

## CENTAFLEX-X

Assembly and operating instructions

008X-00001...00090-GZ..

M008-00098-EN

Rev. 1



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## **1 General remarks**

These assembly and operating instructions form a constituent part of the coupling delivery and must be kept in an easily accessible place at all times.

CENTA products are developed and produced to quality standard DIN EN ISO 9001:2000.

In the interests of further development, CENTA reserves the right to make technical changes.



### **IMPORTANT**

CENTA is unable to accept liability for damage and operating faults caused by failure to observe the operating instructions.

These operating instructions are protected under copyright to CENTA Antriebe Kirschey GmbH.

In case of technical questions, please enquire with our head office:

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## 2 Safety

The purpose of these operating instructions is to enable users to:

- use the coupling safely and correctly
- maximize efficiency
- ensure that care and maintenance are carried out correctly

For this reason, these operating instructions must be thoroughly read and understood prior to work on and with the coupling.

### WARNING

**Injury and material damage can occur as a result of:**

- Failure to adhere to the safety and accident prevention regulations valid at the relevant installation site

The safety and accident prevention regulations valid at the installation site in question must be adhered to when performing any of the tasks described in these operating instructions.

### 2.1 Safety remarks

In these operating instructions, safety remarks are indicated by a pictogram and a signal word.

#### 2.1.1 Signal words

The following signal words are used in the safety remarks:

**DANGER** Denotes the immediate threat of danger.  
If not prevented, fatal or extremely serious injuries can result.

**WARNING** Denotes a potentially dangerous situation.  
If not prevented, fatal or extremely serious injuries can result.

**CAUTION** Denotes a potentially dangerous situation.  
If not prevented, minor injuries and/damage to property may result.

**IMPORTANT** Denotes application tips and particularly useful information. This is not a signal word denoting a dangerous or damaging situation.

### 2.1.2 Pictograms

Possible pictograms in the safety precautions:



Warning of a hazardous area



Do not switch




Use protective gloves




Use protective goggles

### 2.2 Qualification of deployed personnel

All the work described in these operating instructions may only be performed by authorized persons with adequate training and instruction.

<b>WARNING</b>	
	<p><b>Injury and material damage can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Work at the coupling which is not described in these instructions</li> </ul> <p>Only carry out work which is described in these operating instructions.</p>

### 2.3 Intended application

<b>WARNING</b>	
	<p><b>Injury and material damage can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Application not in compliance with the intended use</li> </ul> <p>The couplings are intended exclusively for use in accordance with the relevant design. They may only be used under the specified conditions.</p>

**WARNING**



**Injuries can occur as a result of:**

- Contact with rotating parts

Shield the coupling in accordance with the applicable accident prevention regulations with an enclosure.

**Exception:**

The coupling is encased by the driving and driven units.

**The scope of delivery provided by CENTA does not include a protective enclosure.**

This enclosure must fulfil the following criteria:

- Provide protection against persons gaining access to rotating parts
- Restrain any rotating parts which may be work loose
- Guarantee sufficient ventilation for the coupling

This enclosure must be made of stable steel components. In order to ensure adequate ventilation for the coupling, the enclosure must be fitted with regular openings. For safety reasons, these openings must not exceed the dimensions outlined in table 2-1.

<b>Component</b>	<b>Circular openings [mm]</b>	<b>Rectangular openings [mm]</b>
Top of the enclosure	Ø 8	□ 8
Side elements of the enclosure	Ø 8	□ 8


*Table 2-1 Shape and size of ventilation holes*

The enclosures must be positioned a minimum of 15 mm distant from rotating parts. The enclosure must be electrically conductive and be included in the equipotential bonding.

Before commencing long-term operation, the plant must successfully complete a test run.



**2.4 Application not in compliance with the intended use**

<b>WARNING</b>	
	<p><b>Injury and material damage can occur as a result of:</b></p> <ul style="list-style-type: none"><li>▪ Inadmissibly high torque</li><li>▪ Inadmissibly high or low speeds</li><li>▪ Exceeding the specified ambient temperature</li><li>▪ Inadmissible ambient medium</li><li>▪ Inadmissible coupling enclosure</li><li>▪ Exceeding the admissible overall misalignment values</li></ul> <p>Only use the coupling for the specified application.</p>

CENTA bears no liability for damage resulting from application not in compliance with the intended use of the equipment.

Should there be a change of plant parameters, the coupling design must be reviewed by CENTA (address see chapter 1).



### 3 Delivery, transport, storage and disposal

#### 3.1 Delivery

After delivery, the coupling:

- must be checked for completeness and correctness of the delivery.
- must be examined for possible transport damage (which must be reported immediately to the carrier).


#### 3.2 Transport

<b>CAUTION</b>	
	<p><b>Injury and material damage can occur as a result of:</b></p> <ul style="list-style-type: none"><li>▪ Incorrect transportation of couplings</li></ul> <p>Ensure that the coupling is correctly transported.</p>
<b>CAUTION</b>	
	<p><b>Material damage to coupling components can occur as a result of:</b></p> <ul style="list-style-type: none"><li>▪ Contact with sharp-edged objects</li></ul> <p>Protect coupling components for transportation. Only hoist coupling components with nylon belts or ropes. Always cushion parts when supporting them from below.</p>

Following transportation damage:

- Check the coupling carefully for damage.
- Consult the manufacturer (Address see chapter 1).

### 3.3 Storage

<b>CAUTION</b>	
	<p><b>Material damage to elastic elements and rubber parts can occur as a result of:</b></p> <ul style="list-style-type: none"><li>▪ Incorrect storage</li></ul> <p>These parts must be stored laid flat and so they cannot distort, and protected from ozone, heat, light, moisture and solvents.</p>

#### 3.3.1 Storage location

Requirements imposed on the storage location:


- Moderately ventilated and low in dust
- Dry (max. 65% humidity)
- Temperature stabilized (-10°C to +25°C)
- Free of ozone-producing devices such as light sources and electric motors
- Free of UV light sources and direct sunlight
- Do not store solvents and disinfectants, fuels or lubricants, acids, chemicals etc. in the same location

For more details, refer to DIN 7716.

#### 3.3.2 Storage of couplings / flexible elements

- Unpack the parts.
- Check the packaging for damage. Replace if necessary.
- Check that the wax protection on steel components is intact. If necessary, patch or renew.
- Package the parts (for prolonged periods of storage, enclose desiccant and weld into film).
- Place the parts into storage.

### 3.4 Disposal

<b>RECYCLING</b>	
	<p>Ensure safe, environmentally responsible disposal of operating supplies and exchange parts. For this, locally provided recycling facilities and regulations must be utilized.</p>

For disposal, the coupling parts must be separated where possible and sorted according to material type.

## **4 Technical description**

### **4.1 Characteristics**

A special feature of the design type X is the slender element made of a newly developed extremely tough and highly stressable plastic. This element is torsionally very stiff, free from play, but has bending elasticity and is flexible in angular and axial directions. Moreover, it is oil resistant and withstands temperatures up to 150°C.

- Simple, compact, smooth-face design
- Low weight, low inertia
- High performance, high permissible speed, large permissible bores, rupture-proof
- The torque is transmitted absolutely evenly and free from play
- The coupling has low maintenance
- The element is airflushed all around, the heat generated is easily conducted away and it remains cool
- The elements can be dismantled transversely without any axial displacement
- By slackening the axial screws, the driven can easily be disconnected and rotated without dismantling
- No axial reaction forces are imposed on the shafts and bearings as a result of the transmission of torque

The radial bushes are firmly injection moulded into the element. The axial bushes are available in 2 versions:

#### **Standard design X:**

- The axial bushes are firmly pressed into the element, which makes this design axially movable only within close limits, namely within the limits of the elasticity of the element. This coupling can transmit axial forces.

#### **Design X-S:**

- The axial bushes are free to slide axially in the element. The design type X-S therefore is axially freely movable, it is a plug-in type and free from axial forces, provided there is axial play. It is used for fitting in closed housings where blind fitting is necessary and especially where greater axial movement is required.

### **4.2 Specifications**

The specifications can be found in the catalogue and the dimensions in the installation drawing.

## 5 Alignment of the units being connected



### **IMPORTANT**

- Align the units during the assembly.
- Align the units that are to be connected as accurately as possible. In this way, a long service life for the coupling and maximum operating misalignment values can be achieved.  
The overall misalignment is composed of the misalignment and the operating misalignment. The permissible overall misalignment values can be found in the corresponding catalogue and must not be exceeded.
- All permissible alignment tolerances apply to arrangements at operating temperatures.  
If the arrangement would be aligned at a different temperature, there would be additional deviations in the arrangement, which were produced by the difference between the aligning and operating temperature.  
For alignment, this has to be taken into account.
- After completion of assembly, check the alignment of the coupling again and if necessary correct.

### 5.1 Axial alignment

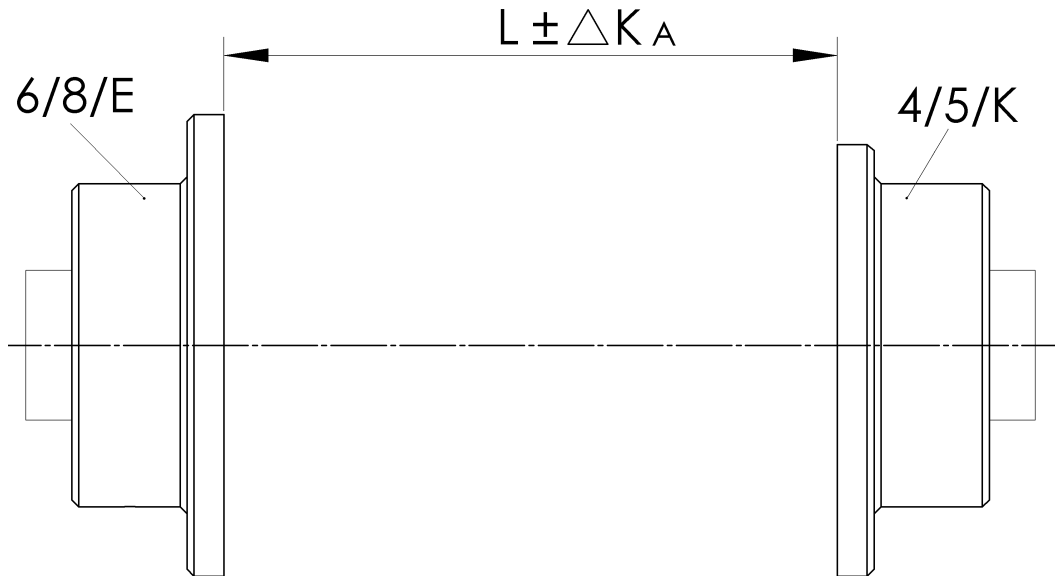


Fig. 5-1 Axial misalignment

Item	Info	Designation	Remark
4/6		Hub	
5/8		Adapter	
E/K		Hub	Customer part

Determine the axial misalignment (see Fig. 5-1).

- Take installation length  $L$  from the installation drawing.
- Align the units (installation dimension =  $L \pm \Delta K_{A \max}$ ).

Permissible axial alignment tolerance:

$\Delta K_{A \max} = 0.3 \text{ mm}$

## 5.2 Radial alignment

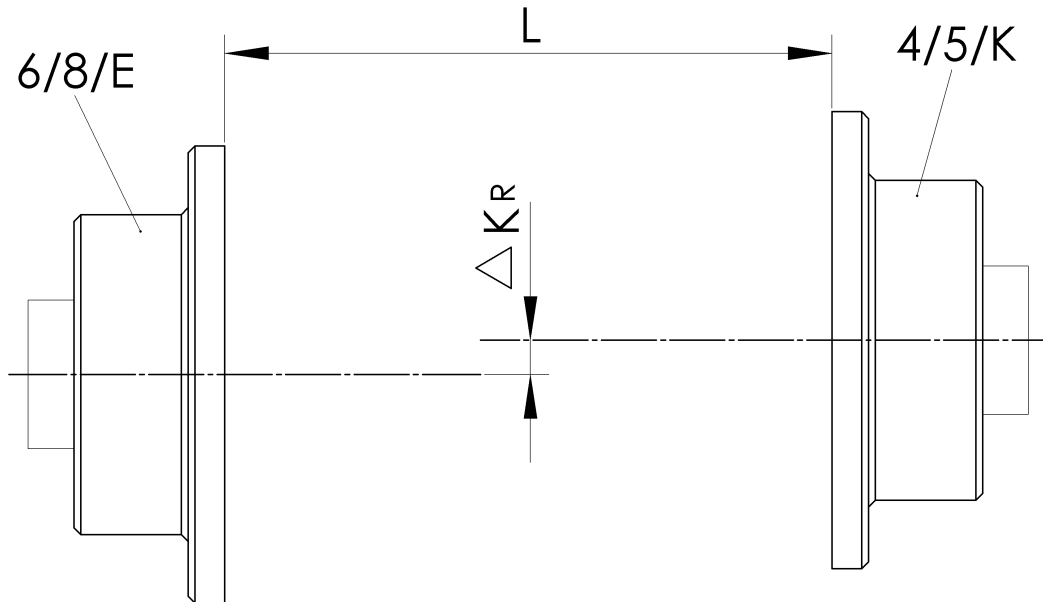


Fig. 5-2 Radial alignment

Item	Info	Designation	Remark
4/6		Hub	
5/8		Adapter	
E/K		Hub	Customer part

Determine the radial misalignment (see Fig. 5-2).

- Take installation length **L** from the installation drawing.
- Align the units (calculated deviation  $\leq \Delta K_{R \max}$ ).

The permissible radial alignment tolerance  $\Delta K_{R \max}$  can be found in the following table.



<b>Overall length L [mm]</b>	<b>Max. <math>\Delta K_R</math> [mm]</b>
100 - 200	0.08
200 - 400	0.17
400 - 600	0.35
600 - 800	0.52
800 - 1000	0.70
1000 - 1200	0.87
1200 - 1400	1.05
1400 - 1600	1.22
1600 - 1800	1.40
1800 - 2000	1.57
2000 - 2200	1.75
2200 - 2400	1.92
2400 - 2600	2.09
2600 - 2800	2.27
2800 - 3000	2.44

*Table 5-1 Permissible radial alignment tolerance*



### 5.3 Angular alignment

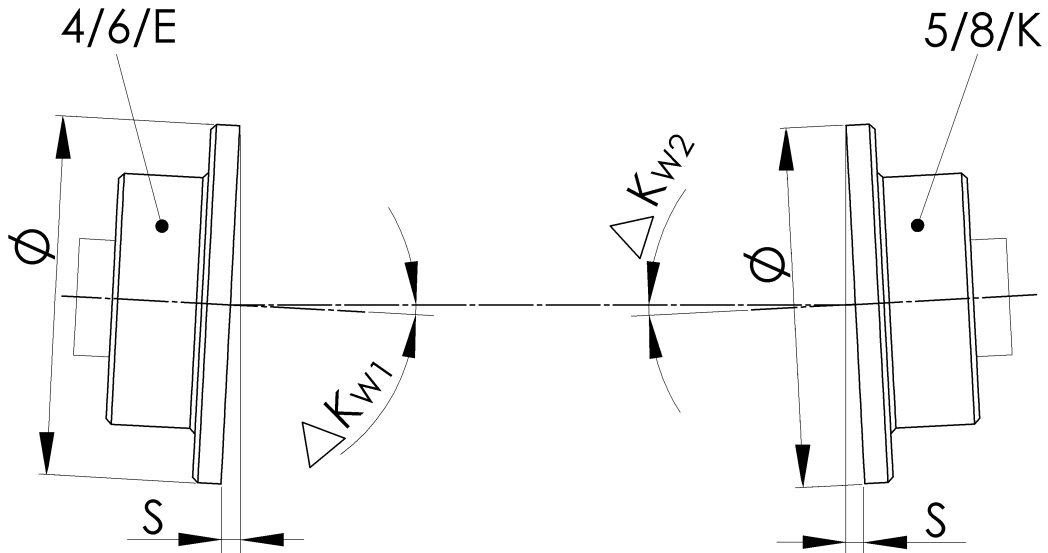


Fig. 5-3 Angular misalignment

Item	Info	Designation	Remark
4/6		Hub	
5/8		Adapter	
E/K		Hub	Customer part

Permissible angular alignment tolerance:

$$\Delta K_{W \max} = \pm 0.1^\circ$$

The angular deviation must be checked individually at every flange and the biggest angle in each case must not exceed the admissible value for  $\Delta K_w$ .

$\Delta K_w$  can be checked with the dimension  $S$ .

According to the previous figure the dimension

$$S \leq 0.0017 \cdot \varnothing$$

must not be exceeded.

## 6 Mounting

### 6.1 General assembly instructions

Any work method which impairs the safety of the coupling is prohibited.  
The user undertakes to notify the manufacturer immediately of any changes occurring at the coupling which could impair safety (address see chapter 1).

#### WARNING

**Injuries can occur as a result of:**

- Contact with rotating parts

Before starting work at the coupling, switch off the plant and secure against unintentional start-up.

#### WARNING

**Injury and material damage can occur as a result of:**

- Assembly of the coupling in the wrong sequence

Only ever assemble the coupling in the described sequence.

#### WARNING

**Injury and material damage can occur as a result of:**

- Falling coupling components

Secure coupling components against falling to the floor.

#### CAUTION

**Material damage to coupling components can occur as a result of:**

- Contact with sharp-edged objects

Protect coupling components for transportation.

Only hoist coupling components with nylon belts or ropes.

Always cushion parts when supporting them from below.

#### CAUTION

**Material damage can occur as a result of:**

- Soiled joint surfaces

The surfaces that are to be joined must be free of dirt, preservatives and lubricants.

 **IMPORTANT**

- Use suitable lifting devices for assembly.
- Elements for connection of the coupling to customer components do not form part of the delivery.
- Part illustration and marking may differ slightly from installation drawing and delivery state.

 **IMPORTANT**

Use exclusively **new** screws supplied by CENTA.  
These are coated with microencapsulated adhesive which serves as a screw locking medium.

 **IMPORTANT**

To ensure optimum screw locking, after tightening the curing time for the microencapsulated adhesive must be observed:

- Appr. 4-5 hours at room temperature (20°C)
- Higher temperatures will accelerate the curing time (e.g. 15 minutes at 70°C created by a hot air blower)

After 24 hours, the adhesive is completely cured.

**WARNING****Injuries and material damages can occur by:**

- Loosening adjustment screws (For fastening the hub/flange hubs)  
Lock adjustment screw with Loctite.

## 6.2 Mounting the hub with cylindrical bore and keyway

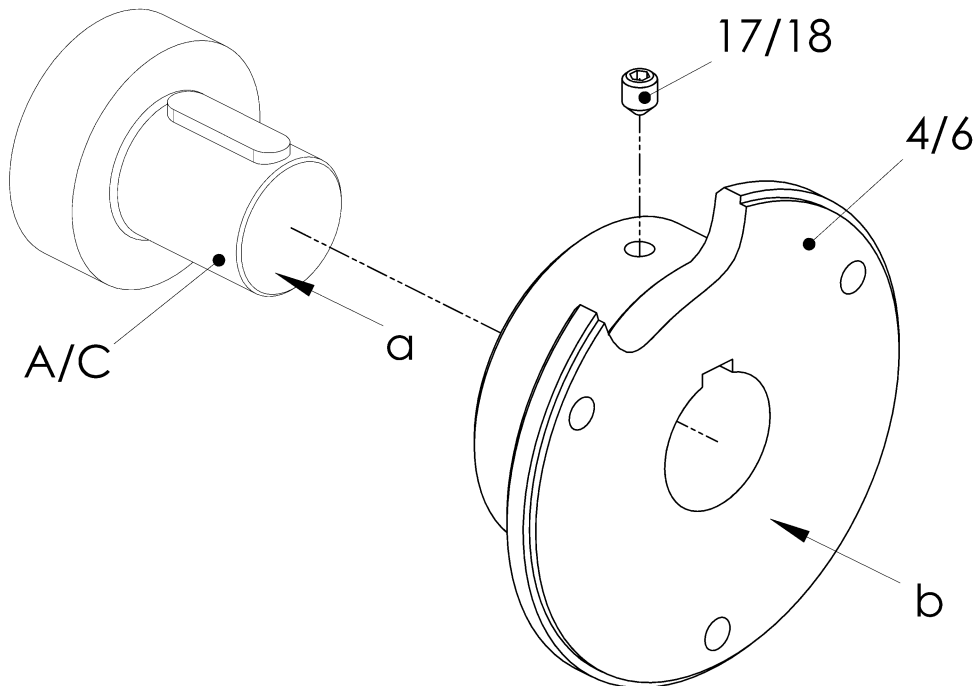


Fig. 6-1 Mounting the hub with cylindrical bore and keyway

Item	Info	Designation	Remark
4/6		Hub	
17/18		Threaded pin	See installation drawing
A/C		Shaft	Customer part
	a	Face of shaft	
	b	Face of hub	

### CAUTION



#### Material damage can occur as a result of:

- Incorrect heating of the hubs/flange hubs

Heat the hubs/flange hubs steadily in a fan oven, on an electric hot plate, either inductive or with a flame (ring burner).

### CAUTION



#### Injuries can occur as a result of:

- Hot coupling components

Use suitable protective gloves.

- Unscrew the threaded pin (17/18; if existing) out of the hub (4/6) and store temporarily.
- Warm the hub (4/6) to a temperature of 80° - 100°C.
- Push the hub (4/6) onto the shaft with feather key (A/C).


**IMPORTANT**

The face of the shaft must not protrude to the face of the hub / flange hub. Otherwise the operation of the coupling is not guaranteed.

**CAUTION**

**Material damage can occur as a result of:**

- Hot hubs/flange hubs
- Before further mounting of hubs/flange hubs, allow them to cool to ambient temperature.

- Secure the hub (4/6) using the threaded pin (17/18; if existing).  
Threaded pin: Size acc. to installation drawing  
Tightening torque see table below.

Threaded pin	M6	M8	M10	M12	M14	M16	M20
Tightening torque [Nm]	7	16	30	50	70	120	200

*Table 6-1 Tightening torques for threaded pins*

### 6.3 Aligning the units

- Align the units to be connected (see chapter 5).

### 6.4 Mounting the tube, the elastic elements and the adapter assemblies

- Mount the tube, the elastic elements and the adapter assemblies as appropriate for the type supplied. The type supplied is shown in the installation drawing.
  - Type with **axial socket head cap screws** (10), see chapter 6.5
  - Type with **axial hexagon head cap screws and bushes** (10, 15), see chapter 6.6

## 6.5 Mounting the tube, the elastic elements and the adapter assemblies (Type with axial socket hexagon head cap screws)

### 6.5.1 Positioning the elastic elements and the adapter assemblies

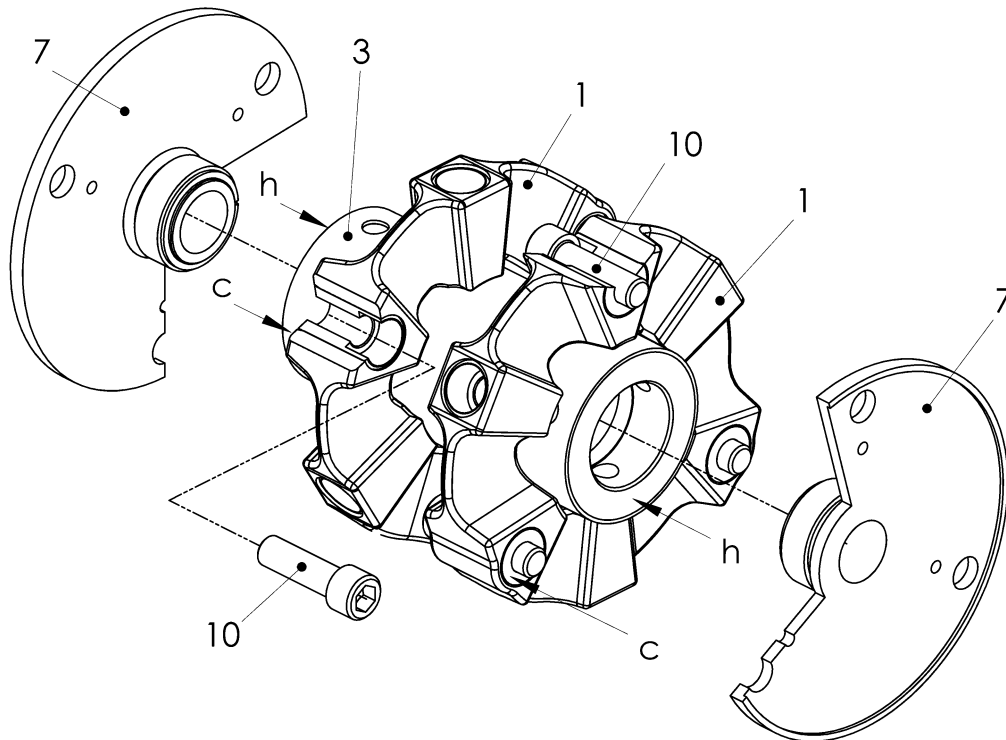
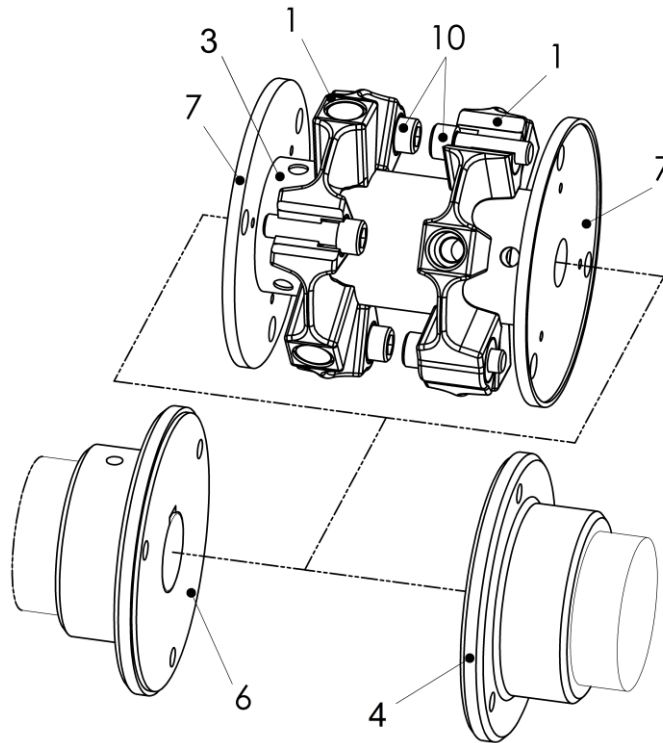


Fig. 6-2 Positioning the elastic elements and the adapter assemblies

Item	Info	Designation	Remark
1		Elastic element	
3		Tube	
7		Adapter assembly	Pre-mounted by CENTA
10		Screw ISO4762-8.8-IP	
	c	Contact surface of the elastic element	
	h	Face of the tube	

- Push the screws (10) into the first elastic element (1).
- Push the elastic element (1) onto the middle of the tube (3).  
The contact surfaces (c) of the elastic elements (1) have to point to the same side as the face (h) of the tube (3).
- Push the adapter assembly (7) up to the stop into the centring of the tube (3).
- Repeat the mounting section described above to fit the second elastic element (1) and the second adapter assembly (7).

**6.5.2 Positioning the tube with the elastic elements and the adapter assemblies in the installation space**

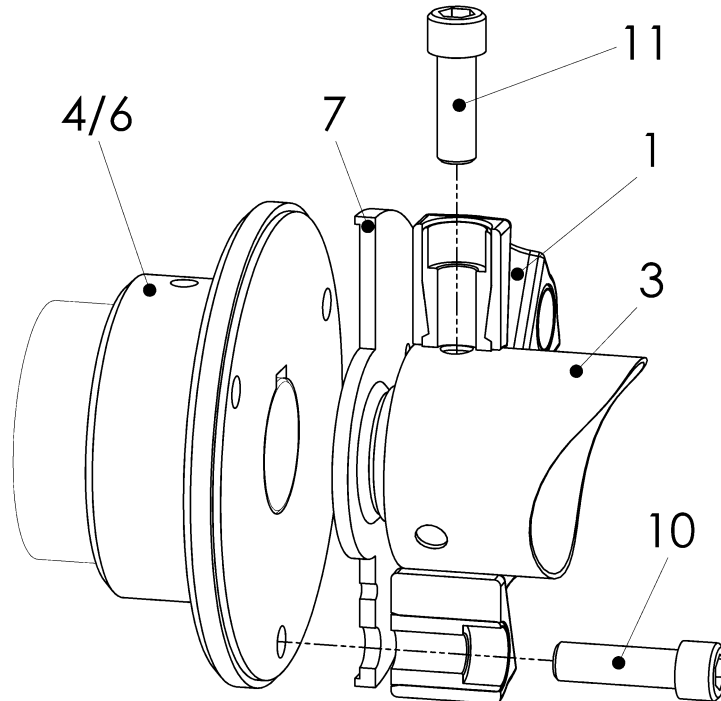


*Fig. 6-3 Positioning the tube with the elastic elements and the adapter assemblies in the installation space*

Item	Info	Designation	Remark
1		Elastic element	
3		Tube	
4/6		Hub	
7		Adapter assembly	
10		Screw ISO4762-8.8-IP	

- Position the tube (3) with the elastic elements (1), the adapter assemblies (7) and the screws (10) in the installation space and support.

### 6.5.3 Mounting the adapter assemblies and the elastic elements to the tube and the hubs



*Fig. 6-4 Mounting the adapter assemblies and the elastic elements to the tube and the hubs*

Item	Info	Designation	Remark
1		Elastic element	
3		Tube	
4/6		Hub	
7		Adapter assembly	
10		Screw ISO4762-8.8-IP	
11		Screw ISO4762-8.8-IP	

- Push the adapter assemblies (7) onto the centring of the hubs (4/6).
- Screw the elastic elements (1) and the adapter assemblies (7) to the hubs (4/6) using the screws (10).
- Screw the elastic elements (1) to the tube (3) using the screws (11).
- Remove the mounting supports.



## 6.6 Mounting the tube, the elastic elements and the adapter assemblies (Type with axial hexagon head cap screws)

### 6.6.1 Positioning the elastic elements and the adapter assemblies

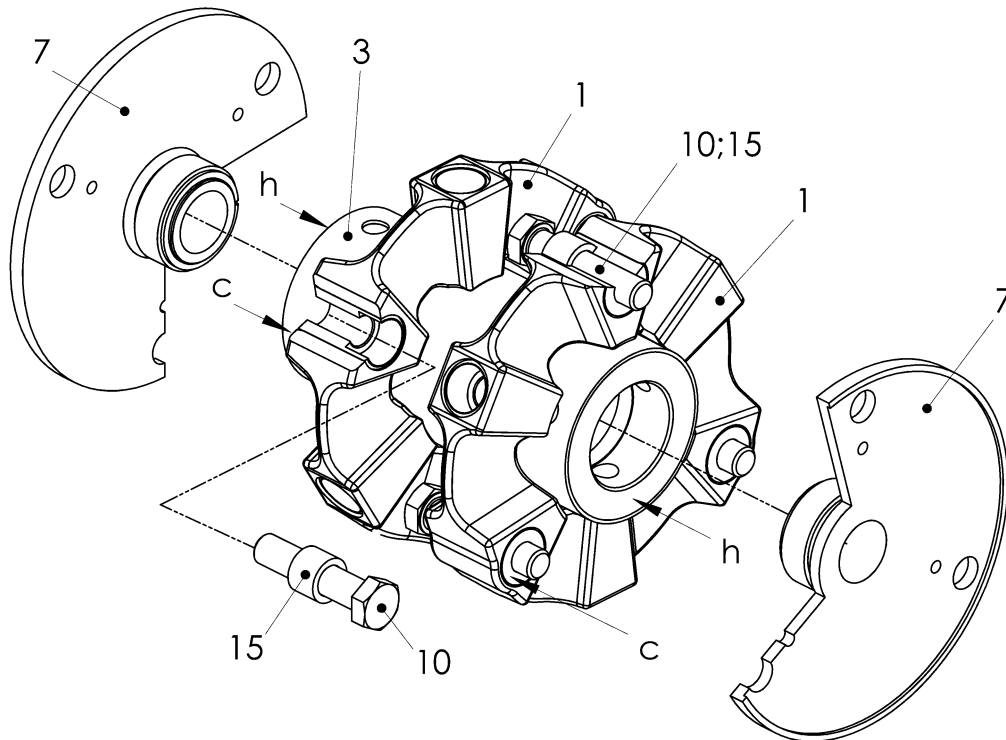
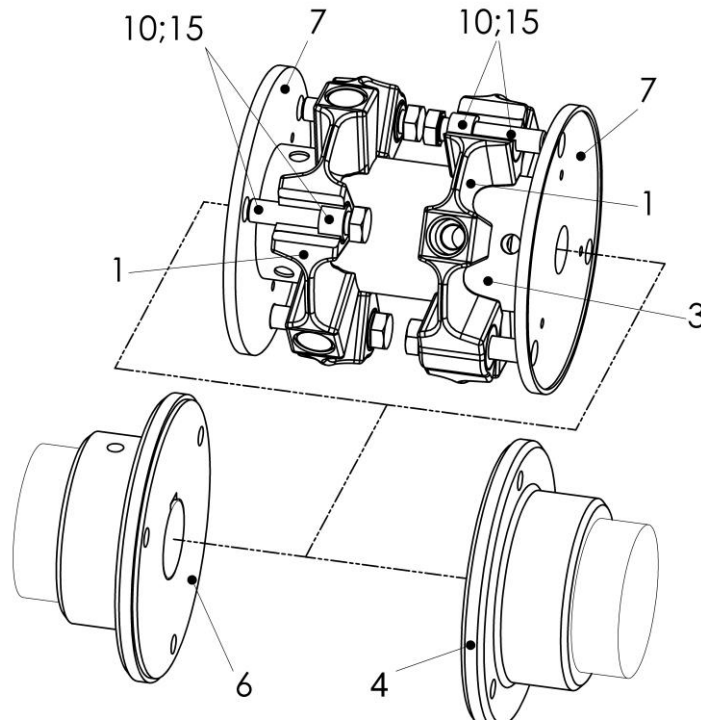


Fig. 6-5 Positioning the elastic elements and the adapter assemblies

Item	Info	Designation	Remark
1		Elastic element	
3		Tube	
7		Adapter assembly	Pre-mounted by CENTA
10		Screw ISO4014-8.8-IP	
15		Bush	
	c	Contact surface of elastic element	
	h	Face of tube	

- Push the bushes (15) and the screws (10) into the first elastic element (1).
- Push the elastic element (1) onto the middle of the tube (3). The contact surfaces (c) of the elastic element (1) have to point to the same side as the face (h) of the tube (3).
- Push the adapter assembly (7) up to the stop into the centring of tube (3).
- Repeat the mounting section described above to fit the second elastic element (1) and the second adapter assembly (7).

**6.6.2 Positioning the tube with elastic elements and adapter assemblies in the installation space**

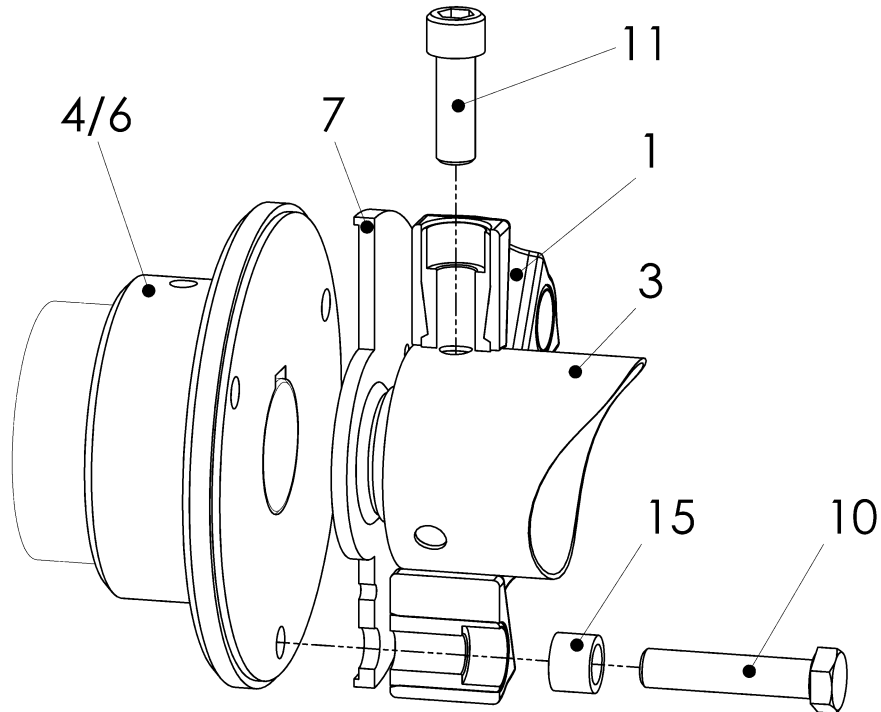


*Fig. 6-6 Positioning the tube with elastic elements and adapter assemblies in the installation space*

Item	Info	Designation	Remark
1		Elastic element	
3		Tube	
4/6		Hub	
7		Adapter assembly	
10		Screw ISO4014-8.8-IP	
15		Bush	

- Position the tube (3) with elastic elements (1), adapter assemblies (7), bushes (15) and screws (10) in the installation space and support.

### 6.6.3 Mounting the adapter assemblies and the elastic elements to the tube and the hubs



*Fig. 6-7 Mounting the adapter assemblies and the elastic elements to the tube and the hubs*

Item	Info	Designation	Remark
1		Elastic element	
3		Tube	
4/6		Hub	
7		Adapter assembly	
10		Screw ISO4014-8.8-IP	
11		Screw ISO4762-8.8-IP	
15		Bush	

- Push the adapter assemblies (7) onto the centring of the hubs (4/6).
- Screw the adapter assemblies (7), the elastic elements (1) and the bushes (15) to the hubs (4/6) using the screws (10).
- Screw the elastic elements (1) to the tube (3) using the screws (11).
- Remove the mounting supports.

**6.7 After completed mounting****WARNING****Injury and material damage can occur as a result of:**

- Loose screw connections

Before commissioning, the tightening torque levels of all screws must be checked and corrected if necessary.

Before commencing long-term operation, the plant must successfully complete a test run.

## 7 Operation

### WARNING



**Injury and material damage can occur as a result of:**

- Worn coupling components

If the running noises change and/or vibrations occur turn the plant off immediately.

Determine the fault and its root cause, and remedy.  
The troubleshooting process is simplified by the table in the next chapter.  
On principle in case of a fault, an analysis of the entire plant should be performed.

### 7.1 Operating faults, root causes and remedy

Faults	Possible root causes	Remedy
Prior to all kinds of remedies		<ul style="list-style-type: none"> <li>• Switch off the plant</li> </ul>
Running noises or vibrations in the unit	Alignment error	<ul style="list-style-type: none"> <li>• Check alignment and correct</li> <li>• Check screw torque levels and correct</li> </ul>
	Loose screws	
Fracture of elastic element(s)	Alignment error	<ul style="list-style-type: none"> <li>• Check alignment and correct</li> <li>• Replace defective parts</li> <li>• Eliminate the cause for inadmissibly high torque</li> </ul>
	Inadmissibly high torque	
After all remedies		<ul style="list-style-type: none"> <li>• Trial run</li> </ul>

*Table 7-1 Troubleshooting table*

In case of uncertainty or if you have questions, please contact our head office (address see chapter 1).

### 7.2 Admissible overall misalignment of the coupling

The overall misalignment values can be found in the catalogue.

## 8 Care and maintenance

### WARNING

**Injuries can occur as a result of:**

- Contact with rotating parts

Before starting work at the coupling, switch off the plant and secure against unintentional start-up.

The coupling requires low maintenance. We recommend a visual inspection at the regular scheduled maintenance intervals for the whole unit.

### 8.1 Work to be performed

#### 8.1.1 Cleaning the coupling

- Remove any loose dirt from the coupling.

#### 8.1.2 Visual inspection of the coupling

- Inspect the coupling for cracks, chips or missing parts.
- Replace faulty and missing parts.

#### 8.1.3 Visual inspection of the elastic element/-s



### IMPORTANT

Exchange the elastic element/-s in the event of damage.

- Check the elastic element/-s for cracks.

#### 8.1.4 Inspection of the screw connections

- Check the tightening torque levels of all screws and if necessary, correct.







### 8.2 Replacing defective parts

- Remove the coupling as described in chapter 9.
- Replace wearing parts.
- Mount the coupling as described in chapter 6.

## 9 Dismantling

### 9.1 General dismantling instructions

Any work method which impairs the safety of the coupling is prohibited.  
The user undertakes to notify the manufacturer immediately of any changes occurring at the coupling which could impair safety (address see chapter 1).

 <b>IMPORTANT</b>	
The coupling is dismantled in reverse order to the assembly process. Please refer to the illustrations in chapter 6.	
<b>WARNING</b>	
	<p><b>Injuries can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Contact with rotating parts</li> </ul> <p>Before starting work at the coupling, switch off the plant and secure against unintentional start-up.</p>
<b>WARNING</b>	
	<p><b>Injury and material damage can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Dismantling of the coupling in the wrong sequence</li> </ul> <p>Only ever dismantle the coupling in the described sequence.</p>
<b>WARNING</b>	
	<p><b>Injury and material damage can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Falling coupling components</li> </ul> <p>Secure coupling components against falling to the floor.</p>
<b>CAUTION</b>	
	<p><b>Material damage to coupling components can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Contact with sharp-edged objects</li> </ul> <p>Protect coupling components for transportation. Only hoist coupling components with nylon belts or ropes. Always cushion parts when supporting them from below.</p>
 <b>IMPORTANT</b>	
Use suitable lifting devices for dismantling.	

## **9.2 Dismantling the elastic elements and the adapter assemblies from the hubs and the tube**

- Dismantle the elastic elements and the adapter assemblies as appropriate for the type supplied.
- Type with **axial hexagon head cap screws and bushes** (10, 15), see chapter 9.2.1
- Type with **axial socket hexagon head cap screws** (10), see chapter 9.2.2

### **9.2.1 Dismantling the elastic elements and the adapter assemblies (with axial hexagon head cap screws)**

**See Fig. 6-7:**

- Support the tube (3) in the installation space.
- Loosen the screws (11) of the connection elastic elements (1) and tube (3) and remove.
- Loosen the screws (10) of the connection elastic elements (1), adapter assemblies (7) and hubs (4/6).
- Pull the elastic elements (1) approx. 20 mm away from the hubs (4/6).
- Pull the adapter assemblies (7) off the centring of the hubs (4/6) and push up to the stop into the tube (3).

**See Fig. 6-6:**

- Remove the tube (3) with the elastic elements (1) and the adapter assemblies (7) out of the installation space.
- Remove the dismantling supports out of the installation space.

**See Fig. 6-5:**

- Pull the adapter assemblies (7) out of the elastic elements (1) and remove.
- Pull the elastic elements (1) from the tube (3) and remove.
- Remove the screws (10) and the bushes (15) out of the elastic elements (1).

### **9.2.2 Dismantling the elastic elements and the adapter assemblies (with axial socket hexagon head cap screws)**

**See Fig. 6-4:**

- Support the tube (3) in the installation space.
- Loosen the screws (11) of the connection elastic elements (1) and tube (3) and remove.
- Loosen the screws (10) of the connection elastic elements (1), adapter assemblies (7) and hubs (4/6).
- Pull the elastic elements (1) approx. 20 mm away from the hubs (4/6).
- Pull the adapter assemblies (7) off the centring of the hubs (4/6) and push up to the stop into the tube (3).



**See Fig. 6-3:**

- Remove the tube (3) with elastic elements (1) and adapter assemblies (7) out of the installation space.
- Remove the dismantling supports out of the installation space.

**See Fig. 6-2:**

- Pull the adapter assemblies (7) out of the elastic elements (1) and remove.
- Pull the elastic elements (1) off the tube (3) and remove.
- Remove the screws (10) out of the elastic elements (1).

**9.3 Dismantling the hubs with cylindrical bore and keyway (if necessary)****See Fig. 6-1:**

- Loosen the threaded pins (17/18) and remove.
- Remove the hubs (4/6) from the shafts (A/C).

**9.4 Reassembling the coupling**

- Reassemble the coupling as described in chapter 6.

## 10 Wearing and spare parts

A stock of the most important wearing and spare parts is the most important condition to ensure that the coupling is functional and ready for operation at all times.

We only provide a warranty for CENTA original parts.

### WARNING



**Injury and material damage can occur as a result of:**

- Mounting and/or utilization of non-original CENTA parts
- Never use parts from other manufacturers.

#### Wearing parts of this coupling:

- Elastic elements



### IMPORTANT

When exchanging, all screw connections of the elastic elements must be renewed. These must be ordered separately.



### IMPORTANT

Use exclusively **new** screws supplied by CENTA. These are coated with microencapsulated adhesive which serves as a screw locking medium.

#### When ordering a spare, specify:

- Order no.
- Coupling order no.
- Drawing no.



## 11 Annex

### 11.1 CENTA data sheet D013-019 (screw connections with microencapsulated screw locking medium)

**Validity:**

For all non-dynamically stressed screw connections with **screws\*** in accordance with ISO 4014, ISO 4017, ISO 4762 (DIN 912) and ISO 6912 with metric standard thread in accordance with DIN ISO 262 and **socket bolts\*** with metric standard thread in accordance with DIN ISO 262, unless other specifications are given on CENTA documents.

\* The threads are coated with microencapsulated screw locking medium.

**Preparation of parts that are to be screwed together:**

The joining areas must be free of dirt, preservatives and lubricants.

**Preparation of screws with microencapsulated screw locking medium:**

Give the screws extra lubrication with grease under the screw head.

**Screw tightening method:**

Screw in (by hand with torque wrench).

**Curing time for the microencapsulated screw locking medium:**

To ensure optimum screw locking, after tightening the curing time for the microencapsulated screw locking medium must be observed:

- Appr. 4-5 hours at room temperature (20°C)
- Higher temperatures will accelerate the curing time (e.g. 15 minutes at 70°C created by a hot air blower)

After 24 hours, the microencapsulated screw locking medium is completely cured.

Thread size	Strength class	Tightening torques		Thread size	Strength class	Tightening torques			
		[Nm] ±5%	[in Ibs] ±5%			[Nm] ±5%	[in Ibs] ±5%		
<b>M6</b>	<b>8.8</b>	10	90	<b>M18</b>	<b>10.9</b>	300	2650		
<b>M8</b>		25	220			<b>M20</b>	500	4450	
<b>M10</b>		50	440				610**	5400**	
<b>M12</b>		85	750				<b>M22</b>	820	7250
<b>M14</b>		140	1250				<b>M24</b>	1050	9300
<b>M16</b>		220	1950				<b>M27</b>	1550	13700

\*\* only for: CENTAFLEX-A size 400  
CENTAFLEX-T size 36x/46x



**11.2 CENTA data sheet D008-904**

**Declaration of incorporation according to the EC Machinery Directive 2006/42/EC, Appendix II B**

Manufacturer:

**CENTA Antriebe  
Kirschey GmbH**  
Bergische Strasse 7  
42781 Haan / GERMANY

Contact:

Phone +49-2129-912-0  
Fax +49-2129-2790  
centa@centa.de  
www.centa.info

We herewith declare that the **incomplete** machine

Product: Torsionally stiff drive shaft CENTAFLEX-X

Model / series code: CF-X / 008X

Installation size: 1...90

Design: all

Serial number: according to shipping documents, if applicable

- provided this is possible as far as the scope of supply is concerned - complies with the following basic requirements of the **Machinery Directive 2006/42/EC** Appendix I, subchapters 1.1.2, 1.1.3, 1.1.5, 1.3.2, 1.3.3, 1.3.4 and 1.5.4.

In addition, we declare that the special technical documents for this incomplete machine were compiled according to Appendix VII Part B and undertake to forward these to the market monitoring authorities by request via our "Documentation Department".

Commissioning of the incomplete machine is interdicted until the incomplete machine has been incorporated in a machine and the latter complies with the provisions of the EC Machinery Directive and the EC Declaration of Conformity according to Appendix II A is on hand.

The declaration is invalidated by every modification to the delivered parts.

Authorised representative for the compilation of the relevant technical documents:

*i.A. J. Anderseck*

by order of Gunnar Anderseck  
(Authorised Person Documentation)

Declaration of incorporation was issued:

*i.v. J. Exner*

by proxy Dipl.-Ing. Jochen Exner  
(Design Management)

Haan, 11.12.2009