

ROBA®-DS Sizes 16 to 160 – disk pack-HT

Single-jointed coupling with key hubs

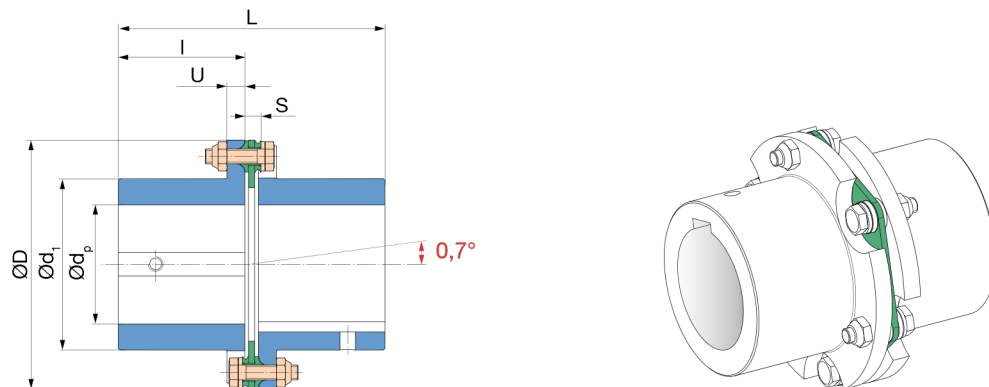


Fig. 10: Type 952.000

Technical Data and Main Dimensions			Size							
			16	25	40	64	100	160		
Nominal torque ¹⁾	T_{KN}	[Nm]	300	420	650	1100	1600	2600		
Peak torque ²⁾	T_{KS}	[Nm]	450	630	975	1650	2400	3900		
Outer diameter	D	[mm]	77	89	104	123	143	167		
Minimum hub bore ³⁾	$d_{p\ min}$	[mm]	16	20	25	30	35	40		
Maximum hub bore ³⁾	$d_{p\ max}$	[mm]	32	40	50	55	70	80		
Maximum speed ⁴⁾	n_{max}	[rpm]	13600	11800	10100	8500	7300	6200		
Permitted misalignments ⁵⁾	permitted axial displacement ^{6) 7)}	ΔK_a	[mm]	0,8	0,9	1,1	1,3	1,5	1,7	
		with connection plate	ΔK_r	[mm]	0,2	0,2	0,25	0,3	0,3	0,35
	permitted radial misalignment ⁶⁾	with sleeve 1	ΔK_{rH}	[mm]	0,7	0,8	1	1,25	1,45	1,5
		with sleeve S	ΔK_{rH}	[mm]	$(H_s - S) \times 0,0122$					
Spring rigidity	torsion ⁸⁾	disk pack	C_{TLP}	[10 ³ Nm/rad]	180	290	320	1350	1900	2950
		tube sleeve S	C_{THrel}	[10 ⁶ Nm mm/rad]	19	34	71	108	217	415
	angular spring rigidity ⁹⁾		[Nm/rad]	285	305	875	1285	2025	3260	

Dimensions [mm]

Size	16	25	40	64	100	160
d_1	50	60	70	80	100	115
d_3	33	41	46	51	66	76
H_1	65	75,6	91,4	112,8	133,2	135,2
H_s	acc. customer specifications					
h_1	50	60	70	80	100	110
L	84,6	95	116,1	138	158,6	179,2
L_2	101,2	112	136,2	164	185,2	210,4
L_4	145	165,6	201,4	242,8	283,2	305,2
L_6	dependent on H_s					
I	40	45	55	65	75	85
S	4,6	5	6,1	8	8,6	9,2
U	7	7	8	10	10	12
U_1	21,2	22	26,2	34	35,2	40,4

Mass Moments of Inertia J [10⁻³ kgm²]

Size	16	25	40	64	100	160
Disk pack ¹⁰⁾	0,08	0,13	0,30	0,81	1,36	3,43
Hub ¹¹⁾	0,27	0,55	1,16	2,58	6,18	12,51
Connection plate	0,23	0,44	0,95	2,30	4,60	9,72
Sleeve 1	0,32	0,61	1,38	3,02	6,10	12,96
Sleeve S with $H_s = 1000$ mm	2,11	3,77	7,81	12,62	24,98	49,43
Sleeve S per 1000 mm tube	1,93	3,43	7,12	10,86	21,86	41,61

Weight [kg]

Size	16	25	40	64	100	160
Disk pack ¹⁰⁾	0,08	0,09	0,16	0,32	0,39	0,71
Hub ¹¹⁾	0,46	0,69	1,02	1,72	2,83	4,25
Connection plate	0,31	0,43	0,68	1,19	1,96	2,96
Sleeve 1	0,39	0,54	0,93	1,46	2,04	3,38
Sleeve S with $H_s = 1000$ mm	3,63	4,42	6,82	8,09	10,22	16,83
Sleeve S per 1000 mm tube	3,48	4,22	6,51	7,50	9,47	15,34

1) Valid for changing load direction as well as for max. permitted shaft misalignment.

2) Valid for unchanging load direction, max. load cycles $\leq 10^5$.

3) Transmittable torques dependent on bore, see page 61.

4) Not valid for coupling with sleeve S.

5) The permitted misalignments may not simultaneously reach their maximum values.

6) The values refer to couplings with 2 disk packs.

7) Only permitted as a static or virtually static value.

8) The C_T -value of a double-jointed coupling can be roughly calculated as follows:

$$C_{T\ tot.} = \frac{1}{\frac{2}{C_{TLP}} + \frac{H_s [mm] - 2 S [mm]}{C_{THrel}}}$$

9) The values refer to 1 disk pack.

10) Mass moments of inertia and weights are valid for 1 disk pack.

11) Mass moments of inertia and weights are valid for maximum bore.