

SP3

With external clamping ring

60 – 10,000 Nm
High speed



Features

- Very high balancing quality due to symmetrical design
- High operating speeds
- Extremely smooth running

Material

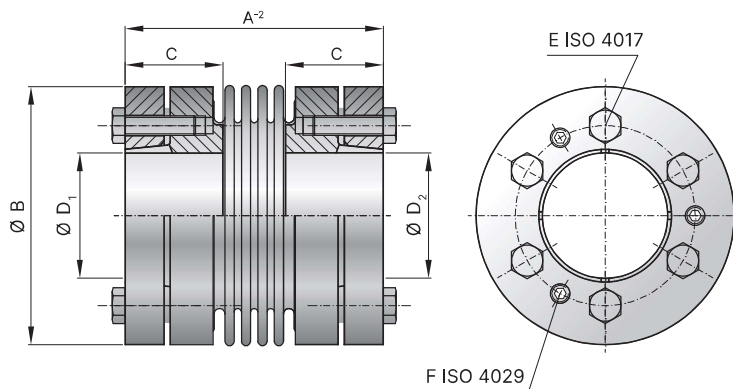
- **Bellows:** high grade stainless steel
- **Hubs and clamping ring:** steel

Design

Two precision machined clamping ring hubs mounted concentrically to a flexible bellows. Brief overloads of up to 1.5x the rated torque are acceptable.

Fit clearance

Overall shaft / hub tolerance 0.01 – 0.025 mm



Model SP3

Size		60	150	200	300	500	800	1,500	4,000	6,000	10,000
Rated torque (Nm)	T_{KN}	60	150	200	300	500	800	1,500	4,000	6,000	10,000
Overall length without screw head (mm)	A-2	66 76	75 87	76 88	89 103	97 111	117	133	195	250	300
Outside diameter (mm)	B	66	81	90	110	124	133	157	200	253	300
Fit length (mm)	C	25	30	32	36	40	40	53	65	86	95
Inside diameter possible from $\emptyset$ to $\emptyset$ H7 (mm)	D_1/D_2	14-32	18-35	20-42	22-55	25-60	32-60	42-75	50-100	60-140	70-180
Fastening screw ISO 4017	E	6 x M5	6 x M6	6 x M6	6 x M8	6 x M8	6 x M10	6 x M10	6 x M12	6 x M16	8 x M16
Tightening torque of the fastening screw (Nm)		8.5	14	14	30	35	50	60	120	260	295
Jack screw ISO 4017	F	3 x M5	3 x M6	3 x M6	3 x M8	3 x M8	3 x M10	3 x M10	3 x M12	3 x M16	4 x M16
Moment of inertia (10^{-3} kgm ²)	J_{ges}	0.58 0.60	1.6 1.62	2.42 2.52	6.38 6.56	10.35 10.67	10.9	24.3	107.9	466.2	1,187.4
Approximate weight (kg)		0.9 0.92	1.7 1.8	2.1 2.2	3.52 3.6	4.73 4.83	4.9	7.9	19.0	45.0	80.5
Torsional stiffness (10^{-3} Nm/rad)	C_T	76 55	175 110	191 140	450 350	510 500	780	1,304	3,400	5,700	10,950
Axial $\pm$ (mm)		1.5 2	2 3	2 3	2.5 3.5	2.5 3.5	3.5	3.5	3.5	3.0	3.0
Lateral $\pm$ (mm)	Max. values	0.2 0.25	0.2 0.25	0.25 0.3	0.25 0.3	0.3 0.35	0.35	0.35	0.4	0.4	0.4
Angular $\pm$ (degree)		1 1.5	1 1.5	1 1.5	1 1.5	1 1.5	1.5	1.5	1.5	1.5	1.5
Axial spring stiffness (N/mm)	C_a	72 48	82 52	90 60	105 71	70 48	100	320	565	1,030	985
Lateral spring stiffness (N/mm)	C_l	1,200 420	1,500 435	2,040 610	3,750 1,050	2,500 840	2,000	3,600	6,070	19,200	21,800
Speed standard (min ⁻¹)	n	22,500	16,500	16,500	13,500	12,500	10,000	8,000	6,000	5,000	3,000

* Recommended fit pairing H7 / k6; H6 / j5 (short spindle); starting at $\emptyset$ 55 G7 / m6