

magnetic Demineralization

basic mobil mini

Instructions for Use



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The function

Heating and cooling systems use water as a medium for heat transfer. The water circulates from the place of heat production to the consumer units and back again. Even though the system always reuses the same water, limescale (calcium carbonate) and other aggressive substances that can damage modern components already get into the closed water system during the first filling.

The filling station removes limescale (calcium carbonate) and aggressive water constituents, like sulphates, nitrates and chlorides, from the filling water. The device works on the basis of a mixed-bed-resin ion exchanger and delivers a water in fully demineralised quality. That allows damage by limescale and corrosion in the heating system to be effectively prevented.

The filling station is equipped with precise measuring devices for the monitoring of the quality and quantity of the pure water production.

This method does not add any chemical additives to the water.

The device works without an external power supply.

Safety note:

Work with the filling station may only be performed by trained personnel.

The operating rules in accordance with these instructions must be observed.

The local regulations must be observed for the connection between sanitary systems and heating systems. A backflow preventer (shut-off valve) must also be installed on the inlet side of the filling station if the place of installation is subject to DIN EN 1717 (Germany).

The valves at the inlet and outlet must be kept closed and may only be opened for the duration of the system filling.

Demineralised water also contains dissolved gases, of which oxygen and carbon dioxide can trigger an initial corrosion process. The gases are forced out through the heating of the water and that is why a test heating of the system as quickly as possible after the filling is recommendable.

Connection type for system filling

This connection type is suitable for a direct filling of the heating system with demineralised water.

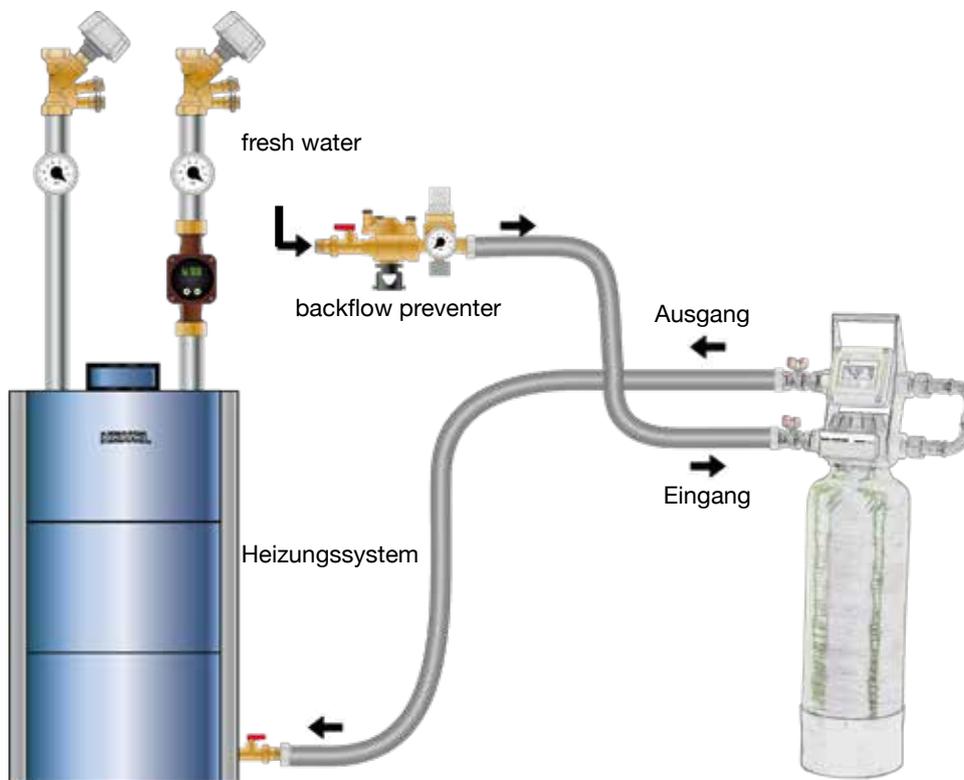
The inlet for the untreated water is located at the bottom left side, the outlet of the demineralised water to the heating system is located at the top left side behind the combined meter.

The filling station is equipped with a non-return valve. Untreated water cannot flow through the filling station in the case of an incorrect connection.

Safety note:

A backflow preventer must also be installed on the inlet side of the filling station if the place of installation is subject to DIN EN 1717 (Germany).

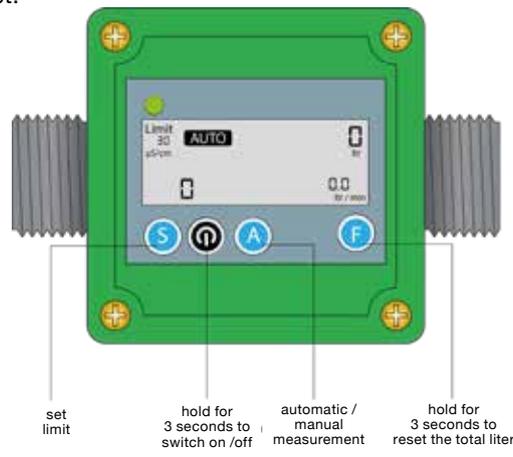
Flush out the water content of the station before each use because bacteria can form in the case of a long non-use. When doing that, also check that the water does not accidentally contain mixed bed resin.



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Operating the measuring computer

The combined meter is battery-powered. It measures the flow rate in l/min, the total flow in litres and the content of dissolved minerals, either in $\mu\text{S}/\text{cm}$ (microsiemens/cm) or TDS. It is also possible to set a limit for the maximum still tolerated mineral content in the demineralised water (outlet of the filling station). The limit value and the total quantity value can be reset.



Switching the conductivity value to TDS / Manual measurement of the conductivity

The factory setting of the measuring computer is electrical conductivity displayed in " $\mu\text{S}/\text{cm}$ ". To switch the measurement to TDS in „ppm“, briefly press the power button. The measuring computer now shows „ppm“ (instead of „ $\mu\text{S}/\text{cm}$ “).

Press the “A” key to display the current conductivity value ($\mu\text{S}/\text{cm}$). The maximum settable conductivity value is 1999 $\mu\text{S}/\text{cm}$.

Automatic monitoring of the conductivity / Set limit

Press the “S” key to set the limit value for the conductivity in the display. The increase step is 15 $\mu\text{S}/\text{cm}$. A longer pressing of the “S” key resets the value back to zero.

Switch to automatic mode after you have set a limit value. Do that by pressing the “A” key to first do a manual test. Then press the “A” key again to switch to the automatic mode. “Auto” will then be shown in the display.

The conductivity will then be measured again every 20 litres. The LED on the left above the display blinks green for 30 seconds if the measured value is below the previously set limit value. The LED will start to blink red and an alarm tone will be emitted if the measured value exceeds the set limit value.

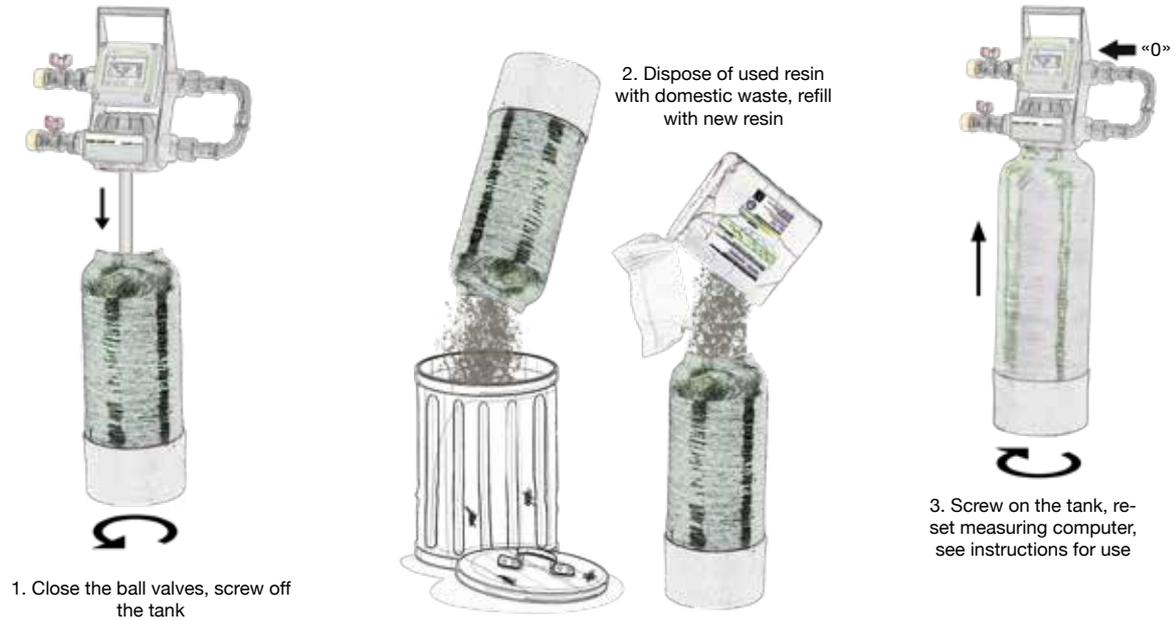
Switching between automatic and manual monitoring

Press the “A” key to switch from automatic to manual mode and thus reset the last measured value of the automatic monitoring.

i *Practical tip: When all basic settings have been made (automatic mode & limit) it is sufficient if the measuring computer is only switched **on** and **off** in practice. All settings are saved.*

Replacing the mixed bed resin

The resin must be replaced when the content of dissolved substances in the treated water, measured by the measuring computer, exceeds $30 \mu\text{S}/\text{cm}$ or 20 TDS.



Take care that no resin is spilled onto the floor. Danger of slipping. Spilled resin must be carefully and thoroughly removed.

The resin granulate is supplied in vacuum-sealed plastic bags. Opened bags must be quickly used. The resin can be stored in a cool and dark place. Improper storage can result in a capacity loss and bacteria formation.

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Capacity of the mixed bed resin

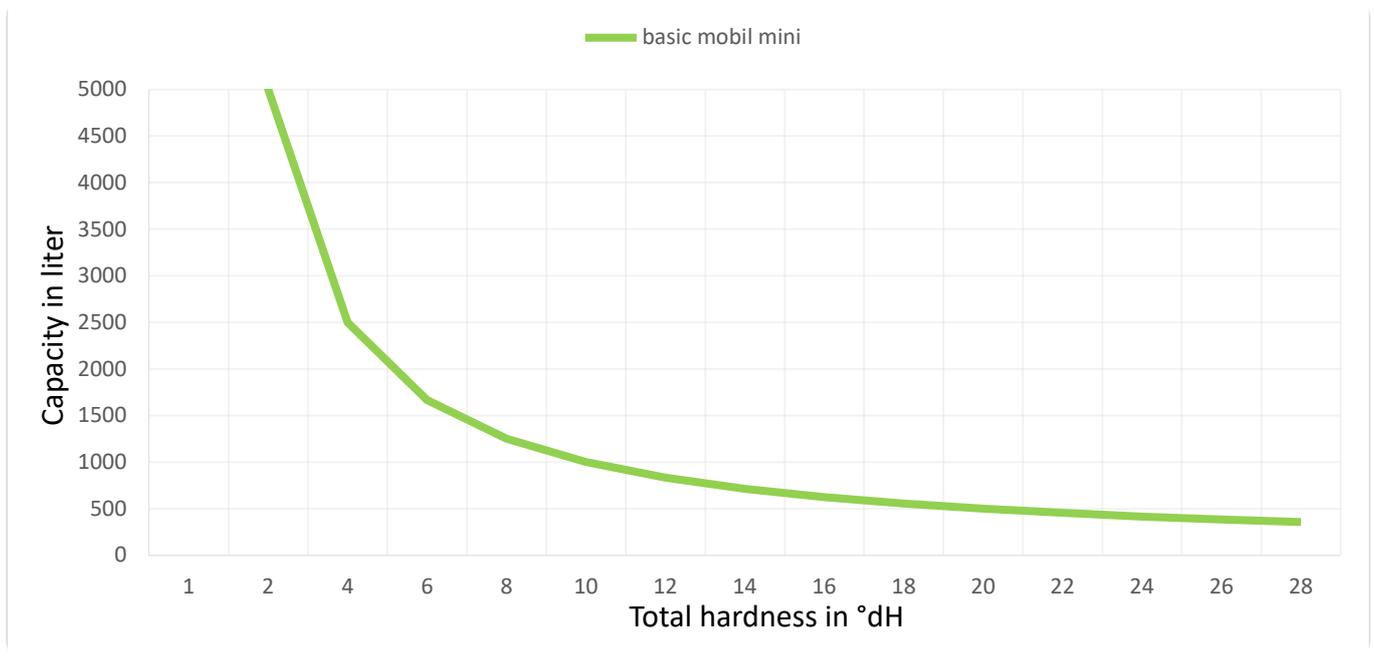
The capacity (range) of the mixed bed resin depends on the water hardness. It can be read from the diagram below or calculated with the capacity number of the amount of resin.

Fillstation	Capacity figure at 1° dH
basic mobil mini	10000 Liter

The capacity figure is used and divided by the raw water hardness in ° dH. The result is the capacity of the mixed bed resin in liter.

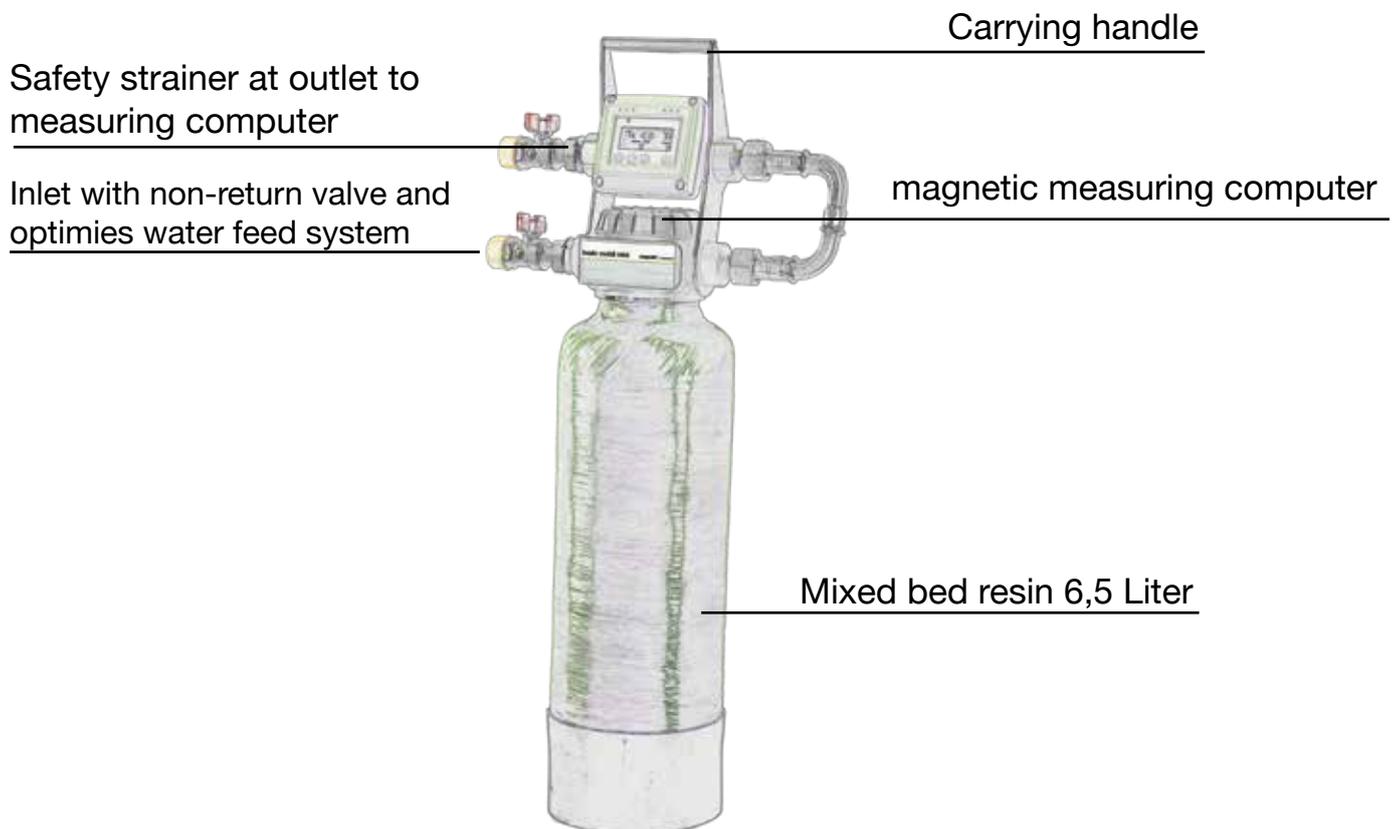


The conversion from $\mu\text{S}/\text{cm}$ to water hardness gives only an approximate value and is only possible for untreated drinking water. Other water types contain not only limescale (calcium carbonate) but also other dissolved minerals. The capacity would then be less because the filling station removes all minerals.



Technical Data

Capacity 12,5 Litres filling	10000 litres at 1°dH / 1000 litres at 10°dH
Max. flow rate	420 litres/h at 3-4 bar supply pressure
Test pressure	6 bar
Screw coupling	DN 20 / ¾ outer thread
Total height:	710 mm
Weight ready-for-use	9 kg



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Troubleshooting

Fault

No display or battery symbols appears

The resin is exhausted quicker than calculated

Solution

Low battery power alert

The “battery” symbol on the display will blink when the batteries are drained. The last measured and displayed value and the settings will be stored and recovered when the battery replacement is completed.

Inserting/replacing the batteries

Remove the four front screws of the housing (see illustration below) and insert three batteries (AAA alkaline) into the battery holder. The front part of the housing can be turned by 90° or 180° if desired before fastening with the screws..



Video



Loss of capacity

There is probably no fault. It could be that the untreated water contains not only limescale (calcium carbonate) but also other dissolved substances (sulphates, nitrates, chlorides) which are removed and thus reduce the capacity.

Notes

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