

Technical data of our standard spiders

Spider 92 Shore-A made of T-PUR® and PUR														
ROTEX® size	Max. speed		Twist angle ϕ with		Torque [Nm]			Damping power PKW [W] ¹⁾	Relative damping ψ	Resonance factor V_R	Torsion spring stiffness C dyn. [Nm/rad]			
	V=35 m/s cast iron	V=40 m/s steel	T _{KN}	T _{K max}	Rated (T _{KN})	Max (T _{K max})	Vibratory (T _{KW})				1,0 T _{KN}	0,75 T _{KN}	0,5 T _{KN}	0,25 T _{KN}
14	22200	25400	6,4°	10°	7,5	15	2,0	–			0,38x10 ³	0,31x10 ³	0,24x10 ³	0,14x10 ³
19	16700	19000			10	20	2,6	4,8			1,28x10 ³	1,05x10 ³	0,80x10 ³	0,47x10 ³
24	12100	13800			35	70	9,1	6,6			4,86x10 ³	3,98x10 ³	3,01x10 ³	1,79x10 ³
28	10100	11500			95	190	25	8,4			10,90x10 ³	8,94x10 ³	6,76x10 ³	4,01x10 ³
38	8300	9500			190	380	49	10,2			21,05x10 ³	17,26x10 ³	13,05x10 ³	7,74x10 ³
42	7000	8000			265	530	69	12,0			23,74x10 ³	19,47x10 ³	14,72x10 ³	8,73x10 ³
48	6350	7250			310	620	81	13,8			36,70x10 ³	30,09x10 ³	22,75x10 ³	13,49x10 ³
55	5550	6350			410	820	107	15,6			50,72x10 ³	41,59x10 ³	31,45x10 ³	18,64x10 ³
65	4950	5650	3,2°	5°	625	1250	163	18,0	0,80	7,90	97,13x10 ³	79,65x10 ³	60,22x10 ³	35,70x10 ³
75	4150	4750			1280	2560	333	21,6			113,32x10 ³	92,92x10 ³	70,26x10 ³	41,65x10 ³
90	3300	3800			2400	4800	624	30,0			190,09x10 ³	155,87x10 ³	117,86x10 ³	69,86x10 ³
100	2950	3350			3300	6600	858	36,0			253,08x10 ³	207,53x10 ³	156,91x10 ³	93,01x10 ³
110	2600	2950			4800	9600	1248	42,0			311,61x10 ³	255,52x10 ³	193,20x10 ³	114,52x10 ³
125	2300	2600			6650	13300	1729	48,0			474,86x10 ³	389,39x10 ³	294,41x10 ³	174,51x10 ³
140	2050	2350			8550	17100	2223	54,6			660,49x10 ³	541,60x10 ³	409,50x10 ³	242,73x10 ³
160	1800	2050			12800	25600	3328	75,0			890,36x10 ³	730,10x10 ³	552,03x10 ³	327,21x10 ³
180	1550	1800			18650	37300	4849	78,0			2568,56x10 ³	2106,22x10 ³	1592,51x10 ³	943,95x10 ³

95/98 Shore-A spider made of T-PUR® and PUR ²⁾														
ROTEX® size	Max. speed		Twist angle ϕ with		Torque [Nm]			Damping power PKW [W] ¹⁾	Relative damping ψ	Resonance factor V_R	Torsion spring stiffness C dyn. [Nm/rad]			
	V=35 m/s iron	V=40 m/s steel	T _{KN}	T _{K max}	Rated (T _{KN})	Max (T _{K max})	Vibratory (T _{KW})				1,0 T _{KN}	0,75 T _{KN}	0,5 T _{KN}	0,25 T _{KN}
14	22200	25400	6,4°	10°	12,5	25	3,3	–			0,56x10 ³	0,46x10 ³	0,35x10 ³	0,21x10 ³
19	16700	19000			17	34	4,4	4,8			2,92x10 ³	2,39x10 ³	1,81x10 ³	1,07x10 ³
24	12100	13800			60	120	16	6,6			9,93x10 ³	8,14x10 ³	6,16x10 ³	3,65x10 ³
28	10100	11500			160	320	42	8,4			26,77x10 ³	21,95x10 ³	16,60x10 ³	9,84x10 ³
38	8300	9500			325	650	85	10,2			48,57x10 ³	39,83x10 ³	30,11x10 ³	17,85x10 ³
42	7000	8000			450	900	117	12,0			54,50x10 ³	44,69x10 ³	33,79x10 ³	20,03x10 ³
48	6350	7250			525	1050	137	13,8			65,29x10 ³	53,54x10 ³	40,48x10 ³	24,00x10 ³
55	5550	6350			685	1370	178	15,6			94,97x10 ³	77,88x10 ³	58,88x10 ³	34,90x10 ³
65	4950	5650	3,2°	5°	940	1880	244	18,0	0,80	7,90	129,51x10 ³	106,20x10 ³	80,30x10 ³	47,60x10 ³
75	4150	4750			1920	3840	499	21,6			197,50x10 ³	161,95x10 ³	122,45x10 ³	72,58x10 ³
90	3300	3800			3600	7200	936	30,0			312,20x10 ³	256,00x10 ³	193,56x10 ³	114,73x10 ³
100	2950	3350			4950	9900	1287	36,0			383,26x10 ³	314,27x10 ³	237,62x10 ³	140,85x10 ³
110	2600	2950			7200	14400	1872	42,0			690,06x10 ³	565,85x10 ³	427,84x10 ³	253,60x10 ³
125	2300	2600			10000	20000	2600	48,0			1343,64x10 ³	1101,79x10 ³	833,06x10 ³	493,79x10 ³
140	2050	2350			12800	25600	3328	54,6			1424,58x10 ³	1168,16x10 ³	883,24x10 ³	523,54x10 ³
160	1800	2050			19200	38400	4992	75,0			2482,23x10 ³	2035,43x10 ³	1538,98x10 ³	912,22x10 ³
180	1550	1800			28000	56000	7280	78,0			3561,45x10 ³	2920,40x10 ³	2208,10x10 ³	1308,84x10 ³

Spider 64 Shore-D made of T-PUR® and PUR														
ROTEX® size	Max. speed		Twist angle ϕ with		Torque [Nm]			Damping power PKW [W] ¹⁾	Relative damping ψ	Resonance factor V_R	Torsion spring stiffness C dyn. [Nm/rad]			
	V=35 m/s iron	V=40 m/s steel	T _{KN}	T _{K max}	Rated (T _{KN})	Max (T _{K max})	Vibratory (T _{KW})				1,0 T _{KN}	0,75 T _{KN}	0,5 T _{KN}	0,25 T _{KN}
14	22200	25400	4,5°	7,0°	16	32	4,2	9,0			0,76x10 ³	0,62x10 ³	0,47x10 ³	0,28x10 ³
19	16700	19000			21	42	5,5	7,2			5,35x10 ³	4,39x10 ³	3,32x10 ³	1,97x10 ³
24	12100	13800			75	150	19,5	9,9			15,11x10 ³	12,39x10 ³	9,37x10 ³	5,55x10 ³
28	10100	11500			200	400	52	12,6			27,52x10 ³	22,57x10 ³	17,06x10 ³	10,12x10 ³
38	8300	9500			405	810	105	15,3			70,15x10 ³	57,52x10 ³	43,49x10 ³	25,78x10 ³
42	7000	8000			560	1120	146	18,0			79,86x10 ³	65,49x10 ³	49,52x10 ³	29,35x10 ³
48	6350	7250			655	1310	170	20,7			95,51x10 ³	78,32x10 ³	59,22x10 ³	35,10x10 ³
55	5550	6350			825	1650	215	23,4			107,92x10 ³	88,50x10 ³	66,91x10 ³	39,66x10 ³
65	4950	5650	2,5°	3,6°	1175	2350	306	27,0	0,75	8,50	151,09x10 ³	123,90x10 ³	93,68x10 ³	55,53x10 ³
75	4150	4750			2400	4800	624	32,4			248,22x10 ³	203,54x10 ³	153,90x10 ³	91,22x10 ³
90	3300	3800			4500	9000	1170	45,0			674,52x10 ³	553,11x10 ³	418,20x10 ³	247,89x10 ³
100	2950	3350			6185	12370	1608	54,0			861,17x10 ³	706,16x10 ³	533,93x10 ³	316,48x10 ³
110	2600	2950			9000	18000	2340	63,0			1138,59x10 ³	933,64x10 ³	705,92x10 ³	418,43x10 ³
125	2300	2600			12500	25000	3250	72,0			1435,38x10 ³	1177,01x10 ³	889,93x10 ³	527,50x10 ³
140	2050	2350			16000	32000	4160	81,9			1780,73x10 ³	1460,20x10 ³	1104,05x10 ³	654,42x10 ³
160	1800	2050			24000	48000	6240	112,5			3075,80x10 ³	2522,16x10 ³	1907,00x10 ³	1130,36x10 ³
180	1550	1800			35000	70000	9100	117,0			6011,30x10 ³	4929,27x10 ³	3727,01x10 ³	2209,15x10 ³

Temperature factor S _t											
	-50 °C	-30 °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	1,1	1,2	1,3	1,45	1,6	1,8	2,1	2,5	3,0
PUR	–	1,0	1,2	1,3	1,4	1,55	1,8	2,2	–	–	–

Unless explicitly specified in your order, we will supply spiders with Shore hardness 92 Sh-A T-PUR®.
For circumferential speeds exceeding V = 30 m/s dynamic balancing is necessary. For circumferential speeds exceeding V = 35 m/s only steel or nodular iron.

¹⁾ with +30 °C
²⁾ up to size 65: 95Sh-A