

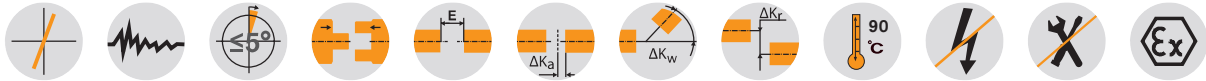
# ROTEX® GS

## Backlash-free jaw couplings

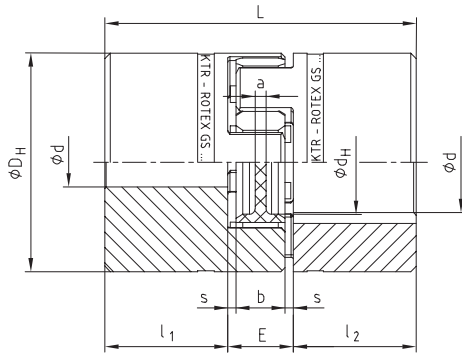
### Standard types



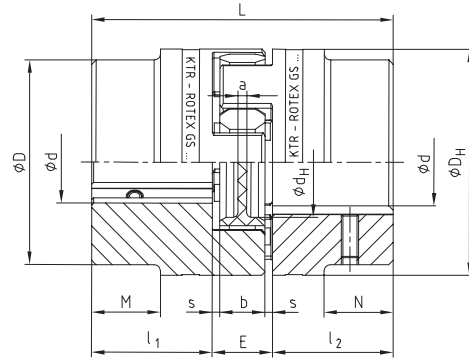
For legend of pictogram please refer to flapper on the cover



ROTEX® GS 5 - 38

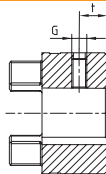


ROTEX® GS 42 - 90



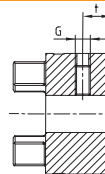
#### Types of hubs:

Type 1.0



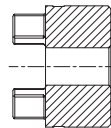
with feather keyway  
and setscrew

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 <sup>1)</sup> torque T <sub>KN</sub> [Nm] for 98 ShA	d <sub>max.</sub> for hub type			Dimensions [mm]										Setscrew DIN EN ISO 4029			
		1.0	1.1	1.2	D	D <sub>H</sub>	d <sub>H</sub>	L	l <sub>1</sub> , l <sub>2</sub>	M, N	E	b	s	a	G	t	T <sub>A</sub> [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

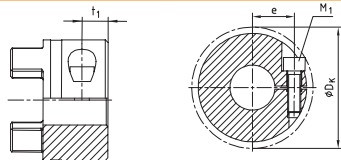
<sup>1)</sup> For selections see page 22 et seqq./other spiders see page 127.

#### 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

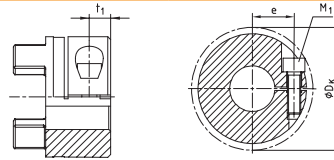
**Types of hubs:**

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 <sup>1)</sup> torque T <sub>KN</sub> [Nm] for 98 ShA	d <sub>max.</sub> 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 <sub>H</sub>	d <sub>H</sub>	L	l <sub>1</sub> , l <sub>2</sub>	M, N	E	b	s	a	M <sub>1</sub>	t <sub>1</sub>	e	D <sub>K</sub>	T <sub>A</sub> [Nm]		
5	0.9	5	-	-	-	10	-	15	5	-	5	4	0.5	4.0	M1.2	2.5	3.5	11.4	- <sup>2)</sup>			
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	2.0	3.0	M10	18	32.0	93.5	69			
48	525	-	-	55	55	95	105	51	140	56	32	28	2.1	3.5	4.0	M12	21	36.0	105	120		
55	685	-	-	68	68 <sup>3)</sup>	110	120	60	160	65	37	30	2.2	4.0	4.5	M12	26	42.5	119.5	120		
65	940	-	-	70	70 <sup>3)</sup>	115	135	68	185	75	47	35	2.6	4.5	4.5	M12	33	45.0	124	120		
75	1920	-	-	80	80	135	160	80	210	85	53	40	3.0	5.0	5.0	M16	36	51.0	147.5	295		
90	3600	-	-	90	90	160	200	104	245	100	62	45	3.4	5.5	6.5	M20	40	60.0	176	580		

<sup>1)</sup> For selections see page 22 et seqq./other spiders see page 127.  
<sup>2)</sup> No T<sub>A</sub> defined (slotted screw)  
<sup>3)</sup> From Ø60 keyway opposite the clamping screw

**Review of shaft-hub-connection: Friction torques T<sub>R</sub> [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<sub>R</sub> [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 <sup>4)</sup>	49 <sup>4)</sup>																			
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		

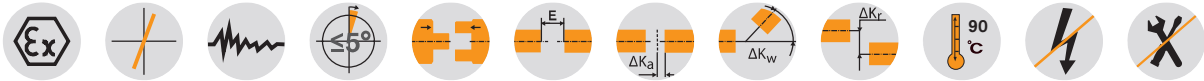
<sup>4)</sup> Clamping hub single slotted with 2-off clamping screws M4 and dimension e = 15, T<sub>A</sub> = 2.9 Nm

# ROTEX® GS Compact Backlash-free jaw couplings

## Compact design



For legend of pictogram please refer to flapper on the cover



ROTEX® GS Compact - Hub material aluminium																	
Size	Spider GS <sup>1)</sup> torque T <sub>KN</sub> [Nm]				Dimensions [mm]										Clamping screws DIN EN ISO 4762		
	80 ShA	92 ShA	98 ShA	64 ShD	d <sub>max.</sub>	D <sub>H</sub>	D <sub>K</sub>	L	l <sub>1</sub> , l <sub>2</sub>	E	b	s	d <sub>H</sub>	t	e	M	T <sub>A</sub> [Nm]
Single slotted hub type 2.8/2.9																	
7	0.7	1.2	2.0	2.4	7	14	16.6	18	5	8	6	1	–	2.5	5	M2	0.37
8	0.5	–	2.0	2.4	8	15	17.3	20	7	6	5	0.5	6.2	4	5.4	M2	0.52
9	1.8	3.0	5.0	6	9	20	21.3	24	7	10	8	1	–	3.5	6.7	M2.5	0.76
12	3.0	5.0	9.0	12	12	25	26.2	26	7	12	10	1	–	3.5	8.3	M3	1.34
13	3.6	–	11	14.5	12.7	25	25.7	26	8	10	8	1	10	4	8	M3	1.9
14	4.0	7.5	12.5	16	16 <sup>2)</sup>	30	31.6	32	9.5	13	10	1.5	–	4.5	10	M4	2.9
16	5.0	–	15	19	16	30	32.5	32	10.3	11.4	9.4	1	14	5.3	10.5	M4	4.1
19	6.0	12.0	21.0	26.0	24 <sup>2)</sup>	40	45.5	50	17	16	12	2	–	9	14.0	M6	10
Axially slotted hub type 2.8/2.9																	
24	–	35	60	75	32	55	57.5	54	18	18	14	2	–	11	20.0	M6	10
28	–	95	160	200	35	65	69.0	62	21	20	15	2.5	–	12	23.8	M8	25
38	–	190	325	405	45	80	86.0	76	26	24	18	3	–	15	29.5	M10	49

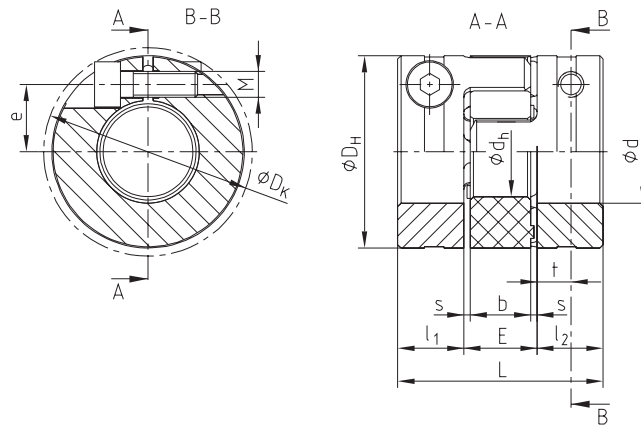
Review of shaft-hub-connection: Friction torques T <sub>f</sub> [Nm] for hub type 2.8																										
Size	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9	Ø10	Ø11	Ø12	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45
Single slotted hub type 2.8																										
7	0.7	0.9	1.1	1.2	1.4																					
8	1.0	1.2	1.5	1.8	2.0	2.3																				
9		1.5	1.8	2.1	2.4	2.7	3.0																			
12		2.3	2.8	3.3	3.8	4.3	4.7	5.2	5.6	6.0																
13		3.1	3.9	4.6	5.2	5.9	6.5	7.1	7.8	8.4																
14			5.0	5.9	6.8	7.7	8.5	9.4	10.2	11.0	7.2 <sup>2)</sup>	7.7 <sup>2)</sup>	8.1 <sup>2)</sup>													
16			7.2	8.5	9.8	11.0	12.2	13.4	14.6	15.7	17.9	19.0	20.0													
19						18.7	20.8	22.9	24.9	26.9	30.8	32.7	34.6	38.2	40.0	41.8	36.0 <sup>2)</sup>									
Axially slotted hub type 2.8																										
24								34	37	41	48	51	54	61	64	68	81	85	95	102	109					
28											87	93	100	112	118	124	149	156	174	187	199	218				
38												148	158	178	188	198	237	247	277	296	316	346	375	395	415	444

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

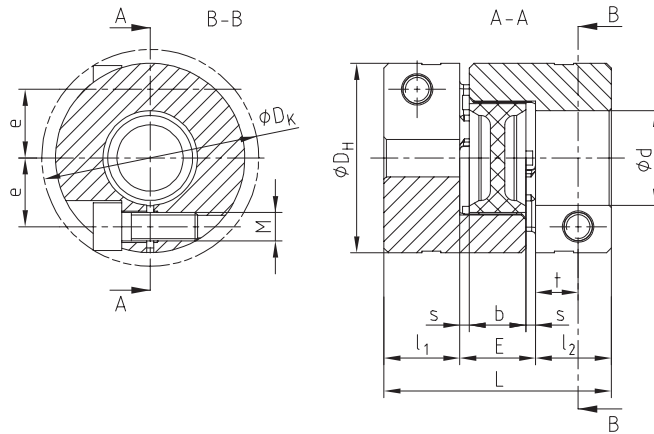
<sup>2)</sup> Size 14 with screw M3 and dimension e = 10.4/D<sub>K</sub> = 30.5/T<sub>A</sub> = 1.34 Nm; size 19 with screw M5 and dimension e = 15.5/D<sub>K</sub> = 47mm/T<sub>A</sub> = 6 Nm

Ordering example:	ROTEX® GS 38	Compact	98 ShA-GS	d 28	2.8 - Ø28		2.8 - Ø45	
	Coupling size	Type	Spider hardness	Optional: Bore in spider	Hub type	Finish bore	Hub type	Finish bore

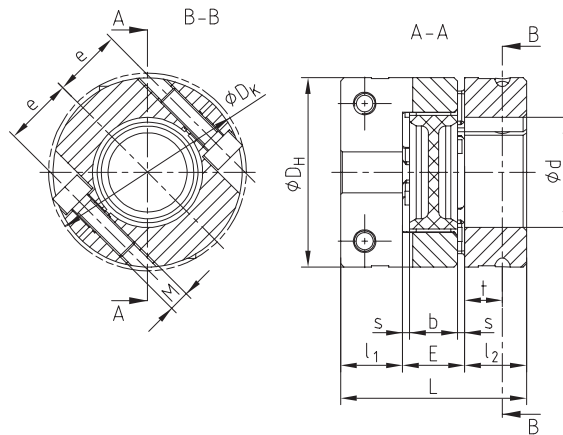
ROTEX® GS 8, 13, 16  
Compact  
single slotted type 2.8



ROTEX® GS 7, 9, 12, 14, 19  
Compact  
single slotted type 2.8

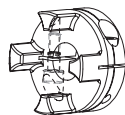


ROTEX® GS 24 - 38  
Compact  
axially slotted type 2.8



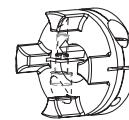
## Types of hubs

Type 2.8



Short-type clamping hub C with axial slot, without feather keyway  
Type 2.8 from size 24 as standard, size 7 - 19 type 2.8 single slotted

Type 2.9



Short-type clamping hub C with axial slot, with feather keyway  
Type 2.9 from size 24 as standard, size 7 - 19 type 2.9 single slotted

ROTEX® GS

Backlash-free  
servo couplings

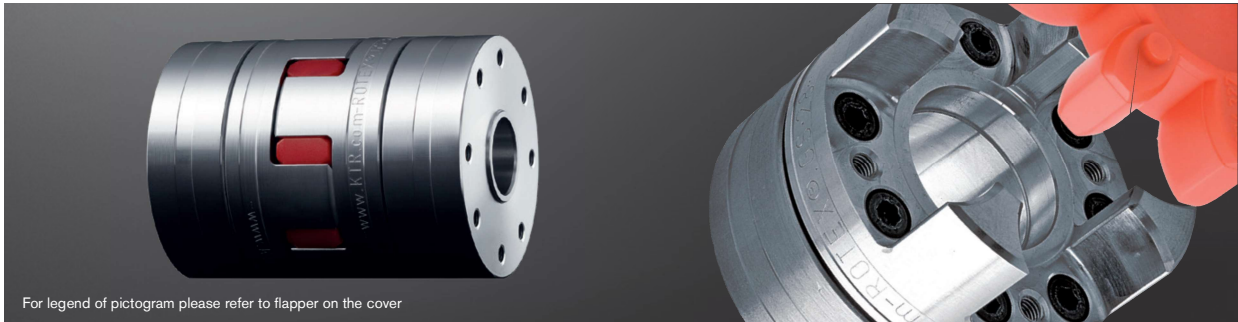
TOOLFLEX®

RADEX®-NC

COUNTEX®

# ROTEX® GS Clamping ring hubs light Backlash-free jaw couplings

Integrated clamping system made of aluminium

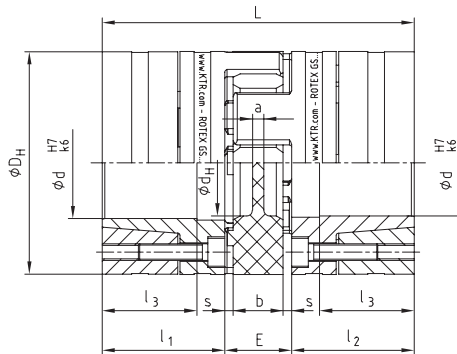


For legend of pictogram please refer to flapper on the cover



Extraction thread  $M_1$  between clamping screws

Clamping ring hub light with block mounting (hub and clamping ring mounted as a block)



ROTEX® GS clamping ring hubs light

Size	Spider GS <sup>1)</sup> torque T <sub>KN</sub> [Nm]			Dimensions [mm]										Clamping screws DIN EN ISO 4762			Weight per hub with max. bore [kg]	Mass moment of inertia per hub with max. bore [kgm <sup>2</sup> ]	
	92 ShA	98 ShA	64 ShD	d <sub>max.</sub>	D <sub>H</sub> <sup>2)</sup>	d <sub>H</sub>	L	l <sub>1, 2</sub>	l <sub>3</sub>	E	b	s	a	M	z = number	T <sub>A</sub> [Nm]			M <sub>1</sub>
13	-	11	14.5	13	25	10	34	12	9	10	8	1	-	M2	6	0.37	M2	0.014	1.39 x 10 <sup>-6</sup>
14	7.5	12.5	16.0	14	30	10.5	50	18.5	13.5	13	10	1.5	2.0	M3	4	1.34	M3	0.032	0.04 x 10 <sup>-4</sup>
19	12	21	26	20	40	18	66	25	18	16	12	2.0	3.0	M4	6	3	M4	0.077	0.19 x 10 <sup>-4</sup>
24	35	60	75	32	55	27	78	30	22	18	14	2.0	3.0	M5	4	6	M5	0.162	0.78 x 10 <sup>-4</sup>
28	95	160	200	38	65	30	90	35	27	20	15	2.5	4.0	M5	8	6	M5	0.240	1.70 x 10 <sup>-4</sup>
38	190	325	405	48	80	38	114	45	35	24	18	3.0	4.0	M6	8	10	M6	0.490	5.17 x 10 <sup>-4</sup>
42	265	450	560	51	95	46	126	50	35	26	20	3.0	4.0	M8	4	25	M8	0.772	11.17 x 10 <sup>-4</sup>
48	310	525	655	55	105	51	140	56	41	28	21	3.5	4.0	M10	4	49	M10	1.066	18.81 x 10 <sup>-4</sup>

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

<sup>2)</sup> ØD<sub>H</sub> + 2 mm with high speeds for expansion of spider

Review of shaft-hub-connection: Friction torques T<sub>R</sub> [Nm] for hub type 6.0 light

Size		Ø3	Ø4	Ø5	Ø6	Ø8	Ø9	Ø10	Ø11	Ø14	Ø15	Ø16	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55*
13	H7/k6	1.3 <sup>3)</sup>	2.3 <sup>3)</sup>	4.3 <sup>3)</sup>	5.4 <sup>3)</sup>	10 <sup>3)</sup>	6.3	8.9	10.6																		
	H7/h6						2.4	4.8	5.4																		
14	H7/k6				8.2	13.1	18.7	20.5	25.9	36.2																	
	H7/h6				5.8	9.5	15.7	16.6	21.6	24.7																	
19	H7/k6							33	41	59	71	51	80	92													
	H7/h6							27	35	52	65	39	68	81													
24	H7/k6									84	99	93	139	157	160	177	232	177 <sup>4)</sup>									
	H7/h6									75	92	79	125	145	119	136	190	147 <sup>4)</sup>									
28	H7/k6										140	207	188	289	316	355	414	324	404	422							
	H7/h6										121	187	157	263	293	318	381	245	324	343							
38	H7/k6												290	439	480	567	656	617	759	733	825	922	808	937			
	H7/h6												247	403	447	530	626	499	636	606	696	792	678	809			
42	H7/k6															651	752	747	916	1001	1115	1044	1218	1404	1432		
	H7/h6															574	681	613	774	881	1001	888	1058	1241	1295		
48	H7/k6															765	822	927	1121	1220	1357	1318	1536	1768	1535	1823	
	H7/h6															678	760	837	1047	1085	1231	1128	1339	1566	1331	1475	

\* Standard bore tolerance H7, special tolerances on request \* From Ø55 tolerance G7/m6

The friction torque is reduced with bigger fitting tolerances. Steel or nodular iron with a yield strength of approx. 250 N/mm<sup>2</sup> or more can be used as shaft material. For strength calculation of shaft/hollow shaft see KTR standard 45510 on our homepage [www.ktr.com](http://www.ktr.com).

<sup>3)</sup> Taper of hub with slot

<sup>4)</sup> Clamping ring hub with screws M3, z = 8 and T<sub>A</sub> = 2.9 Nm

Ordering example:	ROTEX® GS 24	98 ShA-GS	d 20	6.0 light - Ø24		6.0 light - Ø20	
	Coupling size	Spider hardness	Optional: Bore in spider	Hub type	Finish bore	Hub type	Finish bore