

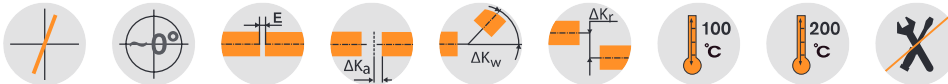
# TOOLFLEX® S

## Metal bellow-type couplings

### Type S: with clamping hubs



For legend of pictogram please refer to flapper on the cover



#### TOOLFLEX® Type S with clamping hubs - Hub material aluminium (size 55/65 steel)/bellow material stainless steel

Size	Dimensions [mm]											
	Finish bore d		General					Clamping screws DIN EN ISO 4762				
	Min.	Max.	L	I <sub>1</sub> , I <sub>2</sub>	E	D <sub>H</sub>	d <sub>H</sub>	M <sub>1</sub>	D <sub>3</sub>	t <sub>1</sub>	e <sub>1</sub>	T <sub>A</sub> [Nm]
7	3	7	24	9	6	15	9	M2	16.5	3.2	5	0.37
9	3	9	29	11	7	20	12	M2.5	21.5	3.5	7.1	0.76
12	4	12	34.5	13	8.5	25	16	M3	26.5	4	8.5	1.34
16	5	16	45	17.0	11	32	20	M4	35.0	5	12.0	2.9
20	8	20	55	21.5	12	40	27	M5	43.5	6	14.5	6
30	10	30	63	23.0	17	55	33	M6	58.0	7	19	10
38	12	38	69	25.5	18	65	42	M8	72.6	9	25	25
42	14	42	84	30.0	24	70	46	M8	76.1	9	27	25
45	14	45	86.5	32.0	22.5	83	58	M10	89.0	11	30	49
55 Al	20	55	111	40.0	31	100	73	M12	106.0	14	37	86
55 <sup>3)</sup>	20	55	111	40.0	31	100	73	M12	106.0	14	37	120
65 <sup>3)</sup>	30	65	126	45.0	36	125	95	M14	127.2	15	45	185

#### Technical data

Size	Bellow-hub-connection	Torque of bellow T <sub>KN</sub> [Nm] <sup>1)</sup>	Max. speed [rpm]	Hub material	Moment of inertia <sup>2)</sup> [x10 <sup>-8</sup> kgm <sup>2</sup> ]	Torsion spring stiffness C <sub>T</sub> [Nm/rad]	Axial stiffness C <sub>A</sub> [N/mm]	Radial stiffness C <sub>R</sub> [N/mm]	Perm. displacements			Weight <sup>2)</sup> [kg]
									Axial [mm]	Radial [mm]	Angular [degree]	
7	Bonded	1	31800	Aluminium	0.26	390	—	—	±0.3	0.10	0.7	0.007
9		1.5	23800	Aluminium	0.97	750	—	—	±0.35	0.15	1.0	0.014
12		2	19100	Aluminium	2.6	1270	—	—	±0.4	0.15	1.0	0.025
16		5	14900	Aluminium	9	4500	43	138	±0.3	0.15	1.0	0.06
20	Flanged	15	11950	Aluminium	30	9600	63	189	±0.4	0.15	1.0	0.12
30		35	8700	Aluminium	114	17800	97	233	±0.5	0.20	1.5	0.24
38		65	7350	Aluminium	245	37400	108	318	±0.6	0.20	1.5	0.35
42		95	6820	Aluminium	396	54700	120	499	±0.6	0.20	1.5	0.49
45		170	5750	Aluminium	931	95800	132	738	±0.9	0.20	1.5	0.82
55 Al		340	4800	Aluminium	1665	144100	160	894	±1.1	0.25	1.5	1.50
55 <sup>3)</sup>		340	4800	Steel	4996	144100	160	894	±1.0	0.25	1.5	3.20
65 <sup>3)</sup>	600	3850	Steel	13318	322740	212	1365	±1.0	0.30	1.5	5.50	

<sup>1)</sup> For selection see page 22 et seqq.

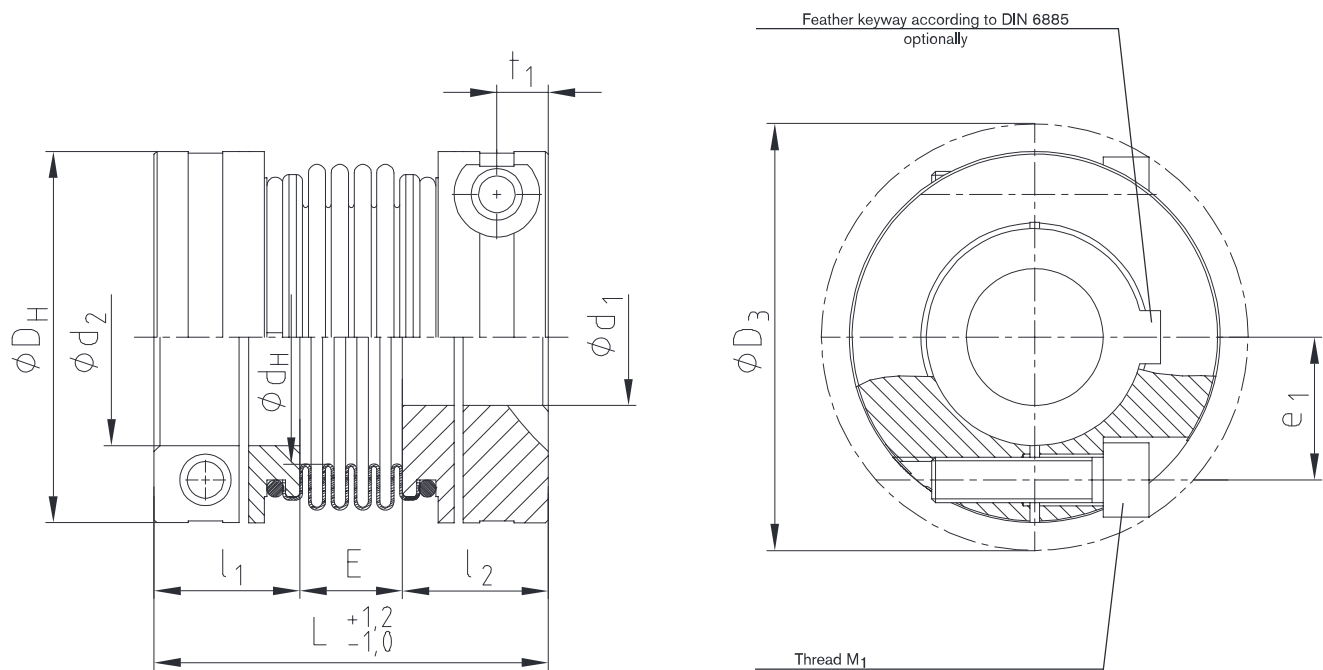
<sup>2)</sup> Figures refer to the complete coupling with max. bore.

<sup>3)</sup> Hub made of steel welded with bellow.

#### Review of shaft-hub-connection: Friction torques T<sub>F</sub> [Nm] for hub design 2.5

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	Ø50	Ø55	Ø60	Ø65	
7	0.84	0.91	0.97	1.04	1.10																										
9	1.87	1.98	2.09	2.20	2.31	2.41	2.52																								
12		3.48	3.65	3.81	3.98	4.14	4.31	4.48	4.64	4.81																					
16			8.5	8.8	9.1	9.4	9.7	9.9	10.2	10.5	11.1	11.4	11.7																		
20						17.6	18.1	18.6	19.1	19.5	20.5	21.0	21.4	22.4	22.9	23.3															
30									33.1	33.8	35.1	35.8	36.5	37.8	38.5	39.2	41.9	42.5	44.6	45.9											
38											79.2	80.4	81.7	84.2	85.4	86.6	91.6	92.8	96.5	99.0	102	105	109								
42											84.2	85.4	86.6	89.1	90.3	91.6	96.5	97.8	102	104	106	110	114	116	119						
45																157	165	167	173	177	181	187	193	197	200	206					
55 Al																270	281	284	293	298	304	313	321	327	333	341	356	371			
55 <sup>3)</sup>																	397	401	413	421	429	442	454	462	470	482	502	523			
65 <sup>3)</sup>																					720	732	750	768	780	792	810	840	870	900	930

Ordering example:	TOOLFLEX® 30 S	2.5	Ø25	2.5	Ø30
	Size and type of coupling	Hub design	Finish bore	Hub design	Finish bore

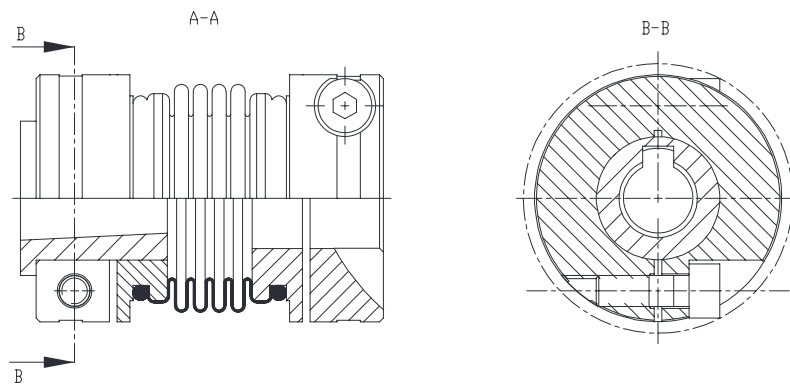


ROTEX® GS

TOOLFLEX®

Backlash-free servo couplings

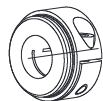
**Other types:**  
Type for FANUC motors



RADEX®-NC

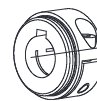
## Types of hubs

Type 2.5



Clamping hub double slot without feather keyway

Type 2.6



Clamping hub double slot with feather keyway

COUNTEX®