

# ROTEX® GS

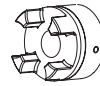
## Backlash-free jaw couplings

### Types of hubs

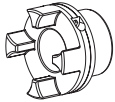
Due to the numerous applications of ROTEX® GS for many different mounting situations, this coupling system is available with various hub types. The different hub types can be combined optionally within one size.



**Type 1.0**  
with feather keyway and setscrew  
Positive-locking power transmission, permissible torque depending on the permissible surface pressure. Not suitable for backlash-free power transmission with heavily reversing operation.



**Type 1.1**  
without feather keyway, with setscrew  
Non-positive torque transmission. Suitable for backlash-free transmission of very small torques.  
(For ATEX category 3 only)



**Type 1.5**  
with hydraulic clamping system  
Integrated frictionally engaged shaft-hub-connection for transmitting high torques with easy assembly by means of a screw.



**Type 2.0** clamping hub  
single slot without feather keyway  
Frictionally engaged, backlash-free shaft-hub-connection. Transmittable torques depending on bore diameter. Type 2.0 up to size 14 as standard.  
(For ATEX category 3 only)



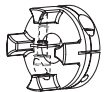
**Type 2.1** clamping hub  
single slot with feather keyway  
Positive-locking power transmission with additional friction fit. The friction fit avoids or reduces reverse backlash. Surface pressure of the feather keyway connection is reduced. Type 2.1 up to size 14 as standard.



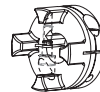
**Type 2.5** clamping hub  
double slotted, without feather keyway  
Frictionally engaged, backlash-free shaft-hub-connection. Transmittable torques depending on bore diameter. Type 2.5 from size 19 as standard.  
(For ATEX category 3 only)



**Type 2.6** clamping hub  
double slotted, with feather keyway  
Positive-locking power transmission with additional friction fit. The friction fit avoids or reduces reverse backlash. Surface pressure of the feather keyway connection is reduced. Type 2.6 from size 19 as standard.



**Type 2.8** short-type clamping hub C  
with axial slot, without feather keyway  
Frictionally engaged, backlash-free shaft-hub-connection, good properties of concentric running. Transmittable torques depending on bore diameter. Type 2.8 from size 24 as standard; size 7 - 19 type 2.8 single slotted.  
(For ATEX category 3 only)



**Type 2.8** short-type clamping hub C  
with axial slot, with feather keyway  
Positive-locking power transmission with additional friction fit. Surface pressure of the feather keyway connection is reduced. Type 2.9 from size 24 as standard; size 7 - 19 type 2.9 single slotted.



**Type 6.0** clamping ring hub  
Integrated frictionally engaged shaft-hub-connection for the transmission of higher torques. Screwing on elastomer side. For details about torque and dimensions see page 134/135 and HP page 138. Suitable for high speeds.



**Type 6.0** precision clamping ring hub  
Type 6.0 high-precision clamping ring hub  
Operating principle equal to type 6.0, but highly accurate machining with slight modifications of design. See page 136/138.



**Type 7.5** clamping hub type DH  
without feather keyway for double-cardanic connections  
Frictionally engaged, backlash-free shaft-hub-connection for radial assembly of coupling. Transmittable torques depending on bore diameter. For torques see page 146.



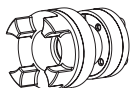
**Type 7.6** clamping hub type DH  
with feather keyway for double-cardanic connections  
Positive shaft-hub-connection with additional friction fit for radial assembly of coupling. The friction fit avoids or reduces reverse backlash. Surface pressure of the feather keyway connection is reduced.



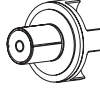
**Type 7.8** clamping hub type H  
without feather keyway for single-cardanic connection



**Type 7.9** clamping hub type H  
with feather keyway for single-cardanic connection

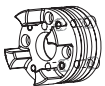


**Type 4.2** with CLAMPEX KTR 250  
Frictionally engaged shaft-hub-connection to transmit high torques with clamping screws externally.



**Type 9.0** expansion hub  
Frictionally engaged connection for hollow shaft. Transmittable torques depend on bore diameter and hollow shaft.

### Special designs on request of customers



**Type 6.5** clamping ring hub  
Design equal to 6.0, but only clamping screws externally. As an example for radial disassembly of intermediate pipe (special design).

# ROTEX® GS

## Backlash-free jaw couplings

### Stock programme

		Finish bore [mm] according to ISO fit H7 / feather keyway with thread according to DIN 6885 sheet 1 - JS9																														
Size	Hub type	un/pilot bored	Ø2	Ø3	Ø4	Ø5	Ø6	Ø6.35	Ø7	Ø8	Ø9	Ø9.5	Ø10	Ø11	Ø12	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45
7	1.1	●			●	●	●																									
	2.0	●		●	●	●	●	●	●																							
	2.8	●		●	●	●	●																									
8	2.8	●		●	●	●	●		●	●																						
	1.0	●				●				●	●		●																			
	1.1	●			●	●	●		●	●		●		●																		
	2.0	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
9	2.1	●			●	●	●		●	●		●		●																		
	2.8	●			●	●	●		●	●		●		●																		
	1.0	●				●				●	●		●		●																	
	1.1	●			●	●	●		●	●		●		●		●																
12	2.0	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	2.1	●				●				●	●		●		●																	
	2.8	●				●				●	●		●		●																	
13	2.8	●				●				●	●		●		●																	
	1.0	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	1.1	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
14	2.0	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	2.1	●				●				●	●		●		●																	
	2.8	●				●				●	●		●		●																	
16	6.0 light					●				●	●		●		●		●		●		●		●		●		●		●		●	
	6.0 P					●				●	●		●		●		●		●		●		●		●		●		●		●	
	2.8	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	1.0	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	2.5	●			■					●	●		●		●		●		●		●		●		●		●		●		●	
	2.6	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
19	2.8	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	6.0 light					●				●	●		●		●		●		●		●		●		●		●		●		●	
	6.0 steel					●				●	●		●		●		●		●		●		●		●		●		●		●	
	6.0 P37.5					●				●	●		●		●		●		●		●		●		●		●		●		●	
	6.0 P					●				●	●		●		●		●		●		●		●		●		●		●		●	
	1.0	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
24	2.5	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	2.6	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	2.8	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	6.0 light					●				●	●		●		●		●		●		●		●		●		●		●		●	
	6.0 steel					●				●	●		●		●		●		●		●		●		●		●		●		●	
	6.0 P 50					●				●	●		●		●		●		●		●		●		●		●		●		●	
28	6.0 P					●				●	●		●		●		●		●		●		●		●		●		●		●	
	1.0	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	2.5	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	2.6	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	2.8	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	6.0 light					●				●	●		●		●		●		●		●		●		●		●		●		●	
38	6.0 steel					●				●	●		●		●		●		●		●		●		●		●		●		●	
	6.0 P					●				●	●		●		●		●		●		●		●		●		●		●		●	
	1.0	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	2.5	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	2.6	●				●				●	●		●		●		●		●		●		●		●		●		●		●	
	2.8	●				●				●	●		●		●		●		●		●		●		●		●		●		●	

Taper bores for Fanuc motors:

GS 19 1:10 Ø11

GS 24 1:10 Ø16

<sup>1)</sup> Type 2.0/2.1

		Finish bores [mm]														
Size	Hub type	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55	Ø60	Ø65	Ø70	Ø80
42	6.0 light	●		●	●	●		●	●		●					
	6.0 steel	●	●	●	●	●	●	●	●	●	●					
48	6.0 light			●	●	●	●	●	●	●	●					
	6.0 steel			●	●	●	●	●	●	●	●	●				
55	6.0 steel					●	●	●	●	●	●	●	●			
65	6.0 steel						●	●	●	●	●	●	●	●	●	
75	6.0 steel							●	●	●	●	●	●	●	●	●
90	6.0 steel															

Bores on request

- = Pilot bored clamping hubs
- = Standard bore from stock
- Unbored hubs up to size 65 available from stock
- Other dimensions on request

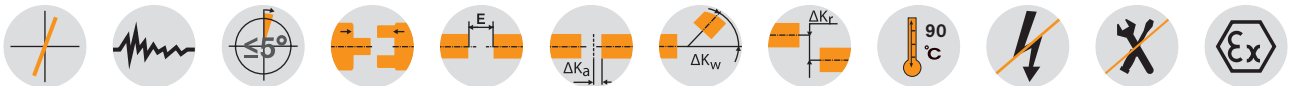
# ROTEX® GS

## Backlash-free jaw couplings

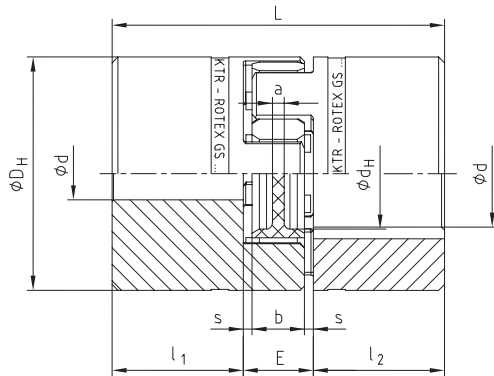
### Standard types



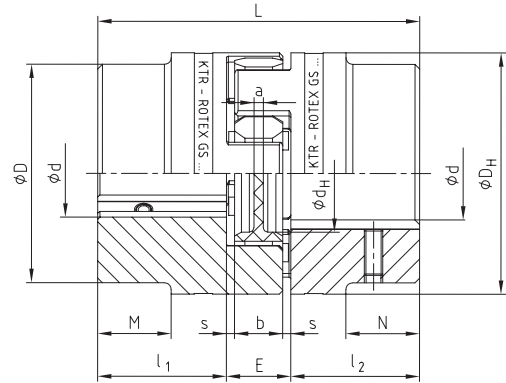
For legend of pictogram please refer to flapper on the cover



ROTEX® GS 5 - 38

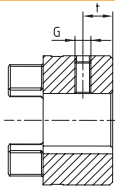


ROTEX® GS 42 - 90



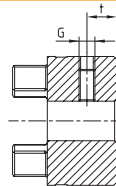
### Types of hubs:

Type 1.0



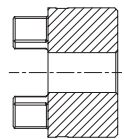
with feather keyway and setscrew

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

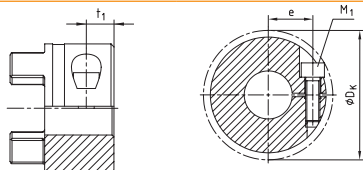
Size	Spider GS <sup>1)</sup> torque T <sub>KN</sub> [Nm] for 98 ShA	d <sub>max.</sub> for hub type			Dimensions [mm]											Setscrew DIN EN ISO 4029		
		1.0	1.1	1.2	D	D <sub>H</sub>	d <sub>H</sub>	L	l <sub>1</sub> , l <sub>2</sub>	M, N	E	b	s	a	G	t	T <sub>A</sub> [Nm]	
5	0.9	-	6	5	-	10	-	15	5	-	5	4	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	28	-	-	-	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 123 and following

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

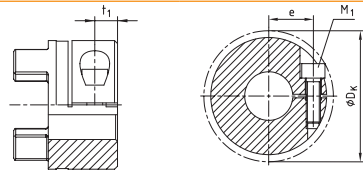
**Types of hubs:**

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	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 <sup>3)</sup>	110	120	60	160	65	37	30	22	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	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			

<sup>1)</sup> For selections see page 22 et seq/other spiders see page 123 and following  
<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																					
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

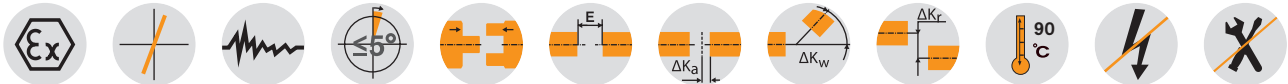
<sup>4)</sup> Clamping hub single slotted with 2-off clamping screws M4 and dimension e = 15, T<sub>A</sub> = 2.9 Nm

# 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>R</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	0.8	0.9	1.0	1.0	1.1																						
8	0.65	0.85	1.1	1.3	1.5	1.7																					
9		1.9	2.0	2.1	2.2	2.3	2.4																				
12		3.4	3.6	3.7	3.9	4.1	4.2	4.4	4.6	4.7																	
13		2.2	2.75	3.3	3.8	4.4	4.9	5.5	6	6.6																	
14			7.1	7.4	7.7	8.0	8.2	8.5	8.8	9.1	5.8 <sup>2)</sup>	5.9 <sup>2)</sup>	6.1 <sup>2)</sup>														
16			4.8	5.8	6.4	7.7	8.7	9.6	10.5	11.6	13.5	14.5	15.4														
19						24.3	25.0	25.7	26.3	27.0	28.4	29.0	29.7	31.1	31.7	32.4	25.0 <sup>2)</sup>										
Axially slotted hub type 2.8																											
24								21	23	25	30	32	34	38	40	42	51	53	59	63	68						
28											54	58	62	70	74	78	93	97	109	116	124	136					
38											92	99	111	117	123	148	154	173	185	197	216	234	247	259	278		

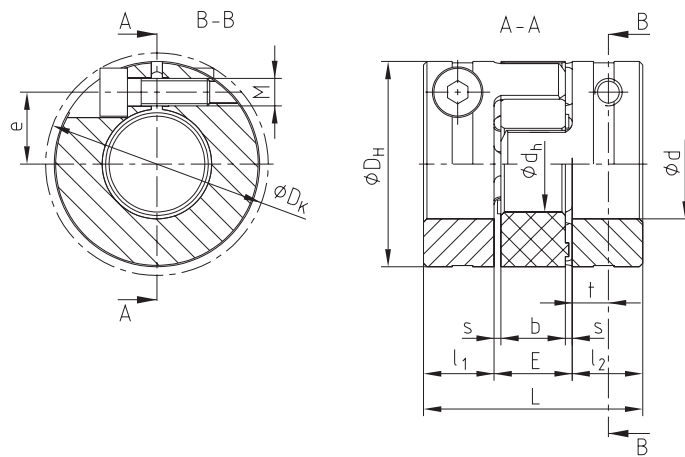
<sup>1)</sup> For selections see page 22 et seqq/other spiders see page 123 and following

<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

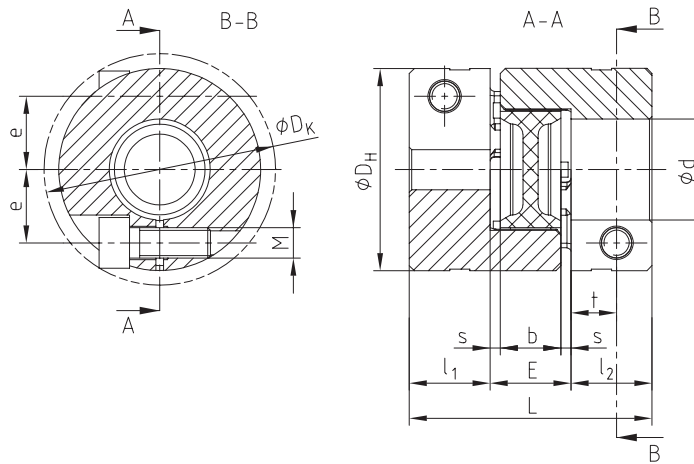
Ordering example:

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

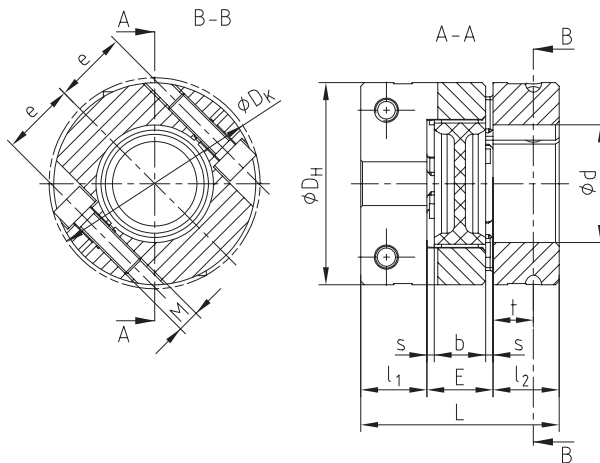
ROTEX® GS 8, 13, 16  
Compact  
single slotted type 2.8



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

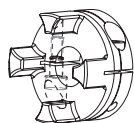


ROTEX® GS 24 - 38  
Compact  
axially slotted type 2.8



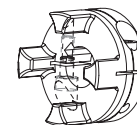
## Types of hubs

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

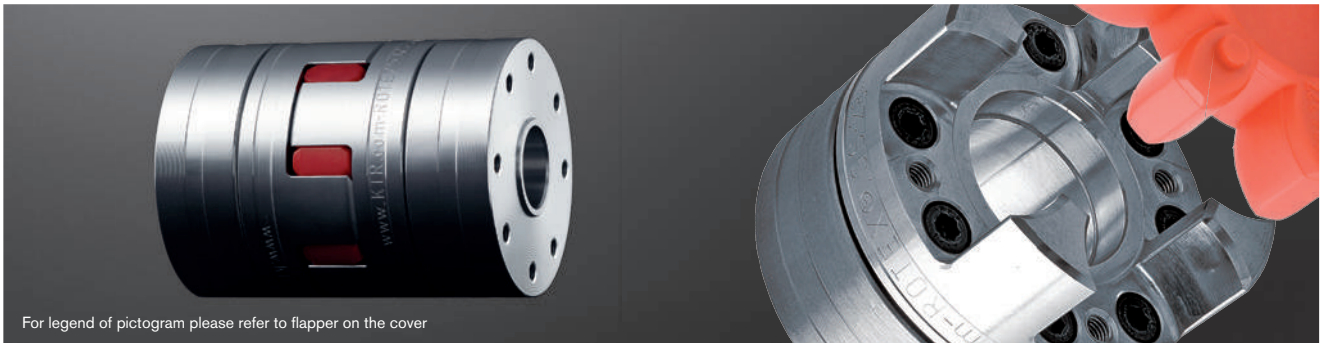
Type 2.9



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 Clamping ring hubs light Backlash-free jaw couplings

Integrated clamping system made of aluminium

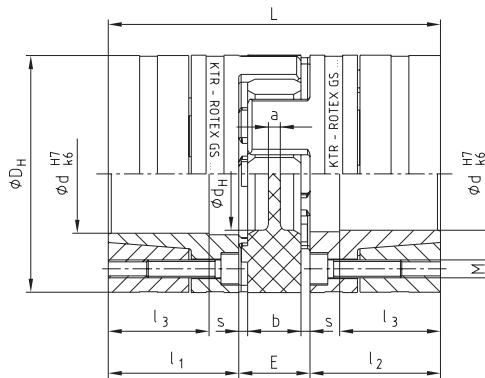


For legend of pictogram please refer to flapper on the cover



Extraction thread M<sub>1</sub> 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 123 and following

<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 <sup>*</sup>
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.

<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

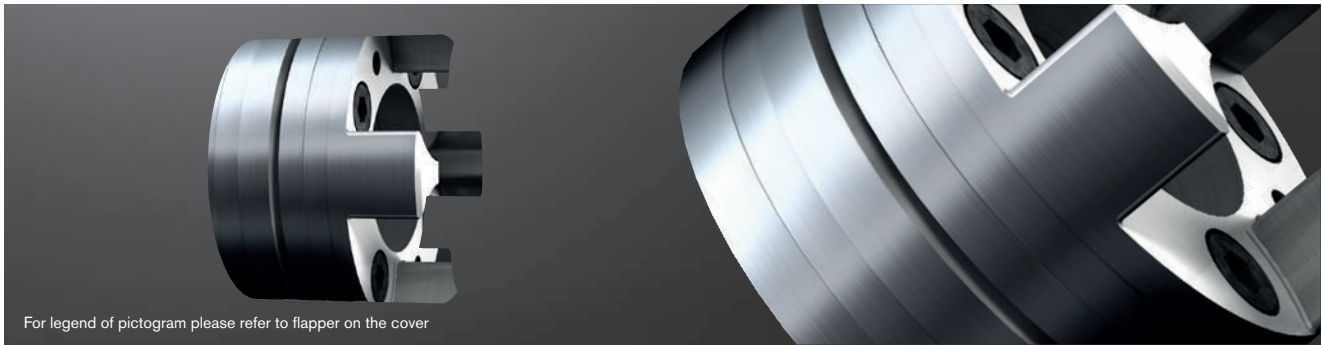
Ordering example:	ROTEX® GS 24		98 ShA-GS		d 20		6.0 light - Ø24		6.0 light - Ø20	
	Coupling size	Spider hardness	Optional: Bore in spider	Hub type	Finish bore	Hub type	Finish bore			



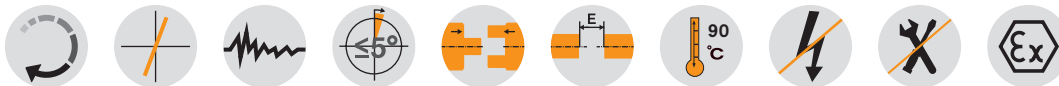
# ROTEX® GS Clamping ring hubs made of steel

## Backlash-free jaw couplings

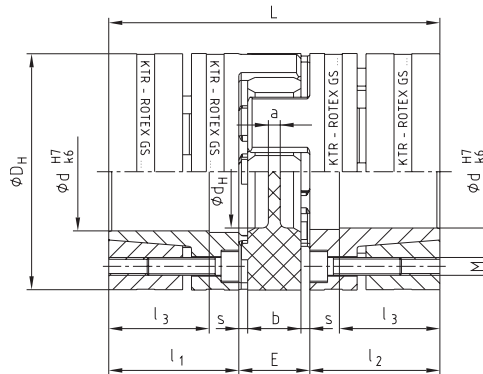
### Integrated clamping system made of steel



For legend of pictogram please refer to flapper on the cover



Extraction thread M<sub>1</sub> between clamping screws



ROTEX® GS clamping ring hubs steel

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> ]
	98 ShA	64 ShD	72 ShD	d <sub>max.</sub>	D <sub>H</sub> <sup>2)</sup>	d <sub>H</sub>	L	l <sub>1</sub> , l <sub>2</sub>	l <sub>3</sub>	E	b	s	a	M	z = number	T <sub>A</sub> [Nm]		
19	21	26	—	20	40	18	66	25 18	16	12	2.0	3.0	M4	6	4.1	M4	0.179	0.44 x 10 <sup>-4</sup>
24	60	75	97	28	55	27	78	30 22	18	14	2.0	3.0	M5	4	8.5	M5	0.399	1.91 x 10 <sup>-4</sup>
28	160	200	260	38	65	30	90	35 27	20	15	2.5	4.0	M5	8	8.5	M5	0.592	4.18 x 10 <sup>-4</sup>
38	325	405	525	48	80	38	114	45 35	24	18	3.0	4.0	M6	8	14	M6	1.225	12.9 x 10 <sup>-4</sup>
42	450	560	728	51	95	46	126	50 35	26	20	3.0	4.0	M8	4	41	M8	2.30	31.7 x 10 <sup>-4</sup>
48	525	655	852	55	105	51	140	56 41	28	21	3.5	4.0	M10	4	69	M10	3.08	52.0 x 10 <sup>-4</sup>
55	685	825	1072	70	120	60	160	65 45	30	22	4.0	4.5	M10	4	69	M10	4.67	103.0 x 10 <sup>-4</sup>
65	940	1175	1527	70	135	68	185	75 55	35	26	4.5	4.5	M12	4	120	M12	6.70	191.0 x 10 <sup>-4</sup>
75	1920	2400	—	80	160	80	210	85 63	40	30	5.0	5.0	M12	5	120	M12	9.90	396.8 x 10 <sup>-4</sup>
90	3600	4500	—	105	200	104	245	100 75	45	34	5.5	6.5	M16	5	295	M16	17.7	1136 x 10 <sup>-4</sup>

<sup>1)</sup> For selections see page 22 et seqq/other spiders see page 123 and following

<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 steel

Size		Ø10	Ø11	Ø14	Ø15	Ø16	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55*	Ø60*	Ø65*	Ø70*	Ø80*	Ø90*	Ø95*	Ø100*	Ø105*
19	H7/k6	27	32	69	84	57	94	110																					
	H7/h6	15	18	57	74	38	76	94																					
24	H7/k6			70	87	56	97	114	116	133	192																		
	H7/h6			55	74	32	72	93	84	103	173																		
28	H7/k6				108	131	207	148	253	285	315	382	330	433	503														
	H7/h6				74	97	172	94	207	242	267	343	260	377	453														
38	H7/k6							208	353	395	439	531	463	603	593	689	793	776											
	H7/h6							136	290	337	373	476	367	525	491	601	721	677											
42	H7/k6								445	495	595	526	677	671	775	718	872	1043	1061										
	H7/h6								387	429	540	429	600	569	687	599	773	970	978										
48	H7/k6									616	704	899	896	1030	962	1160	1379	1222	1543										
	H7/h6									513	590			806	775	924	822	1042	1290	1073									
55	H7/k6													863	856	991	918	1119	1110	1247	1277	1665	1605	2008					
	H7/h6													750	710	863	750	976	934	1089									
65	H7/k6															1446	1355	1637	1635	1827	1887	2429	2368	2930					
	H7/h6															1275	1135	1447	1404	1619									
75	H7/k6																1710	2053	2059	2294	2384	3040	2983	3664	4293				
	H7/h6																1460	1836	1797	2056									
90	H7/k6																			3845	4249	4795	5859	5906	7036	8047	9247	9575	10845
	H7/h6																			3445									

\* From Ø55 tolerance G7/m6

The friction torque is reduced with bigger fitting tolerances. For the strength calculation of shaft/hollow shaft see KTR standard 45510 at our homepage www.ktr.com.

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



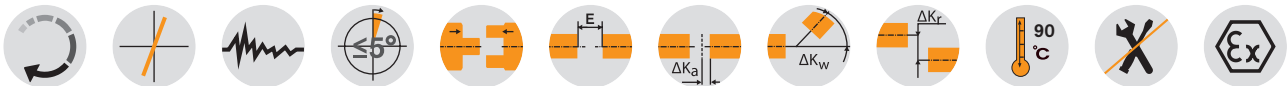
# ROTEX® GS P

## Backlash-free jaw couplings

Highly accurate type P according to DIN 69002



For legend of pictogram please refer to flapper on the cover



### ROTEX® GS P - hubs/clamping ring material steel

Size	Spider GS <sup>1)</sup> torque T <sub>KN</sub> [Nm]		Dimensions [mm]											Clamping screws DIN EN ISO 4762				Weight per hub d <sub>standard</sub> <sup>3)</sup> [kg]	Mass moment of inertia with bore d <sub>standard</sub> <sup>3)</sup> [kgm <sup>2</sup> ]
	98 ShA	64 ShD	d <sub>max</sub>	D <sub>H</sub> <sup>2)</sup>	d <sub>H</sub>	L	l <sub>1</sub> , l <sub>2</sub>	l <sub>3</sub>	E	b	s	a	d <sub>3</sub>	M	z = number	T <sub>A</sub> [Nm]	M1		
14 P	12.5	16	15	32	10.5	50	18.5	15.5	13	10	1.5	2	—	M3	4	1.89	M3	0.08	0.011 x 10 <sup>-3</sup>
19 P	21	26	20	40	18	66	25	21	16	12	2	3	—	M4	6	3.05	M4	0.19	0.046 x 10 <sup>-3</sup>
24 P	60	75	28	55	27	78	30	25	18	14	2	3	—	M5	4	8.5	M5	0.44	0.201 x 10 <sup>-3</sup>
28 P	160	200	38	65	30	90	35	30	20	15	2.5	4	—	M5	8	8.5	M5	0.64	0.438 x 10 <sup>-3</sup>
38 P	325	405	48	80	38	114	45	40	24	18	3	4	—	M6	8	14	M6	1.32	1.325 x 10 <sup>-3</sup>
42 P	450	560	51	95	46	126	50	45	26	20	3	4	18.5	M8	4	35	M8	2.23	3.003 x 10 <sup>-3</sup>
48 P	525	655	55	105	51	140	56	50	28	21	3.5	4	20.5	M10	4	69	M10	3.09	5.043 x 10 <sup>-3</sup>
55 P	685	825	70	120	60	160	65	58	30	22	4	4.5	22.5	M10	4	69	M10	4.74	10.02 x 10 <sup>-3</sup>
65 P	940	1175	70	135	68	185	75	55	35	26	4.5	4.5	30	M12	4	120	M12	6.70	191.0 x 10 <sup>-4</sup>
75 P	1920	2400	80	160	80	210	85	63	40	30	5.0	5.0	40	M12	5	120	M12	9.90	396.8 x 10 <sup>-4</sup>
90 P	3600	4500	105	200	104	245	100	75	45	34	5.5	6.5	50	M16	5	295	M16	17.7	1136 x 10 <sup>-4</sup>

<sup>1)</sup> For selections see page 22 et seqq/other spiders see page 123 and following

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

For the strength calculation of shaft/hollow shaft see KTR standard 45610 at our homepage www.ktr.com.

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

Size		Ø10	Ø11	Ø14	Ø15	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55*	Ø60*	Ø65*	Ø70*	Ø80*	Ø90*	Ø95*	Ø100*	Ø105*	
14	H6/k6	11	13	29																									
	H6/h6	3	4	23																									
19	H6/k6	34	41	75	90	68	104	119																					
	H6/h6	22	26	64	80	49	85	103																					
24	H6/k6			79	95	70	110	126	134	149	201																		
	H6/h6			64	82	46	85	104	101	119	183																		
28	H6/k6				128	150	225	177	278	307	341	403	366	461	528														
	H6/h6				94	117	191	123	232	265	293	364	295	405	478														
38	H6/k6								247	386	426	475	560	511	641	644	733	828	825										
	H6/h6								174	323	368	408	505	415	564	542	645	757	726										
42	H6/k6																												
	H6/h6									330	367	457	368	508	485	581	512	654	815	823									
48	H6/k6																												
	H6/h6										672	762	945	957	1082	1033	1219	1423	1296	1606									
55	H6/k6																												
	H6/h6											568	647	852	836	977	892	1101	1334	1148									
65	H6/k6																												
	H6/h6																												
75	H6/k6																												
	H6/h6																												
90	H6/k6																												
	H6/h6																												

\* From Ø55 tolerance G6/m6.

The friction torque is reduced with bigger fitting tolerances. For the strength calculation of shaft/hollow shaft see KTR standard 45610 at our homepage www.ktr.com.

### Assignment for stub spindles according to DIN 69002

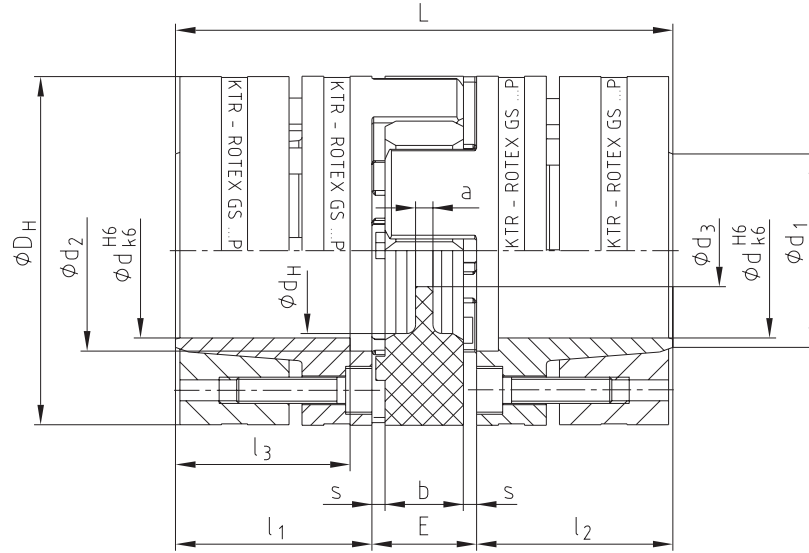
Spindle drive	ROTEX® GS P size	Dimensions according to DIN 69002														Transmittable torque T <sub>R</sub> with d [Nm] <sup>3)</sup>	Weight per hub with bore d <sub>standard</sub> <sup>3)</sup> [kg]	Mass moment of inertia with bore d <sub>standard</sub> <sup>3)</sup> [kgm <sup>2</sup> ]	
		Standard spindle shaft diameter d	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	D <sub>H</sub>	l <sub>1</sub> , l <sub>2</sub>	L	E										
25 x 20	14 P	14	17	17	8.5	32	18.5	50	13								25	0.08	0.011 x 10 <sup>-3</sup>
32k x 25	19 P37.5	16	20	19	9.5	37.5	25	66	16								60	0.16	0.037 x 10 <sup>-3</sup>
32g x 30	19 P	19	23	22	9.5	40	25	66	16								71	0.19	0.046 x 10 <sup>-3</sup>
40 x 35	24 P50	24	28	29	12.5	50	30	78	18								108	0.331	0.136 x 10 <sup>-3</sup>
50 x 45	24 P	25	30	30	12.5	55	30	78	18								170	0.44	0.201 x 10 <sup>-3</sup>
63 x 55	28 P	35	40	40	14.5	65	35	90	20								506	0.64	0.438 x 10 <sup>-3</sup>
80 x 75	38 P	40	46	46	16.5	80	45	114	24								821	1.32	1.325 x 10 <sup>-3</sup>

<sup>3)</sup> Standard spindle shaft diameter

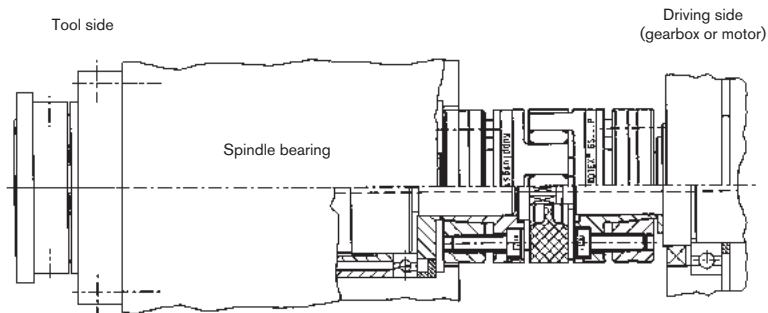
Ordering example:	ROTEX® GS P 24	98 ShA-GS	6.0 - Ø25				6.0 - Ø25	
	Coupling size	Spider hardness	Hub type	Finish bore	Hub type	Finish bore		

Components

Extraction thread  $M_1$  between clamping screws



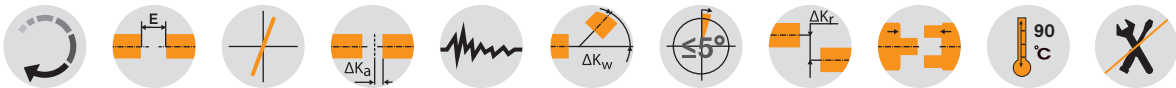
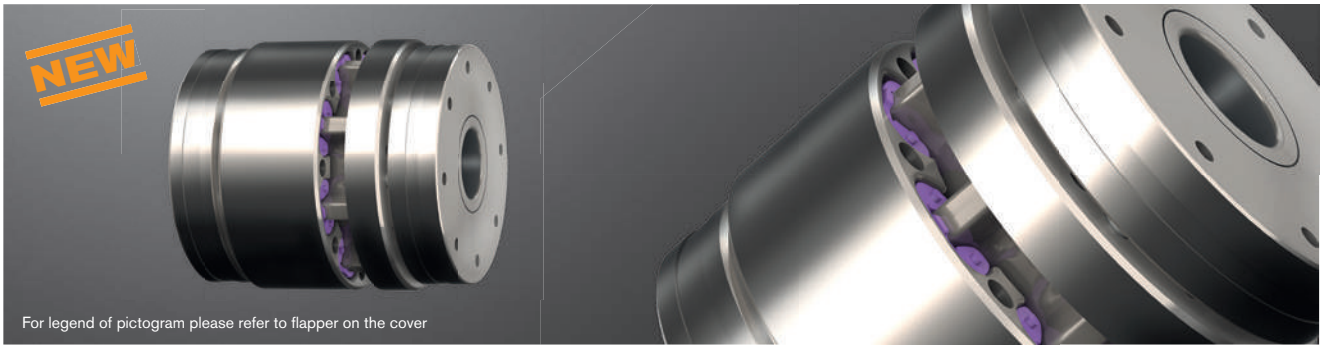
ROTEX® GS P with central coolant supply for stub spindles and multiple spindle heads



# ROTEX® GS HP

## Backlash-free shaft coupling

### Highly accurate closed coupling system



#### ROTEX® GS HP - clamping ring hubs/clamping ring material steel

Size	Spider GS <sup>1)</sup> torque T <sub>KN</sub> [Nm] for 98 ShA-GS/52 ShD-GS		Max. speed [rpm]	Dimensions [mm]											Clamping screws DIN EN ISO 4762			Weight of coupling with max. bore [kg]	Mass moment of inertia of coupling with max. bore [kgm <sup>2</sup> ]
	T <sub>KN</sub>	T <sub>K max</sub>		Max. d <sub>1</sub> , d <sub>2</sub>	D <sub>H</sub>	D	L	l <sub>1</sub> , l <sub>2</sub>	l <sub>3</sub> , l <sub>4</sub>	N	E	b	s	M	z = number	T <sub>A</sub> [Nm]			
24	100	200	59,000	25	55	48	73	24.5	18	15	24	20	2	5	5	7.7	0.74	0.000317	
28	160	320	47,000	35	66	58	78	27	17	17	24	20	2	5	6	7.7	1.02	0.000653	
38	400	800	39,000	45	80	76	82	29	18	18	24	20	2	5	8	7.7	1.54	0.001534	
42	475	950	35,000	51	95	82	99	36	24	24	27	22	2.5	6	8	13	2.59	0.003441	
48	550	1100	30,000	55	105	92	101	37	25	25	27	22	2.5	6	9	13	3.39	0.005481	
55	725	1450	26,000	60	120	105	103	38	26	26	27	22	2.5	6	10	13	6.84	0.009172	

<sup>1)</sup> For selections see page 22 et seqq/other spiders see page 123 and following

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

Size		Ø12	Ø15	Ø18	Ø19	Ø20	Ø22	Ø25	Ø28	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55 *	Ø60 *
24	H6/k6	55	102	165	115	133	172	241											
28	H6/k6		125	199		158	202	280	246	340	432								
38	H6/k6					216	274	376	374	508	635	586	666	752	649				
42	H6/k6									665	830	1015	770	871	1035	1215	1153		
48	H6/k6												957	1135	1330	1132	1424		
55	H6/k6													1220	1440	1455	1604	1635	2026

\* From Ø55 G6/m6.

The friction torque depends on the speed.

The friction torque is reduced with bigger fitting tolerances. For the strength calculation of shaft/hollow shaft see KTR standard 45710 at our homepage [www.ktr.com](http://www.ktr.com).

#### Technical data

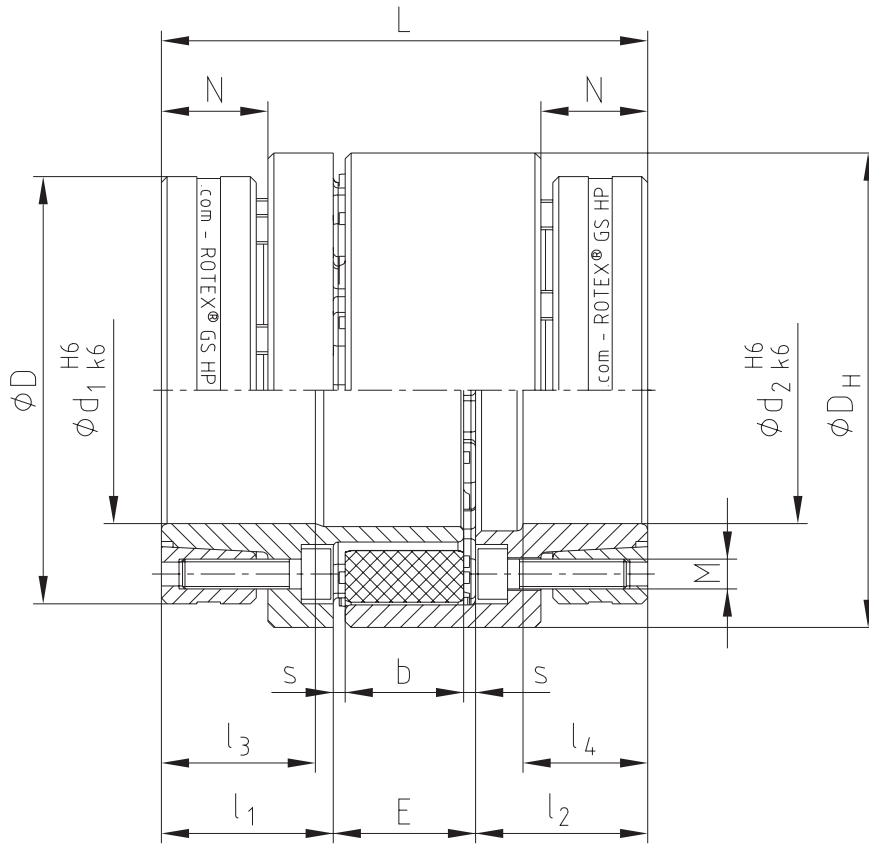
Size	Spider GS	Displacements			Torsional stiffness [Nm/rad]	
		Axial ΔK <sub>a</sub> [mm]	Radial ΔK <sub>r</sub> [mm]	Angular ΔK <sub>w</sub> [degree]	CT stat.	CT dyn.
24	98 ShA				3,780	10,950
28	98 ShA	+1.0/-0.8	0.10		7,760	23,980
38	98 ShA				27,800	70,000
42	52 ShD			0.9	52,950	101,750
48	52 ShD	+1.4/-1.0	0.14		64,140	128,530
55	52 ShD				87,500	198,900

The displacement figures may only be used one by one, if they appear simultaneously, they must be limited in proportion. Care should be taken to maintain the distance dimension E accurately in order to allow for axial clearance of the coupling while in operation. Detailed mounting instructions are shown on our homepage [www.ktr.com](http://www.ktr.com).

Ordering  
example:

ROTEX® GS 24 HP	98 ShA-GS	6.0 - Ø25		6.0 - Ø25	
Coupling size	Spider hardness	Hub type	Finish bore	Hub type	Finish bore

Components



ROTEX® GS

TOOLFLEX®

RADEX®-NC

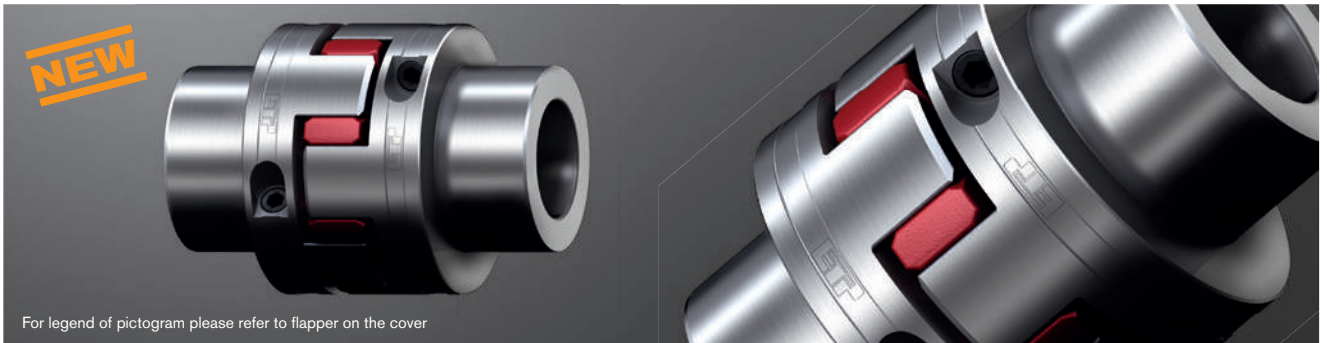
COUNTEX®

Backlash-free  
servo couplings

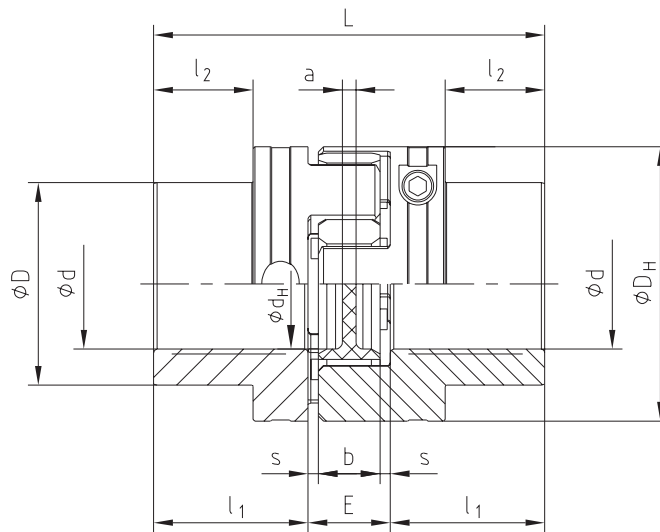
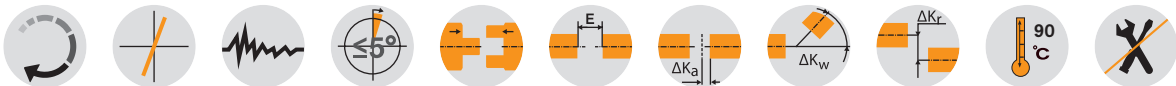
# ROTEX® GS P ETP®

## Backlash-free jaw couplings

### Integrated hydraulic clamping system



For legend of pictogram please refer to flapper on the cover



ROTEX® GS P ETP®																	
Size	Spider GS <sup>1)</sup> torque T <sub>KN</sub> [Nm]			Dimensions [mm]											Screw		Weight per hub with max. bore [kg]
	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</sub>	l <sub>2</sub>	E	b	s	a	M	T <sub>A</sub> [Nm]		
24	35	60	75	24	55	27	78	30	16	18	14	2	3	M6	5	0.33	
28	95	160	200	32	65	30	90	35	20	20	15	2.5	4	M6	5	0.53	
38	190	325	405	40	80	38	114	45	29	24	18	3	4	M6	5	0.98	
42	265	450	560	48	95	46	126	50	34	26	20	3.5	4	M6	5	1.51	

<sup>1)</sup> For selections see page 22 et seqq/other spiders see page 123 and following

<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 ROTEX® GS P ETP®																	
Size	Toleran- ce fit	Bore diameter d/collar diameter D															
		Ø15/ Ø24	Ø16/ Ø26	Ø19/ Ø30	Ø20/ Ø32	Ø24/ Ø39	Ø25/ Ø40	Ø28/ Ø44	Ø30/ Ø47	Ø32/ Ø50	Ø35/ Ø55	Ø38/ Ø59	Ø40/ Ø62	Ø42/ Ø65	Ø45/ Ø70	Ø48/ Ø74	
24	F6/h6	42	50	70	80	125											
28		50	60	80	95	150	160	210	230	250							
38						220	230	310	350	380	450	570	610				
42							270	360	410	440	540	660	730	820	940	1100	

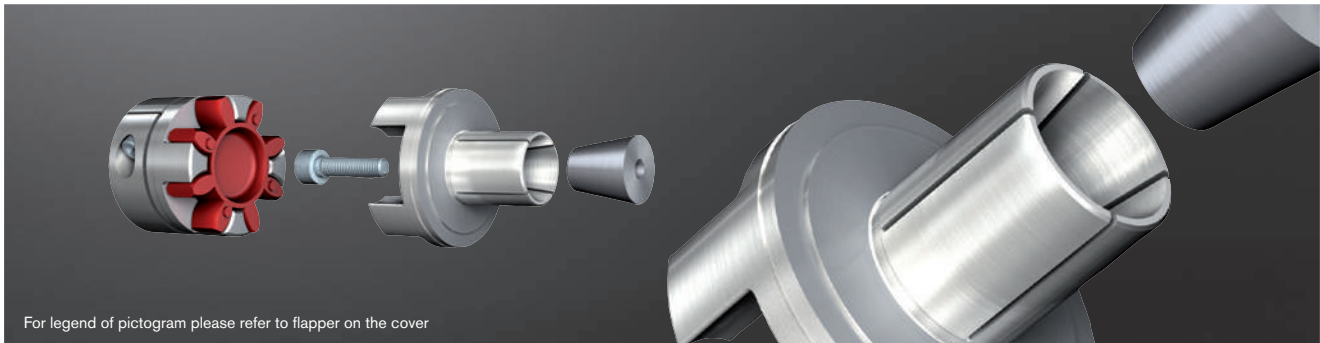
ETP® is a registered trademark by ETP® Transmission AB.

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

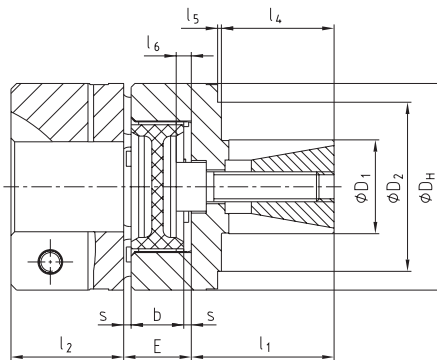
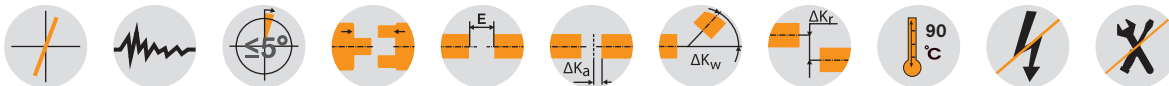
# ROTEX® GS expansion hubs

## Backlash-free jaw couplings

### Clamping system for hollow shaft connection



For legend of pictogram please refer to flapper on the cover



#### ROTEX® GS expansion hub - Expansion hub material aluminium/clamp pin material stainless steel

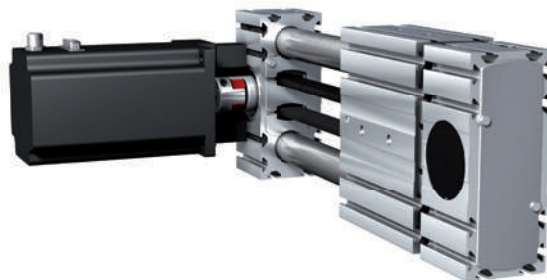
Size	Spider GS <sup>2)</sup> torque T <sub>KN</sub> [Nm]					Dimensions [mm]											Friction torque <sup>3)</sup> [Nm]	
	80 ShA	92 ShA	98 ShA	64 ShD	72 ShD	D <sub>1</sub> <sup>2)</sup>	D <sub>2</sub>	D <sub>H</sub>	l <sub>1</sub> <sup>2)</sup>	l <sub>2</sub>	l <sub>4</sub> <sup>2)</sup>	l <sub>5</sub> <sup>2)</sup>	l <sub>6</sub>	L	E	b		s
9	1.8	3.0	5.0	6.0	-	10	-	20	20	10	11	-	0	40	10	8	1.0	6.4
12	3.0	5.0	9.0	12.0	-	10	20	25	19	11	14	1.5	2	42	12	10	1.0	7.7
14	4.0	7.5	12.5	16.0	-	12	24	30	18.5	11	12.5	3	2	42.5	13	10	1.5	7.7
19	6.0	12.0	21.0	26.0	-	20	35	40	28	25	20	1	0	69	16	12	2.0	35.7
24	-	35	60	75	97	25	45	55	38	30	30	1	4	86	18	14	2.0	82.0
28	-	95	160	200	260	35	55	65	44	35	36	1	5	99	20	15	2.5	182.0

<sup>1)</sup> For selections see page 22 et seqq/other spiders see page 123 and following

<sup>2)</sup> Example: Other dimensions on customers' request.

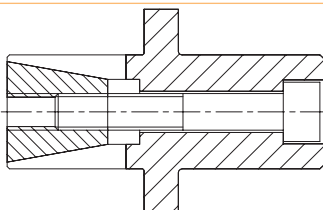
<sup>3)</sup> The friction torque applies for the figures D<sub>1</sub>, l<sub>1</sub>, l<sub>4</sub> and l<sub>5</sub> specified and a hollow shaft material steel.

#### ROTEX® GS expansion hub for axis of belt

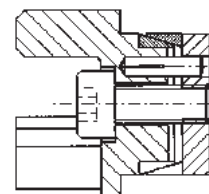


#### Special types for hollow shaft connections

Shaft extension



ROTEX® GS hub with CLAMPEX® KTR 150



Ordering example:

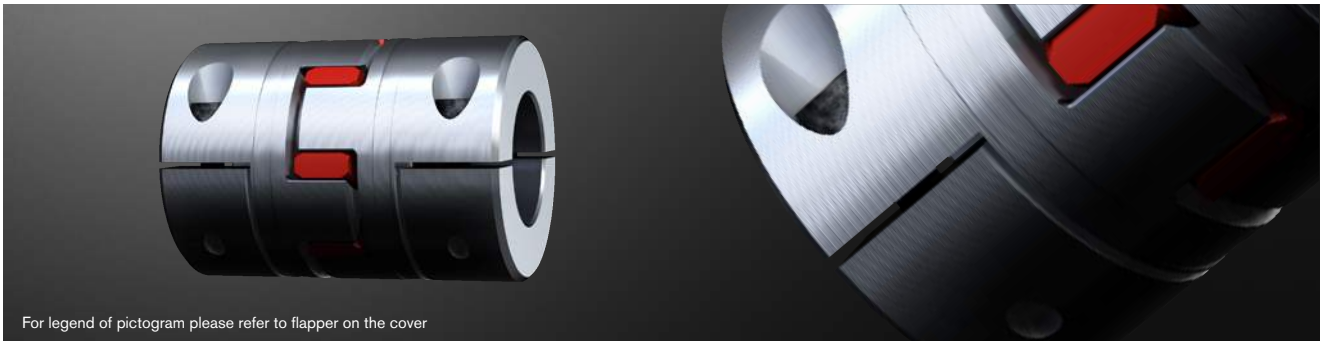
ROTEX® GS 24	98 ShA-GS	d 20	9.0 - Ø24		2.5 - Ø20	
Coupling size	Spider hardness	Optional: Bore in spider	Hub type	Finish bore	Hub type	Finish bore



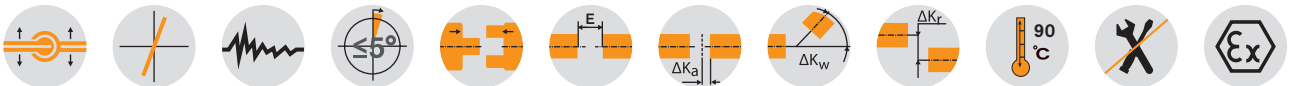
# ROTEX® GS A-H

## Backlash-free jaw couplings

### Drop-out center design coupling



For legend of pictogram please refer to flapper on the cover



#### ROTEX® GS type A-H - Hub material aluminium

Size	Dimensions [mm]										Cap screws DIN EN ISO 4762	
	d <sub>max.</sub>	L	l <sub>1</sub> , l <sub>2</sub>	E	b	s	D <sub>H</sub>	D <sub>K</sub>	x <sub>1</sub> , x <sub>2</sub>	E <sub>1</sub>	M	T <sub>A</sub> [Nm]
19	20	66	25	16	12	2.0	40	46	17.5	31	M6	10
24	28	78	30	18	14	2.0	55	57.5	22.0	34	M6	10
28	38	90	35	20	15	2.5	65	73	25.0	40	M8	25
38	45	114	45	24	18	3.0	80	83.5	33.0	48	M8	25
42	50	126	50	26	20	3.0	95	93.5	39	48	M10	49

#### Technical data

Size	Spider Shore-GS <sup>1)</sup>	Shore scale	Max. speed [rpm]	Torque [Nm]		Static torsion spring stiffness [Nm/rad]	Weight per hub with max. bore [kg]	Mass moment of inertia J per hub with max. bore [kgm <sup>2</sup> ]
				T <sub>KN</sub>	T <sub>K,max</sub>			
19	80	A	9550	6.0	12.0	618	77 x 10 <sup>-3</sup>	19.6 x 10 <sup>-6</sup>
	92	A		12.0	24.0	1090		
	98	A		21.0	42.0	1512		
	64	D		26.0	52.0	2560		
24	92	A	6950	35	70	2280	161 x 10 <sup>-3</sup>	77.3 x 10 <sup>-6</sup>
	98	A		60	120	3640		
	64	D		75	150	5030		
28	92	A	5850	95	190	4080	240 x 10 <sup>-3</sup>	173 x 10 <sup>-6</sup>
	98	A		160	320	6410		
	64	D		200	400	10260		
38	92	A	4750	190	380	6525	470 x 10 <sup>-3</sup>	496 x 10 <sup>-6</sup>
	98	A		325	650	11800		
	64	D		405	810	26300		
42	92	A	4000	265	530	10870	1770 x 10 <sup>-3</sup>	2409 x 10 <sup>-6</sup>
	98	A		450	900	21594		
	64	D		560	1120	36860		

<sup>1)</sup> For selections see page 22 et seqq/other spiders see page 123 and following

<sup>2)</sup> Static torsion spring stiffness with 0.5 x T<sub>KN</sub>

To make sure that the coupling can be assembled/disassembled radially, observe the insertion dimension x<sub>1</sub>/x<sub>2</sub> of the shafts.

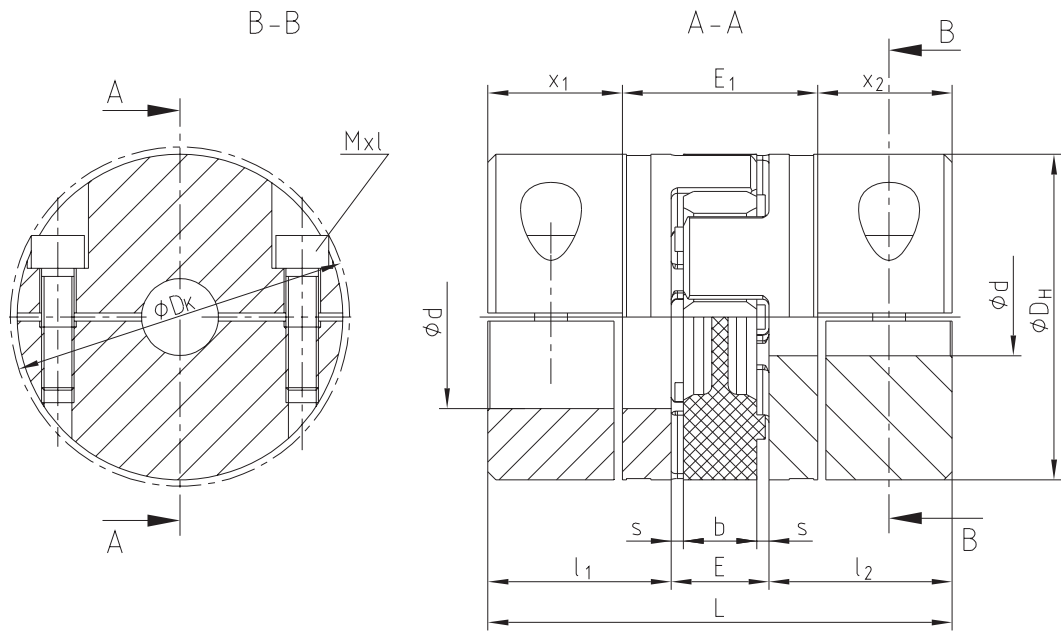
#### Review of shaft-hub-connection: Friction torques T<sub>R</sub> [Nm] for hub type 7.8

Size	Ø8	Ø10	Ø11	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø46	Ø48	Ø50
19	17	21	23	30	32	34	38	40	42														
24		21	23	30	32	34	38	40	42	47	51	53	59										
28				54	58	62	70	74	78	86	93	97	109	117	124	136	148						
38							70	74	78	86	93	97	109	117	124	136	148	156	163	175			
42										136	149	155	174	186	198	217	235	248	260	279	285	297	310

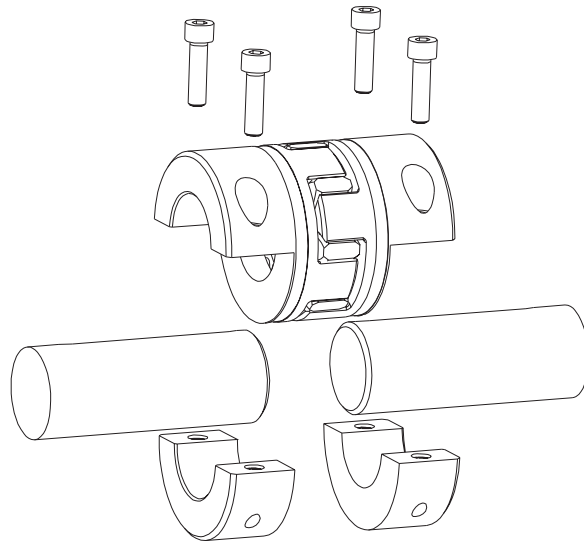
Ordering example:

ROTEX® GS 38	A-H	98 ShA-GS	7.8 - Ø38		7.9 - Ø30	
Coupling size	Type	Spider hardness	Hub type	Finish bore	Hub type	Finish bore

Type A-H

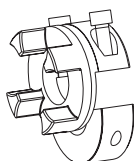


Caution:  
Feather keyways are offset to each other by approx. 5°!  
Hub material: Al-H



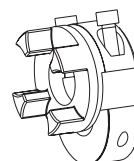
Types of hubs

Type 7.8



clamping hub type H without feather keyway for single-cardanic connection

Type 7.9

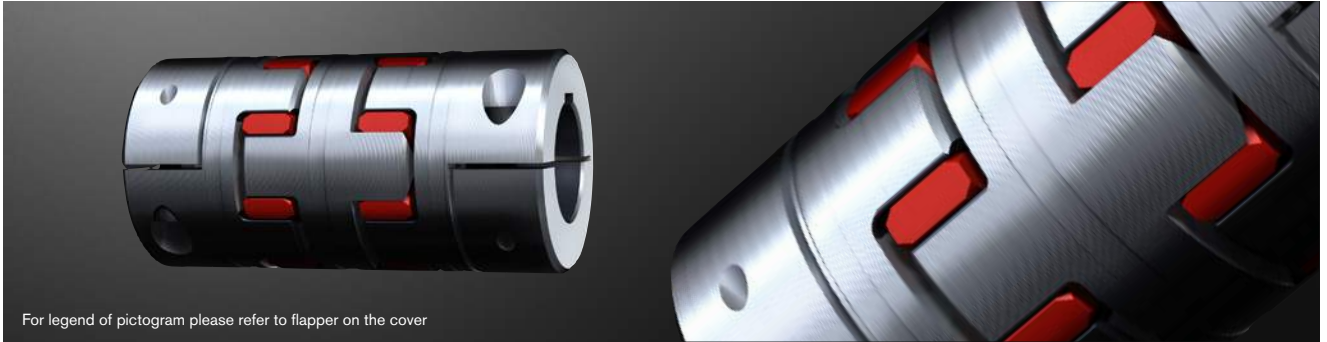


clamping hub type H with feather keyway for single-cardanic connection

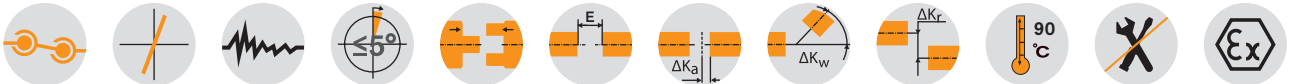
# ROTEX® GS DKM

## Backlash-free jaw couplings

### Double-cardanic jaw coupling



For legend of pictogram please refer to flapper on the cover



#### ROTEX® GS DKM - Spacer material aluminium/hub material depends on hub type

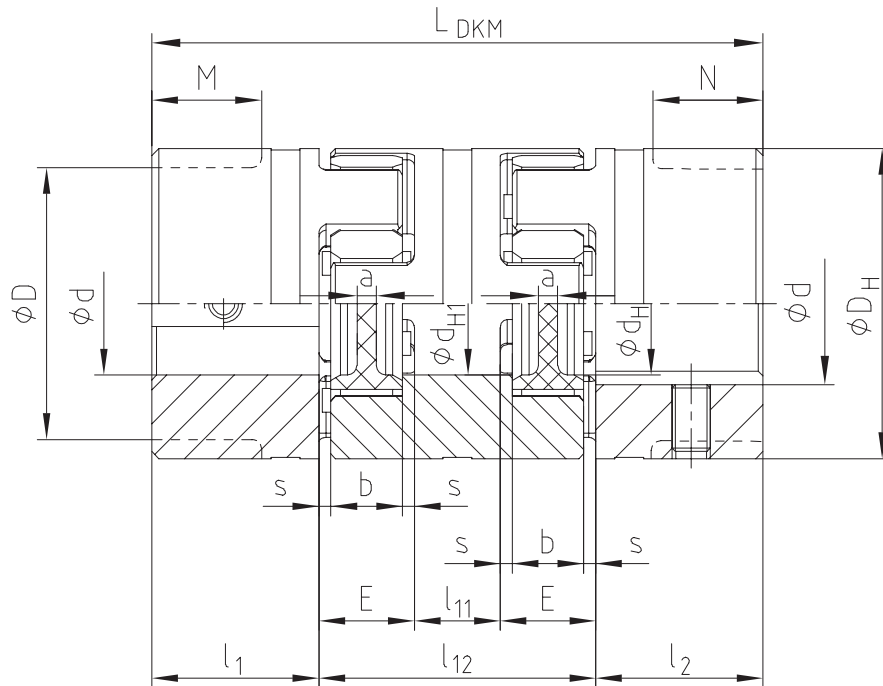
Size	Spider GS <sup>1)</sup> torque T <sub>KN</sub> [Nm]		Dimensions [mm]													
	98 ShA	64 ShD	d <sub>max.</sub> <sup>2)</sup>	D	D <sub>H</sub>	d <sub>H</sub>	d <sub>H1</sub>	l <sub>1</sub> , l <sub>2</sub>	M, N	l <sub>11</sub>	l <sub>12</sub>	LDKM	E	b	s	a
5	0.9	—	5	—	10	—	—	5	—	3	13	23	5	4	0.5	4.0
7	2.0	2.4	7	—	14	—	—	7	—	4	20	34	8	6	1.0	6.0
9	5.0	6.0	11	—	20	7.2	—	10	—	5	25	45	10	8	1.0	1.5
12	9.0	12.0	12	—	25	8.5	—	11	—	6	30	52	12	10	1.0	3.5
14	12.5	16.0	16	—	30	10.5	—	11	—	8	34	56	13	10	1.5	2.0
19	21.0	26.0	24	—	40	18.0	18	25	—	10	42	92	16	12	2.0	3.0
24	60	75	28	—	55	27.0	27	30	—	16	52	112	18	14	2.0	3.0
28	160	200	38	—	65	30.0	30	35	—	18	58	128	20	15	2.5	4.0
38	325	405	45	—	80	38.0	38	45	—	20	68	158	24	18	3.0	4.0
42	450	560	55	85	95	46	46	50	28	22	74	174	26	20	3.0	4.0
48	525	655	62	95	105	51	51	56	32	24	80	192	28	21	3.5	4.0
55	685	825	74	110	120	60	60	65	37	28	88	218	30	22	4.0	4.5

<sup>1)</sup> For selections see page 22 et seqq/other spiders see page 123 and following

<sup>2)</sup> Dependent on hub type. Hub types can be freely selected, for summary see page 124.

Ordering  
example:

ROTEX® GS 24	DKM	98 ShA-GS	d 25	1.0 - Ø38		2.5 - Ø25	
Coupling size	Type	Spider hardness	Optional: Bore in spider	Hub type	Finish bore	Hub type	Finish bore



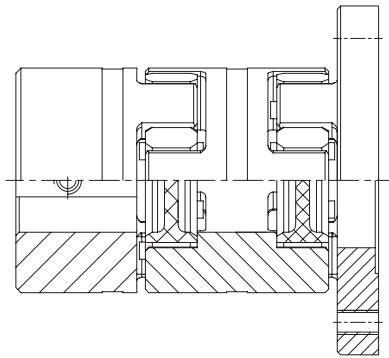
ROTEX® GS

Backlash-free  
servo couplings

TOOLFLEX®

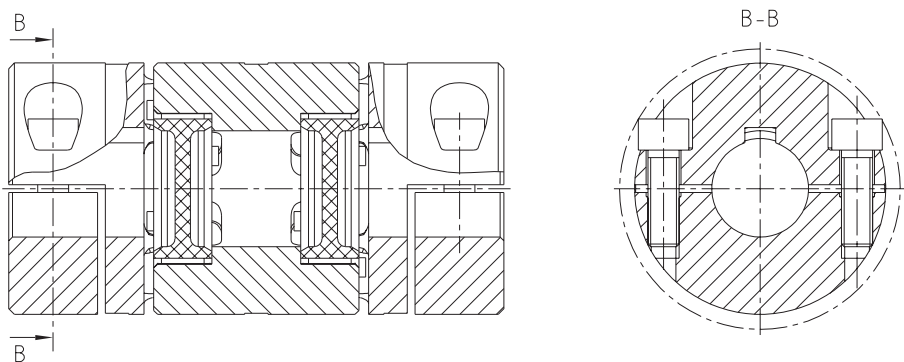
Other types:

ROTEX® GS - CF - DKM



RADEX®-NC

ROTEX® GS DKM-H

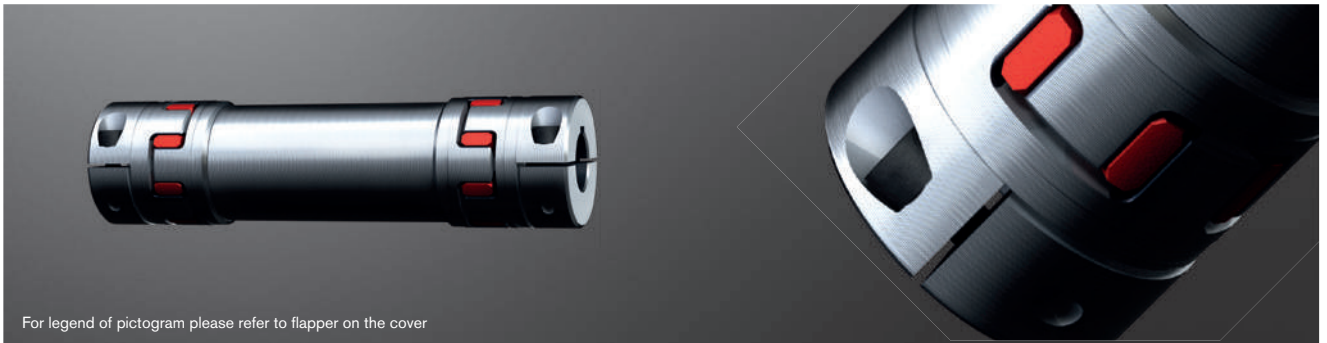


COUNTEX®

# ROTEX® GS ZR3

## Backlash-free intermediate shaft couplings

### Intermediate shaft coupling with aluminium pipe bonded



For legend of pictogram please refer to flapper on the cover



#### ROTEX® GS Type ZR3 - Hub material aluminium/intermediate pipe material aluminium

Size	Dimensions [mm]														Cap screws DIN EN ISO 4762	
	d <sub>max.</sub>	D <sub>H</sub>	l <sub>1</sub>	L	l <sub>3</sub>	E	L <sub>R</sub>		L <sub>ZR</sub> = L <sub>R</sub> + 2 · l <sub>3</sub>		d <sub>R</sub>	D <sub>K</sub>	t <sub>1</sub>	e	M	T <sub>A</sub> [Nm]
							Min.	Max.	Min.	Max.						
14	15	30	18.5	36.0	14.5	13	72	2971	101	3000	28	33.3	7.5	10.5	M4	2.9
19	20	40	25	49.0	17.5	16	98	2965	133	3000	40	46	8.0	14.5	M6	10
24	28	55	30	59.0	22.0	18	121	3456	165	3500	50	57.5	10.5	20	M6	10
28	38	65	35	67.0	25.0	20	137	3950	187	4000	60	73	11.5	25	M8	25
38	45	80	45	83.5	33.0	24	169	3934	235	4000	70	83.5	15.5	30	M8	25
42	50	95	50	93.0	36.5	26	180	3927	253	4000	80	93.5	18.0	32	M10	49
48	55	105	56	100.0	39.5	28	202	3921	281	4000	100	105	18.5	36	M12	86

#### Technical data of type ZR3

Size	Spider GS <sup>1)</sup> torque T <sub>KN</sub> [Nm]		Moment of inertia [10 <sup>-3</sup> kgm <sup>2</sup> ]			Static torsion spring stiffness [Nm/rad]
	98 ShA	64 ShD	Hub <sup>2)</sup>		Pipe/meter	
14	12.5	16.0	0.00362	0.00238	0.088	858
19	21.0	26.0	0.02002	0.01304	0.329	3243.6
24	60.0	75.0	0.07625	0.04481	0.673	6631.8
28	160	200	0.17629	0.10950	1.199	11814.1
38	325	405	0.50385	0.2572	2.972	29290.4
42	450	560	1.12166	0.5523	4.560	44929.7
48	525	655	1.87044	1.1834	9.251	91158.2

<sup>1)</sup> For selections see page 22 et seqq/other spiders see page 123 and following

<sup>2)</sup> With d<sub>max.</sub>

<sup>3)</sup> Torsion spring stiffness with a length of 1 m of intermediate pipe with L<sub>pipe</sub> = L<sub>ZR</sub> - 2 · L

For inquiries and orders please specify the shaft distance dimension L<sub>R</sub> along with the maximum speed to review the critical bending speed. See diagram on page 127.

The intermediate pipe can be combined with other hub types, but in that case it can no longer be disassembled radially. Please specify the shaft distance dimension required in your order.

With vertical application a support washer has to be used (please specify in your order).

Insertion dimension of shaft l<sub>3</sub>, to make sure that the coupling can be assembled/disassembled radially.

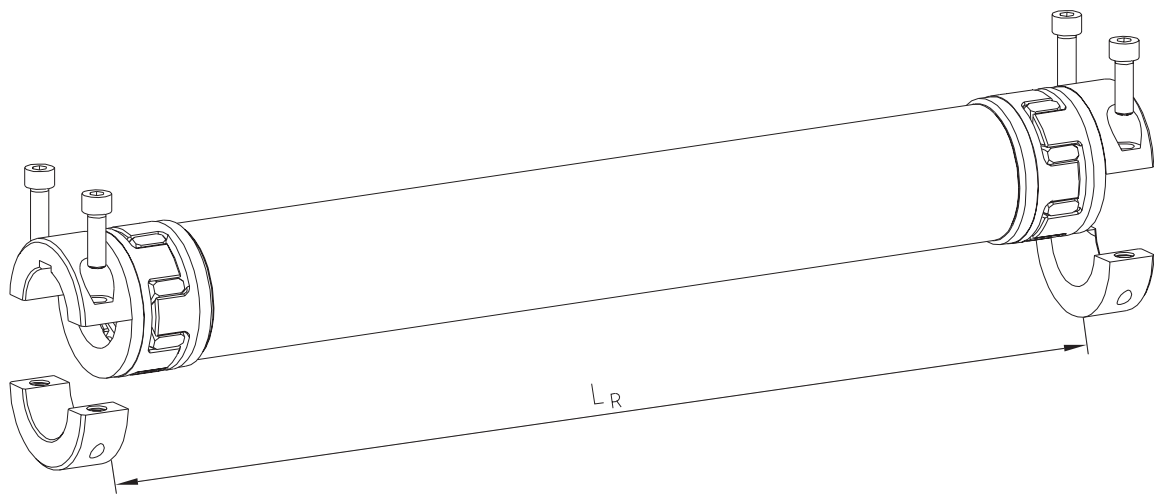
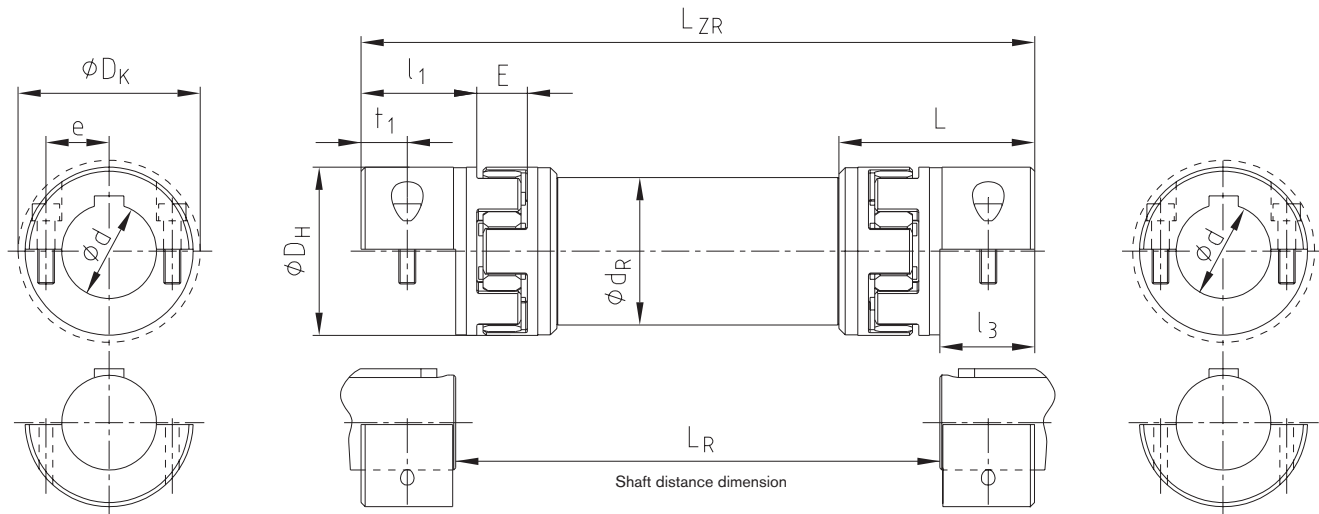
Straightness/concentricity of pipes according to DIN EN 755-1.

#### Review of shaft-hub-connection: Friction torques T<sub>R</sub> [Nm] for hub type 7.5

Size	Ø6	Ø8	Ø10	Ø11	Ø14	Ø15	Ø16	Ø18	Ø19	Ø20	Ø22	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø46	Ø48	Ø50	Ø55
14	5.5	7.4	9.2	10.1	12.9	13.8																			
19		17	21	23	30	32	34	38	40	42															
24			21	23	30	32	34	38	40	42	47	51	53	59											
28					54	58	62	70	74	78	86	93	97	109	117	124	136	148							
38								70	74	78	86	93	97	109	117	124	136	148	156	163	175				
42											136	149	155	174	186	198	217	235	248	260	279	285	297	310	
48											199	217	226	253	271	290	317	344	362	380	407	416	434	452	498

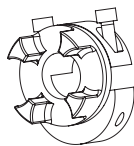
Ordering  
example:

ROTEX® GS 24	ZR3	1200 mm	98 ShA-GS	7.5 - Ø24	7.5 - Ø24
Coupling size	Type	Shaft distance dimension (L <sub>R</sub> )	Spider hardness	Hub type	Finish bore



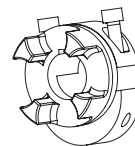
## Types of hubs

Type 7.5



Clamping hub type DH without feather keyway for double-cardanic connections

Type 7.6



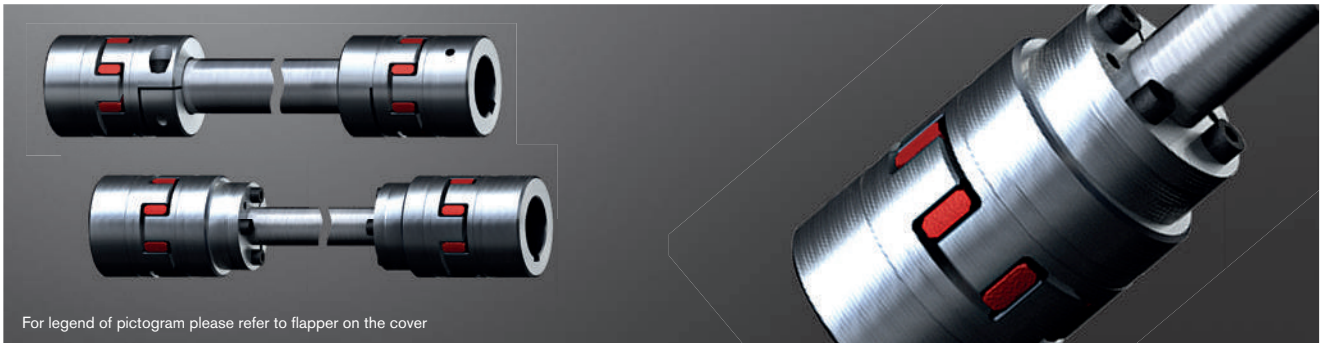
Clamping hub type DH with feather keyway for double-cardanic connections



# ROTEX® GS ZR1 and ZR2

## Backlash-free intermediate shaft couplings

### Intermediate shaft couplings with steel pipe/steel shaft



For legend of pictogram please refer to flapper on the cover



ROTEX® GS Type ZR1																		
Size	Spider GS <sup>1)</sup> torque T <sub>KN</sub> [Nm]		Dimensions [mm]													Cap screws DIN EN ISO 4762		Friction torque T <sub>R</sub> [Nm]
	98 ShA	64 ShD	d <sub>max.</sub> <sup>2)</sup>	D <sub>H</sub>	l <sub>1</sub> , l <sub>2</sub>	L	E	b	s	B	LR1	Minimum dimension for LR1	LZR1	d <sub>R</sub> <sup>3)</sup>	M	T <sub>A</sub> [Nm]		
14 ZR1	12.5	16.0	16	30	11	35	13	10	1.5	11.5	Please specify with inquiries and orders.	71	LR1+22	14x2.5	M3	1.34	6.1	
19 ZR1	21.0	26.0	24	40	25	66	16	12	2.0	14.0		110	LR1+50	20x3.0	M6	10.5	34	
24 ZR1	60	75	28	55	30	78	18	14	2.0	16.0		128	LR1+60	25x2.5	M6	10.5	45	
28 ZR1	160	200	38	65	35	90	20	15	2.5	17.5		145	LR1+70	35x4.0	M8	25	105	
38 ZR1	325	405	45	80	45	114	24	18	3.0	21.0		180	LR1+90	40x4.0	M8	25	123	

ROTEX® GS Type ZR2																			
Size	Spider GS <sup>1)</sup> torque T <sub>KN</sub> [Nm]		Dimensions [mm]											Precision tube		Clamping set size KTR 250	Clamping screws DIN EN ISO 4762	Tightening torque T <sub>A</sub> [Nm]	
	98 ShA	64 ShD	d <sub>max.</sub> <sup>2)</sup>	D <sub>H</sub>	l <sub>1</sub> , l <sub>2</sub>	l <sub>3</sub>	L	E	b	s	B	LR2	Minimum dimension for LR2	LZR2	d <sub>R</sub> <sup>3)</sup> [mm]	C <sub>2</sub> <sup>4)</sup> [Nm/rad]	d <sub>x</sub> D		M
14 ZR2	12.5	16.0	16	30	11	26	50	13	10	1.5	11.5	Please specify with inquiries and orders.	109	LR2+22	10x2.0	68.36	10x16	M4	5.6
19 ZR2	21.0	26.0	24	40	25	26	67	16	12	2.0	14.0		120	LR2+50	12x2.0	130	12x18	M4	5.6
24 ZR2	60	75	28	55	30	38	86	18	14	2.0	16.0		156	LR2+60	20x3.0	954.9	20x28	M6	17.0
28 ZR2	160	200	38	65	35	45	100	20	15	2.5	17.5		177	LR2+70	25x2.5	1811	25x34	M6	17.0
38 ZR2	325	405	45	80	45	45	114	24	18	3.0	21.0		192	LR2+90	32x3.5	5167	32x43	M6	17.0
42 ZR2	450	560	55	95	50	52	128	26	20	3.0	23.0		214	LR2+100	40x4.0	11870	40x53	M6	17.0
48 ZR2	525	655	62	105	56	70	154	28	21	3.5	24.5		261	LR2+112	45x4.0	17486	45x59	M8	41.0
55 ZR2	685	825	74	120	65	80	175	30	22	4.0	26.0		288	LR2+130	55x4.0	33543	55x71	M8	41.0
65 ZR2	940	1175	80	135	75	80	185	35	26	4.5	30.5		387	LR2+150	60x4.0	44362	60x77	M8	41.0

<sup>1)</sup> For selections see page 22 et seqq/other spiders see page 123 and following

<sup>2)</sup> Dependent on hub type. Hub types can be freely selected, for summary see page 128.

<sup>3)</sup> Has to be remachined, if necessary.

<sup>4)</sup> Torsion spring stiffness with a length of 1 m of intermediate pipe.

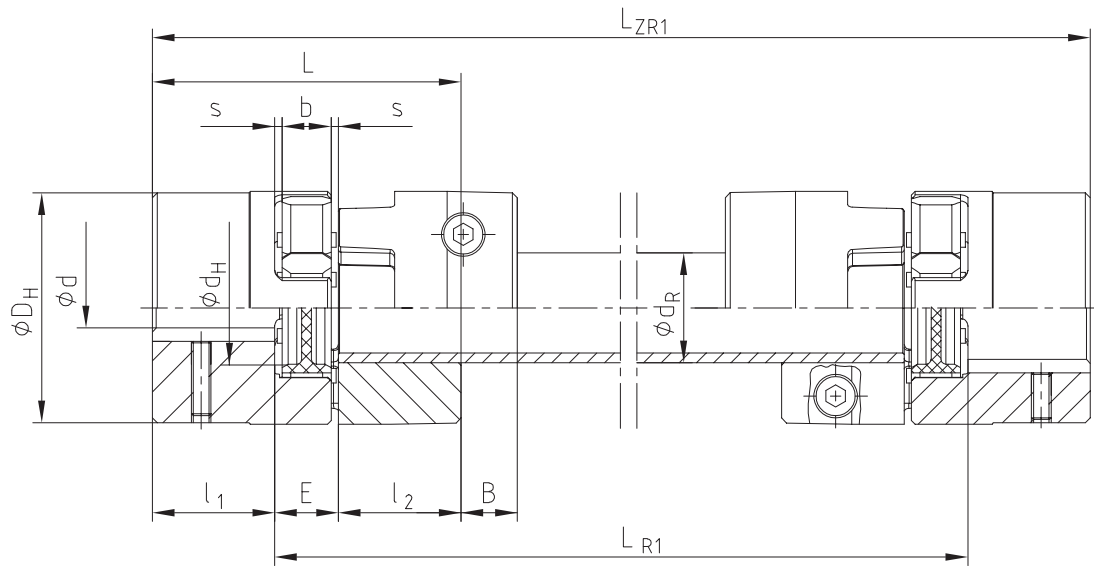
For inquiries and orders please specify the shaft distance dimension LR<sub>1</sub>/LR<sub>2</sub> along with the maximum speed to review the critical bending speed.

With vertical application a support washer has to be used (please specify in your order).

Straightness/concentricity of pipes according to DIN EN 10305-1.

Ordering example:	ROTEX® GS 24	ZR1	1000 mm	98 ShA-GS	1.0 - Ø24		2.5 - Ø24	
	Coupling size	Type	Shaft distance dimension (LR <sub>1</sub> /LR <sub>2</sub> )	Spider hardness	Hub type	Finish bore	Hub type	Finish bore

Type ZR1



Type ZR2

