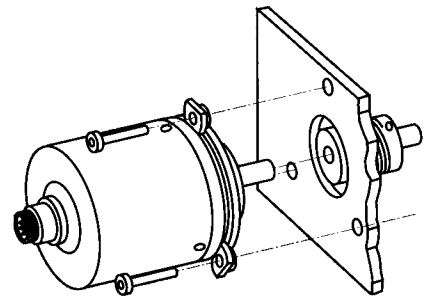


Accessories

Shaft encoders

Couplings for shaft encoders

When selecting the correct coupling for measurement applications, the torsional stiffness of the coupling is important. Other selection criteria are various ambient conditions, such as temperature, corrosive media, mechanical misalignment and operating modes. It should also be ensured that no harmful natural resonances can be transmitted from the application.



Selection by coupling torque

The torque applied is obtained from:

$$M_k = M_{max} * K * JK$$

- M_k = coupling torque in Nm
- M_{max} = accelerating torque of the drive
- K = load factor, for servomotors in reversing operation $\rightarrow K = 2 \dots 3$
- JK = mass moment of inertia of the hollow shaft and coupling $kg \cdot m^2$

Selection by torsional stiffness

The transmission error due to elastic deformation of the flexible part is obtained from:

$$f_i = (180 / \pi) * (M_k / C_t)$$

- f_i = angle of rotation in degrees
- C_t = torsional stiffness in Nm/rad
- M_k = coupling torque in Nm

Installation notes

The power transmission between coupling and shaft is effected by means of frictional locking between contact surfaces.

Before installation, check that the shaft misalignment is within permissible limits. Excessive misalignment will impair the service life of the coupling.

Precautions must be taken to ensure equal tightening of the mounting screws.

Axial misalignment ΔA

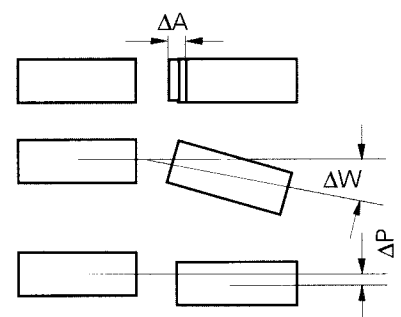
Produces tension or pressure with single piece couplings. Split couplings can compensate for this error.

Angular misalignment ΔW

Produces flexure of the flexible coupling section and leads to alternating tensile and compressive loads.

Parallel misalignment ΔP

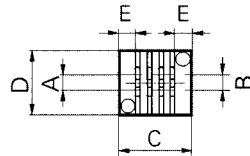
With rigid couplings, high restoring forces occur, which have a harmful effect on the ball bearings.



Accessories

Shaft encoders

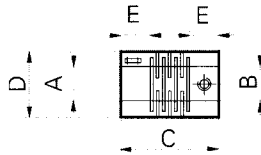
Slit coupling aluminum



part nr.	107671	107670	
mm			
ø	4...6	6...12	
A	6	6	
B	5	6	
C	16,6	28	
D	18	25	
E	6	8	

max. rated torque	(Nm)	1	5	
axial axis misalignment	(mm)	≤0,1	≤0,2	
parallel axis misalignment	(mm)	≤0,1	≤0,2	
angular axis misalignment	(°)	≤1,5	≤2	
torsional stiffness	(Nm/rad)	200	3400	
moment of inertia	(kgm ² *10E-7)	3	15	

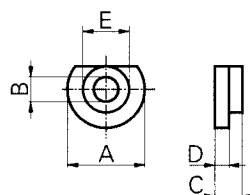
Slit coupling polyamid



part nr.	115110		
mm			
ø	6		
A	ø6		
B	ø6		
C	20,2		
D	ø15		
E	6		

max. rated torque	(Nm)	0,2		
axial axis misalignment	(mm)	±0,2		
parallel axis misalignment	(mm)	±0,3		
angular axis misalignment	(°)	±2,5		
torsional stiffness	(Nm/rad)	15		
moment of inertia	(kgm ² *10E-7)	0,5		

Clamps



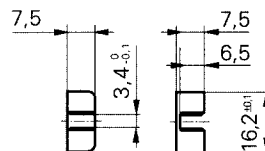
for encoder part nr.	BDK 106004	BDA BB55S
dim. øA	10	15
øB	3,2	4,2
C	3,8	5,4
D	2	2,6
øE	6	9,5

order unit: 3 pieces

Accessories

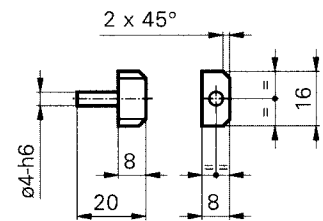
Hollow shaft encoders

torque spring



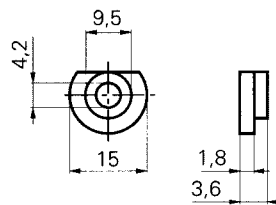
part nr. 109520

torque pin



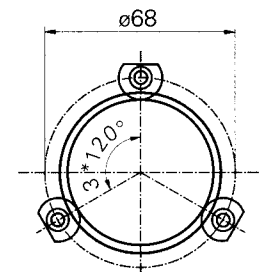
part nr. 107540

clamp



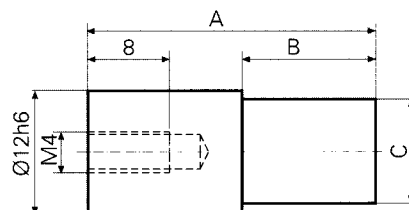
part nr. 110616

mounting clamp



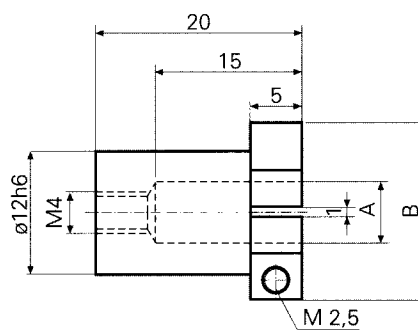
for encoder types BHF, BFF

shaft adapter



part nr.	110844	110843
dimensions	shaft 12/6	shaft 12/10
A	25 mm	34 mm
B	10 mm	19 mm
C	6 h7	10 h7

reducing shaft



part nr.	112322	110574
dimension	shaft 12/8	shaft 12/6
A	8 h7	6 h7
B	19,5 h7	16 h8