

Gebrauchs- und Montageanleitung *Operating and installation instructions*

E-Kleindurchlauferhitzer
MBX 3..7 Lumino

E-mini instant water heater
MBX 3..7 Lumino



de > 2

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Note: Carefully read the enclosed safety instructions through in full before the appliance is installed, put into service and used and follow them in the further steps and during use!



Read these operating instructions carefully before installing and using the heater!

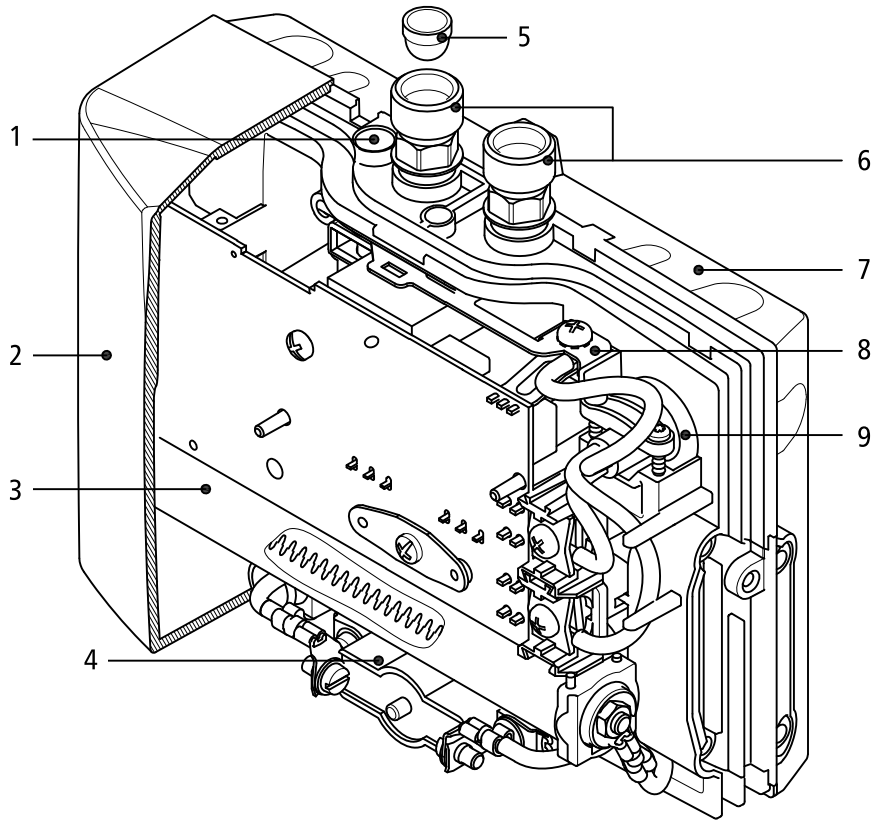


For installation and operation of the Lumino faucet please read the enclosed instructions!

1. Overview

When ordering spare parts, please always specify the appliance model and serial number.

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Pos.	Description
1	Adjusting screw for water flow rate
2	Hood
3	Heating cartridge
4	Safety temperature limiter
5	Filter
6	Water connector
7	Wall bracket
8	Safety earthing terminal
9	Cable grommet

2. Description of appliance

1



This instantaneous water heater (fig. 1) is exclusively intended to provide economical heating of water sufficient for a single outlet especially a handwash basin with the sensor faucet Lumino.

As soon as the sensor faucet is activated, the heater switches on automatically and heats the water as it passes through the appliance.

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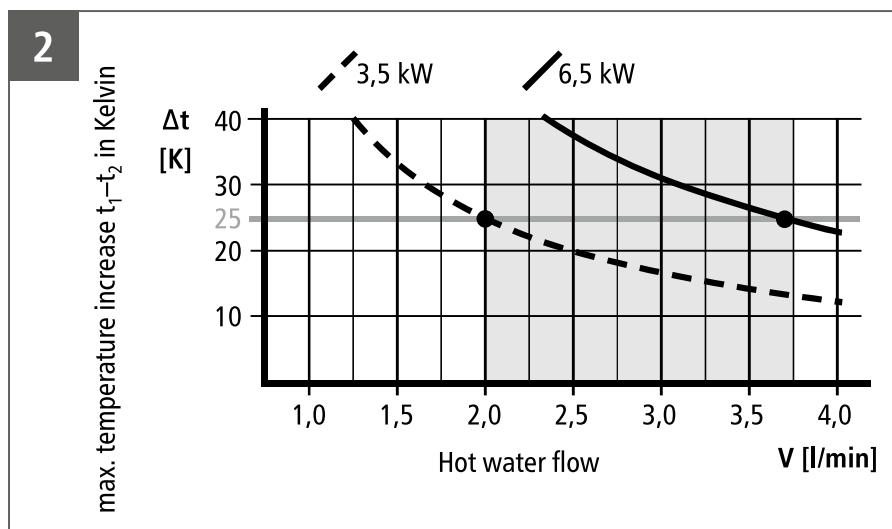
The temperature setting of the heater up to 42 °C takes place using the lateral lever on the tap. In contrast to conventional taps, the water is not mixed, but directly heated up to the desired temperature. When this temperature is reached, the electronic regulator reduces the power in order to ensure that the outlet temperature does not exceed this value.

If the flow rate is too low, if the flow pressure is too low, or if the warm-water tap is closed, the appliance switches itself off automatically. For an optimum flow of water, always fit the special jet regulator enclosed with the appliance. This regulator is inserted into the thread on the end of the tap and fits into any standard sleeve size M 22/24.

The maximum possible outlet temperature is determined by the temperature of the incoming water, the rate of flow and the heating power of the heater (see diagram). The flow rate can be preset (see chapter "Adjusting the water flow" on page 29).

In addition to this description of the instantaneous water heater, the description of the faucet needs to be observed.

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3. Technical specifications

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Type		MBX 3 Lumino	MBX 7 Lumino
Art. No.		15113	15117
Energy efficiency class		A ^{*)}	
Capacity	liter	0.2	0.2
Nominal pressure	MPa (bar)	1 (10)	1 (10)
Heating system		Bare wire heating system IES [®]	
Required water resistance at 15 °C	Ω cm	≥ 1100	≥ 1100
Electric supply		1/N/PE ~ 220 V – 240 V	2/PE~ 400 V
Nominal power rating		3.5 kW	6.5 kW
Nominal current		15 A	16 A
Temperature choice		cold – 42 °C	
Maximum inlet temperature		70 °C	70 °C
Factory flow setting at 3 bar		2.0 l/min	3.7 l/min
Maximum temperature increase at rated power and a flow rate of... ¹⁾	2.0 l/min	25 K	46 K
	2.5 l/min	20 K	37 K
	3.0 l/min	17 K	31 K
	3.5 l/min	14 K	26 K
	4.0 l/min	12 K	23 K
Required l/min to switch on	l/min	1.2	1.5
Required l/min to switch off	l/min	1.0	1.3
Min. required cable size ²⁾	mm ²	1.5	2.5
Weight filled with water		approx. 1.5 kg	
Dimensions (H × W × D)		13.5 × 18.6 × 8.7 cm	
Protection class acc. to VDE		1	
Type of protection according to VDE		IP 25	

^{*)} The declaration complies with the EU regulation No 812/2013. The product data sheet is attached at the end of this document.

¹⁾ Temperature rise (Kelvin) + cold-water temperature = maximum hot-water temperature (°C) ≤ 70 °C

²⁾ The cable size must not exceed 4 mm²



5. The following must be observed

The heater is installed as shown in the immediate vicinity of the outlet in a frost-free room. We guarantee trouble-free operation only if CLAGE fittings and accessories are used. Note the following during installation:

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- Installation must comply with DIN VDE 0100 and EN 806 and all statutory regulations, as well as those of the local electricity and water supply companies.
- Check technical data and the information on the rating plate under the cover (see chapter "Removing the cover" on page 28).
- Ensure that all accessories are removed from the packing materials.
- Easy access to the appliance shall be guaranteed at all times. An external shut-off valve has to be installed.
- Thoroughly rinse the water pipes before connection.
- Optimum operation is ensured at a water flow pressure of 0.2 to 0.4 MPa (2–4 bar). The appliance must not be subjected to pressure exceeding 1 MPa (10 bar).
- For safe operation of this instantaneous water heater, a non return valve is not required. If, nevertheless, a non return valve has to be installed, it may only be placed in the hot water outlet line behind the instantaneous water heater.
- The minimum requirements for the required water resistance must be complied with. The required water resistance of the can be obtained from your water supply company.

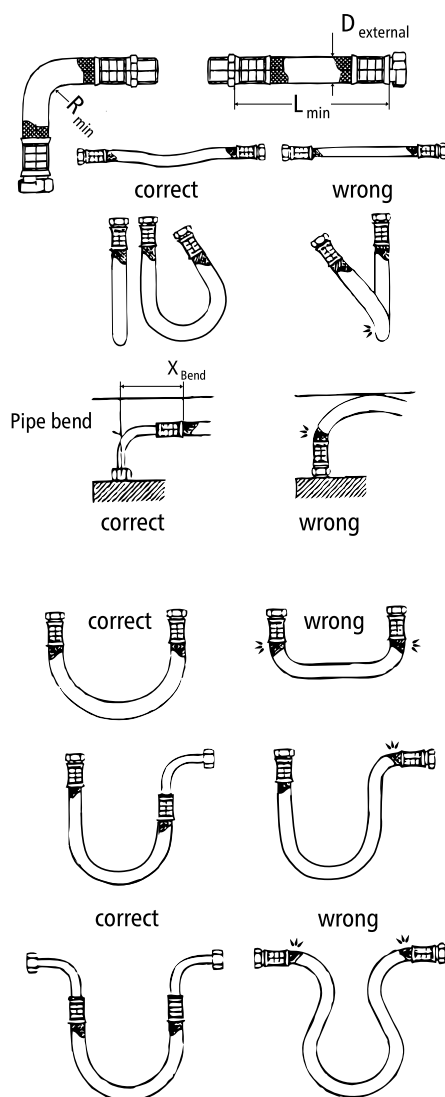
6. Flexible connecting hoses

Installation guidelines:

Hose DN	D _{external}	PN	R _{min}
8 mm	12 mm	20 bar	27 mm

Ensure sufficient equipotential bonding.

- The permissible bending radius $R_{min} = 27 \text{ mm}$ must be observed at all times, including during transport and assembly as well as when installed. If it is not possible to observe the minimum bending radius, a different installation method should be used or a suitable hose should be selected.



Please refer to the table for the minimum length:

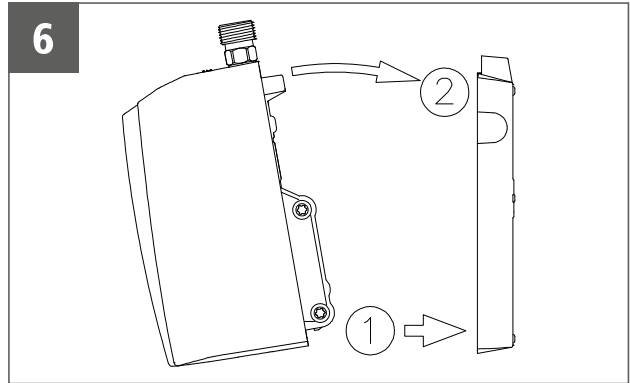
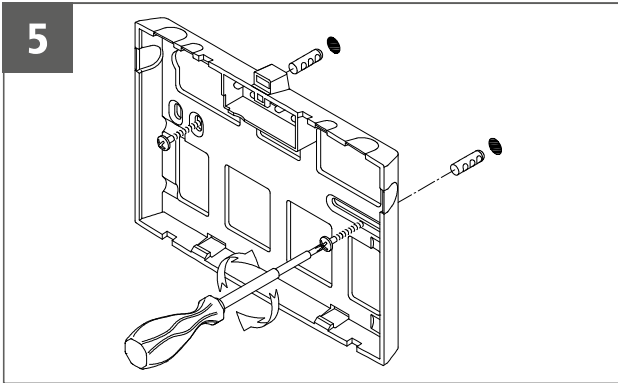
L _{min}	L _{min} α = 90°	L _{min} α = 180°	L _{min} α = 360°
60 mm	140 mm	180 mm	260 mm

- For curved installation there must be sufficient hose length available to form an open loop, as otherwise the hose will become kinked at the joints and thus destroyed.
- The hose length may change slightly due to the effects of pressure or heat. For straight installation, allowance should therefore be made to compensate for changes in the hose length.
- Never twist or kink the flexible connection.
- Ensure that the hose is never stressed by external tensile or compressive forces during assembly or when in use.
- Rigid connections (external thread) should not be further tightened after attaching the second connection, as this causes twisting and may damage the hose.
- The hose installer is always responsible for ensuring a tight joint.
- The installer should check any sealing material supplied with the hose to ensure that it is suitable, as the hose manufacturer does not know the connection material or geometry.

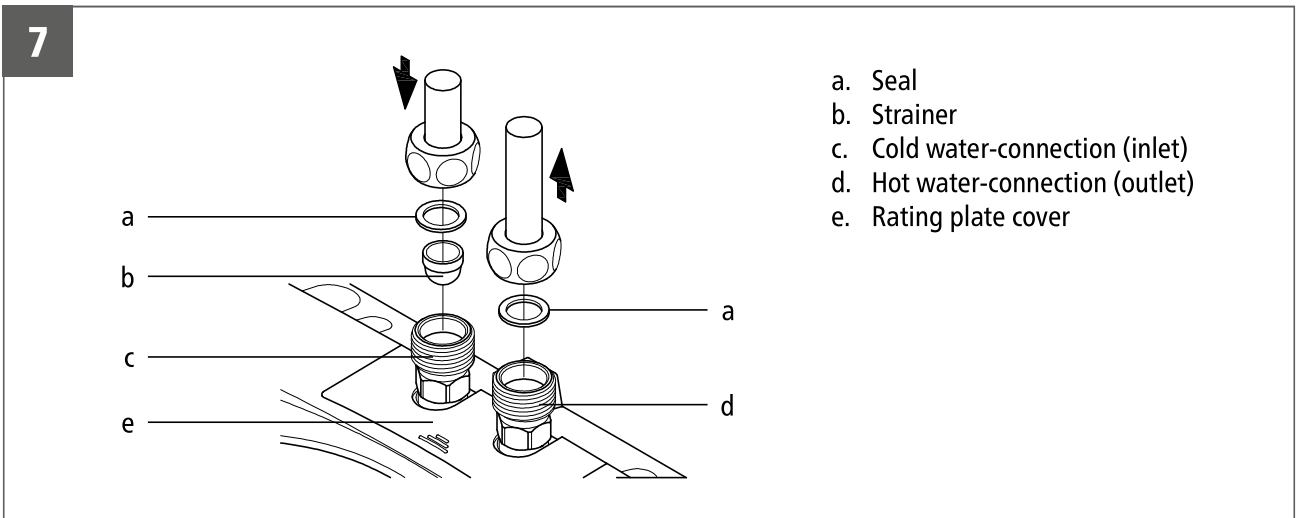
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7. Installing the appliance

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- Install the appliance with the water connectors vertically upwards for direct connection to the sanitary tap.
- Secure the wall bracket to the wall with screws and suitable wall plugs (fig. 5).
- Place the appliance on the wall bracket and snap it into position (fig. 6). The appliance may only be operated, when it has been properly placed into the wall bracket!
- Tap connection (fig. 7): Cold water inlet (blue) and hot water outlet (red) are marked on the rating plate (under the rating plate cover).
- Connect the appropriate pipe or hose of the sanitary tap with the red marked hot water outlet. Avoid exerting any kind of mechanical pressure exerted on the appliance, e.g. by water pipes etc.
- After installation, carefully check all connections for leaks and rectify as necessary.
- **In order to obtain an optimum water jet at low flow rates, always insert the enclosed jet regulator into the sleeve of the tap outlet.**

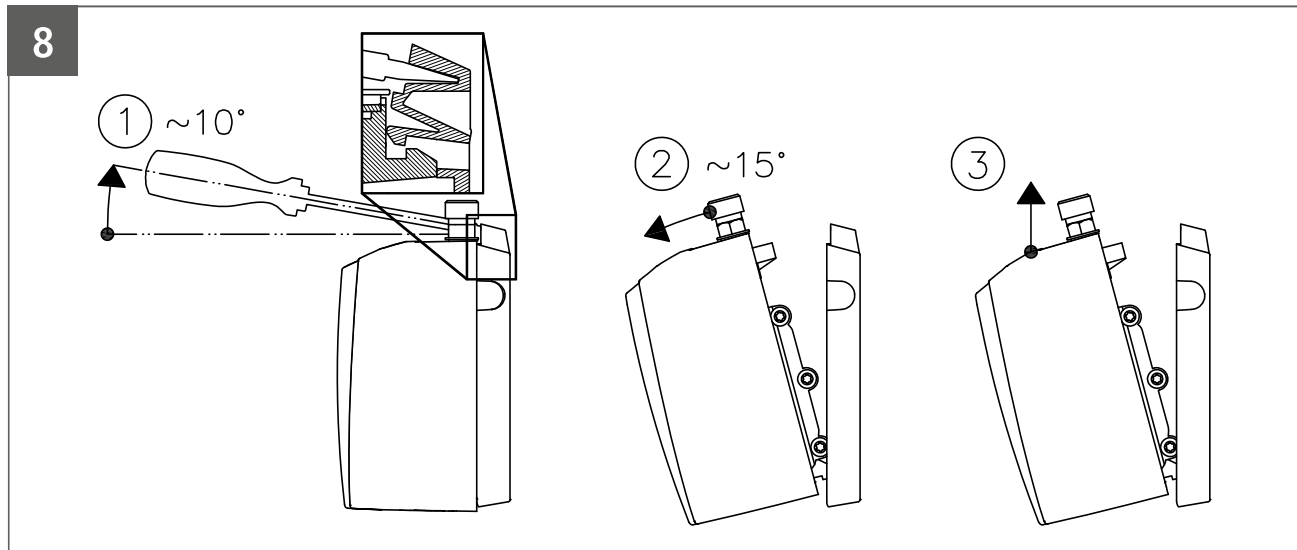


7. Installing the appliance

Removing the appliance from the wall bracket

Put the wide screwdriver tip into the interlock between the water connections until it stops, then press slightly upwards (1), tilt the appliance forward by max. 15° (2) and remove it upwards (3).

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8. Electrical connection

Only by a specialist!

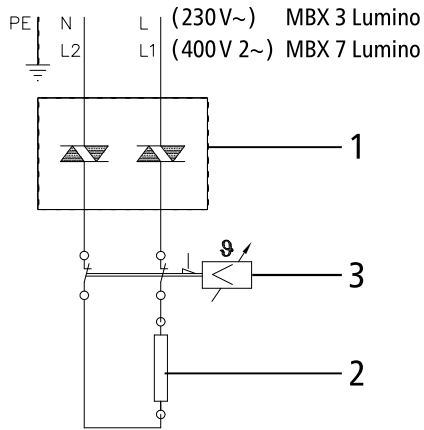
Fill the appliance completely with water by repeatedly opening and closing the hot-water tap before connecting to electrical power. The heating element may be damaged if this is not done!

- Check that the power supply is switched off prior to electrical connection.
- The MBX3 Lumino (3.5 kW) may be provided with a power cable and a protective earth plug by the factory. Please make sure that the feed cable, which leads to the protective earth plug socket, is dimensioned sufficient and that the socket is plugged to the conductor. The socket must be freely accessible. The power cable needs to be changed by the customer service department or an authorized electrician in case of defect, to avoid any danger.
- The mains cable of all other MBX Lumino models must be permanently connected via connecting box, as shown in the circuit diagram (see fig. 9). **The earth conductor must be connected.**
- In accordance with IEC, a circuit breaker with a contact opening gap of at least 3 mm for each pole must be provided on the mains side of the connecting box.
- The wiring cross-section must be well adapted to the corresponding power rating.
- To protect the appliance, a fuse element must be fitted with a tripping current commensurate with the nominal current of the appliance.

8. Electrical connection

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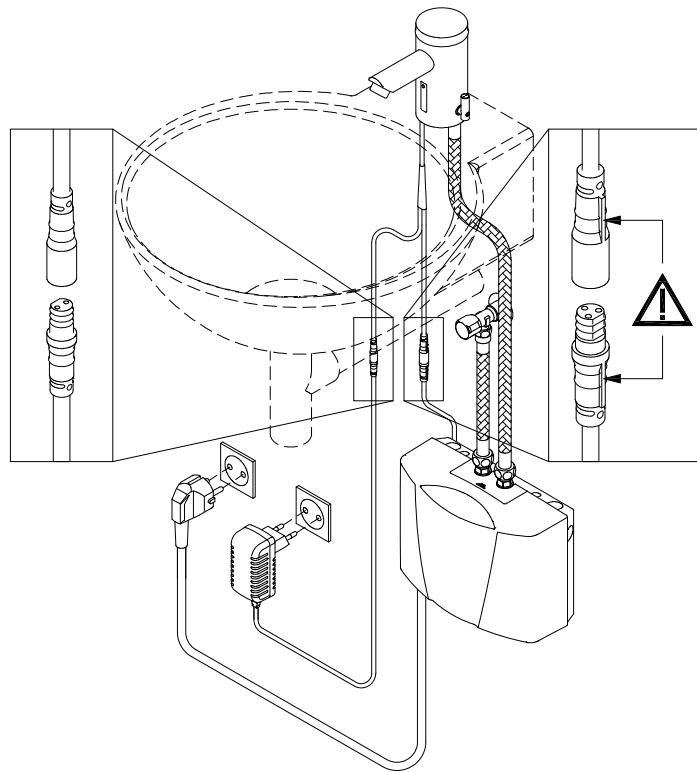
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Circuit diagram

- 1. Electronic regulator
- 2. Heating element
- 3. Safety thermal cut-out

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Plug the two-pin female connector of the power adapter into the socket of the tap.
 Plug the three-pin female connector from the MBX Lumino into the socket of the tap. Respect the anti-twist-protection. The strip on top of the connectors must be on the same side (fig. 10).

9. Purging

To prevent damage to the appliance, the instantaneous water heater must be purged of air before using it for the first time.

Each time it is emptied (for example after work on the plumbing system or following repair work on the appliance), the instantaneous water heater must be purged before it is used again.

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1. Switch off the power supply to the instantaneous water heater.
2. To purge the instantaneous water heater, open the hot water tap and wait until the water emerges free of air bubbles.
3. Switch the power supply back on again.



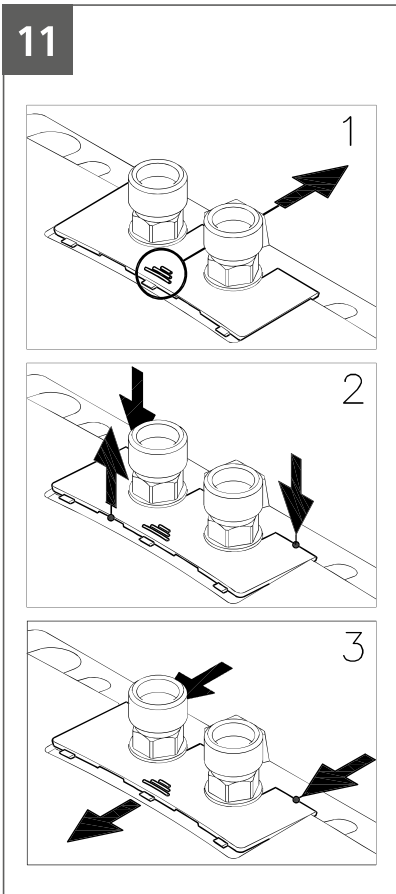
10. Commissioning

Do not switch on the electric power at this time!

1. Open the sensor faucet and allow water to flow until it emerges free of air bubbles.
2. Now close the circuit breaker to connect the electrical supply. After a short power-up delay of approx. 12 seconds, the water heats up.
3. Set the desired outlet temperature at the lateral lever and adjust the water flow rate, if, for example, the temperature cannot be reached.
4. Explain the functions of the heater to the user and ensure that he knows how to use it. Hand over these operating instructions to the user.
5. Use the registration card for the registration at the factory service centre or register the appliance online on the website www.clage.com.

11. Rating plate cover

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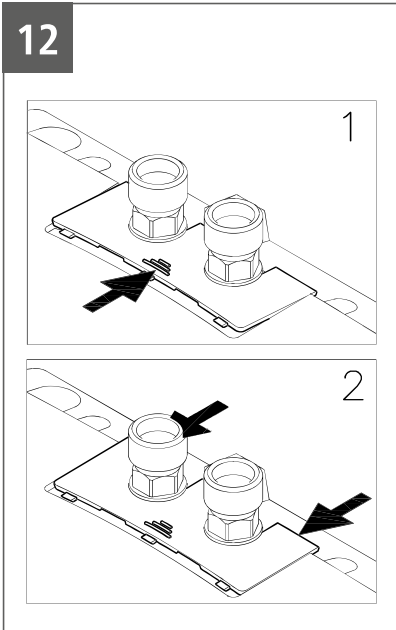
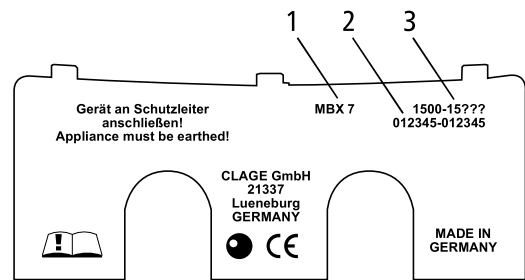
Removing the cover

The rating plate and the hood screw are located under this cover.

1. Push the cover at the corrugation towards the wall bracket.
2. Press the cover down at the rear corners until the front edge lifts.
3. Remove the cover by pulling forward.

Rating plate cover

On the inner part of the cover, you can find the name of the application type (1), as well as the serial number (2) and the article number (3).



Replacing the cover

1. Push the cover flat towards the wall bracket under the edges of the water connections.
2. Press down the front edge of the cover and push it forward again at the rear edge until it fits.

12. Adjusting the water flow

May only be carried out by a specialist.

Remove the cover (see Fig. 11), undo the hood screw underneath and remove the hood.

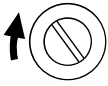

Decreasing the flow rate:

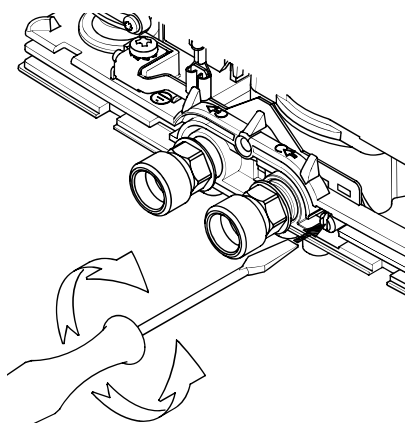
Turn the adjusting screw clockwise to decrease the flow rate, thus making a higher outlet temperature possible.

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Increasing the flow rate:

Turn the adjusting screw counter-clockwise to increase the flow rate, thus reducing the possible outlet temperature.

13	Direction	Flow	Temperature increase
		—	+
		+	—



13. Functions of the LEDs in the water heater

Green LED...

...flashes regularly	Standby mode
...lights on	Appliance is heating water

Red LED...

...lights on	Maximum power reached; the desired outlet temperature cannot be reached.
...flash code:	
long-short-long-short-long	Defective heating spiral
long-short-short-short	Faulty temperature sensor
long-short-long	Air bubble in system

14. Cleaning and Maintenance

- Plastic surfaces and fittings should only be wiped with a damp cloth. Do not use abrasive or chlorine-based cleaning agents or solvents.
- For a good water supply, the outlet fittings (e.g. jet regulators and shower heads) should be unscrewed and cleaned at regular intervals. Every three years, the electrical and plumbing components should be inspected by an authorised professional in order to ensure proper functioning and operational safety at all times.

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15. Environment and Recycling

Your product was manufactured from high-quality, reusable materials and components. Please respect in case of discarding that electrical devices should be disposed of separately from household waste at the end of their service life. Therefore, please take this device to a municipal collection point that return used electronic devices to the recycling system. Disposing it correctly will support environmental protection and will prevent any potential negative effects on human beings and the environment that could arise from inappropriate handling of these devices at the end of their service life. Please contact your local authority for further details of your nearest designated collection point or recycling site.

Business customers: If you wish to discard equipment, please contact your dealer or supplier for further information.

16. Troubleshooting and Service

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The following table will help you to determine and rectify possible problems.

Fault	Cause	Action
No water flows	Water supply is turned off	Open the main water valve and the shut-off valve
Water flows more slowly than expected	The jet regulator is not fitted	Fit the special CLAGE jet regulator
	Water pressure is not sufficient	Check the water flow pressure and then check the water flow adjustment
	Dirt in the pipes	Remove any dirt from the filter, valves and taps / check the technical data
The heater switches itself on and off	Water pressure is varying, flow rate is too low	Remove any dirt / increase the flow water pressure, close other taps, open the shut-off valve further
Water remains cold	Water pressure is not sufficient	Adjust the water flow, open the shut-off valve, fit the special CLAGE jet regulator, check water pressure
	Dirt	Remove dirt from the inlet and outlet
	Defective temperature sensor	Replace temperature sensor (authorized technician)
	Defective heating element	Replace heating element (authorized technician)
Hot water temperature varies	Supply voltage varies	Check the supply voltage
	Water connections mixed up	Check installation
Hot water temperature too low	Flow rate is too high or inlet temperature is too low	Adjust the flow rate (see chapter "Adjusting the water flow" on page 29).

If the connection cable is damaged, it must be replaced with an original spare cable from the manufacturer by an authorised technician in order to avoid any hazards.

If you cannot rectify the fault with the aid of the troubleshooting table, please contact customer service.

If you cannot rectify the fault with the aid of this table, please contact customer service.

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We can either give you the name and address of an authorised customer service company or repair the heater ourselves. In the latter case, please send in the heater (at your cost and risk) with details of the problem and a copy of the sales invoice.