



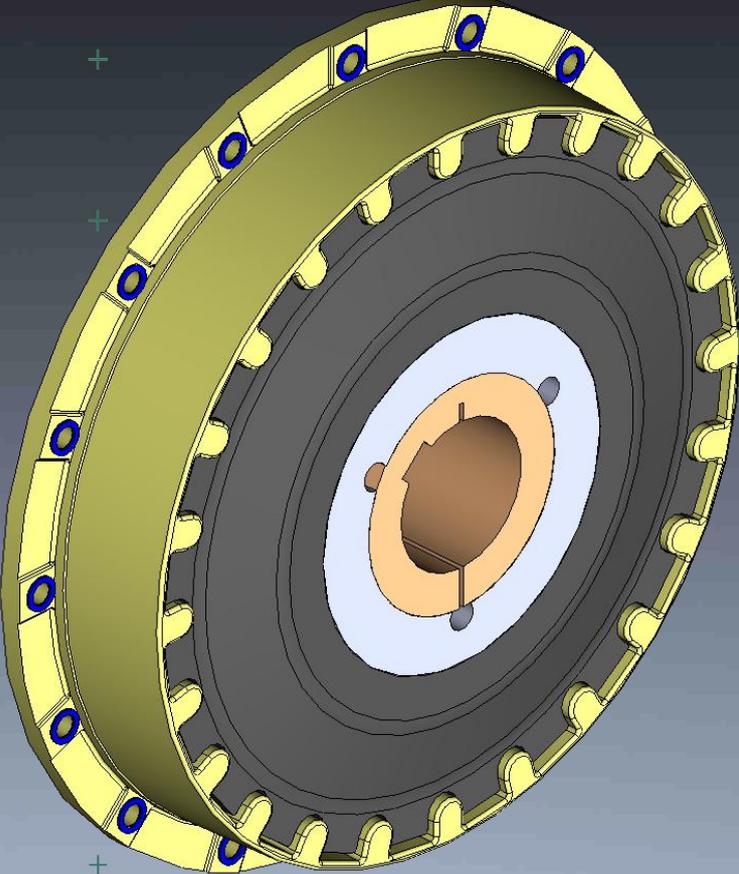
CENTAMAX

Assembly and operating instructions

004G-01400...04600-....

M004-00003-EN

Rev. 2



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	
	<p>Injury and material damage can occur as a result of:</p> <ul style="list-style-type: none">▪ 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 <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

CAUTION	
	<p>Injury and material damage can occur as a result of:</p> <ul style="list-style-type: none"> ▪ Incorrect transportation of couplings <p>Ensure that the coupling is correctly transported.</p>
CAUTION	
	<p>Material damage to coupling components can occur as a result of:</p> <ul style="list-style-type: none"> ▪ Contact with sharp-edged objects <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

CAUTION	
	<p>Material damage to elastic elements and rubber parts can occur as a result of:</p> <ul style="list-style-type: none"> ▪ Incorrect storage <p>These parts must be stored laid flat and so they cannot distort, and protected from ozone, heat, light, moisture and solvents.</p>
 IMPORTANT	
<p>Rubber parts are marked where possible with their production date. From this date, they may only be stored for a maximum of 5 years.</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

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

- Highly torsional elasticity / backlash-free
- Linear curve
- Due to different shore hardness levels, the torsional rigidity can be adjusted to vibration-related requirements
- Dampens vibrations and impacts - compensates axial, radial and angular alignment errors
- Low-wear – durability – operational reliability – low maintenance
- Compact, short design – connection dimensions in accordance with SAE J 620 or for connection of two shafts
- Free axial movement
- All-round ventilation (cooling) of the rubber washer
- Suitable for high speeds
- Large admissible bores
- Simple mounting - axial plug-in capability
- Temperature-resistant

4.2 Specifications

Admissible ambient temperatures:

NR: -45°C to +80°C (temporary maximum temperature 100°C)

SI: -45°C to +130°C

Ensure that suitable ventilation is provided in the mounting area of the coupling so that the admissible ambient temperature is not exceeded.

For further technical details, see the catalogue and the dimensions contained in the drawings.

5 Mounting

5.1 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**

- Use suitable lifting devices for assembly.
- The following assembly stages are described for coupling 004G-03200-0014 and 004G-1400-.....
- Part illustration and marking may differ slightly from installation drawing and delivery state.

5.2 Preparing the rubber element and the taper bush

- Preparing the rubber element and the taper bush as appropriate for the supplied size of the coupling.
 - 004G-01400:
Preparing the rubber element and the taper bush (see chapter 5.2.1).
 - 004G-01800...04600:
Preparing the rubber element and the taper bush (see chapter 5.2.2).

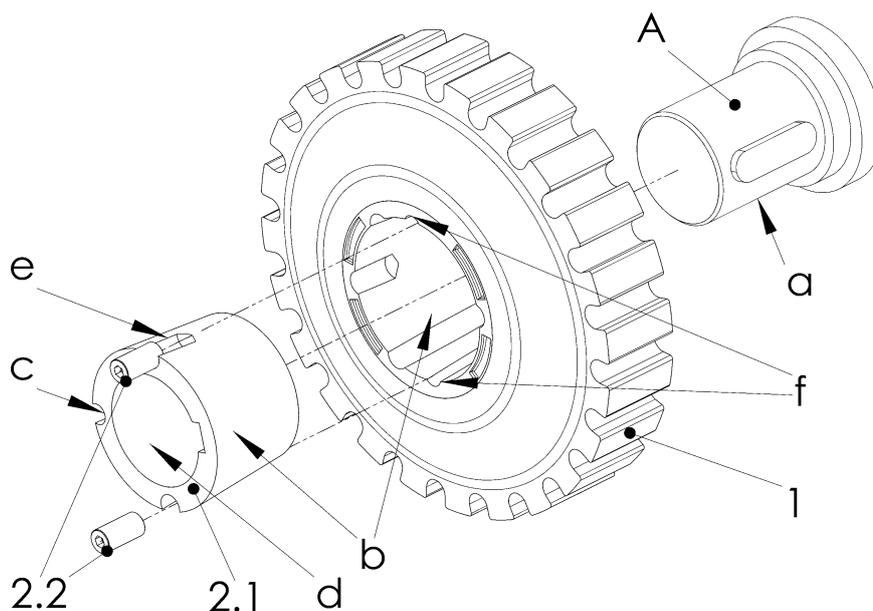
5.2.1 004G-01400: Preparing the rubber element and the taper bush

Fig. 5-1 004G-01400: Preparing the rubber element and the taper bush

Item	Info	Designation	Remark
1		Rubber element	
2.1		Taper bush	Size: 3030
2.2		Threaded pin	Width across flats (SW) see table 5-1
A		Shaft	Customer part
	a	Surface of shaft	
	b	Conical surface	
	c	Forcing thread of the taper bush	1 x
	d	Drilling	For the shaft
	e	Drilling	For the threaded pin
	f	Thread	2 x

**IMPORTANT**

The conical surfaces of the rubber element and the taper bush, as well as the drilling of the taper bush also the shaft surfaces must be free of oil, grease and dirt.

- Preparing the rubber element (1), the taper bush (2.1) and the shaft (A) for mounting:
 - Clean and degrease the drilling (d) and the conical surface (b) of the taper bush (2.1).
 - Clean and degrease the conical surface (b) of the rubber element (1).
 - Clean and degrease the surface of shaft (a).
- Insert the taper bush (2.1) into the rubber element (1).
- Move the threads (f) of the rubber element (1) and the drillings (e) of the taper bush (2.1) until they are congruent.
- Apply motor oil to the thread of the threaded pins (2.2).
- Screw the threaded pins (2.2) loosely into the half threads (f) of the rubber element (1).

5.2.2 004G-01800...04600: Preparing the rubber element and the taper bush

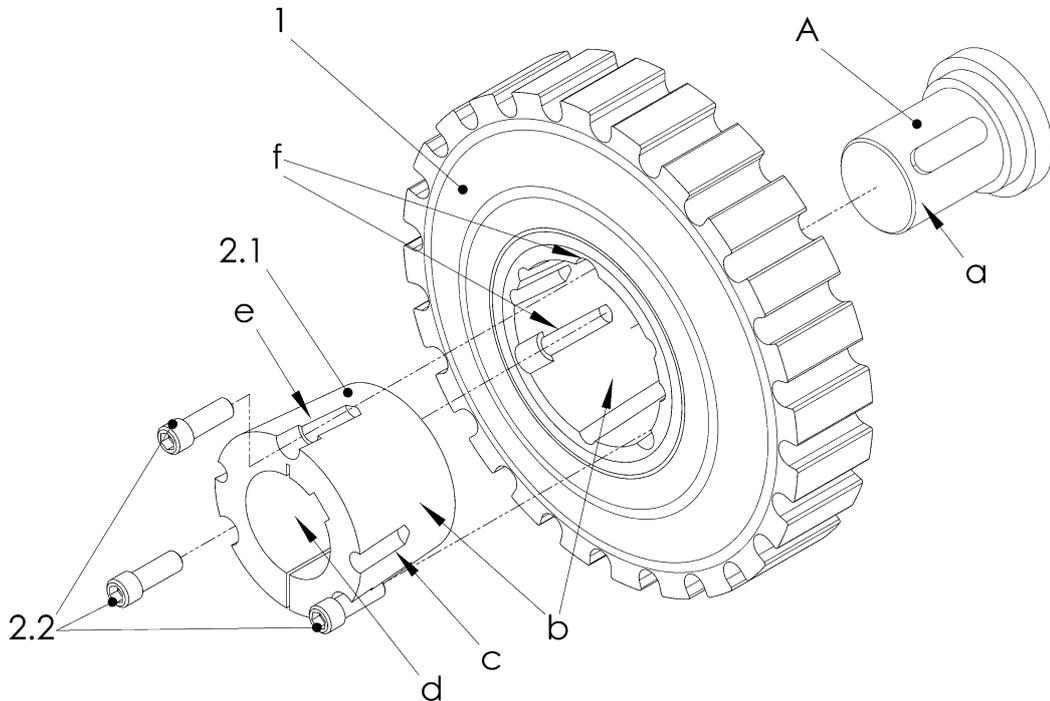


Fig. 5-2 004G-01800...04600: Preparing the rubber element and the taper bush

Item	Info	Designation	Remark
1		Rubber element	
2.1		Taper bush	Size: 3535...4545
2.2		Screw	Width across flats (SW) see table 5-1
A		Shaft	Customer part
	a	Surface of shaft	
	b	Conical surface	
1		Rubber element	
2.1		Taper bush	Size: 3535...4545
2.2		Screw	Width across flats (SW) see table 5-1
A		Shaft	Customer part

**IMPORTANT**

The conical surfaces of the rubber element and the taper bush, as well as the drilling of the taper bush also the shaft surfaces must be free of oil, grease and dirt.

- Preparing the rubber element (1), the taper bush (2.1) and the shaft (A) for mounting:
 - Clean and degrease the drilling (d) and the conical surface (b) of the taper bush (2.1).
 - Clean and degrease the conical surface (b) of the rubber element (1).
 - Clean and degrease the surface of shaft (a).
- Insert the taper bush (2.1) into the rubber element (1).
- Move the threads (f) of the rubber element (1) and the drillings (e) of the taper bush (2.1) until they are congruent.
- Apply motor oil to the thread of the screws (2.2).
- Screw the screws (2.2) loosely into the half threads (f) of the rubber element (1).

5.3 Mounting the taper bush and the rubber element onto the shaft

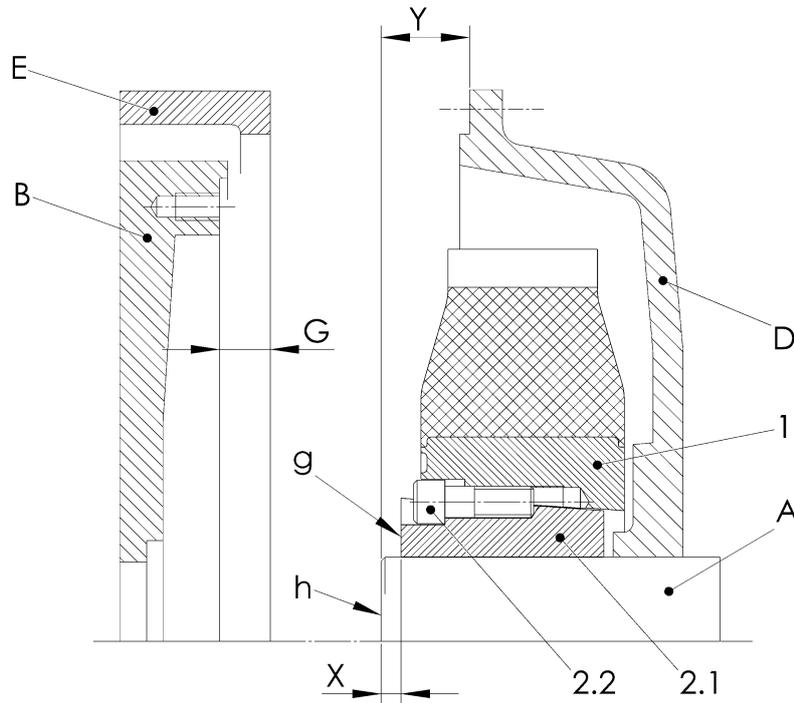


Fig. 5-3 Mounting dimension „X“

Item	Info	Designation	Remark
1		Rubber element	
2.1		Taper bush	
2.2		Threaded pin: size of taper bush: 3030 Screw: size of taper bush: 3535 - 4545	Width across flats (SW) and tightening torques see table 5-1
A		Shaft generator	Customer part
B		Flywheel	Customer part
D		Generator housing flange	Customer part
E		Flywheel housing	Customer part
	g	Face of taper bush	
	h	Shaft end	
	“G”	Distance	Measured
	“U”	Distance	See table 5-1
	“Y”	Distance	Measured
	“X”	Distance	Calculated

- Measure and note down the distance „Y“ between the shaft end (h) and surface of the generator housing flange (D).

$$Y = \underline{\hspace{2cm}} \text{ mm}$$

- Measure and note down the distance „G“ between the surface of the flywheel housing (E) and the flywheel (B).

$$G = \underline{\hspace{2cm}} \text{ mm}$$

- Take the dimension "U" according to the supplied coupling size, the SAE-size and mounted taper bush (2.1; see installation drawing) from the following table 5-1 and note down.

CM-G Size	SAE J620	Taper bush	U [mm]	Screws/Threaded pin					
				Quantity	Size	Tightening torques [Nm]			SW [mm]
						Step 1	Step 2	Step 3	
1400	11 1/2	3030	5	2	5/8" x 32	35	55	90	8
	14		5						
1800	11 1/2	3535	5	3	1/2" x 38	35	55	90	10
	14		5						
3200	14	4040	8,5		5/8" x 45	70	100	170	12
	18		22,5						
4600	14	4535	8,5		3/4" x 50	75	115	190	14
	18		22,5						
4600	14	4545	8,5	3/4" x 50	75	115	190	14	
	18		22,5						

Table 5-1 Dimension „U“ and tightening torques

$$U = \underline{\hspace{2cm}} \text{ mm}$$

- Calculate the dimension "X" by the following formula 5-1.

$$X = Y - G - U$$

$$X = \underline{\hspace{2cm}} \text{ mm}$$

Formula 5-1 Mounting dimension „X“

- Push the taper bush (2.1) together with the rubber element (1) onto the generator shaft (A).
- Position the taper bush (2.1) with the rubber element (1) by the distance with $X \pm 0.3$ mm axially on the generator shaft (A).
- Secure the axial position of the taper bush (2.1) with rubber element (1).
- Evenly tighten the screws/ the threaded pins (2.2) in three steps, until the tightening torque (see tightening torques in table 5-1).
- Check the tightening torques of the screws/ the threaded pins (2.2).

 IMPORTANT

Ensure that the taper bush is correctly positioned on the shaft/generator shaft (see installation drawing).
Taper bush must cover the shaft/ generator shaft completely.

5.4 Mounting the outer part

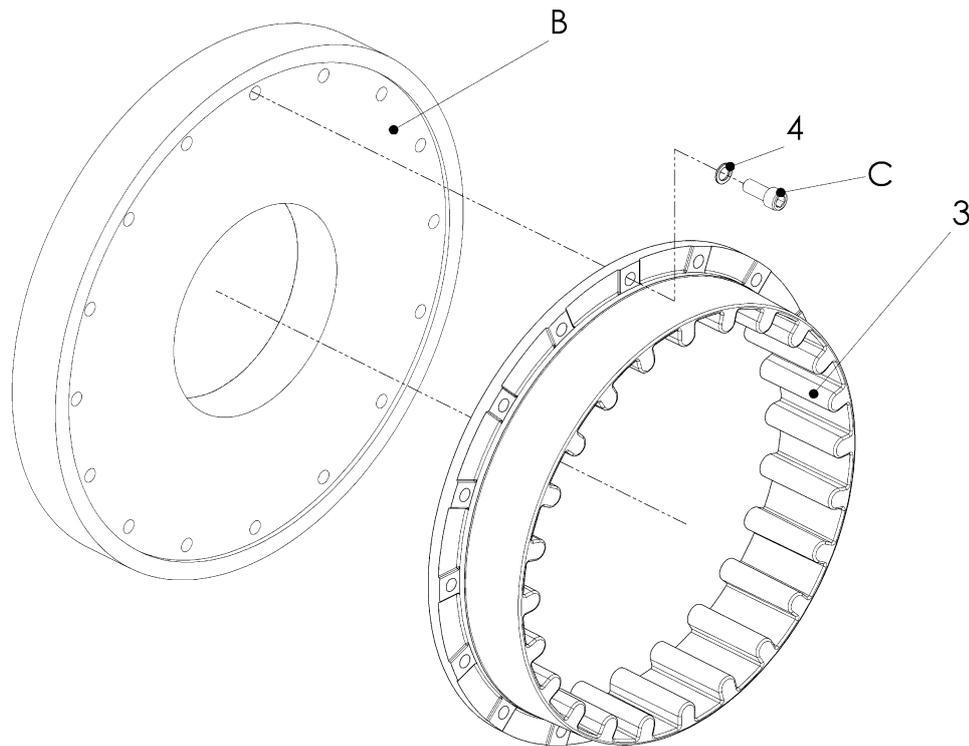


Fig. 5-4 Mounting the outer part

Item	Info	Designation	Remark
3		Outer part	
4		Washer	
B		Flywheel	Customer part
C		Screw	No scope of supply

**IMPORTANT**

For design reasons, unmounted coupling flanges can be slightly out of round. These adjust to the centering fixture of the flywheel when mounting.

- Push the outer part (3) into the centring of the flywheel (B).
- Screw the outer part (3) to the flywheel (B) using the screws (C) and the washers (4).
Screws (C) are not contained in the scope of delivery.
Use provided washers (4).

WARNING**Injuries and material damages can occur as a result of:**

- Incorrect screw firmness and tightening torque at screw connections on SAE flywheels

Screws and tightening torques according to CENTA data sheet D13-017 (see Annex).

5.5 Connecting the driving and driven units



IMPORTANT

The tothing on the rubber element must be free of oil and grease.
If necessary, use soap or talcum powder.

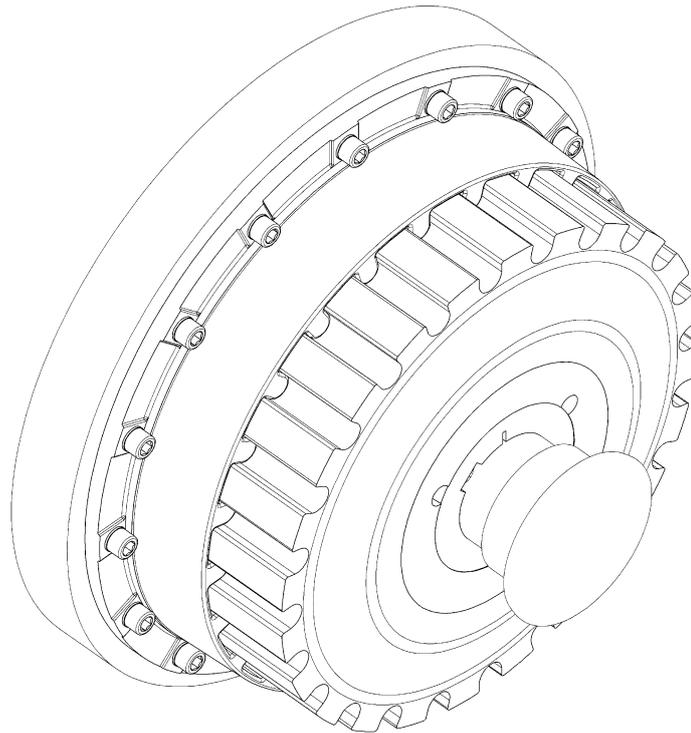


Fig. 5-5 Correctly fitted tothing

- Turn the rubber element towards the outer part until it is possible to push the tothing of the rubber element into the tothing of the outer part.
- Push the driving unit with the outer part and driven unit with the rubber element together.
- Screw the driving and driven units together according to the manufacturer's specifications

5.6 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.

CAUTION**Motor damage can occur as a result of:**

- High axial forces at the axial bearings of the crank shaft

Prior to commissioning the system, ensure that the crank shaft has axial play.

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

6 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.

6.1 Operating faults, root causes and remedy

Faults	Possible root causes	Remedy
Running noises or vibrations in the plant	Loose bolts	<ol style="list-style-type: none"> 1. Switch off the plant 2. Check the bolt torque levels and correct if necessary 3. Trial run
Breakage of the rubber element	Inadmissibly high torque	<ol style="list-style-type: none"> 1. Switch off the plant 2. Exchange the rubber element 3. Trial run
	Damage due to rotary oscillation: <ul style="list-style-type: none"> • Motor idle running speed too low • Cylinder failure 	<ol style="list-style-type: none"> 1. Switch off the plant 2. Exchange the rubber element 3. Trial run
	Inadmissibly high ambient temperature: <ul style="list-style-type: none"> • Embrittlement of the rubber element NR, surface cracks on both sides under 45° 	<ol style="list-style-type: none"> 1. Switch off the plant 2. Exchange the rubber element 3. Trial run

Table 6-1 Troubleshooting table

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

7 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.

7.1 Work to be performed

7.1.1 Cleaning the coupling

- Remove any loose dirt from the coupling.

7.1.2 Visual inspection of the coupling

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

7.1.3 Visual inspection of the rubber elements

IMPORTANT

Exchange the rubber elements:

- In the event of damage, but at the standard maintenance interval of the engine at the latest.

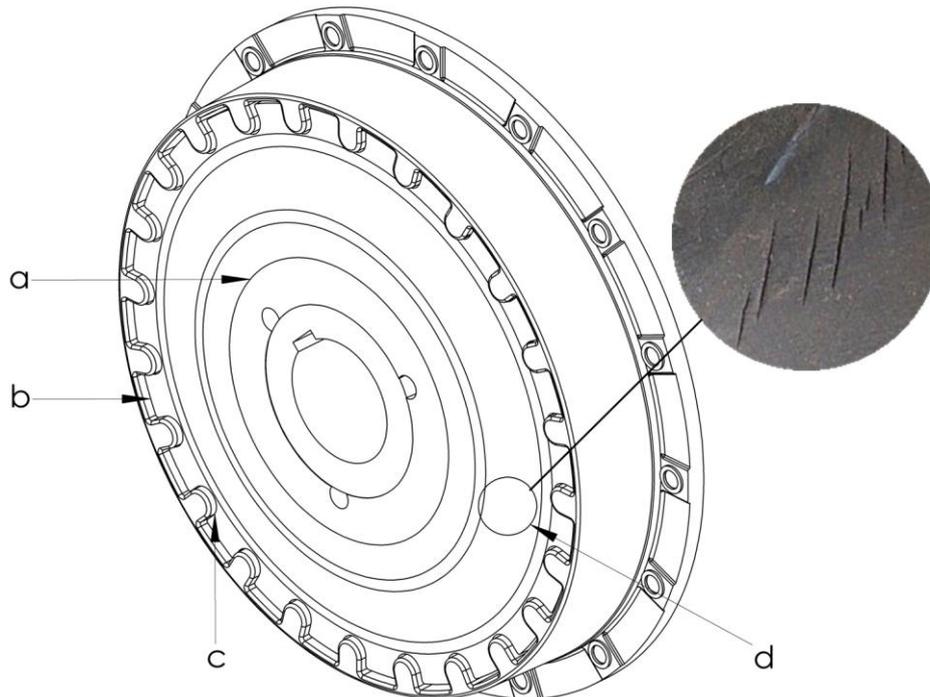


Fig. 7-1 Visual inspection at the rubber elements

Pay attention to cracks / adherence of rubber and metal parts in the zones marked by arrows (a).

Should the cracks be 3 mm or deeper, the rubber element **must** be exchanged (d).

Wear of 3-4 mm to the round teeth on the load side is admissible (c).

At a standstill, there is a distance of 1-2 mm between the coupling flange and the rubber element. At operational speed, the centrifugal force presses the rubber tooting against the coupling flange (b).

7.1.4 Inspection of the screw connections

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

7.2 Replacing defective parts

- Remove the coupling as described in chapter 8.
- Replace wearing parts.
- Mount the coupling as described in chapter 5.

8 Dismantling

8.1 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).

WICHTIG

The coupling is dismantled in reverse order to the assembly process.
Please refer to the illustrations in chapter 5.

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:**

- Falling coupling components

Secure coupling components against falling to the floor.

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.

IMPORTANT

Use suitable lifting devices for dismantling.

8.2 Separating the driving and the driven units

- Loosen and remove the screws of the connection of the driving and driven units.
- Pull the driving and driven units apart.

8.3 Dismantling the outer part (if necessary)

See Fig. 5-4:

- Loosen the screws (C) of the connection outer part (3) and flywheel (B) and remove with the washers (4).
- Remove the outer part (3) off the centring of the flywheel (B).

8.4 Dismantling the rubber element

- Dismantling the rubber element and the taper bush as appropriate for the supplied size of the coupling (see installation drawing).
 - 004G-01400:
Dismantling the rubber element and the taper bush (see chapter 8.4.1).
 - 004G-01800...04600:
Dismantling the rubber element and the taper bush (see chapter 8.4.2).

8.4.1 004G-01400:Dismantling the rubber element and the taper bush

See Fig. 5-1:

- Loosen and remove the threaded pins (2.2) of the connection rubber element (1) and taper bush (2.1).
- Screw the threaded pin (2.2) loose into the forcing thread (c).
- Force away the rubber element (1) by the threaded pin (2.2) of the forcing thread (c).
- Remove the taper bush (2.1) with the rubber element (1) off the shaft (A).

8.4.2 004G-01800...04600: Dismantling the rubber element and the taper bush

See Fig. 5-2:

- Loosen and remove the screws (2.2) of the connection rubber element (1) and taper bush (2.1).
- Screw the screws (2.2) loose into the forcing threads (c).
- Force away the rubber element (1) by the screws (2.2) of the forcing threads (c).
- Remove the taper bush (2.1) with the rubber element (1) off the shaft (A).

8.5 Reassembling the coupling

- Reassemble the coupling as described in chapter 5.

9 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 part of this coupling:

- Rubber element

When ordering a spare, specify:

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



10 Annex

10.1 CENTA data sheet D013-017 (SAE flywheel screw connection)

Validity:

For all dynamically non-stressed screw connections on SAE flywheels with headless screws according to ISO 4014, ISO 4017 and ISO 4762 (DIN 912) with standard metric thread according to DIN ISO 262 and further threads indicated in the following table, if no deviating data are specified in CENTA documents.

Preparation of components to be screwed

Joining areas must be free of dirt, preservative and lubricant agents.

Preparation of oiled screws:

Additionally lubricate screws under the screw head and on the thread with motor oil.

Use tightening torque for **oiled** screws.

Preparation of non-oiled screws:

Use screws as delivered.

Use tightening torque for **non-oiled** screws.

Screw tightening procedure:

rotating (by hand with torque wrench).

Flywheel SAE J620c		Thread size	Strength class	Tightening torques for			
				non-oiled screws		oiled screws	
				[Nm] ±5%	[in lbs] ±5%	[Nm] ±5%	[in lbs] ±5%
165	6 ½	M8	DIN 8.8 or 10.9	23	205	21	185
		5/16-18	SAE 5 or 8	24	212	18	160
190	7 ½	M8	DIN 8.8 or 10.9	23	205	21	185
		5/16-18	SAE 5 or 8	24	212	18	160
200	8	M10	DIN 8.8 or 10.9	46	410	41	360
		3/8-16	SAE 5 or 8	42	370	31	275
255	10	M10	DIN 8.8 or 10.9	46	410	41	360
		3/8-16	SAE 5 or 8	42	370	31	275
290	11 ½	M10	DIN 8.8 or 10.9	46	410	41	360
		3/8-16	SAE 5 or 8	42	370	31	275
355	14	M12	DIN 8.8 or 10.9	79	700	71	630
		1/2-13	SAE 5 or 8	100	885	77	680
405	16	M12	DIN 8.8 or 10.9	79	700	71	630
		1/2-13	SAE 5 or 8	100	885	77	680
460	18	M16	DIN 8.8 or 10.9	195	1725	170	1500
		5/8-11	SAE 5 or 8	205	1820	155	1370
530	21	M16	DIN 8.8 or 10.9	195	1725	170	1500
		5/8-11	SAE 5 or 8	205	1820	155	1370
610	24	M18	DIN 8.8 or 10.9	245	2170	245	2170
		3/4-10	SAE 5 or 8	360	3200	270	2400



10.2 CENTA data sheet D004-902
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 CENTAMAX-G

Model / series code: CM-G / 004G

Installation size: 1400...4600

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 und 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. G. 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, 09.12.2009