

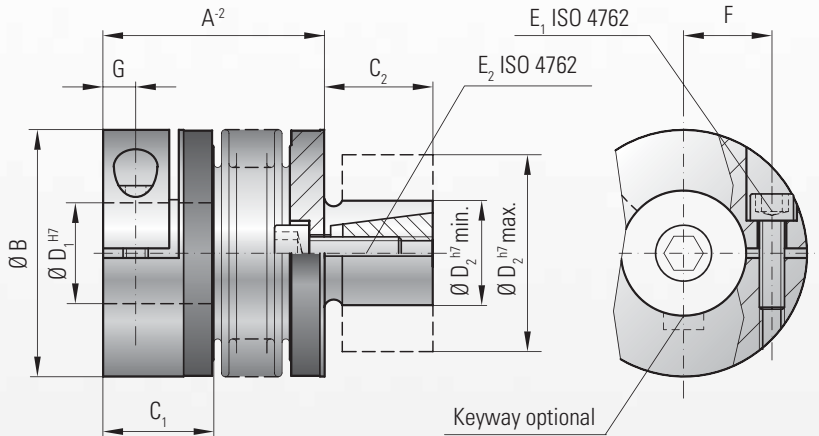
optional
stainless
steel

MODEL BK7

BACKLASH-FREE, TORSIONALLY STIFF METAL BELLOWS COUPLINGS



with expanding shaft



Ordering example

BK7 / 150 / 71 / 32 / 35 / XX

Model
Series / Nm
Overall length mm
Bore Ø D1 H7
Shaft Ø D2 h7
Non standard e.g. stainless steel

Model BK 7		Series									
		15		30		60		150		300	
Rated torque (Nm)	T_{KN}	15		30		60		150		300	
Overall length (inserted) (mm)	A^{-2}	45	52	53	61	62	72	71	83	84	98
Outside diameter (mm)	B	49		55		66		81		110	
Fit length (mm)	C_1	22		27		32		36		43	
Fit length (mm)	C_2	20		25		27		32		45	
Inside diameter possible from Ø to Ø H7 (mm)	D_1	8-28		10-30		12-35		19-42		30-60	
Shaft diameter from Ø to Ø h7 (mm)	D_2	13-25		14-30		23-38		26-42		38-60	
Fastening screw ISO 4762	$E_{1/2}$	M5		M6		M8		M10		M12	
Tightening torque of the fastening screw (Nm)	$E_{1/2}$	8		14		38		65		120	
Distance between centerlines (mm)	F	17		19		23		27		39	
Distance (mm)	G	6.5		7.5		9.5		11		13	
Moment of inertia (10^{-3} kgm ²)	J_{total}	0.07	0.08	0.14	0.15	0.23	0.26	2.2	2.4	6.5	8.9
Hub material		Al		Al		Al		steel		steel	
Approximate weight (kg)		0.15		0.3		0.4		1.7		4	
Torsional stiffness (10^3 Nm/rad)	C_t	20	15	39	28	76	55	175	110	450	350
Axial ± (mm)	Max. values	1	2	1	2	1.5	2	2	3	2.5	3.5
Lateral ± (mm)		0.15	0.2	0.2	0.25	0.2	0.25	0.2	0.25	0.25	0.3
Angular ± (degree)		1	1.5	1	1.5	1	1.5	1	1.5	1	1.5
Axial spring stiffness (N/mm)	C_s	20	12	50	30	72	48	82	52	105	71
Lateral spring stiffness (N/mm)	C_r	315	108	730	230	1200	380	1550	435	3750	1050

* 1 Nm = 8.85 in lbs

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Features:

- for easy hollow shaft mounting
- compact design, conserves space while saving cost
- adapts mismatched shaft and bore diameters
- backlash free and torsionally rigid
- low moment of inertia

Material:

Bellows made from highly flexible, high grade stainless steel; see below for hub material. Expanding shaft and cone made from steel.

Design:

With a single ISO 4762 radial clamping screw on one hub. Shaft with internal cone for expansion. Absolutely backlash free due to frictional clamp connection.

Temperature range: -30 to +100° C (-22 to +212° F)

Speeds:

Up to 10,000 rpm; in excess of 10,000 rpm with finely balanced version (up to G = 2.5)

Service life:

Maintenance free with infinite life when operated within the technical specifications

Brief overloads:

Acceptable up to 1.5x the rated torque

Fit tolerance:

Overall clearance between hub and shaft 0.01-0.05 mm

Non standard applications:

Custom designs with various tolerances, keyways, materials, dimensions, etc. available upon request

Installation instructions:

Tightening the screw (2) through the bellows body draws in the cone (3) which causes the shaft (1) to expand. The recommended bore tolerance is ISO H7.

