



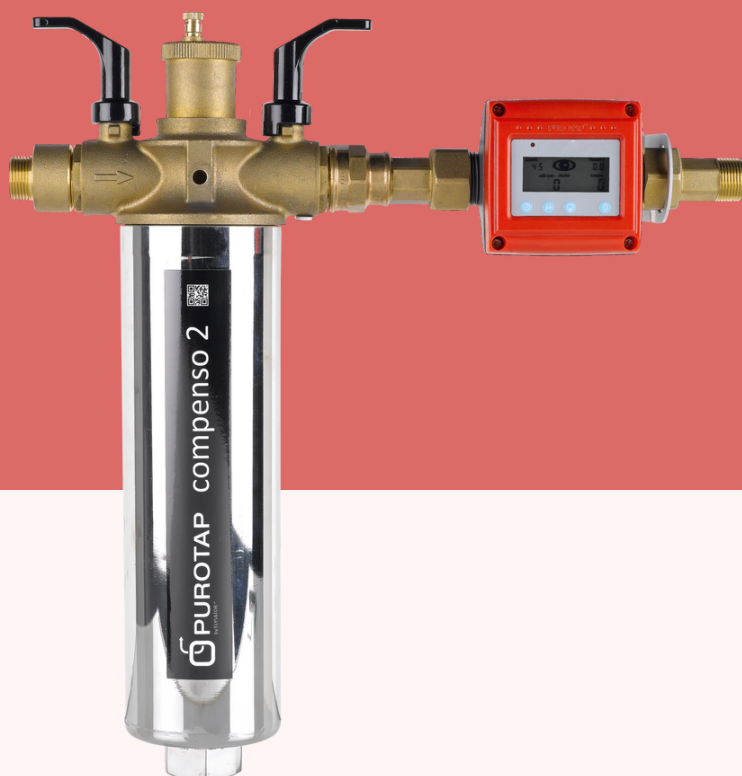
ecopipe

Demineralised heating water

PUROTAP COMPENSO 2

2023

Refill appliance



Installation

Function

Operation

Service

Minerals and salts in sealed water circuits cause corrosion and deposits.

PUROTAP filters the aggressive substances out of the fill water to enable trouble-free operation.

Reliability due to desalinated water for heating systems to VDI 2035 and SWKI BT 102-01



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WHY DO WE DEMINERALISE THE FILLING WATER OF HEATING & COOLING SYSTEMS?

Modern heating systems are sensitive to hard and corrosive filling water. Increased heating loads and more compact heat exchangers result in higher surface temperatures and thus in the formation of limescale build-up, which then prevents a good heat transfer and could limit the efficiency or lead to premature failures and malfunctioning of the system. In addition, materials such as aluminium or stainless steel are also very sensitive when it comes to an improper composition of the water.

For these reasons, many heating and cooling equipment manufacturers require the use of conditioned filling water, the most common to ensure compliance with the guideline VDI 2035 part 1.

The main aim of Guideline VDI 2035 is to prevent scale formation and water-side corrosion damage.

To reach these goals, the Guideline foresees different procedures, demineralisation, hardness stabilisation, and stabilisation of the pH and is applicable to the process of heating water conditioning for water heating installations in accordance with DIN EN 12828 within buildings when the flow temperature does not exceed 100°C.

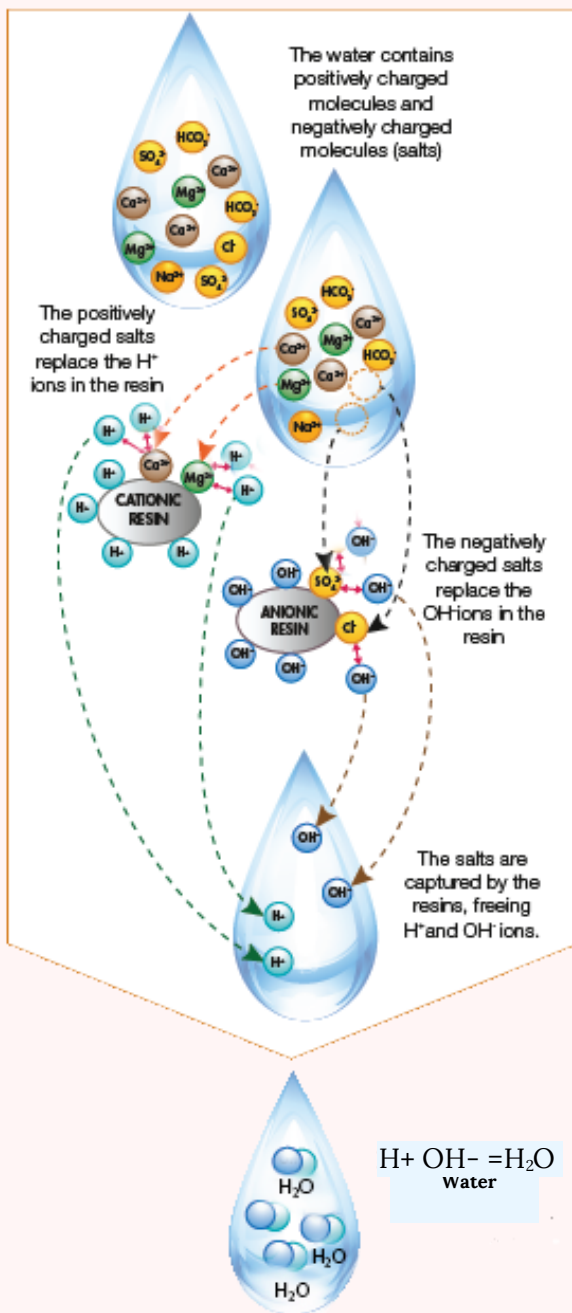


Limescale on surfaces lead to high temperature differences in the heat exchanger itself - thermal stress causes cracks with leaks.



Limescale in a heating pipe, significant reduction in diameter.

PROCESS OF DEMINERALISATION



The resin beads have two types of ion exchange with the untreated water. As the untreated water passes through the Compenso, positively charged ions from the water will swap with positive hydrogen ions on the resin (cation exchange).

Similarly, negative ions in the untreated water will swap with negative hydroxyl ions on the resin beads (anion exchange).

The ions will be exchanged until none is left in the water other than hydrogen and hydroxyl ions, making H_2O , demineralised water.



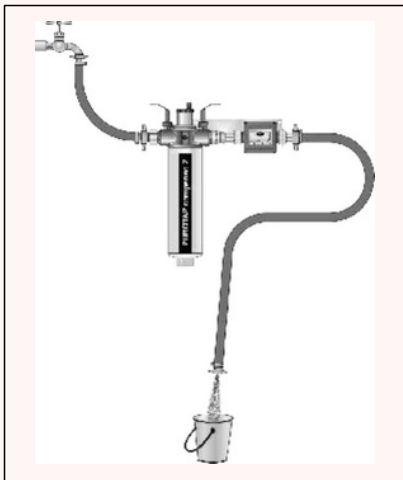
FUNCTION

The PUROTAP Compenso filters lime and aggressive substances such as sulphates, nitrates, and chlorides out of the fill water. The appliance uses a mixed bed ion exchangers to provide demineralised, fully desalinated water for any system size. This method does not emit any chemical additives into the water. The appliance operates without an external power connection.

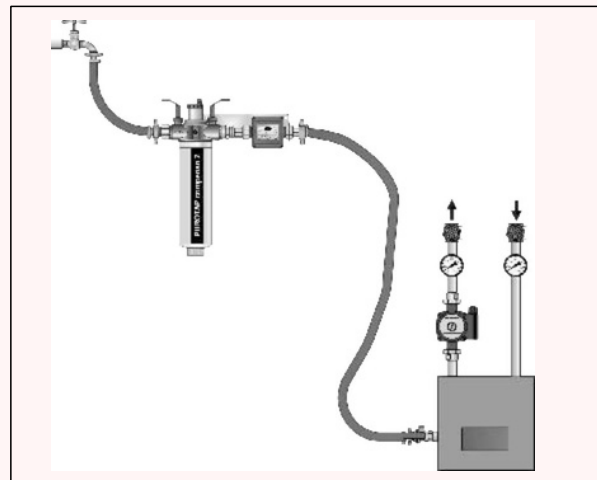
USE WITH A HEATING SYSTEM FILL HOSE

If the PUROTAP Compenso is occasionally used to refill the heating system via a fill hose, the cartridge should be pre-flushed with fresh tap water in order to displace the initial flow water. In doing so, it is important to check full desalination via the integral combined meter. When the system is then filled, the fill hose must be first bled, in other words, filled with water to prevent air entering the system via the fill valve.

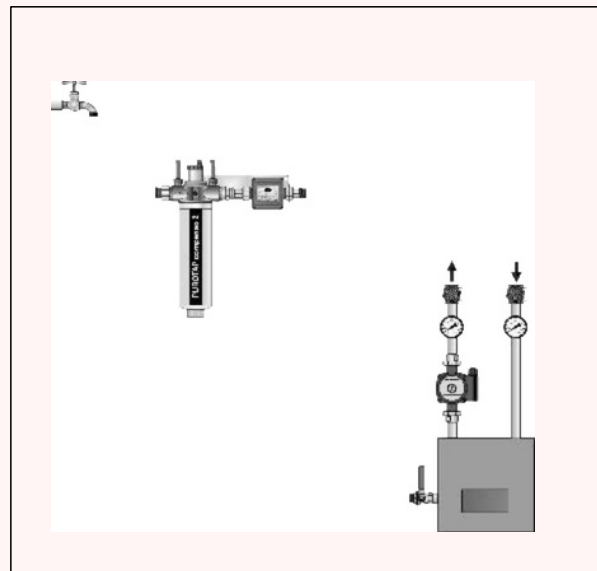
1. Flushing the cartridge



2. Refilling the heating system



3. Close valves : remove hoses



Safety instructions

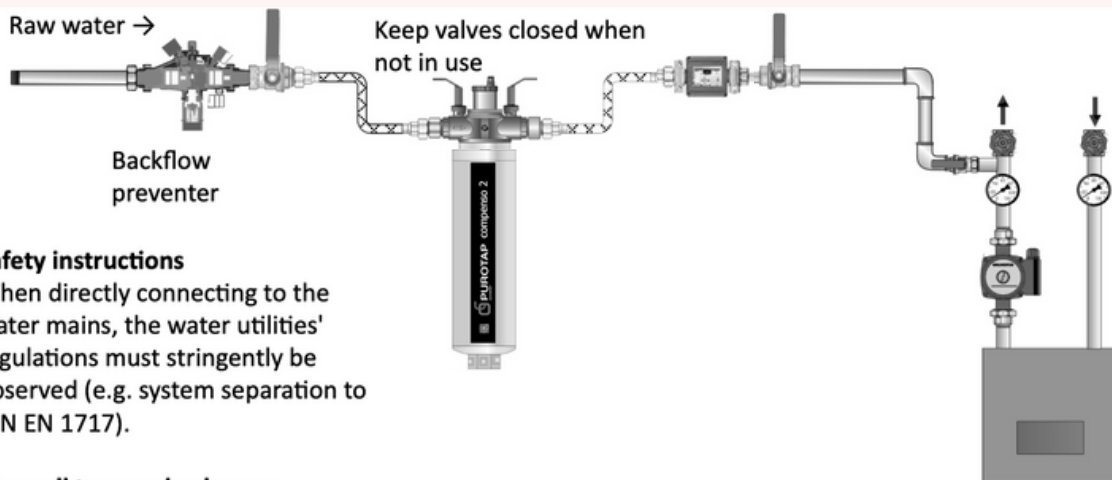
PUROTAP Compenso should be pre-flushed with approx. 2l water before each use in order to displace the initial flow water. It is not permissible for a heating system fill hose to remain permanently connected. The refill appliance should never be left unattended whilst in use. Where DIN EN 1717 is applied (Germany), observe the regulations, regarding system separation.

After use, always close the freshwater tap, the shut-off valve on the PUROTAP and the boiler fill valve and remove the fill hose.

The ion exchange resin in the cartridge must not enter the heating system. As a precaution, a fine filter is fitted in the outlet which must not be removed.

PERMANENT CONNECTION

SIMPLE PERMANENT CONNECTION:

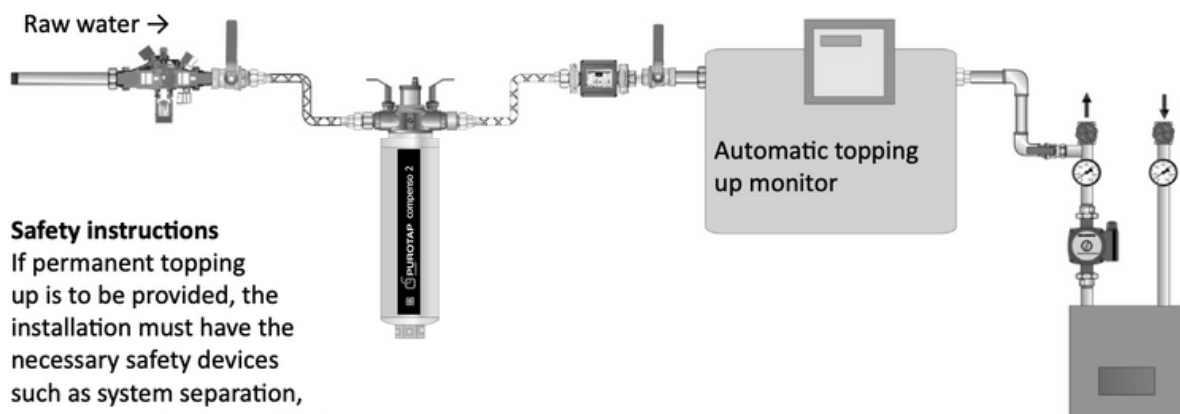


Safety instructions

When directly connecting to the water mains, the water utilities' regulations must stringently be observed (e.g. system separation to DIN EN 1717).

Close all taps and valves on the heating and drinking water networks after use.

PERMANENT CONNECTION IN COMBINATION WITH AUTOMATIC TOPPING UP



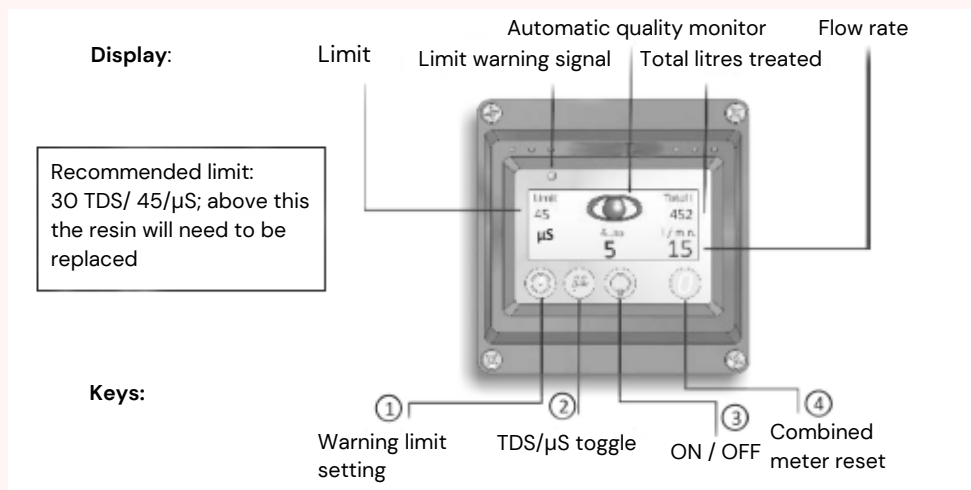
Safety instructions

If permanent topping up is to be provided, the installation must have the necessary safety devices such as system separation, pressure monitoring and leak protection.

Install the PUROTAP® compenso upstream of the topping up monitor.

OPERATING THE COMBINED METER

The combined meter is battery-operated. It measures the flow rate in l/min, the total volume in litres and the concentration of dissolved minerals (electrical conductivity), either in micro siemens or TDS. In addition, a limit can be set for the maximum concentration of minerals tolerated in the demineralised water. The limit and flow rate total can both be reset.



- 1 Every time this key is pressed, the limit is increased by 10 TDS or 15 μS/cm. Pressing the key for 3 seconds resets the limit to zero. Programming the limit ensures that a warning is issued when the ion exchange resin is spent.
- 2 This key can be pressed at any time to switch between TDS (total dissolved solids) and electrical conductivity. Both are units of measurement for minerals dissolved in water. Most European component manufacturers use the unit of measurement μS/cm (micro siemens).
- 3 If the ON key is pressed once, the water quality is measured for 10seconds and compared to the set limit. The measured value is shown. If it is above the limit, the LED glows red; if it is below, the LED glows green while the measurement is being taken. If required, the measurement can be repeated manually.

Auto mode: If the ON key is pressed twice the combined meter begins automatic monitoring. The eye symbol appears to indicate that monitoring has been enabled. In auto mode, the meter only takes measurements when water is actually passing over it. If the water draw-off is interrupted, the meter continues to show the last captured value.

While water is being drawn off, the combined meter measures the water quality every 40 litres. If the limit is exceeded in two successive measurements, the display continuously flashes red. This indicates that the ion exchange resin is spent and needs replacing. If the ON key is pressed for a third time, the meter exits auto mode

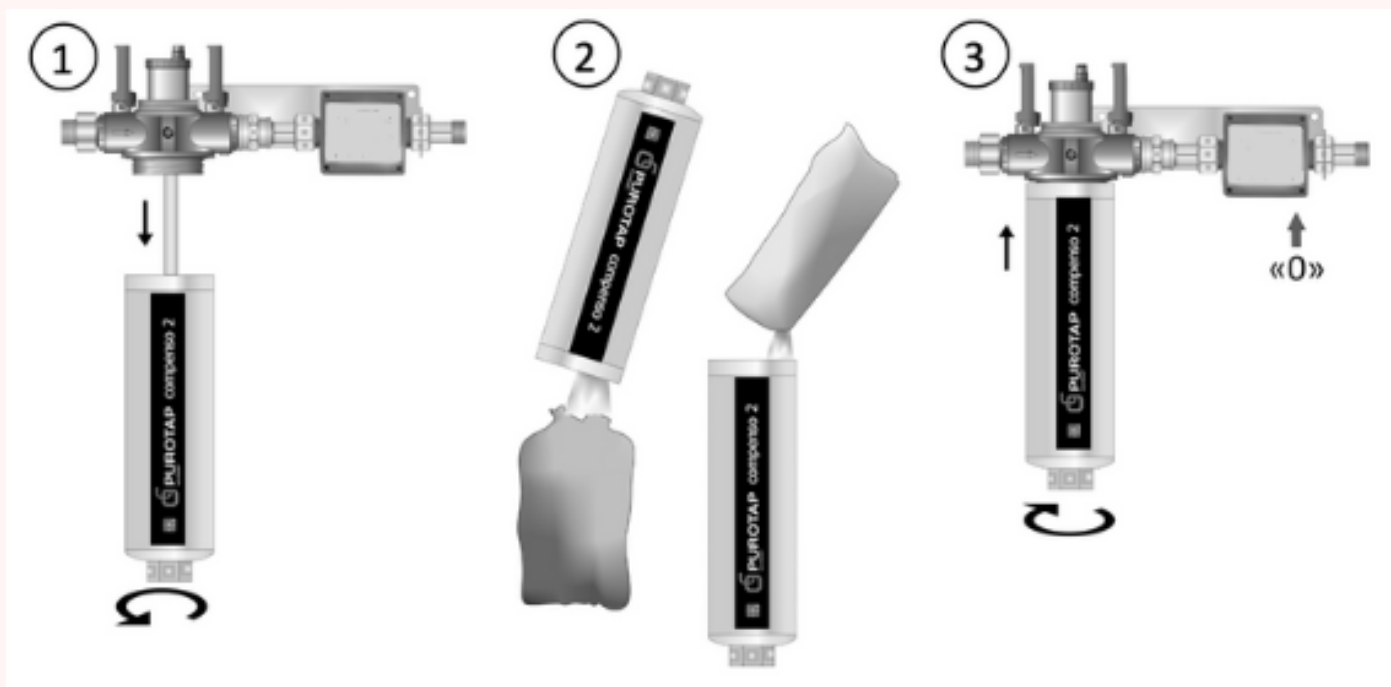
- 4 Pressing the reset key for 3 seconds resets the overall total on the meter. This is recommended every time the resin is replaced, as it gives a reference point for the remaining capacity of the ion exchange resin.

When the combined meter displays the symbol indicating a battery change is due: Carefully unscrew the front and replace the batteries. 3 x AAA.



REPLACING RESIN & CAPACITY OF ION EXCHANGER

REPLACING THE RESIN

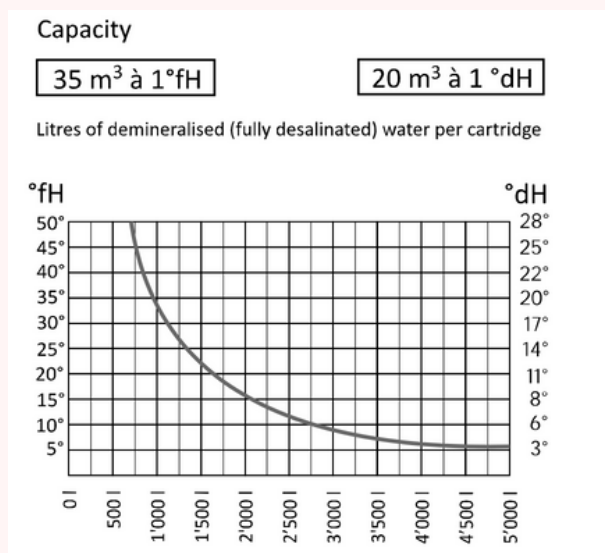


1. Close the ball valves, unscrew the canister
2. Dispose of spent resin, fill in new resin
3. Screw on the canister, reset the combined meter to "0".

CAPACITY OF THE ION EXCHANGER

The capacity of the ion exchange resin depends on the water hardness. The capacity can be read off the adjacent table or calculated using the capacity figure given for the quantity of resin. The PUROTAP Compenso 2 resin filling has a capacity of 4500l at 1 °fH or 2500l at 1 °dH.

If using the German hardness scale, take the number 2500 and divide this by the water hardness in °dH. If using the French hardness scale, take the number 4500 and divide this by the water hardness in °fH. The result is the capacity of the resin in litres of water. For example: If the water hardness is 12.5 °dH, the capacity of the resin will be exactly 200 l of demineralised water.



TECHNICAL SPECIFICATION



PUROTAP Compenso, refill appliance for the production of fully desalinated heating water to the latest guidelines (VDI 2035 and SWKI BT 102-01), based on ion exchange. Resin vessel in stainless steel with floor or wall mounting bracket. Head section with integral shut-off valves and air vent valve. Resin can be easily replaced by the user on site.

Integral combined meter for measuring flow rate, total volume, water quality and for limit control. Battery operated with automatic switch-on function.

Suitable for permanent connection in conjunction with specific regulations and engineering guidelines (e.g. DIN EN 1717).

	Annual demand	Capacity at 1 °dH	Capacity at 1 °fH	Delivery capacity	Operating pressure	Max. temp
Compenso 2	< 250l	2.5m ³	4.5m ³	2.5l/min	< 4..5 bar	60°C

	Installed length	Height	Empty weight	Resin filling
Compenso 2	45cm	46cm	5kg	1.75l



Environmental Culture Change

be a part of it



clean | protect | prevent



PUROTAP BY **ELYSATOR**



engineering water



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In line with continued product development, we reserve the right to make any changes to this document without any given notice.