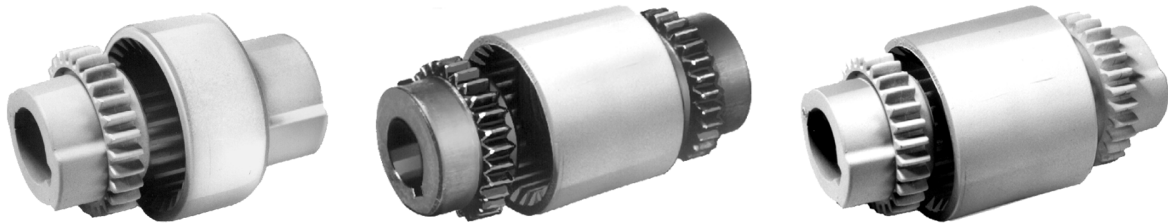




## Operating and maintenance instructions

### Curved-tooth gear couplings

#### BW, BOS and BOZ



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Curved-tooth gear couplings BW, BOS and BOZ are flexible shaft connections. They are able to compensate for shaft displacement caused by, as an example, inaccuracies in production, heat expansion, etc.

### General Hints

Please read through these mounting instructions carefully before you set the coupling into operation. Please pay special attention to the safety instructions!

The mounting instructions are part of your product. Please keep them carefully and close to the coupling.

### Safety and Advice Hints



**DANGER !**

**Danger of injury to persons.**



**CAUTION !**

**Damages on the machine possible.**



**ATTENTION !**

**Pointing to important items.**

### General Hints to Danger



**DANGER !**

**With assembly, operation and maintenance of the coupling it has to be made sure that the entire drive train is protected against unintentional engagement. You can be seriously hurt by rotating parts. Please make absolutely sure to read through and observe the following safety instructions.**

- All operations on and with the coupling have to be performed taking into account "safety first".
- Please make sure to disengage the power pack before you perform your work.
- Protect the power pack against unintentional engagement, e. g. by providing hints at the place of engagement or removing the fuse for current supply.
- Do not touch the operation area of the coupling as long as it is in operation.
- Please protect the coupling against unintentional touch. Please provide for the necessary protection devices and caps.

### Proper Use

You may only assemble, operate and maintain the coupling if you

- have carefully read through the mounting instructions and understood them
- and if you are authorized and have proper skills

The coupling may only be used in accordance with the technical data .Unauthorized modifications on the coupling design are not admissible. We do not take any warranty for resulting damages. To further develop the product we reserve the right for technical modifications.

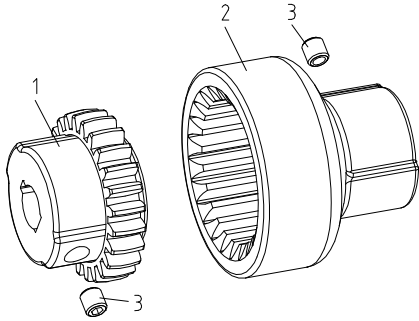
The **Couplings BW, BOS and BOZ** described in here corresponds to the technical status at the time of printing of these mounting instructions.

The coupling is supplied in individual parts. Before starting with the assembly, please review whether the coupling is complete.

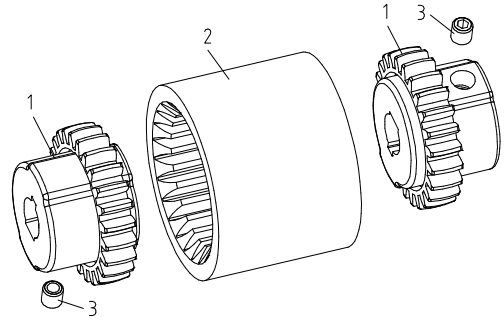
**Design from nylon**

**Components of Coupling BW** | **Components of Coupling BOZ**

Component	Quantity	Designation	Component	Quantity	Designation
1	1	hub	1	2	hub
2	1	plug-in sleeve	2	1	sleeve
3	2	setscrew DIN 916	3	2	setscrew DIN 916



picture 1: Coupling BW



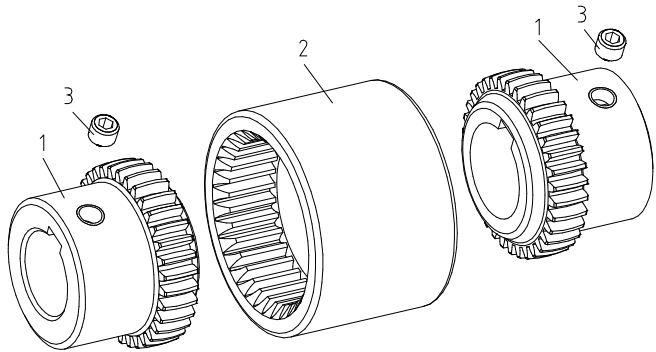
picture 2: Coupling BOZ

Thread for setscrews	
thread	M5
tightening torque $T_A$ [Nm]	1,4

**Design from steel/nylon**

**Components Coupling BOS**

Component	Quantity	Designation
1	1	hub
2	1	M-sleeve
3	2	setscrew DIN 916



picture 3: Coupling BOS

Thread for setscrews	
thread	M5
tightening torque $T_A$ [Nm]	2

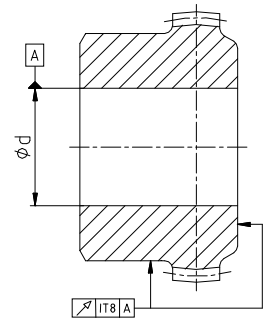
## Mounting Hint



### DANGER !

The maximum permissible bore diameters  $d_{1max}$  and  $d_{2max}$  must not be exceeded. If these figures are disregarded, the coupling may tear. Rotating particles may cause serious danger.

- Hub bores (steel hubs) machined by the customer have to observe concentric running or axial running, respectively (see picture 5).
- Please make absolutely sure to observe the figures for  $d_{1max}$  and  $d_{2max}$ .
- Carefully align the hubs when the finish bore is brought in.



picture 5: concentric running and axial running

## Assembly of the hubs

Heating the hubs slightly (approx. 80 °C) allows for an easier installation onto the shaft.



### DANGER !

Touching the heated hubs causes burns. We would recommend to wear safety gloves.

## Axial alignment



### ATTENTION !

For the assembly please make sure that the distance dimension E (table 1) is kept to make sure that the coupling sleeve can be moved axially.

- Assemble the hubs onto the shaft of driving and driven side.
- Move the power packs in axial direction until the dimension E is achieved.
- If the power packs are already firmly assembled, axial movement of the hubs on the shafts allows for adjusting the dimension E.
- Fasten the hubs by tightening the setscrews DIN 916 with cup point.

## Displacements

The displacement figures shown in tables 1 and 2 offer sufficient safety to compensate for environmental influences like, for example, heat expansion or lowering of foundation.



### ATTENTION !

In order to ensure a long lifetime of the coupling, the shaft ends have to be aligned accurately. Please absolutely observe the displacement figures indicated (see tables 1 and 2). If the figures are exceeded, the coupling is damaged.

### Please note:

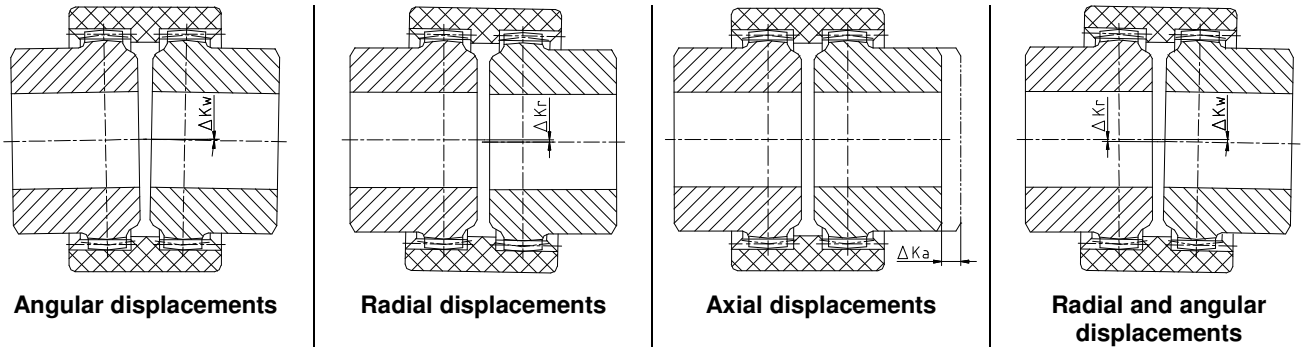
- The displacement figures mentioned in tables 1 and 2 are maximum figures which must not arise in parallel. If radial and angular displacement arises at the same time, the permissible radial displacements of the coupling halves have to be reduced as follows:

$$\Delta K r_{perm} = \Delta K r - \frac{\Delta K r}{2 \Delta K w} \cdot \Delta W w$$

$\Delta W w$  = angular shaft displacement

- The displacement figures mentioned are general figures that apply up to an ambient temperature of 80 °C, ensuring a sufficient service life of the coupling. Displacement figures between the speeds indicated have to be interpolated accordingly. If necessary, please ask about the displacement for the corresponding coupling type.
- Please check with a dial gauge, ruler or feeler whether the permissible displacement figures of tables 1 and 2 can be observed.

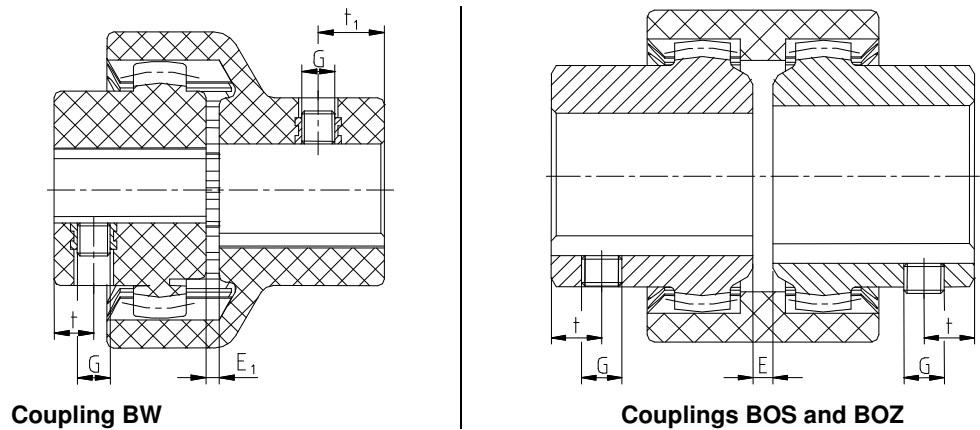
## Displacements



picture 6: displacements

## Technical data

Threads for setscrews  
opposite to the keyway



picture 7: dimensions

**Table 1:**

Coupling type	14	19	24
Displacements for coupling BW			
max. axial displacement $\Delta K_a$ [mm]	$\pm 1$	$\pm 1$	$\pm 1$
max. radial displacement with $n = 1500$ 1/min $\Delta K_r$ [mm]	0,1	0,1	0,1
max. radial displacement with $n = 3000$ 1/min $\Delta K_r$ [mm]	0,1	0,1	0,1
$\Delta K_w$ [degree] max. angular displacement with $n = 1500$ 1/min	1,0	1,0	0,9
$\Delta K_w$ [degree] max. angular displacement with $n = 3000$ 1/min	0,7	0,7	0,6

**Table 2:**

Coupling type	14	19	24
Installation dimensions			
Distance dimension $E / E_1$	4 / 2	4 / 2	4 / 2
Thread for setscrews			
Dimension $G$	M5	M5	M5
Dimension $t / t_1$	6 / 8	6 / 10	6 / 10
Displacements for couplings BOS and BOZ			
max. axial displacement $\Delta K_a$ [mm]	$\pm 1$	$\pm 1$	$\pm 1$
max. radial displacement with $n = 1500$ 1/min $\Delta K_r$ [mm]	0,30	0,30	0,35
max. radial displacement with $n = 3000$ 1/min $\Delta K_r$ [mm]	0,20	0,20	0,23
$\Delta K_w$ [degree] max. angular displacement with $n = 1500$ 1/min	1,0	1,0	0,9
$\Delta K_w$ [degree] max. angular displacement with $n = 3000$ 1/min	0,7	0,7	0,6