

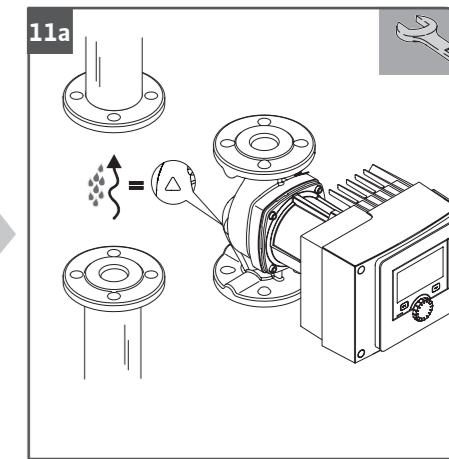
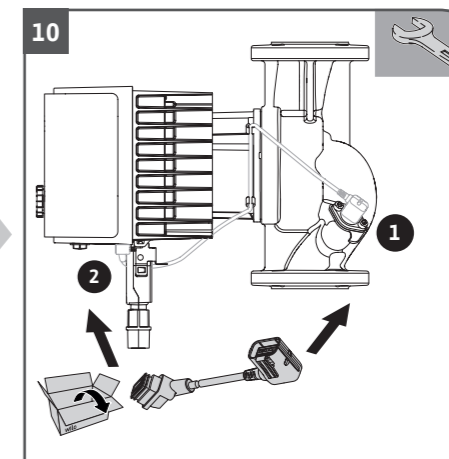
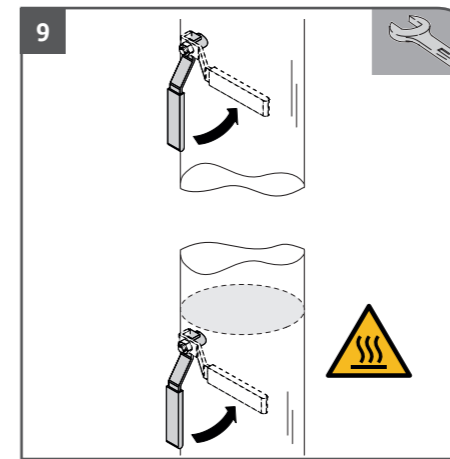
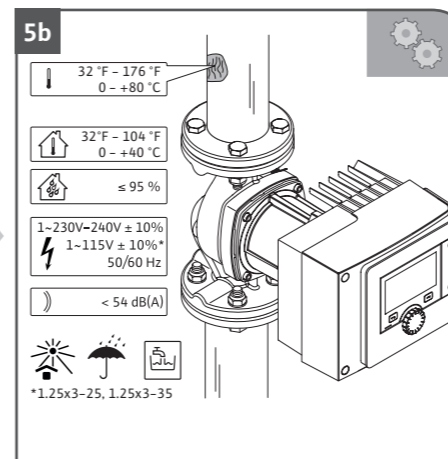
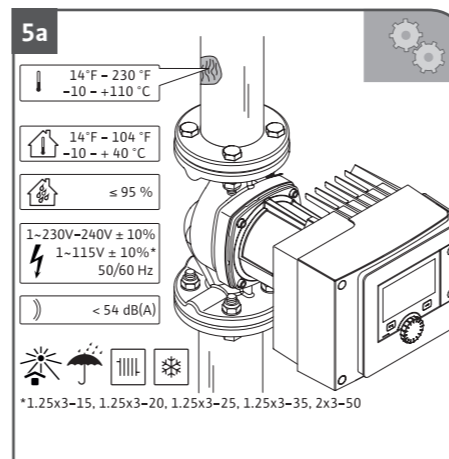
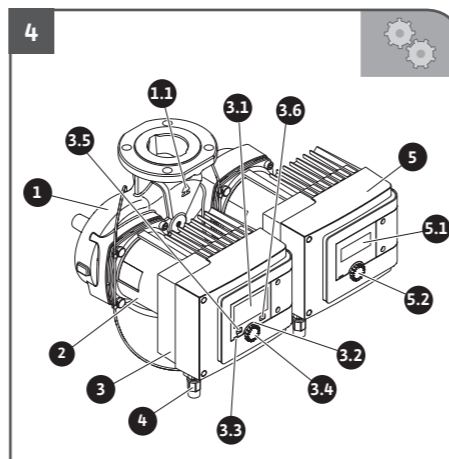
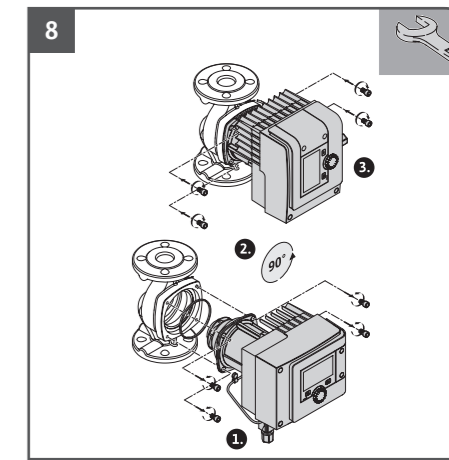
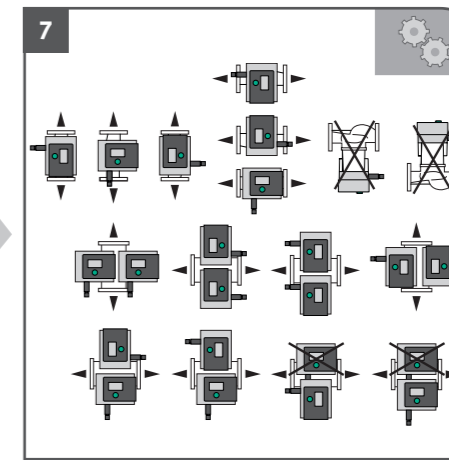
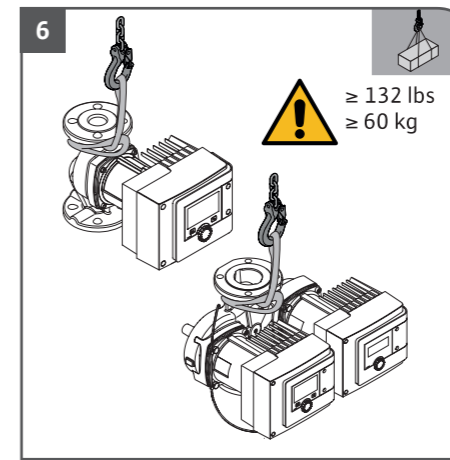
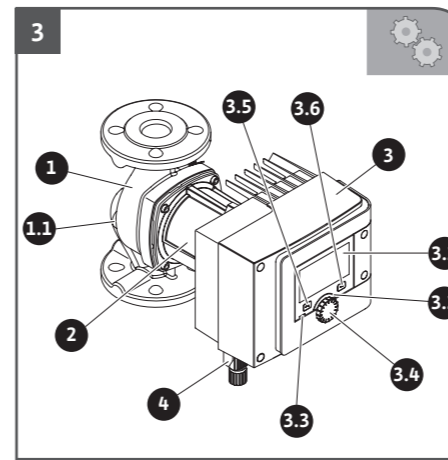
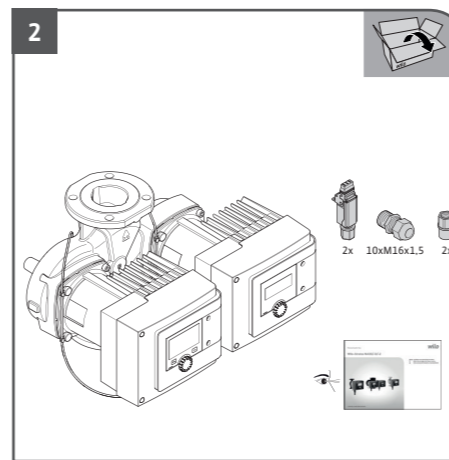
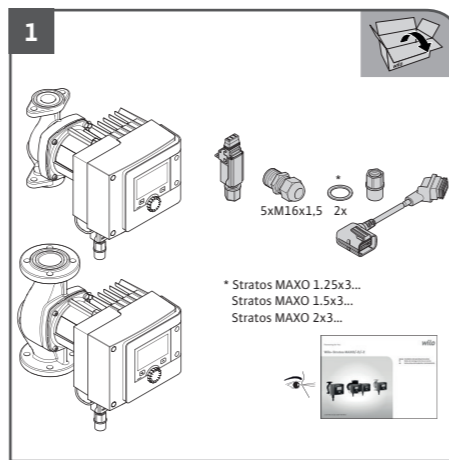
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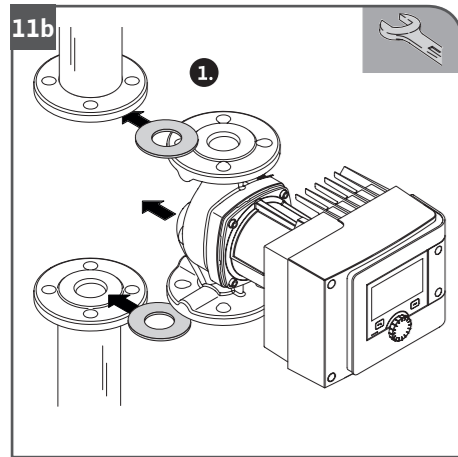
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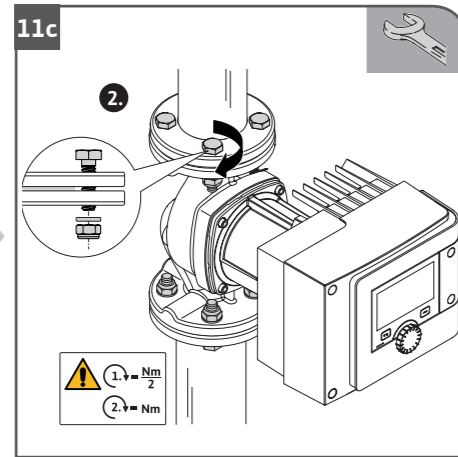
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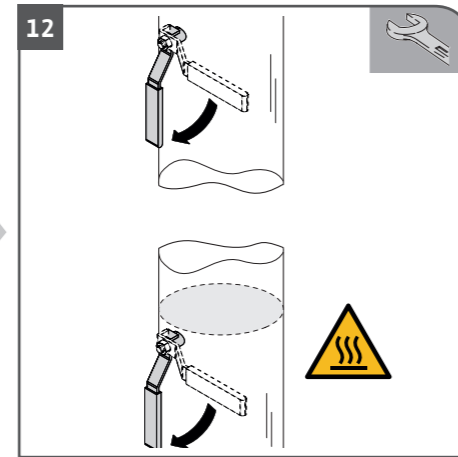




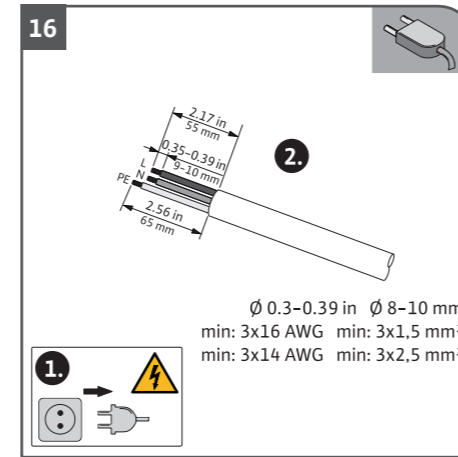
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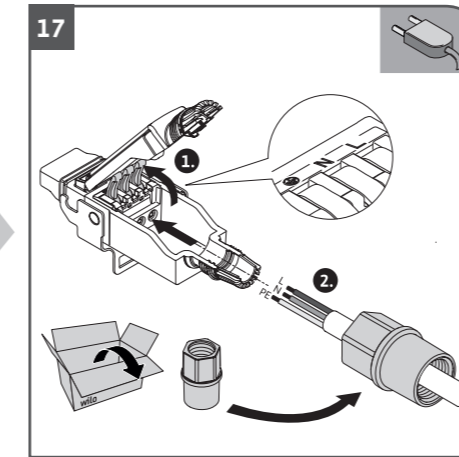
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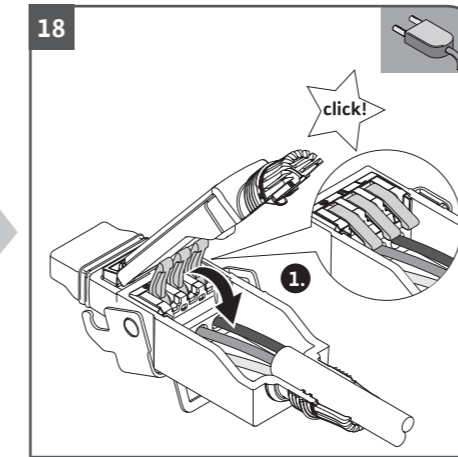
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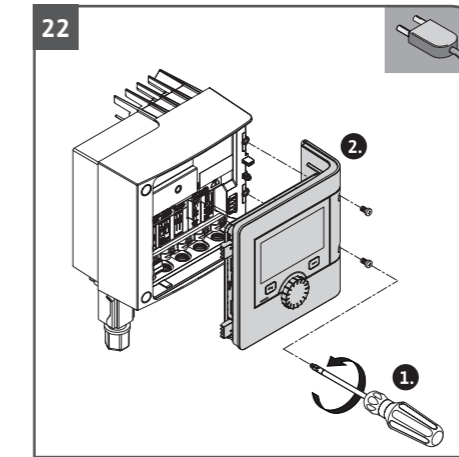
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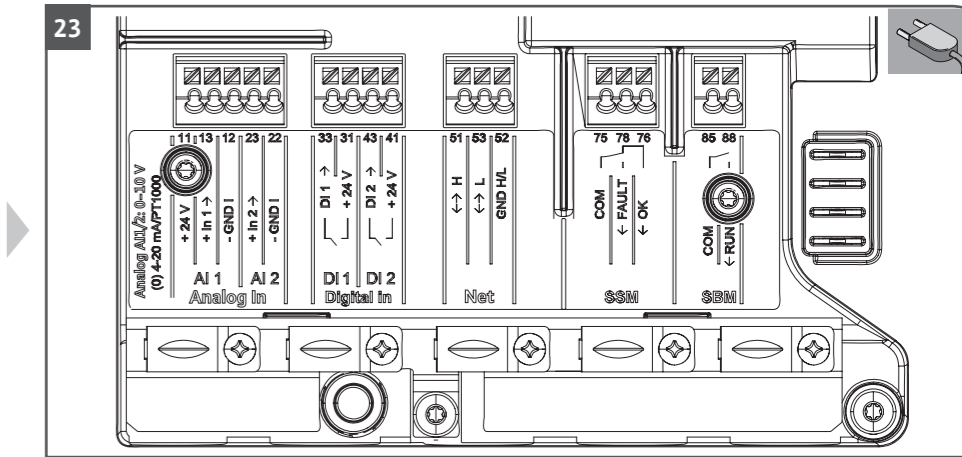
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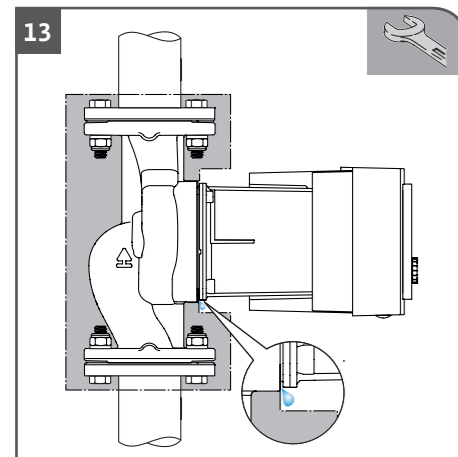
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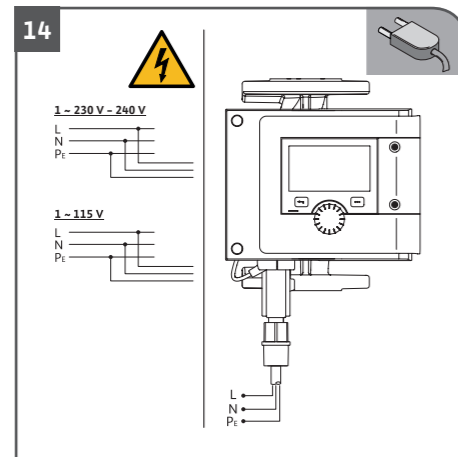
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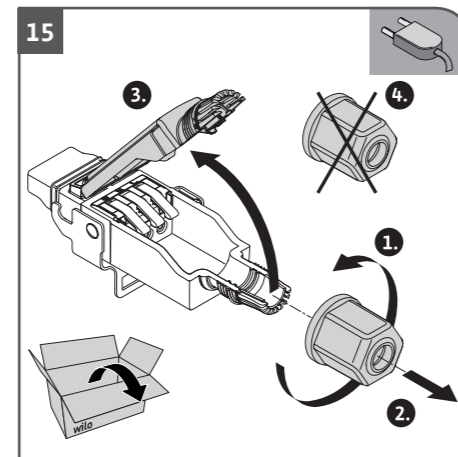
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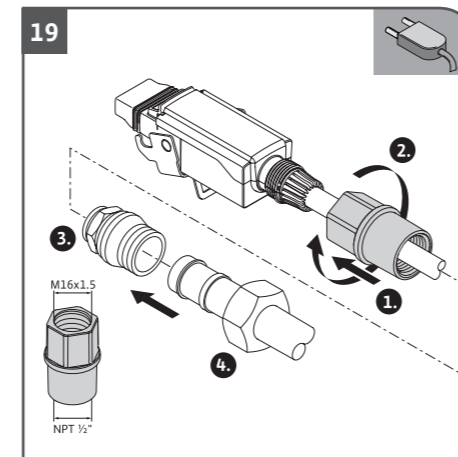
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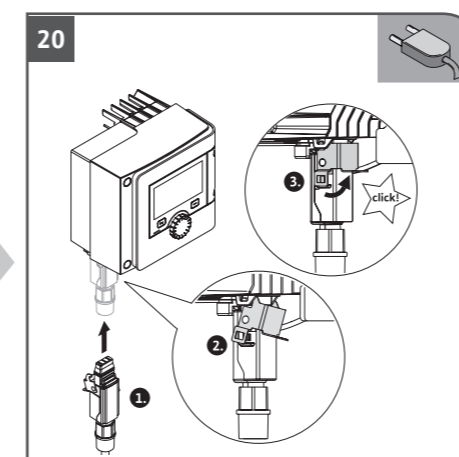
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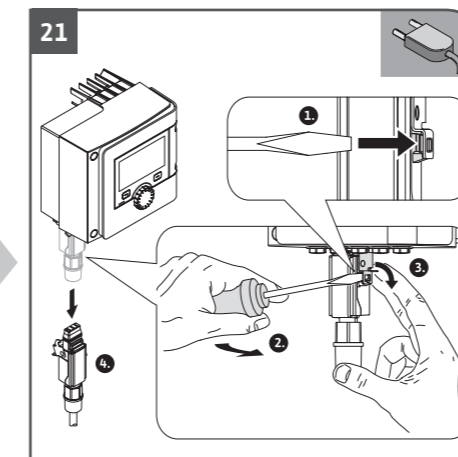
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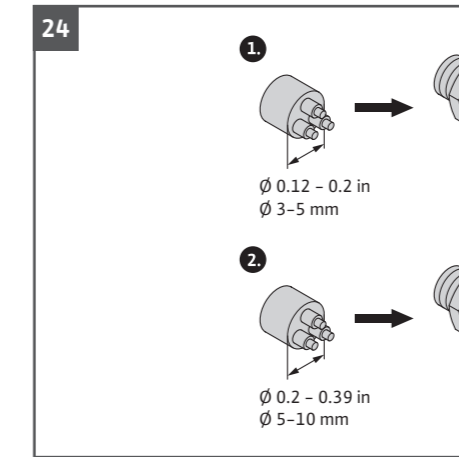
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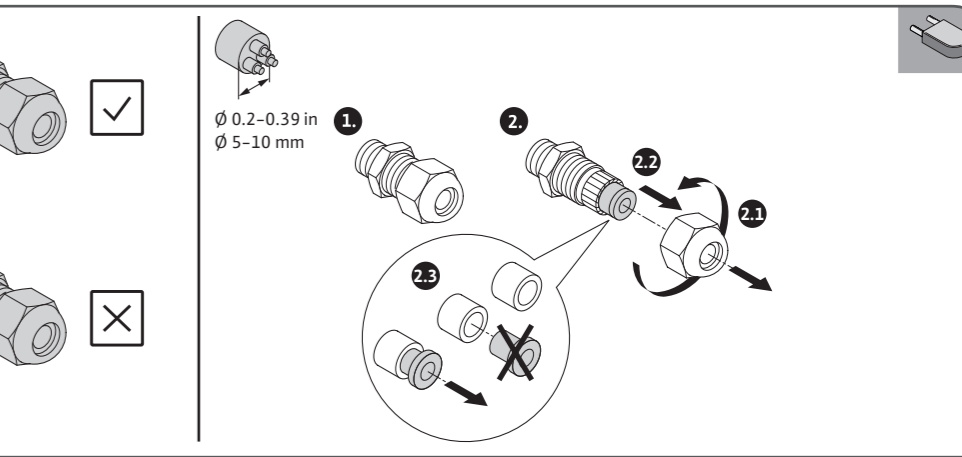
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→ 9.11



→ 9.3



→ 9.3

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## 1 Information on instructions

### 1.1 About these instructions

These instructions enable safe installation and initial commissioning of the pump.

- Read these instructions before all activities and keep them accessible at all times.
- Please note the information and identification on the pump.
- Observe applicable regulations at the pump's installation location.
- Please refer to the detailed instructions online.  
See QR code or [www.qr.wilo.com/stratos-maxo\\_om](http://www.qr.wilo.com/stratos-maxo_om)

## 2 Original operating instructions

The German language version represents the original operating instructions. All other language versions are translations of the original operating instructions.

## 3 Identification of safety instructions

In these 'Installation and operating instructions', safety instructions are used for material damage and personal injury, and are represented in different ways:

- Safety instructions for personal injury start with a signal word and have a corresponding prefixed **symbol**.
- Safety instructions for material damage start with a signal word and are represented **without** a symbol.

### Signal words

- **Danger!**  
Non-compliance will cause death or serious injury!

- **Warning!**  
Non-compliance can cause (serious) injury!
- **Caution!**  
Non-compliance can cause material damage or even total loss.
- **Notice!**  
Useful information on handling the product

### Symbols

The following symbols are used in these instructions:



General warning symbol



Danger of electrical voltage



Warning of hot surfaces



Warning of magnetic fields



Notes

## 4 Personnel qualifications

Personnel must:

- Be informed of the locally applicable accident prevention regulations.
- Have read and understood the installation and operating instructions.

The personnel must have the following qualifications:

- Electrical work: A qualified electrician must carry out the electrical work.
- Installation/dismantling work: Specialist personnel must be trained to handle the necessary tools and required fixing materials.
- Operation must be carried out by personnel who have been trained in how the full system operates.

### **Definition “Qualified Electrician”**

A qualified electrician is someone with suitable technical training, knowledge and experience who can identify **and** avoid the dangers associated with electricity.

## **5 Description of pump**

Stratos MAXO smart-pumps in threaded pipe union or flange connection versions are glandless pumps with permanent magnet rotors.

→ Fig. 3 and 4

1. Pump housing
  - 1.1 Flow direction symbol
2. Motor
3. Control module
  - 3.1 Graphic LCD display
  - 3.2 Green LED indicator
  - 3.3 Blue LED indicator
  - 3.4 Operating button
  - 3.5 Back key
  - 3.6 Context key
4. Optimized Wilo-Connector

5. Basic module
  - 5.1 LED display
  - 5.2 Basic module operating button

There is a control module (Fig. 3, Pos. 3) on the motor housing which controls the pump and provides interfaces. The speed, differential pressure, temperature or volume flow is controlled depending on the selected application or function.

The pump constantly adapts to changing equipment requirements for all control functions.

### **5.1 Type key**

<b>Example: Stratos MAXO-D 3x3-40</b>	
Stratos MAXO	Pump designation
	Single pump
-D	Double pump
-Z	Single pump for drinking water circulation systems
3	Flange connection in inches
3 – 40	Continuously variable setpoint height 3 – 40 ft Minimum delivery head 3.3 ft Maximum delivery head 39.4 ft at Q = US gpm

Table 1: Type key

### **5.2 Technical data**

→ Fig. 5a and 5b

See rating plate and catalogue for further information.

### 5.3 Minimum inlet pressure

Minimum inlet pressure (above atmospheric pressure) at pump suction ports for avoidance of cavitation noises at fluid temperature:

Nominal diameter	Fluid temperature			
	14 °F ... 122 °F (-10 °C to +50 °C)	176 °F (+80 °C)	203 °F (+95 °C)	230 °F (+110 °C)
1.25 inch (H <sub>max</sub> = 15 ft – 35 ft)	4.27 psi	11.37 psi	14.22 psi	22.76 psi
1.25 inch (H <sub>max</sub> = 52 ft)	7.11 psi	14.22 psi	17.07 psi	25.6 psi
1.5 inch (H <sub>max</sub> = 15 ft, 25 ft)	4.27 psi	11.37 psi	14.22 psi	22.76 psi
1.5 inch (H <sub>max</sub> = 52 ft)	7.11 psi	14.22 psi	17.07 psi	25.6 psi
2 inch (H <sub>max</sub> = 20 ft)	4.27 psi	11.37 psi	14.22 psi	22.76 psi
2 inch (H <sub>max</sub> = 25 ft)	7.11 psi	14.22 psi	17.07 psi	25.6 psi
2 inch (H <sub>max</sub> = 35 ft)	7.11 psi	14.22 psi	17.07 psi	25.6 psi

Nominal diameter	Fluid temperature			
	14 °F ... 122 °F (-10 °C to +50 °C)	176 °F (+80 °C)	203 °F (+95 °C)	230 °F (+110 °C)
2 inch (H <sub>max</sub> = 50 ft)	9.95 psi	17.07 psi	21.33 psi	32.71 psi
3 inch	9.95 psi	17.07 psi	21.33 psi	32.71 psi

Table 2: Minimum inlet pressure



#### NOTICE

Valid up to 984 ft above sea level. For locations at higher altitude +0.15 psi/328 ft.

Adjust values appropriately in cases of higher fluid temperatures, lower-density fluids, higher flow resistances or lower air pressure.

The maximum installation height is 6,562 ft above sea level.

## 6 Safety

### 6.1 Intended use

#### Usage

Circulation of fluids in following application areas:

- Hot water heating systems
- Cooling and cold water circuits



- Closed industrial circulation systems
- Solar installations
- Geothermal systems
- Air-conditioning systems

The pumps do not fulfil the requirements of the ATEX guideline and are not suitable for the pumping of explosive or easily flammable fluids!

Proper intended use also includes compliance with these instructions in addition to the information and labels on the pump.

Any other use is regarded as improper use and results in the loss of all liability claims.

### **Approved fluids**

- Heating water according the requirements of accepted standards of water quality in heating systems.
- Water-glycol mixture, max. mixing ratio 1:1  
The pump delivery rate will be affected by the addition of glycol due to the altered viscosity. Please take this into consideration when adjusting the pump.
- Ethylene/propylene glycols with corrosion protection inhibitors.
- No oxygen binding agents, no chemical sealants (ensure system is enclosed in terms of corrosion); repair leaking locations.
- Standard commercial corrosion protection inhibitors<sup>1)</sup> without corrosive anodic inhibitors (under-dosing due to consumption!).
- Standard commercial corrosion protection inhibitors<sup>1)</sup> without inorganic or polymer filming agents.
- Standard commercial cooling brines<sup>1)</sup>.



### **WARNING**

#### **Injuries to people and material damage caused by unauthorized fluids!**

Unauthorized fluids can cause injuries to people and can destroy the pump.

<sup>1)</sup> Always mix additives into the fluid on the pressure side of the pump, even when contrary to the additive manufacturer's recommendations.

- Only use branded goods with corrosion prevention inhibitors!
- Observe chloride content of filling-up water in accordance with manufacturer's specifications! Soldering pastes containing chloride are **not** permitted!
- Safety data sheets and manufacturers' specifications must be observed!

### **Saline fluids**

### **CAUTION**

#### **Material damage caused by saline fluids!**

Saline fluids (e.g. carbonates, acetates or formates) are extremely corrosive and can destroy the pump!

- Fluid temperatures over 104 °F (40 °C) are not permitted for saline fluids!
- Use a corrosion inhibitor and constantly check its concentration!

**NOTICE**

Use other fluids only when approved by WILO SE.

**CAUTION****Material damage caused by enrichment of chemical substances!**

When replacing, subsequently filling or refilling the fluid with additives, there is a risk of material damage caused by the enrichment of chemical substances.

- Rinse the pump separately for a long time. Ensure that the old fluid has been completely removed from the inside of the pump!
- Disconnect the pump if using pressure cycle rinsing!
- If using chemical rinsing methods:
  - Remove the pump from the system for the duration of the cleaning process!

**Drinking water pumps:****WARNING****Danger to health caused by fluids not permitted for drinking water!**

Due to the materials used, pumps in the Stratos MAXO/-D series are may not be used in the drinking water or food industry.

The smart pumps in the Stratos MAXO-Z series are specially designed and certified for use in drinking water circulation systems due to the choice of materials and design, taking standard ANSI/NSF61 into account.

**CAUTION****Material damage caused by chemical disinfectants!**

Chemical disinfectants can cause material damage.

- Remove the pump for the duration of chemical disinfection!

***Permitted temperatures***

→ Fig. 5a and 5b

**6.2 Improper use****WARNING! Improper use of the pump can result in hazardous situations and damage.**

- Never use other fluids.
- Easily flammable materials/fluids must be kept out of reach of the product.
- Never have unauthorized work carried out.
- Never operate outside the application limits indicated.
- Never carry out unauthorized modifications.
- Only use authorized accessories and original spare parts.
- Never operate with phase angle control/phase-fired control.

**6.3 Operator's obligations**

- Have all work carried out by qualified personnel only.

- Ensure on-site contact guards for protection before hot components and electrical hazards.
- Have defective gaskets and connection pipes replaced.  
This device may be used by children aged eight and over in addition to people with reduced physical, sensory or mental capacity or a lack of experience and knowledge if they are supervised or have been trained with regard to safe usage of the equipment and understand the hazards resulting from use. Children may not play with the device. Cleaning and user maintenance may not be carried out by children without supervision.

#### 6.4 Safety information

This chapter contains basic information which must be observed during installation, operation and maintenance. Failure to observe these operating instructions endangers people, the environment and the product and leads to the loss of any damages claims. Failure to comply may result in the following hazards:

- Danger to persons due to electrical, mechanical and bacteriological effects as well as electromagnetic fields
- Danger to the environment due to leakage of hazardous substances
- Material damage
- Failure of important functions of the product

**In addition, observe the instructions and safety information in the following chapters!**

#### 6.5 Safety instructions

##### *Electrical current*



#### **DANGER**

#### **Electric shock!**

The pump is electrically operated. There is a risk of fatal injury from electric shock!

- Only have work on electrical components carried out by qualified electricians.
- Always switch off the power supply before any work is carried out (if necessary also on the SSM (FAULT) and SBM (RUN)) and secure against restarting. Work on the control module may only be carried out after 5 minutes has passed due to the residual contact voltage, which is dangerous to people.
- Only operate the pump with intact components and connection pipes.

##### *Magnetic field*



#### **DANGER**

#### **Magnetic field!**

The permanent magnet rotor inside the pump can endanger the life of people with medical implants (e.g. pacemakers) when dismantled.

- Never open the motor and never remove the rotor.

## Hot components



### WARNING

#### Hot components!

Pump housing, motor housing and lower module housing can become hot and cause burns on contact.

- Only touch the user interface during operation.
- Allow the pump to cool down before any work.
- Keep easily flammable materials out of reach.

## 7 Transport and storage

### 7.1 Scope of delivery

→ Fig. 1 and 2



### NOTICE

Fit the sensor cable supplied in the accessories kit on site before electrical connection and initial commissioning (applicable to Stratos MAXO / Stratos MAXO-Z).

### 7.2 Accessories

- CIF modules
- PT1000 (contact and immersion sensor)
- Companion flanges

Accessory parts must be ordered separately. Please refer to the catalogue for a detailed list.

### 7.3 Transport inspection

Check delivery immediately for damage and completeness. Make a complaint immediately if necessary.

### 7.4 Transport and storage conditions



### WARNING

#### Risk of injury due to soaked packaging!

The product may fall out of packaging that has become weakened because it has been exposed to too much moisture, causing injury to personnel.



### WARNING

#### Risk of injury due to torn plastic bands!

Plastic bands on the packaging that are torn do not protect the contents during transport. Products that fall out may cause injury to personnel.

- Only carry using motor or pump housing → Fig. 6.
- Store in original packaging.
- Storage of pump on level surface.
- Protect against moisture and mechanical loads.
- Permissible temperature range: -4 °F to +158 °F (-20 °C to + 70 °C)

## 8 Installation

### 8.1 Personnel requirements

Installation may only be carried out by qualified technicians.

## 8.2 Safety during installation



### WARNING

#### Hot fluids!

Hot fluids can cause scalding. Always observe the following before fitting or dismantling the pump or loosening the housing bolts:

1. Close shut-off devices or empty system.
2. Allow system to cool down completely.



### WARNING

#### Improper installation!

Improper installation can result in injuries to people.  
Risk of crushing!

There is a risk of injury from sharp edges/burrs!

There is a risk of injury from the pump/motor falling down!

3. Always wear suitable safety equipment (e.g. gloves)!
4. Secure pump/motor against falling down using suitable lifting gear if necessary!

## 8.3 Preparing installation

1. When installing upstream of open systems, branch the safety feed off before the pump (EN 12828).
2. Complete all welding and soldering work.
3. Rinse the system.

4. Provide shut-off devices before and after the pump.
5. Ensure that the pump can be installed free of mechanical stresses.
6. Leave 10 cm space around the control module to prevent it from overheating.
7. Observe permissible installation positions → Fig. 7.



### NOTICE

Please refer to the detailed instructions online for installation outside buildings.

→ see QR code or

[www.qr.wilo.com/stratos-maxo\\_om](http://www.qr.wilo.com/stratos-maxo_om)

## 8.4 Aligning the motor head

The motor head may need to be aligned according to the installation position.

1. Check permissible installation positions → Fig. 7.
2. Loosen motor head and rotate carefully → Fig. 8.

Do not remove from pump housing.

### CAUTION

#### Material damage!

Damage to the gasket or a warped gasket results in leakage.

- Do not remove the gasket, or replace it if necessary.
- Observe tightening torques for motor fixing bolts provided in chapter "Installation".

## 8.5 Installation

→ Fig. 9 to 12

### Tightening torques for motor fixing bolts

Stratos MAXO, Stratos MAXO-D, Stratos MAXO-Z	Tightening torques
1.25 x 3 – 15; 1.25 x 3 – 20; 1.25 x 3 – 25 1.25 x 3 – 30; 1.25 x 3 – 35; 1.25 x 3 – 52 1.5 x 3 – 52	8 – 10 Nm
2 x 3 – 20; 2 x 3 – 25; 2 x 3 – 35	
2 x 3 – 50	18 – 20 Nm
3 x 3 – 20; 3 x 3 – 40; 3 x 3 – 52	

Table 3: Tightening torques

### Flange pump

	1.25 inch	1.5 inch	2 inch
Screw diameter:	½ -13 UNC	½ -13 UNC	½ -13 UNC
Strength class	≥ 4.6	≥ 4.6	≥ 4.6
Tightening torque	40 Nm	40 Nm	40 Nm
Screw length	≥ 2"	≥ 2"	≥ 2¼"

	3 inch
Screw diameter:	5/8 -11 UNC
Strength class	≥ 4.6
Tightening torque	40 Nm

	3 inch
Screw length	≥ 2½"

Table 4: Flange fixing

## 8.6 Insulating

If used for cooling and air conditioning applications, use the Wilo-ClimaForm cold water insulation shell or other standard commercial diffusion-proof insulation materials. Allow condensate to drain off freely → Fig. 13.

## 8.7 After installation

1. Check impermeability of pipe/flange connections.

## 9 Electrical connection

### 9.1 Personnel requirements

- Electrical work: A qualified electrician must carry out the electrical work.

### 9.2 Sensor cable connection

For the Stratos MAXO and the Stratos MAXO-Z, fit the supplied sensor cable on site before electrical installation and initial commissioning. To do this, fit the sensor cable between the temperature sensor plug in the pump housing and the control module slot → Fig. 10.

The sensor cable is included in the pump accessories kit.

### 9.3 Requirements



#### **DANGER**

#### **Risk of fatal injury from electric shock!**

Even if the LED inside the control module is not illuminated, voltage may be present!

Electric shock can result in life-threatening injuries due to safety equipment not fitted (e.g control module cover)!

- Always switch off the power supply to the pump and, if necessary, the SSM (FAULT) and SBM (RUN)!
- Never operate the pump without a closed module cover!
- All openings on the module have to be closed again to ensure enclosure Type 2.



#### **NOTICE**

Always observe nationally applicable guidelines, standards and regulations and specifications from local energy supply companies!

### **CAUTION**

#### **Material damage!**

- Incorrect connection of the pump results in damage to the electronics.
  - Suitable mains fuse is required to protect the motor per local electrical codes.
- 
- Refer to current type and voltage on the rating plate.
  - Use [ 60/75]°C (149/175 °F) copper conductors only.
  - Minimum fusing: 16 A, slow-blow or circuit breaker with C characteristics.
  - Suitable for use on a circuit capable of delivering not more than 5kA rms symmetrical Amperes, 230–240 Volts maximum when protected by class RK5 fuses.
  - Internal motor overload protection is provided by overcurrent protection within the module and PTC within the motor.
  - Connect and secure both motors individually if using twin-head pumps.
  - Only connect to 230 V TN or TT low-voltage networks.
  - Never connect to 230 V IT low voltage networks (230 V "Isolé Terre" low voltage network).
  - Pulse of the power supply (e.g. phase angle control) is not permitted! Deactivate any pulse.
  - Check pump switching via triacs/semiconductor relays in individual cases.
  - For deactivation with on-site power relay: Rated current  $\geq$  10 A, rated voltage 250 V AC

- Start-up current peaks of up to 10 A can occur every time the power supply is switched on irrespective of the pump's rated current consumption!
- Consider switching frequency:
  - Switch-on/off via mains voltage  $\leq 100/24$  h
  - Increased number of switch-ons/switch-offs  $\leq 20/h$  ( $\leq 480/24$  h) permissible on use of:
    - Digital input with EXT. OFF function
    - Analog setpoint specification with switch-off function
    - Switching signals via communication interfaces (e.g. CIF module, Wilo Net or Bluetooth)
- We recommend that the pump is secured using a residual-current device (Type B in accordance with EN 60335).
- Leakage current  $I_{\text{eff}} \leq 3.5$  mA
- Create the electrical connection via a fixed connection pipe with a plug-in device or an all-pole switch with at least 3 mm contact opening width (VDE 0700/Part 1).
- Use a connection pipe of sufficient outer diameter to protect against leakage water and to provide strain relief at the threaded cable gland → Fig. 16. Bend the cable to form a drain loop in the vicinity of the screwed connection to dissipate any drips.
- If fluid temperatures are above 194 °F (90 °C), use a heat-resistant connection pipe.
- Lay the connection pipe in such a way that it does not touch the pipes or pump.  
Terminals are provided for rigid and flexible conductors with wire end ferrules.

Connection	Cable cross-section	Cable cross-section	Cable
	Min.	Max.	
Mains plug	3x16 AWG	3x14 AWG	
SSM (FAULT)	2x24 AWG	2x16 AWG (17 AWG <sup>**</sup> )	*
SBM (RUN)	2x24 AWG	2x16 AWG (17 AWG <sup>**</sup> )	*
Digital input 1 (DI1)	2x24 AWG	2x16 AWG (17 AWG <sup>**</sup> )	*
Digital input 2 (DI2)	2x24 AWG	2x16 AWG (17 AWG <sup>**</sup> )	*
24 V output	1x24 AWG	1x16 AWG (17 AWG <sup>**</sup> )	*
Analog input 1 (AI1)	2x24 AWG	2x16 AWG (17 AWG <sup>**</sup> )	*
Analog input 2 (AI2)	2x24 AWG	2x16 AWG (17 AWG <sup>**</sup> )	*
Wilo Net	3x24 AWG	3x16 AWG (17 AWG <sup>**</sup> )	shielded

Table 5: Cable requirements

\*Cable length  $\geq 6\frac{1}{2}$  ft (2 m): Use shielded cables.

\*\*If using wire end ferrules, the maximum cross-section at communication interfaces reduces to 17 AWG. All combinations up to 14 AWG are permissible in the Wilo-Connector.



**DANGER****Electric shock!**

If connecting SSM (FAULT)/SBM (RUN) conductors, ensure separate cable routing to the SELV section, otherwise SELV protection can no longer be guaranteed!

In cases of cable cross sections from 0.2 to 0.39 in (5 – 10 mm), remove the internal sealing ring from the threaded cable gland before fitting the cable → Fig. 24.

**NOTICE**

- Tighten threaded cable gland M16x1.5 at control module with 2.5 Nm torque.
- Tighten the nut with 2.5 Nm torque to ensure strain relief.

Integral solid state short circuit protection does not provide branch circuit protection. Branch circuit protection must be provided in accordance with the Manufacturer Instructions, National Electrical Code and any additional local codes.

**9.4 Connection options**

→ Fig. 14

All communication interfaces in the terminal room (analog inputs, digital inputs, Wilo Net, SSM (FAULT) and SBM (RUN)) comply with the SELV standard.

Please refer to the detailed instructions online for information on shield clamp connection.

See QR code or [www.qr.wilo.com/stratos-maxo\\_om](http://www.qr.wilo.com/stratos-maxo_om)

**9.5 Analog input (AI1) or (AI2) – purple terminal block**

→ Fig. 23

Analog input for following signals:

- 0 – 10 V
- 2 – 10 V
- 0 – 20 mA
- 4 – 20 mA
- PT1000

Dielectric strength: 30 V DC / 24 V AC

The analog inputs can be used for the following functions:

- External setpoint specification
- Sensor connection: Temperature sensor, differential pressure sensor, PID sensor
- Terminal for supplying active sensors with 24 V DC
  - Maximum current load: 50 mA
- Load analog input (0)4 – 20 mA:  $\leq 300 \Omega$ 
  - Load resistance at 0 – 10 V:  $\geq 10 \text{ k}\Omega$

**9.6 Digital input (DI1) or (DI2) – grey terminal block**

→ Fig. 23

Digital input for potential-free contacts:

- Maximum voltage: < 30 V DC / 24 V AC
- Maximum loop current: < 5 mA
- Operating voltage: 24 V DC
- Operating loop current: 2 mA (per input)

The pump can be controlled using the following functions via external potential-free contacts to digital inputs DI1 or DI2:

- extern OFF
- extern MAX
- extern MIN
- extern MANUAL
- extern key lock
- switchover heating/cooling

In systems with higher switching frequency (> 100 switch-ons/switch-offs per day) provide switch-on/switch-off by extern OFF.

### 9.7 Wilo Net – green terminal block

Please refer to the detailed instructions online for information on connection.

See QR code or [www.qr.wilo.com/stratos-maxo\\_om](http://www.qr.wilo.com/stratos-maxo_om)

### 9.8 Collective fault signal (SSM (FAULT)) – red terminal block

→ Fig. 23

An integrated collective fault signal is available at the SSM (FAULT) terminal as a potential-free changeover contact.

Contact load:

- Minimum permissible: SELV 12 V AC / DC, 10 mA
- Maximum permissible: 250 V AC, 1 A, AC1 / 30 V DC, 1 A

### 9.9 Collective run signal (SBM (RUN)) – orange terminal block

→ Fig. 23

An integrated collective run signal is available at the SBM (RUN) terminal as a potential-free close contact.

Contact load:

- Minimum permissible: SELV 12 V AC / DC, 10 mA
- Maximum permissible: 250 V AC, 1 A, AC1 / 30 V DC, 1 A

### 9.10 Connecting communication interfaces

**Observe warning information in chapter "Electrical connection"!**

1. Loosen the screws in the module cover.
2. Remove the module cover.

→ Fig. 22

- Please refer to the detailed instructions online for next steps. See QR code or [www.qr.wilo.com/stratos-maxo\\_om](http://www.qr.wilo.com/stratos-maxo_om)

### 9.11 Connecting and dismantling the Wilo-Connector



#### WARNING

**Risk of fatal injury from electric shock!**

- Never connect or disconnect plugs under mains voltage!

#### Connecting

→ Fig. 15 to 20

Spring clips: "Cage Clamp" made by WAGO



#### NOTICE

Fit the NPT adapter (included in delivery) to the Wilo-Connector on site! Connect conduit with ½" NPT here!

## Dismantling

→ Fig. 21

- Only use suitable tools to dismantle the Wilo-Connector!

### 9.12 Bluetooth interface

The pump has a Bluetooth interface for connecting to mobile devices. The pump can be operated and adjusted and pump data can be read out using the Wilo-Smart Connect app and a smartphone. Bluetooth has activated at the factory and can, if necessary, be deactivated using the Settings/Device settings menu.

- Frequency range: 2400 MHz – 2483.5 MHz
- Maximum transmission power emitted: < 10 dBm (EIRP)

## 10 Commissioning

### 10.1 Venting

1. Fill the system/equipment properly and vent it.

When venting the rotor chamber, activate the venting function in the pump menu if required.

### 10.2 Operating the pump

#### Description of operating elements

→ Fig. 3 and 4

Item	Designation	Explanation
3.1	Graphic display	Provides information about settings and the pump status. Self-explanatory user interface for adjusting the pump.

Item	Designation	Explanation
3.2	Green LED indicator	LED illuminates, pump supplied with voltage. There are no warnings or errors.
3.3	Blue LED indicator	Pump is being affected externally via an interface, for example by: <ul style="list-style-type: none"> <li>• Bluetooth remote control</li> <li>• Setpoint specification via analog input AI1 or AI2</li> <li>• Interference from building automation via control input DI 1 / DI 2 or bus communication</li> <li>• Flashes if twin-head pump connected.</li> </ul>
3.4	Operating button	Menu navigation and editing by turning and pushing.
3.5	Back key	Navigates in menu: <ul style="list-style-type: none"> <li>• back to previous menu level (press briefly 1x).</li> <li>• back to previous setting (press briefly 1x).</li> <li>• back to main menu (press longer 1x, &gt; 1 s).</li> </ul> Switches on or off in combination with the context key lock > 5 s.
3.6	Context key	Opens context menu with additional options and functions.


Item	Designation	Explanation
		Switches on or off in combination with the back key lock. > 5 s.
5.1	LED display	Provides information about error codes and Bluetooth PIN.
5.2	LED display operating button	Initiates venting function when pressed. Turning is <b>not</b> possible.

Table 6: Description of operating elements

### Pump settings

Adjust settings by pushing and turning the operating button.

Turn : Selection menus and set parameters.

Push : Activate menus or confirm selected parameters.

### Initial settings menu

The initial settings menu appears in the display on initial commissioning of the pump.

- Stratos MAXO/Stratos MAXO-D: The pump runs with factory settings → Application: radiators; control mode: Dynamic Adapt plus.
- Stratos MAXO-Z: The pump runs with factory settings → Application: drinking water circulation; control mode: Temperature T-const.

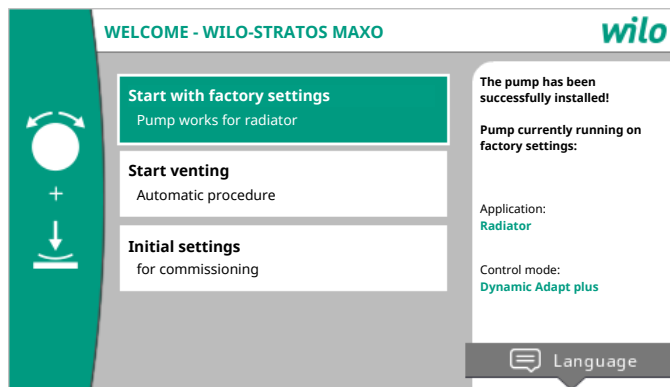



Fig. 1: Initial settings menu

If necessary, change the language using the context key  via the language settings menu.

The pump runs on factory settings while the initial settings menu is being displayed.

- Activate "Start with factory settings" by pressing the operating button to leave the initial settings menu. The display switches to the main menu. The pump continues to run on factory settings.
- You can adjust further settings even once venting has been started.
- You can use the "Initial settings" menu to select and set features such as the language, units, applications and night setback. Confirm the selected initial settings by activating "Quit initial settings". The display switches to the main menu.

## Home screen

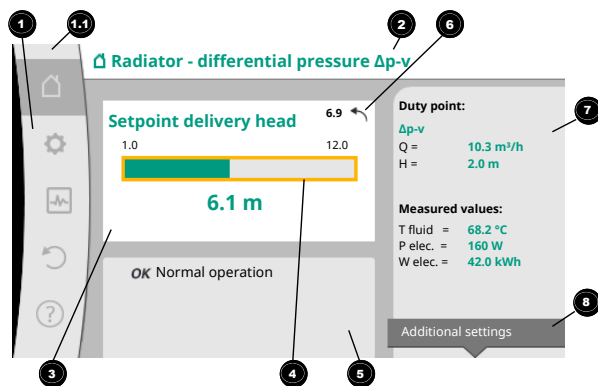


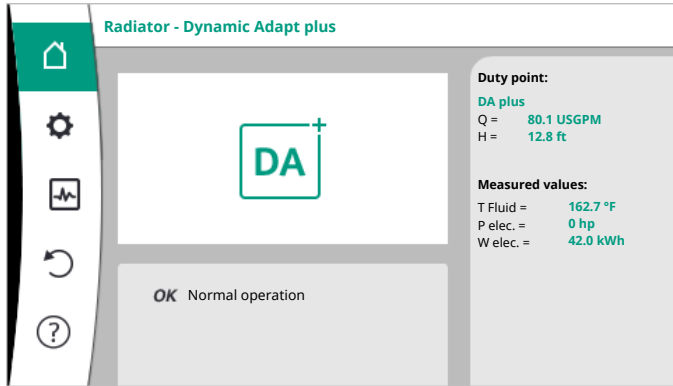
Fig. 2: Home screen

Item	Designation	Explanation
1	Main menu area	Selection of various main menus
1.1	Status area: error, warning or process information display	Reference to ongoing process, a warning or error message. Blue: Process or communication status display (CIF module communication) Yellow: Warning Red: Error Grey: No processes are running in the background; there are no warning or error messages.

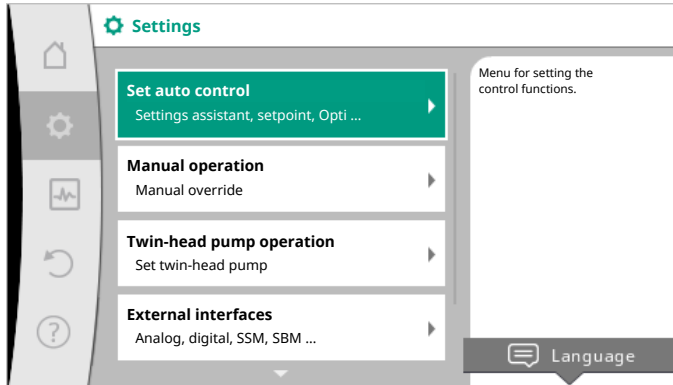
Item	Designation	Explanation
2	Headline	Display of current application and control mode set.
3	Setpoint display panel	Display of current setpoints.
4	Setpoint editor	Yellow frame: The setpoint editor is activated by pressing the operating button. This allows you to change values.
5	Active influences	Display influences on the set control mode e.g. active night setback, No-Flow Stop OFF (see table "Active influences"). Up to five active influences can be displayed.
6	Reset notification	If the setpoint editor is active, this displays the value set before the value change. The arrow shows that you can return to the previous value using the back key.
7	Operating data and measured value area	Displays current operating data and measured values.
8	Context menu notification	Offers context-based options in its own context menu.

Table 7: Home screen

**Main menu (Stratos MAXO)**



**Settings menu**



Description of step-by-step settings process using two examples:

**Setting the "Underfloor heating – Dynamic Adapt plus" control function**

Action	Setting in menu	Action
	Pump setting	
	Settings assistant	
	Heating	
	Underfloor heating	
	Dynamic Adapt plus	

Table 8: Example 1

**Setting the "Differential pressure  $\Delta p-v$ " control function**

Action	Setting in menu	Action
	Pump setting	
	Settings assistant	
	Basic control modes	



Action	Setting in menu	Action
	Differential pressure $\Delta p-v$	

Table 9: Example 2

**Predefined applications in settings assistant**

System type	Control mode	Available additional control functions				
		Night set-back	No-Flow Stop	Q-Limit <sub>Max</sub>	Q-Limit <sub>Min</sub>	Disinfection detection
Radiator	Differential pressure $\Delta p-v$	x	x	x		
	Dynamic Adapt plus	x				
	Hall temperature T-const.	x		x		
Underfloor heating	Differential pressure $\Delta p-c$	x	x	x		
	Dynamic Adapt plus	x				

System type	Control mode	Available additional control functions				
		Night set-back	No-Flow Stop	Q-Limit <sub>Max</sub>	Q-Limit <sub>Min</sub>	Disinfection detection
	Hall temperature T-const.	x		x		
Overhead heating	Differential pressure $\Delta p-c$	x	x	x		
	Dynamic Adapt plus	x				
	Hall temperature T-const.	x		x		
Air heater	Differential pressure $\Delta p-v$	x	x	x		
	Dynamic Adapt plus	x				
	Hall temperature T-const.	x		x		

System type	Control mode	Available additional control functions				
		Night set-back	No-Flow Stop	Q-Limit <sub>Max</sub>	Q-Limit <sub>Min</sub>	Disinfection detection
Hydronic separator	Feed temperature T-const.			x		
	Return $\Delta$ -T			x	<b>x</b>	
	Multi-Flow Adaptation				x	
Heat exchanger	Feed temperature T-const.			x		
	Feed $\Delta$ -T			x	<b>x</b>	
	Multi-Flow Adaptation				x	
Basic control modes – heating	Differential pressure $\Delta$ p-c	x	x	x	x	
	Differential pressure $\Delta$ p-v	x	x	x	x	

System type	Control mode	Available additional control functions				
		Night set-back	No-Flow Stop	Q-Limit <sub>Max</sub>	Q-Limit <sub>Min</sub>	Disinfection detection
	Index circuit $\Delta$ p-c	x	x	x	x	
	Dynamic Adapt plus	x				
	Volume flow Q-const.	x				
	Multi-Flow Adaptation				x	
	Temperature T-const.	x	x	x	x	
	Temperature $\Delta$ T-const.	x	x	x	x	
	Speed n-const.	x	x	x	x	
Overhead cooling	Differential pressure $\Delta$ p-c		x	x		
	Dynamic Adapt plus					



System type	Control mode	Available additional control functions				
		Night set-back	No-Flow Stop	Q-Limit <sub>Max</sub>	Q-Limit <sub>Min</sub>	Disinfection detection
	Hall temperature T-const.			x		
Underfloor cooling	Differential pressure $\Delta p-c$		x	x		
	Dynamic Adapt plus					
	Hall temperature T-const.			x		
Air-conditioning device	Differential pressure $\Delta p-v$		x	x		
	Dynamic Adapt plus	x				
	Hall temperature T-const.			x		

System type	Control mode	Available additional control functions				
		Night set-back	No-Flow Stop	Q-Limit <sub>Max</sub>	Q-Limit <sub>Min</sub>	Disinfection detection
Hydronic separator	Feed temperature T-const.			x		
	Return $\Delta-T$			x	<b>x</b>	
	Multi-Flow Adaptation				x	
Heat exchanger	Feed temperature T-const.			x		
	Feed $\Delta-T$			x	<b>x</b>	
	Multi-Flow Adaptation				x	
Basic control modes – cooling	Differential pressure $\Delta p-c$		x	x	x	
	Differential pressure $\Delta p-v$		x	x	x	

System type	Control mode	Available additional control functions				
		Night set-back	No-Flow Stop	Q-Limit <sub>Max</sub>	Q-Limit <sub>Min</sub>	Disinfection detection
	Index circuit $\Delta p-c$		x	x	x	
	Dynamic Adapt plus					
	Volume flow Q-const.					
	Multi-Flow Adaptation				x	
	Temperature T-const.	x	x	x		
	Temperature $\Delta T$ -const.	x	x	x		
	Speed n-const.		x	x	x	
Drinking water (circulation)	Temperature T-const.			x	x	x

System type	Control mode	Available additional control functions				
		Night set-back	No-Flow Stop	Q-Limit <sub>Max</sub>	Q-Limit <sub>Min</sub>	Disinfection detection
Clean water storage facility	Charge pump $\Delta T$			x	x	
	Accumulator charge temperature			x	x	
	Multi-Flow Adaptation					
Basic control modes – drinking water	Differential pressure $\Delta p-c$		x	x	x	
	Differential pressure $\Delta p-v$		x	x	x	
	Index circuit $\Delta p-c$		x	x	x	
	Volume flow Q-const.					

System type	Control mode	Available additional control functions				
		Night set-back	No-Flow Stop	Q-Limit <sub>Max</sub>	Q-Limit <sub>Min</sub>	Disinfection detection
	Multi-Flow Adaptation				x	
	Temperature T-const.		x	x	x	
	Temperature $\Delta T$ -const.		x	x	x	
	Speed n-const.		x	x	x	
Basic control modes	Differential pressure $\Delta p$ -c	x	x	x	x	
	Differential pressure $\Delta p$ -v	x	x	x	x	
	Index circuit $\Delta p$ -c	x	x	x	x	
	Dynamic Adapt plus	x				

System type	Control mode	Available additional control functions				
		Night set-back	No-Flow Stop	Q-Limit <sub>Max</sub>	Q-Limit <sub>Min</sub>	Disinfection detection
	Volume flow Q-const.	x	x			
	Multi-Flow Adaptation	x	x	x	x	
	Temperature T-const.	x	x	x	x	
	Temperature $\Delta T$ -const.	x	x	x	x	
	Speed n-const.	x	x	x	x	
	PID control	x	x	x	x	

Table 10: Predefined applications in settings assistant

x: Available

**x**: Permanently activated additional control functions

**NOTICE**

Please refer to the detailed instructions online for further settings.

→ see QR code or

[www.qr.wilo.com/stratos-maxo\\_om](http://www.qr.wilo.com/stratos-maxo_om)

**10.3 Twin-head pumps**

For twin-head pumps, the main and standby operation with automatic fault changeover operating mode is preset ex-works for twin-head pumps.

**10.4 Faults, causes, remedies**

The pump shows warnings and errors with plain text messages and instructions for correction.

**NOTICE**

Please refer to the detailed unstructions online for fault correction.

→ see QR code or

[www.qr.wilo.com/stratos-maxo\\_om](http://www.qr.wilo.com/stratos-maxo_om)

**11 Spare parts**

Only order original spare parts from the specialist technicians or our customer service. Always state all data on the rating plate when ordering to avoid queries and incorrect orders.

**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 dangers to your personal health.

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

- Only hand over these products at designated, certified collecting points.
- Observe the locally applicable regulations!

Please consult your local municipal authority, the nearest waste disposal site, or the retailer where the product was purchased for information on proper disposal. For further information on recycling, go to [www.wilo-recycling.com](http://www.wilo-recycling.com).

**12.2 Batteries/rechargeable batteries**

Batteries and rechargeable batteries do not belong in domestic waste and must be dismantled before the product is disposed of. End consumers are legally obliged to return all used batteries and rechargeable batteries.

**NOTICE****Fixed in-built lithium battery!**

The Stratos MAXO control module contains a non-replaceable lithium battery. Never remove the battery yourself for reasons of safety, health, and data backup. Wilo offers to take back the affected old products and guarantees environmentally-friendly recycling and recovery processes. For further information on recycling, visit [www.wilo-recycling.com](http://www.wilo-recycling.com).

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**Subject to change without prior notice!**

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