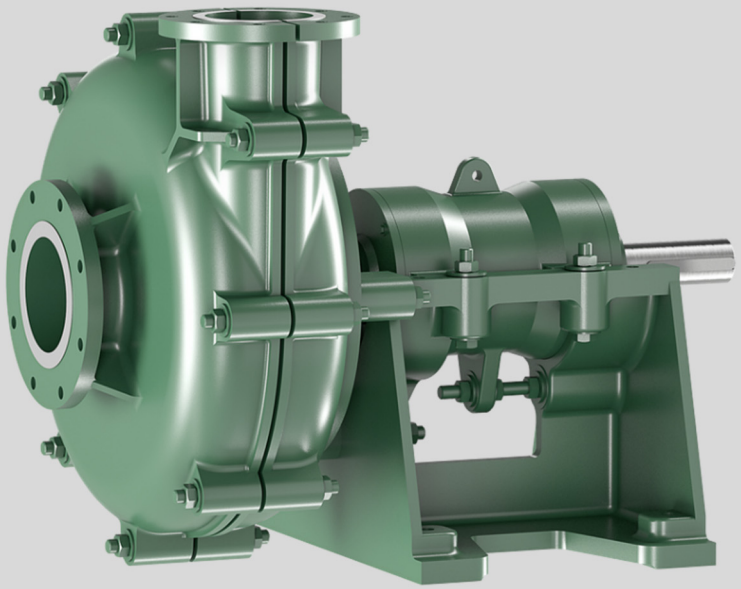
Pioneering for You

Wilo-Atmos NHD-S



en Installation and operating instructions

41367-Ed.01 / 2025-03-Wilo

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1 Introduction

1.1 Product identification

Product	Atmos NHD-S
Type designation	Atmos NHD-S 015.010B to 120.100FM
Product type	Slurry pump
Year of construction	2019

1.2 Manufacturer

Manufacturer	WILO SE
street	Wilopark 1
Postcode, City	44263 Dortmund
Country	Germany
Telephone	T +49 (0)231 4102-0
Fax	T +49 (0)231 4102-7363
E-mail	wilo@wilo.com
Web	www.wilo.com

1.3 CE marking

The CE mark shown on the right is affixed to the product.

The mark indicates the conformity of the product with all EC directives in force at the time of placing on the market that were applicable to the product.

1.4 Type plate (Nameplate)

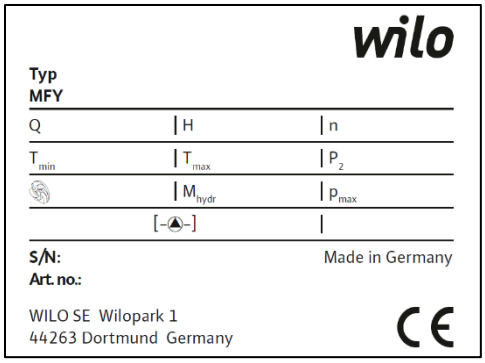
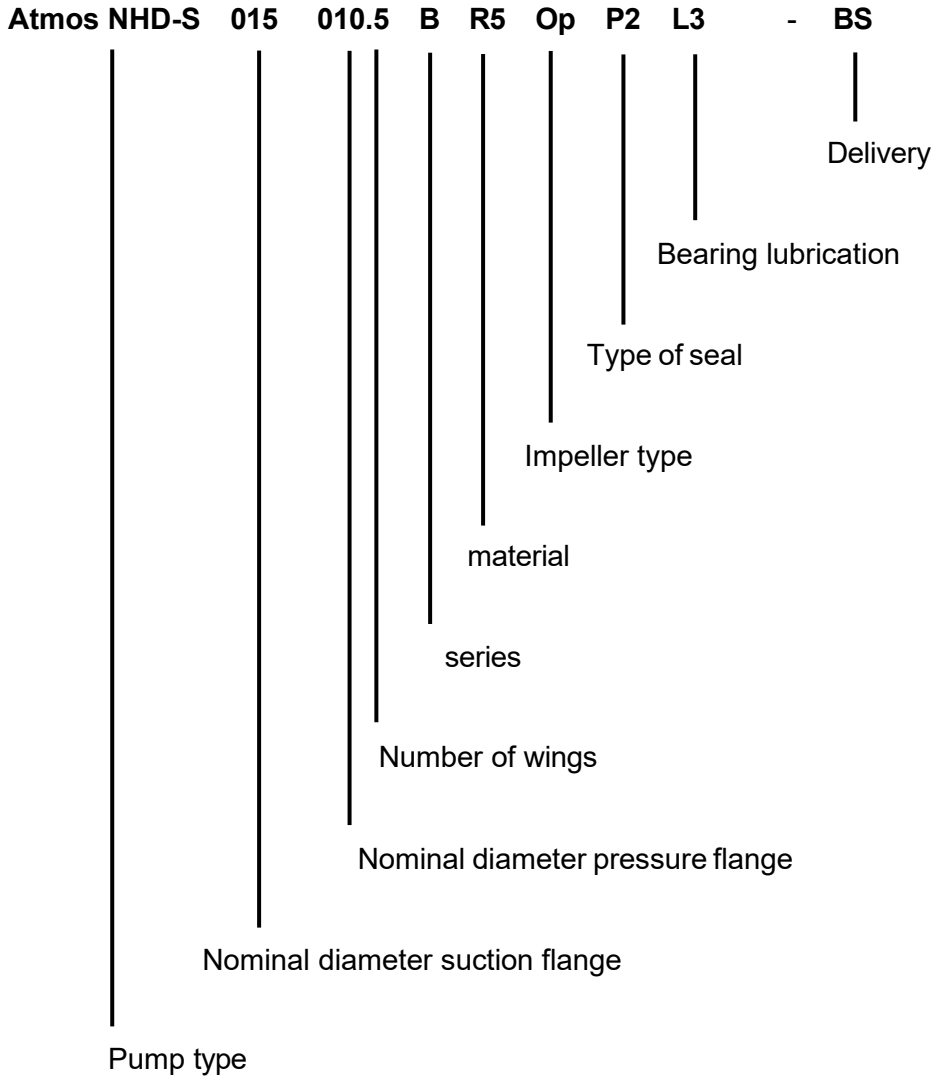


Figure 1 Type plate

The type plate shown on the right is attached to the product.

This contains the identification data, which you can find section 1.1 and 1.2of these instructions.

1.5 Type key


Atmos NHD-S 015 010.5 B R5 Op P2 L3 - BS
Delivery
Bearing lubrication
Type of seal
Impeller type
material
series
Number of wings
Nominal diameter pressure flange
Nominal diameter suction flange
Pump type

1.6 Further characteristics

series	Process pump
material	GU = Rubber R5 = Chrome Alloy
bearing	L1 = Self-lubricating bearings L2 = simple bearing Oil lubrication L3 = heavy bearing Grease lubrication L4 = heavy bearing oil lubrication

1.7 Marking of the pump

Careful observance of the instructions contained in this manual ensures permanent, trouble-free operation of the WILO pump. A type plate is attached to the bearing chair of each WILO pump, on which its serial number and identification code are stamped.

The recognition code of the pump consists of numbers and letters arranged as follows:

Digits digits cases cases

1 suction nozzle

2 pressure nozzles

3 Size

4 Pump type

1.Suction nozzle

The suction nozzle is indicated in inches and expressed by a number such as 80.

2. Pressure nozzles

The pressure nozzle is given in inches and expressed by a number such as 60. The pressure nozzle is usually smaller than the suction nozzle; in some pumps, however, both are the same size.

3. Size

The size includes the bearing chair and the bearing assembly. The size of the pump is identified by one or two letters such as E or EE.

4. Pump type

The pump type is indicated by one or more letters. Some of them are: -AH sludge pump for extremely heavy use

G Gravel pump

D Excavator pump

Examples:

080-060E-AH

8"Suction nozzle

6" Pressure Nozzle

E size

AH Sludge pump - for extremely heavy use

080-060EE-AH

8"Suction nozzle

6" Pressure Nozzle

EE size - Warehouse with high performance

AH Sludge pump - for extremely heavy use

080-080-F-G

8"Suction nozzle

8" pressure nozzle

F Size

G Gravel pump

2 About this manual

2.1 Target groups

This operating manual is aimed at the following target groups:

- operator
- Maintenance personnel
- Special specialist staff

At the beginning of each chapter, it is described which target group may carry out the described activities, insofar as not all target groups are affected.

2.1.1 Operator

The operator:

- is authorized by the operator to operate the machine;
- is physically and mentally able to operate the machine without creating additional hazards;
- is proficient in the national language, spoken and written, in order to be able to understand the instructions as well as the user interface;
- knows the risks of working with the machine based on the instruction and experience received on the machine.

2.1.2 Maintenance technicians

The maintenance technician:

- is qualified by training and experience to carry out work on the machine;
- has basic experience with the system (e.i. electrical control) on which he is to carry outwork;
- has extended experience with the system (e.i. functional safety) on which he is to carry out work;
- also has the qualifications of the operator.

2.1.3 Special staff

The special staff:

- is qualified by training and experience to carry out work on the machine;
- has basic experience with the system (e.i. electrical control) on which work is to be carried out;
- has extended experience with the system (e.i. functional safety) on which work is to be carried out;

- has additional qualifications and experience related to the relevant stages of life.

2.2 Presentation of hints

Safety instructions are represented in the instructions by a pictogram and a keyword.

The content of the notes is structured as follows:
Type/source of danger!

Possible consequences!

➢ Measures to avoid

⚠ DANGER!

"DANGER" is used when death or serious damage to health **will** occur if the advice is not observed.

⚠ WARNING!

"WARNING" is used when death or serious damage to health may occur if the advice is not observed.

⚠ CAUTION!

"CAUTION" is used when moderate or mild damage to health may occur if the advice is not observed.

ATTENTION

"ATTENTION" is used when damage to the machine or environment may occur if the advice is not observed.

Hint

Helpful instructions and information for the use of the product.

Cross-reference to a special document.

2.3 Presentation of enumerations

Bulleted lists are presented as a list of bullet points. For example:

- Point 1
- Point 2

2.4 Presentation of calls to action

2.4.1 Calls to action with order to follow

Calls to action to be executed are numbered and displayed in a list. The system reaction of the product to the respective action is shown in italics and marked by a check mark. example:

Call to Action

1. Activity, e.i. Press the button "Horn on".
2. Activity, e.i push button "Horn off".

☑ *Reaction 1, e.i. "the beep goes out"*

2.4.2 Calls to action without any order to follow

Calls to action without a fixed order are represented by an arrow. The system reaction of the product to the respective action is shown in italics and marked by a check mark. For example:

Call to Action

➢ Activity, e.i push button "Horn off".

☑ *Reaction 1, e.i. "the beep goes out"*

3 Safety

3.1 General safety instructions

- Damage caused by incorrect handling of the product. The product is manufactured according to the currently valid state of the art and taking into account relevant legal regulations. Nevertheless, dangers for persons and/or the environment may occur. Use only trained personnel.
- Failure to follow these instructions can have serious consequences for persons or the environment. Always follow the operating instructions.
- Improper use of the machine can lead to serious damage to man and machine. Use the machine exclusively as intended.

3.2 Intended use

- The Atmos NHD-S slurry pump is used for conveying liquid media in industry. The slurry pump is driven by a clutch with a motor and is part of a conveyor circuit for cooling, lubrication and transport of liquid media.
- The slurry pump is designed for a maximum permissible surface temperature of 135 °C.
- The slurry pump is designed for the use of hot liquids up to 180°C.
- The slurry pump is intended exclusively for industrial use.

3.3 Reasonably foreseeable misuse

- All applications that do not meet the requirements of the best immune use are prohibited.
- Use under surface temperatures above 135 °C is prohibited.
- The pumps are not designed for use in the food sector.
- Work on parts under tension or pressure is prohibited. Before working on the hydraulic system, the existing residual pressure, e.i. in the pressure accumulator, must be properly reduced.
- In case of damage, the operation is prohibited.
- Any method of operation aimed at circumventing or rendering protective devices ineffective shall be refrained from.
- Functional or structural changes are prohibited.
- In the event of a change or deviation from the specified connection values, operation is prohibited.

3.4 General risks

Electric shock

- In order to avoid heavy lifting, ensure that the electric supply of the plant is switched off and blocked before the commissioning of cooling and/or adjustment work and that the plant does not receive any electric discharge.

3.4.1 Protective devices

Rotating components

Due to unprotected moving parts (impeller & shaft), there are various crushing hazards for the operator.

- The product shall be operated exclusively with a fully functional protective device. In the event of missing and/or defective protective devices, the product must be stopped immediately.

3.4.2 Repair Restrictions / Safety

During the warranty period, repairs of any kind are prohibited and the individual components may not be opened under any circumstances. If a component fails within the warranty period, contact the manufacturer. The warranty expires if it is determined that a component has been opened during the warranty period.

3.4.3 Hot surfaces and liquids

The slurry pump is designed for the use of hot liquids up to 180°C, so that touching the surfaces and contacting the liquids, e.B. in the event of leakage, can lead to burns.

- On the customer'sside, measures must be taken to avoid contact with hot surfaces and liquids if hot liquids are to be used.
- Z. B. attach a heat protection and/or a pictogram "Warning of hot surfaces" and extend the operating instructions accordingly. Refer to Table 2 "Maximum permissible temperatures for unprotected surfaces on the pump/pump unit during normal operation" of standard EN 809:1998+A1:2009+AC:2010.

3.4.4 Maintenance and repair work

In order to carry out maintenance and repair work, the maintenance personnel may have to be in the danger zone of the machine and/or protective devices or interlocks must be dismantled. There is an increased risk potential here.

- Before starting maintenance and repair activities, ensure that the slurry pump is in a stress-free and pressure-free state and is completely emptied.
- Maintenance and maintenance work can only be carried out by competent personnel and in compliance with safety regulations.
- On the customer's side, a lockable mains separation device must be installed on the pump so that an unwanted restart is prevented.
- Work on electrical equipment can only be carried out by electricians from the manufacturer or by specially commissioned, trained electricians and in compliance with safety regulations.
- After completion of the maintenance and servicing work, return the machine to a safe condition. All guards and interlocks must be firmly screwed and professionally mounted.

3.4.5 Exposure to noise

Depending on them medium used, the sound pressure level may increase.

➢ Wear appropriate hearing protection.

3.5 Conversion and spare parts production

The unauthorized conversion or modification of the pump is only permitted in consultation with the manufacturer. Only original spare parts from the manufacturer are to be used. The installation of third-party parts can result in safety and functional impairment and excludes liability.

3.6 Obligation for the operator

The operator has the obligation to comply with the national and, if applicable, existing regional requirements for occupational safety.

The operator is obliged to contact the persons working with the product beforehand

- to have these instructions read,
- to instruct about the contents of these instructions,
- to provide information on basic provisions for occupational safety and accident prevention,
- provide personal protective equipment for the safe use of the product.

3.7 Commitment to staff

All persons working with the production are obliged to:

- to have read and understood these instructions before the first use,
- to refrain from working methods that adversely affect machine safety,
- to report defects in the machine immediately and to have them corrected professionally,
- operate the machinery only with protective devices,
- to prevent and report obviously erroneous actions of third parties.

3.8 Qualification of staff

The staff employed must be sufficiently experienced in terms of qualifications, training and further education as well as the professional experience acquired in order to be able to carry out the intended work. The experience is largely defined by the skills of the staff for the prevention of human and machine skills.

For different activities that have to be carried out with or on the product, different qualifications of the personnel are required according to the following matrix:

Qualification Activity	Operator	Maintenance technicians	Special staff
Transport	✗	✗	✓
Assembly	✗	✗	✓
Initial commissioning	✗	✓	✗
Commissioning	✓	✓	✗
Troubleshooting	✓	✓	✗
Maintenance	✓	✓	✗
Restoration	✗	✓	✗
Decommissioning	✗	✓	✓
Dismantling	✗	✓	✓

3.9 Personal protective equipment

The following personal protective equipment must be available:

	**COMMANDMENT**	Wear safety glasses!
	**COMMANDMENT**	Wear a safety helmet!
	**COMMANDMENT**	Wear hearing protection!
	**COMMANDMENT**	Wear safety shoes!
	**COMMANDMENT**	Wear protective clothing!
	**COMMANDMENT**	Wear protective gloves!

3.10 Safety markings on the product

There are safety instructions on the product that indicate residual risks that cannot be avoided by design.

The manner of presentation corresponds to the form shown below.

Which hazards and information are actually attached to the product can be found in the chapter "Residual risks".

Symbol	KEYWORDS	Additional description
	**DANGER**	Description of the type and source of hazard and, if applicable, possible consequences.

3.11 Bid sign

List of bid signs used on the product or in this instruction manual:

	**General bid sign** This symbol is only used with a separate note in text form.
	**Follow the operating instructions** A reference to the documentation or a special documentation.

3.11.1 Warning sign

List of warning signs used on the product or in this instruction manual:

	**Warning of a danger point** This symbol is only used with a separate note in text form.
	**Warning of risk of moving in** There are entry points that can pull in the body/parts of the body.
	**Warning of dangerous electrical voltage** The electrical voltage is so high that this voltage can permanently negatively affect the human organism.

	**Warning of hand injuries** There are danger points that allow a hand injury.
	**Hot Surface Warning** The surface temperature is so high that injuries are possible.
	**Hovering Load Warning** There are floating loads.

4 Product description

This chapter describes the structure and functions of the product and its operating points as well as the technical data. If possible, read it on the machine. This allows you to familiarize yourself optimally with the machine.

4.1 Variants

The pump is available in different versions:

- With standard bearing cartridge
- With high-performance bearing cartridge

4.2 Product

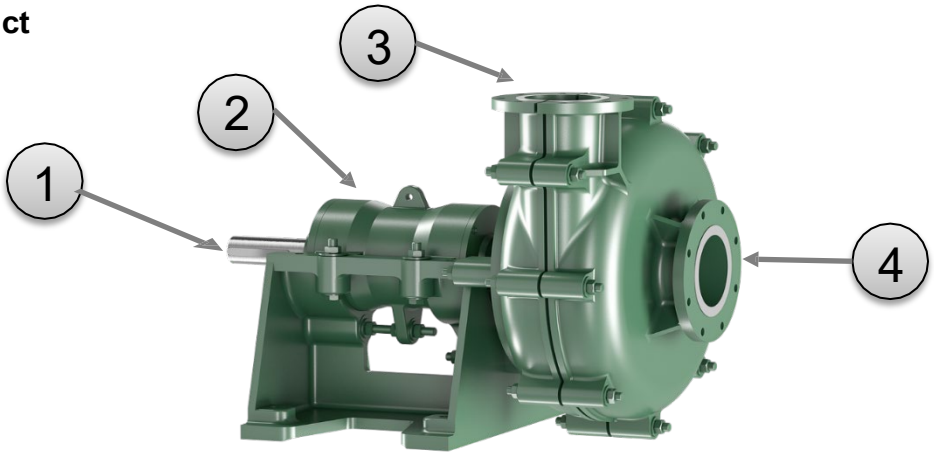


Figure 2 Product Overview

Pos.	Designation
1	Motor shaft for connecting a motor
2	Bearing unit (with bearing cartridge)
3	Pressure side
4	Suction side

The Atmos NHD-S slurry pump is used for conveying liquid media from industry (not in the food sector).

The slurry pump is driven by a clutch with motor and is part of a conveyor circuit for cooling, lubrication and transport of liquid media. For this purpose, the liquid medium is sucked in on the suction side and output on the pressure side. The slurry pump is optionally supplied with or without base frame. The delivery of the engine is also optional.

4.3 Detailed drawing

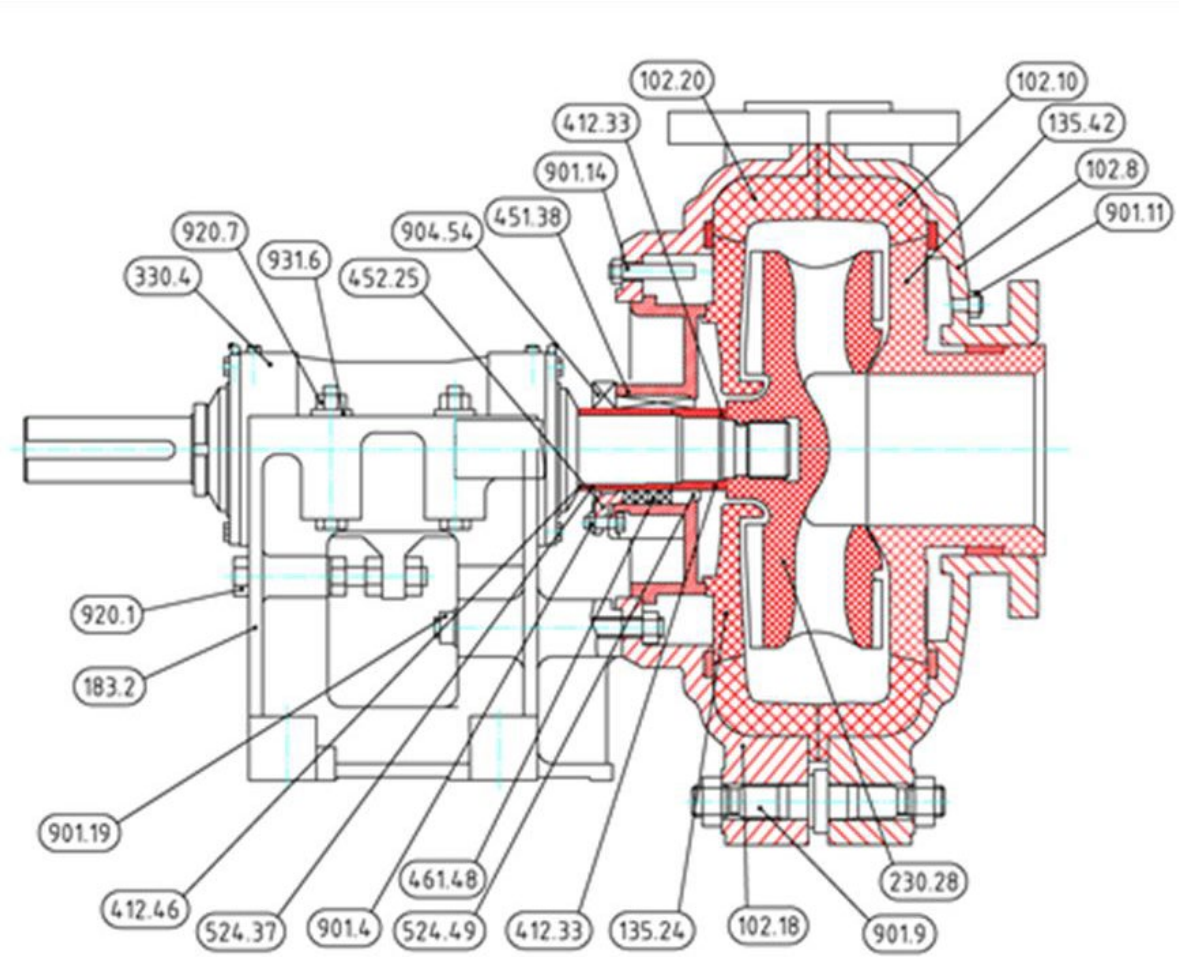


Figure 3 Detailed Drawing

4.4 Detail drawing standard bearing cartridge

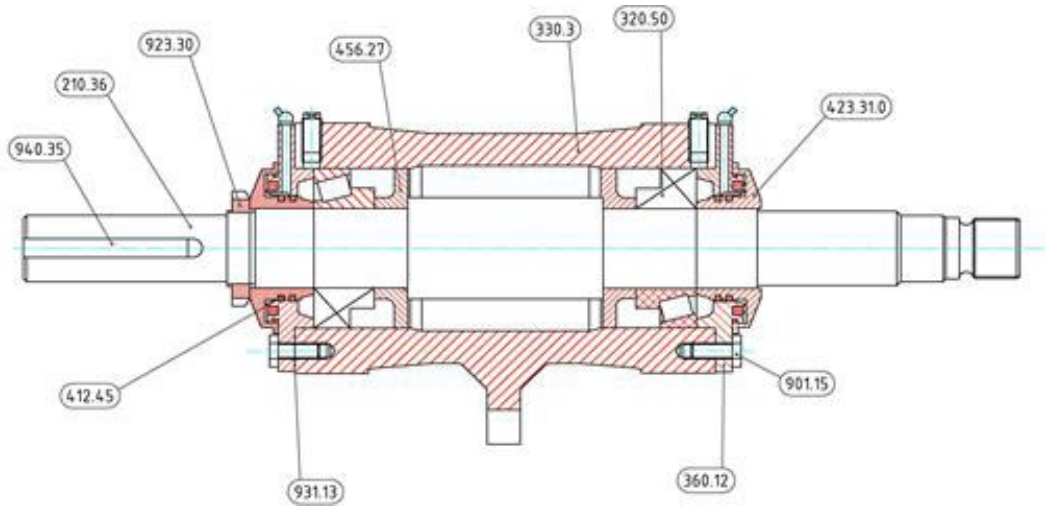


Figure 4 Standard Bearing Cartridge

4.5 Detail drawing high-performance bearing cartridge

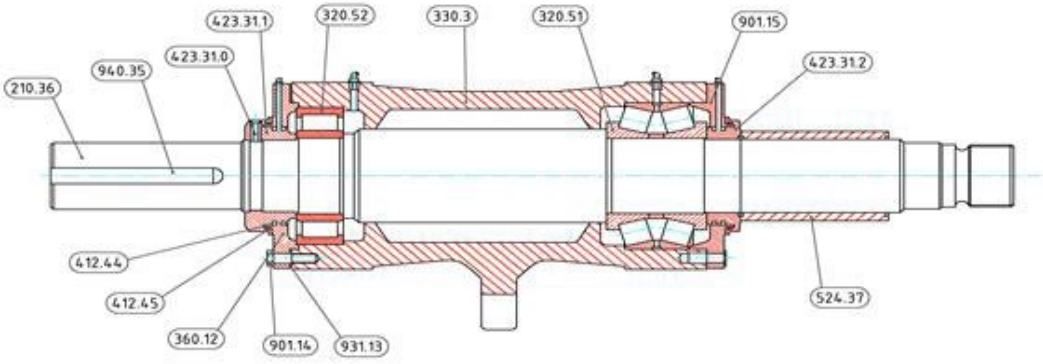


Figure 5 High Performance Bearing Cartridge

4.6 Component and spare parts list

Position	Number	Spare part
102.8	1	Half of the housing on the suction side
102.10	1	Front housing insert, rubberized

Position	Number	Spare part
102.18	1	Rear half of the housing
102.20	1	Rear housing insert, rubberized
102.47	1	Housing insert
135.23	1	Posterior mucus wall
135.24	1	Rear mucus wall, rubberized
135.42	1	Wear insert on the suction side
183.2	1	Leg
210.36	1	shaft
230.28	1	wheel
320.50	2	antifriction bearing
320.51	1	antifriction bearing
320.52	1	antifriction bearing
330.3	1	Bearing Carrier
330.4	1	Bearing unit compl.
360.12	2	bearing cap
400.29	1	Gasket on the suction side
400.52	1	Spiral housing seal
400.53	1	Spiral housing seal
400.55	1	Flange seal
412.33	1	Round seal
412.44	2	oil seal
412.45	4	oil seal
412.46	1	Round sealing ring
423.31.1	1	Labyrinth ring for X-high pressure bearing
423.31.2	1	Labyrinth ring for X-high pressure bearing
423.31.0	2	Labyrinth ring for standard bearing unit

Position	Number	Spare part
451.17	1	Stuffing box housing
451.38	1	Stuffing box housing
451.51	1	DynaSeal stuffing box housing
452.25	1	Stuffing book glasses
456.27	2	Catch bowl
456.34	1	Base disc
456.43	1	Holding socket
456.50	1	Land register
458.32	1	Barrier water ring
458.56	1	Lubrication unit
461.48	6	Stuffing box pack
524.37	1	Shaft protection sleeve
524.49	1	Shaft protection sleeve
604.16	1	Relief wheel
901.09	8	Tensioning screw
901.11	6	hex head screw
901.14	8	Tensioning screw
901.15	8	hex head screw
901.19	4	Tensioning screw
901.21	8	threaded joint
901.22	8	threaded joint
901.26	2	hex head screw
904.54	2	stud
920.01	2	Tensioning screw
920.07	4	Tensioning screw
923.30	1	Bearing nut

Position	Number	Spare part
931.06	4	Washer
931.13	2	Spacer disc
931.41	2	Retaining disc
940.35	1	key

5 Technical specifications

5.1 General

Length x Width x Height	583 x 295 x 368 (015,010B) to 2320 x 1460 x 1789 (160,140T) mm
Net weight: gross/net	77 kg (015.010B) to 9966 kg (160.140T)
Air flow	Up to 5400 m³/h*
Head	Up to 118 m*
Maximum allowable pressure	16 bar
Maximum surface temperature	135 °C
Liquid temperature	180 °C
Temperature operation	-30 to 95 °C
Temperature Storage	-24°C to +55°C
Altitude	1000 m
Mode	Mechanical external drive

* *Head and flow rate: The pump has been designed and manufactured according to the specifications of the operator/customer. The operating point of the pump (delivery capacity and head) can be individually changed by changing the speed and impeller diameter.*

5.2 Standard characteristic curve without high pressure pump

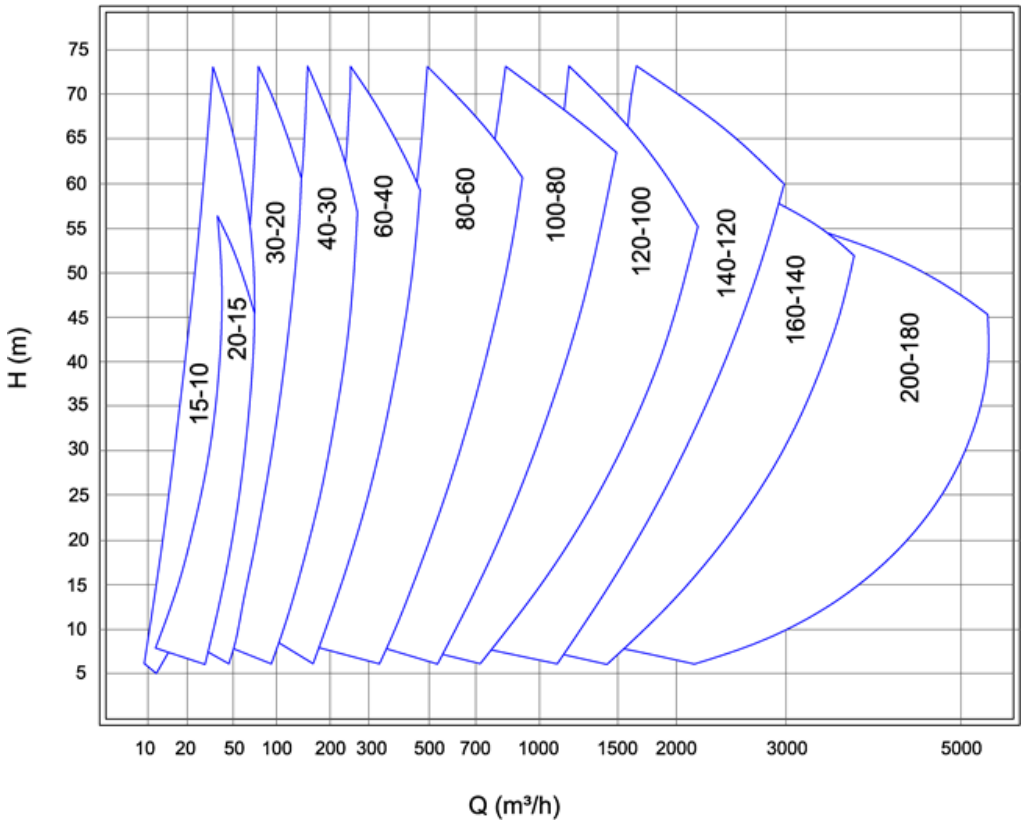


Figure 6 Standard characteristic without high pressure pump

5.3 Auxiliary and operating materials

Recommended greases according to classification up to 80 °C bearing carrier temperature:

Shell	ALVANIA EP 2
NESTE	Yleisrasva 2
ESSO	Beacon 2
SKF	LGMT 2
KLÜBER	Centoplex EP2

Recommended fats according to classification above 80 °C bearing carrier temperature:

Shell	Limona LX1
NESTE	Yleisrasva 2
ESSO	Unirex N3
SKF	LGHT 3
KLÜBER	Staburax NBU 8 EP

5.4 Sealing water demand and sealing water pressure

The amount of pure water required for pack sealing is 0.2-1.0 l/min. The corresponding pressure can be found in the table. For pumps that convey solids, the water pressure must be approximately 0.35 kg/cm² above the pump discharge pressure.

Size	Full (l/s)	Throttled (l/s)	Low (l/min)
A	0,15	0,06	0,20
B	0,25	0,09	0,30
C	0,35	0,11	0,45
D	0,55	0,15	0,75
E	0,70	0,20	0,75
F	1,20	0,26	1,50
G	1,60	0,40	1,50
B	2,10	0,60	2,00

6 Transport and packaging

Target group: Crane operators, forwarding companies

6.1 Special safety instructions

⚠ WARNING!

Falling components

Suitable means of transport can lead to serious injury or death.

- ➢ Use appropriate means of transport.
- ➢ The product is transported exclusively in individual product parts.
- ➢ Use only suitable and tested slings and hoists for transport.

⚠ WARNING!

Risk due to increased loads

- ➢ Wear a safety helmet and safety shoes during transport and handling of the system.
- ➢ Before transport, remove all auxiliary and operating materials from the system and store them professionally or dispose of them in accordance with local regulations and guidelines. Observe the safety data sheets of the auxiliary and operating materials
- ➢ Ensure that there are no people under the floating loads.
- ➢ Expel unauthorized persons from the danger zone.

6.2 Choose a means of transport

ATTENTION

Falling components

Improper transport can lead to property damage.

- ➢ When choosing the means of transport, consider the technical data of the machine and its individual components.

All lifting equipment must have a load capacity corresponding to the weight of the individual and overall unit.

Maximum load capacity, material and manufacturer must be named on the lifting equipment.

Call to Action

- ➢ Check the center of gravity before lifting and transporting.
- ➢ Remove the total gross and net weight on the product, packaging or from the delivery documents.
- ➢ Pay attention to balance when transporting with forklifts and pallet trucks.

The following means of transport are required for the transport and assembly of the product:

- 4 heavy-duty castors
- forklift
- crane
- Stop chains
- Lifting eyelets

6.3 Prepare transportation

Call to Action

- ➢ Define the transport route and remove possible obstacles.
- ➢ Keep unauthorized persons away from the transport route and the installation site.
- ➢ Lock off the workspace.
- ➢ Check the transport safety on the machine and its components.
- ➢ Check the perfect condition of the parts and the outer packaging.

➢ Check that all parts are firmly screwed and that the transport fuse has been properly fastened.

6.4 Loading / Unloading

The pump can be purchased with various options (e.i. with base plate or motor). Depending on the option, there are different types of lifting. Below you will find three lifting suggestions of the pump:

- Lifting with base plate
- Lifting without base plate
- Lifting with base plate and motor

6.4.1 Lifting with base plate

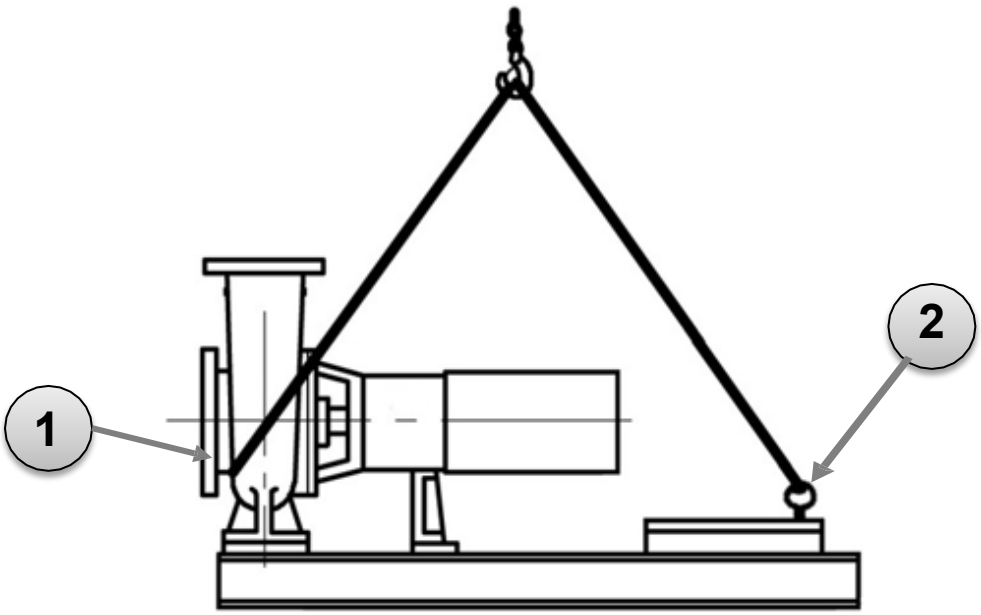


Figure 7 Lifting with Base Plate

Call to Action

➢ Attach stop chains with two lifting eyelets to the base plate (item 2) and under the suction flange (item 1) of the pump and lift with a crane.

6.4.2 Lifting without base plate

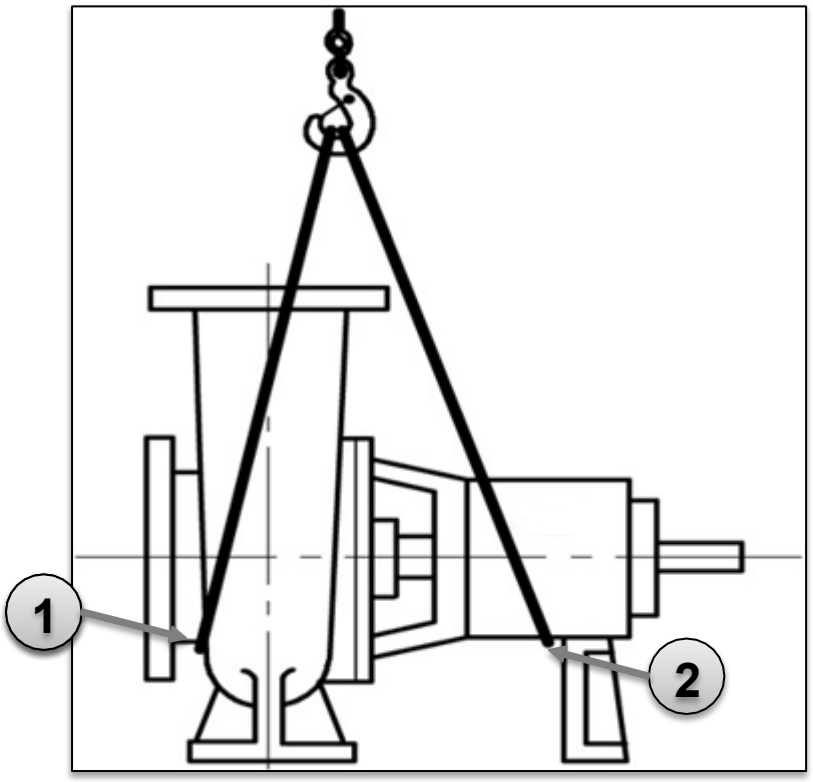


Figure 8 Lifting Without Base Plate

Call to Action

- Attach stop chains under the suction flange (item 1) and under the bearing carrier (item 2) of the pump and lift them with a crane.

6.4.3 Lifting with base plate and motor

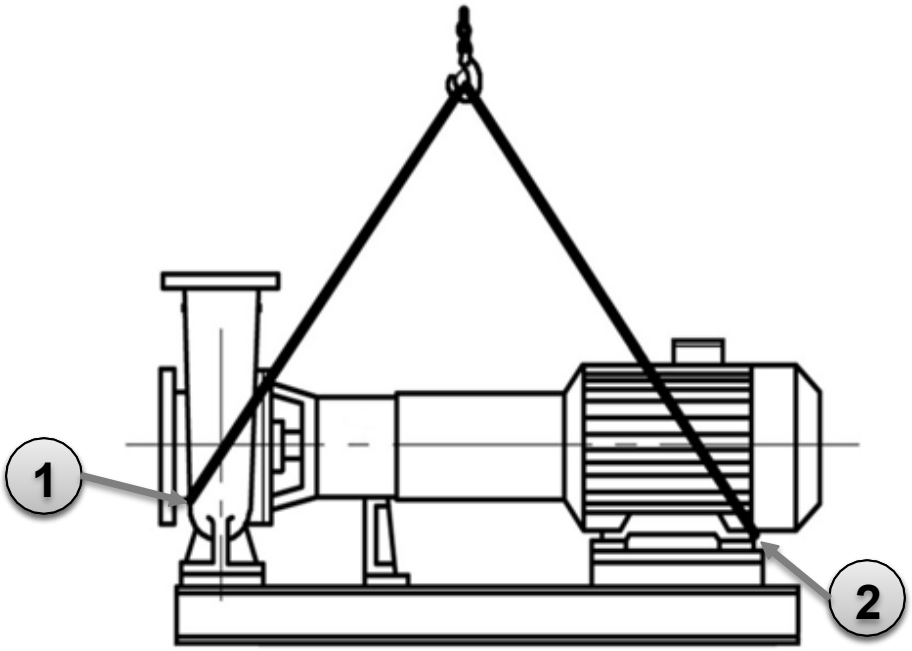


Figure 9 Lifting with Base Plate and Motor

Call to Action

- Attach stop chains under the suction flange (item 1) of the pump and to the motor (item 2) and lift with a crane.

6.5 Inspect goods

Call to Action

- After acceptance of the equipment, check it for completeness with the delivery and shipping documents.
- Carry out a visual inspection for possible transport damage.
- Immediately notify the forwarding agent and the manufacturer of any damage or missing parts and have them confirmed in writing within two weeks of receipt of the shipment. After the deadline, no complaints can be accepted.
- Check packaging and boxes with regard to spare parts and accessories that may be individually attached to the equipment.

7 Assembly

Target group: Montagepersonal

7.1 Special safety instructions

⚠WARNING!

Rotating components

Due to unprotected moving parts (impeller & shaft), there are various crushing hazards for the operator.

- ➢ Ensure that the product is operated with functional protective devices.

7.2 Preparing the foundation

Call to Action

- ➢ Select the location for the foundation of the pump unit in such a way that there is sufficient space for installation and subsequent maintenance work.
- ➢ Make sure that the foundation is designed in such a way that it has the load-bearing capacity, the weight of the pump unit and the resulting forces, such as possible vibrations, can withstand the piping system. Observe the foundation plan.
- ➢ When manufacturing the foundation, make sure that the contact surface for the pump unit has no unevenness and is weighed.
- ➢ Make sure that the length and width of the foundation are about 20% above the dimensions of the base frame.

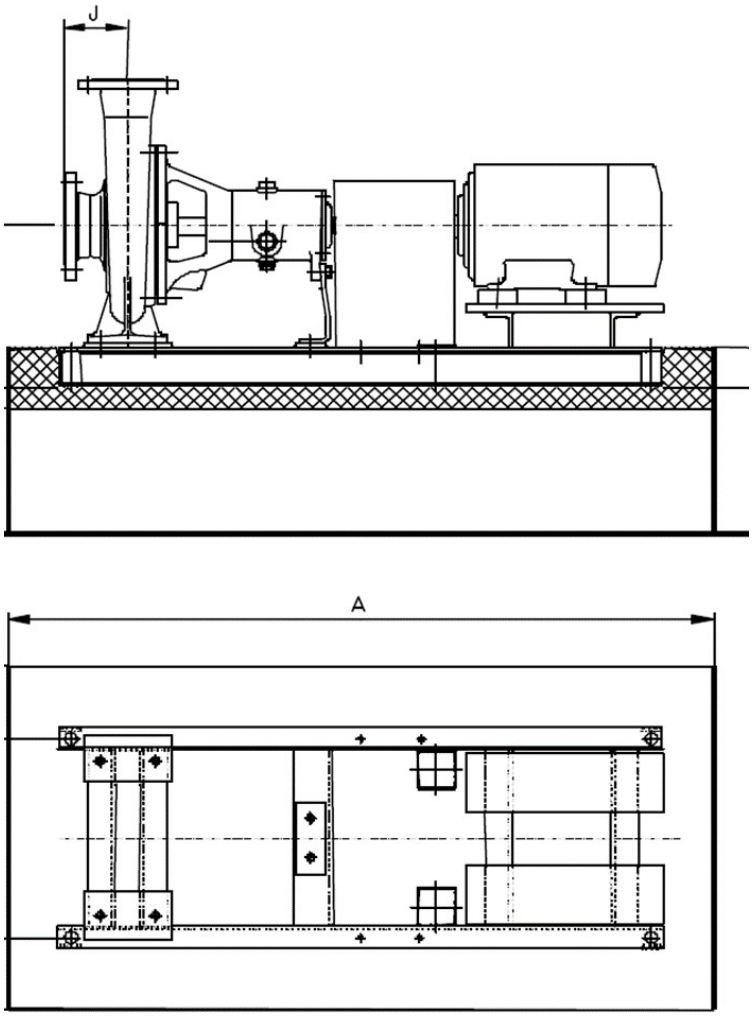


Figure 10 Exemplary foundation plan

Advice / hint

The selection of the appropriate fastening anchors for the base frame (dimensions, size and manufacturer) is subject to the executing plant planner.

7.3 Installing the pump

⚠WARNING!

Risk of accident due to unwanted start-up

➢ When mounting with an electrically connected motor, ensure that a sudden start-up of the motor is excluded.

ATTENTION

Property damage due to incorrect lifting equipment

➢ For lifting and transport, use only approved lifting equipment with appropriate marking.

7.3.1 Clutches

Call to Action

1. Place the pump with base frame on the level foundation by means of a crane and check whether the pump is horizontal. If necessary, align with U-sheets.
2. Attach the base frame with the intended anchorage to the places marked with "X" and cast it.

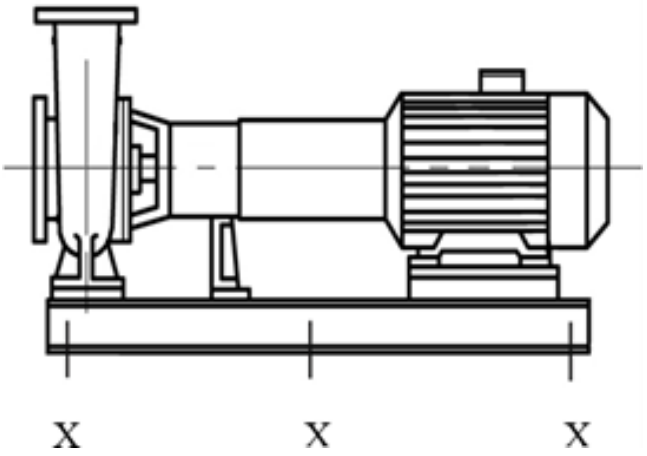


Figure 11 Anchorage

3. After fastening plotting, check the coupling for misalignment and compensate for it if necessary.

7.4 Mount motor on base frame

Call to Action

1. Slide the clutch half supplied on the motor side onto the motor shaft and let the front surface of the clutch with the motor shaft be evenly closed.
2. Screw the clutch half with the threaded pin to the key of the motor shaft.
3. Lift the motor onto the intended mounting surfaces of the base frame (item1).

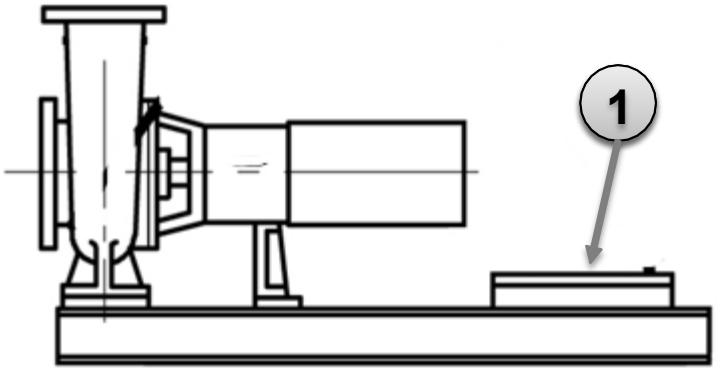


Figure 12 Motor Mounting Point

4. Check that the motor is on the center of the mounting holes and aligned as closely as possible to the pump.
5. Align the coupling according to the manufacturer's instructions and secure the motor. If necessary, loosen the pump to achieve accurate alignment of the coupling.
6. As soon as both units are tightened, check the clutch again for its accuracy.
7. The coupling intermediate piece (support unit) is attached to the coupling halves of the pump and the motor according to the manufacturer's specifications.
8. Perform fine adjustment with a laser or dial gauge.

7.5 Laying and connecting the pipe system

ATTENTION

Property damage due to backflow

- If a possible backflow can occur during a standstill of the pump, a check valve must be installed in the output line.

ATTENTION

Property damage due to incorrect installation

- Do not use the pump as a support for the pipeline.

The pipe system is not part of the scope of delivery and must be provided by the customer. The following points must be taken into account:

Call to Action

- Install the pipe system intended for the pump in such a way that no stresses and forces act on the pump flanges and the pump housing. When arranging, fastening and supporting, take into account a possible thermal expansion.
- Align the pipe system exactly to the pump. Make sure that the pipe system is stress-free.
- Professionally lay and install the pipe system in accordance with the generally applicable regulations.

7.5.1 Connect the suction tank below the pump

Call to Action

- Execute the suction line as evenly as possible upwards towards the pump if the liquid level is below the pump.
- Lay the suction line as short as possible and make sure that no air bubbles can arise.

7.5.2 Suction tank/inlet tank above the pump

Call to Action

- ➢ Lay the suction line evenly falling towards the pump.

7.5.3 Mounting the reducer

If a larger cross-section than the pump inlet flange is used for the suction line, an eccentric reducer (item 1) must be installed in front of the suction nozzles of the pump. This serves to avoid turbulence and air sacs.

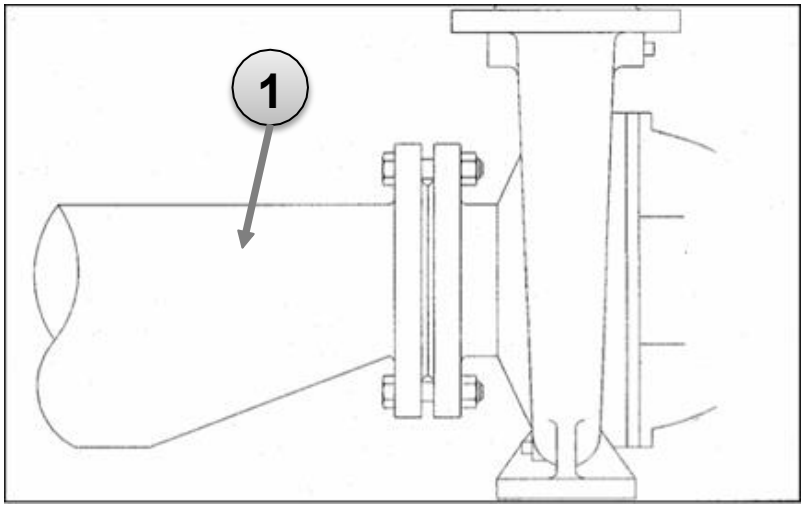


Figure 13 Reducer

7.5.4 Pressure line

Call to Action

- ➢ Install a shut-off valve in the pressure line to avoid emptying the entire pipeline during subsequent maintenance and repair work.

7.5.5 Piping Shaft Seal

Call to Action

➢ Observe/ensure the following points:

- In some applications, a flushing, sealing or cooling water connection must be installed for the safe functioning of the shaft seal. For the use of rinsing, sealing or cooling water, clean water must always be used to avoid damage to the seal.
- In the case of pressurized seals, the nominal pressure shall match the pressure of the pump and the temperature.
- In the case of a quench connection, the pipeline must be arranged in such a way that there are no accumulation points (throttling) that cause pressure.
- **Attention!** V-ring seals are not designed for pressurized sealing fluids.
- Use a sealing water monitor to regulate the required quantity and pressure.
- Take the sealing water requirement and sealing water pressure from the technical data.

7.6 Electrical connection of the motor

Call to Action

➢ For the electrical connection of the motor, follow the operating instructions of the motor supplier and connect accordingly.

8 Commissioning

Target group: Maintenance technicians, operators

8.1 Special safety instructions

⚠WARNING!

Wrong direction of rotation

Operating the pump with the wrong direction of rotation can lead to damage and thus to serious injuries. If the direction of rotation is incorrect, the screwed-on impeller detaches from the shaft.

- Observe the direction of rotation. The direction of rotation is marked with an arrow on the housing.
- Never operate the pump against the direction of rotation.

⚠WARNING!

Static charge!

Static charging of the pumps can cause an ignition spark to form.

- Before each switch-on, all groundings on the pumps must be checked for completeness and professional installation.

⚠WARNING!

Rotating components

Due to unprotected moving parts (impeller & shaft), there are various crushing hazards for the operator.

- The product shall be operated exclusively with a fully functional protective device. In the event of missing and/or defective protective devices, the product must be stopped immediately.

8.2 Put the product into operation

Initial commissioning may only be carried out by trained specialist personnel. During this time, the operating personnel are instructed in detail about possible hazards, unauthorized operating methods and safety instructions.

Call to Action

1. Check by manual turning that there are no foreign objects in the pump and that it can be rotated freely.
2. Check that all guards are attached to the pump.
3. Check that the motor is connected according to the electrical regulations and that the direction of rotation is correct as indicated. The direction of rotation is marked with an arrow on the housing. To do this, remove the belts or move out the clutch and check the direction of rotation of the engine. This must correspond to the arrow direction applied to the pump.
4. After ensuring the correct direction of rotation, mount and align the belts on the pulleys or clutch in compliance with the necessary preload (see chapter "Aligning and tensioning pulleys").
5. Check that the shut-off devices installed on the suction and pressure side are ready for operation.
6. Check that no leakage is visible at a standstill with the suction and pressure line filled.
7. Check that the shaft sealing piping is correctly mounted depending on the application.
8. Ensure that the bearing unit has been filled with oil or lubricated with grease.
9. Fill bearing carrier with oil according to the lubricant table in the technical data.
10. Ensure that the suction line is completely open and the pressure line is closed.
11. Start the engine according to the engine manufacturer's operating instructions.
12. Slowly open the shut-off valve on the pressure side until the required flow rate is reached.
13. Check the shaft seal for possible leakage. Mechanical seals are generally leak-free.
14. If the stuffing box pack has severe leaks, tighten the pack slightly until a leakage of 20 – 30 drops per minute has been set. Make sure that the stuffing book glasses are not tightened canned to the shaft.

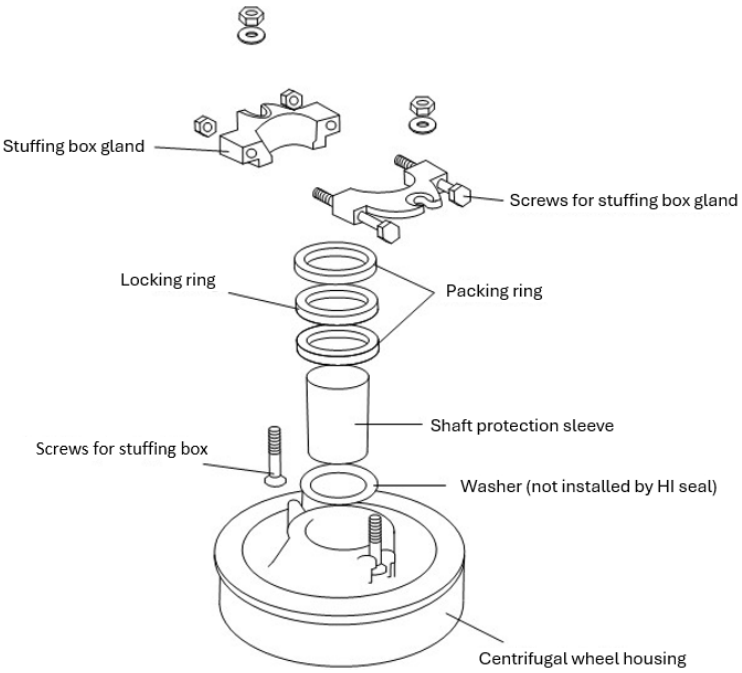


Figure 14 Position Stuffing box

15. After starting, check the display setup on the print page. If no rapid increase in pressure becomes visible, turn off the pump and check the cause.

Observe information from the documentation of the manufacturers of the supplier components.

8.3 Aligning and tensioning pulleys

If the pump is driven by a belt drive, the pump and motor shafts must be precisely aligned with each other. Belt drives that are not aligned parallel to each other cause excessive wear on the belts.

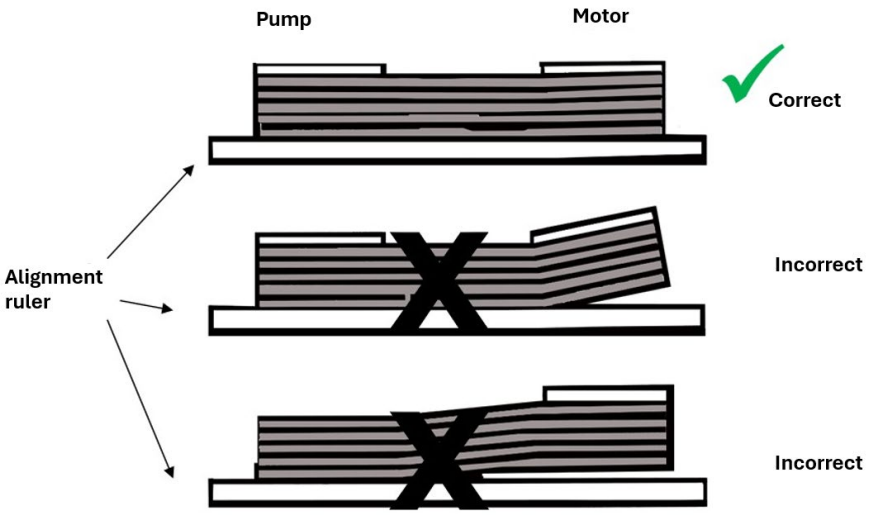


Figure 15 Belt Alignment

Call to Action

1. Completely clean the pulleys from oil, grease or other greases and remove any rust or burr from the grooves.
2. Reduce the axis spacing by adjusting the motor towards the pump using the supplied adjustment screws until the belt can be placed on the profile grooves of the pulleys without effort.
3. Place an alignment ruler over the outer surfaces of the motor and pump pulleys. It is important that both pulleys are aligned with each other with a tolerance where virtually no light or minimal light can be seen between the pulleys and the alignment ruler.

8.3.1 Tension belts

The correct tension of the drive belt extends the service life of the belt as well as that of the roller bearings. The drive must be rotated while the belt is tightened so that the tension is even. The high-performance requirements placed on a modern belt drive can only be met with the right tension.

Undervoltage can cause vibrations. This results in damage to the bearing cartridge and a reduction in transmission performance. In addition, under tension of the belts can slip and/or overheat, which leads to fatigue of the belt and significantly shortens its service life.

Overvoltage can shorten the life of the belt. In addition, the bearings are overheated by excessive radial forces acting on the roller elements, which leads to the premature failure of the bearings.

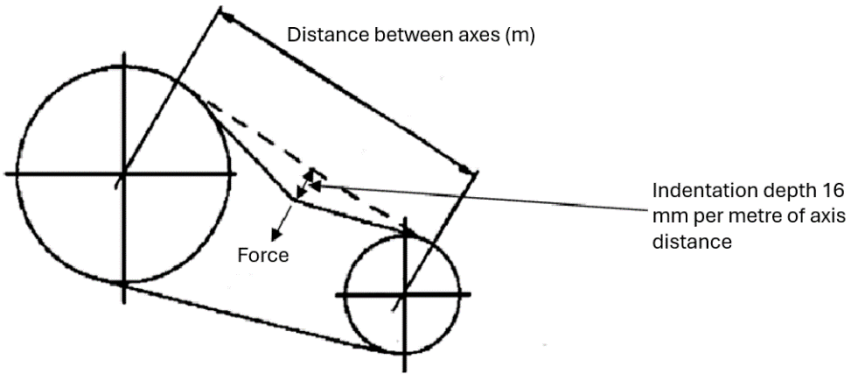


Figure 16 Indentation Depth

Call to Action

➢ The correct tension of the belt is checked according to the figure as follows:

- The axis distance (m) is measured.
- A belt section is pressed in by a force acting on the belt at right angles in the center of the axis distance around the required deviation. Indentation depth (mm) = axis distance (m) x 16
- The required force is compared to the value given in the table.

Belt profile	force required to indent the belt by 16 mm per 1 meter span		
	Diameter of small pulley (mm)	Newton **(N)**	Kilopond (kp)
SPZ	67-95	10-15	1,0-1,5
	100-140	15-20	1,5- 2,0
SPA	100-132	20-27	2,0- 2,7
	140-200	28-35	2,8- 3,5
SPB	160 - 224	35-50	3,5- 5,1
	236-315	50-65	5,1- 6,6
SPC	224-355	60-90	6,1- 9,2
	375-560	90- 120	9,2- 12,2

- If the measured force is within the values given in the table, the belt tension is fine. However, if it is outside the values, the belt must be tightened or loosened accordingly.
- A new belt drive must be tensioned according to the higher value in order to take into account the standard decrease in belt tension during the run-in time.
- After a 30-minute run-in, the voltage must be checked and adjusted again to the higher value.

8.4 Check during and after commissioning

Call to Action

- Check the stuffing box pack for temperature and leakage.
- Check the pump for vibrations and abnormal noise. In the event of excessive noise, the system must be switched off and the cause must be sought.
- Check the bearing carrier in the area of the bearings for temperature and vibrations.
- After a sufficiently long running time, check the temperatures of the pump and motor for excessive heating.
- Check the clutch alignment according to the specifications of the clutch manufacturer.

8.5 Switch off the pump

Call to Action

1. Switch off the engine according to the engine manufacturer's operating instructions and close the valves on the suction and pressure side.
2. Switch off the supply of sealing water in the event of a prolonged standstill.
3. If the pump is running backwards due to reflux, do not restart the engine.

9 Maintenance Work Operator

Target group: Operators

9.1 Special safety instructions

⚠WARNING!

Improper maintenance

During maintenance work, troubleshooting and assembly activities, it must be ensured that the machine is switched off in a safety-related way and secured against re-activation. Improperly performed maintenance and repair activities can have serious consequences for persons, the environment and the product itself.

- ➢ Before all maintenance work, remove all electrical fuses and lock the motor switches.
- ➢ Work on electrical equipment may only be carried out by electricians from the manufacturer or by specially commissioned, trained electricians and in compliance with safety regulations.
- ➢ After completion of the maintenance and repair work, the entire machine must be returned to a safe condition. All guards and interlocks must be firmly screwed and professionally mounted.
- ➢ Use only original spare parts.

⚠WARNING!

Hot surfaces and liquids

The slurry pump is designed for the use of hot liquids up to 180°C, so that touching the surfaces and contacting the liquids, e.g. in the event of leakage, can lead to burns.

- ➢ Allow the pump to cool sufficiently before all work.

⚠ CAUTION!

Deviating intervals

Frequency of use and environmental conditions may lead to deviations in the intervals of the described activities and thus to injuries or property damage.

➢ Instruct the persons responsible for the maintenance of the product accordingly.

ATTENTION

Works not described

Work that is not described may only be carried out by authorized customer service, otherwise it may lead to damage to the machine.

➢ Contact the local Wilo customer service to change parameters and programs.

9.2 Maintenance intervals

Maintenance includes four areas to ensure the functional condition of the product or to recover from a failure.

This guide divides maintenance into the following areas:

- maintenance
- cleaning

Maintenance includes the following work:

- Monitoring of the shaft seal for possible leakage
- Monitoring of bearing lubrication
- Verification of bearing temperatures
- Regular inspection of the fittings
- Monitoring for possible noise and vibrations
- Monitoring of conveying capacity and delivery pressure

Details on the maintenance intervals listed below can be found in the corresponding chapters of this guide.

Advice / hint

Some of the work mentioned depends on the use and environmental conditions. The cycles mentioned are minimum. In individual cases, different maintenance cycles are possible. In this case:

➢ correct the information in these instructions,

➢ instruct the operating personnel accordingly

Maintenance activity	Interval
Check stuffing box packs	weekly
Check all seals	
Check oil level	
Check bearing temperature	
Lubricating bearings	According to chapter "Lubrication intervals in hours"

9.3 Seals

Mechanical seals usually have no leakage and are usually maintenance-free, but can be damaged if the pump is operated improperly.

Too tightened stuffing book cracks can damage the shaft sleeve and increase the power requirement of the motor.

Due to its arrangement and construction, the dynamic seal can only be worn as a static seal at a standstill. The function of the dynamic seal is carried out by a relief wheel installed on the atmosphere side, which prevents the leakage of liquids.

Call to Action

- ➢ Check stuffing box packs regularly to ensure a slight leak.
- ➢ Check all seals regularly for function.

9.4 Bearing lubrication and temperature control

Call to Action

- ➢ Regularly check the oil level on the oil viewing glass, which must be up to half filled.
- ➢ Check the bearing temperatures for excessive heating at regular intervals. Strong warming could herald an incipient bearing damage.

9.4.1 Lubricant

ATTENTION

material damage

Mixed greases do not ensure proper lubrication of the bearings.

- ➢ Never use different types of fat with each other.

Before the pump was delivered, the bearing carrier was emptied at the factory.

9.4.2 Grease lubrication

The use of lubricating greases depends on the respective application and the temperature conditions.

The grease-lubricated bearings are already filled with grease when the pumps are delivered.

The table contained in the chapter "Lubrication intervals in hours" is based on normal operating conditions and serves as a guide. Changes to lubrication intervals may need to be made during in-service observations. For comparison: one shot from a standard grease gun corresponds to about 1 gram.

The table in the chapter "Lubricant quantity" indicates the recommended total filling quantity of the bearings. Overfilling with grease should be avoided.

Lubrication interval for bearings with regular maintenance (maintenance should not be more than 12 months apart).

9.4.3 Lubrication intervals in hours

	Bearing Carrier Size	**To be filled**	**Revolutions per minute**									
		gram	300	400	600	800	1000	1200	1500	2000	2500	3000
Both-sided	B	12				3000	2400	1800	1500	1000	800	650
	C	18			3600	2400	1800	1600	1200	900	580	
	D	28			2500	2000	1500	1200	800	500		
	E	44	5000	3600	2200	1600	1100	800	500			
	F	71	4200	2000	1800	1200	700	400				
Pump side	s	132	3800	2800	1500	900	500	300				
	T	304	3000	1800	900	400						
Drive side	s	74	3800	2800	1500	900	500	300				
	T	133	3000	1800	900	400						

► Contact suppliers if the numbers are in the red.

9.4.4 Lubrication nipple

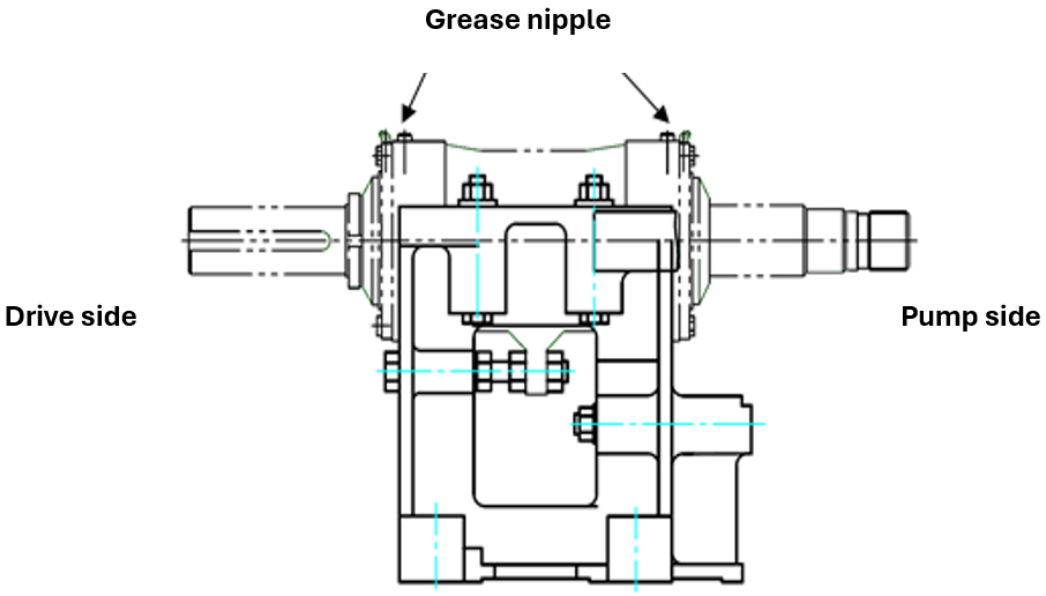


Figure 17 Lubrication nipples

9.4.5 Lubricant quantity

Recommended total fat quantity in grams per bearing side:

Bearing Carrier Size	B	C	D	E	F	s	T
Drive side in grams	30	50	100	200	500	550	800
Pump side in grams	30	50	100	200	500	600	2400

Upon delivery, the bearing carriers are filled with the amount of grease specified in the "Lubricant quantity" table.

10 Maintenance work Technician

Target group: Maintenance technicians

10.1 Special safety instructions

⚠WARNING!

Improper maintenance

During maintenance work, troubleshooting and assembly activities, it must be ensured that the machine is switched off in a safety-related way and secured against re-activation. Improperly performed maintenance and repair activities can have serious consequences for persons, the environment and the product itself.

- Before all maintenance work, remove all electrical fuses and lock the motor switches.
- Work on electrical equipment may only be carried out by electricians from the manufacturer or by specially commissioned, trained electricians and in compliance with safety regulations.
- After completion of the maintenance and repair work, the entire machine must be returned to a safe condition. All guards and interlocks must be firmly screwed and professionally mounted.
- Use only original spare parts.

⚠WARNING!

Hot surfaces and liquids

The slurry pump is designed for the use of hot liquids up to 180°C, so that touching the surfaces and contacting the liquids, e.g. in the event of leakage, can lead to burns.

- Allow the pump to cool sufficiently before all work.

⚠ **CAUTION!**

Deviating intervals

Frequency of use and environmental conditions can lead to deviations in the intervals of the described activities and thus to injuries or property damage.

➢ Instruct the persons responsible for the maintenance of the product accordingly.

ATTENTION

Works not described

Work that is not described may only be carried out by authorized customer service, otherwise it may lead to damage to the machine.

➢ Contact the local Wilo customer service to change parameters and programs.

10.2 Maintaining the Bearing cartridge and labyrinths

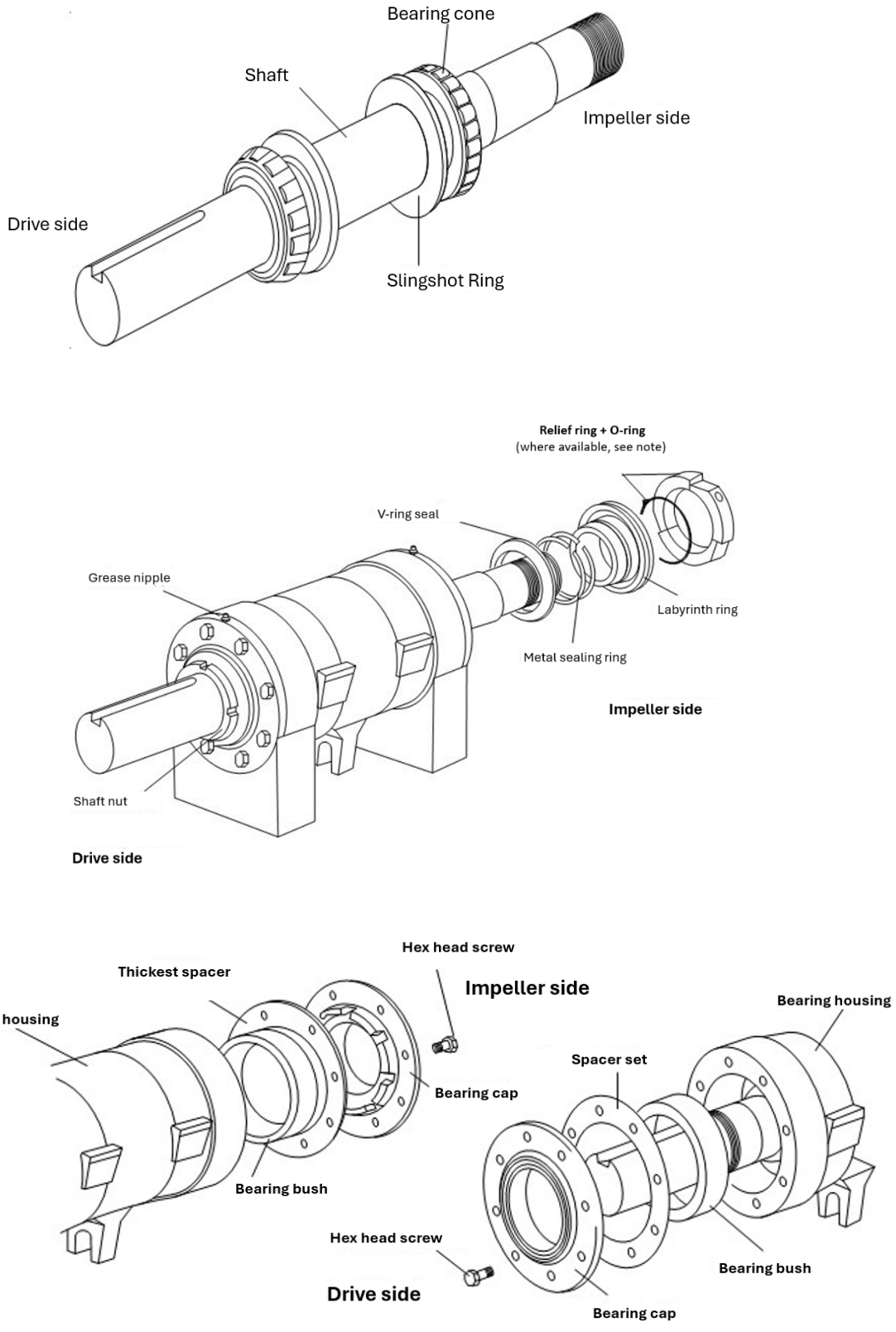


Figure 18 Disassembly Maintenance Components

Call to Action

1. Dismantle the shaft nut. Make sure that there is a left-hand thread.
2. Remove the relief ring and O-ring (if any).
3. Remove the hexagonal screws from both bearing covers.
4. Pull the bearing lid incl. labyrinth rings from the shaft ab.
5. Pull the spacer discs by hand.
6. Squeeze the metal sealing rings and pull the labyrinth rings out of the bearing lid.
7. Pry the metal sealing rings out of the labyrinth rings.
8. Remove the V-ring seal from the shaft by hand.
9. Clean the shaft surfaces.
10. Lubricate the shaft surfaces with lubricating oil
11. Squeeze out the first bearing (drive side).
12. Remove the second bearing (pump side).
13. Drive out bearing shells on both sides with a mandrel (if necessary, heat the housing for easier disassembly)
14. Free the bearing cartridge from lubricant residues and clean it.

10.2.1 Mounting Bearing Cartridges and Shaft Assembly

ATTENTION

Material damage

- Use only one steel driver to install the bearings. Never use a brass or copper driver.
- Keep bearings and shafts clean at all times.

Call to Action

1. Make sure the shaft is clean and burr-free.
2. Apply a little pure, light-liquid lubricating oil to the bearing heels and shaft.
3. The manufacturer recommends the use of an induction device to shrink the bearings to the shaft. The temperature of the heater should be about 100°C. If there is no induction device, the following procedure should be used:
4. Dip both bearings in clean oil at a temperature of about 100°C and preheat the bearings. Make sure that the bearings do not touch the bottom of the container.

10.2.2 Mount the bearing cone on the impeller side

Call to Action

1. Slide the centrifugal ring over the shaft end on the impeller side until its flange is attached to the shaft shoulder.
2. After heating, quickly slide the bearing cone onto the shaft with the larger cone diameter ahead until it is close to the centrifugal ring.

☑ *By cooling, the cone is shrunk to the shaft.*

3. After cooling the cone, make sure that it is firmly attached to the centrifugal ring and cannot be rotated by hand. If necessary, use a steel driver to firmly press the cone.

10.2.3 Mount the drive-side bearing cone

Call to Action

1. Slide the centrifugal ring over the shaft end on the drive side until its flange is attached to the shaft shoulder.
2. After heating, quickly slide the bearing cone onto the shaft with the larger cone diameter ahead until it is close to the centrifugal ring.

☑ *By cooling, the cone is shrunk to the shaft.*

3. After cooling the cone, make sure that it is firmly attached to the centrifugal ring and cannot be rotated by hand. If necessary, use a steel driver to firmly press the cone.

10.2.4 Check bearing

Call to Action

1. Inspect the inside of the bearing housing for radial groove formation and make sure it is clean.
2. Apply clean lubricating oil to the bearing bush seats on both sides of the bearing housing.

10.2.5 Insert bearing bushing on the impeller side

Call to Action

1. Insert the bearing bushing with the large inner diameter facing inwards into one side of the bearing housing.
2. Easily beat with a mandrel made of mild steel to ensure that the bushing is slightly inside (approx. 10 mm) of the end surface.
3. Remove the yellow (0.500mm) spacer disc from the set.
4. Align the bearing cover and the spacer disc against the housing so that the lubrication nipple openings of the housing and bearing cover are parallel to each other.
5. Insert the hexagonal screws through and tighten them evenly to attach the bearing cover.

☑ *The bearing lid now pushes the bearing bushing into its correct position.*

10.2.6 Insert shaft and bearing assembly

Call to Action

➢ Slide the shaft assembly into the housing with the impeller side ahead until it rests on the pre-assembled bearing bushing.

10.2.7 Insert the drive-side bearing bushing

Call to Action

1. Insert the bearing bushing with the large inner diameter inwards into the bearing housing.
2. Easily beat with a mandrel made of mild steel to ensure that the bushing sits slightly inside the end surface.
3. Align the bearing cover and the remaining spacer disc set against the housing so that the lubrication nipple openings of the housing and bearing cover are parallel to each other.
4. To attach the bearing cover, insert the hexagonal screws through and tighten evenly.
5. Turn the shaft slowly by hand while continuing to tighten the hexagonal screws on the drive side.

10.2.8 Check bearing clearance after assembly

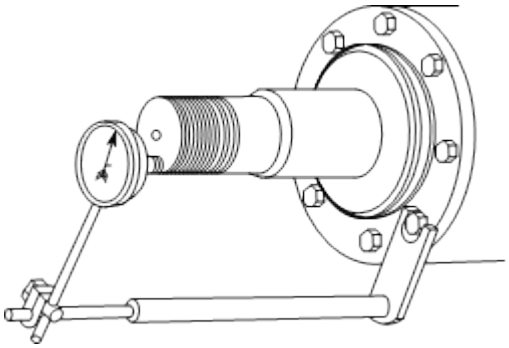


Figure 19 Bearing clearance

Color codes for bearing spacing discs

The colored spacer discs are listed in the table listed. Each set contains a sufficient number of spacer discs to correctly adjust the axial clearance for each bearing chair size.

Color	Thickness	
	mm	inch
royal blue	0,050	0,002
green	0,075	0,003
transparent	0,150	0,006
S/W	0,250	0,010
yellow	0,500	0,020
grey	0,625	0,250

Call to Action

1. For bearing assemblies A, B, C and D: clamp the housing firmly in a vice in a horizontal position. For bearing assemblies E, F: place the housing in a vertical position firmly on a flat plate through which the shaft fits easily.
2. Attach a measuring device to the bearing cover on the impeller side and attach the probe of the measuring instrument to the shaft end.
3. For bearing assemblies A, B, C, D: turn the shaft and push it back and forth vigorously several times. For bearing assemblies E,F: rotate the shaft and move it up and down several times.

☑ *This will determine the entire axial play.*

4. Compare the determined number with the values "bearing clearance" in the table.

Bearing block	Bearing clearance (cold) in mm
A	0,05 - 0,15
B	0,10 - 0,20
C	0,15 - 0,25
D	0,18 - 0,28
E	0,40 - 0,60
F	0,50 - 0,60

5. For the time being, the axial game will be outside the permissible limits. In order to achieve the permissible axial clearance, remove the appropriate spacer discs from the drive side.
6. After the spacers have been removed, reseated the bearing cover and tighten the hexagonal screws.
7. After adjusting the axial clearance with spacer discs, measure the actual play with the measuring device and compare it with the table until it is within the permissible tolerances.

10.3 Mount labyrinth, metal seals, V-ring seals and shaft nut

10.3.1 Lubrication of bearings

Before assembling the labyrinth, the lubrication of the bearings must be carried out.

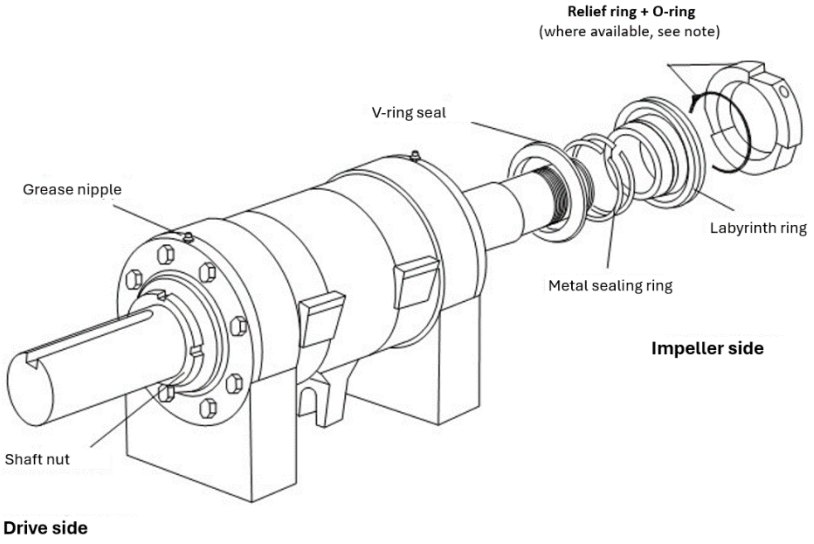


Figure 20 Lubricating bearings

Call to Action

1. Work the grease into each bearing by hand, turning the shaft at the same time. To make this easier, remove one bearing lid with spacer discs after another.
2. Incorporate any remaining grease into the empty space behind the bearing cover.
3. Re-attach the bearing lid and spacer washers.
4. Lightly lubricate two metal sealing rings with grease and insert them into the grooves of the labyrinths. Make sure that the annular gaps are diametrically aligned with each other.
5. Lubricate the shaft in the area of the bearing lids lightly with grease.
6. Stretch the V-ring seals a little and attach them to the bearing lid, directing the flat side to the bearing lid.
7. Ensure that the flat side of the V-ring seal is firmly attached to the bearing cover.
8. Slide a labyrinth over the shaft on both sides and push it into the bearing lids until the metal sealing rings no longer make it possible.
9. Press each metal sealing ring together in sequence and slide the labyrinths completely into the bearing lids.

NOTE: It is best to use a C-wrench to tighten the shaft nut on the drive side and to fasten the assembly. The shaft nut is screwed counterclockwise, starting from the drive side.

NOTE: Larger pumps are equipped with a relief ring. Connect the split relief rings. Place the O-ring and the screwed-together relief ring against the labyrinth. The flat side here is directed to the impeller thread.

10. Attach the lubrication nipples to the bearing covers.

☑ *The assembly is now complete.*

10.3.2 Install the bearing cartridge in the bearing chair

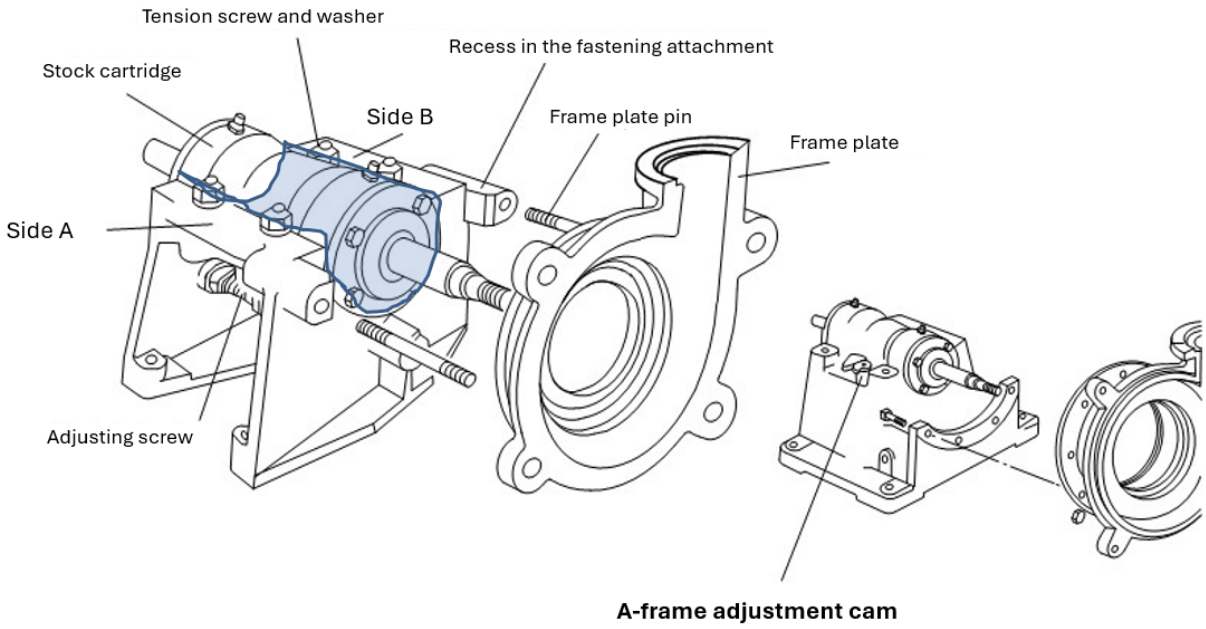


Figure 21 Overview of the Bearing Cartridge and Housing

Call to Action

1. Insert the adjustment screw into the bearing chair and securely in the correct position with nut and washer.
2. Insert two more nuts including discs loosely and screw them in between them at maximum distance from each other.
3. To facilitate the adjustment of the impeller during final assembly, lubricate the machined surface of the bearing chair (blue marked area /where the bearing cartridge is supported).
4. Place the bearing cartridge in the bearing chair.
5. Align the machined surfaces of the bearing cartridge with those of the bearing chair. The bearing cartridge attachment must be located between the two washers of the one-part screw.
6. Slide the clamping screws from the bottom through the bearing chair.
7. Put a washer on each screw, the curved side must point upwards.
8. Screw on the nuts.

9. First, tighten the screws on side A of the bearing chair. At this time, the screws on side B of the bearing chair remain only slightly tightened.

NOTE: Pumps with an A-frame have a so-called adjustment cam instead of an adjustment screw, which is fastened with clamping screws.

10.3.3 Mounting of the drive-side housing half

Call to Action

1. The assembly of the drive-side housing half can be carried out at different pressure nozzle settings. Ensure that the orientation of the housing half matches the bearing of the existing piping.
2. Ensure that when mounting the drive-side housing half into the bearing chair, the cones of the housing half intervene in the corresponding recesses in the three mounting attachments.
3. Insert the connection pins / screws (depending on what applies to the pump).
4. Put on the nuts and tighten them tightly.

10.3.4 Assembling shaft seal components

10.3.4.1 Centrifugal wheel housing

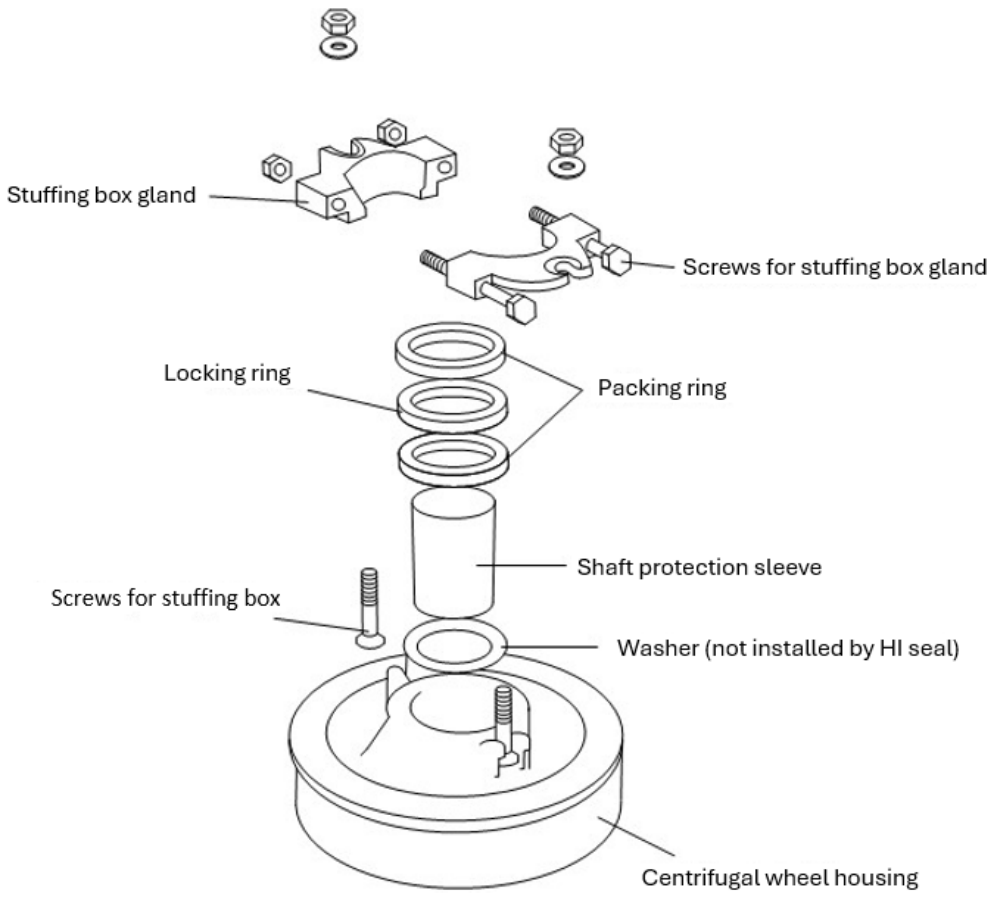


Figure 22 Overview Mounting centrifugal wheel housings

Call to Action

1. Place the centrifugal wheel housing on a flat surface with the stuffing box glasses pointing upwards.
2. Insert the disc into the bore of the centrifugal wheel housing in such a way that it rests on the support edge at the lower end of the hole.

   NOTE: The disc is not installed in the centrifugal wheel housing of a HI-Seal.

3. Insert the shaft protection sleeve upright through the windscreen.
4. Insert a packing ring into the hole.
5. Fill the groove of the locking with lubricant.
6. Put on the locking and press it firmly into it.

7. Insert the packing rings into the hole until it is full. Arrange the annular gaps offset and press them firmly in the right place.
8. Slide the assembled stuffing goggles over the shaft protection sleeve and push them down so that the packing rings are pressed together.
9. Plug in the screws for the stuffing box housing and tighten the nuts so that the shaft protection sleeve remains in the correct position.

10.3.5 Installing a shaft seal

10.3.5.1 Centrifugal wheel housing

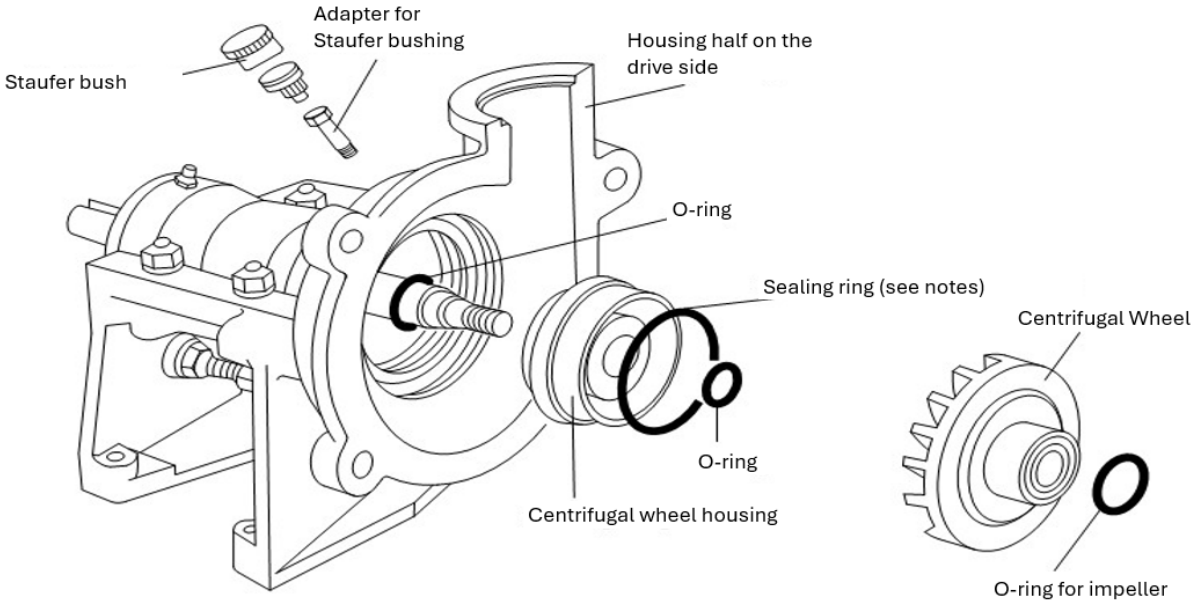


Figure 23 Overview Shaft Seal Centrifugal Wheel Housing

Call to Action

1. Apply a thin film grease to the exposed shaft.
2. Slide the O-ring for the shaft protection sleeve over the shaft until it touches the labyrinth.
3. Insert the complete centrifugal wheel housing including the shaft protection sleeve into the half of the housing on the drive side.
4. Metal finish: Check that the thread of the Stauffer bushing is on top. Rubberized version: Check that the bolts are in a horizontal plane.

5. Gently knock the assembly to the correct position with a soft hammer.
6. Check whether the shaft protection sleeve is pushed all the way back to the labyrinth.
7. Set the adapter for the Stauffer socket.
8. Place the Stauffer bushing in the thread on the back of the centrifugal wheel housing.
9. Remove the screw cap and fill in the lubricant. Close the screw cap.
10. Repeat the filling of the socket and then rotate it by 2 full revolutions.
11. Slide the centrifugal wheel over the shaft and press it to the centrifugal wheel housing until it is firmly attached to the shaft protection sleeve.
12. Slide the O-ring for the impeller over the shaft and insert it into the intended groove of the centrifugal wheel.

Note: In the metal version, it is important to clean the ring or the groove of the centrifugal wheel beforehand and then insert the O-ring. The use of a high strength adhesive for securing is recommended.

10.3.5.2 Mechanical seal

The built-in mechanical seal is a single-acting cartridge seal. This does not have to be adjusted during installation.

The sealing cartridge must not be dismantled or disassembled or relaxed before installation. Ensure a clean and undamaged seal before installation

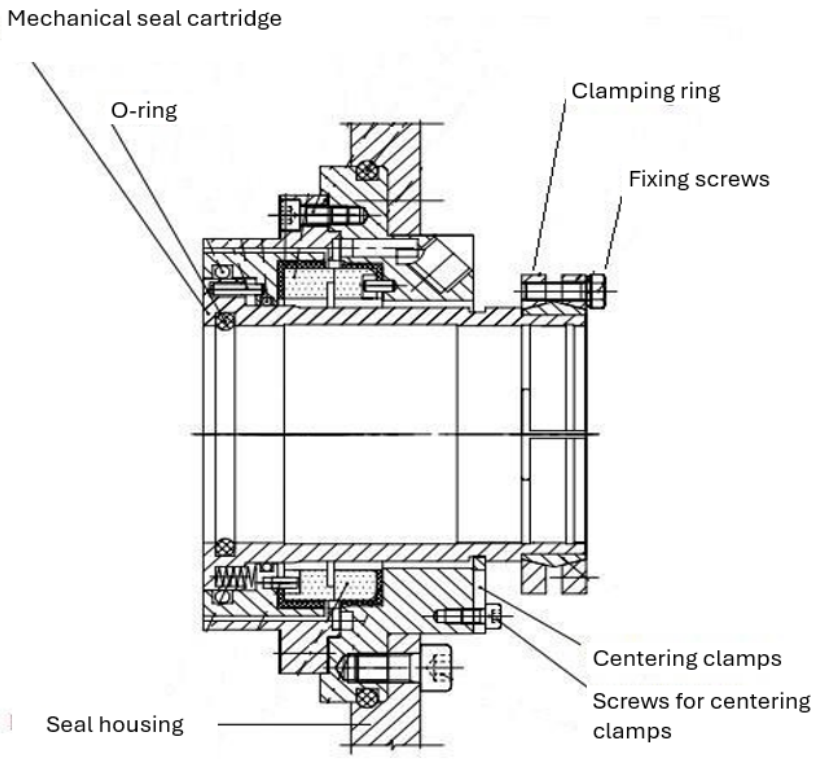


Figure 24 Overview Mechanical Seal

Note: the design of the fixing screws/clamping ring may differ from the representation.

Call to Action

1. Ensure: The pump is dismantled to such an extent that only the rear half of the housing is attached to the bearing carrier and the shaft with shaft sleeve looks out freely.
2. Position the mechanical seal cartridge in the seal housing so that the fixing clamping ring of the cartridge seal looks backwards.
3. Carefully place this unit on the shaft (shaft sleeve) and push it backwards.
4. Insert the rear wear wall and screw the impeller onto the shaft.

5. Make sure that the O-rings of the shaft sleeve and the shaft fit correctly.
6. To fix the cartridge seal on the shaft, the clamping ring of the seal must now be fixed. To do this, carefully and evenly tighten the fixing screws of the clamping ring of the seal.
7. Remove the centering clips of the seal.

Attention: The centering clamps must not be removed or loosened before the clamping ring of the cartridge seal has been tightened by the fixing screws on the shaft.

Note: When disassembling, always fix the centering clips in the groove first so that the mechanical seal does not relax. Only then do the dismantling begin.

8. Turn the impeller by hand. If the impeller cannot be rotated easily, grinding noises occur or other problems occur, the assembly must be checked. To do this, insert the centering clips back into the grooves and fix them. Then loosen the fixing screws of the clamping ring so that the mechanical seal cartridge can be rotated freely.
9. After checking and setting the correct impeller distance, fix the mechanical seal.

Note on operation with mechanical seal

➢ Before commissioning the pump, always first connect the rinsing water of the mechanical seal and start the inflow. The flushing water pressure should always be about 1 bar above the medium pressure in the pump housing.

10.3.6 Assembly of the components on the wet part side

10.3.6.1 Mount the spiral housing half and impeller on the drive side

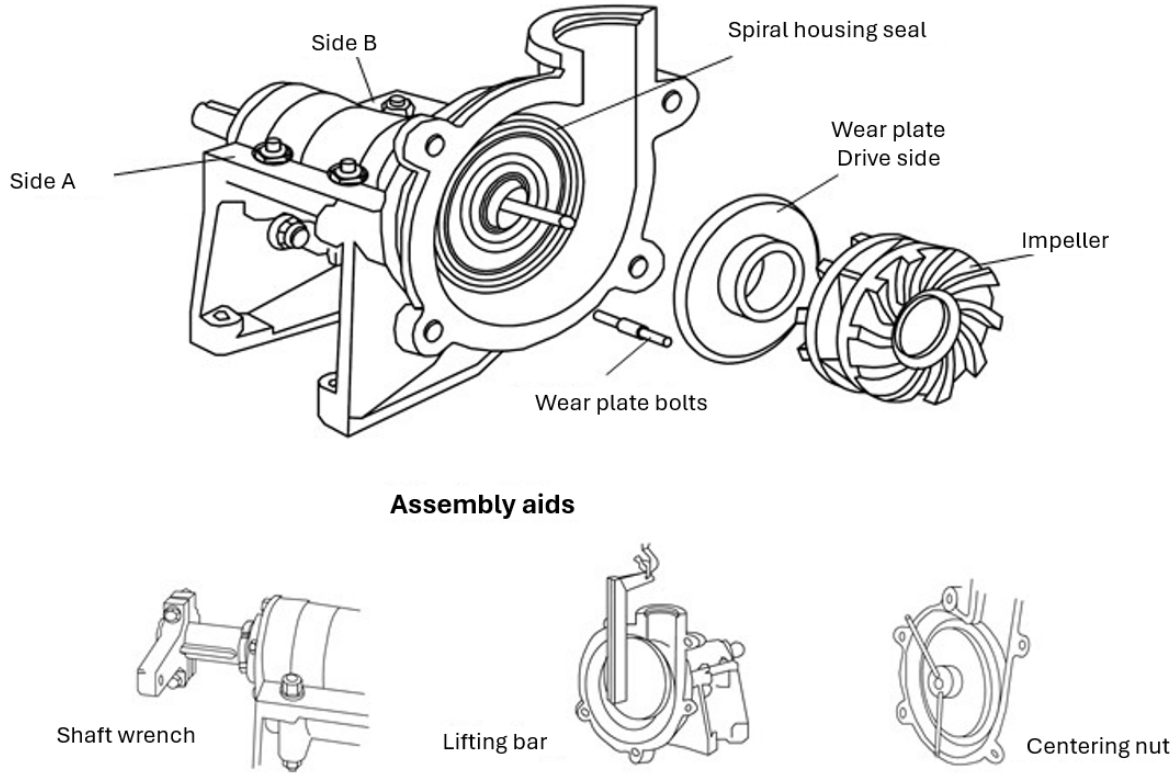


Figure 25 Drive-side spiral housing half

Call to Action

1. Insert the spiral housing seal into the groove of the drive-side housing half.
2. Screw the bolts into the drive-side wear wall.
3. Slide the lifting bar (see mounting aids) into the opening in the middle of the drive-side wear wall.
4. Lift the wear wall with the help of a crane and slide the rod over the shaft thread.
5. Insert the wear wall bolts into the intended holes of the half of the housing on the drive side and press the lining (housing rubber coating, if available) against the housing half.
6. **Material damage!** Make sure that the seals do NOT shift.
7. Secure everything with lock nuts. Make sure that they are not excessively tightened.
8. Remove the lift bar.
9. Attach the shaft wrench (see mounting aids) to the shaft and check whether the screws on side B are firm enough to hold the bearing cartridge in a horizontal position.

10. Slide the centering nut (see mounting aid) onto the shaft and hold the shaft with the shaft wrench.
11. Fully tighten the counter nuts of the mucus wall bolts.
12. Remove the centering nut.
13. Lubricate the internal thread of the impeller with plenty of multi-purpose grease.
14. Lift the impeller with the help of a crane and place it on the shaft.
15. Screw the shaft clockwise into the impeller. Ensure that the O-rings on the shaft are not damaged and are completely covered by the protective sleeve.
16. Remove the crane.
17. Hold the shaft with the shaft wrench and insert a rod between the wings of the impeller.
18. Tighten the impeller and remove the rod.
19. To make sure that the shaft protection sleeve is fully compressed, rotate the shaft several times.

10.3.6.2 Spiral housing and suction side housing half

⚠ WARNING!

Disassembly without protection

- To prevent accidents, the spiral housing must be secured with a G-terminal (not included) when disassembling or assembling the pump.

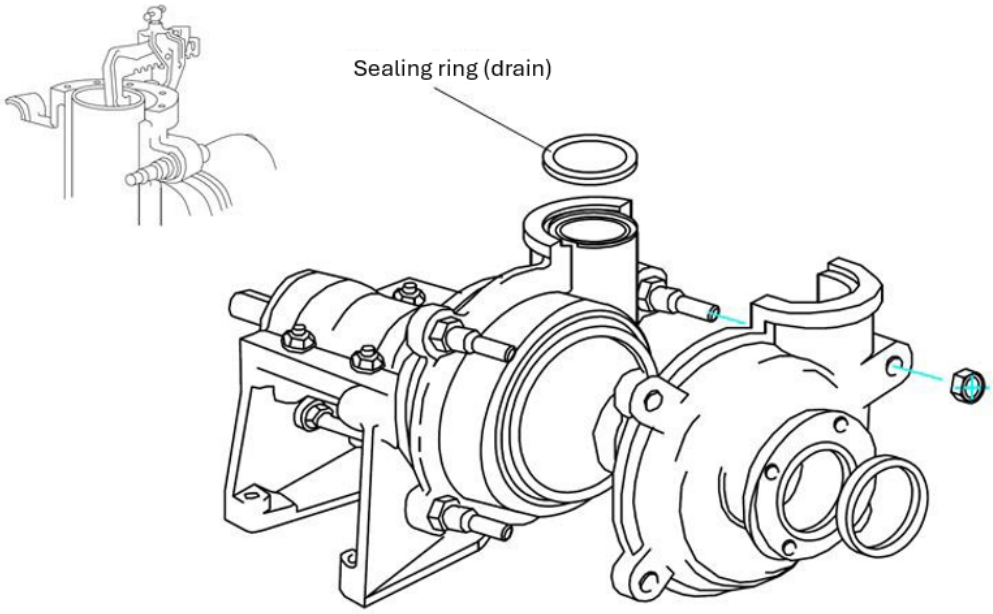


Figure 26 Suction-side housing half

Call to Action

1. Insert the bolts of the suction-side housing half into the drive- side housing half and secure them with nuts.
2. **warning!** The spiral housing is lifted over the impeller and the conical rim of the drive-side wear wall. The screw the spiral housing with a G-clamp to avoid accidents!

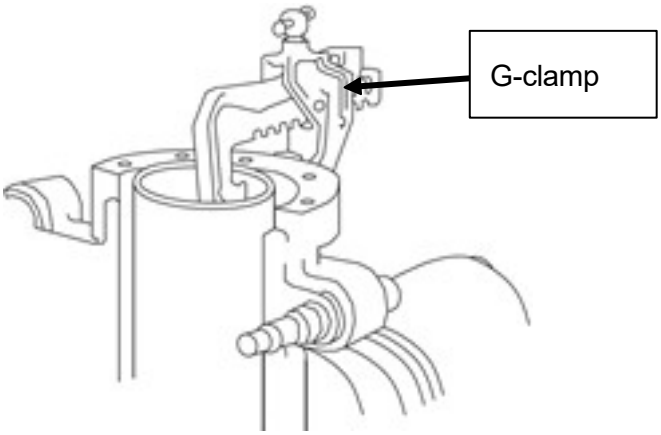


Figure 27 G-Terminal

3. Lift the suction half of the housing and place it on the already plugged bolts of the drive-side housing half. To hold the suction half of the housing in position, screw the nuts onto the bolts.
4. Remove the G-clamp.
5. Tighten all nuts evenly.
6. Ensure that the flat side of the bolts and the front of the suction half of the housing only touch slightly.

NOTE: If the nuts are tightened long before the end of assembly, the cause of the resistance must be found in the linings in the suction half of the housing.

7. Make sure that the impeller can be turned.
8. At the slightest sign of tightening, consult the section "Adjusting the front wheel play". The sealing rings on the suction and drain are attached to the pump lining with a force adhesive.

10.3.6.3 Adjusting the front wheel clearance (metal lining)

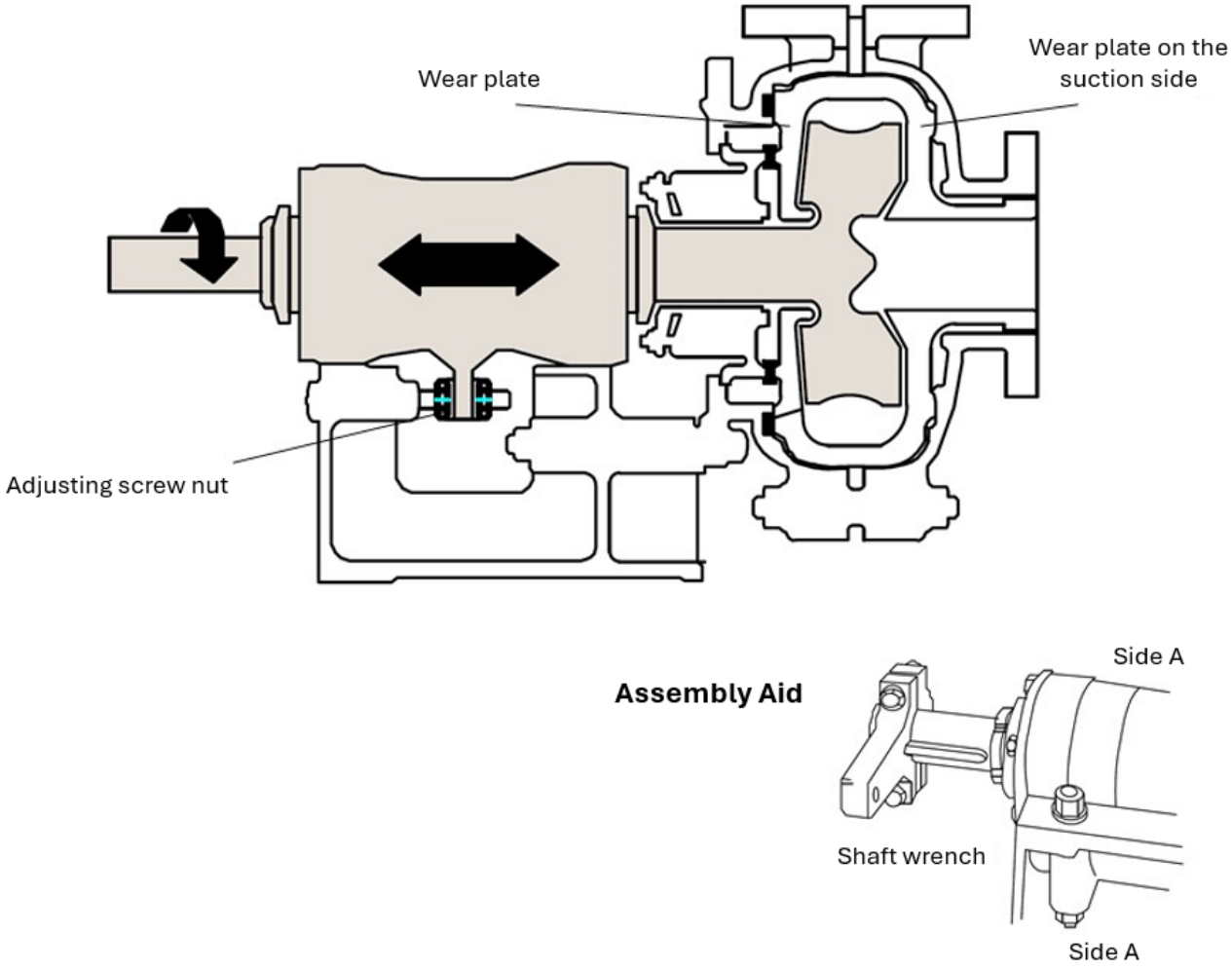


Figure 28 Wheel Play

Call to Action

1. Attach the shaft wrench to the shaft.
2. Loosen the clamping screws of the bearing cartridge on side B.
3. Move the bearing cartridge with the help of the adjusting screw and turn the shaft at the same time.

☑ *The bearing cartridge is moved so far forward that the impeller straightens the suction-side wear wall.*

4. The adjusting nuts use to loosen the rear nut by a sixth of a rotation.
5. Move the bearing cartridge back by means of the front nut until the bearing cartridge set touches the rear nut.
6. Tighten the tension screws on side B again.
7. Tighten both adjusting nuts evenly.

8. Make sure the balance bike has play. To do this, turn the shaft. If the slightest friction occurs, repeat the regulation until no more disturbance occurs.
9. Remove the shaft wrench from the shaft.

☑ *The pump is now complete.*

11 Restoration

Target group: Maintenance technicians

If have any doubts about customer service (see Chapter 9).

11.1 Special safety instructions

⚠WARNING!

Improper maintenance

During maintenance work, troubleshooting and assembly activities, it must be ensured that the machine is switched off in a safety-related way and secured against re-activation. Improperly performed maintenance and repair activities can have serious consequences for persons, the environment and the product itself.

- Before all maintenance work, remove all electrical fuses and lock the motor switches.
- Work on electrical equipment may only be carried out by electricians from the manufacturer or by specially commissioned, trained electricians and in compliance with safety regulations.
- After completion of the maintenance and repair work, the entire machine must be returned to a safe condition. All guards and interlocks must be firmly screwed and professionally mounted.
- Use only original spare parts.

⚠ WARNING!

Hot surfaces and liquids

The slurry pump is designed for the use of hot liquids up to 180°C, so that touching the surfaces and contacting the liquids, e.B. in the event of leakage, can lead to burns.

➢ Allow the pump to cool sufficiently before all work.

11.2 Debugging

ATTENTION

Unknown fault messages

Unknown faults and attempts to rectification may cause damage to the machine.

➢ If a fault is present and is not displayed in the fault report list, inform the local Wilo customer service.

Malfunctions in a pump system are generally due to the following causes:

- Fault at the pump
- Faults in the line
- improper commissioning / assembly
- wrong pump selection

The following overview provides information about malfunctions, their causes and remedies:

Frequently occurring disorders	Possible causes
Pump does not supply liquid	1, 2, 3, 4, 5, 6, 7, 9, 10, 13, 14, 17, 19, 20, 21, 29
Insufficient volume throughput	1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 13, 14, 15, 17, 19, 20, 21, 28, 29
The funding height is insufficient	2, 4, 5, 6, 7, 8, 9, 10, 11
The pump switches off after commissioning	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
The power consumption of the pump is higher than normal	12, 15, 16, 17, 18, 22, 23, 24, 25, 26, 27, 32, 34, 38, 39
The power consumption of the pump is lower than normal	13, 14, 15, 16, 17, 18, 20, 21, 28, 29

Frequently occurring disorders	Possible causes
The mechanical seal has to be replaced too often	6, 7, 23, 25, 26, 30, 32, 33, 34, 35, 36, 41
Pump vibrates or makes noise	1, 9, 10, 11, 15, 18, 19, 20, 22, 23, 24, 25, 26, 27, 29, 37, 38, 39, 40
Bearings wear out too quickly or get hot	23, 24, 25, 26, 27, 37, 38, 39, 40, 42
Pump runs heavy and gets hot or solid	23, 24, 25, 26, 27, 34, 37, 38, 39, 40, 42

11.3 Possible causes

1	Pump or suction line insufficiently filled and vented
2	There is air or gas coming out of the liquid
3	Air bag in the suction line
4	Air leak in suction line
5	Foot valve or suction line insufficiently immersed
6	Rotation Speed too high
7	Rotation Speed too low
8	The manometric suction height is too large
9	Suction line or suction basket clogged
10	Foot valve or suction line is insufficiently immersed during operation
11	Available minimum inlet pressure (NPSH) too low
12	Rotation Speed too high
13	Rotation Speed too low
14	Wrong direction of rotation
15	Pump does not work at the correct operating point
16	The liquid does not have the calculated specific mass
17	The liquid does not have the calculated viscosity

18	Pump works when fluid flow is too low
19	Wrong pump choice
20	Blockage in the impeller or pump housing
21	Blockage in the piping system
22	Incorrect installation of the pump system
23	Pump and motor not properly aligned
24	Striking a rotating part
25	Unbalance in rotating parts (e.i. impeller)
26	Pump shaft beats
27	Bearing damaged or worn
28	Sealing rings damaged or worn
29	Impeller damaged
30	Running surfaces of the mechanical seal are worn or damaged
37	Axial fuse of the impeller or pump shaft damaged
38	Bearing incorrectly mounted
39	Too much or too little bearing lubrication
40	Incorrect or contaminated lubricant
42	Too high axial force, because the back blades are worn or the inlet pressure is too high
43	Too high pressure in the shaft sealing chamber due to play in the throttle socket, clogged circulation line or worn back blades

12 Spares

Spare parts for the Atmos NHD-S pumps are primarily linings, impellers, bearings, shaft protection sleeves, seals and shaft seal parts.

In order to ensure the greatest possible benefit of the pump, a certain number of spare parts should be kept in stock, depending on the expected service life of each part.

In larger plants, it is customary to have an additional bearing assembly in stock for every four pumps of the same size. The removed bearing assembly can then be inspected in a workshop, overhauled if necessary and made available for the next pump.

Alternatively, the bearing assembly can be returned to the manufacturer for repair.

12.1 Spare parts recommendation

The manufacturer recommends the storage of the following spare parts:

- Lining at the front
- Lining at the back
- wheel
- Bearing cartridge
- Shaft sleeve
- Seals
- oil seal

13 Storage

Target group: Maintenance technicians, operators

Short-term storage:

- Maximum 6 months for the pump unit
- Maximum 12 months for spare parts made of plastic and rubber.

Long-term storage:

Maximum 24 months for metal spare parts.

➢ For long-term storage of the pump for up to 12 months: Contact the manufacturer.

Call to Action

➢ Store the pump for intermediate, short and long-term storage in a clean, dry place and protect against damage.

➢ Before delivery, the oil lubrication of the bearing unit was removed by the manufacturer. Fill the bearing unit with oil for storage or provide it with a rust protection agent for bearing. Protect the pump shaft and coupling against rusting with the appropriate means.

➢ Any protective measures of the drive unit can be found in the enclosed description.

➢ Turn the pump shaft by hand at least once a week during storage time to prevent rusting and fixing of the bearings.

➢ Do not remove the caps on the suction and pressure nozzles so that no foreign objects and dirt get into the inside of the pump.

Advice / hint

After long-term storage, the lubricating grease/lubricating oil must be changed before commissioning.

14 Shutdown

Target group: Maintenance technicians

14.1 Stop product

➢ Turn off the product and save it against re-activation. In the case of relocation to another storage location, proceed as follows:

Call to Action

1. Separate product from all power supply systems.
2. Empty all bearing containers.
3. Clean product.

For the disposal of auxiliary and operating materials, observe the regional regulations and information from the safety data sheets.

15 Disposal

Target group: Maintenance technicians, special staff

Call to Action

- Dispose of auxiliary and operating materials professionally according to information from the safety data sheets.
- Separate materials by type and recycle them in accordance with local regulations.

For the disposal of auxiliary and operating materials, observe the local regulations and information from the safety data sheets.

In case of doubt about the disposal route, contact the manufacturer or the local waste disposal company.

16 Appendix

16.1 Supplier documentation

⚠ WARNING!

Operator error due to incomplete information

Failure to comply with information from the documentation of supplier parts can cause serious damage to persons, the environment or the product.

➢ Observe supplier documentation.

If have any doubts, contact the local Wilo customer service

No.	Component/Assembly:	Manufacturer:
1		
2		
3		
4		
5		
6		

16.2 Safety Data Sheets

⚠ WARNING!

Operator error due to incomplete information

Failure to comply with information from safety data sheets can lead to serious injury and death.

➢ Observe safety data sheets.

If have any doubts, contact the local Wilo customer service.

16.3 Instruction Protocol

Template!

➢ First copy, then fill in.

Date	Name	Type of instruction	Instruction is carried out by	Signature

17 Index

18 EG Declaration of Conformity

DECLARATION OF CONFORMITY
KONFORMITÄTSERKLÄRUNG

We, the manufacturer, declare under our sole responsibility that the pump types of the series,
Als Hersteller erklären wir unter unserer alleinigen Verantwortung, dass die Pumpenbauarten der Baureihen,

Atmos NHD-S

(The serial number is marked on the product site plate)
(Die Seriennummer ist auf dem Typenschild des Produktes angegeben)

in their delivered state comply with the following relevant directives and with the relevant national legislation:
in der gelieferten Ausführung folgenden einschlägigen Bestimmungen entsprechen 'und entsprechender nationaler Gesetzgebung:

_ 2006/42/EC - MACHINERY
_ 2006/42/EC - MASCHINENRICHTLINIE

_ 2009/125/EC - ENERGY-RELATED PRODUCTS
(and according to the regulation 2019/1781 on electric motors and variable speed drives)
_ 2009/125/EC - ENERGIEVERBRAUCHSRELEVANTER PRODUKTE - RICHTLINIE
(und entsprechend der geänderten Verordnung 2019/1781 über Elektromotoren und Drehzahlregelungen)

_ 2011/65/EU + 2015/863 - RESTRICTION OF THE USE OF CERTAIN HAZARDOUS SUBSTANCES
_ 2011/65/EU + 2015/863 - BESCHRÄNKUNG DER VERWENDUNG BESTIMMTER GEFÄHRLICHER STOFFE-RICHTLINIE

comply also with the following relevant standards:
sowie auch den Bestimmungen zu folgenden harmonisierten europäischen Normen:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Person authorized to compile the technical file is:
Bevollmächtigter für die Zusammenstellung der technischen Unterlagen ist:

WILO SE
Group Quality
Wilopark 1
D-44263 Dortmund, Deutschland

Dortmund, 2024-12-12

Signiert von:
i. V. Christoph Teschers
6390AFA148A744C...

Christoph TESCHERS
Group Vice President - Product Quality

WILO SE
Wilopark 1
D-44263 Dortmund, Deutschland

Declaration n°2224102-rev01

PC As-Sh n°2236064-EU-rev01

ORIGINAL DECLARATION / ORIGINAL-ERKLÄRUNG

F_GQ_013-86

EL — Επίσημη μετάφραση της Διακήρυξης

Εμείς, ο κατασκευαστής, δηλώνουμε με αποκλειστικά δική μας ευθύνη ότι οι τύποι αντλιών της σειράς,
(Ο σειριακός αριθμός σημειώνεται στο ταμπελάκι του προϊόντος) **Atmos NHD-S**
στην κατάσταση παράδοσης συμμορφώνονται με τις ακόλουθες σχετικές οδηγίες και τη σχετική εθνική νομοθεσία:

|| 2006/42/EC - Μηχανήματα || 2009/125/EC - Συνδεόμενα με την ενέργεια προϊόντα || 2011/65/EU + 2015/863 - για τον περιορισμό της χρήσης ορισμένων επικίνδυνων ουσιών

συμμορφώνεται επίσης με εναρμονισμένα πρότυπα:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Πρόσωπο εξουσιοδοτημένο να συντάξει το τεχνικό αρχείο είναι: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

ES — Traducción oficial de la Declaración

Nosotros, el fabricante, declaramos bajo nuestra exclusiva responsabilidad que las bombas de la(s) serie(s)
(El nº de serie está marcado en la placa de características del producto) **Atmos NHD-S**
cumple en la ejecución suministrada las siguientes disposiciones pertinentes y la legislación nacional correspondiente:

|| 2006/42/EC - Máquinas || 2009/125/EC - Productos relacionados con la energía || 2011/65/EU + 2015/863 - Restricciones a la utilización de determinadas sustancias peligrosas

así como las disposiciones de las siguientes normas europeas armonizadas:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Persona autorizada para la recopilación de los documentos técnicos: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

FR — Traduction officielle de la déclaration

Nous, fabricant, déclarons sous notre seule responsabilité que les types de pompes des séries,
Le numéro de série est inscrit sur la plaque signalétique du produit) **Atmos NHD-S**
dans leur état de livraison sont conformes aux dispositions des directives suivantes et aux législations nationales les transposant :

|| 2006/42/EC - MACHINES || 2009/125/EC - PRODUITS LIES A L'ENERGIE (et conformément au règlement 2019/1781 amendé relatif aux moteurs électriques et aux variateurs de vitesse) || 2011/65/EU + 2015/863 - LIMITATION DE L'UTILISATION DE CERTAINES SUBSTANCES DANGEREUSES

sont également conformes aux dispositions des normes européennes harmonisées suivantes :

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Personne autorisée à constituer le dossier technique est : WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

IT — Traduzione ufficiale della Dichiarazione

Noi, il costruttore, dichiariamo sotto la nostra esclusiva responsabilità che i tipi di pompa della serie,
(Il numero di serie è riportato sulla targhetta del sito del prodotto) **Atmos NHD-S**
allo stato di consegna sono conformi alle seguenti direttive pertinenti e alla legislazione nazionale pertinente:

|| 2006/42/EC - Macchine || 2009/125/EC - Prodotti connessi all'energia || 2011/65/EU + 2015/863 - sulla restrizione dell'uso di determinate sostanze pericolose

rispettare anche le seguenti norme pertinenti:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

La persona autorizzata a compilare il fascicolo tecnico è: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

PT — Tradução oficial da Declaração

Nós, o fabricante, declaramos sob nossa exclusiva responsabilidade que a(s) bomba(s) da(s) série(s),
(O nº de série está marcado na placa de características do produto) **Atmos NHD-S**
está em conformidade com a versão fornecida nas seguintes disposições relevantes e de acordo com a legislação nacional

|| 2006/42/EC - Máquinas || 2009/125/EC - Produtos relacionados com o consumo de energia || 2011/65/EU + 2015/863 - relativa à restrição do uso de determinadas substâncias perigosas

assim como as seguintes disposições das normas europeias

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Pessoa autorizada para a elaboração de documentos técnicos: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

DA — **Officiel oversættelse af erklæringen**

Vi, producenten, erklærer under vores eget ansvar, at pumpetyperne i serien,

(Serienummeret er markeret på produktpladen) **Atmos NHD-S**

i deres leverede tilstand overholde følgende relevante direktiver og den relevante nationale lovgivning:

|| 2006/42/EC - Maskiner || 2009/125/EC - Energirelaterede produkter || 2011/65/EU + 2015/863 - Begrænsning af anvendelsen af visse farlige stoffer

også overholde følgende relevante standarder:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Person, der er autoriseret til at udarbejde den tekniske fil, er: WILO SE, Group Quality, Wilopark 1, D-44263 Dortmund, Deutschland

ET — **Deklaratsiooni ametlik tõlge**

Meie, tootja, kuulutame ainuisikulisel vastutusel, et seeria pumbatüübid,

(Seerianumber on märgitud toote saidi plaadile) **Atmos NHD-S**

oma tarnitud olekus järgima järgmisi asjakohaseid direktiive ja asjakohaseid siseriiklikke õigusakte:

|| 2006/42/EC - Masinad || 2009/125/EC - Energiamõjuga toodete || 2011/65/EU + 2015/863 - teatavate ohtlike ainete kasutamise piiramise kohta

vastama ka järgmistele asjakohastele standarditele:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Tehnilise toimiku koostamiseks on volitatud isik: WILO SE, Group Quality, Wilopark 1, D-44263 Dortmund, Deutschland

FI — **Julistuksen virallinen käännös**

Valmistaja vakuuttaa yksinomaisella vastuullaan, että sarjan pumpputyypit,

(Sarjanumero on merkitty tuotekohtaiseen kilpeen) **Atmos NHD-S**

toimitetussa tilassa noudattavat seuraavia asiaankuuluvia direktiivejä ja asiaa koskevaa kansallista lainsäädäntöä:

|| 2006/42/EC - Koneet || 2009/125/EC - Energiaan liittyvien tuotteiden || 2011/65/EU + 2015/863 - tiettyjen vaarallisten aineiden käytön rajoittamisesta

noudattamaan myös seuraavia asiaankuuluvia standardeja:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Henkilö, jolla on valtuudet koota tekninen tiedosto, on: WILO SE, Group Quality, Wilopark 1, D-44263 Dortmund, Deutschland

IS — **Opinber þýðing á yfirlýsingunni**

Við framleiðandinn lýsum því yfir undir ábyrgð okkar einungis að dælugerðir seríunnar,

(Raðnúmerið er merkt á plötunni á vörustaðnum) **Atmos NHD-S**

í afhentu ástandi í samræmi við eftirfarandi viðeigandi tilskipanir og viðeigandi innlenda löggjöf:

|| 2006/42/EC - Vélartilskipun || 2009/125/EC - Tilskipun varðandi vörur tengdar orkunotkun || 2011/65/EU + 2015/863 - Takmörkun á notkun tiltekinna hættulegra efna

uppfylla einnig eftirfarandi viðeigandi staðla:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Sá sem hefur heimild til að taka saman tækniskrána er: WILO SE, Group Quality, Wilopark 1, D-44263 Dortmund, Deutschland

LT — **Oficialus deklaracijos vertimas**

Mes, kaip gamintojas, savo atsakomybės ribose deklaruojame, kad šios serijos siurblių modeliai,

(Serijos numeris pažymėtas ant produkto lentelės) **Atmos NHD-S**

taip kaip pristatyti, atitinka sekančias aktualias direktyvas ir nacionalines teisės normas bei reglamentus:

|| 2006/42/EC - Mašinos || 2009/125/EC - Energija susijusiems gaminiams || 2011/65/EU + 2015/863 - dėl tam tikrų pavojingų medžiagų naudojimo apribojimo

taip pat atitinka sekančius aktualius standartus:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Asmuo įgaliotas sudaryti techninius dokumentus yra: WILO SE, Group Quality, Wilopark 1, D-44263 Dortmund, Deutschland

LV

Deklarācijas oficiālais tulkojums

Mēs, ražotājs, ar pilnu atbildību paziņojam, ka sūkņu sērijas,

(Sērijas numurs ir norādīts uz izstrādājuma plāksnītes) **Atmos NHD-S**

piegādātāja valstī atbilst šādām attiecīgām direktīvām un attiecīgiem valsts tiesību aktiem:

|| 2006/42/EC - Mašīnas || 2009/125/EC - Enerģiju saistītiem ražojumiem || 2011/65/EU + 2015/863 - par dažu bīstamu vielu izmantošanas ierobežošanu 2011/65/UE

atbilst arī sekojošiem attiecīgiem standartiem:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Persona pilnvarota sastādīt tehnisko dokumentāciju: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

NL

Officiële vertaling van de verklaring

Wij, de fabrikant, verklaren onder onze eigen verantwoordelijkheid dat de pomptypes van de serie,

(Het serienummer staat vermeld op het naamplaatje van het product) **Atmos NHD-S**

in de geleverde versie voldoen aan de volgende relevante bepalingen en aan de overeenkomstige nationale wetgeving:

|| 2006/42/EC - Machines || 2009/125/EC - Energiegerelateerde producten || 2011/65/EU + 2015/863 - betreffende beperking van het gebruik van bepaalde gevaarlijke stoffen

voldoen ook aan de volgende relevante normen:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

De persoon die bevoegd is om het technische bestand samen te stellen is: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

NO

Offisiell oversettelse av erklæring

Vi som produsent erklærer herved at pumper under type serie,

(serienummeret er markert på pumpeskilt) **Atmos NHD-S**

I levert tilstand vil produkt overholde følgende direktiver og relevant nasjonal lovgivning

|| 2006/42/EC - Maskindirektiv || 2009/125/EC - Direktiv energirelaterte produkter || 2011/65/EU + 2015/863 - Begrensning av bruk av visse farlige stoffer

Oppfølger også relevante standarder

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Vedkommendesom er autorisert til å sammenstille teknisk fil er: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

SV

Officiell översättning av försäkran

Vi, tillverkaren, försäkrar under eget ansvar att pumparna i serien

(Serienumret finns utmärkt på produktens dataskylt) **Atmos NHD-S**

i det utförande de levererades överrenstämmer med följande relevanta direktiv och relevant nationell lagstiftning

|| 2006/42/EC -Maskiner || 2009/125/EC - Energirelaterade produkter || 2011/65/EU + 2015/863 - begränsning av användning av vissa farliga ämnen

överrenstämmer också med följande relevanta standarder:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Person behörig att sammanställa denna tekniska fil är: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

GA

Eadar-theangachadh oifigeil den Ghairm

Bidh sinn, an neach-dèanamh, a 'foillseachadh fon aon uallach againn gu bheil na seòrsaichean pumpa san t-sreath,

(Tha an àireamh sreathach air a chomharrachadh air clàr làrach an toraidh) **Atmos NHD-S**

anns an stàit lìbhrigidh aca gèilleadh ris na stiùiridhean buntainneach a leanas agus ris an reachdas nàiseanta buntainneach:

|| 2006/42/EC - Innealra || 2009/125/EC - Fuinneamh a bhaineann le táirgí || 2011/65/EU + 2015/863 - Srian ar an úsáid a bhaint as substaintí guaiseacha acu

gèilleadh cuideachd ris na h-inbhean iomchaidh a leanas:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Is e an neach le ùghdarras am faidhle teicnigeach a chur ri chèile: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

BG

Официален превод на Декларация

Ние, като производител, декларираме на собствена отговорност, че помпите от серията,

Серийните номера са обозначени на табелата на продукта

Atmos NHD-S

В доставения им вид са в съответствие приложимите за държавата директиви и законодателство

|| 2006/42/EC - Машини || 2009/125/EC - Продукти, свързани с енергопотреблението || 2011/65/EU + 2015/863 - относно ограничението за употребата на определени опасни вещества

Също така отговарят на следните изискуеми норми:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Лицето, упълномощено да състави техническия доклад е: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

CS

Oficiální překlad Prohlášení

My, výrobce, prohlašujeme na základě naší jediné odpovědnosti, že typy čerpadel řady,

(Sériové číslo je uvedeno na výrobním štítku)

Atmos NHD-S

ve svém dodaném stavu dodržovat následující relevantní směrnice a příslušnou národní legislativu:

|| 2006/42/EC - Stroje || 2009/125/EC - Výrobků spojených se spotřebou energie || 2011/65/EU + 2015/863 - Omezení používání některých nebezpečných látek

dodržovat také následující relevantní normy:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Osoba oprávněná sestavit technickou dokumentaci je: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

HR

Službeni prijevod Deklaracije

Mi, proizvođač, izjavljujemo pod isključivom odgovornošću da tipovi pumpi serije,

(Serijski broj je označen na tipskoj pločici proizvoda)

Atmos NHD-S

u isporučenom stanju odgovara sljedećim relevantnim direktivama i relevantnom nacionalnom zakonodavstvu:

|| 2006/42/EC - Smjernica o strojevima || 2009/125/EC - Smjernica za proizvode relevantne u pogledu potrošnje energije || 2011/65/EU + 2015/863 - ograničenju uporabe određenih opasnih tvari

u skladu također i sa sljedećim relevantnim standardima:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Osoba ovlaštena za sastavljanje tehničke dokumentacije: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

HU

A Nyilatkozat hivatalos fordítása

Mi, a gyártó, saját felelősségünkre kijelentjük, hogy a sorozat szivattyúi,

(A sorozatszámot a termék adattábláján feltüntetik)

Atmos NHD-S

leszállított kivitelükben feleljenek meg a következő vonatkozó irányelveknek és a vonatkozó nemzeti irányelveknek

|| 2006/42/EC - Gépek || 2009/125/EC - Energiával kapcsolatos termékek || 2011/65/EU + 2015/863 - egyes veszélyes való alkalmazásának korlátozásáról

megfeleljen a következő vonatkozó előírásoknak is:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

A műszaki dokumentáció összeállítására jogosult személy: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

PL

Oficjalne tłumaczenie Deklaracji Zgodności

Producent oświadcza na wyłączną odpowiedzialność, że pompy z serii

(Numer seryjny znajduje się na tabliczce znamionowej produktu)

Atmos NHD-S

w stanie dostarczonym są zgodne z następującymi dyrektywami i przepisami krajowymi mającymi zastosowanie:

|| 2006/42/EC - Maszyn || 2009/125/EC - Produktów związanych z energią || 2011/65/EU + 2015/863 - sprawie ograniczenia stosowania niektórych niebezpiecznych substancji

są również zgodne z następującymi specyfikacjami technicznymi mającymi zastosowanie:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Osoba upoważniona do sporządzenia dokumentacji technicznej: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

RO — **Traducere oficială a Declarației**

Noi, producătorul, declarăm sub responsabilitatea noastră exclusivă că tipurile de pompe din seria

(Numărul serial este marcat pe plăcuta de identificare a produsului)

Atmos NHD-S

în starea lor livrată, respectă următoarele directive relevante și legislația națională relevantă:

|| 2006/42/EC - Mașini || 2009/125/EC - Produselor cu impact energetic || 2011/65/EU + 2015/863 - privind restricțiile de utilizare a anumitor substanțe periculoase

sunt conforme, de asemenea, cu următoarele standarde relevante

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Persoana autorizată sa compileze dosarul tehnic este: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

SK — **Oficiálny preklad vyhlásenia**

My, výrobca, na vlastnú zodpovednosť vyhlasujeme, že typy čerpadiel radu,

(Sériové číslo je uvedené na štítku s výrobkom)

Atmos NHD-S

v dodanom stave zodpovedajú nasledujúcim relevantným smerniciam a príslušným národným právnym predpisom:

|| 2006/42/EC - Strojových zariadeniach || 2009/125/EC - Energeticky významných výrobkov || 2011/65/EU + 2015/863 - obmedzení používania určitých nebezpečných látok

spĺňať aj nasledujúce relevantné normy:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Osoba oprávnená zostaviť technickú dokumentáciu je: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

SL — **Uradni prevod izjave**

Mi, kot proizvajalci, z polno odgovornostjo izjavljamo, da so črpalke serije,

(Serijska številka je označena na napisni tablici izdelka)

Atmos NHD-S

v stanju dostave ravnajo v skladu z naslednjimi ustreznimi direktivami in ustrezno nacionalno zakonodajo:

|| 2006/42/EC - Stroji || 2009/125/EC - Izdelkov, povezanih z energijo || 2011/65/EU + 2015/863 - o omejevanju uporabe nekaterih nevarnih snovi

izpolnjujejo tudi naslednje ustrezne standarde:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Oseba, pooblaščena za sestavo tehnične datoteke, je: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

TR — **CE Uygunluk Beyanı**

Biz üretici olarak, bu seri pompa tiplerinin tamamen kendi sorumluluğumuz altında olduğunu beyan ederiz.

Seri numarası ürünün üzerindedir.

Atmos NHD-S

teslim edildiği şekliyle aşağıdaki ilgili hükümler ile uyumludur;

|| 2006/42/EC - Makine Yönetmeliği || 2009/125/EC - Eko Tasarım Yönetmeliği || 2011/65/EU + 2015/863 - Belirli tehlikeli maddelerin bir kullanımını sınırlandıran

İlgili uyumlaştırılmış Avrupa standartları;

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Teknik dosyayı düzenleyen yetkili kişi; WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

MT — **Traduzzjoni uffiċjali tad-Dikjarazzjoni**

Aħna, il-manifattur, niddikjaraw taħt ir-responsabbiltà unika tagħna li t-tipi ta 'pompa tas-serje,

(In-numru tas-serje huwa mmarkat fuq il-pjanċa tas-sit tal-prodott)

Atmos NHD-S

fl-istat mogħtija tagħhom jikkonformaw mad-direttivi rilevanti li ġejjin u mal-leġislazzjoni nazzjonali relevanti:

|| 2006/42/EC - Makkinarju || 2009/125/EC - Prodotti relatati mal-enerġija || 2011/65/EU + 2015/863 - dwar ir-restrizzjoni tal-użu ta' ċerti sustanzi perikoluż

jikkonformaw ukoll mal-istandards rilevanti li ġejjin:

EN 809:1998+A1:2009; EN 60034-1:2010; EN 60204-1:2018; EN 60034-30-1:2014; EN IEC 63000:2018;

Persuna awtorizzata biex tiġbor il-fajl tekniku hija: WILO SE Group Quality Wilopark 1 D-44263 Dortmund, Deutschland

wilo

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