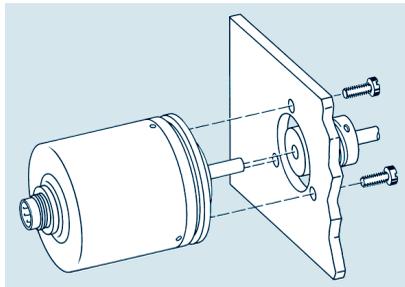


Mounting instructions

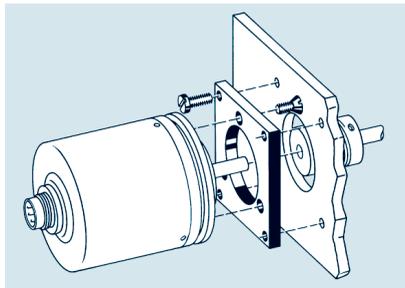
Shaft encoders

Mounting



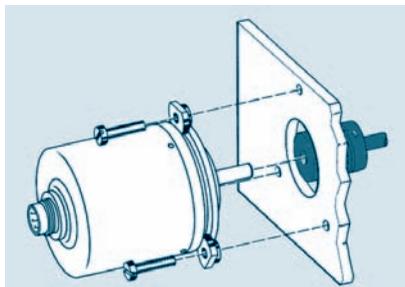
...by screw fastening directly onto the encoder flange

All shaft encoders may be mounted in this way.



...by screw fastening onto a mounting adapter

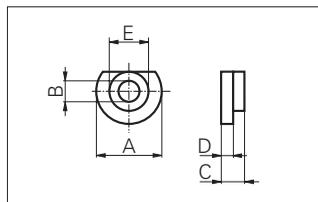
All collar type encoders may be mounted in this way.



...with servo clamps

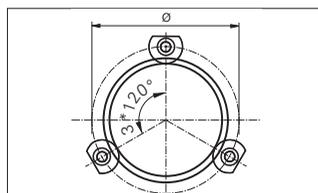
With this type of mounting the installed encoder can be turned so as to set the encoders reference pulse (marker pulse) to the drive shaft mechanical zero position. Clamp options are shown in the accessories section.

Clamp set



part nr.	106004	252773	117668	
dimensions	ø A	10	15	14
	ø B	3,2	4,2	4,3
	C	3,8	5,4	6,5
	D	2	2,6	2,75
	ø E	6	9,5	9

Mounting clamps

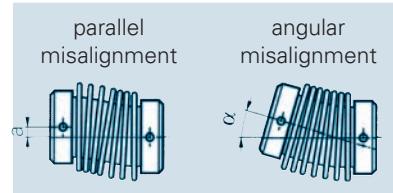


encoder	part nr.	ø
BDK	106004	37
BDT, BMSV, BMMV, BRIV	252773	68
BHW	252773	90
BMA, BMB, BMC, BMD, BME, BMF, BPMV58S, BPSV58S	117668	68

Shaft connections

Each shaft encoder can be easily fastened to the drive shaft by means of a flexible coupling. The purpose of this coupling is to transmit rotary movement to the encoder without torsional error. Small inaccuracies in alignment are equalized by parallel or angular compensation (see drawing). Different styles for various applications are available. A selection guide with specifications is shown under the accessories section.

In the choice of the correct coupling for measurement tasks, the torsional stiffness of the coupling is decisive. Other



selection criteria are various environmental effects, such as temperature, aggressive media, mechanical misalignment and operating modes. Also, care should be taken that no damaging natural resonances can occur in the relevant application.

Axial misalignment ΔA

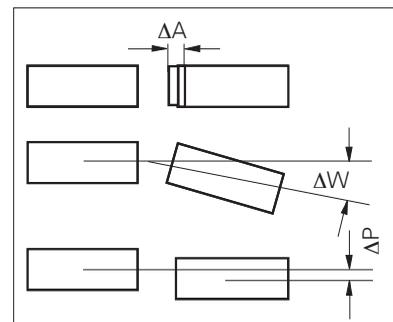
Produces tension or pressure with single piece couplings. Split couplings can compensate for this error.

Angular misalignment ΔW

Produces bending 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.



Installation notes

The power transmission between coupling and shaft is effected by means of frictional locking between contact surfaces. Precautions must be taken to ensure equal tightening of the mounting screws.

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

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 $kg\ m^2$

Selection by torsional stiffness

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

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

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