

Wilo-Rexa MINI3



en Installation and operating instructions



Rexa MINI3
<https://qr.wilo.com/405>

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1 Safety

1.1 About these instructions

These instructions form part of the product. Compliance with the instructions is essential for correct handling and use:

- Read the instructions carefully before all activities.
- Keep the instructions in an accessible place at all times.
- Pass the instructions on to a subsequent owner.
- Observe all product specifications.
- Observe the markings on the product.

The language of the original operating instructions is German. All other languages for these instructions are translations of the original operating instructions.

Failure to observe the instructions will result in danger to persons or damage to property. The manufacturer is not liable for damage caused by:

- Improper use.
- Incorrect operation.

1.2 Digital instructions

The digital version of the instructions is available on the following product page:

<http://qr.wilo.com/405>

1.3 Identification of safety instructions

In these installation and operating instructions, safety instructions are displayed as follows:

- Danger to persons: Safety instructions are **preceded by a corresponding symbol** and are shaded in grey.
- Damage to property: Safety instructions start with a signal word and are displayed **without** a symbol.

Signal words

- **DANGER!**
Failure to follow the instructions will result in serious injuries or death!
- **WARNING!**
Failure to follow the instructions can lead to (serious) injury!

- **CAUTION!**
Failure to follow the instructions can lead to potentially irreparable property damage.
- **NOTICE!**
Useful information on handling the product

Symbols

These instructions use the following symbols:



Danger caused by electric voltages



Danger of explosion



Warning – risk of cuts and similar injuries



Warning – risk of health damage



Personal protective equipment: wear protective gloves



Personal protective equipment: wear face mask



Personal protective equipment: wear safety goggles



Useful information

1.4 Personnel qualifications

- Persons aged 16 and over
- Have read and understood the installation and operating instructions

Children and persons with limited abilities in the household

This device can be used by children from 8 years of age as well as people with reduced physical, sensory or mental capacities or lack of experience and knowledge if they are supervised or instructed on the safe use of the device and they understand the dangers that can occur. Children are not allowed to play with the device. Cleaning and user maintenance must not be carried out by children without supervision.

1.5 Fluids hazardous to health

In stagnant water (e.g. pump sump, soakaway, etc.) germs which are hazardous to health can form. There is a danger of bacterial infections!

- Clean and disinfect the product thoroughly after removal!
- Inform all persons about the pumped fluid and the danger it poses!

1.6 Personal protective equipment

The aforementioned branded products constitute non-binding suggestions. Similar products from other brands can also be used. WILO SE does not assume any liability for the aforementioned products.

Protective equipment: Transport, installation, removal and maintenance

- Safety shoes: uvex 1 sport S1
- Protective gloves (EN 388): uvex phynomic wet

Protective equipment: Cleaning work

- Protective gloves (EN ISO 374-1): uvex profapren CF33
- Safety goggles (EN 166): uvex skyguard NT
- Breathing protection mask (EN 149): Half mask 3M series 6000 with filter 6055 A2

1.7 Transport and storage

- Wear protective equipment!
- Always carry the product by the handle!
- Clean product and disinfect if necessary!
 - Dirt fosters the formation of germs.
 - Encrustations may lead to the impeller becoming blocked.

1.8 Installation

- Wear protective equipment!
- Do not install damaged or defective products.
- If there is a risk of germ formation, observe the following points:
 - Ensure sufficient air exchange.
 - Wear a breathing protection mask e.g. Half mask 3M series 6000 with filter 6055 A2

1.9 Electrical connection

- Do not connect products with a damaged connection cable! Have the connection cable

replaced by a qualified electrician or the customer service.

- Mains connection with correctly installed protective earth conductor.
- Install the residual-current device (RCD) with 30 mA.
- Fuse protection at mains connection: max. 16 A.
- **Product without plug:** Electrical connection must be carried out by a qualified electrician!

1.10 During operation

- The pumping of highly inflammable and explosive fluids (petrol, paraffin, etc.) in their pure form is strictly prohibited!
- If persons come into contact with the pumped fluid (accessible basins*), do not commission the product.

*Definition of “accessible basins”

Installation sites that can be walked on and directly accessed without tools (examples below):

- Garden ponds
- Swimming ponds
- Cesspools

NOTICE! The specifications applicable to swimming pools also apply to accessible basins.

1.11 Removal

- Wear protective equipment!
- **Product without plug:** Have the connection cable disconnected from the mains by a qualified electrician.
- Depending on the operating mode and duration, the housing parts become hotter than 40 °C (104 °F).
 - Only touch the product by the carrying handle.
 - Allow product to cool down.
- Clean the device thoroughly.
- If there is a risk of germ formation, observe the following points:
 - Ensure sufficient air exchange.
 - Wear a breathing protection mask e.g. Half mask 3M series 6000 with filter 6055 A2
 - Disinfect product.

1.12 Clean and disinfect

- Wear protective equipment!
The protective equipment prevents contact with germs that are hazardous to health and the disinfectant.
- If a disinfectant is used, follow the manufacturer's instructions!
 - Wear protective equipment according to the manufacturer's instructions! If in doubt, ask your specialist dealer.
 - Inform all persons about the disinfectant and how to use it correctly!

1.13 Maintenance tasks

- Wear protective equipment!
- Carry out maintenance work in a clean, dry and well-lit place.
- Only original parts of the manufacturer may be used. The use of any non-original parts releases the manufacturer from any liability.
- Collect any leakage of fluid and operating fluid immediately.

1.14 Operating fluid

The oil is located in the sealing chamber. It serves to lubricate the seal on the motor and pump side.

- Absorb leakages immediately.
- If major leakages occur, contact customer service.
- If the seal is defective, the oil enters the pumped fluid and the sewer.
- Collect waste oil by type (unmixed) and dispose of it in accordance with regulations at a certified collection point.
- **Skin contact:** Rinse skin areas thoroughly with soap and water. If skin irritation occurs, consult a doctor.
- **Contact with eyes:** Remove the contact lenses. Rinse eye thoroughly with water. If eye irritation occurs, consult a doctor.
- **Ingestion:** Consult a doctor immediately! Do not induce vomiting!

2 Product description and function

2.1 Description

Submersible pump for stationary and portable wet well installation in intermittent operation.



Fig. 1: Overview

| | |
|---|----------------------|
| 1 | Handle |
| 2 | Motor housing |
| 3 | Discharge connection |
| 4 | Pump housing |
| 5 | Float switch |
| 6 | Connection cable |

Rexa MINI3-V ... -P

Sewage pump with vortex impeller and vertical threaded connection. Hydraulics housing made of grey cast iron, impeller made of plastic. Surface-cooled 1~ motor with integrated operating capacitor and self-switching thermal motor monitoring. Stainless steel motor housing. Oil-filled sealing chamber with double sealing: a rotary shaft seal is installed on the motor side, a mechanical seal on the pump side. Detachable connection cable with fitted plug (CEE 7/7).

Rexa MINI3-V ... -A

Sewage pump with vortex impeller and vertical threaded connection. Hydraulics housing made of grey cast iron, impeller made of plastic. Surface-cooled 1~ motor with integrated operating capacitor and self-switching thermal motor monitoring. Stainless steel motor housing. Oil-filled sealing chamber with double sealing: a rotary shaft seal is installed on the motor side, a mechanical seal on the pump side. Detachable connection cable with float switch and fitted plug (CEE 7/7).

Rexa MINI3-V ... -O

Sewage pump with vortex impeller and vertical threaded connection. Hydraulics housing made of grey cast iron, impeller made of plastic. Surface-cooled 3~ motor with self-switching thermal motor monitoring. Stainless steel motor housing. Oil-filled sealing chamber with double sealing: a rotary shaft seal is installed on the motor side, a mechanical seal on the pump side. Detachable connection cable with bare cable end, for fixed connection to on-site controls. **NOTICE! Pump without float switch and plug!**

2.2 Technical data

| | |
|---------------------|--------------------------------|
| Date of manufacture | See rating plate ¹⁾ |
| Mains connection | See rating plate |
| Rated power | See rating plate |

| | |
|--|------------------------------|
| Max. delivery head | See rating plate |
| Max. volume flow | See rating plate |
| Activation type | See rating plate |
| Speed | See rating plate |
| Discharge connection* | G 1½ IG |
| Operating mode, immersed | S1 |
| Operating mode, non-immersed | S3 20% ²⁾ |
| Fluid temperature | 3 ... +40 °C (37 ... 104 °F) |
| Fluid temperature, short-term for 3 min | - |
| Max. immersion depth, 5 m (16.5 ft) connection cable | 2 m (6.5 ft) |
| Max. immersion depth, 10 m (33 ft) connection cable | 7 m (23 ft) |
| Protection class | IP68 |
| Insulation class | F |
| Max. switching frequency /h | 30/h |

Key

* IG = female thread, AG = male thread

¹⁾ Information according to ISO 8601

²⁾ 2 min operation, 8 min standby

2.3 Type key

| | |
|--------------|---|
| Ex-ample: | Wilo-Rexa MINI3-V04.11/M06-523/A-5M |
| Rexa | Submersible sewage pump |
| MINI3 | Series |
| V | Vortex impeller |
| 04 | Nominal diameter discharge connection G 1½ IG |
| 11 | Max. delivery head in m |
| M | Mains connection version: <ul style="list-style-type: none"> • M = single-phase current (1~) • T = three-phase current (3~) |
| 06 | Value/10 = rated power P ₂ in kW |
| 5 | Mains frequency: <ul style="list-style-type: none"> • 5 = 50 Hz • 6 = 60 Hz |
| 23 | Rated voltage code |
| A | Additional electrical equipment: <ul style="list-style-type: none"> • O = with bare cable end • P = with plug • A = with plug and float switch |
| 5M | Connection cable length |

2.4 Scope of delivery

- Pump
- Installation and operating instructions

2.5 Functions

2.5.1 Self-switching thermal motor monitoring

If the motor becomes too hot, the pump is deactivated. After the motor has cooled down, the pump is automatically switched on again.

2.5.2 Float switch

The Rexa MINI3-V ... -A is equipped with a float switch. The float switch is used to switch the pump on and off depending on the level:

- Upper floater: Pump on
- Lower floater: Pump off

3 Application/use

3.1 Intended use

For the pumping in domestic areas of:

- Sewage not containing faeces
 - Wash basins
 - Shower basins/bathtubs
 - Washing machines
- Wastewater (with small amounts of sand and gravel)
 - Rainwater
 - Drainage water
- Fluid temperature: 3 ... +40 °C (37 ... 104 °F)

Use inside and outside buildings



NOTICE

For use inside buildings only

Use pumps with a connection cable less than 10 m (33 ft) long only inside buildings. Use outside buildings is prohibited!

| Pump type | Connection cable length | Outdoor application | Indoor application |
|-----------------------|-------------------------|---------------------|--------------------|
| Rexa MINI3-V ... -5M | 5 m (16.5 ft) | — | • |
| Rexa MINI3-V ... -10M | 10 m (33 ft) | • | • |

Key:

— = Not permitted, • = Permitted

3.2 Improper use



DANGER

Explosion due to pumping of explosive fluids!

Pumping of highly flammable and explosive fluids (gasoline, kerosene, etc.) in pure form is strictly prohibited. There is a risk of fatal injury due to explosion! The pumps are not designed for these fluids.

The submersible pumps must **not be used** for pumping:

- Untreated sewage
- Sewage containing faeces
- Drinking water
- Fluids containing hard components (such as stones, wood, metal, etc.)
- Fluids containing high quantities of abrasive contents (e.g. sand, gravel).
- Viscous fluids (e.g. oil and grease)

- Seawater

Intended use also includes compliance with this manual. Any other use is regarded as non-compliant with intended use.

4 Transport and storage

CAUTION

Soaked packaging may tear!

The product may fall on the ground if unprotected and may be damaged. Lift wet packaging carefully and replace it immediately!

- Wear protective equipment!
- Carry the pump by the handle. Never carry or pull on the connection cable!
- Clean the pump and disinfect if necessary.
- Close the discharge connection.
- Protect the connection cable against kinking and damage.
- Use original packaging for transport and storage.
- Pack the pump when dry. Wet or humid pumps may soften the packaging.
- Storage conditions:
 - Maximum: $-15 \dots +60 \text{ }^\circ\text{C}$ ($5 \dots 140 \text{ }^\circ\text{F}$), max. humidity: 90 %, non-condensing
 - Recommended: $5 \dots 25 \text{ }^\circ\text{C}$ ($41 \dots 77 \text{ }^\circ\text{F}$), relative humidity: 40 ... 50 %

5 Installation and electrical connection

5.1 Installation types

- Vertical stationary wet well installation
- Vertical portable wet well installation

5.2 Installation

- Wear protective equipment!
- Do not install a damaged or defective pump.
- Frost-free location.
- Lay the connection cable properly. During operation there must be no danger (stumbling, damage, etc.).
- Float switch must be able to move freely!

5.2.1 Stationary wet well installation

For stationary wet well installation, the pump is installed directly onto the pressure pipe. Observe and adhere to the following points:

- The connected pressure pipe must be self-supporting. The pressure pipe must not be supported by the pump.
 - The pump may oscillate slightly during operation. These oscillations must be dissipated via the pressure pipe.
 - Ensure that the connection to the pressure pipe is stress-free – do not screw it in too tightly.
 - The pressure pipe must not be smaller than the pump's discharge connection.
 - Seal pipe connections with Teflon tape.
 - Install all specified valves in accordance with local requirements (gate valve, non-return valve).
 - Lay the discharge pipe frost-proof.
 - Air pockets in the pump and in the discharge pipe can lead to delivery problems.
- Installing the ventilation systems:

- For example, air vent valve
 - In the discharge pipe
 - Before the non-return valve
- Install the discharge pipe as a "pipe loop" to avoid backflow from the main public sewer.
- At its highest point, the bottom edge of the pipe loop must be above the locally determined backflow level!

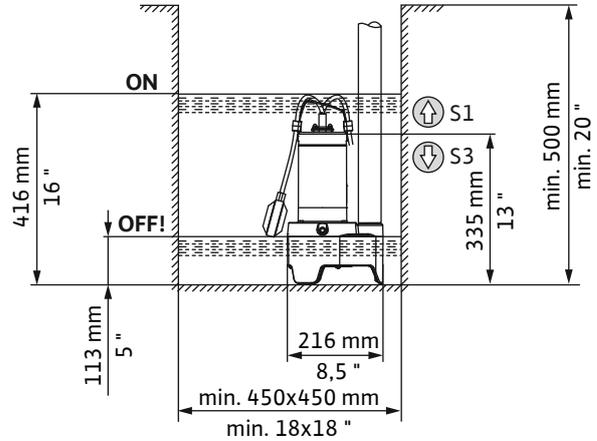


Fig. 2: Installation dimensions and switching points

| | |
|-----|--|
| ON | Switch-on level |
| OFF | Switch-off level |
| ⊕ | Fill level above: Continuous duty (operating mode immersed) |
| ⊖ | Fill level below: Intermittent periodic duty (operating mode non-immersed) |

- ✓ Site is prepared.
 - ✓ Pressure pipe properly installed.
1. Screw the discharge pipe fully into the pump's discharge connection.
 2. Position the pump at the installation site.
CAUTION! Use a hard surface or underlay at the installation site to prevent sinking on soft substrate.
 3. Connect the discharge pipe to the pressure pipe (e.g. using a flexible hose section).
 4. Secure the connection cable to the pressure pipe and route it to the socket/power supply.
 - ▶ Pump is installed.

5.2.2 Portable wet well installation

The pump can be installed at any location on the application site when carrying out portable wet well installation. Observe and adhere to the following points:

- Secure the pump against falling over and moving (creeping) during use.
 - Secure the pressure hose to the hose connection.
 - ✓ Site is prepared
 - ✓ Pressure hose to be used: Min. inside diameter 1½"
 - ✓ Hose clip to be used: 40 – 60 mm inside diameter (1.6 – 2.4 in)
 - ✓ Hose connection to be used: G 1½" (with male thread)
1. Attach the hose connection.
Twist the hose connection into the pressure port as far as it will go.
 2. Slide the hose clip over the pressure hose.

3. Slide the pressure hose onto the hose connection at the pressure port.
4. Secure the pressure hose to the hose connection using the hose clip.
5. Position the pump at the installation site.
CAUTION! Use a hard surface or underlay at the installation site to prevent sinking on soft substrate.
6. Lay the pressure hose and fasten it in the appropriate place (e.g. drainage). **CAUTION! If the pump is placed in a full chamber, hold the pump at a slight angle when immersing. This causes the air to escape from the pump!**
7. Route the connection cable to the socket/power supply.
 - ▶ Pump is installed.

5.3 Electrical connection

- Mains connection with correctly installed protective earth conductor.
- Residual-current device (RCD) is installed with 30 mA.
- Mains connection fuse protection: max. 16 A.
- Voltage (U) and frequency (f) data on the rating plate correspond to the data of the mains connection.

Do **not** connect the pump if:

- The connection cable is damaged
Have the connection cable replaced by a qualified electrician or the customer service.
- A standalone inverter is in use
Stand-alone inverters are used in autonomous power supplies, e.g. solar power supply, and can generate overvoltages. Overvoltages can destroy the pump.
- A multiple plug socket or power strip is in use
- An energy-saving plug is in use
This reduces the energy supply to the pump and the pump may heat up too much.
- Operation on start-up controls
The pump is not suitable for operation on a frequency converter or a soft start control.
- Explosive atmospheres
Do not connect and operate the pump inside potentially explosive atmospheres!

5.3.1 Connection: Pump with plug

Provide for a socket (type E or type F) with earthing contact. To connect the pump, insert the plug into the socket.



NOTICE

Pump starts up or is ready for operation!

Once the plug is connected to the socket, the pump will either start immediately or be ready for operation:

- Pump **without float switch**: pump switches on immediately!
- Pump **with float switch**: pump is ready for operation and will switch on depending on the fill level!
 - ▶ We recommend switching the socket on and off using a separate main switch!

5.3.2 Connection: Pump without a plug



DANGER

Risk of fatal injury due to electrical current!

Improper conduct when carrying out electrical work can lead to death due to electric shock!

- Electrical work must be carried out by a qualified electrician!
- Observe local regulations!

CAUTION

Irreparable damage as a result of water penetration

Connection cables without plugs feature bare cable ends. Water may penetrate the connection cable and pump via these bare cable ends. This will destroy both the connection cable and the pump. Never immerse the bare end of the connection cable in fluid. Firmly seal it during storage.

The pump has a connection cable with bare cable end. The pump must be permanently connected to a switchgear. Observe the following points:

- Earth the device properly!
- Provide a motor protection switch!
The minimum requirement is a thermal relay/motor protection switch with temperature compensation, differential trip and re-activation lock according to local regulations.
- Install the mains disconnection device!
Minimum requirement: Main switch with all-pole disconnection.

Pump with single-phase AC motor

To connect the pump firmly to the switchgear, cut off the plug. Carry out connection to a switchgear as follows:

| Wire colour | Terminal in switchgear |
|----------------------|------------------------------------|
| Brown (bn) | L (phase) |
| Blue (bl) | N (neutral conductor) |
| Green/yellow (gn-ye) | Earth (protective earth conductor) |

Pump with three-phase AC motor

The pump is suitable for connection to a clockwise rotating field. Check the rotating field with a rotating-field-testing device before connection and correct if necessary. **CAUTION! The pump is not approved for operation with a counter-clockwise rotating field!** Carry out connection to a switchgear as follows:

| Wire colour | Terminal in switchgear |
|----------------------|------------------------------------|
| Brown (bn) | U |
| Black (bk) | V |
| Blue (bl) | W |
| Green/yellow (gn-ye) | Earth (protective earth conductor) |

Adjust the motor protection

Set the motor protection switch to the rated current (see rating plate).

6 Commissioning



DANGER

Risk of fatal injury due to electrical currents in accessible basins!

Do not operate the pump if there are persons in contact with the fluid. In the event of a fault this may cause death by electric shock! Only activate the pump when there are no longer any persons in contact with the fluid.



NOTICE

Check the inlet quantity!

The maximum inlet volume flow must be less than the maximum pump delivery rate. If the inlet quantity is higher, the pump will not be able to pump away the volume flow. The pump chamber may overflow!

6.1 Before activating

Check the following prior to activation:

- Has the electrical connection been carried out in accordance with regulations?
- Has the connection cable been routed safely?
- Can the float switch move freely?
- Temperature of the pumped fluid observed?
- Immersion depth observed?
- Are the pressure pipe and pump sump free of deposits?
- All gate valves in the pressure pipe open?

6.2 Switching on and off

The pump is switched on and off depending on the version:

- Pump **with** plug, **without** float switch
The pump will switch on immediately after the plug has been inserted into the socket. To switch off the pump, pull the plug.
- Pump **with** plug **and** float switch
The pump will switch on and off automatically on reaching the switching level:
 - Upper floater: Pump on.
 - Lower floater: Pump off.
- Pump with bare cable end (**without plug**)
Switch the pump on and off via a separate control. Read the installation and operating instructions for the control unit for further details.

6.3 Test run

If the pump is installed stationary (e.g. cesspool, overflow shaft), carry out a test run. Check the following points with the test run:

- General conditions (inflow quantity, switching points)
- Direction of rotation (with 3~ motors)

The test run must include three pump cycles.

1. Flood the pump chamber: Open inlet.
NOTICE! The required feed quantity for the test run can also be simulated using another water source.
2. When the switch-on level is reached: pump starts.
3. Switch-off level reached: pump stops.

4. Repeat two more pumping processes.

- ▶ Once three pumping processes have been completed without problems, the test run is finished.

NOTICE! If the pump does not switch on once a week, repeat the test run every month.

6.4 During operation

CAUTION

Do not allow the pump to dry run!

Do not run the pump without fluid (dry run). Switch off the pump once the residual water level has been reached. Dry running may destroy the seal and cause the pump to be irreparably damaged.

Check the following points:

- Inlet quantity corresponds to the pump delivery rate.
- Float switch is operating correctly.
- Connection cable is not damaged.
- Pump free from deposits and encrustations.

7 Removal



DANGER

Risk of infection due to fluids hazardous to health!



Hazardous germs can form in standing waters. If there is a risk of germ formation, observe the following points:



- Ensure sufficient air exchange.
- Wear a breathing protection mask e.g. Half mask 3M series 6000 with filter 6055 A2.
- Disinfect product.

- Wear protective equipment!
- Depending on the operating mode and duration, the housing parts become hotter than 40 °C (104 °F).
 - Only touch the product by the carrying handle.
 - Allow product to cool down.
- Clean the device thoroughly.

7.1 Stationary wet well installation

1. Close the gate valve in the inlet and pressure pipe.
2. Switch off pump.
Pump **with** a plug: Pull the plug.
Pump firmly connected (**without** plug): Disconnect the pump from the mains. **DANGER! Have electrical work carried out by a qualified electrician!**
3. Disconnect the connection cable from the pressure pipe.
4. Release the pump and discharge pipe from the pressure pipe.
5. Lift the pump by the handle out of the operating space.
6. Unscrew the discharge pipe from the pressure port.
7. Coil up the connection cable and store it with the pump.
8. Clean pump and discharge pipe thoroughly.
 - ▶ Pump removed.

If the pump remains installed, observe the following points:

- Protect pump from frost and ice:
 - Immerse the pump completely in the pumped fluid.
 - Min. ambient temperature: +3 °C (+37 °F)
 - Min. fluid temperature: +3 °C (+37 °F)
- If the pump will not be used for a prolonged period, switch on pump and carry out one pumping process every 2 months to prevent encrustations and clogging. Only carry out the pumping process under suitable operating conditions!

If the above points are not guaranteed, remove the pump!

7.2 Portable wet well installation

1. Switching off the pump: Disconnect the plug.
2. Lift the pump by the handle out of the operating space.
3. Loosen the hose clip and pull the pressure hose off the discharge port.
4. Coil up the connection cable and store it with the pump.
5. Clean pump and pressure hose thoroughly.

8 Cleaning

- Wear protective equipment!
The protective equipment prevents contact with germs that are hazardous to health and the disinfectant.
- If a disinfectant is used, follow the manufacturer's instructions!
 - Wear protective equipment according to the manufacturer's instructions! If in doubt, ask your specialist dealer.
 - Inform all persons about the disinfectant and how to use it correctly!
- Drain the water used for cleaning into the sewage system.

8.1 Clean pump

- ✓ Pump removed.
 - ✓ Disinfectant is available.
1. Ensure that the plug or bare cable end is packed and stored in a watertight manner!
 2. Rinse the pump and cable under clean, running water.
 3. Guide the water jet inwards through the pressure port to clean the impeller and pump interior.
 4. Rinse attachments such as the discharge pipe and pressure hose with clean, running water.
 5. Flush dirt residue on the floor into the sewage drain.
 6. Allow the pump to dry out.
 7. Clean plug or bare cable end with a damp cloth!
 - ▶ Pump has been cleaned. Pack and store the pump.

NOTICE! If the suction port is very contaminated, remove the cover plate for thorough cleaning!

8.2 Cleaning the pump interior



WARNING

Sharp edges on the impeller and suction port!

Sharp edges can form on the impeller and suction port. There is a danger of cuts and similar injuries!

- Wear protective gloves!

In the case of severe dirt and encrustations, remove the cover plate on the suction port and clean the pump interior.

1. Place the pump on a firm surface in a horizontal position.
2. Secure the pump against slipping!
3. Unscrew the 3 fastening screws on the cover plate.
4. Remove the cover plate.
5. Rinse the pump interior with clean, running water. Remove solids by hand.
6. Check the O-ring on the suction port. If the O-ring is damaged (cracks, porosity, crushed areas), replace the O-ring.
7. Position the cover plate on the suction port.
8. Fully screw in the 3 fastening screws. **NOTICE! Replace worn screws!**
 - ▶ Pump interior is cleaned and cover plate has been reattached. Complete the cleaning work.

9 Maintenance

- Wear protective equipment!
- Only perform the maintenance work described in these installation and operating instructions.
- Carry out maintenance work in a clean, dry and well-lit location.
- Use only original parts obtained from the manufacturer. The use of any non-original parts releases the manufacturer from any liability.
- Collect any leakage of fluid and operating fluid immediately.
- Dispose of the operating fluid at certified collection points.

9.1 Operating fluid

- Capacity: 220 ml (7.4 US.fl.oz)
- Interval for oil change: After 720 operating hours or 1x per year
- Oil types (ISO VG class 32):
 - ELFOLNA DS 22
 - Shell Turbo T 32

9.2 Oil change

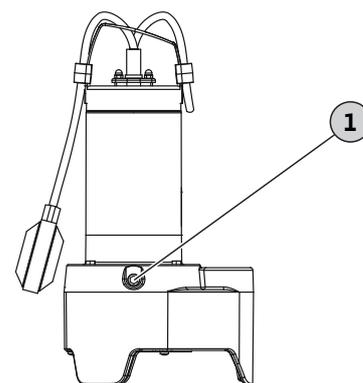


Fig. 3: Sealing chamber oil change

- | | |
|---|----------------------------|
| 1 | Sealing chamber screw plug |
|---|----------------------------|

- ✓ Wear protective gloves!
 - ✓ Pump is removed, cleaned and if necessary disinfected.
 - ✓ Oil-resistant sealable collector tank is accessible.
1. Position the pump horizontally on a firm surface. The screw plug should face upwards.
 2. Secure the pump against falling over or slipping!
 3. Unscrew the screw plug slowly.

4. Place a collector tank underneath the pump.
5. Draining the oil: rotate the pump until the opening points downwards.
6. Checking the oil: notify customer service if the oil contains metal swarf!
7. Rotate the pump until the opening points upwards again.
8. Filling the oil: pour the oil in through the opening.
 - ⇒ Comply with requirements concerning oil type and quantity!
9. Clean the screw plug, replace the seal ring with a new one and fully screw it in.

9.3 General overhaul

Have the customer service team check the pump after 1,500 operating hours. All components will be checked for wear and damaged components will be replaced.

10 Faults, causes and remedies

Pump not starting or switches off after a short time

1. Interrupted power supply
 - ⇒ Check the electrical connection of the pump.
 - ⇒ Have a qualified electrician check fuses/residual-current devices.
2. Thermal motor monitoring has been tripped
 - ⇒ Allow the pump to cool down. The pump will start automatically.
 - ⇒ Pump switches on/off too frequently. Check the switching cycle of the float switch.
 - ⇒ Excessive fluid temperature. Check the temperature. If necessary, use a different pump.
3. Suction port/strainer/impeller silted/clogged
 - ⇒ Shut down the pump, remove it and clean it.
4. Float switch not operational
 - ⇒ The float switch must be able to move freely.

Pump starts up, but does not supply fluid

1. Pressure pipe/discharge pipe clogged
 - ⇒ Flush out the pressure pipe.
 - ⇒ Flush out the pressure hose.
 - ⇒ Remove any kinks in the pressure hose.
2. Swing check valve contaminated
 - ⇒ Shut down the pump, remove it and clean the discharge connection.
 - ⇒ Replace faulty swing check valve.
3. Water level too low
 - ⇒ Check inlet.
 - ⇒ Pump is pumping at a too low level. Check the switching cycle of the float switch.
4. Suction port/strainer silted/clogged
 - ⇒ Shut down the pump, remove it and clean it.
5. Air in the pump/pressure pipe
 - ⇒ Position the pump at a slight angle to allow air to escape.
 - ⇒ Install a bleed unit in the pressure pipe.

Delivery rate drops while the pump is running

1. Pressure pipe/discharge pipe clogged
 - ⇒ Flush out the pressure pipe.
 - ⇒ Flush out the pressure hose.
 - ⇒ Remove any kinks in the pressure hose.
2. Suction port/strainer silted/clogged
 - ⇒ Shut down the pump, remove it and clean it.
3. Air in the pump/pressure pipe
 - ⇒ Position the pump at a slight angle to allow air to escape.
 - ⇒ Install a bleed unit in the pressure pipe.
4. Signs of wear
 - ⇒ Contact customer service.

Customer service

If the points listed here do not rectify the fault, contact customer service. Costs may be incurred when using customer service support! Please contact customer services for more information.

11 Spare parts

Spare parts are ordered via customer service. To avoid return queries and incorrect orders, the serial or article number must always be supplied. **Subject to change without prior notice!**

12 Disposal

12.1 Information on the collection of used electrical and electronic products

Proper disposal and appropriate recycling of this product prevents damage to the environment and danger to your personal health.



NOTICE

Disposal in domestic waste is prohibited!

In the European Union this symbol may be included on the product, the packaging or the accompanying documentation. It means that the electrical and electronic products in question must not be disposed of along with domestic waste.

To ensure proper handling, recycling and disposal of the used products in question, please note the following points:

- Hand over these products at designated, certified collection points only.
- Observe the locally applicable regulations!

Please consult your local municipality, the nearest waste disposal site, or the dealer who sold the product to you for information on proper disposal. See www.wilo-recycling.com for more information about recycling.

12.2 Oil



WARNING

Risk of environmental and health damage due to incorrect disposal of oils!

Oil is harmful to health and the environment! Do not dispose of oil with domestic waste or in the sewage system! Collect the oil in a sealable, oil-resistant container and dispose of it at a certified collection point.





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Local contact at
www.wilo.com/contact

Pioneering for You

WILO SE
Wilopark 1
44263 Dortmund
Germany
T +49 (0)231 4102-0
T +49 (0)231 4102-7363
wilo@wilo.com
www.wilo.com