

BK2 Series Metal Bellows Couplings

FEATURES

- For use with Magtrol TM 309 - 312, 314 and 315 In-Line Torque Transducers
- High torque
- Torsionally stiff
- With radial clamping screw per hub



DESCRIPTION

BK2 metal bellows couplings provide the ideal complement to Magtrol's TM 309 - 312, 314 and 315 Torque Transducers, when mounted in a drive train.

The torque transmission element consists of a metal bellows and 2 clamping hubs. The couplings are both torsionally stiff and flexible in order to compensate for axial, angular and radial misalignment when connecting two shaft ends. The high torsional spring rate of the couplings ensures a high torsional stiffness and angular precision.

Material

Bellows made of highly flexible high-grade stainless steel, the hub material of aluminium or steel (see below)

Design

With a single ISO 4762 radial clamping screw per hub. Couplings 1500 and 4000 with two clamping screws 180 degrees opposed

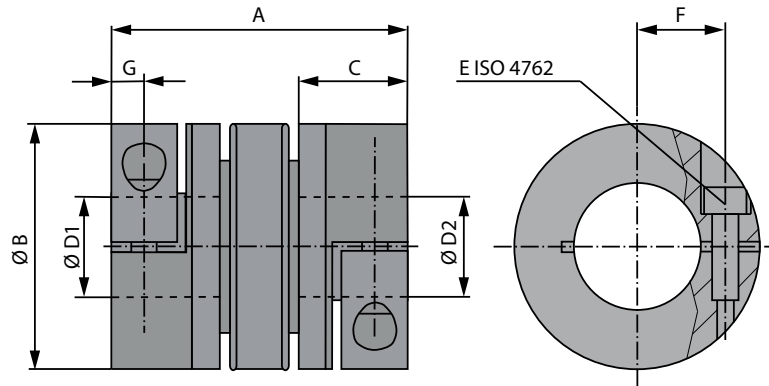
RATINGS

Coupling Model	BK2-30-69	BK2-60-83	BK2-80-94	BK2-150-95	BK2-300-111	BK2-1500-166	BK2-4000-225
Torque Transducers *	TM 309		TM 310	TM 311	TM 312	TM 314	TM 315
Rated Torque	30 N·m	60 N·m	80 N·m	150 N·m	300 N·m	1500 N·m	4000 N·m
Maximum Torque	45 N·m	90 N·m	120 N·m	225 N·m	450 N·m	2250 N·m	6000 N·m
Maximum Speed *	10,000 rpm (higher speed available upon request)						
Misalignment, Axial	1 mm	1.5 mm	2 mm	2 mm	2.5 mm	3.5 mm	3.5 mm
Misalignment, Radial	0.2 mm	0.2 mm	0.2 mm	0.2 mm	0.25 mm	0.35 mm	0.40 mm
Misalignment, Angular	1 degree	1 degree	1 degree	1 degree	1 degree	1.5 degree	1.5 degree
Torsional Stiffness/ Torsional Spring Rate	39×10^3 N·m/rad	76×10^3 N·m/rad	129×10^3 N·m/rad	175×10^3 N·m/rad	450×10^3 N·m/rad	1304×10^3 N·m/rad	3400×10^3 N·m/rad
Axial spring stiffness	50 N/mm	72 N/mm	48 N/mm	82 N/mm	105 N/mm	320 N/mm	565 N/mm
Lateral spring stiffness	900 N/mm	1200 N/mm	920 N/mm	1550 N/mm	3750 N/mm	3600 N/mm	6070 N/mm
Moment of Inertia	$0,12 \times 10^{-3}$ kg·m ²	$0,32 \times 10^{-3}$ kg·m ²	$0,8 \times 10^{-3}$ kg·m ²	$1,9 \times 10^{-3}$ kg·m ²	$7,6 \times 10^{-3}$ kg·m ²	43×10^{-3} kg·m ²	165×10^{-3} kg·m ²
Hub material	aluminium	aluminium	aluminium	aluminium	aluminium	steel	steel

* TM include TMB and TMHS

All ratings listed are Manufacturer's Specifications.

DIMENSIONS



NOTE:

Original dimensions are in Metric units. Dimensions converted to English have been rounded up to 2 decimal places.

Model	units	A	ØB	C	ØD1/D2 (H7) min – max	ØD1 for TM	E	F	Fastening Torque E	G	Weight
BK2-30-69	mm	69	55	27	10 – 30	20	M6	19	15 N·m	7.5	0.26 kg
	in	2.72	2.17	1.06	0.39 – 1.18	0.79		0.75		0.30	0.57 lb
BK2-60-83	mm	83	66	31	12 – 35	-	M8	23	40 N·m	9.5	0.48 kg
	in	3.27	2.60	1.22	0.47 – 1.38	-		0.91		0.37	1.06 lb
BK2-80-94	mm	94	81	36	14 – 42	20	M10	27	50 N·m	11	0.8 kg
	in	3.70	3.19	1.42	0.55 – 1.65	0.79		1.06		0.43	1.76 lb
BK2-150-95	mm	95	81	36	19 – 42	20	M10	27	70 N·m	11	1.85 kg
	in	3.74	3.19	1.42	0.75 – 1.65	0.79		1.06		0.43	4.08 lb
BK2-300-111	mm	111	110	43	24 – 60	30	M12	39	130 N·m	13	4 kg
	in	4.37	4.33	1.69	0.94 – 2.36	1.18		1.54		0.51	8.82 lb
BK2-1500-166	mm	166	157	55	50 – 80	50	2x M20	55	470 N·m	22.5	11.5 kg
	in	6.54	6.18	2.17	1.97 – 3.15	1.97		2.17		0.86	25.35 lb
BK2-4000-225	mm	225	200	85	50 – 90	50	2x M24	65	1200 N·m	28	28.8 kg
	in	8.86	7.87	3.35	1.97 – 3.54	1.97		2.56		1.10	63.49 lb

All ratings listed are Manufacturer's Specifications.

ORDERING INFORMATION

When ordering a coupling, please indicate the shaft diameter of the machines to which the transducer will be coupled. In the part number, H7 indicates the manufacturing tolerance of the coupling.

Example: Shaft diameter of machine No. 1 35 mm
 Coupling model BK2-150-95
 Part number BK2-150-95-20H7/35H7

Due to the continual development of our products, we reserve the right to modify specifications without forewarning.



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