








ROTEX® GS

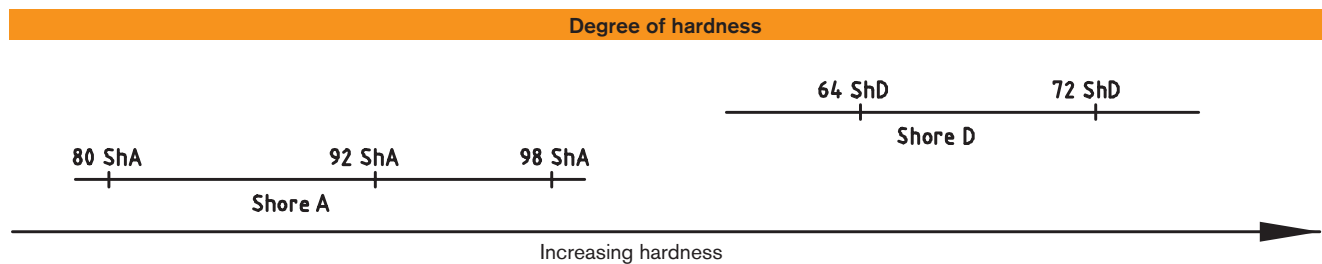
Backlash-free jaw couplings

Spiders

The elastic spiders of the GS line are available in five different kinds of Shore hardness, identified by colour, the material being soft to hard. Due to these five spiders with different kinds of Shore hardness it is easily possible to adjust the ROTEX® GS with regard to torsional stiffness and the vibration behaviour to the individual conditions of an application. The flexible prestress varies depending on the coupling size, the spiders/material and the production tolerances. Resulting herefrom is the axial plug-in force starting from low as a close sliding fit or with torsionally soft spider, respectively, to heavy with high prestress or torsionally rigid spider (see mounting instruction KTR-N 45510 at www.ktr.com).

Along with an increasing hardness of the spider the torques to be transmitted and the stiffness of the spider increase, too. Along with a reduced hardness of the spider the ability of compensating for displacements and damping the spider is increased.

Properties						
Description of spider hardness [Shore]	Identification Colour	Material	Perm. temperature range [°C]		Available for coupling size	Typical applications
			Permanent temperature	Max. temperature short-term		
80 Sh-A-GS		Polyurethane	- 50 to + 80	- 60 to + 120	size 5 to 24	- drives of electric measuring systems
92 Sh-A-GS		Polyurethane	- 40 to + 90	- 50 to + 120	size 5 to 55	- drives of electric measuring and control systems - main spindle drives
98-Sh A-GS		Polyurethane	- 30 to + 90	- 40 to + 120	size 5 to 90	- positioning drives - main spindle drives - high load
64 Sh-D-H-GS		Hytrel	- 50 to + 120	- 60 to + 150	size 7 to 38	- planetary gears / backlash-free gears - higher torsion spring stiffness / high ambient temperatures
64 Sh-D-GS		Polyurethane	- 20 to + 110	- 30 to + 120	size 42 to 90	- higher load - higher torsion spring stiffness
72 Sh-D-H-GS		Hytrel	- 50 to + 120	- 60 to + 150	size 24 to 38	- very high torsion spring stiffness / high ambient temperature - very high load
72 Sh-D-GS		Polyurethane	- 20 to + 110	- 30 to + 120	size 42 to 90	- very high torsion spring stiffness - very high load



Spider material	Polyurethane			Hytrel
Degree of hardness	92 Shore-A	98 Shore-A	64 Shore-D	64 Shore-D
Relative Damping ψ [-]	0,80	0,80	0,75	0,60
Resonance factor VR [-]	7,90	7,90	8,50	10,5

ROTEX® GS

Backlash-free jaw couplings

Technical data

Size	Spider Shore GS	Shore range	Max. speed [rpm] for type						Torque [Nm]		Static torsion spring stiffness ¹⁾ [Nm/rad]	Dynamic torsion spring stiffness ¹⁾ [Nm/rad]	Radial spring stiffness Cr [N/mm]	Weight [kg]		Mass moment of inertia J [kgm ²]	
			2.0 / 2.1 2.5 / 2.6	2.8 2.9	1.0 1.1	6.0 light ²⁾	6.0 P ²⁾	DKM	TKN	TK max				Each hub ⁵⁾	Spider	Each hub ⁵⁾	Spider
5	70	A	38000	38000	47700			57300	0,2	0,3	1,78	5	43	0,001	0,2 x 10 ⁻³	0,015 x 10 ⁻⁶	0,002 x 10 ⁻⁶
	80	A							0,3	0,6	3,15	10	82				
	92	A							0,5	1,0	5,16	16	154				
	98	A							0,9	1,7	8,3	25	296				
7	80	A	27000	27000	34100			40900	0,7	1,4	8,6	26	114	0,003	0,7 x 10 ⁻³	0,085 x 10 ⁻⁶	0,01 x 10 ⁻⁶
	92	A							1,2	2,4	14,3	43	219				
	98	A							2,0	4,0	22,9	69	421				
	64	D							2,4	4,8	34,3	103	630				
8	80	A	23800						0,7	1,4	8,8	27	117	0,003	0,5 x 10 ⁻³	0,117 x 10 ⁻⁶	0,0124 x 10 ⁻⁶
	98	A							2,0	4,0	23,5	71	433				
	64	D							2,4	4,8	35,3	106	648				
9	80	A	19000	19000	23800			28600	1,8	3,6	17,2	52	125	0,01	1,7 x 10 ⁻³	0,48 x 10 ⁻⁶	0,085 x 10 ⁻⁶
	92	A							3,0	6,0	31,5	95	262				
	98	A							5,0	10,0	51,6	155	518				
	64	D							6,0	12,0	74,6	224	739				
12	80	A	15200	15200	19100			22900	3,0	6,0	84,3	252	274	0,02	2,3 x 10 ⁻³	1,5 x 10 ⁻⁶	0,139 x 10 ⁻⁶
	92	A							5,0	10,0	160,4	482	470				
	98	A							9,0	18,0	240,7	718	846				
	64	D							12,0	24,0	327,9	982	1198				
13	80	A	12700						3,6	7,2	111	330	359	0,01	2,0 x 10 ⁻³	1,1 x 10 ⁻⁶	0,155 x 10 ⁻⁶
	98	A							11,0	22,0	316	941	1109				
	64	D							14,5	29,0	430	1287	1570				
14	80	A	12700	12700	15900	32000	47700	19100	4,0	8,0	60,2	180	153	0,02	4,7 x 10 ⁻³	2,8 x 10 ⁻⁶	0,509 x 10 ⁻⁶
	92	A							7,5	15,0	114,6	344	336				
	98	A							12,5	25,0	171,9	513	654				
	64	D							16,0	32,0	234,2	702	856				
16	80	A	12000						5,0	10,0	157	471	400	0,02	3,6 x 10 ⁻³	2,8 x 10 ⁻⁶	0,435 x 10 ⁻⁶
	98	A							15,0	30,0	450	1341	1710				
	64	D							19,0	38,0	612	1835	2238				
	80	A							6,0	12,0	618	1065	582				
19	92	A	9550	9550	11900	24000	35800	14300	12,0	24,0	1090	1815	1120	0,09	7,6 x 10 ⁻³	19,5 x 10 ⁻⁶	1,35 x 10 ⁻⁶
	98	A							21,0	42,0	1512	2540	2010				
	64	D							26,0	52,0	2560	3810	2930				
	80	A							35	70	2280	4010	1480				
24	98	A	6950	10400	8650	17000	26000	10400	60	120	3640	5980	2560	0,2	0,02	81,9 x 10 ⁻⁶	6,7 x 10 ⁻⁶
	64	D							75	150	5030	10896	3696				
	72 ³⁾	D							97	194	9944	17095	5799				
	92	A							95	190	4080	6745	1780				
28	98	A	5850	8800	7350	15000	22000	8800	160	320	6410	9920	3200	0,3	0,03	184,2 x 10 ⁻⁶	14,85 x 10 ⁻⁶
	64	D							200	400	10260	20177	4348				
	72 ³⁾	D							260	520	21526	36547	7876				
	92	A							190	380	6525	11050	2350				
38	98	A	4750	7150	5950	12000	17900	7150	325	650	11800	17160	4400	0,6	0,05	542,7 x 10 ⁻⁶	39,4 x 10 ⁻⁶
	64	D							405	810	26300	40335	6474				
	72 ³⁾	D							525	1050	44584	71180	11425				
	92	A							265	530	10870	15680	2430				
42	98	A	4000		5000	10000 8050 ⁴⁾	15000	6000	450	900	21594	37692	5570	2,4	0,08	2802 x 10 ⁻⁶	85 x 10 ⁻⁶
	64	D							560	1120	36860	69825	7270				
	72 ³⁾	D							728	1456	58600	93800	9766				
	92	A							310	620	12968	18400	2580				
48	98	A	3600		4550	9100 7200 ⁴⁾	13600	5450	525	1050	25759	45620	5930	3,3	0,09	4709 x 10 ⁻⁶	135 x 10 ⁻⁶
	64	D							655	1310	57630	99750	8274				
	72 ³⁾	D							852	1704	80000	136948	11359				
	92	A							410	820	15482	21375	2980				
55	98	A	3150		3950	6350 ⁴⁾	11900	4750	685	1370	42117	61550	6686	5,1	0,12	9460 x 10 ⁻⁶	229 x 10 ⁻⁶
	64	D							825	1650	105730	130200	9248				
	72 ³⁾	D							1072	2144	150000	209530	12762				
	98	A							940	1880	48520	71660	6418				
65	64	D	2800		3500	5650 ⁴⁾	11000		1175	2350	118510	189189	8870	6,7	0,2	15143 x 10 ⁻⁶	437 x 10 ⁻⁶
	72 ³⁾	D							1527	3054	160000	310000	11826				
	98	A							1920	3840	79150	150450	8650				
75	64	D	2350		2950	4750 ⁴⁾	8950		2400	4800	182320	316377	11923	10,5	0,3	32750 x 10 ⁻⁶	1179 x 10 ⁻⁶
	72 ³⁾	D							3120	6240	360540	586429	16454				
	98	A							3600	7200	204500	302900	10700				
90	64	D	1900		2380	3800 ⁴⁾	7150		4500	9000	429450	908700	14700	18,2	0,6	87099 x 10 ⁻⁶	3362 x 10 ⁻⁶
	72 ³⁾	D							5850	11700	847440	1308852	20290				

¹⁾ Static and dynamic torsion spring stiffness with 0,5 x T_{KN}

²⁾ Higher speeds on request

³⁾ With the use of the 72Sh-D spider we recommend to use hubs made of steel

⁴⁾ Clamping ring hubs 6.0 made of steel

⁵⁾ Hubs with an average bore type 1.0

The coupling has to be dimensioned in a way that the permissible coupling load is not exceeded with any operating condition. (see coupling selection on page 18 et seqq.)

The torques T_{KN}/T_{Kmax} specified refer to the spider. The shaft-hub-connection has to be investigated by the customer.