

BKC-TF SERIES

METAL BELLOWS COUPLINGS

FEATURES

- Metal Bellows Couplings for use with Magtrol TF Series Torque Flange Sensors
- Designed for transmission of high torque
- High Torsional Stiffness
- Light and Compact Design
- Radial Clamping Screw hub for smooth shaft
- Easy to mount
- Suited for space restricted installations
- Balancing G6.3 / ISO 1940 (G2.5 optional)
- Aluminum and Stainless Steel Construction

DESCRIPTION

BKC-TF Series Metal Bellows Couplings provide the ideal complement to Magtrol's TF Series Torque Flange Sensors, when mounted in a drive train.

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

SYSTEM CONFIGURATION

The coupling is designed to be mounted directly on the TF Series sensor. At the other end, it can easily be mounted on a smooth shaft (or with optional keyway). It is important to ensure that the coupling is ordered according to the TF sensor model.

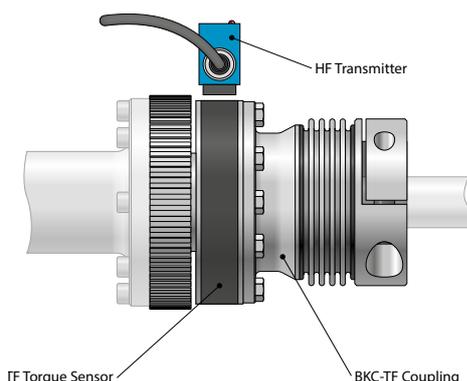


Fig. 1: BKC-TF-150 | Metal Bellows Coupling

DESIGN & MATERIAL

Bellows are made of highly flexible high-grade stainless steel. The hub material is made of aluminum or stainless steel.

Use of an ISO 4762 radial clamping screw is required for clamping.

SELECTION TABLE

In order to ensure a sufficient safety margin, Magtrol recommends that couplings be sized according to the maximum torque supported by the torque transducer. It is strongly recommended to protect all rotating machine parts according to Safety Machine Norms for avoiding injuries. For further information, please contact our sales network who will be able to provide you with personal advice.

COUPLING	DIAMETER RANGE	TF MODELS			
		TF 309 / TF 310	TF 311 / TF 312	TF 313 / TF 314	TF 315
BKC-TF 60	14 ... 35mm	X			
BKC-TF 150	19 ... 42mm		X		
BKC-TF 800	40 ... 75mm			X	
BKC-TF 1500	50 ... 80mm				X

SPECIFICATION

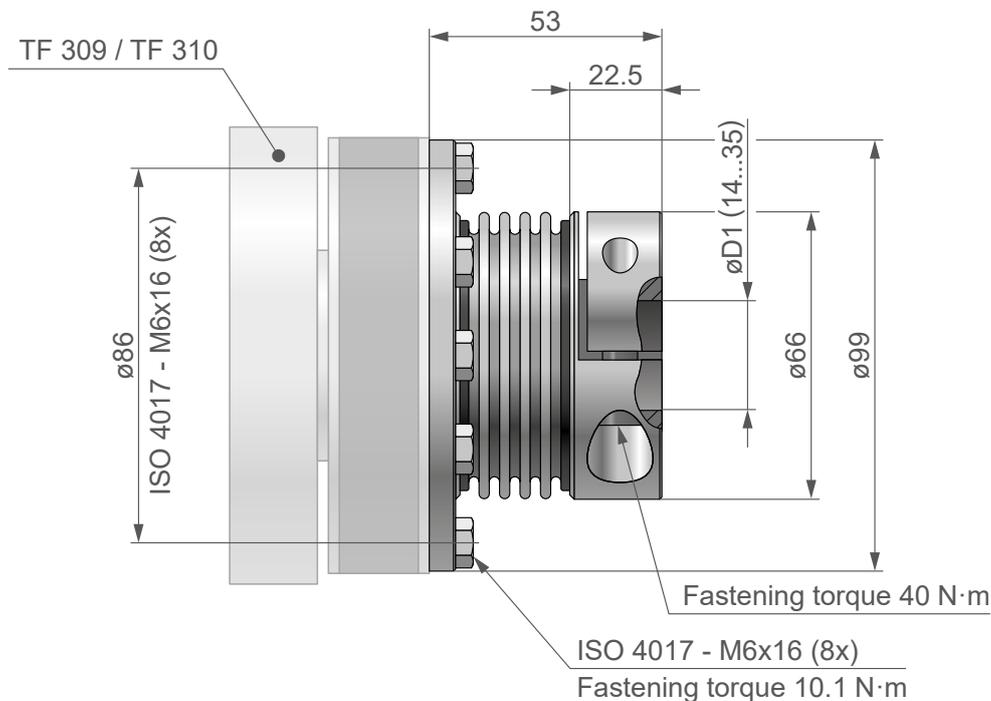
MODEL		BKC-TF 60	BKC-TF 150	BKC-TF 800	BKC-TF 1500
RATINGS					
Rated Torque	[N·m]	100	200	1000	2000
Maximum Torque ^{a)}	[N·m]	200	400	2000	4000
Maximum Speed G 6.3	[rpm] or [min ⁻¹]	10000	6000	4500	3000
Maximum Speed G 2.5	[rpm] or [min ⁻¹]	17000		13000	10000
MISALIGNMENT					
Axial	[mm]	1.5	2		2.5
Radial	[mm]	0.2			0.15
Angular	[°]	1			
STIFFNESS & INERTIA					
Torsional Stiffness	[N·m/rad]	9.31 x 10 ⁴	4.02 x 10 ⁵	1.94 x 10 ⁶	5.40 x 10 ⁶
Moment of Inertia	[kg·m ²] x 10 ⁻³	0.534	1.28	12.7	78.33
MECHANICAL CHARACTERISTICS & ENVIRONMENT					
Temperature Range	[°C]	-30 ... +100			
Diameter Range ^{b)}	ø[mm]H7	14 ... 35	19 ... 42	40 ... 75	50 ... 80
Hub Material		Aluminum		Stainless Steel	
Keyway ^{c)}		No		Yes	
Approximate Weight	[kg]	0.7	1.0	6.3	10.0

a) Peak torque acceptable, only with keyway DIN 6885 (optional)

b) The standard versions are manufactured with integer values; the standard tolerance is H7. All diameters and tolerances are possible, within the defined max. range. Please contact our sales department.

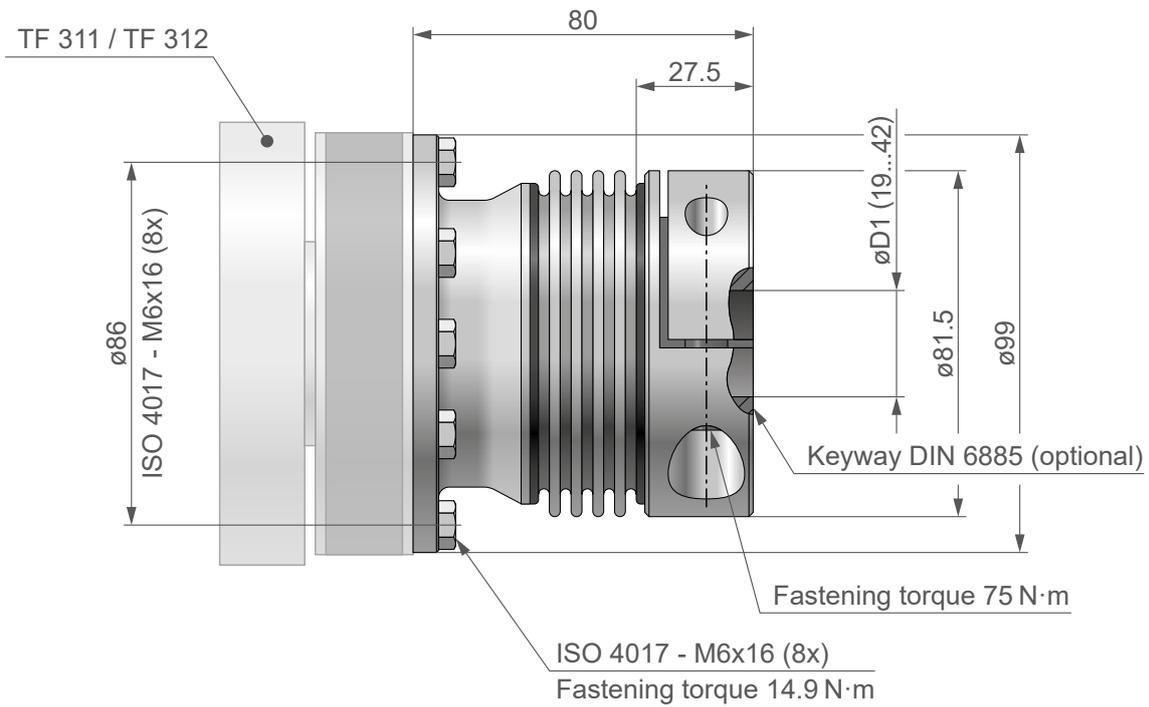
c) For higher torque speed, keyway (DIN 6885) is strongly advised or even necessary.

DIMENSIONS BKC-TF 60



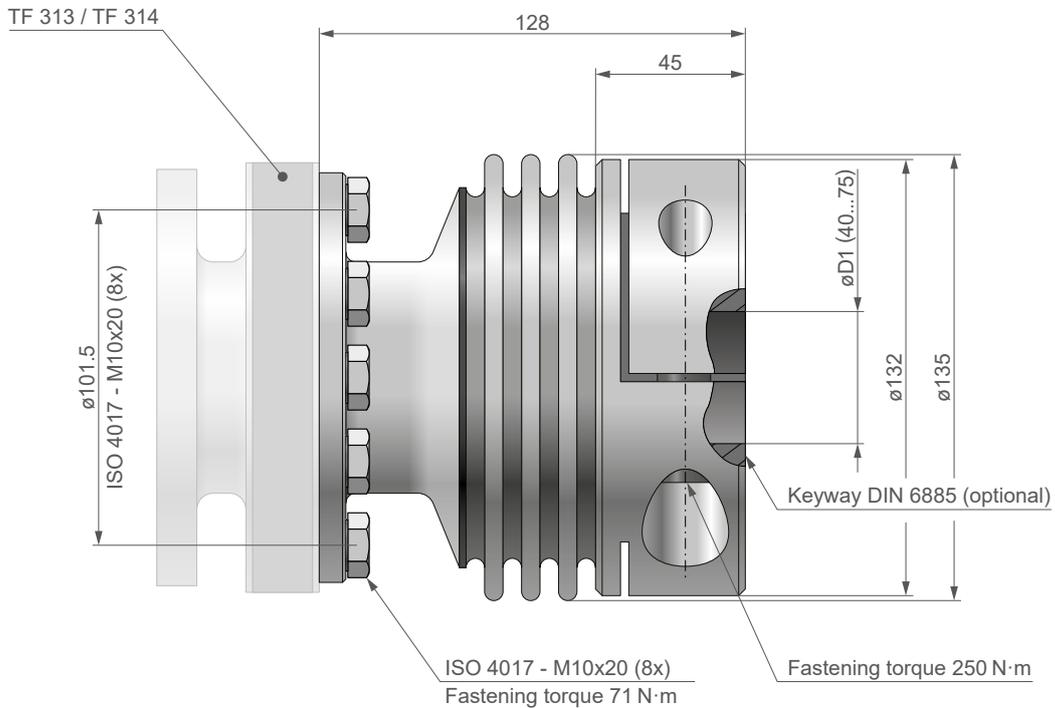
NOTE: Inside diameter standard versions are manufactured with integer values; the standard tolerance is H7. All diameters and tolerances are possible. Please contact our sales department.

DIMENSIONS BKC-TF 150/XX



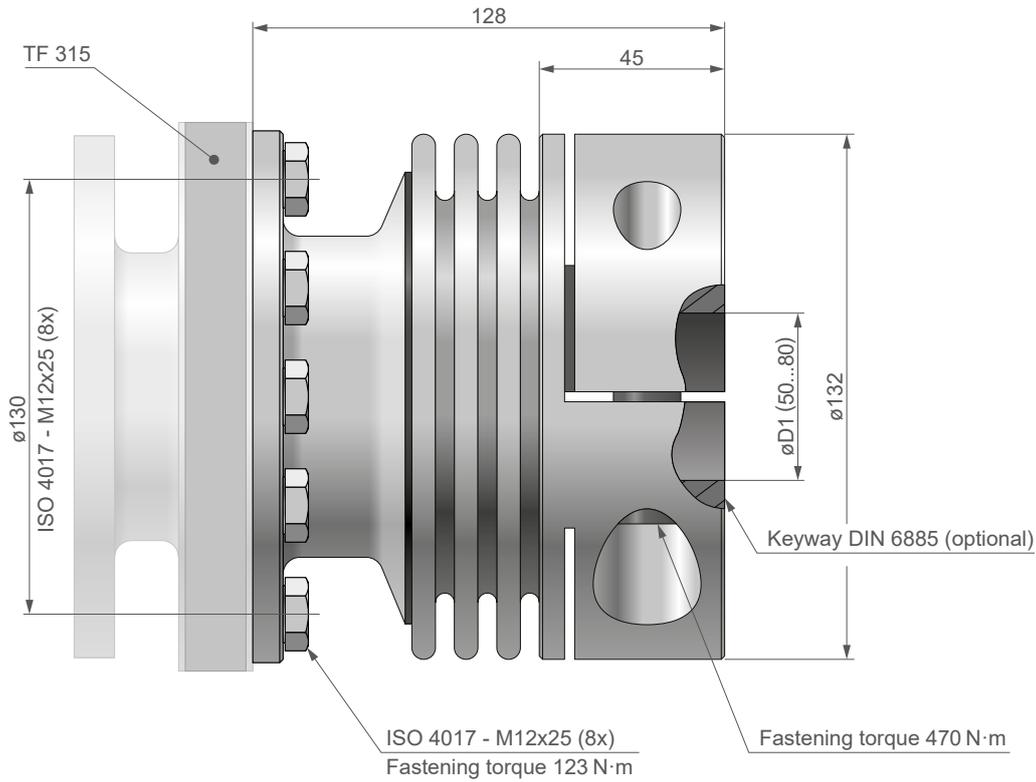
NOTE: Inside diameter standard versions are manufactured with integer values; the standard tolerance is H7.
All diameters and tolerances are possible. Please contact our sales department.

DIMENSIONS BKC-TF 800/XX



NOTE: Inside diameter standard versions are manufactured with integer values; the standard tolerance is H7.
All diameters and tolerances are possible. Please contact our sales department.

DIMENSIONS BKC-TF 1500/XX



NOTE: Inside diameter standard versions are manufactured with integer values; the standard tolerance is H7.
All diameters and tolerances are possible. Please contact our sales department.

ORDERING INFORMATION

ORDERING NUMBER	BKC-TF -	-	-	-
060, 150, 800 or 1500 : models				
XX : $\varnothing D1$ diameter in mm ^{a)}				
H7, XX : Tolerance for $\varnothing D1$ ^{b)}				

- a) Standard diameters are expressed in integer numbers and must be contained within the diameter range. For other diameters, please contact our sales department.
- b) The standard bore tolerance is H7 (ISO tolerance system). For other tolerances, please contact our sales department.

Example: BKC-TF Series Coupling, model 150, $\varnothing 21 H7$ would be ordered as follows:
BKC-TF-150-21H7

BKC-TF Series coupling, model 800, $\varnothing 45.5 JS6$: **please contact our sales department**