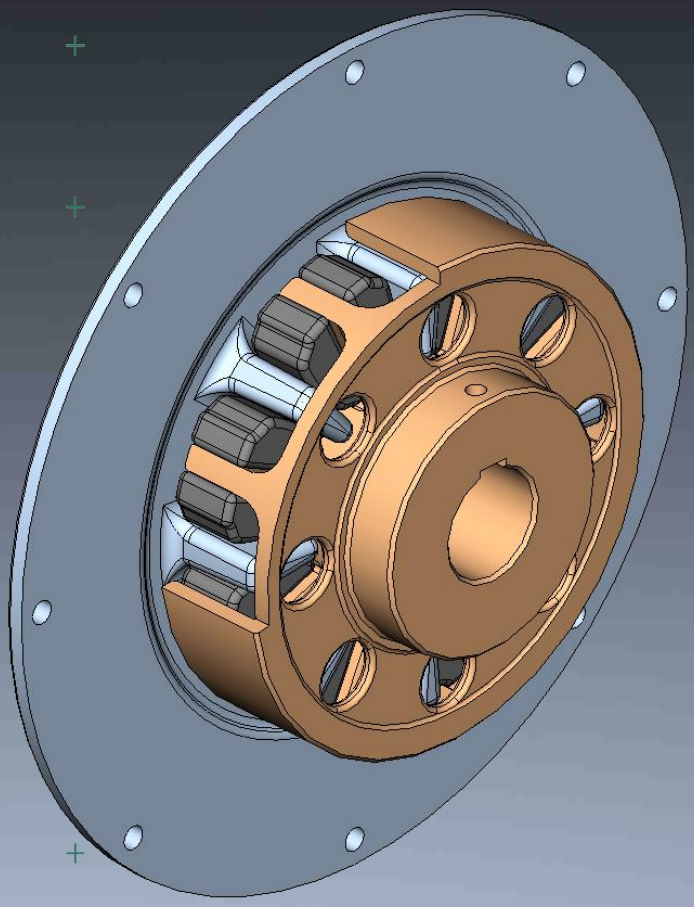
CENTAFLEX-D

Assembly and operating instructions

010D-00160...00560

M010-00001-EN

Rev. **1**



CENTA

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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.

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.

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 CENTAFLEX-D series have following excellent characteristics:

- Simple, robust, safe in operation, fail safe, compact.
- Generously dimensioned, low stress, rubber elements in compression, air cooled.
- Carefully tuned torsional stiffness to provide favourable torsional vibration characteristics, available with different shorehardness elements, progressive stiffness curve.
- Dampens vibrations and shocks, accepts axial, radial and angular misalignments.
- Simple installation, even with flange mounted driven units since the couplings are “blind fitting”.
- Widely variable design for all standard and non-standard fitting dimensions.

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

- Align the units being connected according to the existing installation situation.
  - At flanged drives:
    Checking the installation position of the units being connected, see chapter 5.1 .
  - At non flanged drives:
    Aligning the units being connected, see chapter 5.2 .

IMPORTANT
• The alignment must be recorded and has to be placed to the disposal of the operating company. This is to ensure verifying and modifying the alignment during operation and maintenance.

5.1 Checking the installation position of the units being connected

WARNING	
	**Injury and material damage can occur as a result of:** ▪ Connected units, which are out of permissible alignment tolerances, when assembled. Make sure that the units being connected are within the permissible alignment tolerances of the coupling.

- Before starting the mounting, check whether the position of the units to be connected are within the permissible alignment tolerances of the coupling.

  Therefor:
  - Check the dimensions of the centrings of the units to be connected. Record this.
  - Check the true running of the centrings of the units to be connected. Record this.
  - From the results of the checked dimensions above, determine the misalignment of the units to be connected.
- Check, whether the determined misalignment values exceed the permissible axial, radial and angular tolerances of the coupling (see chapter 5.2).
- If a permissible tolerance is exceeded, the units to be connected must be corrected correspondingly.
- Before commissioning, ensure that the position of the units being connected is within the permissible alignment tolerances of the coupling.

5.2 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.

5.2.1 Axial alignment

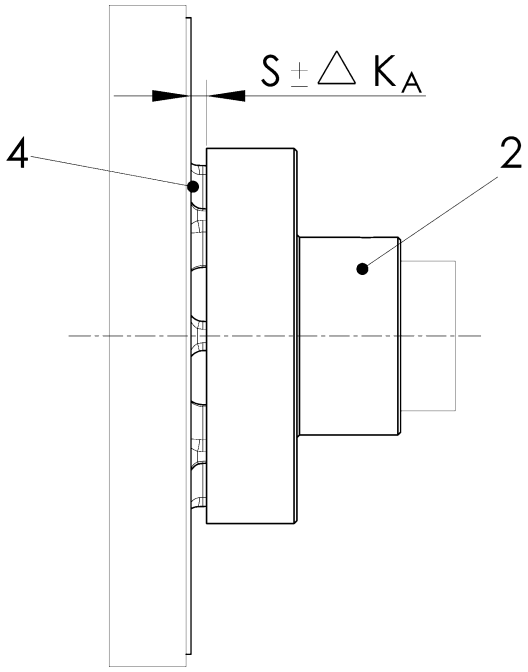

Fig. 5-1 Axial misalignment

Item	Info	Designation	Remark
2		Outer part	
4		Inner part	

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

- Align the units (installation dimension = **S±ΔK$_{A\ max}$**).

The dimension **S**, according to the delivered coupling size, can be found in the following table.

Coupling size	S [mm]
80 / 105 / 135 / 160 / 198 / 220 / 275 / 350	4
425	5
560	6

Table 5-1 Dimension „S"

Permissible axial alignment tolerance:
ΔK$_{A\ max}$= 1 mm

5.2.2 Radial alignment

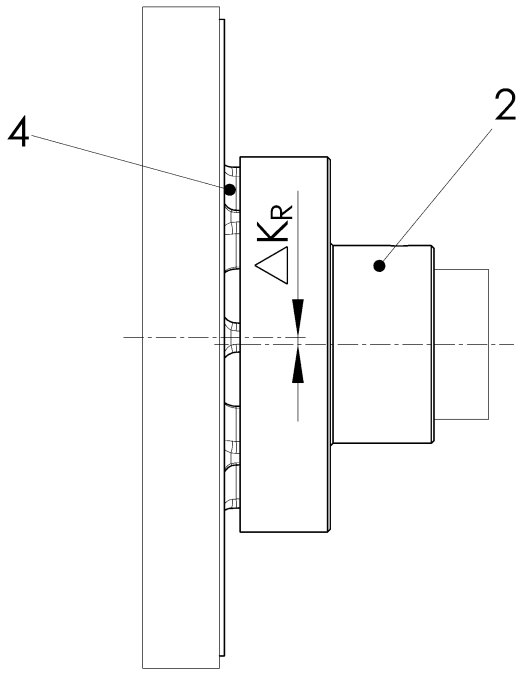

Fig. 5-2 Radial misalignment

Item	Info	Designation	Remark
2		Outer part	
4		Inner part	

CAUTION	
	**Material damage to elastically installed engines can occur as a result of:** ▪ Disregard to which extent the engine mounts may settle during alignment During vertical alignment, take into account the extent by which the engine mounts settle. Please enquire about specifications for the degree of settling from the engine manufacturer or engine mounts manufacturer.

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

➢ Align the units (calculated deviation **≤$\Delta K_{R\ max}$**).

Permissible radial alignment tolerance:
$\Delta K_{R\ max}$= ±0.2 mm

5.2.3 Angular alignment

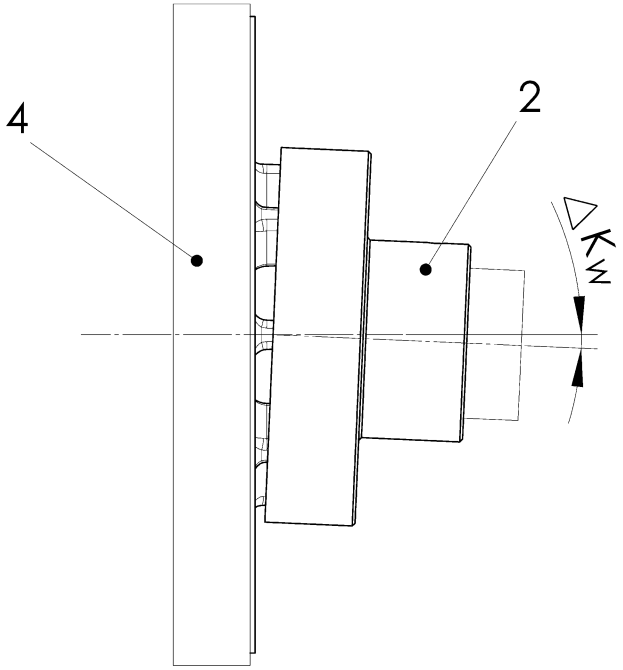

Fig. 5-3 Angular misalignment

Item	Info	Designation	Remark
2		Outer part	
4		Inner part	

Determine the angular misalignment (see Fig. 5-3).

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

Permissible angular alignment tolerance:
$\Delta K_{W\ max}$= ±0.1°

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 D013-016 (see chapter 11.1).
- Use suitable lifting devices for assembly.
- The following assembly stages are described for coupling 010D-00275-…..
- Elements for connection of the coupling to customer components do not form part of the delivery.
- Part illustration and marking may different slightly from installation drawing and delivery state.

6.2 Mounting the outer part (2)

- Mount the outer part (2) as appropriate for the supplied design (see installation drawing):
  - Mounting the outer part (2) with cylindrical bore and keyway, see chapter 6.2.1 .
  - Mounting the outer part (2) with CENTA-conical clamping hub, see chapter 6.2.2 .

6.2.1 Mounting the outer part (2) with cylindrical bore and keyway

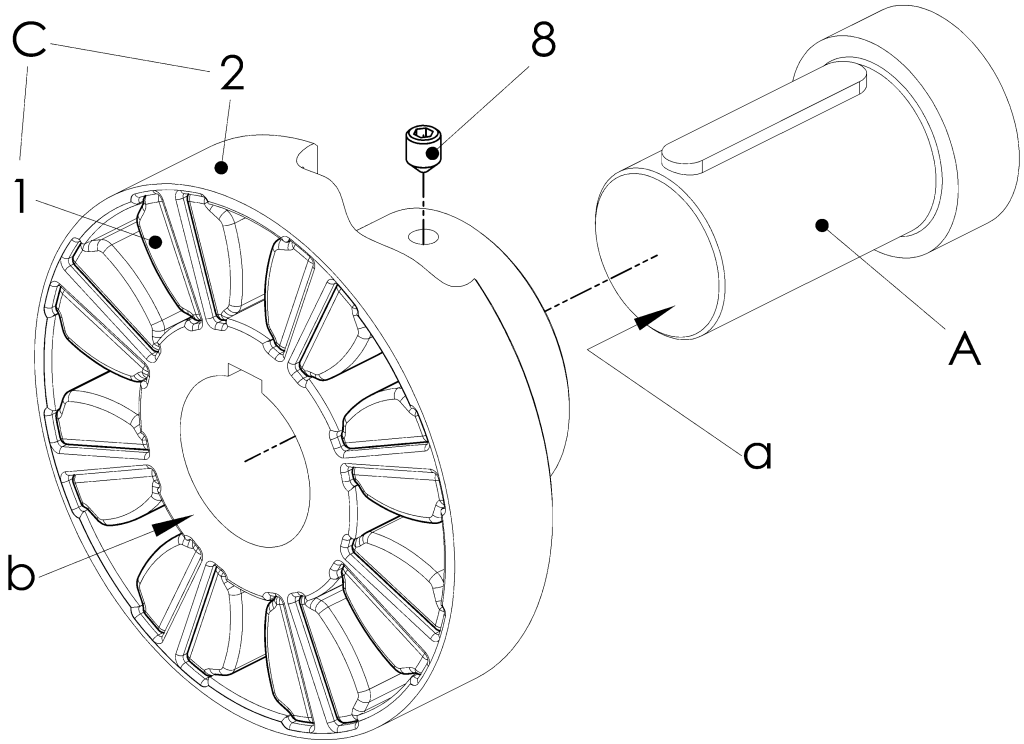

Fig. 6-1 Mounting the outer part (2) with cylindrical bore and keyway

Item	Info	Designation	Remark
1		Rubber element	
2		Outer part	
8		Threaded pin	See installation drawing
A		Shaft	Customer part
C		Outer part	With rubber elements fitted
	a	Face of shaft	
	b	Face of outer part	

- Push the outer part (2) according to the supplied design **with** or **without** fitted rubber elements (1) onto the shaft (A) with keyway.

IMPORTANT
The face of the shaft (a) must not protrude to the face (b). Otherwise the operation of the coupling is not guaranteed.

- Prepare the outer part (2) for mounting the threaded pin (8). Degrease the thread.
- Prepare the threaded pin (8) for mounting. Degrease the thread.
- Apply a screw locking medium (e.g. Loctite) to the thread of the threaded pin (8).
- Secure the outer part (2) using the threaded pin (8; size according 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

6.2.2 Mounting the outer part (2) with CENTA-conical clamping

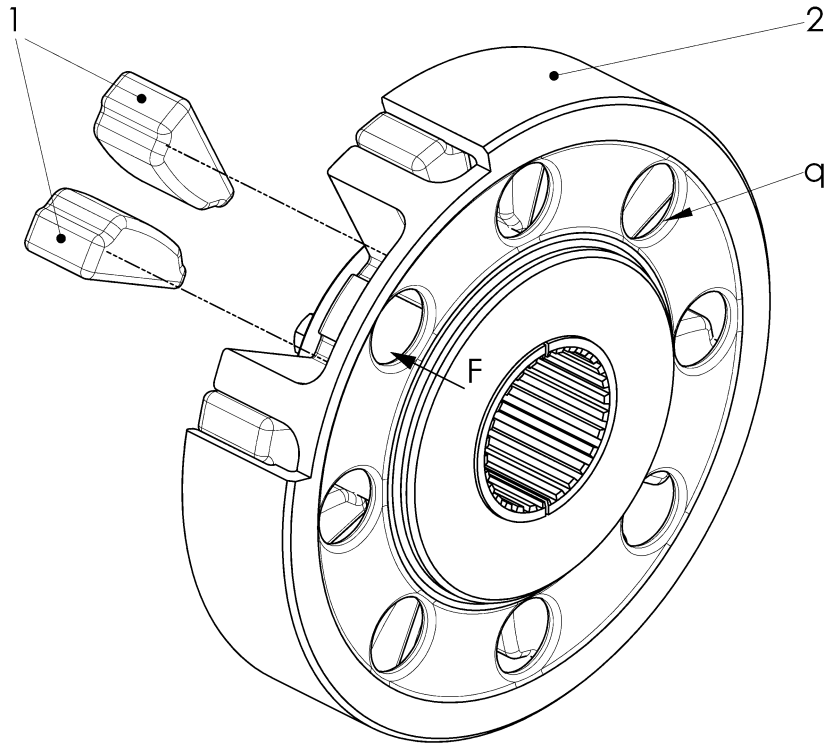

Fig. 6-2 Preparing the outer part (2) with CENTA-conical clamping for mounting

Item	Info	Designation	Remark
1		Rubber element	
2		Outer part	
F		Force in direction of pressure	
	q	Drilling	

- Push the rubber elements (1) out of the outer part (2).
  For this, force the rubber elements by pressing a not sharp-edged tool through the drillings (q).

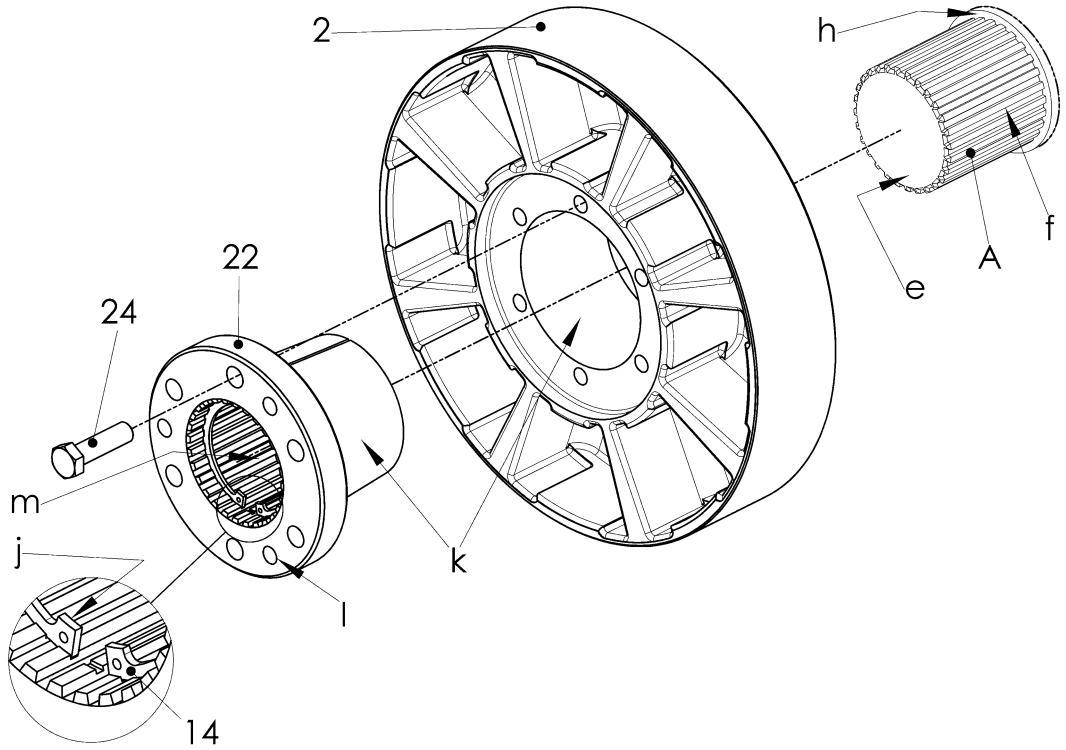

Fig. 6-3 Mounting the outer part (2) with CENTA-conical clamping

Item	Info	Designation	Remark
2		Outer part	
14		Circlip	If existing
22		Hub-taper	Pre-mounted
24		Screw	
A		Shaft	Customer part
	e	Shaft end	
	f	Shaft extension	
	h	Shaft shoulder	
	j	Rear side of circlip	
	k	Conical surface	
	l	Forcing thread	
	m	Drilling	

IMPORTANT
The surfaces of the conical clamping connection and the hub-shaft connection must be free of oil, grease and dirt.

- Preparing the outer part (2), hub-taper (22), and the shaft (A) for mounting:
  - Clean and degrease the drilling (m) and the conical surface (k) of the hub-taper (22).
  - Clean and degrease the conical surface (k) of the outer part (2).
  - Clean and degrease the shaft extension (f) of the shaft (A).
- Insert the hub-taper (22) into the outer part (2).
- Screw the hub-taper (22) with screws (24) loosely into the outer part (2).
- Push the hub-taper (22) as appropriate for the supplied design **with / without** circlip (14: see installation drawing) onto the shaft (A):
  - **with** circlip (14):
    Push the hub-taper (22) with the outer part (2) onto the shaft (A), until the shaft end (e) touches the rear side of the circlip (j).

IMPORTANT
Ensure that the hub-conus is correctly positioned on the shaft (against shaft end). If necessary brace hub-conus with washer against the shaft.

  - **without** circlip (14):
    Push the hub-taper (22) with the outer part (2) onto the shaft (A) against the shaft shoulder (h).

IMPORTANT
Ensure that the hub-conus is correctly positioned on the shaft (against shaft shoulder). If necessary brace hub-conus with washer against the shaft.

- Evenly tighten screws (24) in three steps crosswise, until the tightening torque (see installation drawing) has been achieved for all screws.
  Step 1: 40 % of the specified tightening torque.
  Step 2: 60 % of the specified tightening torque.
  Step 3: 100 % of the specified tightening torque.
- Check the tightening torques of the screws (24) one after the other.

6.3 Mounting the rubber elements (if necessary)

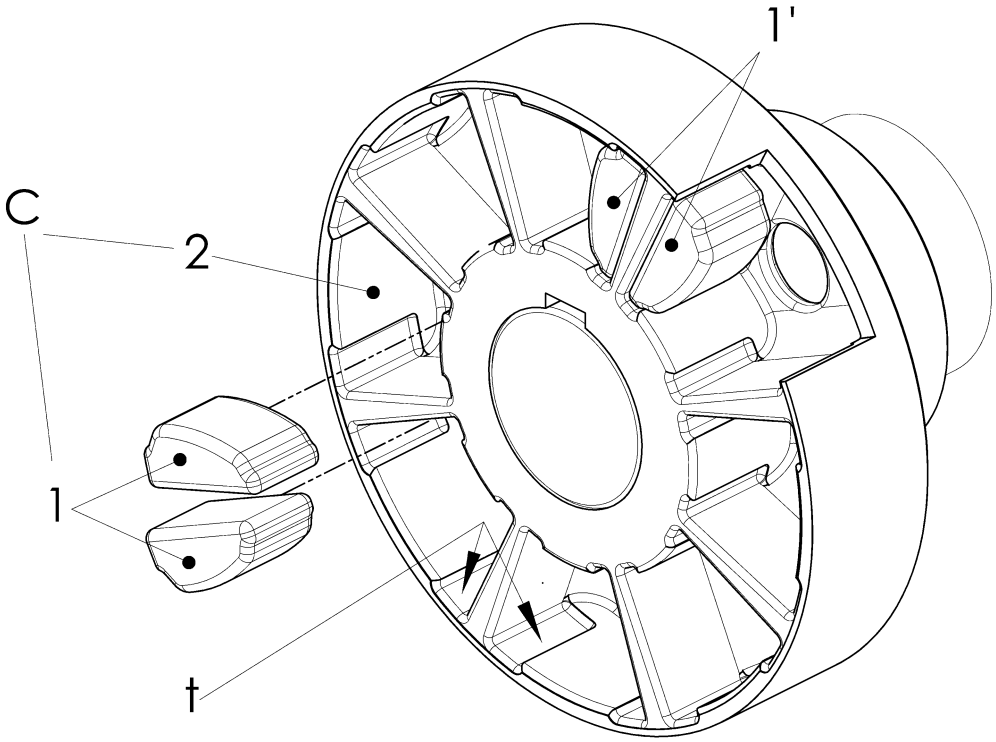

Fig. 6-4 Mounting the rubber elements

Item	Info	Designation	Remark
1		Rubber element	
1`		Rubber element	fitted
2		Outer part	
C		Outer part	With rubber elements fitted
	t	Pocket	For rubber element

- Push the rubber elements (1) into the pockets (t) of the outer part (2).

6.4 Mounting the inner part (4)

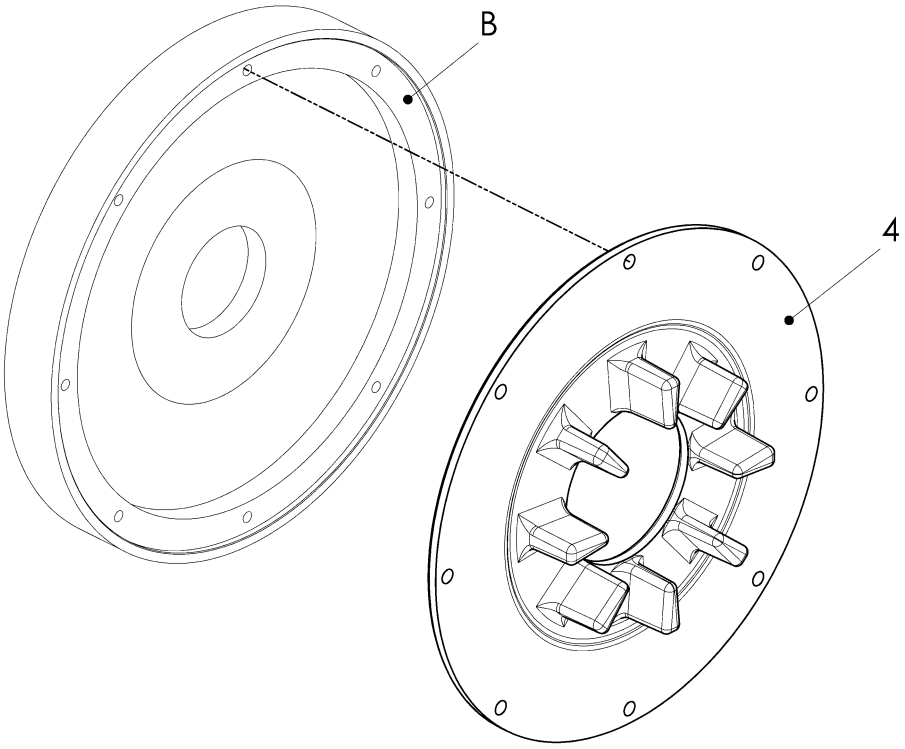

Fig. 6-5 Mounting the inner part (4)

Item	Info	Designation	Remark
4		Inner part	
B		Flywheel	Customer part

- Push the inner part (4) onto/into the centring of the flywheel (B).
- Screw the inner part (4) to the flywheel (B). The screwing can be taken of the installation drawing.

6.5 Connecting the driving and driven units

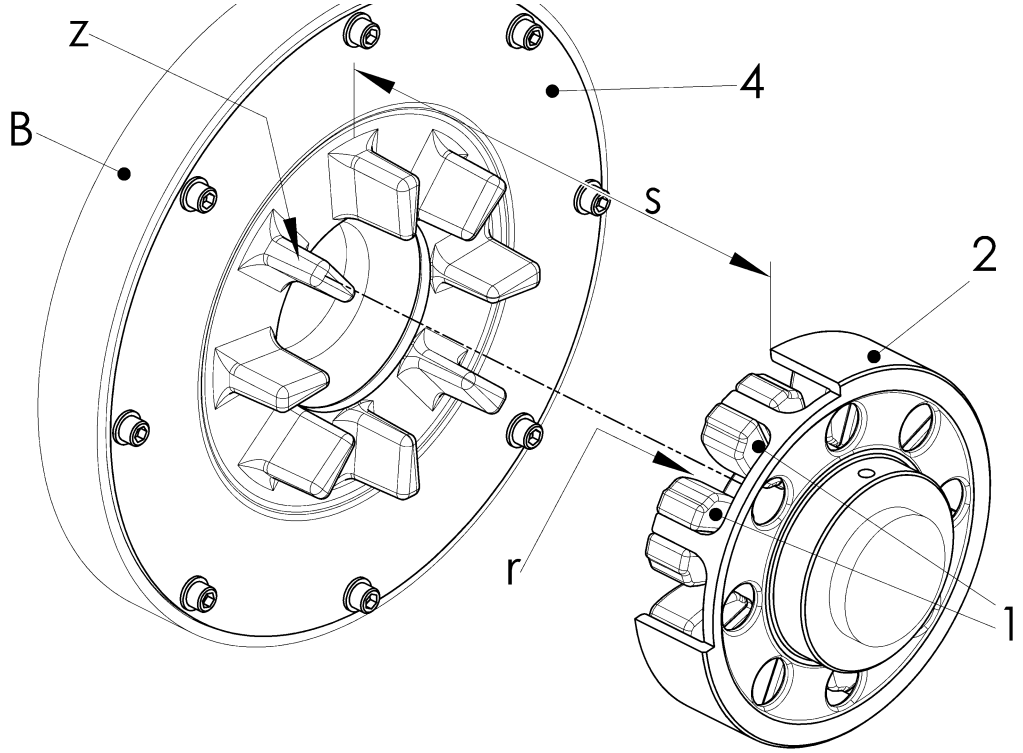

Fig. 6-6 Connecting the driving and driven units

Item	Info	Designation	Remark
1		Rubber element	
2		Outer part	
4		Inner part	
B		Flywheel	Customer part
S		Clearance dimension between inner and outer part	See chapter 5.1
	r	Gap	
	z	Claw of inner part	

IMPORTANT

To easy assembly, only moisten the claws (k) of the inner part with soap solution (10% liquid soap with 90% water).

- Moisten the claws (z) of the inner part (4) using soap solution.
- Turn the inner part (4) towards the outer part (2) until the claws (z) and the gaps (r) are aligned.
- Push together the inner part (4) and the outer part (2) until the clearance dimension **S** (see chapter 5.1) is reached.

6.6 Aligning the units

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

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

Malfunctions	Possible causes	Elimination
Running noises or vibrations in the unit	Tolerance error at flanged units or alignment error at non flanged units	1. Shut down unit 2. Check runout tolerance / alignment of the connections of the driving and driven units and if necessary correct 3. Test run
	Loose screw connections	1. Shut down unit 2. Tighten screws with specified tightening torque 3. Test run
	Worn rubber elements by means of tolerance error at flanged units or alignment error at non flanged units	1. Shut down unit 2. Replace defective parts 3. Check runout tolerance / alignment of the connections of the driving and driven units and if necessary correct 4. Test run
	Worn Rubber elements by means of impermissibly high torque	

Table 7-1 Malfunction 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, and has to be maintained according to the existing installation situation.
  - At flanged drives:
    We recommend a visual inspection if the driving and driven units have to be separated.
  - At non flanged drives:
    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 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).

IMPORTANT

The coupling is dismantled in reverse order to the assembly process.
Please refer to the illustrations in chapter 6.

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 Dismantling the coupling

9.2.1 Disconnecting the driving and the driven units

See Fig. 6-6:

- Separate the inner part (4) from the outer part (2).

9.2.2 Dismantling the inner part (4; if necessary)

See Fig. 6-5:

- Loosen and remove the screw connection of the inner part (4) and the flywheel (B).
- Pull the inner part (4) out of/off the centring of the flywheel (B) and remove.

9.2.3 Dismantling the outer part (2; if necessary)

- Dismantle the outer part (2) as appropriate for the supplied design (see installation drawing):
  - Dismantling the outer part (2) with cylindrical bore and keyway, see chapter 9.2.4 .
  - Dismantling the outer part (2) CENTA-conical clamping, see chapter 9.2.5 .

9.2.4 Dismantling the outer part (2) with cylindrical bore and keyway

See Fig. 6-1:

- Loosen the threaded pin (8; if existing) and remove out of the outer part (2).
- Remove the outer part (2) from the shaft (A).

9.2.5 Dismantling the outer part (2) CENTA-conical clamping

See Fig. 6-3:

- Loosen the screws (23) and screw them out equally about 10mm.
- For each forcing thread (l) screw out a screw (24) and screw them loose into the forcing thread (l).
- Push the outer part (4) off the hub-taper (22) with the help of the screws (24) in forcing threads (l).
- Remove the screws (24).
- Remove the outer part (4) with hub-taper (22) off the shaft (A).

9.2.6 Reassembling the coupling

- Reassemble the coupling as described in chapter 6.

9.3 Dismantling the coupling in order to replace the wearing parts

9.3.1 Disconnecting the driving and the driven units

See Fig. 6-6:

- Separate the inner part (4) from the outer part (2).

9.3.2 Replacing the rubber elements (1)

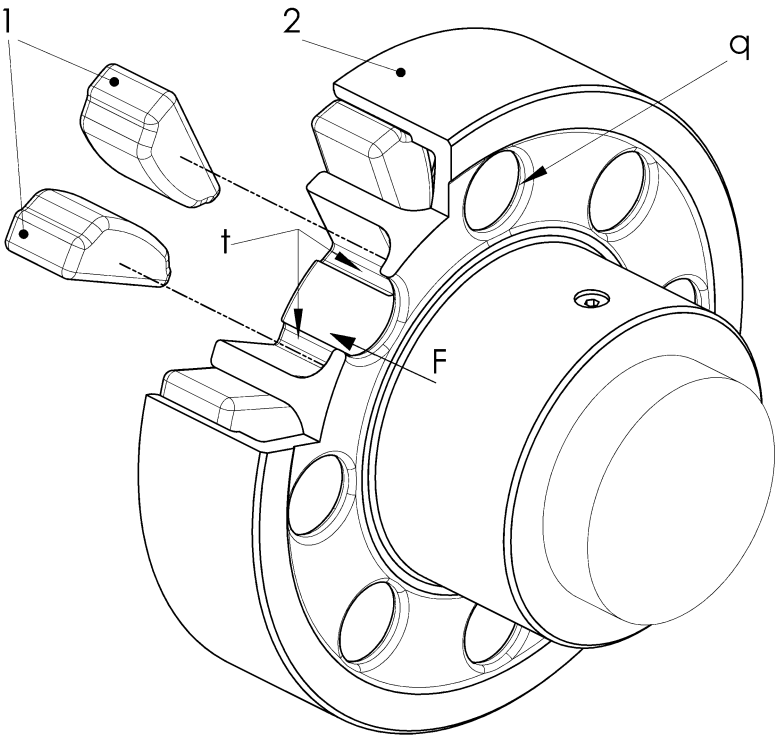

Fig. 9-1 Replacing the rubber elements (1)

Item	Info	Designation	Remark
1		Rubber element	
2		Outer part	
F		Force in direction of pressure	
	q	Drilling	
	t	Pocket	

- Push the rubber elements (1) out of the outer part (2).
  For this, force the rubber elements by pressing a not sharp-edged tool through the drillings (q).
- Push the **new** rubber elements (1) into the pockets (t) of the outer part (2).

9.3.3 Reconnecting the driving and the driven units

- Reconnect the driving and the driven units as described in chapter 6.5 .

9.3.4 Aligning the units

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

9.3.5 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.

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 elements

When ordering a spare, specify:

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

11 Annex

11.1 CENTA data sheet D013-016 (unlubricated screw connections)

Validity:
For all non-dynamically stressed screw connections with **not 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:
Use screws as delivered.

Preparation of screws that ARE secured with liquid screw locking medium:
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 [Nm] ±5%	Tightening torques [in lbs] ±5%	d	Strength class	Tightening torques [Nm] ±5%	Tightening torques [in lbs] ±5%
M6	8.8	10	90	M22	8.8	470	4160
	10.9	14	125		10.9	670	5930
	12.9	17	150		12.9	780	6900
M8	8.8	23	205	M24	8.8	600	5310
	10.9	34	300		10.9	850	7520
	12.9	40	350		12.9	1000	8850
M10	8.8	46	410	M27	8.8	750	6640
	10.9	68	600		10.9	1070	9470
	12.9	79	700		12.9	1250	11060
M12	8.8	79	700	M30	8.8	1000	8850
	10.9	117	1050		10.9	1450	12830
	12.9	135	1200		12.9	1700	15050
M14	8.8	125	1100	M33	8.8	1400	12400
	10.9	185	1650		10.9	1950	17250
	12.9	215	1900		12.9	2300	20350
M16	8.8	195	1725	M36	8.8	1750	15500
	10.9	280	2500		10.9	2500	22150
	12.9	330	2900		12.9	3000	26550
M18	8.8	245	2200	M39	8.8	2300	20350
	10.9	350	3100		10.9	3300	29200
	12.9	410	3600		12.9	3800	33650
M20	8.8	350	3100				
	10.9	490	4350				
	12.9	580	5150				

11.2 CENTA data sheet D010-900 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:	Elastic coupling CENTFLEX-D
Model / series code:	CF-D / 010D
Installation size:	160…560
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. Anderseck

by order of Gunnar Anderseck
(Authorised Person Documentation)

Declaration of incorporation was issued:

i.V. Exner

Haan, 11.12.2009

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