optional stainless steel

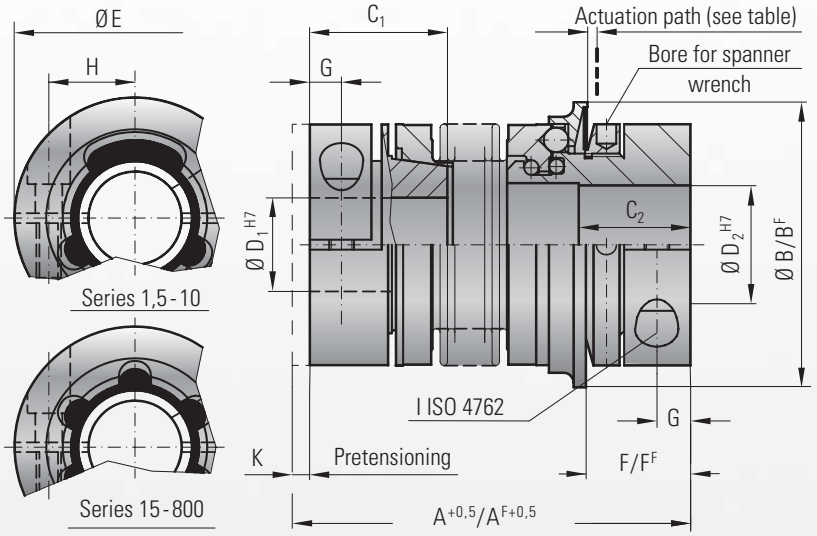
single-position
multi-position
load holding
full disengagement

MODEL **SK5**

Production monitored Type Testet

BACKLASH FREE TORQUE LIMITER

blind-mate version, with clamping hub



Material:
Bellows: stainless steel
Torque limiting portion: high-strength, hardened steel
Hub material: series 80 and below: aluminum; series 150 and up: steel

Design:
With clamping hub and 1 radial screw ISO 4762
Absolutely backlash free through frictional clamping connection

Temperature range:
-30 to +100° C

Service life:
Maintenance free when operated within the technical specifications

Fit tolerance:
Tolerance between hub and shaft 0.01 – 0.05 mm

Ordering specifications: see page 15

Optional sealed version for food-grade applications (see page 26)

Optional ATEX Certification (see page 19)

MODEL SK 5		Series											
		1.5	2	4.5	10	15	30	60	80	150	300	500	800
Adjustment range available from - to (approx. values) (Nm)	T_{KN}	0.1-0.6 0.4-1 0.8-1.5	0.2-1.5 or 0.5-2	1-3 or 3-6	2-6 or 4-12	5-10 or 8-20	10-25 or 20-40	10-30 or 25-80	20-70 or 30-90	20-70 or 45-150	100-200 150-240 200-320	80-200 200-350 300-500	400-650 500-800 650-850
Adjustment range available from - to (approx. values) ("F" Version) (Nm)	T_{KN}	0.3-0.8 or 0.6-1.3	0.5-2	2.5-4.5	2-5 or 5-10	7-15	8-20 or 16-30	20-40 or 30-60	20-60 or 40-80	80-150	120-200 or 160-300	60-150 100-300 250-500	200-400 or 450-800
Overall length +0,5 inserted (mm)	A	44	48 / 54	60 / 68	70 / 79	76 / 83	89 / 97	105 / 115	115 / 127	116 / 128	143 / 157	166 / 180	196
Overall length +0,5 inserted ("F" Version) (mm)	A^F	44	48 / 54	60 / 68	70 / 79	76 / 83	89 / 97	105 / 115	117 / 129	118 / 130	146 / 160	170 / 184	207
Actuation ring Ø (mm)	B	23	29	35	45	55	65	73	92	92	120	135	152
Actuation ring Ø ("F" Version) (mm)	B^F	24	32	42	51.5	62	70	83	98	98	132	155	177
Clamping fit length C_1/C_2 (mm)	C_1/C_2	14 / 11	16 / 13	19 / 16	21 / 16	28 / 22	33 / 27	39 / 31	43 / 35	43 / 35	52 / 42	61 / 52	74 / 48
Bore Diameter from Ø to Ø H7 (mm)	D_1	3-8	4-12	5-16	5-20	8-22	10-25	12-32	14-38	14-38	30-56	35-60	40-62
Bore Diameter from Ø to Ø H7 (mm)	D_2	3-8	4-12	5-14	5-20	8-26	10-30	12-32	14-42	14-42	30-60	35-60	40-75
Outer diameter (mm)	E	19	25	32	40	49	55	66	81	81	110	123	134
Distance (mm)	F	12	13	15	17	19	24	28	31	31	35	45	50
Distance ("F" Version) (mm)	F^F	11.5	12	14	16	19	22	29	31	30	36	43	54
Distance (mm)	G	3.5	4	5	5	6.5	7.5	9.5	11	11	13	17	18
Distance between centers (mm)	H	6	8	10	15	17	19	23	27	27	39	41	2x48
ISO 4762 screws	I	M2.5	M3	M4	M4	M5	M6	M8	M10	M10	M12	M16	2xM16
Tightening torque (Nm)		1	2	4	4.5	8	15	40	50	70	130	200	250
Pretensioning, approx. (mm)	K	0.1 -0.5	0.2 - 0.7	0.2 - 0.7	0.2 - 1.0	0.2 - 1.0	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0	0.5 - 1.5	0.5 - 2.0	0.5 - 2.0
Axial recovery of coupling max. (N)		4	8 / 5	15 / 10	25 / 30	20 / 12	50 / 30	70 / 45	48 / 32	82 / 52	157 / 106	140 / 96	200
Approx. weight (kg)		0.038	0.07	0.2	0.3	0.4	0.6	1.4	2	2.4	5.9	9.6	15
Moment of inertia (10^{-3} kgm²)	J_{ges}	0.01	0.01 / 0.01	0.02 / 0.02	0.06 / 0.07	0.10 / 0.15	0.27 / 0.32	0.75 / 0.80	1.80 / 1.90	2.50 / 2.80	6.50 / 7.00	13.0 / 17.0	50
Torsional stiffness (10^3 Nm/rad)	C_T	0.7	1.2 / 1.3	7 / 5	8 / 7	12 / 10	18 / 16	40 / 31	68 / 45	90 / 60	220 / 190	260 / 250	390
Lateral ± (mm)	max. values	0.15	0.15 / 0.20	0.20 / 0.25	0.20 / 0.30	0.15 / 0.20	0.20 / 0.25	0.20 / 0.25	0.20 / 0.25	0.20 / 0.25	0.25 / 0.30	0.30 / 0.35	0.35
Angular ± (degrees)		1	1 / 1.5	1.5 / 2	1.5 / 2	1 / 1.5	1 / 1.5	1 / 1.5	1 / 1.5	1 / 1.5	1.5 / 2	2 / 2.5	2.5
Lateral spring stiffness (N/mm)		70	40 / 30	290 / 45	280 / 145	475 / 137	900 / 270	1200 / 420	920 / 290	1550 / 435	3750 / 1050	2500 / 840	2000
Actuation path (mm)		0.7	0.8	0.8	1.2	1.5	1.5	1.7	1.9	1.9	2.2	2.2	2.2

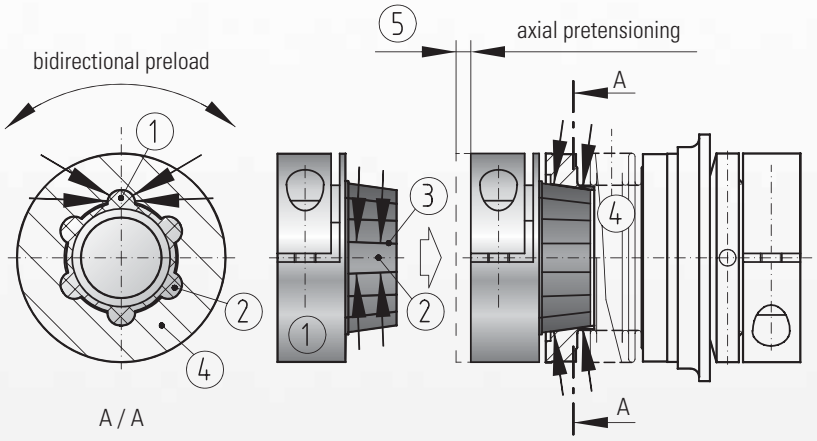
A^F, B^F, F^F = Full disengagement version

optional stainless steel

single-position
multi-position
load holding
full disengagement

Production monitored
Type Testet

blind-mate version, with clamping hub



Design details

Six self-centering, tapered drive projections (2) have been formed into the taper segment, which has been molded onto an aluminium hub (1).

The six projections are configured conically in a longitudinal direction (3).

The mating-piece consists of a metal bellows with a tapered female element (4).

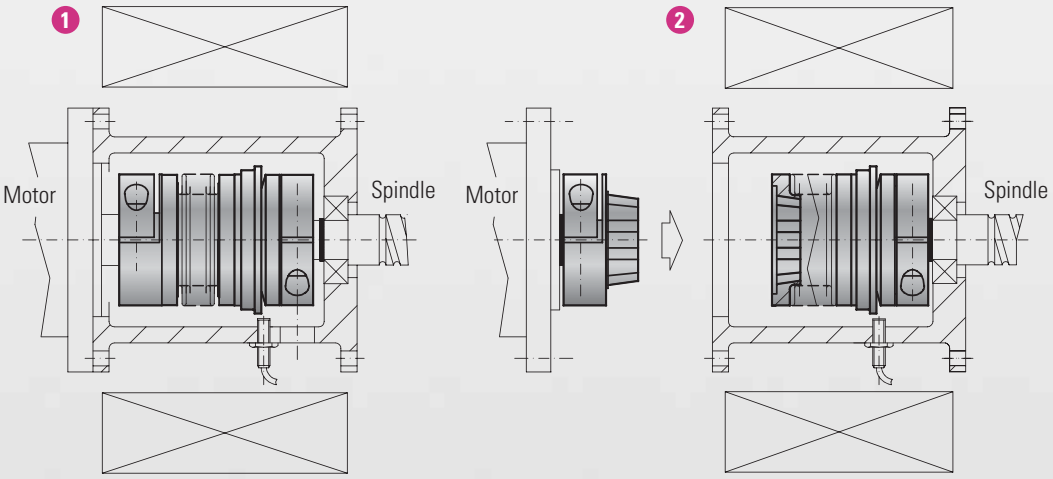
Absolutely backlash-free torque transmission is ensured due to the axial pretensioning (5) of the metal bellows during mounting. This slight pretensioning has no negative influence on the operation of the metal bellows or on the shaft bearing.

Possible applications for backlash-free, press-fit torque limiter SK 5

❶ Applications with limited accessibility. The dismounting of a single-piece coupling is too labor intensive.

❷ The **press fit design** allows the motor or gearbox unit to be removed by simply pulling it out when servicing is required.

Dismounting the coupling is possible **without loosening** the hub fastening screws. Therefore, clamping screw access holes are not required.



Ordering specifications

Required information for models SK 2, SK 3 and SK 5

SK2 / 60 / 102 / D / 16 / 19 / 25/10-30/XX

- Model
- Series
- Overall length mm
- Version
- Bore Ø D1 H7
- Bore Ø D2 H7
- Disengagement torque Nm
- Adjustment range Nm
- e.g. stainless steel

All data is subject to change without notice.

Possible versions

W = Single-position engagement (standard)
D = Multi-position engagement
G = Load holding
F = Full disengagement