

ROTEX®

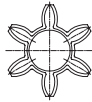
Flexible jaw couplings

Properties of standard spiders

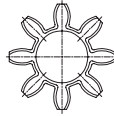
ROTEX® 14



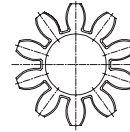
ROTEX® 19



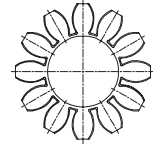
ROTEX® 24 - 65



ROTEX® 75 - 160







ROTEX® 180




Degree of hardness



Spider type (Shore hardness)	92 Shore A (T-PUR®)	92 Shore A
	 T-PUR®	
Size	14 to 180	14 to 90
Material	T-PUR®	Polyurethane (PUR)
Permissible temperature range Permanent temperature Short-term temperature	-40 °C to +120 °C -40 °C to +150 °C	-40 °C to +90 °C -40 °C to +120 °C
Properties	<ul style="list-style-type: none"> - significantly higher service life expectancy - very good temperature resistance - improved damping of vibrations - good damping, average flexibility - suitable for all hub materials 	<ul style="list-style-type: none"> - good damping, average flexibility - suitable for all hub materials



Spider type (Shore hardness)	98 Shore A (T-PUR®) ¹⁾	98 Shore A ¹⁾
	 T-PUR®	
Size	14 to 180	14 to 90
Material	T-PUR®	Polyurethane (PUR)
Permissible temperature range Permanent temperature Short-term temperature	-40 °C to +120 °C -40 °C to +150 °C	-30 °C to +90 °C -40 °C to +120 °C
Properties	<ul style="list-style-type: none"> - significantly higher service life expectancy - very good temperature resistance - improved damping of vibrations - transmission of high torques with average damping - recommended hub material: steel, GJL and GJS 	<ul style="list-style-type: none"> - transmission of high torques with average damping - recommended hub material: steel, GJL and GJS

Spider type (Shore hardness)	64 Shore D (T-PUR®)
	 T-PUR®
Size	14 to 180
Material	T-PUR®
Permissible temperature range Permanent temperature Short-term temperature	-40 °C to +120 °C -40 °C to +150 °C
Properties	<ul style="list-style-type: none"> - significantly higher service life expectancy - very good temperature resistance - improved damping of vibrations - transmission of very high torques with low damping - recommended hub material: steel and GJS

ROTEX®

Flexible jaw couplings

Technical data and properties of special spiders

		
Description	PA	PEEK
Material	Polyamide	Polyetheretherketone
Permissible temperature range	-40 °C to +100 °C ¹⁾	up to +180 °C
Permanent temperature	-40 °C to +120 °C ¹⁾	up to +250 °C
Short-term temperature		
Properties	<ul style="list-style-type: none"> - small twisting angle and high torsion spring stiffness - transmission of very high torques with very low damping - good resistance to chemicals ¹⁾ - recommended hub material: steel - high restoring forces with displacements 	<ul style="list-style-type: none"> - small twisting angle and high torsion spring stiffness - transmission of very high torques with very low damping - highly temperature-resistant, resistant to hydrolysis - good resistance to chemicals - recommended hub material: steel - high restoring forces with displacements

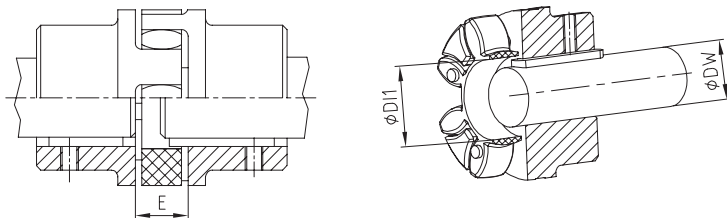
¹⁾ different properties depending on compound

Torques			
ROTEX® size	PA, PEEK		
	T _{KN} [Nm]	T _{K max} [Nm]	T _{KW} [Nm]
14	22	44	5.5
19	30	60	8.0
24	105	210	27.5
28	280	560	73
38	565	1130	147
42	785	1570	204
48	915	1830	238
55	1200	2400	312
65	1645	3290	427
75	2560	5130	667
90	6300	12600	1640
100	8650	17300	2250
110	10500	21000	2730
125	13000	26000	3380

Temperature factor S _t										
	-40 °C +30 °C	+40 °C	+50 °C	+60 °C	+70 °C	+80 °C	+90 °C	+100 °C	+110 °C	+120 °C
PA	1.0	1.0	1.0	1.0	1.2	1.4	1.6	-	-	-
PEEK	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

With temperatures below -40 °C please consult with KTR.

Installation of spider

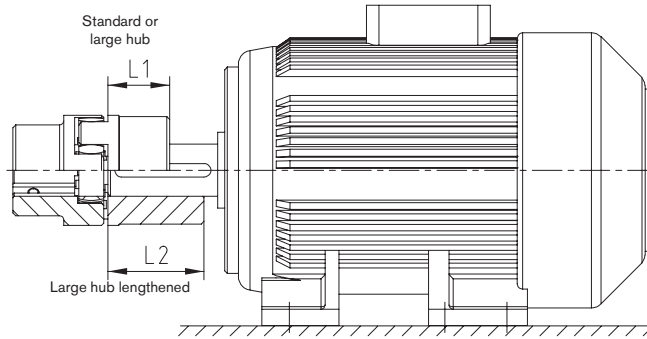


Shaft ϕDW with feather key (acc. to DIN 6885 sheet 1) protruding into the spider $\phi D11$

Assembly dimensions																	
ROTEX® size	14	19	24	28	38	42	48	55	65	75	90	100	110	125	140	160	180
Distance dimension E	13	16	18	20	24	26	28	30	35	40	45	50	55	60	65	75	85
Dimension D11	10	18	27	30	38	46	51	60	68	80	100	113	127	147	165	190	220
Dimension DW ²⁾	7	12	20	22	28	36	40	48	55	65	80	95	100	120	135	160	185

²⁾ If the shaft diameter is smaller than or equal to dimension D11, one shaft end or both shaft ends may protrude with the feather keyway into the spider.

Selection of standard IEC motors



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

A. C. motor 50 Hz		Motor power n= 3000 rpm 2 poles		ROTEX® coupling size	Motor power n= 1500 rpm 4 poles		ROTEX® coupling size	Motor power n= 1000 rpm 6 poles		ROTEX® coupling size	Motor power n= 750 rpm 8 poles		ROTEX® coupling size
Size	Shaft end DWxLW [mm]		Power P [kW]		Torque T [Nm]	Power P [kW]		Torque T [Nm]	Power P [kW]		Torque T [Nm]	Power P [kW]	
		2 poles	4, 6, 8 poles										
56	9 x 20		0.09 0.12	0.32 0.41	g ¹⁾	0.06 0.09	0.43 0.64	g ¹⁾	0.037 0.045	0.43 0.52	g ¹⁾		
63	11 x 23		0.18 0.25	0.62 0.86	14	0.18 0.25	0.88 1.3	14	0.06 0.09	0.7 1.1			
71	14 x 30		0.37 0.55	1.3 1.9	14	0.37 0.55	2.5 3.7	14	0.25 0.37	2.8 3.9		0.09 0.12	1.4 1.8
80	19 x 40		0.75 1.1	2.5 3.7	19	0.75 1.1	3.7 5.1	19	0.55 0.75	5.8 8	19	0.18 0.25	2.5 3.5
90S	24 x 50		1.5	5	19	1.5	7.5	19	1.1	8	19	0.37	5.3
90L	24 x 50		2.2	7.4	24	2.2	10	24	1.5	12	24	0.55	7.9
100L	28 x 60		3	9.8	24	3	15	24	2.2	15	24	0.75	11
112M	28 x 60		4	13	28	4	20	28	3	22	28	1.1	16
132S	38 x 80		5.5	18	28	5.5	36	28	5.5	30	28	2.2	30
132M	38 x 80		7.5	25	28	7.5	49	28	4	40	28	3	40
160M	42 x 110		11	36	38	11	72	38	7.5	75	38	4	54
160L	42 x 110		15	49	38	15	98	38	11	109	38	5.5	74
180M	48 x 110		18.5	60	42	18.5	121	42	15	148	42	7.5	100
180L	48 x 110		22	71	42	22	144	42	18.5	181	42	11	145
200L	55 x 110		30	97	48	30	196	48	22	215	48	15	198
225S	55 x 110		37	120	48	37	240	48	30	293	55	18.5	244
225M	55 x 110	60 x 140	45	145	55	45	292	55	30	293	55	22	290
250M	60 x 140	65 x 140	55	177	55	55	356	65 ²⁾	37	361	65 ²⁾	30	392
280S	75 x 140		75	241	55	75	484	65 ²⁾	45	438	65 ²⁾	37	483
280M	75 x 140		90	289	55	90	581	75	55	535	75	45	587
315S	80 x 170		110	353	65	110	707	75	75	727	75	55	712
315M	80 x 170		132	423	65	132	849	90	90	873	90	75	971
315L	65 x 140	80 x 170	160	513	75	160	1030	90	110	1070	90	90	1170
315	85 x 170		200	641	75	200	1290	90	132	1280	90	110	1420
315	85 x 170		250	802	90	250	1600	100	160	1550	100	132	1710
315	85 x 170		315	1010	90	315	2020	100	200	1930	100	160	2070
315	85 x 170		355	1140	90	355	2280	100	250	2410	100	200	2580
355	75 x 140	95 x 170	400	1280	90	400	2570	110	315	3040	110	250	3220
355	75 x 140	95 x 170	500	1600	110	500	3210	110	400	3850	125	315	4060
355	75 x 140	95 x 170	560	1790	110	560	3580	125	450	4330	125	355	4570
400	80 x 170	110 x 210	630	2020	100	630	4030	125	500	4810	140	400	5150
400	80 x 170	110 x 210	710	2270	100	710	4540	140	560	5390	140	450	5790
400	80 x 170	110 x 210	800	2560	110	800	5120	140	630	6060	140	500	6420
450	90 x 170	120 x 210	900	2880	110	900	5760	160	710	6830	160	560	7190
450	90 x 170	120 x 210	1000	3200	110	1000	6400	160	800	7690	160	630	8090

The coupling selection is based on an ambient temperature up to +30 °C. The selection is based on a minimum safety factor of 2 to the max. coupling torque ($T_{K \max}$). A detailed selection is possible according to catalogue page 14 et seqq. Drives with periodical torque curves must be selected according to DIN 740 part 2. If requested, KTR will perform the selection. Torque T = rated torque according to Siemens catalogue M 11 · 1994/95.

¹⁾ For dimensions see ROTEX® GS series

²⁾ For motor hub made of steel see page 40