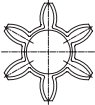
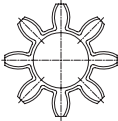
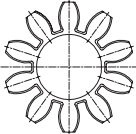
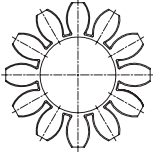


ROTEX®

Flexible jaw couplings

Properties of standard spiders

ROTEX® 14	ROTEX® 19	ROTEX® 24 - 65	ROTEX® 75 - 160	ROTEX® 180
				
Degree of hardness				
	92 ShA	98 ShA	52 ShD 64 ShD	PA / PEEK
	Shore A		Shore D	
	Increasing hardness			
Spider type (Shore hardness)	92 Shore A (T-PUR®)	98 Shore A (T-PUR®)	64 Shore D (T-PUR®)	52 Shore D-S-GS
				
	T-PUR®	T-PUR®	T-PUR®	
Size	14 to 180	14 to 180	14 to 180	19 to 42
Material	T-PUR®	T-PUR®	T-PUR®	Polyurethane (PUR)
Permissible temperature range				
Permanent temperature	-40 °C to +120 °C	-40 °C to +120 °C	-40 °C to +120 °C	-40 °C to +120 °C
Short-term temperature	-40 °C to +150 °C	-40 °C to +150 °C	-40 °C to +150 °C	-50 °C to +150 °C
Features	– significantly higher service life expectancy – very good temperature resistance – improved damping of vibrations – good damping, medium flexibility – suitable for all hub materials	– significantly higher service life expectancy – very good temperature resistance – improved damping of vibrations – transmission of high torques with medium damping – recommended hub material: steel, GJL and GJS	– 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	– significantly higher service life expectancy – very good temperature resistance – improved damping of vibrations – transmission of high torques with medium damping – recommended hub material: steel, GJL and GJS
Spider type (Shore hardness)	PA	PEEK		
				
Size	14 to 125	14 to 125		
Material	Polyamide	Polyetheretherketone		
Permissible temperature range				
Permanent temperature	-40 °C to +100 °C ¹⁾	up to +180 °C		
Short-term temperature	-40 °C to +120 °C ¹⁾	up to +250 °C		
Features	– 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	– 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

Technical data of standard spiders

92 Shore A spider made of T-PUR® and PUR													
ROTEX® size	Torsion angle ϕ with		Torque [Nm]				Damping power P _{KW} [W] ³⁾	Relative damping ψ	Resonance factor V _R	Torsion spring stiffness C dyn. [Nm/rad]			
			DIN 740 ¹⁾			T _K max ²⁾				1.0 T _{KN}	0.75 T _{KN}	0.5 T _{KN}	0.25 T _{KN}
	T _{KN}	T _K max	Rated T _{KN}	Max. T _K max	Vibratory T _{KW}								
14	6.4°	10°	7.5	15	2.0	22.5	–			0.38x10³	0.31x10³	0.24x10³	0.14x10³
19			10	20	2.6	30	4.8			1.28x10³	1.05x10³	0.8x10³	0.47x10³
24			35	70	9.1	105	6.6			4.86x10³	3.98x10³	3.01x10³	1.79x10³
28			95	190	25	285	8.4			10.9x10³	8.94x10³	6.76x10³	4.01x10³
38			190	380	49	570	10.2			21.05x10³	17.26x10³	13.05x10³	7.74x10³
42			265	530	69	795	12.0			23.74x10³	19.47x10³	14.72x10³	8.73x10³
48			310	620	81	930	13.8			36.7x10³	30.09x10³	22.75x10³	13.49x10³
55			410	820	107	1230	15.6			50.7x10³	41.59x10³	31.45x10³	18.64x10³
65	3.2°	5°	625	1250	163	1875	18.0	0.80	7.90	97.1x10³	79.65x10³	60.2x10³	35.7x10³
75			1280	2560	333	3840	21.6			113.3x10³	92.9x10³	70.3x10³	41.65x10³
90			2400	4800	624	7200	30.0			190.1x10³	155.9x10³	117.9x10³	69.9x10³
100			3300	6600	858	9900	36.0			253.1x10³	207.5x10³	156.9x10³	93x10³
110			4800	9600	1248	14400	42.0			415.5x10³	336.9x10³	257.6x10³	177.4x10³
125			6650	13300	1729	19950	48.0			647.7x10³	537.3x10³	412.2x10³	277.5x10³
140			8550	17100	2223	25650	54.6			813.4x10³	670.2x10³	519.7x10³	351.7x10³
160			12800	25600	3328	38400	75.0			1298x10³	1104x10³	901.9x10³	655.7x10³
180			18650	37300	4849	55950	78.0			2327x10³	1981x10³	1618x10³	1176x10³

98 Shore A spider made of T-PUR® and PUR													
ROTEX® size	Torsion angle ϕ with		Torque [Nm]				Damping power P_{KW} [W] ³⁾	Relative damping ψ	Resonance factor V_R	Torsion spring stiffness C dyn. [Nm/rad]			
			DIN 740 ¹⁾			T_K max ²⁾				1.0 T_K	0.75 T_K	0.5 T_K	0.25 T_K
	T_{KN}	T_K max	Rated T_{KN}	Max. T_K max	Vibratory T_{KW}								
14	6.4°	10°	12.5	25	3.3	37.5	—			0.56x10³	0.46x10³	0.35x10³	0.21x10³
19			17	34	4.4	51	4.8			2.92x10³	2.39x10³	1.81x10³	1.07x10³
24			60	120	16	180	6.6			9.93x10³	8.14x10³	6.16x10³	3.65x10³
28			160	320	42	480	8.4			26.77x10³	21.95x10³	16.6x10³	9.84x10³
38			325	650	85	975	10.2			48.57x10³	39.83x10³	30.11x10³	17.85x10³
42			450	900	117	1350	12.0			54.5x10³	44.69x10³	33.79x10³	20.03x10³
48			525	1050	137	1575	13.8			65.3x10³	53.54x10³	40.48x10³	24x10³
55			685	1370	178	2055	15.6			95x10³	77.9x10³	58.88x10³	34.9x10³
65	3.2°	5°	940	1880	244	2820	18.0	0.80	7.90	129.5x10³	106.2x10³	80.3x10³	47.6x10³
75			1920	3840	499	5760	21.6			197.5x10³	162x10³	122.5x10³	72.6x10³
90			3600	7200	936	10800	30.0			312.2x10³	256x10³	193.6x10³	114.7x10³
100			4950	9900	1287	14850	36.0			383.3x10³	314.3x10³	237.6x10³	140.9x10³
110			7200	14400	1872	21600	42.0			805.9x10³	663.1x10³	515.3x10³	360.5x10³
125			10000	20000	2600	30000	48.0			1207x10³	1003x10³	787.6x10³	552.5x10³
140			12800	25600	3328	38400	54.6			1549x10³	1283x10³	979.8x10³	674.1x10³
160			19200	38400	4992	57600	75.0			2481x10³	2137x10³	1781x10³	1275x10³
180			28000	56000	7280	84000	78.0			4220x10³	3635x10³	3031x10³	2170x10³

64 Shore D spider made of T-PUR®													
ROTEX® size	Torsion angle ϕ with		Torque [Nm]				Damping power P _{KW} [W] ³⁾	Relative damping ψ	Resonance factor V _R	Torsion spring stiffness C dyn. [Nm/rad]			
			DIN 740 ¹⁾			T _K max ²⁾				1.0 T _{KN}	0.75 T _{KN}	0.5 T _{KN}	0.25 T _{KN}
	T _{KN}	T _K max	Rated T _{KN}	Max. T _K max	Vibratory T _{KW}								
14	4.5°	7.0°	16	32	4.2	48	9.0			0.76x10³	0.62x10³	0.47x10³	0.28x10³
19			21	42	5.5	63	7.2			5.35x10³	4.39x10³	3.32x10³	1.97x10³
24			75	150	19.5	225	9.9			15.11x10³	12.39x10³	9.37x10³	5.55x10³
28			200	400	52	600	12.6			27.52x10³	22.57x10³	17.06x10³	10.12x10³
38			405	810	105	1215	15.3			70.15x10³	57.52x10³	43.49x10³	25.78x10³
42			560	1120	146	1680	18.0			79.9x10³	65.5x10³	49.52x10³	29.35x10³
48			655	1310	170	1965	20.7			95.5x10³	78.3x10³	59.22x10³	35.1x10³
55			825	1650	215	2475	23.4			107.9x10³	88.5x10³	66.9x10³	39.66x10³
65	2.5°	3.6°	1175	2350	306	3525	27.0	0.75	8.50	151.1x10³	123.9x10³	93.7x10³	55.53x10³
75			2400	4800	624	7200	32.4			248.2x10³	203.5x10³	153.9x10³	91.2x10³
90			4500	9000	1170	13500	45.0			674.5x10³	553.1x10³	418.2x10³	247.9x10³
100			6185	12370	1608	18555	54.0			861.2x10³	706.2x10³	533.9x10³	316.5x10³
110			9000	18000	2340	27000	63.0			1230x10³	1001x10³	773.1x10³	531.4x10³
125			12500	25000	3250	37500	72.0			1749x10³	1436x10³	1149x10³	832.1x10³
140			16000	32000	4160	48000	81.9			2312x10³	1929x10³	1521x10³	1082x10³
160			24000	48000	6240	72000	112.5			3415x10³	2961x10³	2471x10³	1830x10³
180			35000	70000	9100	105000	117.0			5670x10³	4917x10³	4103x10³	3038x10³

¹⁾ see catalogue page 15

²⁾ ≤ 1000 load cycles

³⁾ with +30 °C

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
T-PUR®	1.0	1.0	1.2	1.3	1.45	1.6	1.8	2.1	2.5	3.0
PUR	1.0	1.0	1.3	1.4	1.55	1.8	2.2	—	—	—

With temperatures below -40 °C consult with KTR.

Unless the Shore hardness of spider is explicitly specified in your order, we will supply spiders with Shore hardness 92 Shore A T-PUR®.

For circumferential speeds exceeding $v = 30$ m/s dynamic balancing is required. For circumferential speeds exceeding $v = 35$ m/s only steel or nodular iron.