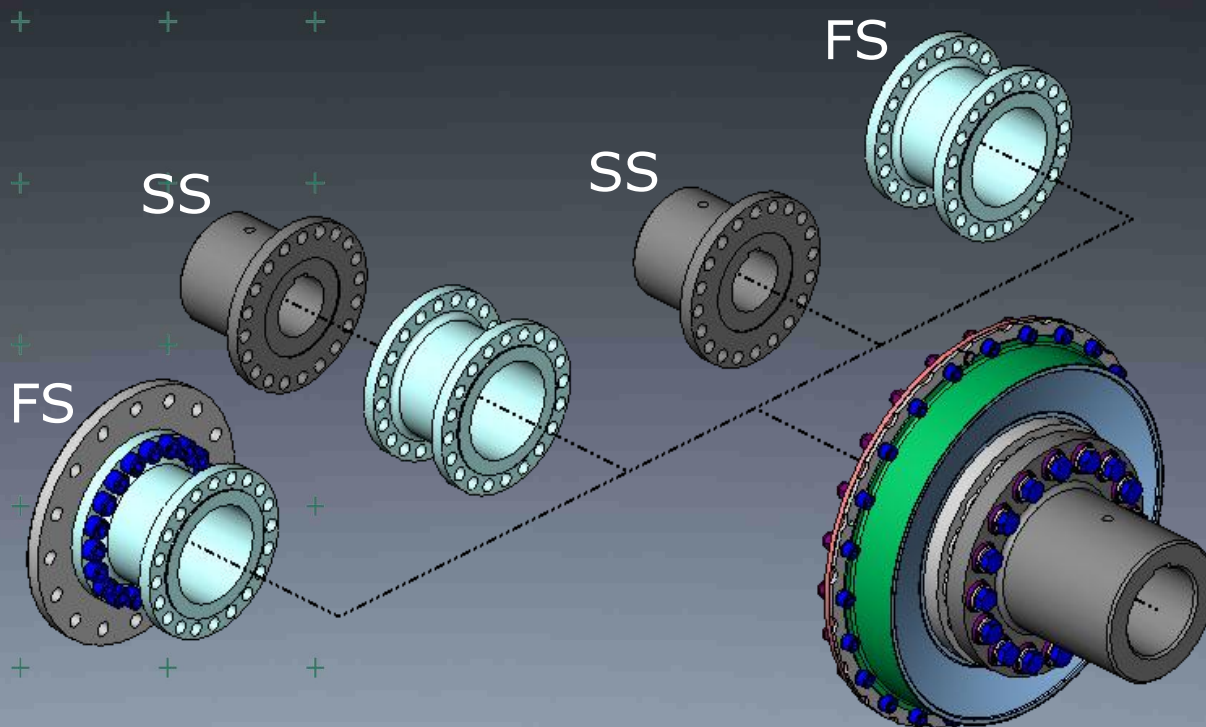


CENTAX-B
Assembly and operating instructions
015B-00064...00085-.S1.
M015-00009-EN
Rev. 4



Power Transmission
Leading by innovation



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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.

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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.

WARNING



Injury and material damage can occur as a result of:

- Work at the coupling which is not described in these instructions
- Only carry out work which is described in these operating instructions.

2.3 Intended application

WARNING



Injury and material damage can occur as a result of:

- Application not in compliance with the intended use

The couplings are intended exclusively for use in accordance with the relevant design. They may only be used under the specified conditions.

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.

Component	Circular openings [mm]	Rectangular openings [mm]
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

WARNING	
	Injury and material damage can occur as a result of: ▪ Inadmissibly high torque ▪ Inadmissibly high or low speeds ▪ Exceeding the specified ambient temperature ▪ Inadmissible ambient medium ▪ Inadmissible coupling enclosure ▪ Exceeding the admissible overall misalignment values Only use the coupling for the specified application.

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

CAUTION	
	Injury and material damage can occur as a result of: ▪ Incorrect transportation of couplings Ensure that the coupling is correctly transported.
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.

Following transportation damage:

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

3.3 Storage

CAUTION	
	Material damage to elastic elements and rubber parts can occur as a result of: ▪ Incorrect storage These parts must be stored laid flat and so they cannot distort, and protected from ozone, heat, light, moisture and solvents.
 IMPORTANT	
Rubber parts are marked where possible with their production date. From this date, they may only be stored for a maximum of 5 years.	

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

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

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



4 Technical description

4.1 Characteristics

The CENTAX-SEC series B coupling have the following positive characteristics:

- Medium to high torsional elasticity, according to the shore hardness of the rubber element
- High radial elasticity
- High axial displacement ability, the bolts can slide axially in the hub and adjust themselves axially independently
- Adequate angular elasticity
- Easy axial or radial assembly
- Easy replacement of the rubber element without disturbance of the coupled units
- Robust, well-proven, durable, low-maintenance and cost-effective
- Type-approved by leading societies
- Protected by Patent applications

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 can be achieved.
- 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

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:

ΔK_A max = 0.5 mm

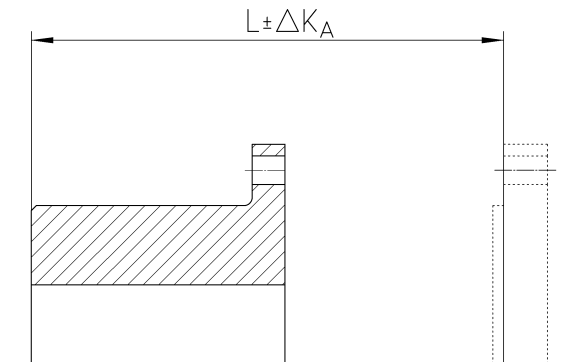


Fig. 5-1 Axial misalignment

5.2 Radial alignment

Measure the radial misalignment with a dial gauge (see Fig. 5-2).

- Attach the dial gauge to the hub.
- Set the sensor of the dial gauge radially against the centering.
- Turn the hub with dial gauge and hub slowly by 360°.
- 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.

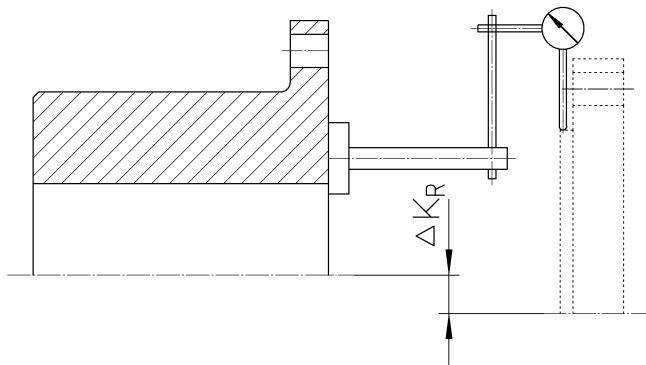


Fig. 5-2 Radial misalignment

Size	Shore hardness [Shore A]	$\Delta K_{R \max}$ [mm]
64	50 / 60	± 0.45
	70	± 0.15
66	50 / 60	± 0.6
	70	± 0.18
67	50 / 60	± 0.45
	70	± 0.15
69 - 71	50 / 60	± 0.6
	70	± 0.18
72	50 / 60	± 0.75
	70	± 0.22
75 - 76	50 / 60	± 0.82
	70	± 0.25
78	50 / 60	± 0.9
	70	± 0.3
80	50 / 60	± 1.0
	70	± 0.33
81	50 / 60	± 1.0
	70	± 0.37
82 - 85	50 / 60	± 1.2
	70	± 0.37

Table 5-1 Permissible radial alignment tolerance

5.3 Angular alignment

Measure the angular misalignment with a dial gauge (see Fig. 5-3).

- Attach the dial gauge to the hub.
- Position the sensor of the dial gauge radially against flat surface at a distance R.
- Turn the hub with dial gauge and hub slowly by 360°.

The maximum dial gauge deflection must not exceed the value $2 \times S_W$ at any point. The permissible tolerance $S_{W \max}$ should be calculated according to formula below.

- Align the units (calculated deviation $\leq \Delta K_{W \max}$).

Permissible angular alignment tolerance:

$$\Delta K_{W \max} = 0.03^\circ$$

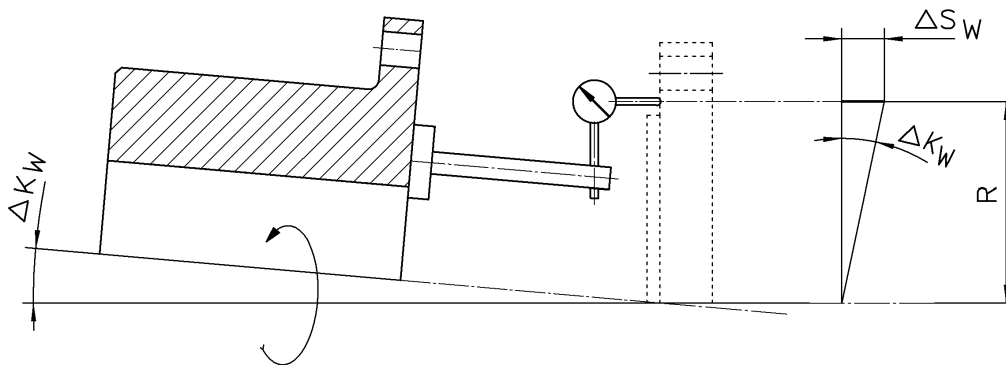


Fig. 5-3 Angular misalignment

$$S_W = R \cdot \tan(\Delta K_W)$$

$$S_W = R \cdot 0,00052$$

Formula 5-1 Calculated dimension S_W

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.

CAUTION

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

- Anaerobic adhesives (e.g. Loctite) used for screw locking

This type of screw locking medium may not be in contact with rubber parts.

**IMPORTANT**

- Screw preparation and tightening torque levels in accordance with CENTA data sheet D013-013 (see chapter 11.1).
- Use suitable lifting devices for assembly.
- The following assembly stages are described for coupling CX-75-BFS1.
- Part illustration and marking may differ slightly from installation drawing and delivery state.

6.2 Mounting the driving and the driven side

- Mount the driving and the driven side as appropriate for the type supplied (see installation drawing).
 - Mounting the hub (5/7) with cylindrical bore and keyway, see chapter 6.2.1 .
 - Mounting the hub (5/7) with conical oil interference fit, see chapter 6.2.2 .
 - Mounting the adapter (23), see chapter 6.2.3 .
 - Mounting the adapter assembly (D), see chapter 6.2.4 .

6.2.1 Mounting the hub (5/7) with cylindrical bore and keyway

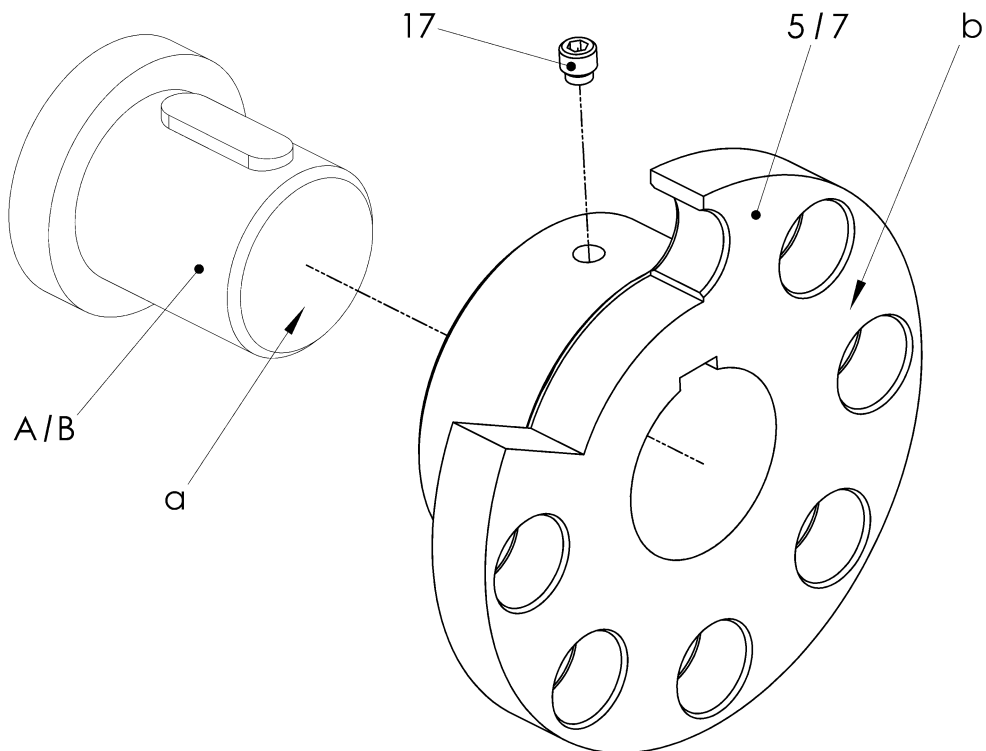


Fig. 6-1 Mounting the hub (5/7) with cylindrical bore and keyway

Item	Info	Designation	Remark
5		Hub	Driven side
7		Hub	Driving side
17		Threaded pin	(If existing)
A		Shaft	Customer part, driven side
B		Shaft	Customer part, driving side
	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 an oil bath, 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; if existing) out of the hub (5/7) and store temporarily.
- Degrease the thread for the threaded pin (17; if existing) in the hub (5/7).
- Warm the hub (5/7) to a temperature of 170° to 200° C.
- Push the hub (5/7) onto the shaft (A/B).



IMPORTANT

Face of shaft must not protrude to face of hub. Otherwise radial replacement of other coupling parts 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.

- Degrease the threaded pin (17; if existing).
- Apply a screw locking medium (e.g. Loctite) to the thread of the threaded pin (17; if existing).
- Secure the hub (5/7) using the threaded pin (17; if existing). Size according to the 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

6.2.2 Mounting the hub (5/7) with conical oil interference fit

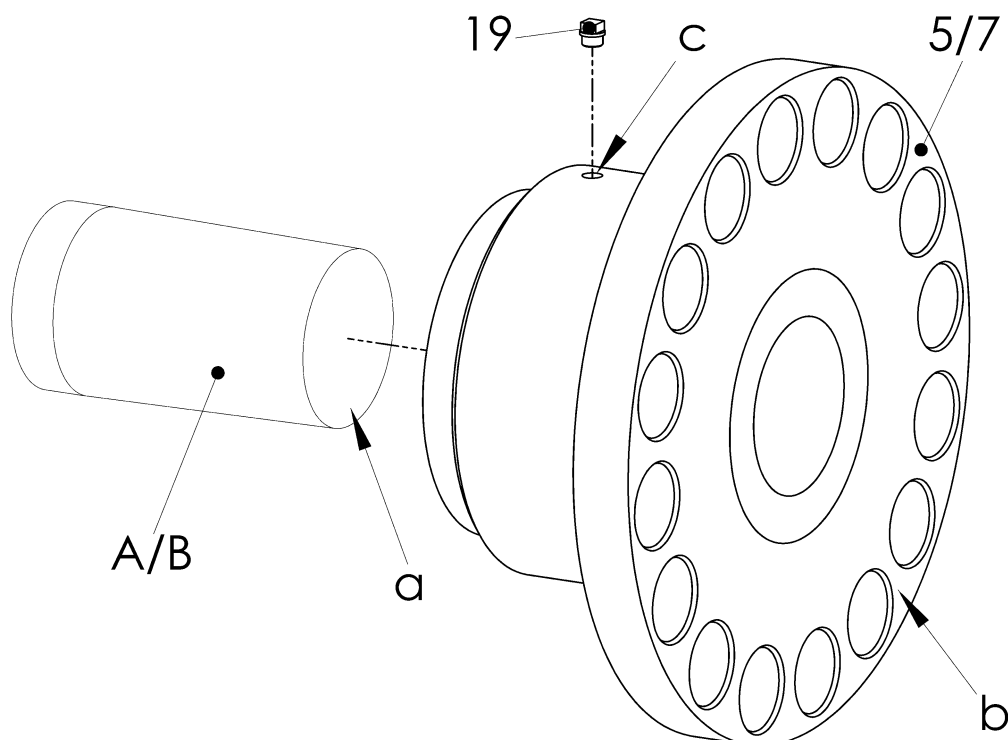


Fig. 6-2 Mounting the hub (5/7) with conical oil interference fit

Item	Info	Designation	Remark
5		Hub	Driven side
7		Hub	Driving side
19		Screw plug G $\frac{1}{4}$	
A		Shaft	Customer part, driven side
B		Shaft	Customer part, driving side
	a	Face of shaft	
	b	Face of hub	
	c	Thread G $\frac{1}{4}$	

- Lightly oil the cone of the shaft A/B.
- Push the hub (5/7) onto the shaft (A/B).
- Remove the screw plug (19) from the hub (5/7).

WARNING


Injury and material damage can occur as a result of:

- Non-compliance with the operating instructions for the hydraulic pumps

Before carrying out work with the hydraulic pumps, do not fail to read their operating instructions. Only ever work with hydraulic pumps as described in their operating instructions.

WARNING


Injury and material damage can occur as a result of:

- Hydraulic fluid spraying out

Use protective goggles.



IMPORTANT

We recommend the following mounting fluids:

- For mounting:
Oil with a viscosity 300 mm²/s at 20°C, e.g. SKF LHM300
- For dismantling:
Oil with a viscosity 900 mm²/s at 20°C, e.g. SKF LHDF900

- Connect the pump (**p_{max} = 3000 bar**) for expanding the hub (5/7) to the thread G¹/₄ or G³/₄ (c).
- Screw the pump for pushing on the hub to the shaft.
- Build up the oil pressure for pushing on the hub.

WARNING


Material damage can occur as a result of:

- Too fast increase of the expanding pressure in the hub

The increase of the expanding pressure may not exceed **35 bar/minute**.

WARNING


Material damage can occur as a result of:

- Insufficient expanding pressure in the hub

If the expanding pressure is too low, the necessary pushing pressure is too high.

-
- Slowly build up the oil pressure for expanding the hub.
 - Build up the oil pressure alternately until the lift path (p up) of the hub (5/7) is reached (p up see installation drawing).
 - Decrease the oil pressure for expanding the hub.
 - Remove the pump for expanding the hub from the hub (5/7).
 - Maintain the oil pressure for pushing on the hub for one hour.
 - Decrease the oil pressure for pushing on the hub.
 - Remove the pump for pushing on the hub from the shaft.
 - Turn the hub (5/7) allow the oil to run out of the thread G $\frac{1}{4}$ or G $\frac{3}{4}$ (c) and dispose of it correctly.
 - Screw the screw plug (19) into the hub (5/7).

**IMPORTANT**

Do not place a load on the hub for 24 hours.

**IMPORTANT**

Face of shaft must not protrude to face of hub. Otherwise radial replacement of other coupling parts is not guaranteed.

6.2.3 Mounting the adapter (23)

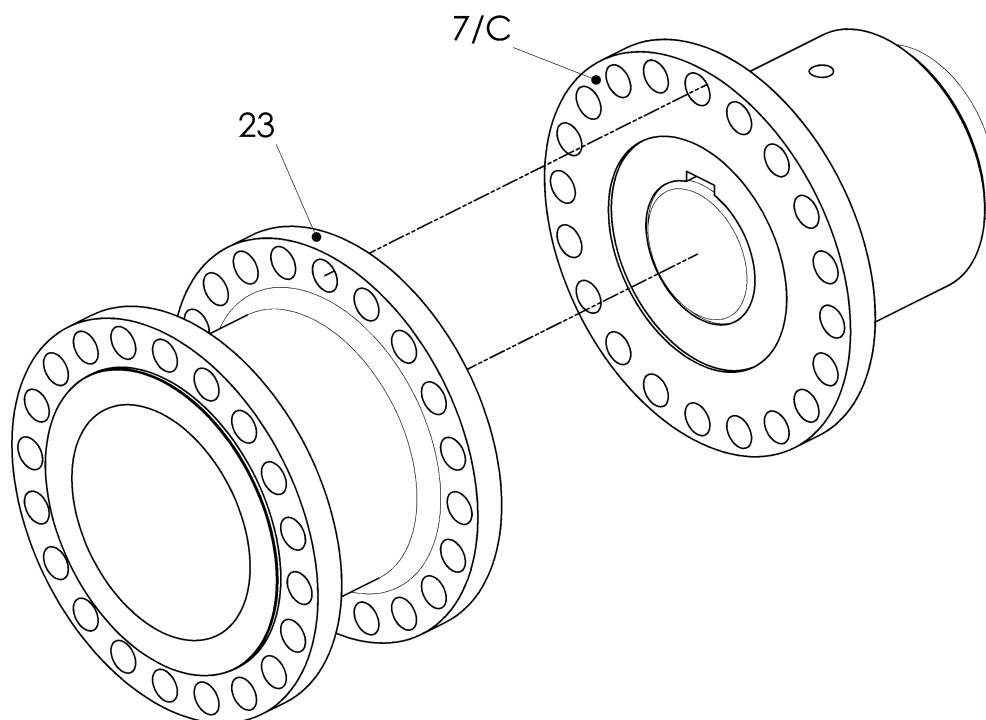


Fig. 6-3 Mounting the adapter (23)

Item	Info	Designation	Remark
7		Hub	Driving side
23		Adapter	
C		Flywheel	Customer part, not shown

- Push the adapter (23) onto/into the centring of the hub/flywheel (7/C).
- Screw the adapter (23) to the adapter (7/C). The screwing can be taken of the installation drawing.

6.2.4 Mounting the adapter assembly (D)

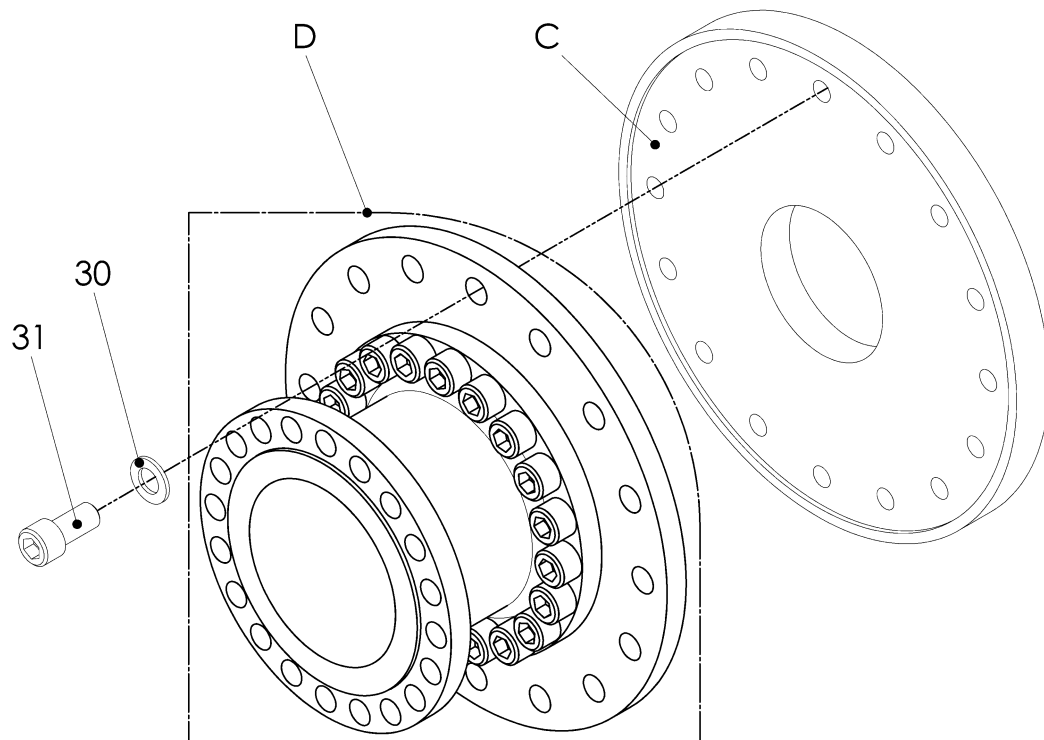


Fig. 6-4 Mounting the adapter assembly (D)

Item	Info	Designation	Remark
30		Screw	If ordered
31		Washer	If ordered
C		Flywheel	Customer part
D		Adapter assembly	Pre-mounted by CENTA

- Position the adapter assembly (D) in the installation space and support.
- Push the adapter assembly (D) into the centring of the flywheel (C).
- Screw the adapter assembly (D) to the flywheel (C) using the screws (30) and the washers (31).
- Remove the mounting supports.



IMPORTANT

Tightening torques for elements to connect couplings with customer parts could deviate from CENTA data sheet D013-013.
Consider specifications on installation drawing.

6.3 Aligning the units

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

6.4 Positioning the rubber element assembly and the CX-flange assembly

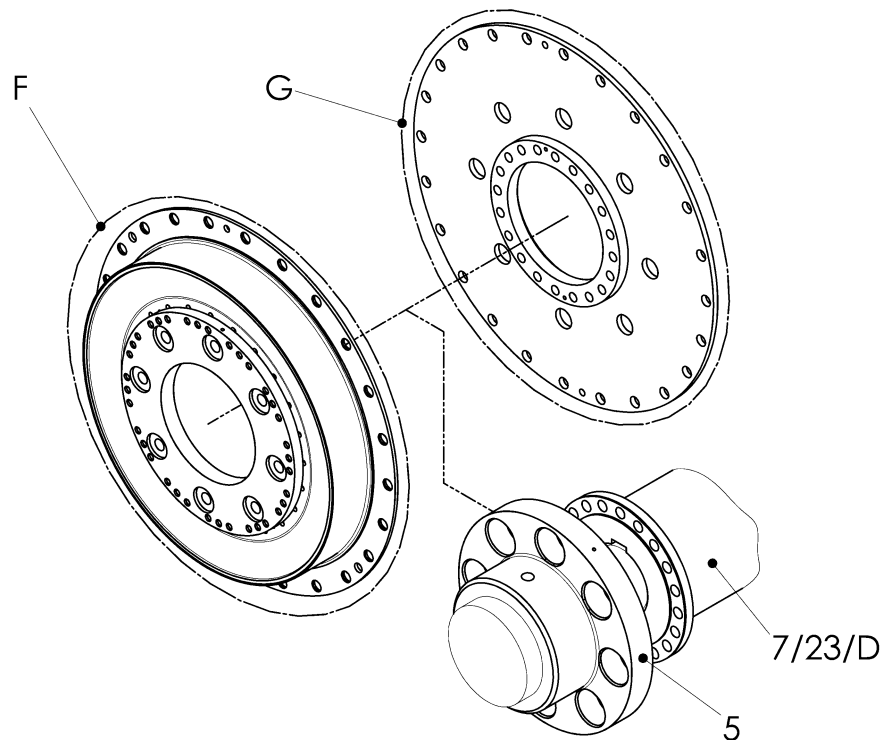


Fig. 6-5 Positioning the rubber element assembly and the CX-flange assembly

Item	Info	Designation	Remark
5		Hub	Driven side
7		Hub	Driving side
23		Adapter	Driving side
D		Adapter assembly	Pre-mounted by CENTA
F		Rubber element assembly	Pre-mounted by CENTA
G		CX-flange assembly	Pre-mounted by CENTA

- Position the rubber element assembly (F) and the CX-flange assembly (G) **together** between the hub (5) and the hub/adaptor/adaptor assembly (7/23/D) and support.



6.5 Mounting the CX-flange assembly

- Mount the CX-flange assembly as appropriate for the type of coupling supplied (see installation drawing).
- Mounting the CX-flange assembly and the adapter (15) to the hub, see chapter 6.5.1 .
- Mounting the CX-flange assembly, see chapter 6.5.2 .
- Mounting the CX-flange assembly using the special tool, see chapter 6.5.3 .

6.5.1 Mounting the CX-flange assembly and the adapter (15) to the hub

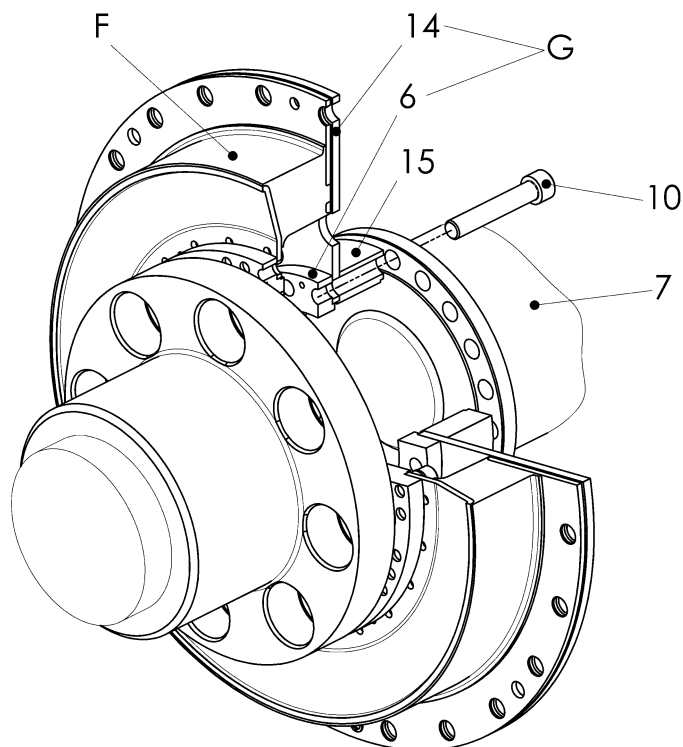


Fig. 6-6 Mounting the CX-flange assembly and the adapter (15) to the hub

Item	Info	Designation	Remark
6		Ring	
7		Hub	Driving side
10		Screw ISO4762-10.9	
14		Adapter	
15		Adapter	Driving side
23		Adapter	Driving side
F		Rubber element assembly	Pre-mounted by CENTA
G		CX-flange assembly	Pre-mounted by CENTA

- Push the adapter (15) onto the centring of the hub (7).
- Push the CX-flange assembly (G) onto the centring of the adapter (15).
- Screw the hub (7), the adapter (15) and the adapter (14) to the ring (6) using the screws (10).

6.5.2 Mounting the CX-flange assembly

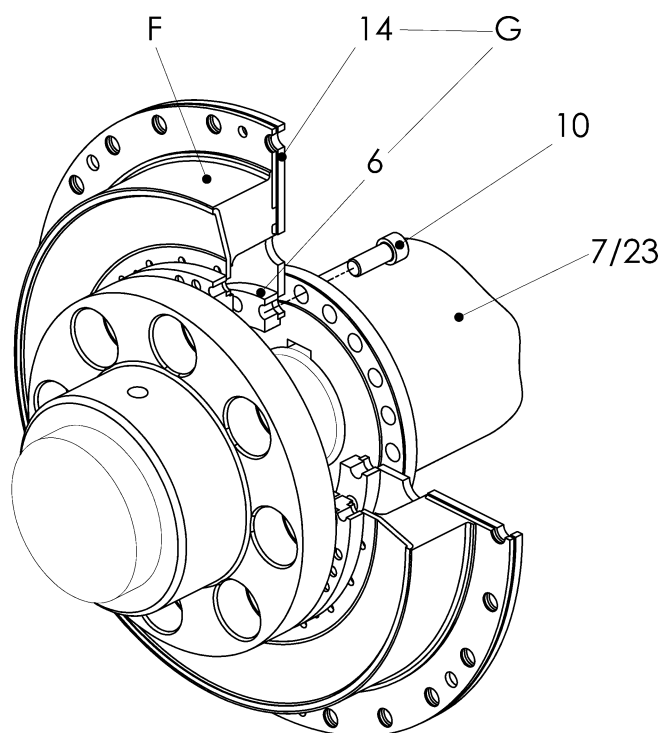


Fig. 6-7 Mounting the CX-flange assembly

Item	Info	Designation	Remark
6		Ring	
7		Hub	Driving side
10		Screw ISO4762-10.9	
14		Adapter	
23		Adapter	Driving side
F		Rubber element assembly	Pre-mounted by CENTA
G		CX-flange assembly	Pre-mounted by CENTA

- Push the CX-flange assembly (G) onto the centring of the hub/adapter (7/23; see installation drawing).
- Screw the hub/adapter (7/23) and the adapter (14) to the ring (6) using the screws (10).

6.5.3 Mounting the CX-flange assembly using the special tool

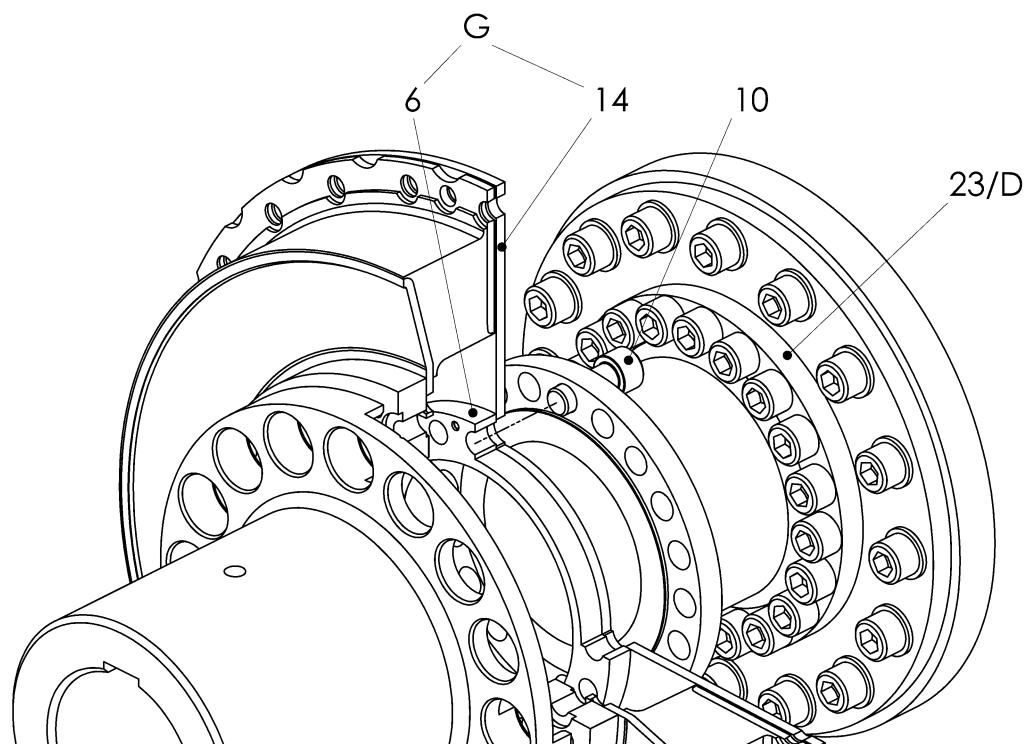


Fig. 6-8 Mounting the CX-flange assembly

Item	Info	Designation	Remark
10		Screw ISO4762-10.9	
14		Adapter	
23		Adapter	
D		Adapter assembly	Pre-mounted by CENTA
F		Rubber element assembly	Pre-mounted by CENTA
G		CX-flange assembly	Pre-mounted by CENTA

- Push the CX-flange assembly (G) onto the centring of the adapter/adapter assembly (23/D; see installation drawing).
- Handscrew the adapter/adapter assembly (23/D) and the adapter (14) to the ring (6) using the screws (10).

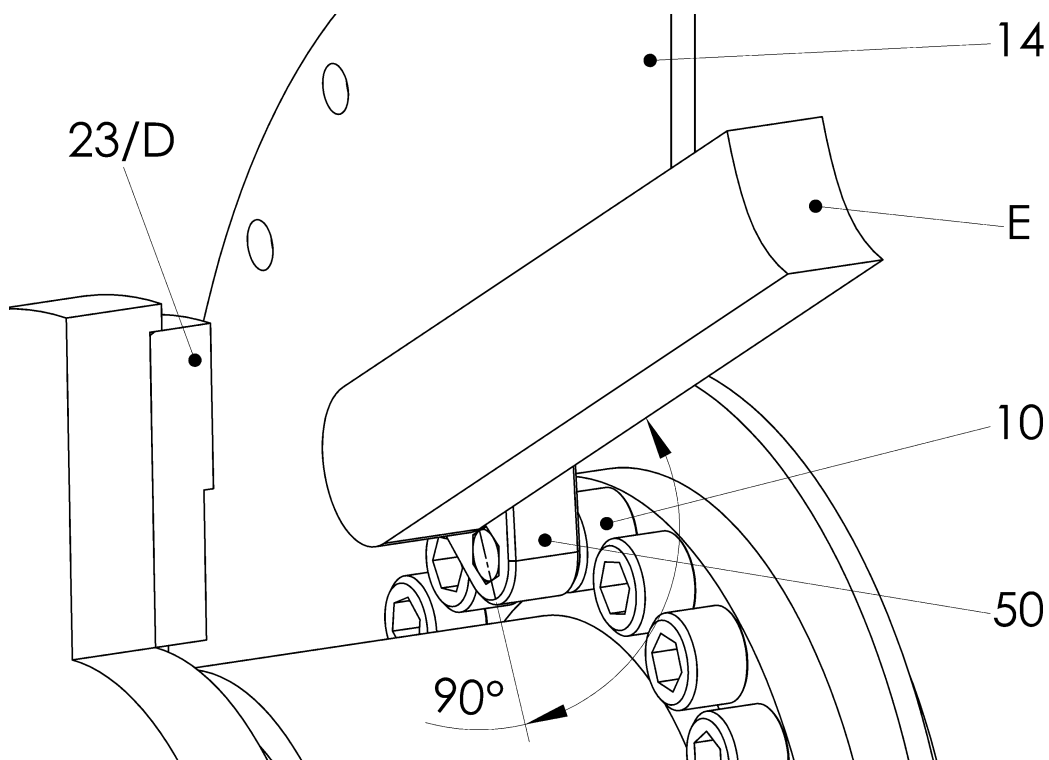


Fig. 6-9 Screwing the CX-flange with tightening torque

Item	Info	Designation	Remark
10		Screw ISO4762-10.9	
14		Adapter	
23		Adapter	
50		Adapter, special tool	CENTA Artikel-No. 11-61779-03
D		Adapter assembly	Pre-mounted by CENTA
E		Torque wrench	

CAUTION



Material damage can occur as a result of:

- Wrong tightening torque because of improper handling of the adapter 11-61779-xx

During the **ENTIRE** process of tightening the screws the adapter must be at 90-degree-angle to the torque wrench.
(See illustration below)

adapter

torque wrench

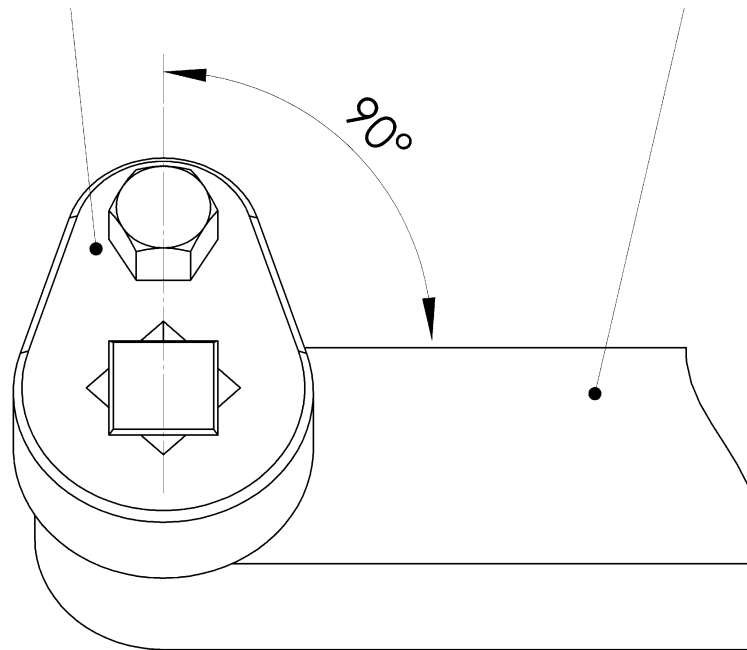


Fig. 6-10 Applying the torque wrench

- Fasten all screws (10) with the required tightening torque (see chapter 11.1). While doing so, make sure the torque wrench (E) is at 90-degree-angle to the adapter (50).

6.6 Connecting the rubber element assembly and the CX-flange assembly

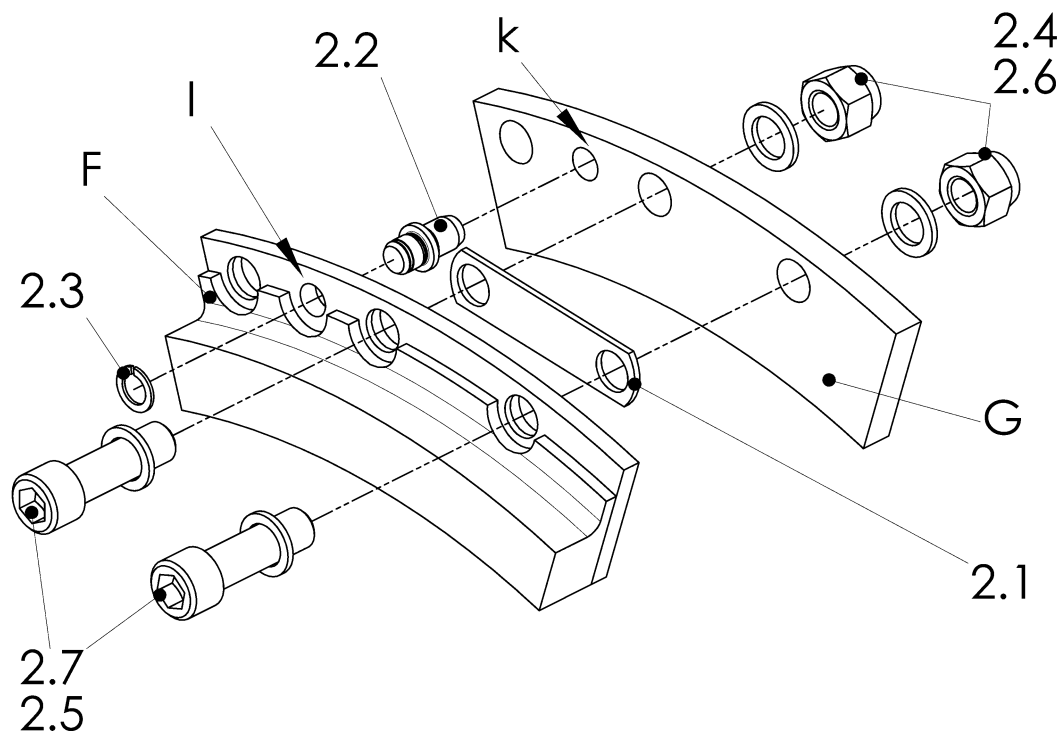


Fig. 6-11 Connecting the rubber element assembly and the CX-flange assembly

Item	Info	Designation	Remark
2.1		Sheet	
2.2		Bolt	2x180°
2.3		Circlip DIN 471	2x180°
2.4		Nut ISO7040-10	
2.5		Screw ISO4762-10.9	
2.6		Washer ISO7092-300HV	
2.7		Washer	If existing
F		Rubber element assembly	Pre-mounted by CENTA
G		CX-flange assembly	Pre-mounted by CENTA
	k + l	Drilling for centring bolt	2x180°

**IMPORTANT**

Ensure during installation that the bolts are in the right position.

- Push the bolts (2.2; 2x180°) into the drillings (l) of the rubber element assembly (F).
- Secure the bolts (2.2) with the circlips (2.3; 2x180°).
- Turn the rubber element assembly (F) towards the CX-flange assembly (G) until the drillings (k) in the CX-flange assembly (G) and the bolts (2.2) are aligned.
- Push the rubber element assembly (F) towards the CX-flange assembly (G) until a distance of approx. 5 mm is reached.
By doing so, place the bolts (2.2) in the CX-flange assembly (G).
- Push the screws (2.5) with the washers (2.7) into the drillings of the rubber element assembly (F).
- Push the sheets (2.1) onto the screws (2.5).
- Screw the rubber element assembly (F) and the CX-flange assembly (G) as well as the sheets (2.1) using the screws (2.5), the washers (2.6 and 2.7) and the nuts (2.4).

6.7 Mounting the buffer sets

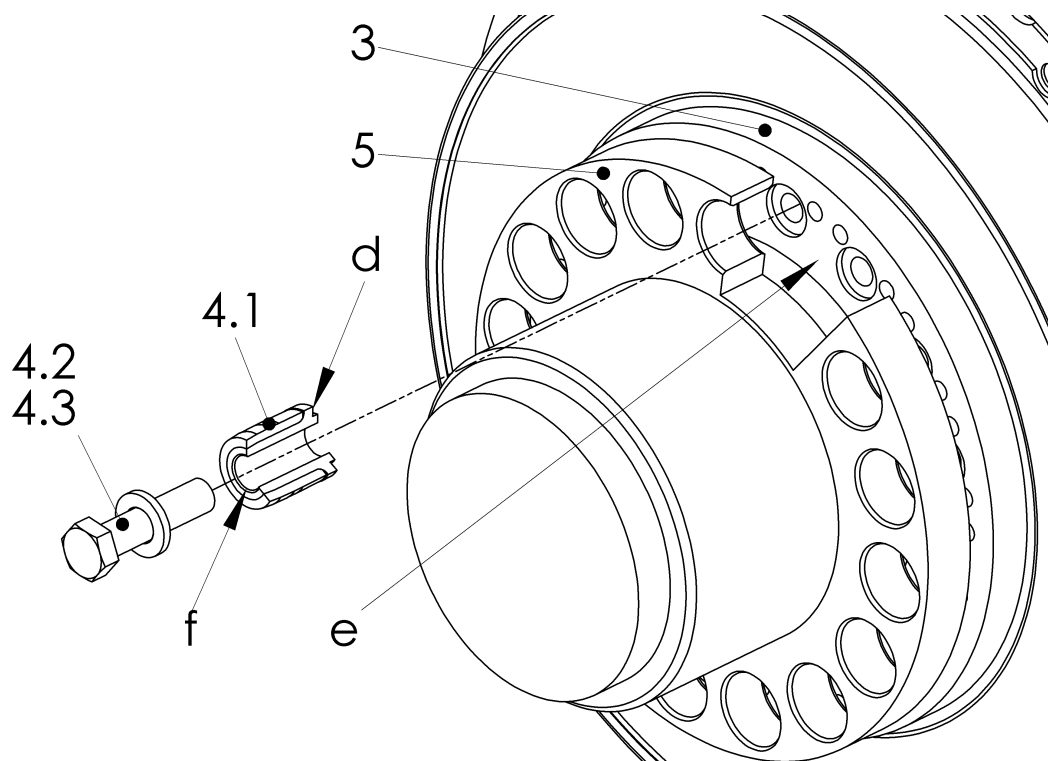


Fig. 6-12 Mounting the buffer sets

Item	Info	Designation	Remark
3		Ring	
4.1		Buffer set	
4.2		Washer	
4.3		Screw	
5		Hub	Driven side
	d	Contact surface of buffer set	
	e	Contact surface of ring	
	f	Thread	For dismantling

- Push the buffer set (4.1) through the hub (5) into the centring of the ring (3).
- Screw the buffer set (4.1) with the screw (4.3) and the washer (4.2) to the ring (3) until the contact surface of the buffer (d) sits close to the contact surface (e) of the ring (3).
- Repeat the mounting section above until all buffer sets (4.1) are mounted.

6.8 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
Running noises or vibrations in the plant	Alignment error	1. Switch off the plant 2. Check alignment, correct if applicable 3. Trial run
	Loose screws	1. Switch off the plant 2. Check alignment, correct if applicable 3. Check screw torque levels and correct if necessary 4. Trial run
Breakage of the rubber element	Alignment error	1. Switch off the plant 2. Exchange defective parts 3. Check alignment, correct if applicable 4. Trial run
	Inadmissibly high torque	1. Switch off the plant 2. Exchange defective parts 3. Check alignment, correct if applicable 4. Trial run

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. It is possible to perform a visual inspection during the regular scheduled maintenance intervals for the complete unit. Every 12 month a visual inspection is strictly required.

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 rubber elements / rubber segments

**IMPORTANT**

Exchange the rubber elements / rubber segments in the event that:

- The wear specifications given in W000-00002 are exceeded

- Assess the rubber elements / rubber segments as described in CENTA guidelines W000-00002.

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

**IMPORTANT**

When the rubber elements / rubber segments are replaced, the buffer sets must also be replaced.

- 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).

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:

- Dismantling of the coupling in the wrong sequence

Only ever dismantle 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.



IMPORTANT

Use suitable lifting devices for dismantling.

9.2 Installing the supports for the dismantling

- Support the coupling/coupling parts.

9.3 Dismantling the buffer sets

See Fig. 6-12:

- Loosen the screws (4.3) of the connection buffer set (4.1) and ring (3) and remove together with the washers (4.2).
- Loosen the buffer sets (4.1) by using the threads (f; see following table) in the ring (3).
- Push the buffer sets (4.1) out of the hub (5) and remove.

Coupling size	64 - 78	80	81 - 85
Thread	M27	M24	M27

Table 9-1 Thread for dismantling

9.4 Disconnecting the rubber element assembly and the CX-flange assembly

See Fig. 6-11:

- Loosen the screws (2.5) of the connection rubber element assembly (F) and CX-flange assembly (G) and remove with the sheets (2.1), the washers (2.6 and 2.7) and the nuts (2.4).
- Pull the circlips (2.3) off the bolts (2.2) and remove with the centring bolts (2x180°).

9.5 Dismantling the CX-flange assembly

- Dismantle the CX-flange assembly as appropriate for the coupling type supplied.
 - Dismantling the CX-flange assembly and the adapter (15), see chapter 9.5.1 .
 - Dismantling the CX-flange assembly, see chapter 9.5.2 .

9.5.1 Dismantling the CX-flange assembly and the adapter (15)

See Fig. 6-6:

- Loosen and remove the screws (10) of the connection hub (7), adapter (15 and 14) and ring (6).
- Pull the CX-flange assembly (G) off the centring of the adapter (15).
- Pull the adapter (15) off the centring of the hub (7).

See Fig. 6-5:

- **Together** remove the rubber element assembly (F) and the CX-flange assembly (G) out of the installation space.

9.5.2 Dismantling the CX-flange assembly

See Fig. 6-8 and 6-7:

- Loosen the screws (10) of the connection adapter/adapter assembly (23/D), adapter (14) and ring (6) and remove.
- Pull the CX-flange assembly (G) off the centring of the adapter/adapter assembly (23/D).

See Fig. 6-5:

- **Together** remove the rubber element assembly (F) and the CX-flange assembly (G) out of the installation space.

9.6 Removing the mounting supports

- Remove all mounting supports.

9.7 Dismantling the driving and the driven side (if necessary)

- Dismantle the driving and the driven side as appropriate for the type supplied.
 - Dismantling the hub (5/7) with cylindrical bore and keyway, see chapter 9.7.1 .
 - Dismantling the hub (5/7) with conical oil interference fit, see chapter 9.7.2.
 - Dismantling the adapter (23), see chapter 9.7.3 .
 - Dismantling the adapter assembly (D), see chapter 9.7.4 .

9.7.1 Dismantling the hub (5/7) with cylindrical bore and keyway

See Fig. 6-1:

- Loosen and remove the threaded pin (17; if existing) from the hub (5/7).
- Remove the hub (5/7) from the shaft (A/B).

9.7.2 Dismantling the hub (5/7) with conical oil interference fit

See Fig. 6-2:

WARNING	
	Injury and material damage can occur as a result of: Non-compliance with the operating instructions for the hydraulic pumps Before carrying out work with the hydraulic pumps, do not fail to read their operating instructions. Only ever work with hydraulic pumps as described in their operating instructions.

WARNING	
	Injury and material damage can occur as a result of: Hydraulic fluid spraying out Use protective goggles.

WARNING	
	Injuries and material damages can occur by: Suddenly loosening hubs Secure the hub with a hydraulic tool against sudden axial loosening.

 IMPORTANT	
We recommend the following mounting fluids: - For mounting: Oil with a viscosity 300 mm²/s at 20°C, e.g. SKF LHM300 - For dismantling: Oil with a viscosity 900 mm²/s at 20°C, e.g. SKF LHDF900	

- Remove the screw plug (19) from the hub (5/7).
- Connect the pump (**p_{max} = 3000 bar**) to the thread G¹/₄ or G³/₄ (c) of hub (5/7) to expand the hub.
- Screw the pump to the shaft (A/B), in order to hold the hub.
- Build up oil pressure in order to hold the hub.

WARNING	
	Material damage can occur as a result of: Too fast increase of the expanding pressure in the hub The increase of the expanding pressure may not exceed 35 bar/minute.

- Slowly build up oil pressure to expand the hub (**p_{max} = 1500 bar**).
 - Slowly reduce the oil pressure for holding the hub.
 - Slowly reduce the oil pressure for expanding the hub.
- Repeat the above mounting section until the hub is completely released from the shaft.
- Remove the pump for holding the hub from the shaft (A/B).
- Remove pump for expanding the hub from the hub (5/7).
- Turn the hub (5/7), drain oil out of the thread G $\frac{1}{4}$ or G $\frac{3}{4}$ (c) and dispose correctly.
- Screw the screw plug (19) into the hub (5/7).
- Remove the hub (5/7) from the shaft (A/B).

9.7.3 Dismantling the adapter (23)

See Fig. 6-3:

- Support the adapter (23).
- Loosen and remove the screw connections of the connection adapter (23) and hub (7).
- Pull the adapter (23) off/out of the centring of the hub (7) and remove.
- Remove the mounting supports.

9.7.4 Dismantling the adapter assembly (D)

See Fig. 6-4:

- Support the adapter assembly (D).
- Loosen the screws (30) of the connection adapter assembly (D) and flywheel (C) and remove with the washers (31).
- Pull the adapter assembly (D) out of the centring of the flywheel (C) and remove.
- Remove the mounting supports.

9.8 Disassembling the rubber element assembly

- Dismantle the rubber element assembly as appropriate for the coupling size supplied.
 - Dismantling the rubber element assembly of the coupling sizes 64...78 and 81...85, see chapter 9.8.1 .
 - Dismantling the rubber element assembly of the coupling size 80, see chapter 9.8.2 .

9.8.1 Dismantling the rubber element assembly of the coupling sizes 64...78 and 81...85

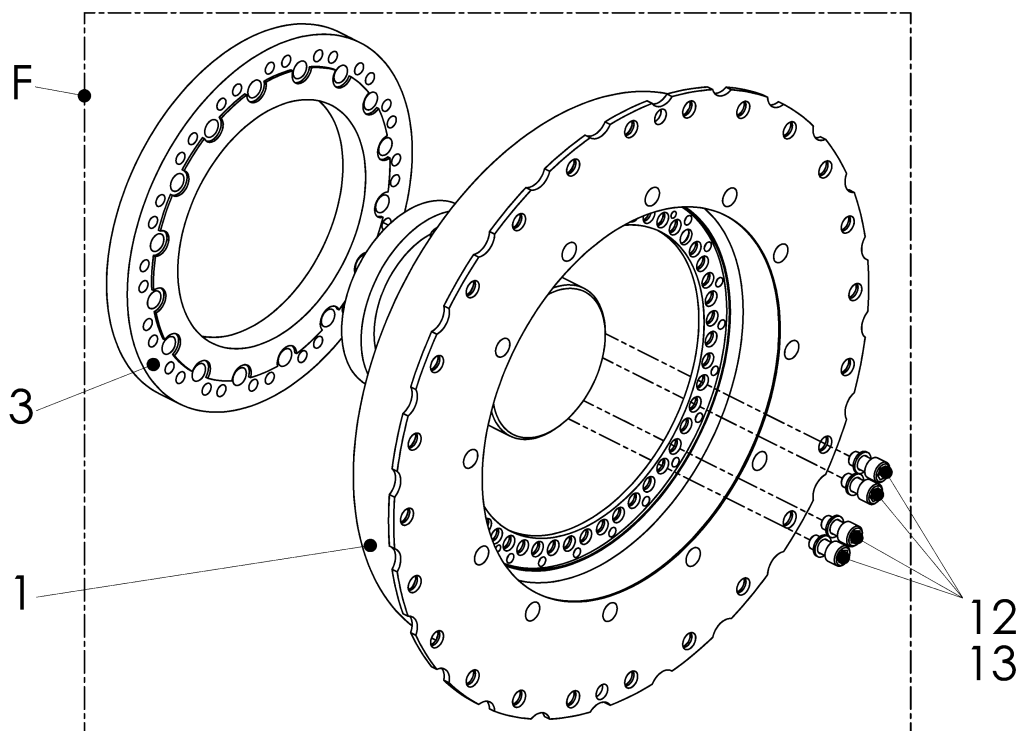


Fig. 9-1 Dismantling the rubber element assembly of the coupling sizes 64...78 and 81...85

Item	Info	Designation	Remark
1		Rubber element	
3		Ring	
12		Screw ISO4762-10.9	
13		Washer	
F		Rubber element assembly	

- Loosen the screws (12) of the connection rubber element (1) and ring (3) and remove with the washers (13).
- Pull the ring (3) out of the centring of the rubber element (1) and remove.

9.8.2 Dismantling the rubber element assembly of the coupling size 80

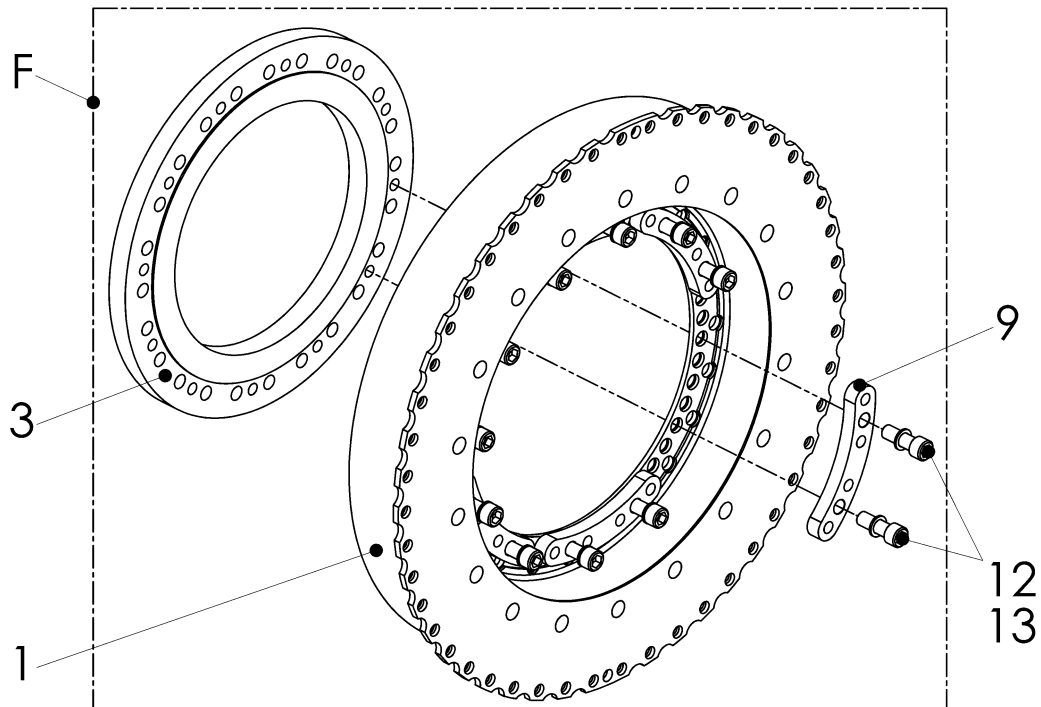


Fig. 9-2 Dismantling the rubber element assembly of the coupling size 80

Item	Info	Designation	Remark
1		Rubber element	
3		Ring	
12		Screw ISO4762-10.9	
13		Washer	
9		Segment (inner)	
F		Rubber element assembly	

- Loosen the screws (12) of the connection rubber element (1) and ring (3). Remove the screws (12) and the washers (13) together with the inner segments (9).
- Pull the ring (3) out of the centring of the rubber element (1) and remove.

9.9 Reassembling the rubber element assembly

- Reassemble the rubber element assembly as appropriate for the coupling size supplied.
 - Reassembling the rubber element assembly of the coupling sizes 64...78 and 81...85, see chapter 9.9.1 .
 - Reassembling the rubber element assembly of the coupling size 80, see chapter 9.9.2 .

9.9.1 Reassembling the rubber element assembly of the coupling sizes 64...78 and 81...85**See Fig. 9-1:**

- Push the ring (3) into the centring of the rubber element (1).
- Screw the rubber element (1) to the ring (3) using the screws (12) and the washers (13).

9.9.2 Reassembling the rubber element assembly of the coupling size 80**See Fig. 9-2:**

- Push the ring (3) into the centring of the rubber element (1).
- Screw the rubber element (1) and the inner segments (9) to the ring (3) using the screws (12) and the washers (13).

9.10 Reassembling the coupling

- Reassemble the coupling as described in chapter 6.

10 Wearing and spare 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.

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.

Wearing parts of this coupling:

- Rubber element
- Buffer set

When exchanging, all screw connections must be renewed. These must be ordered separately.

When ordering a spare, specify:

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



11 Annex

11.1 CENTA data sheet D013-013 (lubricated screw connections)

Validity:

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

Preparation of parts that are to be screwed together:

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

Preparation of screws that ARE NOT secured with liquid screw locking medium:

Give the screws extra lubrication with motor oil under the screw head and in the thread.

Preparation of screws that ARE secured with liquid screw locking medium:

Give the screws extra lubrication with motor oil under the screw head. Remove all grease from the thread.

Screw tightening method:

Screw in (by hand with torque wrench).

Thread size				Thread size			
d	Strength class	Tightening torques		d	Strength class	Tightening torques	
		[Nm] ±5%	[in lbs] ±5%			[Nm] ±5%	[in lbs] ±5%
M6	8.8	9	80	M22	8.8	470	4160
	10.9	13	115		10.9	670	5930
	12.9	15	135		12.9	780	6900
M8	8.8	21	185	M24	8.8	600	5310
	10.9	30	265		10.9	850	7520
	12.9	35	310		12.9	1000	8850
M10	8.8	41	360	M27	8.8	750	6640
	10.9	60	530		10.9	1070	9470
	12.9	71	630		12.9	1250	11060
M12	8.8	71	630	M30	8.8	1000	8850
	10.9	104	920		10.9	1450	12830
	12.9	121	1070		12.9	1700	15050
M14	8.8	113	1000	M33	8.8	1400	12400
	10.9	165	1460		10.9	1950	17250
	12.9	195	1725		12.9	2300	20350
M16	8.8	170	1500	M36	8.8	1750	15500
	10.9	250	2210		10.9	2500	22150
	12.9	300	2660		12.9	3000	26550
M18	8.8	245	2170	M39	8.8	2300	20350
	10.9	350	3100		10.9	3300	29200
	12.9	410	3630		12.9	3800	33650
M20	8.8	350	3100				
	10.9	490	4340				
	12.9	580	5130				



11.2 CENTA data sheet D015-900

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: Highly elastic coupling CENTAX-B

Model / series code: CX-B / 015B

Installation size: 64...488

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

Haan, 11.12.2009

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