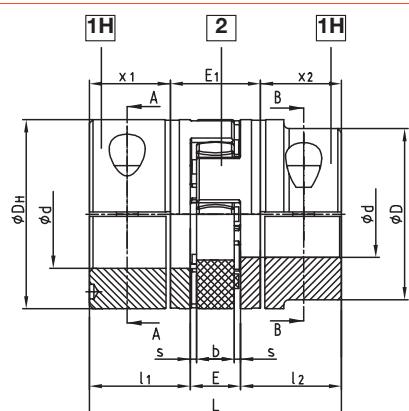
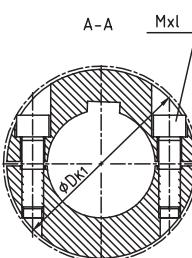
Flange programm

Design A-H



- Assembly/disassembly by means of 4 screws only
- Exchange of spider with no need to shift the driving and driven side (motor and pump)
- Positive-locking and frictionally engaged hub combinations to be assembled radially (dimension E₁ of design AFN = dimension E₁ of A-H)
- Finish bore according to ISO tolerance H7, feather key according to DIN 6885 sheet 1 - JS9
- Please order our separate dimension sheet (M425460)
- Approved according to EC Standard 94/9/EC (Explosion Certificate ATEX 95) (type 7.8 shell clamping hub without feather key according to category 3)
- Mounting instructions under www.ktr.com

Components



Design A-H

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

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

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

Size A-H	Compon- ent	Finish bore $\varnothing d_{max}$ [mm]	Dimensions [mm]										Cylinder screws DIN EN ISO 4762		
			L	$l_1; l_2$	E	b	s	D_H	D	D_{K1}	D_{K2}	x_1/x_2	E_1	Mxl	T_A [Nm]
19	1H	20	66	25	16	12	2,0	40	-	46	-	17,5	31	M6x16	14
24	1H	28	78	30	18	14	2,0	55	-	57,5	-	22,5	33	M6x20	14
28	1H	38	90	35	20	15	2,5	65	-	73	-	25,5	39	M8x25	35
38	1H	45	114	45	24	18	3,0	80	-	83,5	-	35	43	M8x30	35
42	1H	50	126	50	26	20	3,0	95	85	-	93,5	39	48	M10x30	69
		55							-	97	-			M10x35	
48	1H	55	140	56	28	21	3,5	105	95	-	105	45	50	M12x35	120
		60							-	108,5	-			M12x40	
55	1H	65	160	65	30	22	4,0	120	110	-	119,5	50	60	M12x40	120
		70							-	122	-			M12x45	
65	1H	70	185	75	35	26	4,5	135	115	-	123,5	60	65	M12x40	120
		80							-	132,5	-			M12x45	
75	1H	80	210	85	40	30	5,0	160	135	-	147,5	67,5	75	M16x50	295
		90							-	158	-				
90	1H	90	245	100	45	34	5,5	200	160	-	176	81,5	82	M20x60	580
		110							-	197	-				
100 ¹⁾	1H	110	270	110	50	38	6,0	225	180	-	185,5	84	102	M16x50	295
110 ¹⁾	1H	120	295	120	55	42	6,5	255	200	-	208	90	115	M20x60	580
125 ¹⁾	1H	140	340	140	60	46	7,0	290	230	-	242,5	105	130	M24x70	1000

Size	Basic programme															
	$\varnothing 14$	$\varnothing 19$	$\varnothing 24$	$\varnothing 28$	$\varnothing 32$	$\varnothing 35$	$\varnothing 38$	$\varnothing 42$	$\varnothing 48$	$\varnothing 50$	$\varnothing 55$	$\varnothing 60$	$\varnothing 65$	$\varnothing 75$	$\varnothing 80$	$\varnothing 85$
19																
24	●	●	●	●												
28		●	●	●	●	●	●									
38		●	●	●	●	●	●	●	●	●						
42		●	●	●	●	●	●	●	●	●						
48		●	●	●	●	●	●	●	●	●						
55				●	●	●	●	●	●	●	●	●	●	●		
65					●	●	●	●	●	●	●	●	●	●		
75						●	●	●	●	●	●	●	●	●		
90							●	●	●	●	●	●	●	●	●	

Order form:

ROTEX®-38	A-H	98	1H	$\varnothing 38$	1H	$\varnothing 30$
Coupling size	Design	Spider hardness [Sh A]	Component	Finish bore $\varnothing d_1$	Component	Finish bore $\varnothing d_2$

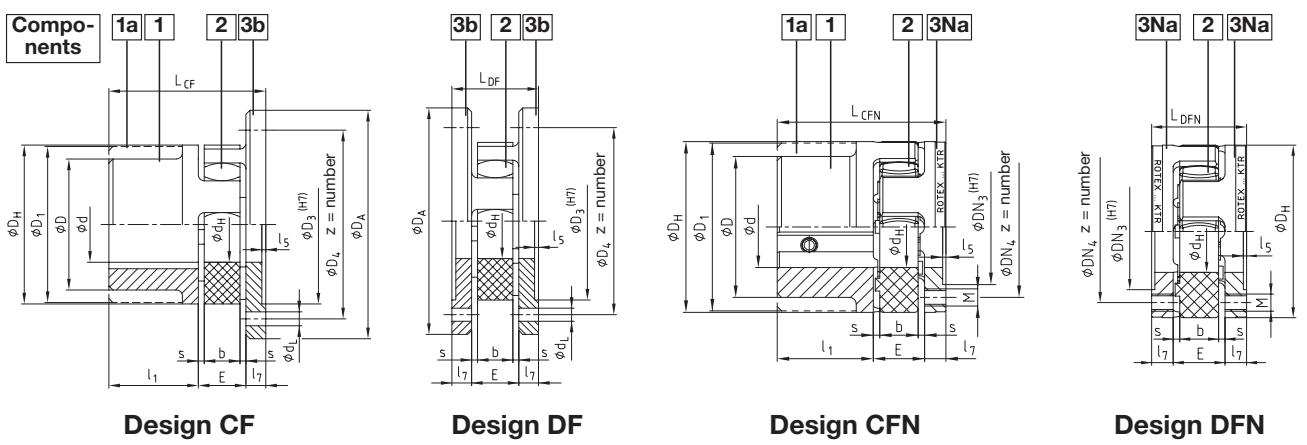
ROTEX® Torsionally flexible couplings

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

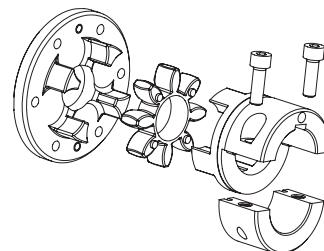


Size CF/CFN DF/DFN 3b 3Na	Component	Pilot bore $\varnothing d_0$, $\varnothing D_1$	General dimensions							Dimensions CF and DF							Dimensions CFN and DFN							
			D_H	d_H	l_1	E	s	b	l_5	l_7	D_A	D_3	D_4	No. z	d_L	l_{CF}	l_{DF}	DN_3	DN_4	M	No. z	Pitch $z \times \frac{d}{2}$	l_{CF}	l_{DF}
24			55	27	30	18	2	14	1,5	8	80	55	65	5	4,5	56	34	36	45	M5	8		56	34
28			65	30	35	20	2,5	15	1,5	10	100	65	80	6	6,6	65	40	44	54	M6	8	8x45°	65	40
38			80	38	45	24	3	18	1,5	10	115	80	95	6	6,6	79	44	54	66	M8	8		79	44
42			95	46	50	26	3	20	2	12	140	95	115	6	9	88	50	65	80	M8	12		88	50
48			105	51	56	28	3,5	21	2	12	150	105	125	8	9	96	52	75	90	M8	12	16x22,5°	96	52
55			120	60	65	30	4	22	2	16	175	120	145	8	11	111	62	84	102	M10	8	8x45°	111	62
65			135	68	75	35	4,5	26	2	16	190	135	160	10	11	126	67	96	116	M10	12	16x22,5°	126	67
75			160	80	85	40	5	30	2,5	19	215	160	185	10	13,5	144	78	112	136	M12	15		144	78
90			200	100	100	45	5,5	34	3	20	260	200	225	12	13,5	165	85	145	172	M16	15		165	85
100			225	113	110	50	6	38	4	25	285	225	250	12	13,5	185	100	165	195	M16	15		185	100
110		see shaft coupling on pages 26 and 27 basic programme see pages 24 and 25	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 30)

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

- Please order our separate dimension sheet (M412069).



Order form:

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

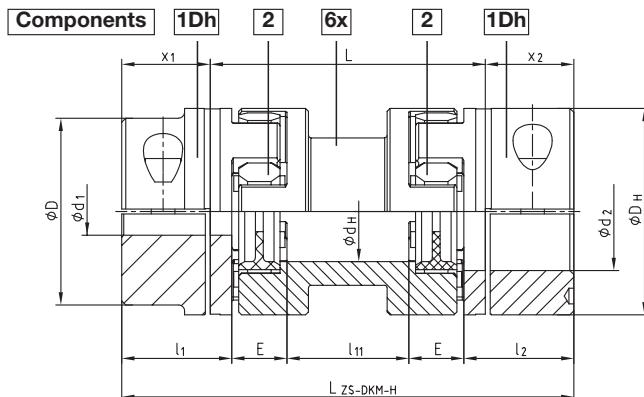
ROTEX® Torsionally flexible couplings

Double cardanic – the innovation in pump design

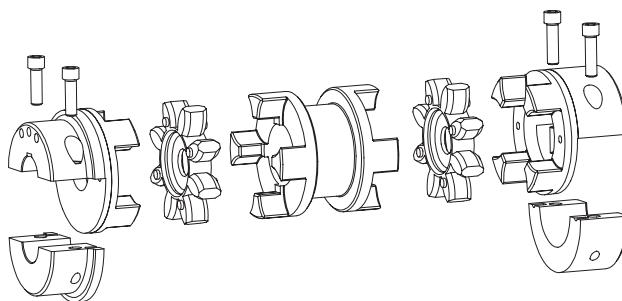
Type ZS-DKM-H



- Standard spacers up to 250 mm shaft distance dimension – ex stock
- Assembly/disassembly through 4 screws only
- Compensates for high shaft displacements due to double-cardanic design
- Remains torsionally symmetric in case of shaft displacements
- Reduced vibration and noise
- Low restoring forces → Increase of the total lifetime of all adjacent components (bearings, seals etc.)
- Finish bore according to ISO fit H7, feather keyway according to DIN 6885 sheet 1 - JS9
- Approved according to EC Standard 94/9/EC (Explosion Certificate ATEX 95) (type 7.6 marked at stock, type 7.5 shell clamping hub without feather key according to category 3)
- Mounting instructions under www.ktr.com



Type ZS-DKM-H



Size	Dis-moun-table length L [mm]	Finish bored Ød ₁ /d ₂ max. [mm]	Spider (part 2) ¹⁾ T _{KN} [Nm]	Dimensions [mm]							Cap screws DIN EN ISO 4762 – 12.9			Max. displacements				Weight ²⁾ [kg]
				D _H	d _H	l ₁ ; l ₂	x ₁ ; x ₂	l ₁₁	E	L _{ZSDKM-H}	M	T _A [Nm]	Axial [mm]	at n = 1500 1/min	at n = 3000 1/min	Radial [mm]	Angular [°]	Radial [mm]
24	100	28	35	55	27	30	22,5	49	18	145	M6	14	1,4	1,17	0,87	1,40	1,40	1,60
	140							89		185				1,87				
28	100	38	95	65	30	35	25,5	41	20	151	M8	35	1,5	1,06	0,80	1,90	1,76	1,32
	140							81		191				1,91				
38	100	45	190	80	38	45	35,5	33	24	171	M8	35	1,8	0,99	0,74	3,90	1,69	1,27
	140							73		211				0,99				
42	100	55	265	95	46	50	39,0	26	26	178	M10	69	2,0	0,91	0,68	5,10	1,60	1,20
	140							66		218				0,91				
48	100	60	310	105	51	56	45,0	22	28	190	M12	120	2,1	0,87	0,65	7,10	1,57	1,18
	140							62		230				0,87				
55	100							10		200				0,70		1,0	9,50	
	140							50	30	240				0,52				0,75
	180							90		280				1,40				
65	100							110		300				2,09			1,05	11,20
	140													2,44			1,57	
	180													1,83			1,83	
75	100													0,70			0,52	12,30
	140													1,40			1,05	
	180													2,09			1,57	
75	200													2,44			1,83	
	250													2,44			1,83	
	300													2,44			1,83	
90	180	110	2400	200	100	100	81,5	53	45	343	M20	580	3,4	1,71	1,28	48,90	2,93	2,19
	250							123		413				1,71				

1) Maximum torque of coupling T_{Kmax.} = nominal torque of coupling T_{KN} × 2
Size 24 to 75 spider type 95/98 Sh A-GS; at size 90 spider type 95 Sh A with inner ring
ZS-DKM-H: transmittable torque according to 92 Sh A-GS

2) Refer to max. bore

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

Order form:

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

ROTEX® Torsionally flexible couplings

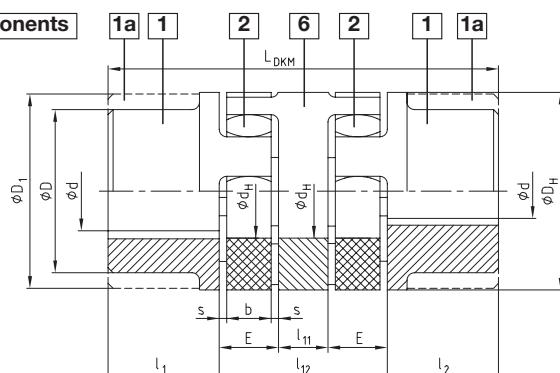
Double-cardanic – the innovation in pump design

Type DKM No. 018

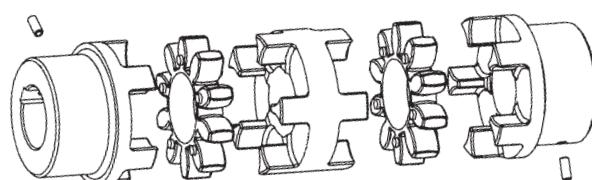


- For high shaft displacements
- 3-part double-cardanic
- Reduced vibration and noise
- The restoring forces resulting from displacements are very low
- Increase of the total lifetime of all adjacent components (bearings, seals etc.)
- Finish bore according to ISO fit H7, feather keyway according to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

Components



Type DKM



Size DKM	Pilot bore Ød ØD ØD ₁	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 26 and 27 standard range page 24 and 25	10	17	21	40	18	25	10	42	16	2	12	92	0,54	1,20	+1,2 / -1,0
24		35	60	75	55	27	30	16	52	18	2	14	112	0,53	0,90	+1,4 / -1,0
28		95	160	200	65	30	35	18	58	20	2,5	15	128	0,60	0,90	+1,5 / -1,4
38		190	325	405	80	38	45	20	68	24	3	18	158	0,77	1,00	+1,8 / -1,4
42		265	450	560	95	46	50	22	74	26	3	20	174	0,84	1,00	+2,0 / -2,0
48		310	525	655	105	51	56	24	80	28	3,5	21	192	1,00	1,10	+2,1 / -2,0
55		410	685	825	120	60	65	28	88	30	4	22	218	1,11	1,10	+2,2 / -2,0
65		625	940	1175	135	68	75	32	102	35	4,5	26	252	1,40	1,20	+2,6 / -2,0
75		1280	1920	2400	160	80	85	36	116	40	5	30	286	1,59	1,20	+3,0 / -3,0
90		2400	3600	4500	200	100	100	40	130	45	5,5	34	330	1,78	1,20	+3,4 / -3,0

Further type: ZS-DKM1



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

Order form:

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

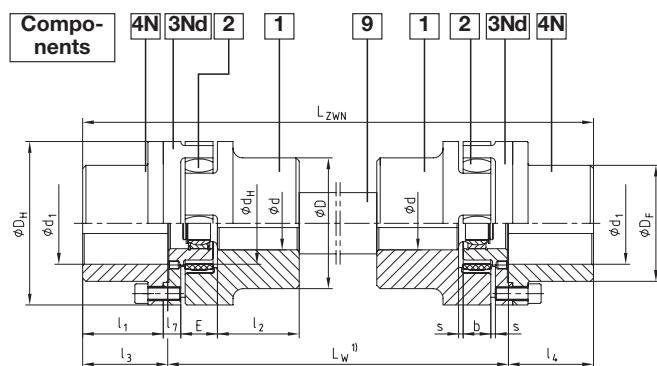
ROTEX® Torsionally flexible couplings

Intermediate shaft programme

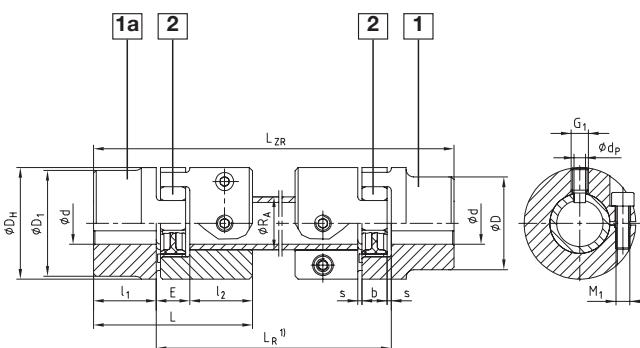
Designs ZWN No. 017 and ZR No. 037



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



Design ZWN



Design ZR with GS spider

Dimensions of ZWN and ZR											Dimensions of ZR												
Size ZWN ZR	Pilot bore Ød ØD ØD ₁	Compo- nent 4N [St] finish bore Ød _{1max}	Materials see page 44								L _{ZWN}	R _A	C ²⁾ Nm ² rad	M ₁	T _A [Nm]	L _{ZR}	L	Locking screw G ₁	Locking pin d _p [mm]	Axial displace- ment [mm]	Angular displace- ment [degrees]		
			D _H	D _F	d _H	l ₁ ; l ₂	E	s	b	l ₃ ; l ₄													
24			24	55	36	27	30	18	2	14	30,5	8		30x4	4522	M6	14		78	M8	5,5	1,4	0,9
28			28	65	42	30	35	20	2,5	15	35,5	10		35x4	7611	M8	35		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	M12	120		160	M16	12	2,2	1,1
65	see shaft coupling on pages 26 and 27 basic programme see pages 24 and 25		65	135	94	68	75	35	4,5	26	76,0	16	L _{ZWN} = L _W + 2 * l ₃	65x5	68329	M12	120		185	M16	12	2,6	1,2
75			75	160	108	80	85	40	5	30	86,5	19	L _{ZWN} = L _R + 2 * l ₁	75x5	108000	M16	295		210	M16	12	3,0	1,2
90			100	200	142	100	100	45	5,5	34	101,5	20											
100			110	225	158	113	110	50	6	38	111,5	25											
110			125	255	178	127	120	55	6,5	42	122,0	26											
125			145	290	206	147	140	60	7	46	142,0	30											

Selection indication for design ZR:

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

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

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

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

Order form:

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

ROTEX® Torsionally flexible couplings

Brake drum/Disk brake

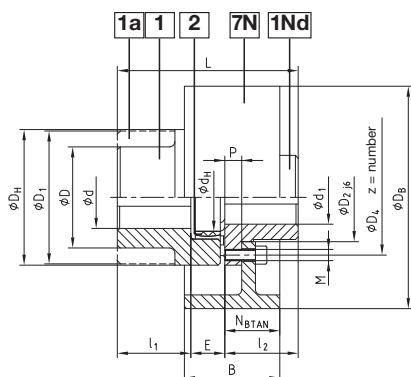
Designs BTAN No. 11 and SBAN No. 013

For advanced
drive
technology

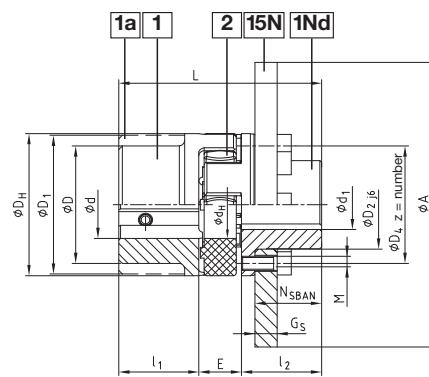


- Shaft coupling BTAN with brake drum to be mounted to external drum brakes with double shoes according to DIN 5431/15435
- Shaft coupling BTAN with disk for braking calipers
- Each coupling type to be combined with various sizes of brake drum disks (see dimension "N")
- The brake drum or disk brake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

Components



Brake drum design BTAN



Disk brake design SBAN

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

1) Thread in the hub between the cams

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

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

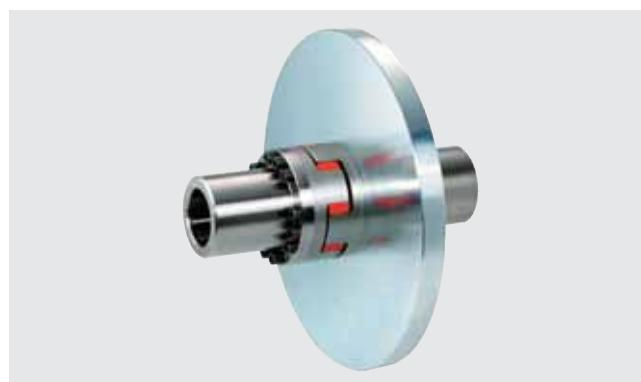
Order form:

ROTEX®-38	BTAN	200	92	1Nd St – Ø 381/1a St	– Ø 30
Coupling size	Design	Ø brake drum	Spider hardness [Shore A]	Compo- nent	Finish bore

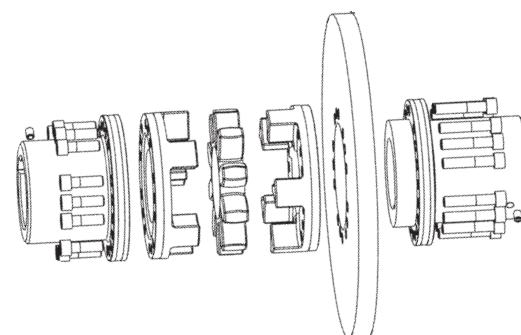
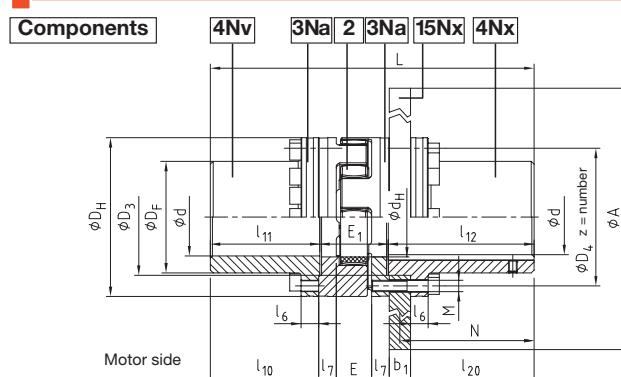
ROTEX® Torsionally flexible couplings

Disc brake

Design AFN-SB special



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



Size AFN-SB spec.	Finish bore d		Dimensions									
	min.	max.	D_H	D_F	D_3 ^{H7/h7}	D_4	d_H	E	E_1	M	z No.	Pitch = z 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	
125	60	145	290	206	215	252	147	60	116	M 20	15	
140	60	165	320	235	245	282	165	65	128	M 20	15	
160	80	190	370	270	280	325	190	75	146	M 24	15	

Size AFN-SB spec.	Torque with ¹⁾ spider 95 Sh A [Nm]		Max. speed [1/min.]	Max. ¹⁾ brake torque [Nm]	Dimensions								
	T _{KN}	T _{Kmax.}			l ₆	l ₇	l ₁₀	l ₁₁	l ₁₂	l ₂₀	N	L	
65	940	1880	3450	1880	15	16	112,5	113,5	166,0	135	150	344,5	
75	1920	3840	3250	3840	20	19	131,5	133,0	166,5	135	150	374,5	
90	3600	7200	3000	7200	20	20	164,0	165,5	206,5	175	190	454,0	
100	4950	9900	2800	9900	25	25	153,5	155,0	206,5	175	190	458,5	
110	7200	14400	2600	14400	25	26	201,5	203,5	212,0	180	195	518,5	
125	10000	20000	2250	20000	30	30	198,5	200,5	212,0	180	195	528,5	
140	12800	25600	1800	25600	30	34	244,5	247,0	252,5	220	235	627,5	
160	19200	38400	1500	38400	34	38	226,5	229,0	252,5	220	235	627,5	

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						
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 b₁ 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]	Component	Finish bore

ROTEX® Torsionally flexible couplings

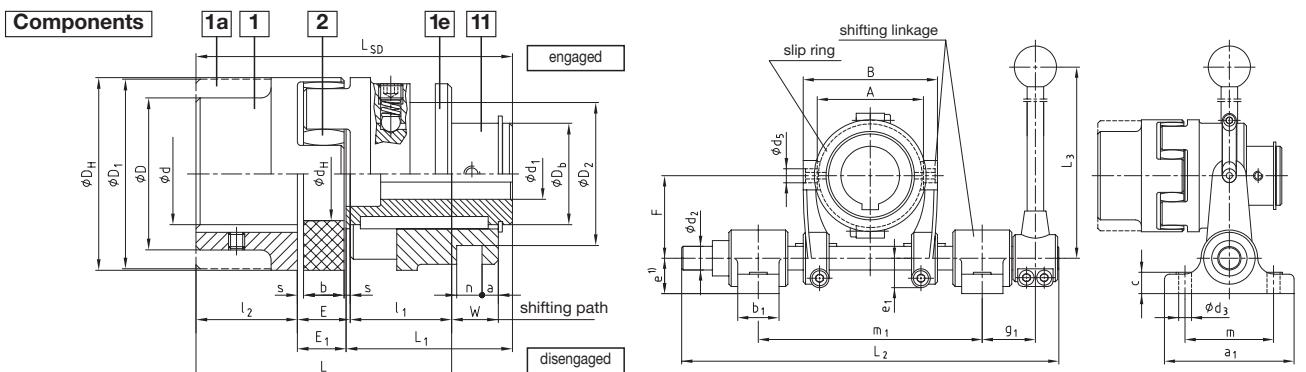
Shiftable at standstill

Design SD No. 015

For advanced drive technology
KTR



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

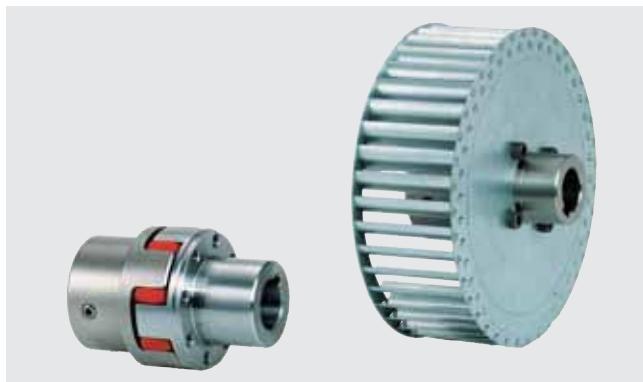


Size SD	Standard hub part 1; 1a	Shifting hub part 11	Dimensions														Shifting force set in [N]	Shifting linkage size	Slip ring size		
			D _H	D ₂ ± 0,1	D _b	d _H	L ₁ ; L ₂	E	s	b	E ₁	L	L ₁	W	a	n ± 0,1	L _{SD}				
24			8	18	55	41	30	27	30	18	2	14	16,5	78	51,5	16	6	98	110	—	
28			10	22	65	58	36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

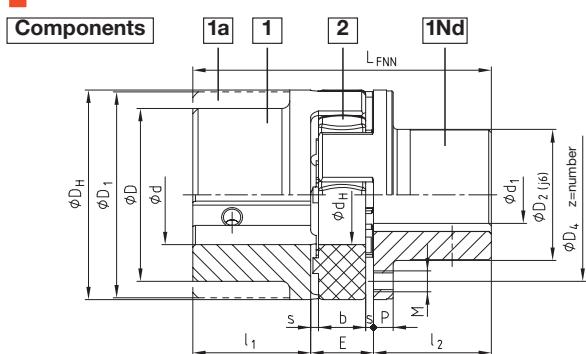
Size SD	Dimensions of slip ring and shiftable linkage																		Max. speed n for slip ring [1/min]	
	Size	a ₁	b ₁	c	d ₂	d ₃	d ₅	e ¹⁾	e ₁	F	g ₁	L ₂	L ₃	m	m ₁ min	m ₁ max	A	B		
38	1	110	35	18	20	11	12	30	25	70	55	320	400	75	180	190	90	114	3280	
42	1																			
48	2				25				27	97,5	60	430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

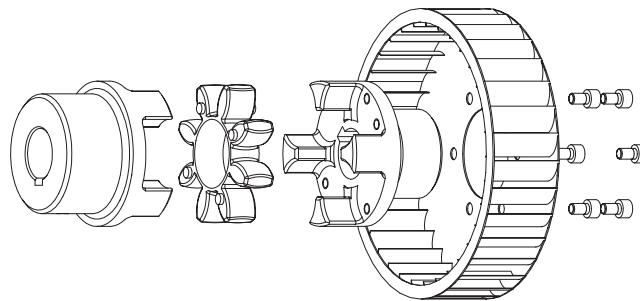
Designs FNN No. 021 and FNN with fan



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



Design FNN



Design FNN with fan (type 1)

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

Other sizes on request

Type 1: Fan screwed on

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



Type 2: Fans injection-moulded

Low prices due to production volumes depending on quantity.



Type 3: Fans pressed or glued on

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

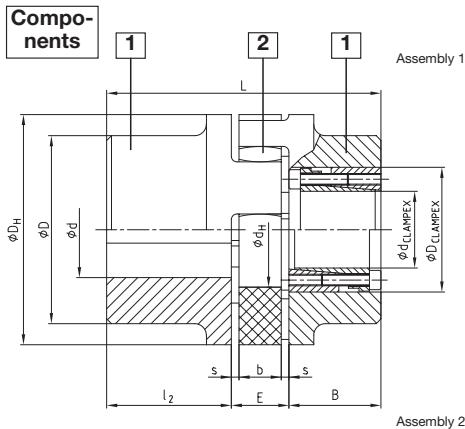


ROTEX® Torsionally flexible couplings

Further designs

Clamping hubs

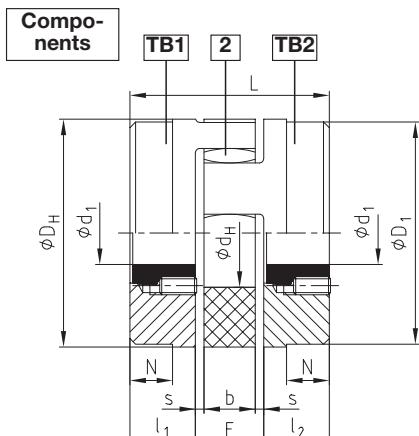
For advanced
drive
technology



ROTEX® Size	Pilot bore Ød ØD ØD ₁	Hub material	CLAMPEX® KTR 200			Dimensions [mm]							
			Largest poss KTR clamping set dxD	Transmittable torques and force T [Nm] F _{Ax} [kN]	B	l ₂	E	s	b	D _H	D	d _H	L
42	30x55	769	51	48	50	26	3	20	95	—	46		
48	35x60	1197	68	48	56	28	3,5	21	105	—	51		
55	45x75	2132	95	59	65	30	4	22	120	—	60		
65	45x75	2132	95	59	75	35	4,5	26	135	115	68		
75	50x80	3159	126	59	85	40	5	30	160	135	80		
90	65x95	4107	126	59	100	45	5,5	34	200	160	100		
100	65x95	4107	126	59	110	50	6	38	225	180	113		
110	70x110	7023	201	70	120	55	6,5	42	255	200	127		
125	80x120	8026	201	70	140	60	7	46	290	230	147		
140	95x135	11373	239	70	155	65	7,5	50	320	255	165		
160	110x155	16068	292	80	175	75	9	57	370	290	190		
180	120x165	21910	365	80	195	85	10,5	64	420	325	220		
N-GIS-400-15 (GGG40)			see shaft couplings on pages 26 and 27 basic programme see pages 24 and 25			length L = E + B1 + B2							

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



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

* Only available for design TB 2

* 1. BSW thread

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

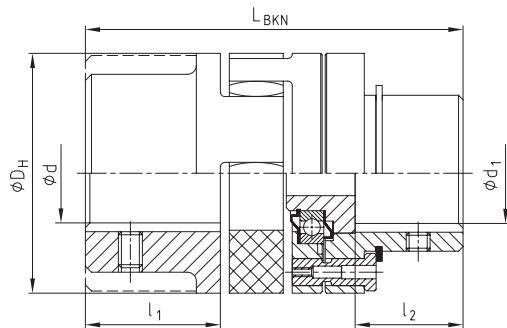
Please order our separate dimension sheet (M 373054).

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													
	10	11	12	14	16	18	19	20	22	24	25	28*		
1108														
1610	14	16	18	19	20	22	24	25	28	30	32	35	38	40
1615	14	16	18	19	20	22	24	25	28	30	32	35	38	40
2012	14	16	18	19	20	22	24	25	28	30	32	35	38	40
2517	16	18	19	20	22	24	25	28	30	32	35	38	40	42
3020	25	28	30	35	38	40	42	45	48	50	55	60	65	70

ROTEX® Torsionally flexible couplings

Further designs

Torque limiters



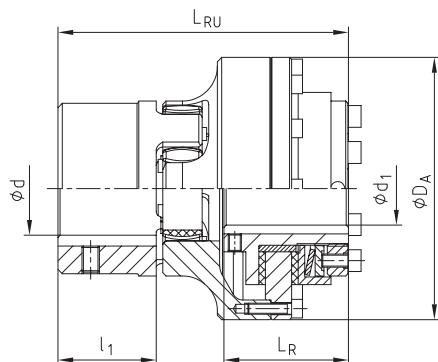
ROTEX® Size	d	d ₁ max	l ₁	l ₂	L _{BKN}	D _H	Min. fracture torque [Nm]
28		28	35	25	101	65	100
38		38	45	35	125	80	190
42		42	50	40	139	95	250
48		48	56	46	153	105	300
55		55	65	55	177	120	400
65		65	75	65	202	135	500
75		75	85	70	230	160	600
90		100	100	85	266	200	700

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

Modification for customer from the stock programme.

Please mention the fracture torques with your order!

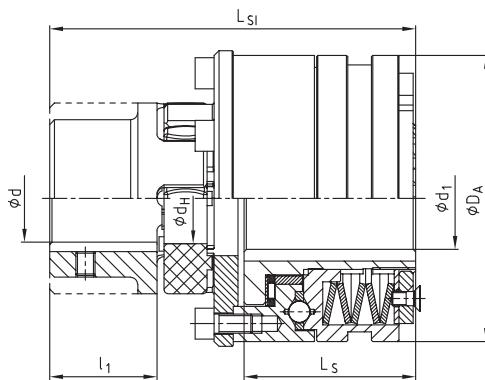
For further details please see dim. sheet no. 5020/000/009-760313



ROTEX® Size	RUFLEX® Size	Slipping torques [Nm]	d	d ₁ max	D _A	l ₁	L _R	L _{RU}
14	00	0,5-5		10	44	11	31	59
19	0	2-20		20)	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

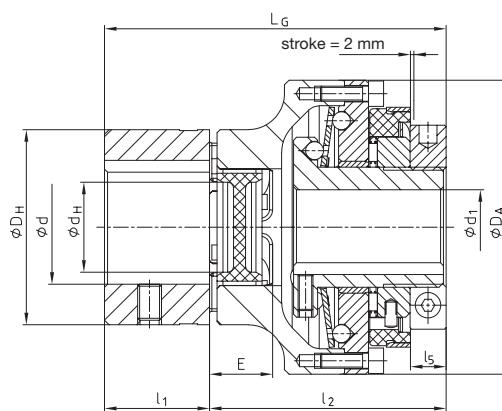
1) Finish bore exceeding $\phi 19$, keyway according to 6885 sheet 3

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



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

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



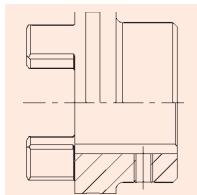
ROTEX® GS Size	SYNTEX® Size	SYNTEX® torque range disk spring [Nm]				Max. bore	D _A	D _H	d _H	E	L	L _G	l ₁	l ₂	l ₅	
		DK ₁	DK ₂	SK ₁	SK ₂											
24	20	6-20	15-30	10-20	20-65	28	20	80	55	27	18	45	100	30	70	10
28	25	20-60	45-90	25-65	40-100	38	25	98	65	30	20	50	113	35	78	11
38	35	25-80	75-150	30-100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

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

Hub designs

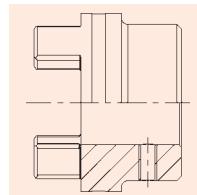
Due to the numerous applications of ROTEX® for many different mounting situations, this coupling system is available with various hub designs. These designs mainly differ in that they offer either positive or frictionally engaged connections, but mounting situations like, for example, gear shafts with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

Design 1.0 hub with keyway and fixing screw



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

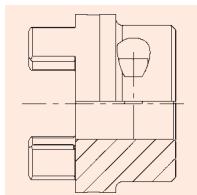
Design 1.1 hub without feather key, with setscrew



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

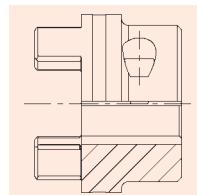
Design 1.3 hub with spline bore (page 25)

Design 2.0 clamping hub, single slotted, without keyway



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

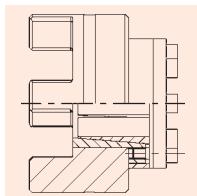
Design 2.1 clamping hub, single slotted, with keyway



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

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

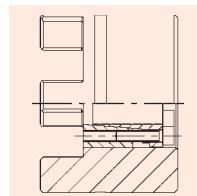
Design 4.2 with CLAMPEX® clamping set KTR 250



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

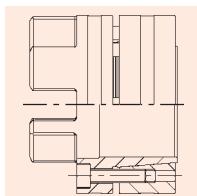
Design 4.1 w. CLAMPEX® clamping set KTR 200/

f. KTR 400 Ausf. 4.3



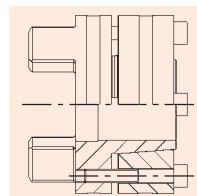
Frictionally engaged, backlash-free shaft-hub-connection for transmission of larger torques. Largest clamping set possible depends on the hub collar diameter. Clamping set screw fitting possible both internally and externally. For details of calculation please see CLAMPEX® catalogue.

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



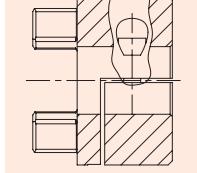
Integrated frictionally engaged shaft-hub-connection for transmission of higher torques. Screw fitting on elastomer side. For details about torques and dimensions see on page 28. Suitable for high speeds.

Design 6.5 clamping ring hub



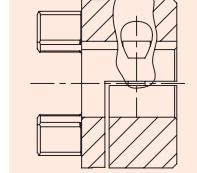
Design equal to 6.0, but clamping screws to be fitted externally. Suitable, for example, for disassembly of radial spacer tubes (special design).

Type 7.5 shell clamping hub without feather key for a double-cardanic connection



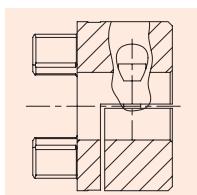
Frictionally engaged, backlash-free shaft-hub-connection for radial assembly of couplings. Transmittable torques depending on the bore diameter (only for ATEX category 3).

Type 7.6 shell clamping hub without feather key for a double-cardanic connection



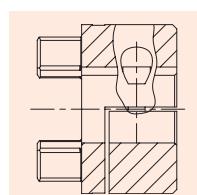
Positive power transmission with additional frictionally engaged operation for radial assembly of couplings. The frictionally engaged operation prevents or reduces reversing backlash, respectively. Surface pressure of the feather key connection is reduced.

Type 7.8 shell clamping hub without feather key



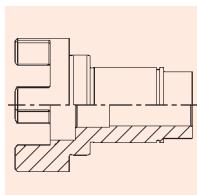
Frictionally engaged, backlash-free shaft-hub-connection for radial assembly of couplings. Transmittable torques depending on the bore diameter (only for ATEX category 3)

Type 7.9 shell clamping hub with feather key

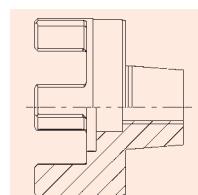


Positive power transmission with additional positive locking for radial assembly of couplings. Positive locking prevents or reduces reversing backlash, respectively. Surface pressure of the feather key connection is reduced.

Special hubs on request



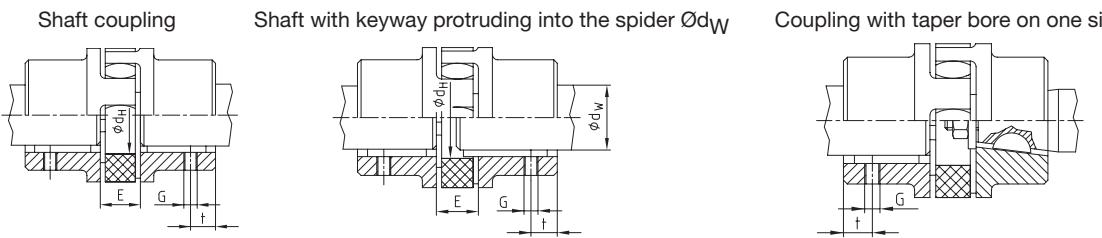
Special lengthened hub/shaft with integrated cams.



Special hub with external taper as a frictionally engaged connection.

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

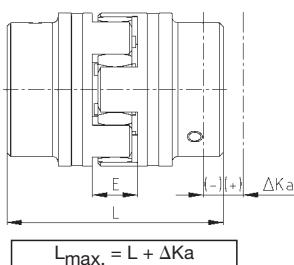
Installation



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

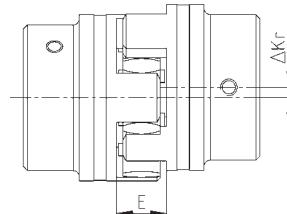
Displacements

Axial displacement ΔKa

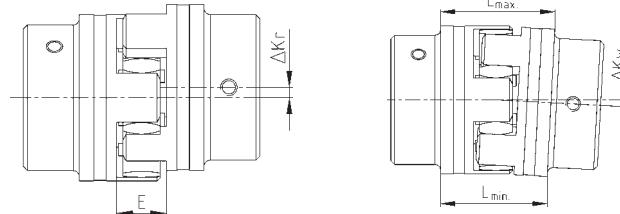


$$L_{\max.} = L + \Delta K_a$$

Radial displacement ΔKr



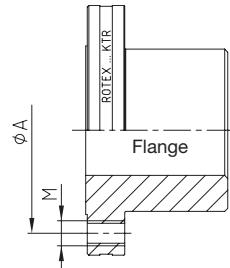
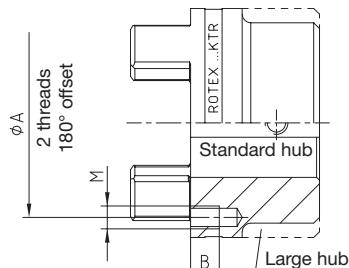
Angular displacement ΔKw [degrees]



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

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 EN ISO 4762 for couplings with brake drums or disk brakes, spline clamping hubs

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

ROTEX® Torsionally flexible couplings

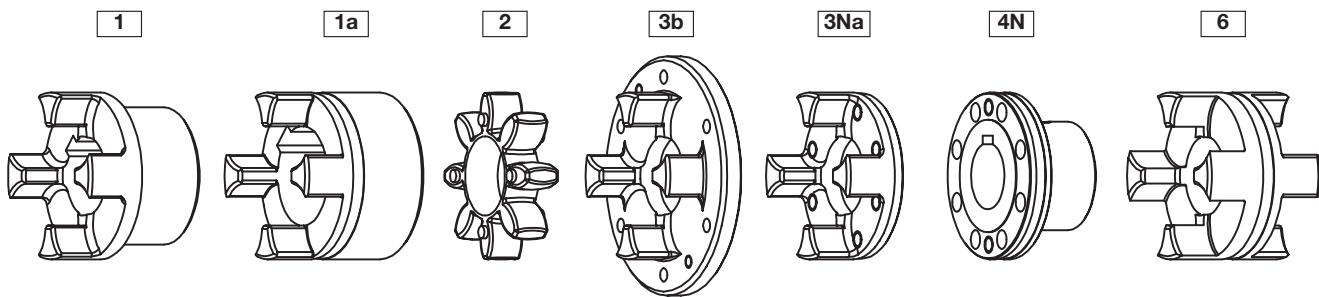
Weights - Mass moments of inertia

For advanced
drive
technology



Individual components

Components



ROTEX® components

ROTEX® Size	Standard hub				Large hub			Spider	Driving flange			Coupling flange	DKM-spacer
	Part 1				Part 1a			Part 2	Part 3b	Part 3Na	Part 4N	Part 6	
	Weight/Mass moment of inertia												
	Alu [kg] [kgm²]	EN-GJL-250 [kg] [kgm²]	EN-GJS-400-15 [kg] [kgm²]	St [kg] [kgm²]	Alu [kg] [kgm²]	EN-GJL-250 [kg] [kgm²]	S [kg] [kgm²]	Polyurethane (Vulkollan) [kg] [kgm²]	EN-GJS-400-15 [kg] [kgm²]	St [kg] [kgm²]	EN-GJS-400-15 [kg] [kgm²]	St [kg] [kgm²]	Alu [kg] [kgm²]
14	-	-	-	-	0,020	-	-	0,0044	-	-	-	-	-
	-	-	-	-	0,000003	-	-	0,000005	-	-	-	-	-
19	0,064	-	-	-	0,074	-	0,25	0,0056	-	-	-	-	-
	0,00001	-	-	-	0,00002	-	0,00006	0,000001	-	-	-	-	-
24	0,123	-	-	-	0,174	-	0,55	0,014	0,028	0,145	-	0,30	0,14
	0,00004	-	-	-	0,00008	-	0,00023	0,000006	0,00023	0,00007	-	0,00009	0,00006
28	0,200	-	-	-	0,264	-	0,89	0,024	0,54	0,232	-	0,49	0,22
	0,00010	-	-	-	0,00019	-	0,00053	0,00001	0,0007	0,00017	-	0,0002	0,00013
38	0,44	1,16	-	1,50	0,470	1,32	1,27	0,042	0,73	-	0,313	0,87	0,35
	0,00033	0,00086	-	0,00121	0,00046	0,00135	0,0014	0,00003	0,001	-	0,00038	0,0005	0,00035
42	0,69	1,75	-	2,52	0,772	2,05	1,84	0,065	1,26	-	0,608	1,40	0,47
	0,00067	0,00178	-	0,00283	0,00111	0,00291	0,0017	0,00007	0,0032	-	0,00089	0,0011	0,00068
48	0,80	2,44	-	3,34	1,01	2,78	2,74	0,086	1,45	-	0,755	1,92	0,62
	0,0011	0,00308	-	0,00473	0,00174	0,00484	0,0052	0,00013	0,0043	-	0,001358	0,0018	0,0011
55	-	3,68	-	5,05	-	4,08	3,93	0,11	2,58	-	1,243	2,93	0,90
	-	0,00615	-	0,00948	-	0,00926	0,010	0,00023	0,0105	-	0,002920	0,0037	0,0021
65	-	5,67	-	6,79	-	6,04	5,85	0,17	3,10	-	1,635	4,36	1,31
	-	0,01240	-	0,01516	-	0,01789	0,019	0,00042	0,0149	-	0,004891	0,0069	0,0039
75	-	8,72	-	10,53	-	9,53	9,06	0,32	4,46	-	2,511	6,80	1,97
	-	0,02644	-	0,03273	-	0,03946	0,040	0,00116	0,0281	-	0,01050	0,0151	0,0082
90	-	14,8	-	18,7	-	18,2	17,0	0,57	6,94	-	4,151	12,84	3,45
	-	0,06730	-	0,08742	-	0,15086	0,117	0,00323	0,0651	-	0,02723	0,0448	0,0224
100	-	-	19,7	-	-	-	-	0,81	10,2	-	6,350	16,16	-
	-	-	0,11694	-	-	-	-	0,00588	0,1168	-	0,05273	0,0798	-
110	-	-	27,4	-	-	-	-	1,19	-	-	8,578	21,35	-
	-	-	0,20465	-	-	-	-	0,01097	-	-	0,09121	0,2824	-
125	-	-	42,3	-	-	-	-	1,63	-	-	12,598	34,33	-
	-	-	0,40727	-	-	-	-	0,01972	-	-	0,17469	0,3229	-
140	-	-	58,1	-	-	-	-	2,11	-	-	17,271	48,69	-
	-	-	0,67739	-	-	-	-	0,03129	-	-	0,29247	0,4917	-
160	-	-	84,2	-	-	-	-	3,21	-	-	26,305	71,08	-
	-	-	1,31729	-	-	-	-	0,63228	-	-	0,59436	0,9693	-
180	-	-	118,5	-	-	-	-	5,25	-	-	33,076	109,43	-
	-	-	2,30835	-	-	-	-	0,13789	-	-	0,97394	1,9650	-

Weight and mass moment of inertia each refer to the medial 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 [kgm ²]										
19	-	-	-	-	0,44	0,00016	0,38	0,00020	-	-	0,42	0,00008
24	0,98	0,00036	1,1	0,00041	0,84	0,00047	0,57	0,00047	2,2	0,00084	1,1	0,00046
28	1,6	0,00083	1,7	0,00095	1,5	0,00124	1,1	0,00141	3,6	0,00193	1,9	0,00106
38	2,8	0,00209	2,6	0,00193	1,9	0,00217	1,5	0,00259	5,5	0,00393	3,0	0,00435
42	4,5	0,00472	4,1	0,00419	3,1	0,00513	2,6	0,00662	8,6	0,00853	4,4	0,00804
48	5,9	0,00736	5,5	0,00684	3,9	0,00755	3,0	0,00881	11,3	0,0138	6,2	0,00223
55	8,9	0,01480	8,3	0,01369	6,4	0,01692	5,3	0,02131	17,7	0,0279	9,8	0,0166
65	12,9	0,0266	12,3	0,0259	8,9	0,02780	6,4	0,03037	26,3	0,0531	14,9	0,0326
75	20,6	0,0601	19,3	0,0572	13,5	0,0557	9,2	0,05741	41,6	0,1172	23,2	0,0706
90	37,8	0,1718	34,2	0,1551	22,3	0,1356	14,5	0,1333	73,2	0,3173	40,5	0,1891
100	49,6	0,3068	45,2	0,2737	30,9	0,2401	21,2	0,2394	98,7	0,5629	46,7	0,2467
110	67,5	0,5385	61,7	0,4793	42,9	0,4324	29,8	0,4446	135,1	0,986	61,5	0,4186
125	102,6	1,0485	94,4	0,9413	64,4	0,8187	42,2	0,8031	206,2	1,937	96,8	0,8497
140	141,2	1,743	129,7	1,564	90,4	1,4221	62,5	1,4580	283,3	3,222	127,8	1,368
160	210,3	3,517	190,9	3,107	127,6	2,589	83,6	2,4805	418,2	6,393	190,3	2,723
180	306,6	6,582	274,4	5,668	175,1	4,448	107,9	4,141	601,9	11,682	262,2	4,810

Size	BTAN/SBAN without drum/without disk	
	Weight in [kg]	Mass moment of inertia J [kgm ²]
28	0,90	0,0004
38	2,10	0,0014
42	3,24	0,0031
48	4,41	0,0053
55	6,60	0,0105
65	10,1	0,0209
75	15,4	0,0442
90	27,6	0,1224
100	36,9	0,2074
110	50,9	0,3665
125	79,1	0,7349
140	109,0	1,2292
160	161,9	2,4569
180	232,9	4,4967

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

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

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

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

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



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