BK3 Series
Metal Bellows Couplings

FEATURES

- For use with Magtrol TM 309 – 315 In-Line Torque Transducers
- High torque
- Torsionally stiff
- Clamping to a smooth shaft by tapered conical sleeves

DESCRIPTION

BK3 metal bellows couplings provide the ideal complement to Magtrol's TM 309 – 315 Torque Transducers, when mounted in a drive train.

The torque transmission element consists of a metal bellows and a conical clamp connection. 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 steel

Design

With slitted, tapered conical sleeves and strong, captive draw-off screws

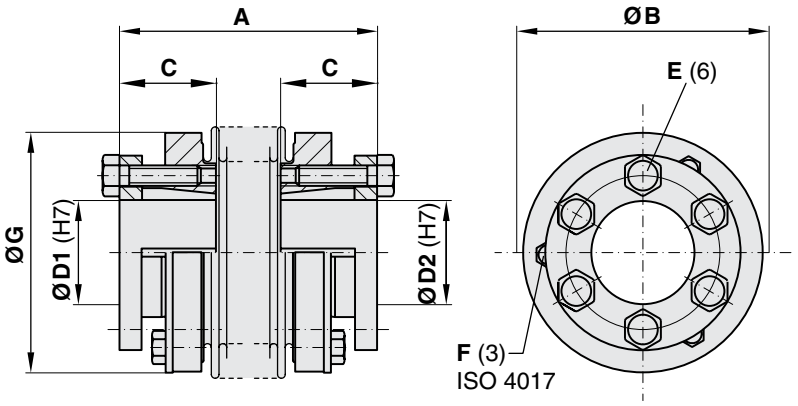
RATINGS

Coupling Model	BK3 60-66	BK3 150-75	BK3 200-78	BK3 500-97	BK3 800-114	BK3 1500-141	BK3 4000-195
Torque Transducers *	TM 309	TM 310	TM 311	TM 312	TM 313	TM 314	TM 315
Rated Torque	60 N·m	150 N·m	200 N·m	500 N·m	800 N·m	1500 N·m	4000 N·m
Maximum Torque	90 N·m	225 N·m	300 N·m	750 N·m	1200 N·m	2250 N·m	6000 N·m
Maximum Speed *	10,000 rpm (higher speed available upon request)						
Misalignment, Axial	1.5 mm	2 mm	2 mm	2.5 mm	3.5 mm	3.5 mm	3.5 mm
Misalignment, Radial	0.20 mm	0.20 mm	0.25 mm	0.30 mm	0.35 mm	0.35 mm	0.40 mm
Misalignment, Angular	1 degree	1 degree	1 degree	1 degree	1.5 degree	1.5 degree	1.5 degree
Torsional Stifness/ Torsional Spring Rate	76×10^3 N·m/rad	175×10^3 N·m/rad	191×10^3 N·m/rad	510×10^3 N·m/rad	780×10^3 N·m/rad	1304×10^3 N·m/rad	3400×10^3 N·m/rad
Axial spring stiffness	72 N/mm	82 N/mm	90 N/mm	70 N/mm	100 N/mm	320 N/mm	565 N/mm
Lateral spring stiffness	1200 N/mm	1500 N/mm	2040 N/mm	2500 N/mm	2000 N/mm	3600 N/mm	6070 N/mm
Moment of Inertia	0.39×10^{-3} kg·m²	1.2×10^{-3} kg·m²	1.7×10^{-3} kg·m²	9.1×10^{-3} kg·m²	13.2×10^{-3} kg·m²	34.9×10^{-3} kg·m²	85.5×10^{-3} kg·m²
Balancing Quality	2.5 Q	2.5 Q	2.5 Q	2.5 Q	2.5 Q	2.5 Q	2.5 Q

** 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 (H7)	ØD2 (H7) min – max	E	F	Fastening Torque E	ØG	Weight
BK3 60-66	*mm*	66	66	27	20	12 – 29	M5	M5	8 N·m	66	0.7 kg
	in	2.60	2.60	1.06	0.79	0.47 – 1.14				2.60	1.54 lb
BK3 150-75	*mm*	75	81	32	20	15 – 38	M6	M5	12 N·m	81	1.2 kg
	in	2.95	3.19	1.26	0.79	0.59 – 1.50				3.19	2.65 lb
BK3 200-78	*mm*	78	90	32	20	15 – 44	M6	M6	14 N·m	90	1.8 kg
	in	3.07	3.54	1.26	0.79	0.59 – 1.73				3.54	3.97 lb
BK3 500-97	*mm*	97	124	41	30	24 – 60	M8	M6	25 N·m	122	4.2 kg
	in	3.82	4.88	1.61	1.18	0.94 – 2.36				4.80	9.26 lb
BK3 800-114	*mm*	114	133	50	30	30 – 60	M10	M8	40 N·m	116	5.6 kg
	in	4.49	5.24	1.97	1.18	1.18 – 2.36				4.57	12.35 lb
BK3 1500-141	*mm*	141	157	61	50	35 – 70	M12	M8	70 N·m	135	8.2 kg
	in	5.55	6.18	2.40	1.97	1.38 – 2.76				5.31	18.08 lb
BK3 4000-195	*mm*	195	200	80	50	50 – 100	M16	M10	120 N·m	180	23.0 kg
	in	7.68	7.87	3.15	1.97	1.97 – 3.94				7.08	50.71 lb

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	48 mm
	Coupling model	BK3-800-114
	Part number	BK3-800-114-30H7/48H7

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

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ISO 9001 BUREAU VERITAS Certification

BK3-US 11/14