BX

TORSIONALLY STIFF **METALLIC BELLOWS COUPLINGS**
10,000 –100,000 Nm

MODEL		FEATURES	
BX1		**with flange mounting** **from 10,000 - 100,000 Nm** ▶ for customer specific applications	Page 105
BX4		**with simple keyway mounting** **from 10,000 - 100,000 Nm** ▶ low backlash keyway connection ▶ compact, simple design	Page 106
BX6		**with conical clamping ring** **from 10,000 - 100,000 Nm** ▶ backlash free conical clamping ▶ high shaft clamping pressure	Page 107

BX1

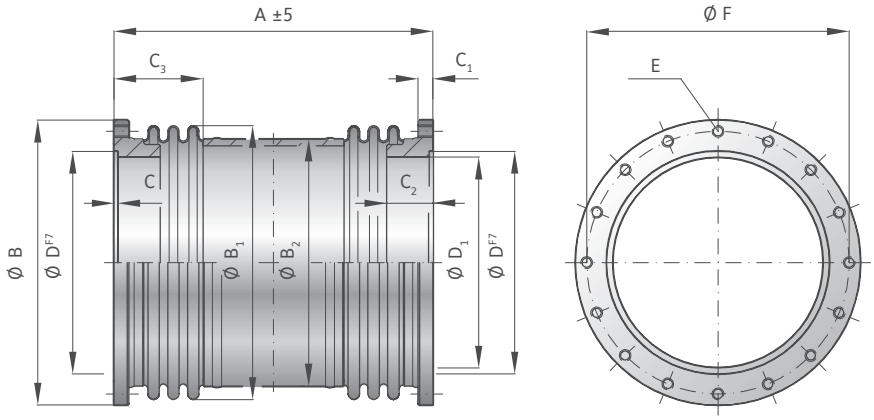
WITH FLANGE MOUNTING
10,000 - 100,000 Nm

PROPERTIES

FEATURES
- compact, simple design
- high misalignment compensation
- integral support system (size 25 and up)

MATERIAL
- **Hubs:** steel
- **Bellows:** highly flexible high grade stainless steel

DESIGN
Both ends with flanged hubs
Spacer between bellows
(optional variable length)
(size 10 without spacer)
welded bellows-hub connection



MODEL BX1 | SIZE 10 - 100

SIZE			10	25	50	75	100
Rated torque	(KNm)	T_{KN}	10	25	50	75	100
Maximum torque	(KNm)	T_{Kmax}	15	38	75	113	150
Overall length	(mm)	$A^{\pm 5}$	125	380	450	580	640
Outside diameter of flange	(mm)	B	310	336	398	449	545
Outside diameter of bellows ±2	(mm)	B_1	300	323	370	412w	520
Outside diameter of tube	(mm)	B_2	–	273	324	360	460
Fit length +0.5	(mm)	$C^{+0.5}$	4	5	6	10	15
Thread depth	(mm)	C_1	15	25	30	36	36
Hub length	(mm)	C_2	24	81	80	103	120
Bellows body length +3	(mm)	C_3	–	121	133	165	165
Centering diameter F 7	(mm)	D	265	260	310	350	440
Hub diameter +0.3	(mm)	D_1	250	240	285	317	390
Fastening threads*		E	20x M12	24x M16	24x M20	20x M24	24x M24
Tightening torque of the fastening screws (screw grade 10.9)	(Nm)		120	300	580	1000	1000
Bolt circle diameter ±0.4	(mm)	F	290	304	361	404	500
Moment of inertia	(10^{-3} kgm²)	$J_{ges.}$	101	548	1185	2725	7900
Approximate weight	(kg)		8.3	27.8	43.7	80	151
Axial	± (mm)	Max. value	3	5	6	7	8
Lateral	± (mm)		0.4	2.2	2.5	3	3.5
Angular	± (degree)		1.5	1	1	1	1
Torsional stiffness coupling	(10^3 Nm/rad)		20,000	9,000	15,500	23,000	35,000
Axial spring stiffness bellows	(N/mm)		985	3000	4300	3900	2800
Lateral spring stiffness bellows	(KN/mm)		21	133	207	175	219

*drilling pattern between hub 1 and hub 2 not aligned as standard

ORDERING EXAMPLE	BX1	50	XX
Model	●		Special designation only (e.g. stainless steel hubs)
Size / torque rating (KNm)		●	

For custom features place an XX at the end of the part number and describe the special requirements (e.g. BX1 / 50 / XX)

BX4

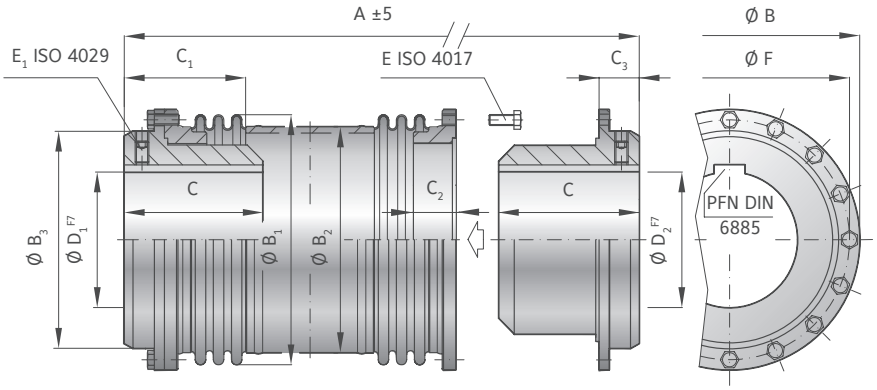
WITH SIMPLE KEYWAY MOUNTING
10,000 - 100,000 Nm

PROPERTIES

FEATURES
- compact, simple design
- high misalignment compensation
- integral support system (size 25 and up)

MATERIAL
- **Hubs:** steel
- **Bellows: highly** flexible high grade stainless steel

DESIGN
Both sides with removable coupling hubs, including keyway (splines optional)
Spacer between bellows
(optional variable length)
(size 10 without spacer)
welded bellows-hub connection



MODEL BX4 | SIZE 10 - 100

SIZE			10	25	50	75	100
Rated torque	(KNm)	T_{KN}	10	25	50	75	100
Maximum torque	(KNm)	T_{Kmax}	15	38	75	113	150
Overall length	(mm)	$A_{\pm 5}$	210	480	590	760	840
Outside diameter of flange	(mm)	B	310	336	398	449	545
Outside diameter of bellows ±2	(mm)	B_1	300	323	370	412	520
Outside diameter of tube	(mm)	B_2	–	273	324	360	460
Hub diameter	(mm)	B_3	255	260	310	350	440
Fit length	(mm)	C	95	130	200	240	280
Length ±3	(mm)	C_1	–	170	200	257	260
Hub length	(mm)	C_2	24	81	80	103	120
Distance	(mm)	C_3	42	49	70	90	100
Inside diameter possible from Ø to Ø F7	(mm)	D_1/D_2	50 - 170	60 - 170	80 - 200	100 - 230	120 - 280
Fastening screw ISO 4017 / Tightening torque	(Nm)	E	20 x M12 / 120	24 x M16 / 300	24 x M20 / 580	20 x M24 / 1000	24 x M24 / 1000
Fastening screw ISO 4029 / Tightening torque	(Nm)	E_1	M12 / 100	M16 / 220	M20 / 450	M24 / 800	M24 / 800
Bolt circle diameter ±0.4	(mm)	F	290	304	361	404	500
Moment of inertia	(10^{-3} kgm²)	$J_{ges.}$	492	1272	3270	6754	19350
Approximate weight	(kg)		44.7	85	164	260	477
Axial	± (mm)	Max. value	3	5	6	7	8
Lateral	± (mm)		0.4	2.2	2.5	3	3.5
Angular	± (degree)		1.5	1	1	1	1
Torsional stiffness coupling (10^3 Nm/rad)			20,000	9,000	15,500	23,000	35,000

MAXIMUM TRANSMITTABLE TORQUE OF KEYWAY CONNECTION

Data is in KNm. These values relate to metric DIN 6885 keyway dimensions with 100% contact through the hub.

Serie	Ø 60	Ø 80	Ø 100	Ø 120	Ø140	Ø 160	Ø 170	Ø 180	Ø 200	Ø 220	Ø 230	Ø 240	Ø 260	Ø 280
10	x	x	x	x	x	x	x	x	x	x	x	x	x	x
25	7	12	18	26	34	44	46	x	x	x	x	x	x	x
50	x	19	28	40	52	67	71	84	94	x	x	x	x	x
75	x	x	34	47	62	81	85	101	112	136	142	x	x	x
100	x	x	x	55	74	94	100	118	131	159	166	189	205	220

BX6

WITH REMOVABLE CONICAL CLAMPING RING HUB 10,000 - 100,000 Nm

PROPERTIES

FEATURES

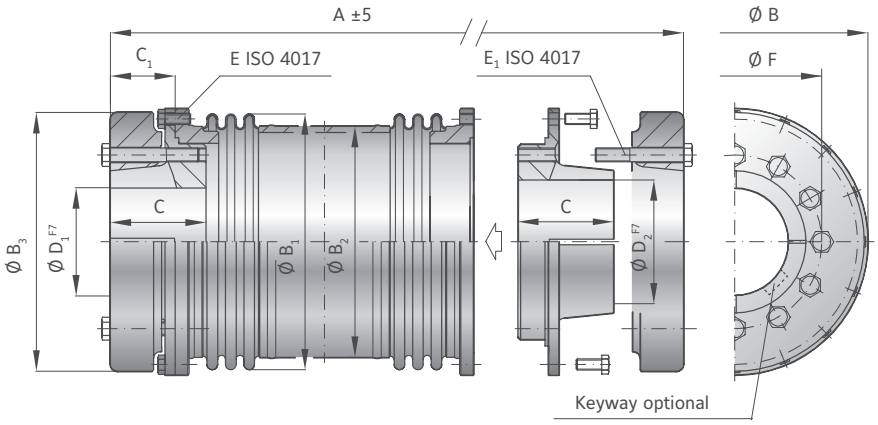
- **c**ompact, simple design
- high misalignment compensation
- integral support (size 25 and up)

MATERIAL

- **Hubs:** steel
- **Bellows:** highly flexible high grade stainless steel

DESIGN

Both sides with removable clamping hubs including conical clamping ring system.
Spacer between bellows
(optional variable length)
(size 10 without spacer)
welded bellows-hub connection



MODEL BX6 | SIZE 10 - 100

SIZE			10	25	50	75	100
Rated torque	(KNm)	T_{KN}	10	25	50	75	100
Maximum torque	(KNm)	T_{Kmax}	15	38	75	113	150
Overall length	(mm)	$A_{\pm 5}$	235	530	650	840	940
Outside diameter of flange	(mm)	B	310	336	398	449	545
Outside diameter of bellows ±2	(mm)	B_1	300	323	370	412	520
Outside diameter of tube	(mm)	B_2	–	273	324	360	460
Diameter of clamping ring	(mm)	B_3	300	310	380	420	530
Fit length	(mm)	C	90	110	140	170	200
Length	(mm)	C_1	55	74	99	130	150
Inside diameter possible from Ø to Ø F7	(mm)	D_1/D_2	70 - 170	80 - 170	100 - 200	130 - 230	150 - 280
Fastening screw ISO 4017 for mounting flange	(mm)	E	20 x M12	24 x M16	24 x M20	20 x M24	24 x M24
Tightening torque	(Nm)		120	300	580	1000	1000
Fastening screw ISO 4017 for conical clamping ring	(mm)	E_1	8 x M16	12 x M16	12 x M20	16 x M20	12 x M24
Tightening torque	(Nm)		200	250	300	350	600
Bolt circle diameter ±0.4	(mm)	F	210	220	250	290	360
Moment of inertia	(10^{-3} kgm²)	$J_{ges.}$	828	1535	3799	8277	24876
Approximate weight	(kg)		60	93	168	280	550
Axial	± (mm)	Max. value	3	5	6	7	8
Lateral	± (mm)		0.4	2.2	2.5	3	3.5
Angular	± (degree)		1.5	1	1	1	1
Torsional stiffness coupling	(10^3 Nm/rad)		20,000	9,000	15,500	23,000	35,000

ORDERING EXAMPLE	BX4 | BX6	50	120	200	XX
Model	●				Special designation only (e.g. stainless steel hubs)
Size / torque rating (KNm)		●			
Bore D1 F7			●		
Bore D2 F7				●	

For custom features place an XX at the end of the part number and describe the special requirements (e.g. BX4 / 50 / 117.48 / 127 / XX; XX = 700 mm overall length)