

ROTEX® GS

Backlash-free jaw couplings

Technical data

Size	Spider GS Shore hardness	Shore scale	Max. speed [rpm] for type						Torque [Nm]		Static torsion spring stiffness ¹⁾ [Nm/rad]	Dynamic torsion spring stiffness ¹⁾ [Nm/rad]	Radial torsion spring stiffness C _r [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	T _{KN}	T _{K max}				Per hub ⁵⁾	Spider	Per hub ⁵⁾	Spider
5	80	A							0.3	0.6	3.15	10	82				
	92	A	38000	38000	47700			57300	0.5	1.0	5.16	16	154	0.001	0.2	0.015	0.002
	98	A							0.9	1.7	8.3	25	296		x 10 ⁻³	x 10 ⁻⁶	x 10 ⁻⁶
7	80	A							0.7	1.4	8.6	26	114				
	92	A	27000	27000	34100			40900	1.2	2.4	14.3	43	219	0.003	0.7	0.085	0.01
	98	A							2.0	4.0	22.9	69	421		x 10 ⁻³	x 10 ⁻⁶	x 10 ⁻⁶
	64	D							2.4	4.8	34.3	103	630				
8	80	A							0.7	1.4	8.8	27	117				
	98	A		23800					2.0	4.0	23.5	71	433	0.003	0.5	0.117	0.0124
	64	D							2.4	4.8	35.3	106	648		x 10 ⁻³	x 10 ⁻⁶	x 10 ⁻⁶
9	80	A							1.8	3.6	17.2	52	125				
	92	A	19000	19000	23800			28600	3.0	6.0	31.5	95	262	0.01	1.7	0.48	0.085
	98	A							5.0	10.0	51.6	155	518		x 10 ⁻³	x 10 ⁻⁶	x 10 ⁻⁶
	64	D							6.0	12.0	74.6	224	739				
12	80	A							3.0	6.0	84.3	252	274				
	92	A	15200	15200	19100			22900	5.0	10.0	160.4	482	470	0.02	2.3	1.5	0.139
	98	A							9.0	18.0	240.7	718	846		x 10 ⁻³	x 10 ⁻⁶	x 10 ⁻⁶
	64	D							12.0	24.0	327.9	982	1198				
13	80	A							3.6	7.2	111	330	359				
	98	A		12700		38200			11.0	22.0	316	941	1109	0.01	2.0	1.1	0.155
	64	D							14.5	29.0	430	1287	1570		x 10 ⁻³	x 10 ⁻⁶	x 10 ⁻⁶
	80	A							4.0	8.0	60.2	180	153				
14	92	A	12700	12700	15900	32000	47700	19100	7.5	15.0	114.6	344	336	0.02	4.7	2.8	0.509
	98	A							12.5	25.0	171.9	513	654		x 10 ⁻³	x 10 ⁻⁶	x 10 ⁻⁶
	64	D							16.0	32.0	234.2	702	856				
	80	A							5.0	10.0	157	471	400				
16	98	A		12000					15.0	30.0	450	1341	1710	0.02	3.6	2.8	0.435
	64	D							19.0	38.0	612	1835	2238		x 10 ⁻³	x 10 ⁻⁶	x 10 ⁻⁶
	80	A							6.0	12.0	618	1065	582				
	92	A							12.0	24.0	1090	1815	1120				
19	98	A	9550	9550	11900	24000 19000 ⁴⁾	35800	14300	21.0	42.0	1512	2540	2010	0.09	7.6	19.5	1.35
	57	D							23.0	46.0	2036	3175	2470		x 10 ⁻³	x 10 ⁻⁶	x 10 ⁻⁶
	64	D							26.0	52.0	2560	3810	2930				
	92	A							35	70	2280	4010	1480				
24	98	A							60	120	3640	5980	2560				
	57	D	6950	10400	8650	17000 14000 ⁴⁾	26000	10400	68	136	4335	8438	3128	0.2	0.02	81.9	6.7
	64	D							75	150	5030	10896	3696			x 10 ⁻⁶	x 10 ⁻⁶
	72 ³⁾	D							97	194	9944	17095	5799				
28	92	A							95	190	4080	6745	1780				
	98	A							160	320	6410	9920	3200				
	57	D	5850	8800	7350	15000 12000 ⁴⁾	22000	8800	178	356	8335	15050	3775	0.3	0.03	184.2	14.85
	64	D							200	400	10260	20177	4348			x 10 ⁻⁶	x 10 ⁻⁶
38	72 ³⁾	D							260	520	21526	36547	7876				
	92	A							190	380	6525	11050	2350				
	98	A							325	650	11800	17160	4400				
	57	D	4750	7150	5950	12000 9600 ⁴⁾	17900	7150	362	724	19050	28745	5437	0.6	0.05	542.7	39.4
42	64	D							405	810	26300	40335	6474			x 10 ⁻⁶	x 10 ⁻⁶
	72 ³⁾	D							525	1050	44584	71180	11425				
	98	A							450	900	21594	37692	5570				
	57	D	4000		5000	10000 8050 ⁴⁾	15000	6000	495	990	29225	53760	6420	2.4	0.08	2802	85
48	64	D							560	1120	36860	69825	7270			x 10 ⁻⁶	x 10 ⁻⁶
	72 ³⁾	D							728	1456	58600	93800	9766				
	98	A							525	1050	25759	45620	5930				
	57	D							587	1174	41695	72685	7102				
55	64	D	3600		4550	9100 7200 ⁴⁾	13600	5450	655	1310	57630	99750	8274	3.3	0.09	4709	135
	72 ³⁾	D							852	1704	80000	136948	11359			x 10 ⁻⁶	x 10 ⁻⁶
	98	A							685	1370	42117	61550	6686				
	64	D	3150		3950	6350 ⁴⁾	11900	4750	825	1650	105730	130200	9248	5.1	0.12	9460	229
65	72 ³⁾	D							1072	2144	150000	209530	12762			x 10 ⁻⁶	x 10 ⁻⁶
	98	A							940	1880	48520	71660	6418				
	64	D	2800		3500	5650 ⁴⁾	11000		1175	2350	118510	189189	8870	6.7	0.2	15143	437
	72 ³⁾	D							1527	3054	160000	310000	11826			x 10 ⁻⁶	x 10 ⁻⁶
75	98	A							1920	3840	79150	150450	8650				
	64	D	2350		2950	4750 ⁴⁾	8950		2400	4800	182320	316377	11923	10.5	0.3	32750	1179
	72 ³⁾	D							3120	6240	360540	586429	16454			x 10 ⁻⁶	x 10 ⁻⁶
	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	3362
	72 ³⁾	D							5850	11700	847440	1308852	20290			x 10 ⁻⁶	x 10 ⁻⁶

¹⁾ Static and dynamic torsion spring stiffness with 0.5 x T_{KN}

²⁾ For higher speeds see ROTEX® GS HP

³⁾ When using the spider 72 ShD, 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

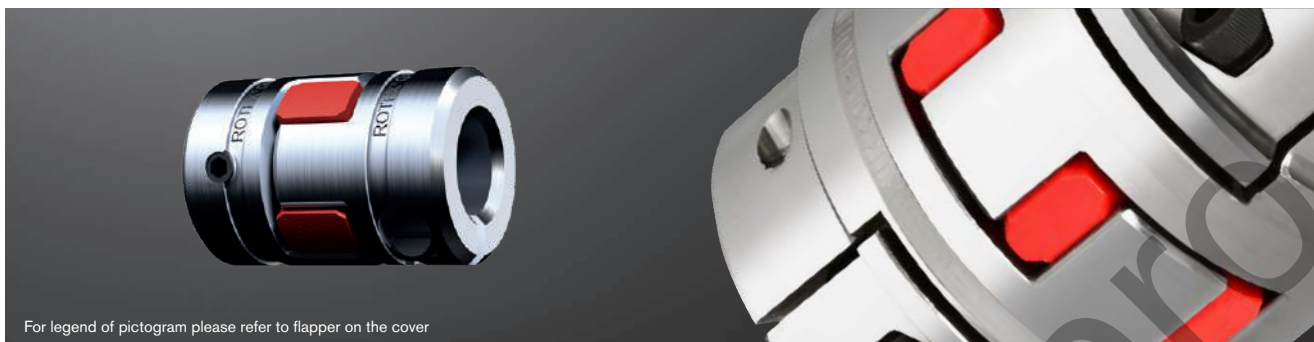
The coupling has to be dimensioned in that the permissible coupling load is not exceeded during any operating condition (see coupling selection on page 22 et seqq.).

The specified torques T_{KN}/T_{K max} refer to the spider. The shaft-hub-connection needs to be inspected by the customer.

ROTEX® GS

Backlash-free jaw couplings

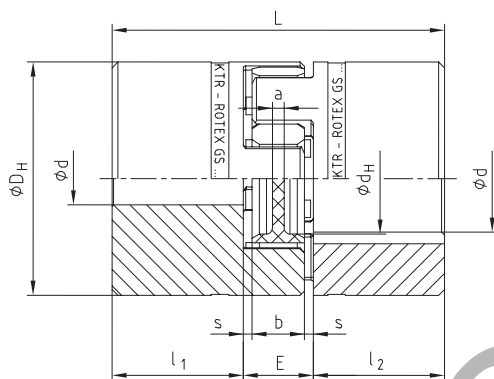
Standard types



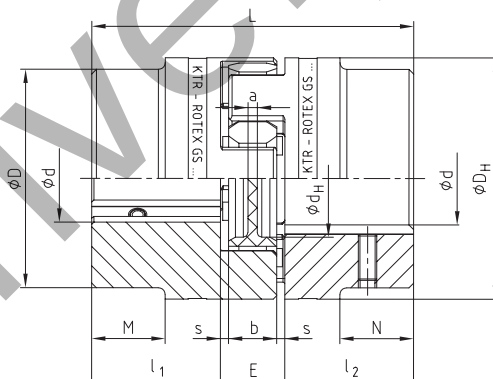
For legend of pictogram please refer to flapper on the cover



ROTEX® GS 5 - 38

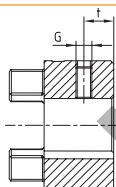


ROTEX® GS 42 - 90



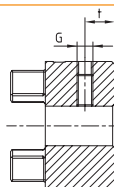
Types of hubs:

Type 1.0



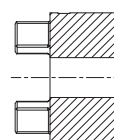
with feather keyway
and setscrew

Type 1.1



without feather keyway,
with setscrew

Type 1.2



without feather keyway
and without setscrew

ROTEX® GS standard types - For size 5 to 38 hub material aluminium/for size 42 to 90 hub material steel

Size	Spider GS ¹⁾ torque T _{KN} [Nm] for 98 ShA	d _{max.} for hub type			Dimensions [mm]											Setscrew DIN EN ISO 4029		
		1.0	1.1	1.2	D	D _H	d _H	L	l ₁ , l ₂	M, N	E	b	s	a	G	t	T _A [Nm]	
5	0.9	-	6	5	-	10	-	15	5	-	5	4	0.5	4.0	M2	2.5	0.35	
7	2.0	7	7	7	-	14	-	22	7	-	8	6	1.0	6.0	M3	3.5	0.6	
9	5.0	10	11	11	-	20	7.2	30	10	-	10	8	1.0	1.5	M4	5.0	1.5	
12	9.0	12	12	12	-	25	8.5	34	11	-	12	10	1.0	3.5	M4	5.0	1.5	
14	12.5	16	16	16	-	30	10.5	35	11	-	13	10	1.5	2.0	M4	5.0	1.5	
19	21	24	-	-	-	40	18	66	25	-	16	12	2.0	3.0	M5	10	2.0	
24	60	32	-	-	-	55	27	78	30	-	18	14	2.0	3.0	M5	10	2.0	
28	160	38	-	-	-	65	30	90	35	-	20	15	2.5	4.0	M8	15	10	
38	325	45	-	-	-	80	38	114	45	-	24	18	3.0	4.0	M8	15	10	
42	450	55	-	-	85	95	46	126	50	28	26	20	3.0	4.0	M8	20	10	
48	525	62	-	-	95	105	51	140	56	32	28	21	3.5	4.0	M8	20	10	
55	685	74	-	-	110	120	60	160	65	37	30	22	4.0	4.5	M10	20	17	
65	940	80	-	-	115	135	68	185	75	47	35	26	4.5	4.5	M10	20	17	
75	1920	95	-	-	135	160	80	210	85	53	40	30	5.0	5.0	M10	25	17	
90	3600	110	-	-	160	200	104	245	100	62	45	34	5.5	6.5	M12	30	40	

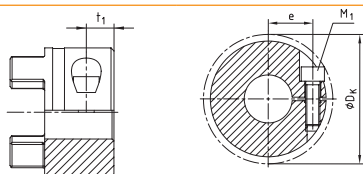
¹⁾ For selections see page 22 et seqq./other spiders see page 127.

Ordering example:

ROTEX® GS 24	98 ShA-GS	d 20	2.5 - Ø24		1.0 - Ø20	
Coupling size	Spider hardness	Optional: Bore in spider	Hub type	Finish bore	Hub type	Finish bore

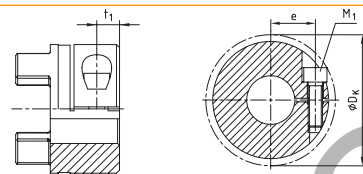
Types of hubs:

Type 2.0
Type 2.1



Size 5 to 14
Type 2.0: single slotted clamping hub **without** feather keyway
(only for ATEX cat. 3), torque depending on bore Ø
Type 2.1: single slotted clamping hub **with** feather keyway

Type 2.5
Type 2.6



from size 19
Type 2.5: double slotted clamping hub **without** feather keyway
(only for ATEX cat. 3), torque depending on bore Ø
Type 2.6: double slotted clamping hub **with** feather keyway

ROTEX® GS standard types - For size 5 to 38 hub material aluminium/for size 42 to 90 hub material steel

Size	Spider GS ¹⁾ torque T _{KN} [Nm] for 98 ShA	d _{max.} for hub type				Dimensions [mm]														Clamping screws DIN EN ISO 4762 (ROTEX® GS 5 - DIN EN ISO 1207)			
		2.0	2.1	2.5	2.6	D	D _H	d _H	L	l ₁ , l ₂	M, N	E	b	s	a	M ₁	t ₁	e	D _K	T _A [Nm]			
5	0.9	5	—	—	—	—	10	—	15	5	—	5	4	0.5	4.0	M1.2	2.5	3.5	11.4	— ²⁾			
7	2.0	7	7	—	—	—	14	—	22	7	—	8	6	1.0	6.0	M2	3.5	5.0	16.5	0.37			
9	5.0	11	11	—	—	—	20	7.2	30	10	—	10	8	1.0	1.5	M2.5	5.0	7.5	23.4	0.76			
12	9.0	12	12	—	—	—	25	8.5	34	11	—	12	10	1.0	3.5	M3	5.0	9.0	27.5	1.34			
14	12.5	16	16	—	—	—	30	10.5	35	11	—	13	10	1.5	2.0	M3	5.0	11.5	32.2	1.34			
19	21	—	—	24	24	—	40	18	66	25	—	16	12	2.0	3.0	M6	11.0	14.5	46	10.5			
24	60	—	—	28	28	—	55	27	78	30	—	18	14	2.0	3.0	M6	10.5	20.0	57.5	10.5			
28	160	—	—	38	38	—	65	30	90	35	—	20	15	2.5	4.0	M8	11.5	25.0	73	25			
38	325	—	—	45	45	—	80	38	114	45	—	24	18	3.0	4.0	M8	15.5	30.0	83.5	25			
42	450	—	—	50	45	85	95	46	126	50	28	26	20	3.0	4.0	M10	18	32.0	93.5	69			
48	525	—	—	55	55	95	105	51	140	56	32	28	21	3.5	4.0	M12	21	36.0	105	120			
55	685	—	—	68	68 ³⁾	110	120	60	160	65	37	30	22	4.0	4.5	M12	26	42.5	119.5	120			
65	940	—	—	70	70 ³⁾	115	135	68	185	75	47	35	26	4.5	4.5	M12	33	45.0	124	120			
75	1920	—	—	80	80	135	160	80	210	85	53	40	30	5.0	5.0	M16	36	51.0	147.5	295			
90	3600	—	—	90	90	160	200	104	245	100	62	45	34	5.5	6.5	M20	40	60.0	176	580			

¹⁾ For selections see page 22 et seq./other spiders see page 127.

²⁾ No T_A defined (slotted screw)

³⁾ From Ø60 keyway opposite the clamping screw

Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 2.0

Size	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø13	Ø14	Ø15	Ø16
7	0.7	0.9	1.1	1.2	1.4									
9		1.6	1.9	2.2	2.6	2.9	3.2	3.5	3.8					
12		2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.8	6.3				
14			3.1	3.6	4.2	4.7	5.2	5.7	6.2	6.7	7.1	7.6	8.0	8.5

Review of shaft-hub-connection: Friction torques T_R [Nm] for hub type 2.5

Size	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	19	23	25	31	33	35	39	41	42	46 ⁴⁾	49 ⁴⁾																			
24		24	26	33	35	37	41	43	45	48	52	54	59																	
28				63	67	71	79	82	86	94	101	105	115	122	129	139	148													
38					67	71	79	83	87	95	102	106	117	124	131	142	152	158	165	175										
42								188	197	214	231	240	264	281	297	320	343	358	373	395	417	431								
48												356	394	418	442	478	513	536	558	592	624	646	699							
55													456	493	529	553	577	611	646	668	724	778	830	882						
65																499	536	560	584	620	655	677	734	789	842	895	946			
75																			1107	1175	1242	1287	1396	1503	1607	1709	1810	1908	2005	
90																			1764	1876	1985	2057	2235	2409	2579	2746	2911	3072	3231	3387

⁴⁾ Clamping hub single slotted with 2-off clamping screws M4 and dimension e = 15, T_A = 2.9 Nm