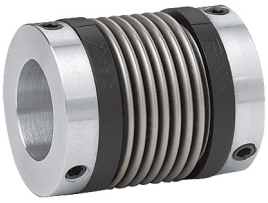
Metal Bellows Coupling

Accessories for torque sensors here model 8661

Model 8690

Code:	8690 EN
Delivery:	1 - 2 weeks
Warranty:	24 months



- **Rated torques 0 ... ± 0.05 Nm bis 0 ... ± 200 Nm**
- **Compact; easiest mounting for space restricted installation**
- **Backlash-free and torsionally rigid**
- **Wear and maintenance free**
- **Exact transmission of angular motion and torque**
- **Low restoring forces**
- **Suitable for dynamic and static application**

8690 EN

Application

Even after careful alignment of the shaft ends of the sensors with the shaft ends of the plant; slight axial, angular or lateral shift must be anticipated. These interfere with the measurement and can lead to damage on the sensor in the event of high speeds. Our 8690-type steel bellow couplings are particularly suitable to compensate for shift of the shaft caused by assembly and construction.

	Axial misalignment This is a change of length along the longitudinal axis from drive shaft to drive shaft.
	Angular misalignment This misalignment is the result of mechanically influenced offsets of both shafts.
	Lateral misalignment This is a parallel misalignment of both shafts.

Description

The 8690-type steel bellow coupling is fastened, using a clamping hub per torque transmission, to the sensor and plant shafts. (Further details of the clamping hubs can be found on page 2).

A stainless steel bellow transmits the torque between the clamping hubs without backlash. Through its highly elastic but stiff material properties, a lossless transfer of the torque transmission is guaranteed. Axial, angular and lateral shifts caused by assembly and construction are effectively compensated.

burster praezisionsmesstechnik gmbh & co kg Germany
Talstr. 1-5 · Gernsbach 76593 · Phone +49-7224-6450
www.burster.com
info@burster.com

Technical Data

		V0	V0	V1	V2	V3		V4		
Model 8690-		**4500**	**5002**	**5002**	**5002**	**5010**	**5030**	**5060**	**5150**	**5200**
Nominal torque* [Nm]		0.5	2			10	30	60	150	200
Bore sensor side [mm]	**D1 H7**	**5**	**5**	**6**	**8**	**15**	**15**	**26**		
Bore facility-side [mm]	**D2 H7**	**3-9**	**3-12**			**5-24**	**10-30**	**12-35**	**19-42**	**22-45**
Overall length [mm]	A	23	40			50	69	83	95	105
Outer diameter [mm]	B	15	25			40	55	66	81	90
Fitting length of hub [mm]	C	6.5	13			16	27	31	36	41
Screws ISO 4029 / 4762	E	M3	M3			M4	M6	M8	M10	M12
Tightening torque [Nm]	E3	1.3	2.3			4,5	15	40	70	120
Distance between centers [mm]	F	not applicable	8			15	19	23	27	31
Distance [mm]	G	2	4			5	7,5	9.5	11	12.5
Moment of inertia [gcm²]	J	1.2	27			160	1200	3200	19000	32000
Weight [g]		6	38			120	260	480	1850	2650
Torsional stiffness [Nm/rad]	Cr	210	1300			9050	39000	76000	175000	191000
Axial [±mm]	max. value	0.5	0.6			1	1	1.5	2	2
Lateral [±mm]	max. value	0.2	0.2			0.2	0.2	0.2	0.2	0.25
Angular [°]	max. value	1,5	1.5			1.5	1	1	1	1
Maximum speed** [min⁻¹]		20000	10000			10000	10000	10000	10000	10000
Overload protectio		briefly 150 % of nominal torque								
Material		hub: aluminium; bellows: stell							steel	

*further ranges on request, **higher speeds with balanced couplings on request

Assembly instructions

The couplings have two different attachment systems.

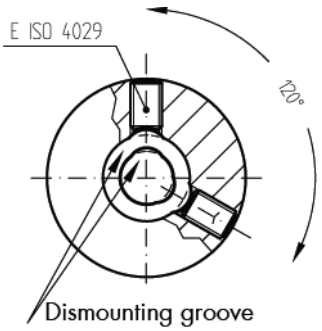
To rated torque 0.5 Nm:

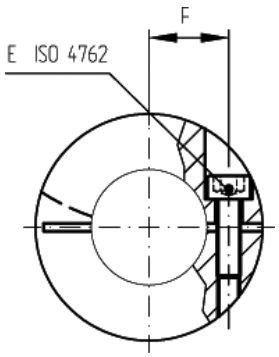
The coupling has two radial set screws (ISO 4029). The screws are forming an angle of 120°. The screws are arranged at an angle of 120° to each other and press directly on the shaft.

With integrated disassembly nut.

From rated torque 1 Nm:

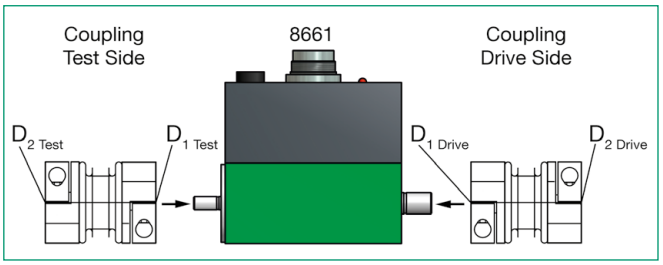
The connection between the shaft and coupling is made with a clamping hub. Only one radially arranged clamping screw (ISO 4762) needs to be tightened to fasten the coupling.



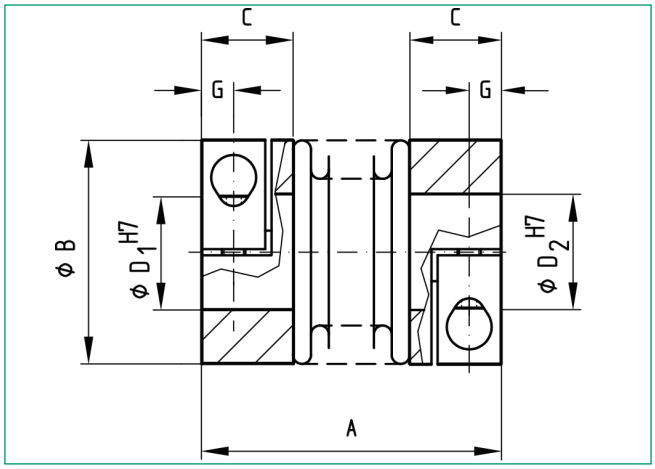


First install the coupling on the 'Test Side' of the sensor, second the coupling on the 'Drive Side' of the sensor.
Drive shaft and output shaft must be clean and free from burrs.
Choose a clearance fit for the fit of the hub. We recommend to choose it similar to our sensor shaft as g6. The shaft surface should have an average roughness in accordance with Rz 6.3 (DIN).
For the assembly and disassembly of the couplings a hexagon socket wrench (Allen key) is usually sufficient.

Installation Example



Dimensional drawing



Order Code

Metal bellows coupling Model 8690-XXXX-V ☐☐☐☐

Bore sensor-side diameter D1

Diameter	5 mm	0
Diameter	6 mm	1
Diameter	8 mm	2
Diameter	15 mm	3
Diameter	26 mm	4

Bore facility-side diameter D2 [mm]

Select diameter from the appropriate range in the table, specify two digits in mm ——— [mm]

without keyway	0
with keyway acc. DIN 6885	1

Ordering example

Metal bellows coupling, nominal torque 10 Nm,
D1 = 15 mm, D2 = 14 mm **8690-5010-V3141**

Metal bellows coupling **8690** - **5010** **-V** **3** **14** **1**

- Model
- Nominal torque
- Diameter bore sensor-side D1
- Diameter bore facility-side D2 [mm]
- with keyway acc. DIN 6885

burster praezisionsmesstechnik gmbh & co kg Germany
Talstr. 1-5 · Gernsbach 76593 · Phone +49-7224-6450
www.burster.com
info@burster.com

2561-008690EN-5699-031520