



# Wilo-RainSystem AF Comfort

- D Einbau- und Betriebsanleitung
- **GB** Installation and operating instructions
- **F** Notice de montage et de mise en service
- NL Inbouw- en bedieningsvoorschriften



Fig. 2



Fig. 1





Fig. 5



Fig. 4









Fig. 9



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7	Pressure sensor
8	Suction port connection
9	Solenoid valve
10	Connecting piece for the replenishment reservoir
11	Overflow funnel
12	Level sensor

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3	"Go back" button
4	"Go forward" button
5	Confirmation (OK) button
6	Internal connections
7	Connection for pressure sensor
8	Connection for level sensor
9	Optional connection for reed relay
10	Enclosure screws

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#### 1 General

#### 1.1 About this document

These installation and operating instructions are an integral part of the unit. They must be kept readily available at the place where the unit is installed. Strict adherence to these instructions is a precondition for the proper use and correct operation of the unit.

These installation and operating instructions correspond to the relevant version of the unit and the underlying safety standards valid at the time of going to print.

## 2 Safety

These operating instructions contain basic information which must be adhered to during installation and operation. For this reason, these operating instructions must, without fail, be read by the service technician and the responsible operator before installation and commissioning. It is not only the general safety instructions listed under the main point "safety" that must be adhered to but also the special safety instructions with danger symbols included under the following main points.

#### 2.1 Indication of instructions in the operating instructions



General danger symbol

Danger due to electrical voltage

NOTE

Symbols:

Signal words:

#### DANGER!

Acutely dangerous situation. Non-observance results in death or the most serious of injuries.

#### WARNING!

The user can suffer (serious) injuries. 'Warning' implies that (serious) injury to persons is probable if this information is disregarded.

#### CAUTION!

There is a risk of damage to the product/unit. 'Caution' implies that damage to the product is likely if this information is disregarded.

NOTE: Useful information on handling the product. It draws attention to possible problems.

#### 2.2 Personnel qualifications

The installation, maintenance and repair personnel must have the necessary qualifications for this work.

# 2.3 Danger in the event of non-observance of the safety instructions

Non-observance of the safety instructions can result in risk of injury to persons and damage to product/unit. Non-observance of the safety instructions can result in the loss of any claims to damages.

In detail, non-observance can, for example, result in the following risks:

- Failure of important pump/unit functions
- Failure of required maintenance and repair procedures
- Danger to persons from electrical, mechanical and bacteriological influences
- Property damage

#### 2.4 Safety instructions for the operator

The existing directives for accident prevention must be adhered to.

Danger from electrical current must be eliminated. Local directives or general directives [e.g. IEC, VDE etc.] and local power supply companies must be adhered to.

2.5 Safety instructions for inspection and installation work

The operator must ensure that all inspection and installation work is carried out by authorised and qualified personnel, who are sufficiently informed from their own detailed study of the operating instructions.

Work on the product/unit should only be carried out when it has been brought to a standstill.

# 2.6 Unauthorised modification and manufacture of spare parts

Modifications to the product/unit are only permissible after consultation with the manufacturer. Original spare parts and accessories authorised by the manufacturer ensure safety. The use of other parts can nullify the liability from the results of their usage.

#### 2.7 Improper use

The operating reliability of the supplied product/ unit is only guaranteed if the product/unit is used as intended in accordance with Section 4 of the operating instructions. The limit values must on no account fall under or exceed those specified in the catalogue/data sheet. /!\

# 3 Transport and interim storage

- CAUTION! Danger of damage to the unit! Danger of damage due to incorrect handling during transport and storage. Moisture, frost and mechanical stresses may cause damage to the unit.
- The unit must be protected from moisture, frost and mechanical damage during transport and interim storage.
- During transport and interim storage, the unit must not be exposed to temperatures outside the range of -10 °C to +50 °C.
- 4 Intended use

The RainSystem AF Comfort unit is designed for pumping rainwater from an existing collector tank. If there is insufficient rainwater, the unit switches over automatically to potable water supply from the potable water network via a replenishment reservoir.

The main applications are:

- Toilet flushing
- Washing water supply

# 5.2 Technical data

# Supplying water for garden watering and irrigation The RainSystem AF Comfort unit must not be used to supply rainwater as potable water. WARNING! Health hazard!

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The water supplied by the unit is rainwater, not potable water. Rainwater is not potable water! Direct connections between potable water and rainwater networks are not permissible.

#### **5** Product information

#### 5.1 Type key

Example:	Wilo-RainSystem AF Comfort MC 304 EM
AF-Comfort	Automatic rainwater utilisation and potable water replenishment system (Aqua Feed)
MC	Self-priming, horizontal, multistage centrif- ugal pump of the MultiCargo MC series
3	Volume flow [m <sup>3</sup> /h] at optimum efficiency
04	Number of stages
EM	AC motor 1~230 V, 50 Hz

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Flow rate:	Max. 5 m³/h
Delivery head:	Max. 52 m (MC 305 pump) or 41.5 m (MC 304 pump)
Max. admissible operating pressure:	8 bar
Max. admissible intake pressure from the	1.4 bar
collector tank:	
Noise pressure level:	Up to 56 dB (A) airborne sound
	(at 1 m distance from a unit mounted on a brick wall)
Suction head:	Max. approx. 8 m; static max. 6 m
Water temperature:	+ 4 °C to + 35 °C
Max. admissible ambient temperature:	40 °C
Connected load/Frequency:	1~230 V/50 Hz
Protection class:	IP 54
Unit control:	WILO RCE-System switchgear
Motor protection:	Integrated thermal motor protection
Measurement range of level sensor:	5.0 m Ws measurement range (water column of 0 5 m)
Pressure port connection:	R 1" (female thread: union nut)
Suction port connection:	R 1" (male thread)
Connection for potable water supply:	R ¾" (male thread)
Max. potable water intake pressure at sole-	6 bar
noid valve:	
Potable water flow capacity at solenoid	3 m³/h at 1.5 bar or 4.5 m³/h at 3 bar flow pressure
valve:	
Capacity of replenishment reservoir:	11
Dimensions of replenishment reservoir	105 mm x 65 mm; overflowing water can be led into the building drainage system
overflow channel:	via a funnel not directly connected to the overflow (see Fig. 3)
Fitting dimensions:	See Fig. 6
Weight (MC 304/MC 305):	38 / 40 kg (gross), 23.5 / 25.5 kg (net)
Ambient conditions:	-0 °C to +40 °C

# 5.3 Scope of delivery

- Ready-to-connect unit with overflow funnel
- External level sensor (measurement range 0 5 m water column with 20 m cable) and separate connection plug
- Fixing material for wall mounting
- Installation and operating instructions

# 5.4 Accessories (not included in delivery)

- Collector tank
- Filter as
  - Filter collector for fine filtration of rainwater directly in downpipe, or
- Underground filter for filtration in collecting pipes
- Extractor as
  - Floating extractor with suction/pressure hose, or
  - Foot valve
- Overflow sensor for replenishment
- Connection set for RainSystem AF Basic/Comfort (for potable water connection and pressure side)
- Rainwater use marking set

# 6 Description and function

# 6.1 Description of the unit (Fig. 1)

The RainSystem AF Comfort unit is a compact, ready-for-connection module with the following components:

- 1: Centrifugal pump
- 2: Base frame
- 3: Switchgear
- 4: Potable water replenishment reservoir
- 5: Connection for potable water supply
- 6: Pressure port connection
- 7: Pressure sensor
- 8: Suction port connection
- 9: Solenoid valve
- 10: Connecting piece for the potable water replenishment reservoir
- 11: Overflow funnel
- 12: Level sensor
- Cover (not shown)

# 6.2 Description of the switchgear (Fig. 2)

- 1: Display
- 2: Status indicator
- 3: "Go back" button
- 4: "Go forward" button
- 5: Confirmation (OK) button
- 6: Internal connections <sup>1)</sup>
- 7: Connection for pressure sensor <sup>1)</sup>
- 8: Connection for level sensor <sup>2)</sup>
- 9: Optional connection for reed relay
- 10: Enclosure screws
- <sup>1)</sup> Connections already in place when delivered
   <sup>2)</sup> Connections not in place when delivered

# 6.3 Function of the unit (Fig. 1)

All components of the unit are mounted on a base frame (Item 1).

The main component in the unit is a self-priming, horizontally mounted, multistage centrifugal pump (Item 2). The centrifugal pump (Item 2) draws in rainwater from a rainwater collector tank and pumps it to the points of consumption. A pressure sensor (Item 7) determines the pressure drop in the pressure pipe when water is drawn at the points of consumption. As soon as a defined start-up pressure is reached, the centrifugal pump switches on automatically and pumps water to meet the demand.

Control, monitoring, recording, setting and display of all operating processes is performed by a switchgear device (Item 3) with a microcontroller unit (CPU). Operation of the unit and setting of its parameters are performed via menus using the function keys and display on the switchgear (Item 3).

The water level in the collector tank is determined by a level sensor (Item 11).

If there is insufficient rainwater, the unit can switch over automatically to supply potable water to the consumer network from a potable water replenishment reservoir (Item 4). A solenoid valve (Item 9) is used for the switchover. Other functions:

- Water exchange in potable water replenishment reservoir controlled according to pump operating time
- Prevention of lime deposits by automatic actuation of the solenoid valve
- Integrated automatic switch-off in the event of dry running
- Permanent operating data recording, economy mode function and operating status log

# 6.4 Operating modes

- Automatic: Automatic switchover between rainwater and potable water supply, depending on the water level in the collector tank.
- **Off:** The pump and the solenoid valve are not activated by the switchgear. The switchgear remains functioning.
- **Manual:** This operating mode is available for aftersales service technicians to check the functioning of the pump and the solenoid valve.
- **Potable water:** Continuous supply from the potable water replenishment reservoir regardless of the water level in the collector tank.

7 Installation and electrical connection Installation and electrical connection should only be done in compliance with local regulations and by properly skilled personnel. WARNING! Danger of personal injury!



tions and by properly skilled personnel. WARNING! Danger of personal injury! Follow all accident prevention regulations. WARNING! Danger of electric shock! Eliminate any danger from electrical current. Follow the instructions given by local directives or general directives [e.g. IEC, VDE etc.] and local power supply companies.

#### 7.1 Preparations for installation

• Fit all points of consumption with a warning notice 'Not drinking water!'. This may be indicated in writing or by means of symbols (in Germany: in accordance with DIN 1988, T2, section 3.3.2).



#### WARNING! Health hazard from rainwater penetrating into the potable water replenishment reservoir!

If the connecting piece of the replenishment reservoir (Item 10) (Fig. 1) is below the maximum water level in the collector tank, a nonreturn valve must be installed between the connecting piece and the solenoid valve (Item 9). WARNING! Health hazard!

For safety reasons, at the points of consumption use only shut-off valves which cannot be operated by unauthorised persons.

- Provide a dry, frost-free room for installation of the unit.
- Select an installation location suitable for the size of the unit and accessibility of the connections.
- Make sure there is enough space for maintenance work and air supply to the motor (Fig. 8).
- Ensure that the mains power plug of the unit is accessible at all times.
- Select a wall with adequate load-bearing capacity suitable for wall-mounted installation.
- Make sure there is at least 1 m between the unit and the floor.
- Install the unit as close as possible to the collector tank. Make sure the horizontal section of the suction line is as short as possible.
- Route the suction line on a constantly rising gradient.
- The diameter of the suction line should be at least as wide as the nominal diameter of the suction connection (1") on the pump.
- Avoid installing valves in the suction line which would reduce the suction.
- Be mindful of the maximum suction head of the centrifugal pump. The suction head is made up of the static head between the pump and the water level in the collector tank and the head loss due to the resistance of the complete suction pipe (see Fig. 7).
- Avoid kinks, bends and diminutions in the suction-side pipework, as these raise suction resistance and thus the head loss of the suction line.
- Execute all pipe connections with detachable connections (screwed connections).

- Make the suction line pressure-tight and vacuum-tight.
- Ensure that the suction line does not deform by the sucking action of the centrifugal pump.
- To guarantee fault-free functioning of the unit, it is strongly recommended to install a Wilo filter collector or a Wilo-DuoFilter (accessories) upstream of the collector tank.
- Provide additional protection for the pump by means of a foot valve on the suction pipe with a non-return valve and strainer (mesh width 1 mm) or a filter, to prevent the pump running empty and the pipe being blocked.

NOTE: It is recommended to use the floating extractor with fine suction filter from the Wilo range in conjunction with a flexible suction line. NOTE: It is recommended to install a pressure gauge on the pressure side.

## 7.2 Wall-mounted installation of the unit (Fig. 8)

 Drill three holes (Ø 12 mm) on a wall with adequate load-bearing capacity, following the drilling diagram (Fig. 8).



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## CAUTION! Danger of damage!

The dowels included with the unit are not suitable for fixing to walls of lightweight construction.

- When fixing to walls of lightweight construction, obtain suitable fixing hardware from a specialist retailer.
- When fixing to walls of lightweight construction, ensure sufficient soundproofing.
- Fix the unit in place with three hanger bolts
   (Ø 10 x 120 mm) and dowels (Ø 12 mm) (included in delivery).
- **7.3 Installation of water pipelines (Fig. 1)** After wall mounting, establish the following connections:



#### CAUTION! Danger of damage! The weight of the pipework can damage the unit.

- Support pipe weight by means of suitable fixation.
- Connect all pipes so that they are stress-free.
- Connect the suction line from the collector tank to the suction port connection (Item 8).
- Connect the pressure line (consumer line) to the pressure port connection (Item 6).
- Connect the potable water connection to the connection for potable water supply (Item 5).
- Install the overflow funnel (Item 10) under the overflow on the potable water replenishment reservoir so that water can flow freely. The distance between the overflow on the potable water replenishment reservoir (Item 4) and the overflow funnel must be at least 100 mm.

7.4 Electrical connection

WARNING! Danger of electric shock!

Electrical connection must be carried out by an electrician authorised by the local electricity supply company and in accordance with the applicable local regulations [e.g. VDE regulations].

We recommend the provision of a residual current circuit-breaker (RCCB).

Lead out the mains cable and sensor cable through the appropriate ducts in the base carrier of the unit (left-hand section of lower edge).

#### 7.4.1 Connection of level sensor

The level sensor and separate connection plug are supplied separately. The switchgear does not need to be opened to connect the sensor.



# WARNING! Damage to the level sensor from excessive water levels.

The level sensor is designed for a measurement range of 0 to 5 m Ws (water column of 0 to 5 metres). If the level sensor is submerged in a greater amount of water, it can be damaged.

- Use the level sensor with water columns of no more than 5 metres.
- Fix the level sensor in the collector tank according to Fig. 3, Item 2. Fix the level sensor in such a way that it can move freely, and at least 100 mm above the foot valve on the connection line so that no air can be sucked in when the collector tank is at its minimum level. The method of fixing it in place will vary depending on the design of the collector tank.
- Route the connection line to the collector tank in a protective pipe. The connection line must lie loosely. Avoid kinks and knots.
- Route the connection line to the unit. If signal cables and the connection line are routed in parallel, make sure there is enough distance separating them.

NOTE: Connection to the switchgear is by means of a Quickon screwed connection.

- Join the connection plug (Fig. 5, Items 1–4) to the connection line and screw it onto the connection for level sensor (Fig. 5, Item 5).
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NOTE: You can extend the level sensor connection line if so desired. The total length of the connection line should however not exceed 40 m. For the extension, use cable suitable for the local conditions (possibly an underground cable with a crosssectional area of at least 2x0.5 mm<sup>2</sup>). The hose in the level sensor connection line is used for measuring the current air pressure and must therefore always be in contact with the atmosphere. It does not need to be extended to the switchgear.

#### 7.4.2 Mains connection

Mains power connection is by means of a two-pole-and-earth socket outlet.

- Make sure that the type of current and voltage of the mains connection corresponds to the details on the name plate.
- Mains fuse protection: 10 or 16 A, slow-blow.
- Earth the pump in accordance with regulations; for earth terminal see Fig. 6, Item 6.
- There is an alternative earthing option (Fig. 6, Item 6) on the pump motor (PE marking).
- Ensure that the mains power plug of the unit (Fig. 6, Item 4) is accessible at all times.

#### 8 Commissioning

We recommend that the unit be commissioned by Wilo after-sales service. Consult your dealer, a Wilo representative, or central Wilo after-sales service direct.



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CAUTION! Danger of damage to the pump! The mechanical shaft seal can be damaged by dry-running of the pump.

- Before commissioning the complete unit, bleed and fill the pump.
- Before commissioning, check that the float valve is seated properly in the replenishment reservoir.

#### Bleeding and filling the pump Fig. 7

- Unscrew the filling/vent plug at the top.
- Use a funnel to fill the pump with water through the filling opening.
- Close the filling/vent plug again.

# Checking the functioning of the float valve in the potable water replenishment reservoir

• Make sure that the float is hanging freely, is not wedged, and that the float valve is fully inserted in the guide.

# Adjusting the float valve in the potable water replenishment reservoir

- NOTE: The float valve in the potable water replenishment reservoir must be set so that it closes about 3 to 5 cm below the overflow.
- Release the fixing clamp above the float element in order to move the position of the float.
- Adjust the position of the float element by moving it vertically.
- When you have set the specified closing level correctly, engage the fixing clamp again.

## 9 Operating and setting up the switchgear

#### 9.1 Switching on

The switchgear does not have a separate on/off switch. It is switched on when the power supply is switched on.

• Switch on the power supply. The software status display will appear on the display screen for 10 seconds. The unit will then begin to operate according to the current system pressure.

#### 9.2 Menu navigation

The switchgear (Fig. 2) is set and operated using a variety of menus.

You use three buttons to access the menus. This is what they do:

▲ Go back

↓ Go forward

 $[\frac{\epsilon}{o\kappa}]$  Confirmation (OK button)

When the green LED is lit, the unit is ready for use. If the LED is flashing, parameter input mode is active.

Parameters in menus 1 and 5 can be changed without entering a password.

- The following menus can also be viewed:
- 2.01 Software version
- 2.07 Height of the overflow
- 3.01 Hours of operation of the pump
- 3.02 Hours of rainwater operation
- 3.03 Hours of potable water operation

Other menus must be enabled by entering a password (see section 9.1).

To use the menus, press the buttons in the following sequence:

Button sequence	Description of the programming steps
$\checkmark \rightarrow \checkmark \rightarrow \text{etc.}$	The main menus appear in the sequence 1, 2, 3, (4), 5
<b>₹</b> OK	Select main menu (1, 2, 3, 4 or 5)
$\rightarrow \overset{\leftarrow}{}_{\scriptscriptstyle OK}$	1 The sub-menu appears, e.g. 1.01 with the parameters in ><
$\rightarrow \downarrow$	2 >< changes to **
$\rightarrow \overset{\leftarrow}{}_{\scriptscriptstyle OK}$	3 Change to the new parameter
$\rightarrow \downarrow$	4 The new parameter is saved; ** changes to ><
$\rightarrow$ $\checkmark$	5 Move on to the next sub-menu. Once you have gone through all sub-menus, pressing the "OK button" in menu x.99 takes you back to the main menu.

The individual menus are shown and described in section 9.3.

NOTE: If no button at all is pressed on the switch-

gear for 15 minutes, the display switches off. Pressing the confirmation button  $\begin{bmatrix} 4\\ 0K \end{bmatrix}$  will re-acti-

vate the display.

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#### 9.3 Overview of the menus

The following table lists all the menu items needed for commissioning and operation. Menu items which need to be enabled by entering a

password are marked accordingly. Menus for after-sales service adjustments are not shown here. These are listed in a complete listing of all menus in section 14.3.5.

Menu	Description	Parameters	Factory settings
P: 4.3bar H: cm > automatic RW <	<ul> <li>Default display:</li> <li>P: Current system pressure on the pressure side (discharge side)</li> <li>H: Filling height or V: filling volume of the collector tank (depending on the "tank form" selected)</li> <li>RW: Rainwater from collector tank</li> <li>DW: Potable water from potable water replenishment reservoir</li> <li>FS: Fault-tolerant software active</li> <li>FP: Furring protection (prevention of lime deposits) active</li> <li>FT: Flush time active</li> </ul>		(Display of infor- mation only)
1 select opera- tional mode	Main menu: Select operational mode		
1.01 mode > automatic <	Selection of the unit's operating mode (see section 6.1)	automatic OFF manual potable water	automatic
1.02 pump manu. > OFF <	Manual switching-on of the pump in manual mode (for manual mode, see menu 1.01)	ON OFF	OFF
1.03 valve manu.> OFF	Manual opening of the valve in manual mode (for manual mode, see menu 1.01)	ON OFF	OFF
1.99 with OK back	Return to the main menu	Confirmation with "OK" button	
2 equipment configuration	Main menu: Equipment configuration		
2.01 WILO RCE Vx.xx dd.mm.yyyy	Displays the software version of the unit and its date of issue	Vx.xx dd.mm.yyyy	(Display of infor- mation only)
2.02 language > English <	<ul> <li>Password 01 is required</li> <li>Choice of menu language</li> </ul>	Deutsch Nederlands English Français	Deutsch
2.04 tank form > standard <	<ul> <li>Password 01 is required Selection of tank shape (The tank height (menu 2.05) and the overflow (menu 2.07) must be entered first)</li> </ul>	standard verti.cylin. horiz.cylin. spherical base x height	standard
2.05 tank height > 000 cm <	• Password 01 is required Setting of the tank height (H <sub>max</sub> )	000 – H <sub>max</sub> [cm]	000 cm
2.06 h sensor > 025 cm <	Height (H) at which the sensor is installed above the tank floor (absolute value)	000 – H <sub>max</sub> [cm] H < tank height (menu 2.05)	025 cm (display of infor- mation only)
2.07 h overflow > 000 cm <	• Password 01 is required Setting of the height (H) of the overflow above the tank floor (absolute value)	000 – H <sub>max</sub> [cm] H > height of sen- sor (menu 2.06) H < tank height (menu 2.05)	000 cm

Menu	Description	Parameters	Factory settings
2.17 action E4 > closes <	• Password 01 is required To configure an optional sensor connected to input 4 as a normally open contact ("closes") or normally closed contact ("opens"). (For assignment of sensor, see menu 2.24)	opens closes	closes
2.21 max. time p > 000 min <	• Password 01 is required Setting of the maximum permissible continuous running time for the pump	000 – 360 min 000 = deactivated	000 min.
2.24 connect E4 > back pressure <	• Password 01 is required Selection of sensor assignment on input 4. Discrimination is by means of an external resistor. (For the action of the sensor, see menu 2.17)	back pressure overflow back pr.+overflow	back pressure
2.25 alarm level > 2.07 + 025 cm <	Display of the alarm level for high-water level (flooding). The fol- lowing formula applies: overflow height (menu 2.07) + 25 cm.	Menu 2.07+/- 100 cm	2.07 +25 cm (Display of infor- mation only)
2.50 choice-stop > F1 = 4 <	• Password 02 is required Display of switch-off logic adapted as appropriate to the pump. F1 = 4 means switch-off pressure of 4 bar for the MC 304 pump.	F1 = 0 F1 = 4 F1 = 5 F1 = 9	F1 = 4 (Display of infor- mation only)
2.53 p off var. > 4.0 ± x.x bar <	• Password 02 is required Display of the variable pressure for pump switch-off. The value is calculated as follows: set pressure for pump switch- off (menu 2.13) + pressure change increment (menu 2.52)	(Menu 2.13 +/- menu 2.52)	4.0+x.x bar (MC 304) (Display of infor– mation only)
2.54 p actual > 2.2 bar <	• Password 02 is required Display of the actual pressure at the pressure sensor	Currently meas- ured pressure	x.x bar (Display of infor- mation only)
2.99 back with OK	Return to the main menu	Confirmation with "OK" button	
3 Pump Nomi- nal Values	Main menu: Pump Nominal Values		
3.01 pump operat > 0000123,00 h	Display of the number of hours that the pump has been in operation		xxxxxxxxx h (Display of infor– mation only)
3.02 tank operat > 0000103,00 h	Display of the number of hours of operation with rainwater		xxxxxxxx h (Display of infor- mation only)
3.03 topup water > 0000020,00 h <	Display of the number of hours of operation with potable water		xxxxxxxx h (Display of infor- mation only)
3.99 back with OK	Return to the main menu	Confirmation with "OK" button	
5 Factory data con- figuration	Main menu: Factory data configuration		
5.01 data reset	Resets the parameters to the factory settings	Confirmation with "OK" button and then confirmation of the query with the arrow key	
5.99 back with OK	Return to the main menu	Confirmation with "OK" button	

#### 9.4 Enabling the parameter input mode

- When the product is delivered, only the parameters in the menus 1.0x (menu **select operational mode**) can be changed. It is not possible to change parameters in any other menus. To be able to make changes in those as well, you first have to enable those menus.
- Go to the default display by pressing the "go back"
   ↑ or "go forward" ↓ buttons.

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P: 4.3bar H: cm	
> automatic RW	<

Press the confirmation button to for about 10 seconds.

The display shows

## > password \* 00 \* <.

- Press the confirmation button  $\begin{bmatrix} \epsilon \\ o \kappa \end{bmatrix}$  again in order to change the second digit.
- Use the "go back" ↑ and "go forward" ↓ buttons to set the desired password.

### > select operational mode <.

The green LED flashes, indicating that you are in parameter input mode.

NOTE: If no parameters are entered within five minutes, the input mode will be disabled again automatically. You can disable it manually by entering the password **00**.



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#### 9.5 Configuration of the switchgear

NOTE: First read section 6 "Description of product and accessories" and section 9.3. The assignment of levels to the various menus is shown in Fig. 4.

#### 9.5.1 Setting the language

The switchgear is factory-set to German as the menu language. You can change this to another language as needed.

- Enable the switchgear using the password **01** for parameter input (see section 9.4).
- Select the correct language in menu 2.02.
- Go back to the main menu via menu 2.99.

#### 9.5.2 Setting the collector tank

The functioning of the unit must be adapted to suit the particular collector tank. This means setting the shape of the tank ("tank form"), the tank height, and the height of the overflow. After entering the tank height (menu 2.05) and the overflow level (menu 2.07) you can select either the standard tank form or other tank forms (square and rectangular, vertical cylinder, horizontal cylinder or spherical). The selected tank form affects the indication of the water level (see section 10.1). The tank form is factory-set to standard.

#### Preparations

• Enable the switchgear using the password **01** for parameter input (see section 9.4).

#### Tank height

The height of the collector tank must be set for correct functioning of the level indicator. For cylinders lying horizontally, for example, the height corresponds to the cylinder diameter (see Fig. 4).

• Set the tank height in menu 2.05.

#### Height of the level sensor and the overflow

The height at which the level sensor and the overflow are fitted is specified as an absolute value to the floor of the collector tank. Only the range above the level sensor (menu 2.06) and below the overflow (menu 2.07) is used to calculate the water level. The areas beneath the sensor and above the overflow cannot be used by the unit.

• The height at which the level sensor is fitted can be viewed with menu 2.06.

NOTE: The height of the overflow must be above the height of the level sensor and below the height of the tank.

• Set the height of the overflow in menu 2.07.

#### Tank form

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The exact water level is calculated on the basis of your entries for the geometric shape ("form") and height of the collector tank.

Select the tank form in menu 2.04.

#### 9.5.3 Configuring safety functions

#### Automatic pump deactivation

To prevent water being pumped continuously due to a damaged pipe, a maximum continuous running time can be entered for the pump. When the set running time is reached, the pump is switched off and a fault signal is triggered (see section 12.1). This function is switched off in the factory settings.

• Set the maximum permitted continuous running time for the pump in menu 2.21.

#### Back pressure and overflow sensor

A tank back pressure detector independently fitted by the customer can be connected to the switchgear (Fig. 9, input 4 (+ -)). The back pressure detector sends a signal when water (wastewater) is entering the collector tank through the overflow.

A retrofitting set can be used to connect a sensor to the control device (Fig. 9, input 4 (+ -)) to indicate overflow on the collector tank.

Using an external connection unit, both a back pressure sensor and an overflow sensor can be connected to the switchgear (Fig. 9, input 4 (+ -)). A back pressure sensor is configured in the factory settings.

- Select the input wiring configuration in menu 2.24.
- Set how the sensor operates, as normally open contact or normally closed contact, in menu 2.17.

#### 9.5.4 Putting the unit into operation (commissioning)

- To commission the unit, it must be put into automatic operating mode.
- Go back to the main menu via menu 2.99.
- Exit the parameter input mode by entering the password **00**.
- Set the operating mode to automatic in menu 1.01.
  - The unit is now ready for operation.
- Go back to the main menu via menu 1.99.

#### 10 Operation of the unit

#### 10.1 Default display

When the unit is in operation, the switchgear shows the following status information on its display screen:

**P**: Current system pressure on the pressure side (discharge side)

**H**: Filling height or **V**: filling volume of the collector tank (depending on the tank form selected)

Automatic: Automatic operating mode, or OFF: operating status switched off, or Manual: manual operating mode, or Potable water: potable water operating mode

RW: Rainwater from collector tank

**DW**: Potable water from potable water replenishment reservoir

FS: Fault-tolerant software active

**FP**: Furring protection (prevention of lime deposits) active

FT: Flush time active

When the product is delivered, the display of the water level (filling height) is set to "cm" as the unit of measurement for the "standard" tank form. If a different tank form is selected, the water level will be displayed as a percentage of volume. All necessary data is set in the menus 2.04 - 2.07 (see section 9.5.2).

#### 10.2 Resetting switchgear settings

NOTE: The switchgear can be reset to the factory settings if an incorrect configuration is entered.

- In menu 5.01, press the confirmation button G<sub>ok</sub> and use the "go back" ↑ and "go forward" ↓ buttons to set the confirmation query to yes.
- Press the confirmation button <sup>4</sup>/<sub>OK</sub> again. The switchgear is now reset to its factory settings (see section 9.3).

#### 11 Maintenance

(i)

- An annual check of the unit by Wilo after-sales service is recommended.
- At least 1x per year, check that the float valve is firmly in place and not leaking, and that the unit is not leaking and all components are firmly in place.
- If the unit is to be out of use for a long period, switch off the potable water supply, pull out the mains plug and empty the pump/unit by opening the pump's lower drainage screw.

# 12 Faults, causes and remedies

# 12.1 Fault signals

If there is a fault, the display screen on the switchgear will alternate between the default display and the fault signal.

Menu	Cause	Fault remedy
4.01 pump dry run- ning	<ul> <li>The pump is not reaching the required minimum pressure.</li> <li>Dry-running detection is set too restrictively</li> <li>Suction lines are leaking</li> <li>Air in the unit</li> </ul>	Reduce the minimum pressure for dry- running time in menu 2.46 or increase the time for dry-running detection in menu 2.15. <b>CAUTION! Danger of damage to the</b> <b>unit! When remedying the fault, at</b> <b>least one tap or extraction point must</b> <b>be open for the purpose of evacuation.</b> If the fault occurs again, check the suc- tion lines for leaks, replace if necessary and vent the system.
4.02 switching fre- quency	<ul> <li>The pump is switching off and on too often.</li> <li>Pressure-related fault in the system (e.g. pipe breakage, leak)</li> </ul>	Get Wilo after-sales service to remedy the cause of the fault.
4.03 back pressure at overflow	<ul> <li>The sensor connected at input E4 is reporting back pressure.</li> <li>The fault signal occurs only if the sensor has been configured in menu 2.24 as a back pressure protection device.</li> <li>Wastewater is coming in through the overflow</li> <li>The overflow is blocked</li> </ul>	Remedy the cause of the back pressure at the overflow.
4.04 error at water lev.sensor	The level sensor is faulty.	Check the level sensor and replace if needed. The unit will operate with pota- ble water until the fault is remedied.
4.05 error at pressure sensor	The pressure sensor is faulty.	Check the pressure sensor and replace if needed.
4.06 error alarm level	<ul> <li>The water level in the collector tank is too high and is above the overflow.</li> <li>Overflow height set incorrectly</li> <li>The overflow is blocked</li> <li>Water is entering the collector tank through the overflow (flooding)</li> </ul>	<ul> <li>Check the height of the overflow set in menu 2.07 and correct it if needed</li> <li>Check the overflow and remove any blockage</li> <li>Prevent water from entering through the overflow</li> </ul>
4.07 error max. time pump	The set time limit for continuous running of the pump has been reached. • Leakage in the pipe system	Fix the leak in the pipe system. If there is no leakage, increase the maximum per- missible continuous running time for the pump in menu 2.21 or switch it off with the value <b>000 min</b> .
4.08 error overflow tank	<ul> <li>The sensor connected at input E4 is reporting tank overflow.</li> <li>The fault signal occurs only if the sensor has been configured in menu 2.24 as an overflow protection device.</li> <li>Wastewater is coming in through the overflow</li> <li>The overflow is blocked</li> </ul>	Remedy the cause of the overflow at the overflow.

## 12.2 General faults in operation

Faults in operation can make themselves felt through a variety of symptoms. They affect the performance of the unit.

Faults	Causes	Remedy
Pump not running	No power supply.	<ul> <li>Check fuses, connections and supply line.</li> </ul>
Pump providing no output or too little	<ul> <li>Air is getting into the suction pipe.</li> </ul>	<ul> <li>Seal the suction pipe.</li> </ul>
output	• Suction head exceeding the maximum.	<ul> <li>Check the water level.</li> </ul>
	<ul> <li>Air in the pump.</li> </ul>	<ul> <li>Bleed the pump/unit.</li> </ul>
	<ul> <li>The filter is blocked.</li> </ul>	<ul> <li>Clean the foot valve.</li> </ul>
Pressure too low	<ul> <li>The suction head is too high.</li> </ul>	<ul> <li>Check the water level.</li> </ul>
	<ul> <li>Foot valve blocked.</li> </ul>	<ul> <li>Clean the foot valve.</li> </ul>
Pump keeps switching off and on	Small leakages or non-return valve in FluidControl no longer closing.	<ul> <li>Block off the pressure pipe in some way in order to find the fault. Remedy the fault.</li> </ul>
Pump leaking	• The mechanical shaft seal is faulty.	<ul><li>Change the mechanical shaft seal.</li><li>Tighten screws on the stage housing.</li></ul>
Potable water replenishment although	<ul> <li>Level sensor dirty or faulty.</li> </ul>	<ul> <li>Clean the level sensor or replace it.</li> </ul>
rainwater tank is full	<ul> <li>Sensor cable incorrectly installed</li> </ul>	<ul> <li>Check the cable connection and rout-</li> </ul>
	(equalising capillary is closed off).	ing for pinch points.
Pump does not switch off	<ul> <li>System is reaching only a pressure (actual pressure) above 1 bar and below the start-up pressure. It is oper- ating off its pump curve.</li> </ul>	<ul> <li>Contact Wilo after-sales service.</li> </ul>
Float valve in replenishment reservoir does not switch off / water is escaping through overflow	<ul> <li>Float valve pulled out of position or mechanically blocked.</li> </ul>	<ul> <li>Visual inspection; if necessary improve the support for the supply line or clean the tank or valve.</li> </ul>
Fault signal "Please check Hardware config." on the display screen of the RCE	Jumper in the rear panel of the RCE's display board (see Fig. 9) for correct identification of the pump type is not firmly in place or is missing.	<ul> <li>Contact Wilo after-sales service.</li> </ul>

#### If the operating fault cannot be remedied, please consult a specialist technician or the nearest Wilo after-sales service point or representative.

#### 12.2.1 Resetting fault signals

Once the fault has been remedied, the fault signals must be reset so that the unit will resume operation.

#### Deleting the fault signals for back pressure at overflow (4.03), alarm level (4.06) and tank overflow (4.08)

- Remedy the cause of the fault
- Enter password 02 The display briefly shows: > select operational mode <.</li>
- In menu 4.00, delete the fault with the OK button.
- Go back to the main menu via menu 4.99.
- Switch the switchgear back to automatic operating mode by entering password **00**.

#### Deleting the fault signals for dry running (4.01), switching frequency (4.02) and max. pump time (4.07)

- Remedy the cause of the fault
- Reset the fault signal with the confirmation button  $[\mathcal{C}_{OK}]$ .

# Deleting the fault signals for water level sensor (4.04) and pressure sensor (4.05)

- Remedy the cause of the fault
- The fault is reset automatically.

#### 13 Spare parts

Spare parts may be ordered via local specialist retailers and/or Wilo after-sales service. To avoid queries and order errors, please supply all data on the unit name plate with every order. **Subject to change without prior notice!** 

#### 14 System settings



NOTE: System settings can only be changed by Wilo after-sales service. When the unit is delivered, the system is pre-set for safe and reliable operation and cannot be changed by the operator.

#### 14.1 Displaying the pump configuration

- For proper functioning of the unit, the switch-off pressure of the pump must be adapted to suit the type of pump in use. The corresponding pump curve configuration can be viewed in menu 2.50.
- Enable the switchgear using the password **02** for parameter input.



(i)

CAUTION! Danger of damage to the pump! The pump can be damaged if an incorrect pump switch-off pressure is selected.

• Read the technical data for the pump in use.

• Compare the pump switch-off pressure in menu 2.50 with the technical data for the pump in use. The pressure displayed must match the necessary switch-off pressure. Example: F1 = 4 means switch-off pressure of 3.9 / 4.1 bar for the pump MC304.

#### 14.2 Defining the functioning of the level sensor

- The level sensor is used for monitoring the water level in the collector tank and must be configured accordingly. If the water falls below the level set in menu 2.09 the unit switches over to potable water replenishment operating mode. Whilst in potable water replenishment mode, water is drawn from the unit's potable water replenishment reservoir. All menu points necessary for level control are pre-set at the factory to standard values.
- The level from which potable water replenishment is to begin when the rainwater level is low can be set in menu 2.09.
- The top-up level for potable water replenishment can be defined in menu 2.10.
- Go back to the main menu via menu 2.99.

#### 14.3 Configuring expanded protection functions

The switchgear has a variety of protection functions to ensure proper functioning of the unit. NOTE: The safety mechanisms and equipment are pre-set at the factory for safe and reliable operation and should only be adapted if needed.

# 14.3.1 Prevention of lime deposits (furring) on solenoid valve

Due to the relatively low water temperatures, limescale on the solenoid valve can be virtually ruled out. Nonetheless the valve is activated/ opened for fully three seconds at certain intervals to ensure reliable operation.

• The furring protection interval can be changed in menu 2.16 if needed.

#### 14.3.2 Fault-tolerant software

Under unfavourable conditions (e.g. due to increased air in the system) the water column at the pump can break away during rainwater operation. An internal algorithm (fault-tolerant software =>"FTS") will attempt to fill the pump by opening/closing the solenoid valve on the replenishment reservoir up to 5 times. This procedure is only possible once per hour.

- The running time tolerance for opening the solenoid valve can be set in menu 2.31.
- The running time tolerance for closing the solenoid valve can be set in menu 2.32.

#### 14.3.3 Switch-off logic (function F1)

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The switch-off logic affects the switch-off procedure of the pump. The final value (pump off) has been adapted to the pump curves (e.g. MC 304 with 3.9 bar in rainwater operation and 4.1 bar in potable water operation). The switch-off pressure (menu 2.13) is lowered by increments at certain time intervals. The internal algorithm samples the operating range until close to the switch-on pressure (menu 2.12) thus determining whether water feed is required (operation of the pump).

- The time interval for lowering the switch-off pressure can be set in menu 2.51.
- The increment for lowering the switch-off pressure can be set in menu 2.52.

NOTE: The variable switch-off pressure can be viewed in menu 2.53 after entering the password **02**. The selected switch-off logic can be viewed in menu 2.50 after entering the password **02**.

# 14.3.4 Flushing the potable water replenishment reservoir

To prevent the water in the replenishment reservoir from stagnating, the unit automatically switches over to potable water replenishment after a certain period of time has expired, even if there is sufficient rainwater available in the collector tank.

The water stored in the potable water replenishment reservoir is thereby regularly changed and the reservoir flushed out.

- The period of time after which the unit is to operate in potable water mode can be set in menu 2.19.
- The length of time for which the unit is to operate in potable water mode can be set in menu 2.20.

- 14.3.5 Dry-running detection
  - If the pressure falls below a pre-set minimum pressure for a pre-set length of time, dry running of the pump is detected and the pump is switched off.
  - The minimum pressure can be defined in menu 2.46.
- The time delay before a fault signal is triggered after the pressure falls below the minimum can be set in menu 2.15.

# 14.4 Overview of the entire menu structure

The following table lists all menu items available after entering the required password.

Menu	Description	Parameters	Factory settings		
P: 4.3bar H: cm > automatic RW <	<ul> <li>Default display:</li> <li>P: Current system pressure on the pressure side (discharge side)</li> <li>H: Filling height or V: filling volume of the collector tank (depending on the tank form selected)</li> <li>RW: Rainwater from collector tank</li> <li>DW: Potable water from potable water replenishment reservoir</li> <li>FS: Fault-tolerant software active</li> <li>FP: Furring protection (prevention of lime deposits) active</li> <li>FT: Flush time active</li> </ul>		(Display of infor- mation only)		
1 select opera- tional mode	Main menu: Select operational mode				
1.01 mode > automatic <	D1 mode       Selection of the unit's operating mode       automatic         automatic       (see section 6.1)       OFF         manual       potable water				
1.02 pump manu. > OFF <	Manual switching-on of the pump in manual mode (for manual mode, see menu 1.01)	ON OFF	OFF		
1.03 valve manu.> OFF<	Manual opening of the valve in manual mode (for manual mode, see menu 1.01)	ON OFF	OFF		
1.99 back with OK	Return to the main menu	Confirmation with "OK" button			
2 equipment configuration	Main menu: Equipment configuration				
2.01 WILO RCE Vx.xx dd.mm.yyyy	Displays the software version of the unit and its date of issue	Vx.xx dd.mm.yyyy	(Display of infor- mation only)		
2.02 language > English <	• Password 01 is required Choice of menu language	Deutsch Nederlands English Français	Deutsch		
2.03 sensor type > 5.00 m <	• After-sales service password is required Selection of the level sensor measurement range/sensor type	2.00 m 5.00 m	> 5.00 m <		
2.04 tank form > standard <	• Password 01 is required Selection of tank shape (The tank height (menu 2.05) and the overflow (menu 2.07) must be entered first)	standard verti.cylin. horiz.cylin. spherical base x height	standard		
2.05 tank height > 000 cm <	• Password 01 is required Setting of the tank height (H <sub>max</sub> )	000 – H <sub>max</sub> [cm]	000 cm		
2.06 h sensor > 025 cm <	Height (H) at which the sensor is installed above the tank floor (absolute value)	000 – H <sub>max</sub> [cm] H < tank height (menu 2.05)	025 cm (Display of infor– mation only)		

Menu	Description	Parameters	Factory settings	
2.07 h overflow > 000 cm <	• Password 01 is required Setting of the height (H) of the overflow above the tank floor (absolute value)	000 – H <sub>max</sub> [cm] H > height of sen- sor (menu 2.06) H < tank height (menu 2.05)	000 cm	
2.09 top up lev. > 005 cm <	• After-sales service password is required Setting of the level (H) at which the unit switches over to potable water replenishment, based on the height at which the level sensor is fitted above the tank floor (menu 2.06)	000 – H <sub>max</sub> [cm]	005 cm	
2.10 top up qua. > 03 cm <	• After-sales service password is required Setting of the top-up level for potable water replenishment/ hysteresis, measured in relation to the level of the potable water replenishment reservoir (menu 2.09)	03 – 19 cm	03 cm	
2.12 pump on at > 1.2 bar <	• After-sales service password is required Setting of the set pressure for pump switch-on	1.0 – 4.5 bar	1.2 bar	
2.13 pump off at > 3.90 bar <	1.5 – 9.0 bar, min. 0.5 bar > pump switch-on set pressure (menu 2.12)	3.9 bar for MC 304 or 4.9 bar for MC 305		
2.14 pump overrun. > 20 sec <	<ul> <li>After-sales service password is required Run-on time of the pump</li> </ul>	00 – 59 sec	20 sec	
2.15 dry-run.del <> 30 sec <	• After-sales service password is required Time delay until a dry-running fault signal is triggered. Fault will be displayed if a minimum pressure of 1 bar is not reached within the set time.	05 – 59 sec	30 sec	
2.16 furring Pro > 7 day(s) <	• After-sales service password is required Setting of the time interval for brief opening of the valve to prevent lime deposits	0 – 7 days 0 = inactive	7 days	
2.17 action E4 > closes <	<ul> <li>Password 01 is required</li> <li>To configure an optional sensor connected to input 4 as a normally open contact ("closes") or normally closed contact ("opens").</li> <li>(For assignment of sensor, see menu 2.24)</li> </ul>	opens closes	closes	
2.19 flush out > 21 days <	• After-sales service password is required Setting of the period of time after which the unit switches automatically to potable water mode for cleaning (for duration of cleaning, see menu 2.20)	01 –28 days	21 days	
2.20 flush time > 03 min <	• After-sales service password is required Setting of the length of time for which the unit is to operate automatically in potable water mode for cleaning. The pump running time is the crucial factor here. (For the cleaning interval, see also menu 2.19).	01 – 59 min	03 min	
2.21 max. time p > 000 min <	• Password 01 is required Setting of the maximum permissible continuous running time for the pump	000 – 360 min 000 = deactivated	000 min.	
2.24 connect E4 > back pressure <	<ul> <li>Password 01 is required</li> <li>Selection of sensor assignment on input 4. Discrimination is by means of an external resistor.</li> <li>(For the action of the sensor, see menu 2.17)</li> </ul>	back pressure overflow back pr.+overflow	back pressure	
2.25 alarm level > 2.07 + 025 cm <	Display of the alarm level for high-water level (flooding). The following formula applies: overflow height (menu 2.07) + 25 cm.	Menu 2.07+/- 100 cm	2.07 +25 cm (Display of infor- mation only)	

Мори	Description	Daramotors	Eactory cottings		
Mellu	Description	Falameters	Factory settings		
2.31 FTS valve > 020 sec <	• After-sales service password is required Setting of the running time tolerance of the software when opening the valve	000 – 100 sec	20 sec		
2.32 FTS valve O > 030 sec <	• After-sales service password is required Setting of the running time tolerance of the software when closing the valve	000 – 100 sec	30 sec		
2.40 sensor type > 10.0 bar <	• After-sales service password is required Selection of the type of pressure sensor	6 bar 10 bar	10 bar		
2.45 P Δp-off DW > x.x + 0.2 bar <	<ul> <li>After-sales service password is required - 0.7 - +0.7 ba Setting of the differential for pump switch-off in potable (menu 2.13 + menu 2.13) in rainwater operation together with the differ- ential set here must be at least 0.5 bar greater than the set pressure for switching on the pump (menu 2.12). (For pump switch-off set pressure in rainwater operation, see menu 2.13)</li> </ul>				
2.46 p dry run. > 1.0 bar <	46 p dry run.       • After-sales service password is required       0.7 – 1.0 bar         1.0 bar       <				
2.50 choice-stop > F1 = 4 <	F1 = 0 F1 = 4 F1 = 5 F1 = 9	F1 = 4 (Display of infor- mation only)			
2.51 t p compare > 030 sec <	• After-sales service password is required Setting of the running time for pressure comparison	10 – 120 sec	30 sec		
2.52 p jump > 0.2 bar <	• After-sales service password is required Setting of the pressure change increment	0.1 – 0.5 bar	0.2 bar		
2.53 p off var. > 4.0 ± x.x bar <	• Password 02 is required Display of the variable pressure for pump switch-off. The value is calculated as follows: set pressure for pump switch-off (menu 2.13) + pressure change increment (menu 2.52)	(Menu 2.13 +/- menu 2.52)	4.0+x.x bar (MC 304) (Display of infor- mation only)		
2.54 p actual > 2.2 bar <	ctual • Password 02 is required C ar < Display of the actual pressure at the pressure sensor u		x.x bar (Display of infor- mation only)		
2.99 back with OK	Return to the main menu	Confirmation with "OK" button			
3 Pump Nomi- nal Values	Main menu: Pump Nominal Values				
3.01 pump operat > 0000123,00 h <	01 pump operat Display of the number of hours that the pump has been in 0000123,00 h < operation		xxxxxxxx h (Display of infor- mation only)		
3.02 tank operat > 0000103,00 h <	2 tank operat Display of the number of hours of operation with rainwater 000103,00 h <				
3.03 topup water > 0000020,00 h <	topup water Display of the number of hours of operation with potable water water				
3.99 back with OK	Return to the main menu	Confirmation with "OK" button			

Menu	Description	Parameters	Factory settings
4 error memory view	Main menu: Viewing error memory		
4.00 cancel current error	• Password 02 is required Deletion of all fault signals with the OK button. The cause of the fault must be remedied first.		
4.01 pump dry run- ning	Dry running of the pump (see section 12.1). The unit is switched off until the fault is reset. CAUTION! Danger of damage to the unit! When remedying the fault, at least one tap or extraction point must be open for the purpose of evacuation.	Confirmation with "OK" button	
4.02 switching fre- quency	The pump has switched on and off too many times (see sec- tion 12.1). The unit is switched off until the fault is reset.	Confirmation with "OK" button	
4.03 back pressure at overflow	Back pressure (see section 12.1). The unit is switched off until the fault is reset.		
4.04 error at water lev.sensor	Fault on the water level sensor (see section 12.1). The unit operates in potable water mode until the fault is remedied.		
4.05 error at pressure sensor	Fault on the pressure sensor (see section 12.1). The unit is switched off until the fault is reset.	Confirmation with "OK" button	
4.06 error alarm level	Flooding/high water (see section 12.1). The unit is switched off. (For overflow height, see menu 2.07)		
4.07 error max. time pump	Maximum running time of the pump has been reached (see section 12.1). The unit is switched off until the fault is reset. (For pump running time, see menu 2.21)	Confirmation with "OK" button	
4.08 error tank overflow	Overflow (see section 12.1). The unit is switched off.		
4.99 back with OK	Return to the main menu	Confirmation with "OK" button	
confirm error with $\langle \cdot^{J} \rangle$	Appears for faults 4.01, 4.02 and 4.07 in alternation with the fault signal and the default display of the unit.		

# There will be an error display for faults which are in effect for more than 10 seconds

5 Factory data configuration	Main menu: Factory data configuration	
5.01 data reset	Resets the parameters to the factory settings	Confirmation with "OK" button and then confirmation of the query with the arrow key
5.99 back with OK	Return to the main menu	Confirmation with "OK" button

# D <u>EG - Konformitätserklärung</u> GB EC – Declaration of conformity F Déclaration de conformité CE

98/37/EG

2004/108/EG

2006/95/EG

Hiermit erklären wir, dass die Bauarten der Baureihe :AF ComfortHerewith, we declare that this product:Par le présent, nous déclarons que cet agrégat :

in der gelieferten Ausführung folgenden einschlägigen Bestimmungen entspricht: in its delivered state comply with the following relevant provisions: est conforme aux dispositions suivants dont il relève:

## EG-Maschinenrichtlinie EC-Machinery directive Directives CE relatives aux machines

Elektromagnetische Verträglichkeit – Richtlinie Electromagnetic compatibility – directive Compatibilité électromagnétique– directive

Niederspannungsrichtlinie Low voltage directive Directive basse-tension

und entsprechender nationaler Gesetzgebung. and with the relevant national legislation. et aux législations nationales les transposant.

Angewendete harmonisierte Normen, insbesondere:	EN 809	EN 12100-2
Applied harmonized standards, in particular:	EN 1717	EN 60204-1
Normes harmonisées, notamment:	EN 61000-6-1	EN 61000-6-2
	EN 61000-6-3	DIN 1989-1
	DIN 1989-4	

Bei einer mit uns nicht abgestimmten technischen Änderung der oben genannten Bauarten, verliert diese Erklärung ihre Gültigkeit. If the above mentioned series are technically modified without our approval, this declaration shall no longer be applicable. Si les gammes mentionnées ci-dessus sont modifiées sans notre approbation, cette déclaration perdra sa validité.

Dortmund, 06.03.2009

i. V. / ...

Quality Manager



WILO SE Nortkirchenstraße 100 44263 Dortmund Germany

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NL	<b>EG-verklaring van overeenstemming</b> Hiermede verklaren wij dat dit aggregaat in de geleverde uitvoering voldoet aan de volgende bepalingen:	I	Dichiarazione di conformità CE Con la presente si dichiara che i presenti prodotti sono conformi alle seguenti disposizioni e direttive rilevanti:	E	<b>Declaración de conformidad CE</b> Por la presente declaramos la conformidad del producto en su estado de suministro con las disposiciones pertinentes siguientes:
	EG-richtlijnen betreffende machines 98/37/EG		Direttiva macchine 98/37/CE		Directiva sobre máquinas 98/37/CE
	Elektromagnetische compatibiliteit 2004/108/EG		Compatibilità elettromagnetica 2004/108/EG		Directiva sobre compatibilidad electromagnética
	EG-laagspanningsrichtlijn 2006/95/EG		Direttiva bassa tensione 2006/95/EG		2004/108/EG
	Gebruikte geharmoniseerde normen, in het biizonder: <b>1)</b>		Norme armonizzate applicate, in particolare: 1)		2006/95/EG
					Normas armonizadas adoptadas, especialmente: 1)
Ρ	<b>Declaração de Conformidade CE</b> Pela presente, declaramos que esta unidade no seu estado original, está conforme os seguintes requisitos:	S	<b>CE- försäkran</b> Härmed förklarar vi att denna maskin i levererat utförande motsvarar följande tillämpliga bestämmelser:	N	<b>EU-Overensstemmelseserklæring</b> Vi erklærer hermed at denne enheten i utførelse som levert er i overensstemmelse med følgende relevante bestemmelser:
	Directivas CEE relativas a máquinas 98/37/CE		EG-Maskindirektiv 98/37/EG		EG-Maskindirektiv 98/37/EG
	Compatibilidade electromagnética 2004/108/EG		EG–Elektromagnetisk kompatibilitet – riktlinje		EG–EMV–Elektromagnetisk kompatibilitet
	Directiva de baixa voltagem 2006/95/EG		2004/108/EG		EG_L avspenningsdirektiv 2006/95/EG
	Normas harmonizadas aplicadas, especialmente: 1)		EG-Lagspanningsdirektiv 2006/95/EG		
	CE standarding who is such a to		Tillämpade harmoniserade normer, i synnerhet: 4)	ш	Anvendte harmoniserte standarder, særlig: -/
FIN	CE-standardinmukaisuusseloste Ilmoitamme täten, että tämä laite vastaa seuraavia asiaankuuluvia määräyksiä:	DK	<b>EF-overensstemmelseserklæring</b> Vi erklærer hermed, at denne enhed ved levering overholder følgende relevante bestemmelser:		<b>EK. Azonossagi nyilatkozat</b> Ezennel kijelentjük,hogy az berendezés az alábbiaknak megfelel:
	EU-konedirektiivit: 98/37/EG		EU-maskindirektiver 98/37/EG		EK Irányelvek gépekhez: 98/37/EG
	Sähkömagneettinen soveltuvuus 2004/108/EG		Elektromagnetisk kompatibilitet: 2004/108/EG		Elektromágneses zavarás/türés: 2004/108/EG
	Matalajännite direktiivit: 2006/95/EG		Lavvolts-direktiv 2006/95/EG		Kisfeszültségü berendezések irány–Elve:
	Käytetyt yhteensovitetut standardit, erityisesti: 1)		Anvendte harmoniserede standarder, særligt: 1)		2006/95/EG
	· · · ·				Felhasznált harmonizált szabványok, különösen: 1)
CZ	<b>Prohlášení o shodě EU</b> Prohlašujeme tímto, že tento agregát v dodaném provedení odpovídá následujícím příslušným ustanovením:	PL	<b>Deklaracja Zgodności CE</b> Niniejszym deklarujemy z pełną odpowiedzialnoscią że dostarczony wyrób jest zgdony z następującymi dokumentami:	RUS	5 Деклация о соответствии Европейским нормам Настоящим документом заявляем, что данный агрегат в его объеме поставки соответствует следующим нормативным документам:
	Směrnicím EU–strojní zařízení 98/37/EG		EC–dyrektywa dla przemysłu maszynowego 98/37/EG		Директивы ЕС в отношении машин 98/37/EG
	Směrnicím EU–EMV 2004/108/EG		Odpowiedniość elektromagnetyczna		Электромагнитная устойчивость 2004/108/EG
	Smernicim EU–nizké napěti 2006/95/EG		2004/108/EG Normie niskich nanieć 2006/95/EG		Директивы по низковольтному напряжению 2006/95/EG
	·		Wyroby są zgodne ze szczegółowymi normami zharmonizowanymi: <b>1</b> )		Используемые согласованные стандарты и нормы, в частности : <b>1)</b>
GR	<b>Δήλωση προσαρμογής της Ε.Ε.</b> Δηλώνουμε ότι το προϊόν αυτό σ' αυτή την	TR	<b>CE Uygunluk Teyid Belgesi</b> Bu cihazın teslim edildiği şekliyle aşağıdaki	1)	EN 809, EN 12100, EN 1717,
	κατάσταση παράδοσης ικανοποιεί τις ακόλουθες διατάξεις :		standartlara uygun olduğunu teyid ederiz:		EN 60204-1, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3,
	Οδηγίες ΕG για μηχανἡματα 98/37/EG		Elektromanyetik Uyumluluk 2004/108/EG		DIN 1989-1, DIN 1989-4
	Ηλεκτρομαγνητική συμβατότητα EG– 2004/108/EG		Alçak gerilim direktifi 2006/95/EG		
	Οδηγία χαμηλής τάσης EG–2006/95/EG		Kısmen kullanılan standartlar: <b>1)</b>		
	Εναρμονισμένα χρησιμοποιούμενα πρότυπα, ιδιαίτερα: <b>1)</b>				

i.V. Erwin Prieß

Quality Manager



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