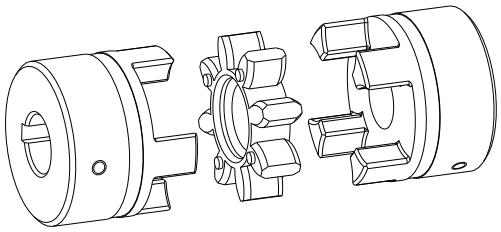
ROTEX® GS

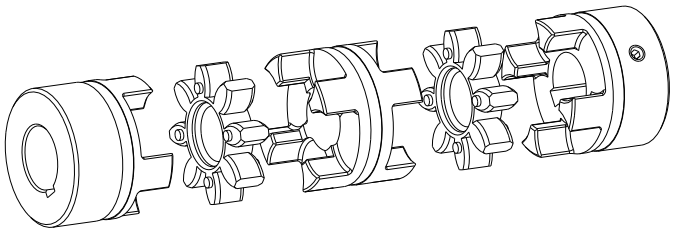
Torsionally flexible jaw-type couplings

shaft coupling, clamping hubs, clamping ring hubs, clamping ring hubs light,
DKM, Compact and their combinations

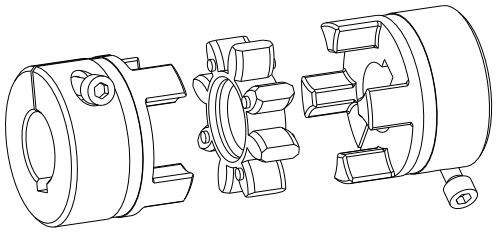
according to directive 2014/34/EU
for finish bored, pilot bored and unbored couplings



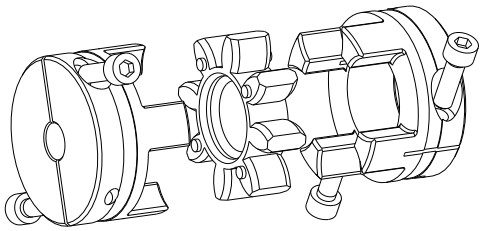
ROTEX® GS, shaft coupling



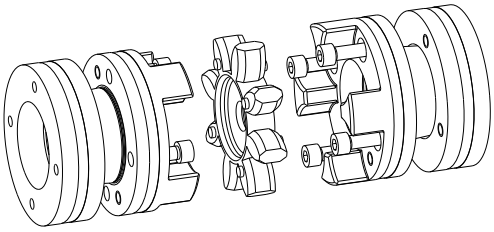
ROTEX® GS, DKM



ROTEX® GS, clamping hubs



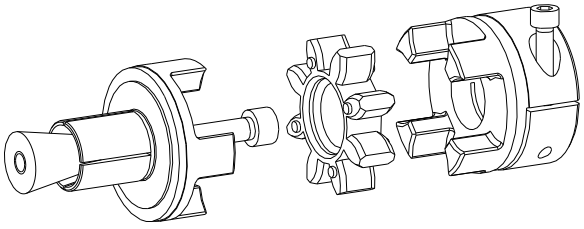
ROTEX® GS, Compact



ROTEX® GS, clamping ring hubs
ROTEX® GS, clamping ring hubs steel
ROTEX® GS, clamping ring hubs light

Expansion hubs and their combinations

for finish bored, pilot bored and unbored couplings



ROTEX® GS, expansion hubs

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1 Technical data

Standard shaft couplings

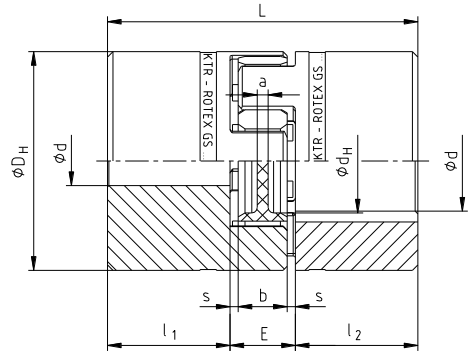

Illustration 1:
ROTEX® GS,
size 5 - 38

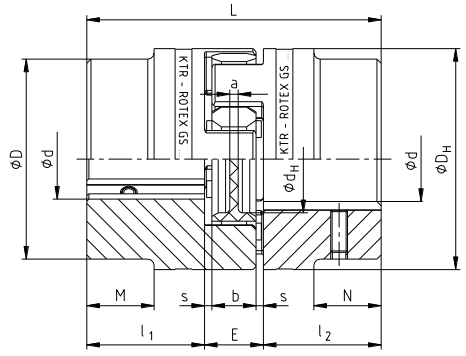

Illustration 2:
ROTEX® GS,
size 42 - 90

Table 1: Dimensions

Size	Dimensions [mm]										Setscrew [1]	
	D	D_H	d_H	L	l_1; l_2	M / N	E	b	s	a	G	t
Hub material - aluminium (Al-H)												
5	-	10	-	15	5	-	5	4	0.5	4.0	M2	2.5
7	-	14	-	22	7	-	8	6	1.0	6.0	M3	3.5
9	-	20	7.2	30	10	-	10	8	1.0	1.5	M4	5.0
12	-	25	8.5	34	11	-	12	10	1.0	3.5	M4	5.0
14	-	30	10.5	35	11	-	13	10	1.5	2.0	M4	5.0
19	-	40	18	66	25	-	16	12	2.0	3.0	M5	10
24	-	55	27	78	30	-	18	14	2.0	3.0	M5	10
28	-	65	30	90	35	-	20	15	2.5	4.0	M8	15
38	-	80	38	114	45	-	24	18	3.0	4.0	M8	15
Hub material - Steel (St-H)												
42	85	95	46	126	50	28	26	20	3.0	4.0	M8	20
48	95	105	51	140	56	32	28	21	3.5	4.0	M8	20
55	110	120	60	160	65	37	30	22	4.0	4.5	M10	20
65	115	135	68	185	75	47	35	26	4.5	4.5	M10	20
75	135	160	80	210	85	53	40	30	5.0	5.0	M10	25
90	160	200	104	245	100	62	45	34	5.5	6.5	M12	30

1) **If used in hazardous locations the setscrews to fasten the hubs as well as all screw connections must be secured against working loose additionally, e. g. conglutinating with Loctite (average strength).**

Table 2: Torques and finish bores

Size	Spider [1] (component 2) Rated torque [Nm]					Unbore d	Finish bore [mm] - hub design			
	80 ShA-GS	92 ShA-GS	98 ShA-GS	64 ShD-GS	72 ShD-GS		$d_{min.}$	1.0 $d_{max.}$	1.1, 1.2 $d_{max.}$	2.0, 2.1 $d_{max.}$
5	0.3	0.5	0.9	0.2 [2]	-	-	2	-	6	5
7	0.7	1.2	2.0	2.4	-	-	3	7	7	7
8	0.5	-	2.0	2.4	-	-	-	-	-	-
9	1.8	3.0	5.0	6.0	-	-	4	10	11	11
12	3.0	5.0	9.0	12.0	-	-	4	12	12	12
13	3.6	-	11.0	14.5	-	-	-	-	-	-
14	4.0	7.5	12.5	16.0	-	-	5	16	16	16
16	5.0	-	15.0	19.0	-	-	-	-	-	-
								1.0, 1.1 $d_{max.}$	2.5 $d_{max.}$	2.6 $d_{max.}$
19	6	12	21	26	-	x	6	24	24	24
24	-	35	60	75	97 [3]	x	8	28	28	28
28	-	95	160	200	260 [3]	x	10	38	38	38
38	-	190	325	405	525 [3]	x	12	45	45	45
42	-	265	450	560	728 [3]	x	14	55	50	45
48	-	310	525	655	852 [3]	x	15	62	55	55
55	-	410	685	825	1072 [3]	x	20	74	68	68
65	-	-	940	1175	1527 [3]	x	22	80	70	70
75	-	-	1920	2400	3120 [3]	x	30	95	80	80
90	-	-	3600	4500	5850 [3]	-	40	110	90	90

1) Maximum torque of the coupling $T_{Kmax.}$ = rated torque of the coupling $T_{K\,rated}$ x 2
except for clamping hubs types 2.0 and 2.5 (see table 3), for coupling selection please see catalogue drive technology "ROTEX® GS"
2) Figures for spider 70 ShA-GS
3) When using the spider 72 ShD, we recommend to use hubs made of steel.

1 Technical data

Clamping hubs

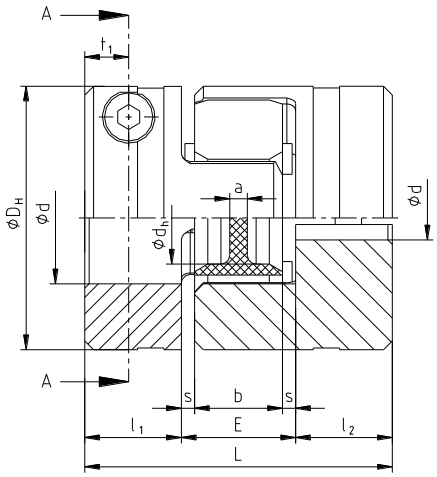

Illustration 3: ROTEX® GS, size 5 - 14 (type 2.0)

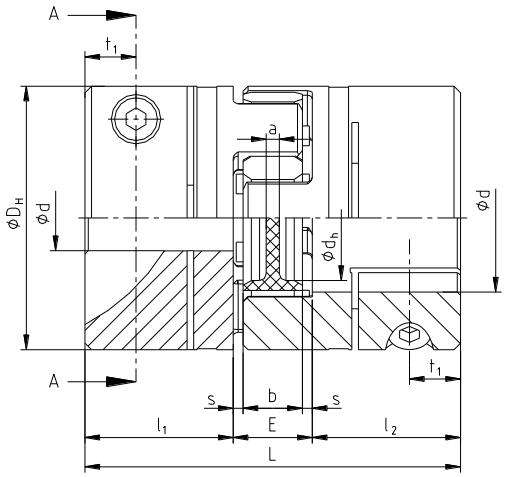

Illustration 4: ROTEX® GS, size 19 - 90 (type 2.5)

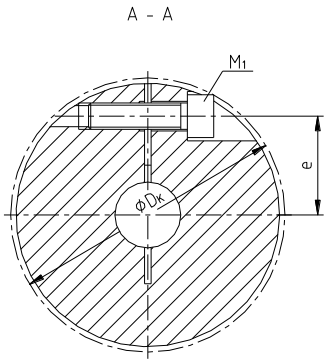

Table 3: Torques and surface pressure of clamping hubs types 2.0 / 2.5

Size	5	7	9	12	14	19	24	28	38	42	48	55	65	75	90
Clamping screw M_1	M1.2	M2	M2.5	M3	M3	M6	M6	M8	M8	M10	M12	M12	M12	M16	M20
Dimension t_1	2.5	3.5	5.0	5.0	5.0	11.0	10.5	11.5	15.5	18	21	26	33	36	40
Dimension e	3.5	5.0	7.5	9.0	11.5	14.5	20	25	30	32	36	42.5	45	51	60
Dimension $ØD_K$	11.4	16.5	23.4	27.5	32.2	46	57.5	73	83.5	93.5	105	119.5	124	147.5	192
Tightening torque T_A [Nm]	- [1]	0.37	0.76	1.34	1.34	10.5	10.5	25	25	69	120	120	120	295	580
Bore Ø	Transmittable torque of clamping hub [Nm] Surface pressure [N/mm²]														
Ø2	-														
Ø3	-	0.84													
		71.02													
Ø4	-	0.91	2.07	3.65	4.48										
		43.02	68.51	109.9	134.9										
Ø5	-	0.97	2.18	3.81	4.64										
		29.50	46.15	73.5	89.5										
Ø6		1.04	2.28	3.98	4.81	23.6									
		21.85	33.65	53.3	64.4	139.3									
Ø7		1.10	2.39	4.14	4.97	24.3									
		17.06	25.90	40.8	48.9	105.2									
Ø8		1.17	2.50	4.31	5.14	25.0	32.4								
		13.83	20.73	32.5	38.7	82.8	131.0								
Ø9			2.61	4.48	5.30	25.7	33.1								
			17.09	26.6	31.6	67.2	105.7								
Ø10			2.72	4.64	5.47	26.3	33.8	74.3							
			14.42	22.4	26.4	55.9	87.3	171.3							
Ø11			2.83	4.81	5.64	27.0	34.4	75.5							
			12.40	19.2	22.5	47.4	73.6	143.9							
Ø12				4.97	5.80	27.7	35.1	76.7	89.1						
				16.7	19.4	40.8	63.1	122.9	105.9						

1) Slotted screw, tightening torque not defined

If used in hazardous locations the setscrews to fasten the hubs as well as all screw connections must be secured against working loose additionally, e. g. conglutinating with Loctite (average strength).

Clamping hubs type 2.0 and 2.5 without keyway are not permissible for applications according to DIN EN ISO 13849, part 2.

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1 Technical data

Continuation of table 3: Torques and surface pressure of clamping hubs types 2.0 / 2.5

Size	5	7	9	12	14	19	24	28	38	42	48	55	65	75	90
Clamping screw M_1	M1.2	M2	M2.5	M3	M3	M6	M6	M8	M8	M10	M12	M12	M12	M16	M20
Dimension t_1	2.5	3.5	5.0	5.0	5.0	11.0	10.5	11.5	15.5	18	21	26	33	36	40
Dimension e	3.5	5.0	7.5	9.0	11.5	14.5	20	25	30	32	36	42.5	45	51	60
Dimension $ØD_K$	11.4	16.5	23.4	27.5	32.2	46	57.5	73	83.5	93.5	105	119.5	124	147.5	192
Tightening torque T_A [Nm]	- [1]	0.37	0.76	1.34	1.34	10.5	10.5	25	25	69	120	120	120	295	580
Bore Ø	Transmittable torque of clamping hub [Nm] Surface pressure [N/mm²]														
Ø14					6.13	29.0	36.5	79.2	91.6	216					
					15.1	31.4	48.1	93.2	80.0	172					
Ø15					6.30	29.7	37.1	80.4	92.8	219	352				
					13.5	28.0	42.7	82.5	70.6	152	225				
Ø16					6.46	30.4	37.8	81.7	94.1	221	356				
					12.2	25.2	38.2	73.6	62.9	135	200				
Ø19						32.4	39.8	85.4	97.8	230	369				
						19.0	28.5	54.6	46.3	99	149				
Ø20						33.1	40.5	86.6	99.0	232	373	425			
						17.5	26.2	50.0	42.4	91	134	128			
Ø22						30.4*	41.9	89.1	101.5	238	381	433			
						13.3*	22.4	42.5	35.9	77	113	108			
Ø24						31.59*	43.2	91.6	104.0	244	389	441	462	964	
						11.6*	19.4	36.7	30.9	66	97	92	80	150	
Ø25							43.9	92.8	105.2	246	393	446	466	972	
							18.2	34.3	28.8	61	90	86	75	140	
Ø28							45.9	96.5	108.9	255	405	458	478	995	1776
							15.2	28.4	23.8	51	74	70	61	114	167
Ø30								99.0	111.4	260	413	466	486	1010	1800
								25.4	21.2	45	66	62	54	101	147
Ø32								101.5	113.9	266	421	474	494	1025	1824
								22.9	19.0	40	59	56	48	90	131
Ø35								105.2	117.6	274	433	486	506	1048	1860
								19.8	16.4	35	51	48	41	77	112
Ø38								108.9	121.3	282	446	498	518	1071	1896
								17.4	14.4	31	44	42	36	67	97
Ø40									123.8	288	454	506	527	1086	1920
									13.2	28	41	38	33	61	88
Ø42									126.2	293	462	514	535	1102	1944
									12.2	26	38	35	30	56	81
Ø45									129.9	302	474	527	547	1125	1980
									11.0	23	34	31	27	50	72
Ø48										310	486	539	559	1148	2016
										21	30	28	24	45	64
Ø50										315	494	547	567	1163	2040
										20	28	26	23	42	60
Ø55											514	567	587	1201	2100
											24	23	19	36	51
Ø60												587	608	1239	2160
												20	17	31	44
Ø65												608	626	1278	2220
												17	15	27	39
Ø70													648	1316	2280
													13	24	34
Ø75														1354	2340
														22	31
Ø80														1392	2400
														20	28
Ø85															2460
															25
Ø90															2520
															23

1) Slotted screw, tightening torque not defined * type 2.0 only = 2 x clamping screw M4; T_A = 2.9 Nm

If used in hazardous locations the setscrews to fasten the hubs as well as all screw connections must be secured against working loose additionally, e. g. conglutinating with Loctite (average strength).

Clamping hubs type 2.0 and 2.5 without keyway are not permissible for applications according to DIN EN ISO 13849, part 2.

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4 Assembly

4.2 Components of the coupling

Features of standard spiders

Spider hardness (Shore)	Increasing hardness →						
	80 ShA-GS (blue)	92 ShA-GS (yellow)	98 ShA-GS (red)	64 ShD-H-GS (green)	64 ShD-GS (green)	72 ShD-H-GS (grey)	72 ShD-GS (grey)
Size	5 - 24	5 - 55	5 - 90	7 - 38	42 - 90	24 - 38	42 - 90
Material	Polyurethane	Polyurethane	Polyurethane	Hytrel	Polyurethane	Hytrel	Polyurethane
Marking (colour)							

Components of ROTEX® GS, backlash-free shaft couplings

Component	Quantity	Description
1	2	Hub
2	1	Spider
3	2	Setscrews DIN EN ISO 4029

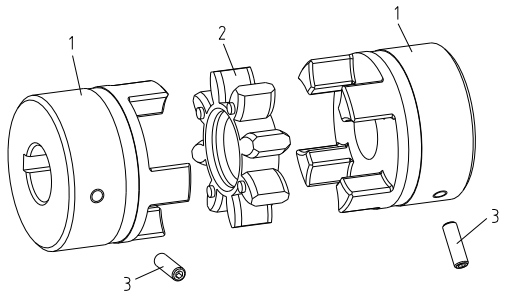

Illustration 13: ROTEX® GS, size 5 - 38

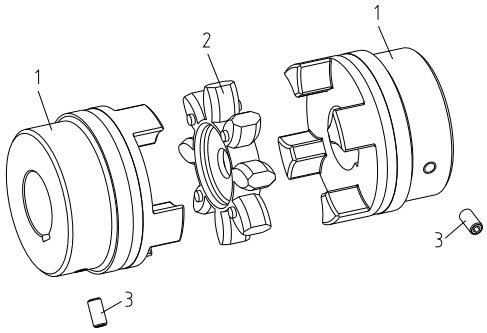

Illustration 14: ROTEX® GS, size 42 - 90

Components of ROTEX® GS, clamping hubs

Component	Quantity	Description
1	2	Clamping hub (type of hub 2.0, 2.1, 2.5 or 2.6)
2	1	Spider
3	2	Cap screws DIN EN ISO 4762

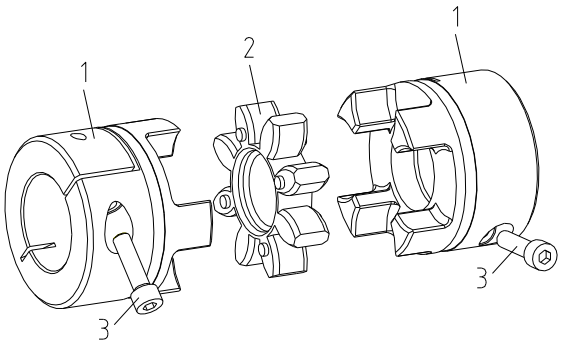

Illustration 15: ROTEX® GS, clamping hub

☞ **Clamping hubs type 2.0 and 2.5 without keyway are not permissible for applications according to DIN EN ISO 13849, part 2.**

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4 Assembly

4.2 Components of the coupling

Components of ROTEX® GS Compact, clamping hubs

Component	Quantity	Description
1	2	Clamping hub (type of hub 2.8 or 2.9)
2	1	Spider
3	2 / 4	Cap screws DIN EN ISO 4762

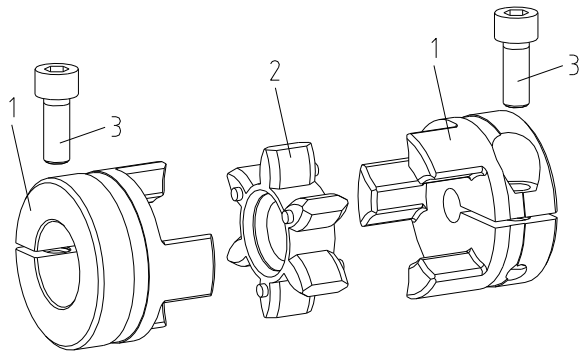

Illustration 18: ROTEX® GS Compact, size 7 - 19

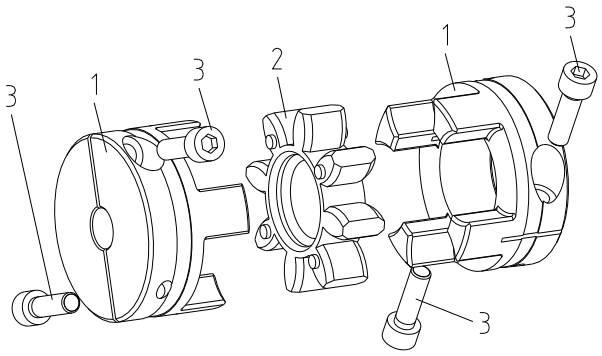

Illustration 19: ROTEX® GS Compact, size 24 - 38

Hub types 1.1, 2.0, 2.5, 2.8, 7.5 and 7.8 (without feather keyway) may only be used in category 3 and are not permissible for applications according to DIN EN ISO 13849, part 2.

Selection of clamping hubs
With the use in hazardous locations the clamping hubs have to be selected such that there is a minimum safety factor of s = 2.0 covering the peak torque of the machine including all operating parameters and the friction torque of the clamping hub.

Components of ROTEX® GS, expansion hubs

Component	Quantity	Description
1	1)	Hub
2	1	Spider
3	1	Expansion hub
4	1	Clamping bolt for expansion hub
5	1)	Cap screws DIN EN ISO 4762
6	1	Cap screws DIN EN ISO 4762

1) The expansion hub can be combined with other hub designs to form the opposite side, too, please refer to your dimension sheet.

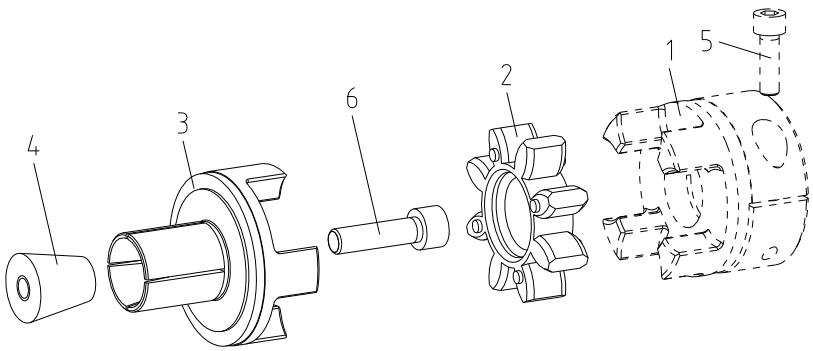

Illustration 20: ROTEX® GS, expansion hubs

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