



Instructions for use

ConnectionCenter 3228 All-in-one

Field of application

The connectionCenter 3228 All-in-one is used as the basis for refillable cartridges.

It supplies either softened, fully demineralised or demineralised water with pH value stabilisation for heating systems in accordance with VDI Guideline 2035 Part 1 and protects heating systems against lime deposits.

It is also used to automate the filling process in hot water heating systems.

The built-in BA backflow preventer according to DIN EN 1717 prevents the heating water from flowing back into the drinking water pipe.

In this combination, the direct fixed connection of drinking water to the heating system is approved according to DIN EN 1717.

The integrated pressure reducer ensures the correct and constant pressure of the system.

Design

The Connection Center All-in-one contains a digital capacity control, a shut-off valve on the inlet and outlet side, a sampling connection for soft water, a hardness measuring set, a wall bracket for installation, a BA backflow preventer according to DIN EN 1717, tundish, testing devices and a pressure reducer. Setting range of the pressure reducer between 1 and 5 bar. Screw connections on both sides.

Please order the already filled cartridges, which are available in 2.5, 4, 7, 14 and 30 litre versions for HWE (heating water softening) HVE (heating demineralisation) and HVE Plus (pH value stabilisation) and can be refilled with the corresponding granulate.

A conductivity sensor and pressure sensors are already integrated in the digital capacity control.

The built-in pressure reducer ensures a constant set output pressure so that the heating system is protected against unwanted overpressure during the filling process.

Housing made of pressed brass. Internal parts and tundish made of high-quality plastic and NBR.

The plastic parts and elastomers in contact with the drinking water comply with the KTW guideline of the Federal Environment Agency.

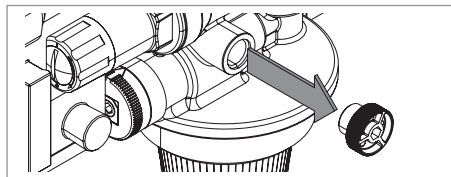
Installation

Mount the wall bracket on the wall.

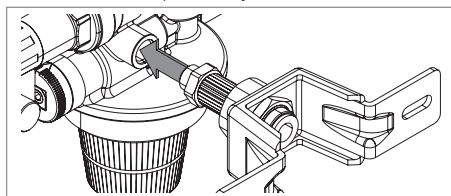
Make sure that the water supply line is installed in such a way that stagnation does not occur and that the escaping water can drain off with a free gradient.

Flush the pipe carefully before installing the connection centre.

Remove the pressure gauge plug.

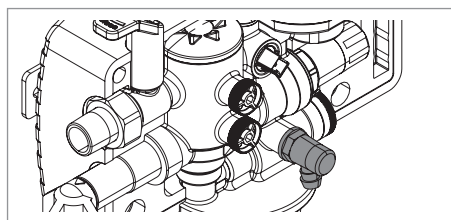


Attach the wall bracket at this point of the connection centre and lock it in place using the screw connections.



The wall bracket optionally can be mounted on both sides.

Mount the drain valve on the other side.



An easily accessible installation location simplifies maintenance and inspection. Make sure that the location is protected against flooding and frost and is well ventilated. The drain pipe must be provided with sufficient capacity.

In order to ensure permanent and perfect functioning, we recommend the installation of a drinking water filter according to DIN EN 13443, Part 1 immediately after the water meter.

The maintenance intervals of the BA backflow preventer must be observed. For connecting the tundish to the drainage system, the applicable standard DIN EN 12056 must be observed.

Note: When using the 14 and 30 litre cartridges, the strainer in the connection centre is not required and can be removed! The cartridge is screwed directly onto the Connection Center.

Please remove the O-ring on the connection center before mounting these cartridges.

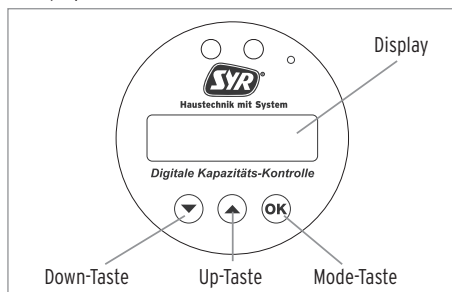
(See separate instructions for the 14 and 30 litre cartridges 9.3200.43)

Preparation HWE / HVE / HVE Plus

Use the hardness measuring set to determine the raw water hardness. Draw raw water from any tap in front of the heating system and measure the hardness of the water.

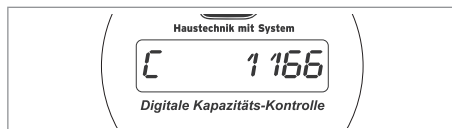
Digital capacity control

The digital capacity control contains the following elements or displays:



The display is switched off on delivery.

Press any key to switch the display on (the version number is displayed and the remaining quantity of the standard setting 1166 litres).



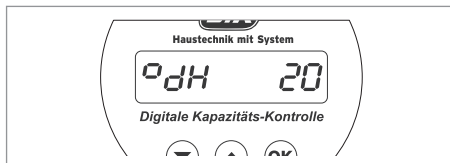
Start-up

To start commissioning, press **OK** for at least button for at least 3 seconds.



Adjust raw water hardness

You are asked to enter the raw water hardness:



Press the **↓** - or **↑** button to change the value and press **OK** to save.

Cartridge selection

Next, you must specify the cartridge used in two steps.

First select the type of water treatment (HWE, HVE, HVE plus) with the **↓** - or **↑** button and save with the **OK** button.



Select the size of the cartridge (2.5, 4, 7, 14 or 30 litres) with the **↓** - or **↑** button and save with the **OK** button.



Adjust soft water hardness

The desired soft water hardness is queried.

Attention: This query is not necessary if you are using a HVE cartridge!



Press the **↓** - or **↑** button to change the value and press **OK** to save.

Before filling, check the initial hardness of the water by drawing 2-3 litres of water through the drain valve and check it with the hardness measuring set.

If necessary, adjust the soft water hardness setting.

Adjust Conductance monitoring

Attention: This query only appears when using the HVE / HVE Plus cartridge!

You have the option to switch off conductivity monitoring (OFF) or to activate it.



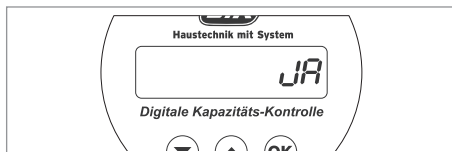
When conductivity monitoring is activated, you can set limit values from 10 - 200 µS.



Press the - or button to change the value and press to save.

Cartridge replacement

Finally, indicate whether the cartridge has been changed or refilled.



Press the - or button to confirm (Yes) or reject (No) the cartridge change.

If you have selected „Yes“, press the button for 3 seconds to confirm the cartridge change and to save the change.

The following confirmation appears:

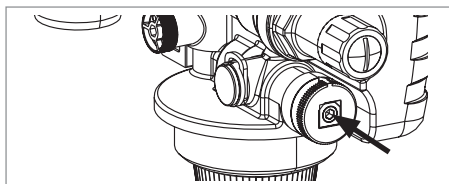


After all settings have been completed, the display shows the newly calculated residual quantity in litres.

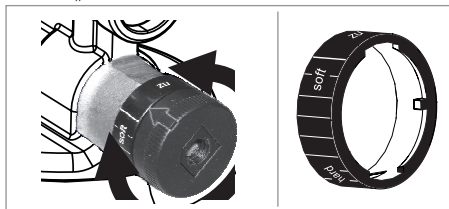
Note: After each cartridge change, the settings „Raw water hardness“, „cartridge“, („Soft water hardness“) must be made again!

Adjustment for HWE

Set the desired mixed water hardness at the blending valve.



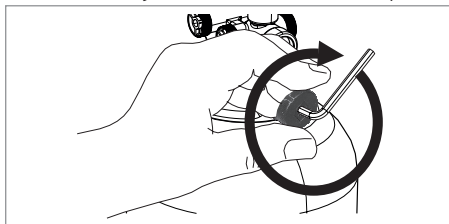
For soft water set in direction „Soft“, for harder water set in direction „Hard“.



Adjustment for HVE

Deactivate the blending valve by turning the spindle clockwise all the way in with a hexagon socket.

Hold the outer ring (with the indicator arrow) firmly.



Note: When the blending valve is closed, raw water is no longer mixed in!

The system can now be filled.

Displays

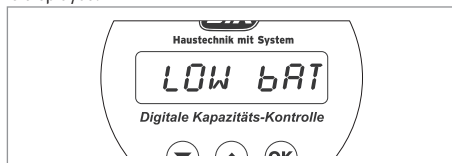
During filling, the display shows the current volume flow.



If there is no flow, a simple press of the **OK** button displays the volume recorded so far since the last cartridge change.



If the battery needs to be replaced, the following message is displayed.



To replace the battery, unscrew the cover and replace the battery (CR-2032). **Pay attention to the correct polarity!**

When the capacity of the cartridge is almost exhausted (10 - 1 % remaining capacity) the message „**Cartridge almost exhausted**“ is displayed

When the cartridge is completely exhausted, the message „**Cartridge exhausted**“ appears - the cartridge must be replaced!

Adjustment of pressure reducer

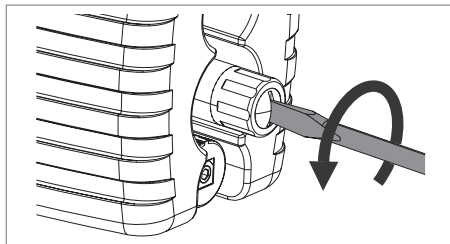
Before you can fill the system with treated water, the pressure reducer may have to be adjusted.

The pressure reducer of the Connection centre All-in-one is factory set to 1.5 bar.

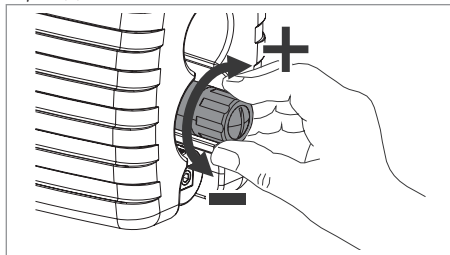
Please note that the inlet pressure must be at least 1 bar higher than the desired outlet pressure.

The pressure reducer can be adjusted as follows:

Unscrew the locking screw of the pressure reducer with a screwdriver.

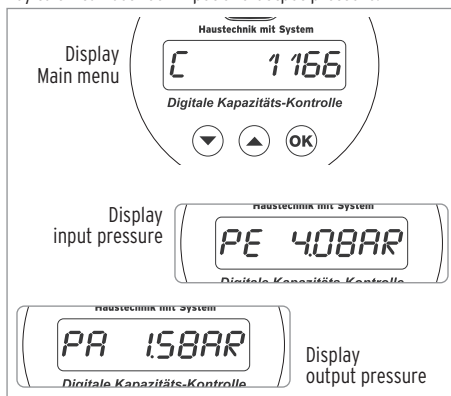


To decrease the filling pressure, turn the adjustment handle in the direction of minus (-) and to increase in the direction of plus (+).



The set pressure and the pressure of the heating system is displayed in the digital capacity control.

Press the **DOWN** button 3 times in the main menu. Use the **OK** key to switch between input and output pressure.



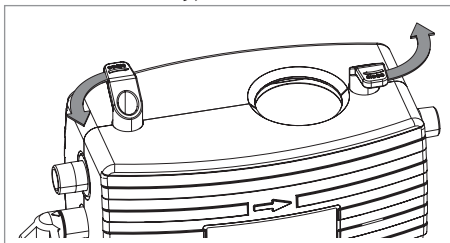
Note: Please note that the heating pressure is lower than the desired filling pressure.

If necessary, reduce or increase the pressure of the heating system to the desired filling pressure.

After adjustment, retighten the locking screw to prevent accidental adjustment.

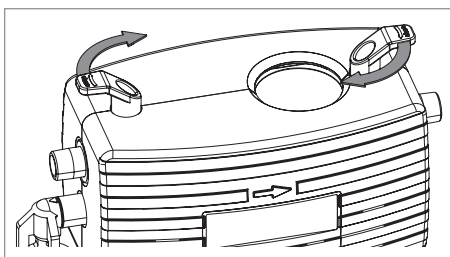
Filling the heating system

Open the two shut-off valves of the Connection centre All-in-one to start the filling process.



The ball valve on the inlet side can be turned by 180° to simplify maintenance of the strainer.

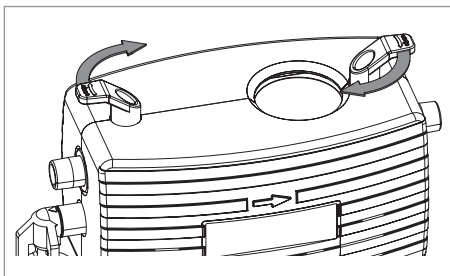
Close both shut-off valves after completing the filling process to prevent uncontrolled refilling.



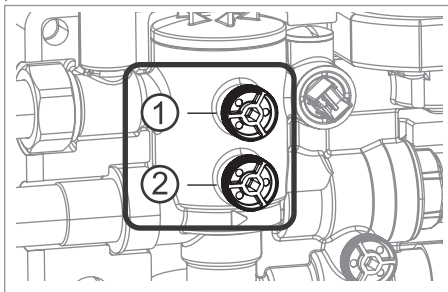
Maintenance - Checking the separation of the backflow preventer

The isolating function as well as the function of the output check valve must be controlled annually in accordance with DIN EN 806, part 5, to ensure that the backflow preventer works properly.

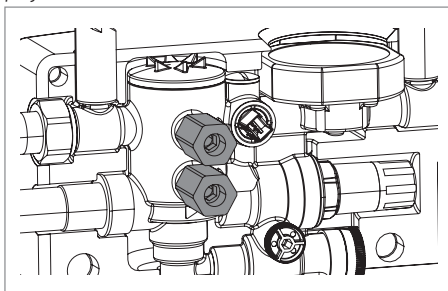
Close both shut-off valves for inspection.



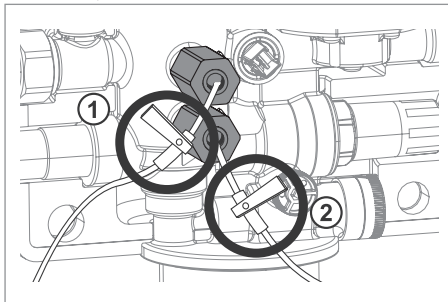
Remove the manometer plug of the inlet and intermediate pressure zone (1 + 2).



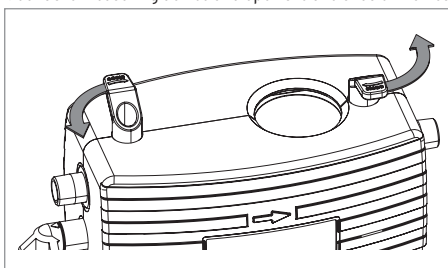
Install the maintenance ball valves in place of the manometer plugs.



Mount the needle valves of the measuring instrument (e.g. 6600.00.000) to the maintenance ball valves 1 + 2.

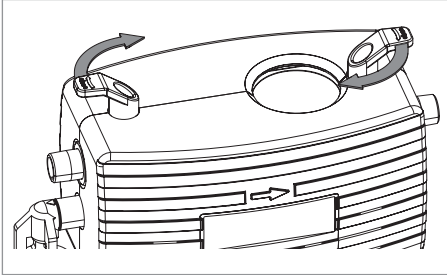


Mount the measuring device and open the two shut-off valves.

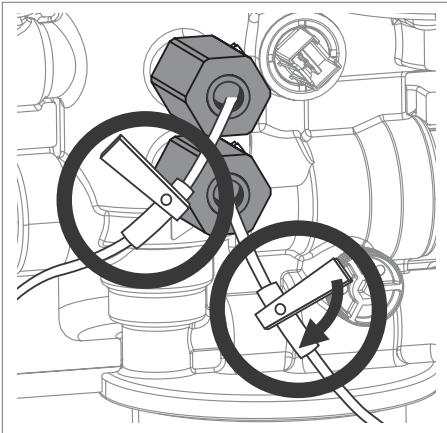


Vent the valve via the two needle valves. Then close the two needle valves again.

Close the two shut-off valves.



Open needle valve 1 and slowly release the pressure via needle valve 1 (a few drops).



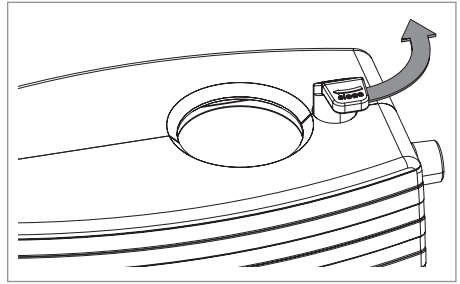
Close the needle valve again. Observe the tundish. The differential pressure must be above 140mbar and the inlet backflow preventer (RVI) must close completely again, otherwise there is contamination or a mechanical defect.

Open the needle valve 1 further and relieve the medium pressure zone until it is completely drained.

Maintenance - inspection of check valve 2

To test the outlet check valve (RV 2), the intermediate pressure zone must first be completely drained.

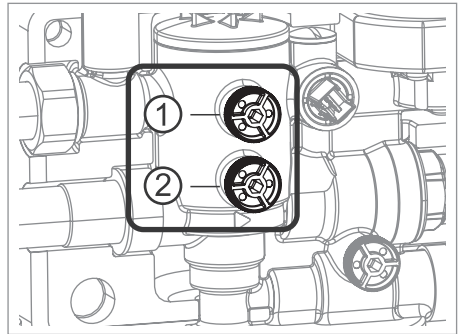
Open the outlet shut-off valve.



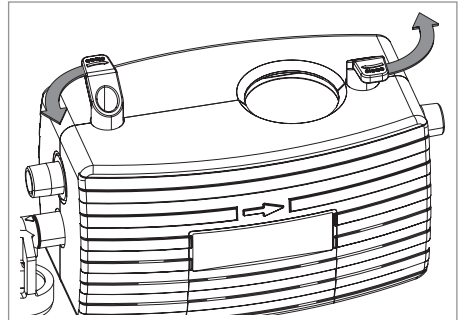
If water drips from the tundish, there is a mechanical defect or contamination of the outlet check valve.

In this case the backflow preventer cartridge must be cleaned or replaced.

Close both maintenance ball valves, remove the measuring device and reinstall the pressure gauge plugs.



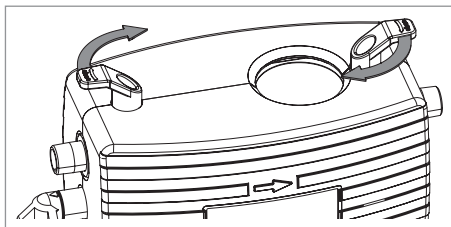
Open the two shut-off valves.



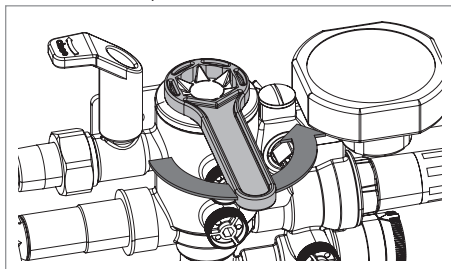
Remove backflow preventer

It is necessary to disassemble the backflow preventer in case of a defect and if the backflow preventer cartridge is dirty and needs to be cleaned.

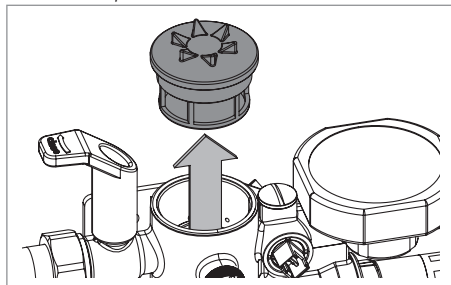
Close the inlet and outlet side shut-off valves.



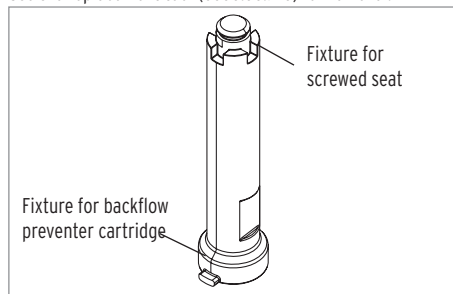
Remove the heat insulation cover and unscrew the cap with the maintenance key (4807.00.906).



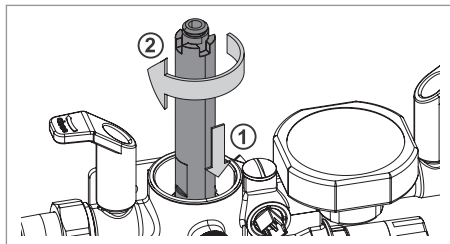
Remove the cap.



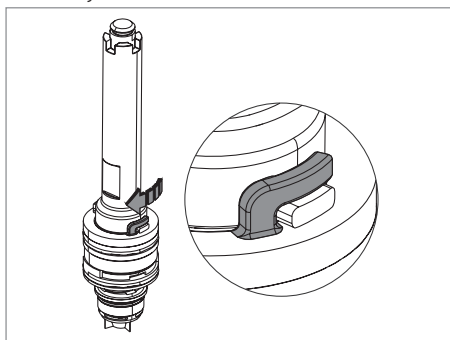
Use the replacement tool (6600.00.970) for removal.



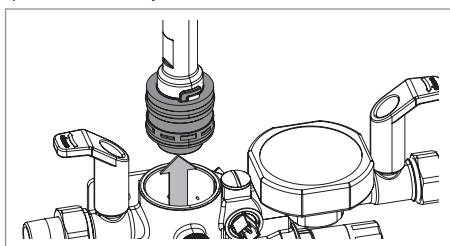
Place the tool on top of the backflow preventer cartridge (1) and turn clockwise (2).



Make sure that the two pins of the tool engage in the tabs of the cartridge.

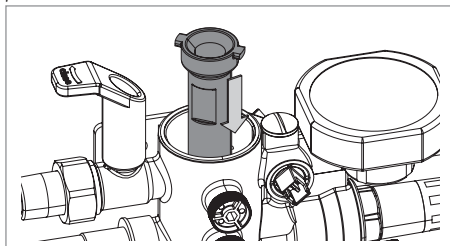


Pull out the cartridge while turning it slightly and if necessary, clean the cartridge with clear water.

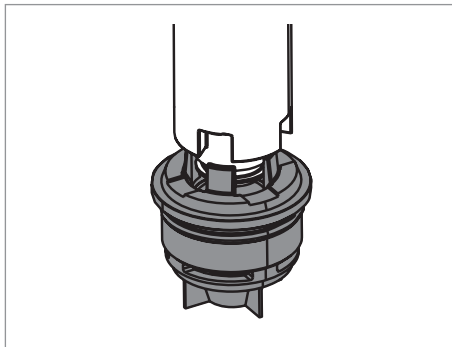


Remove check valve 2

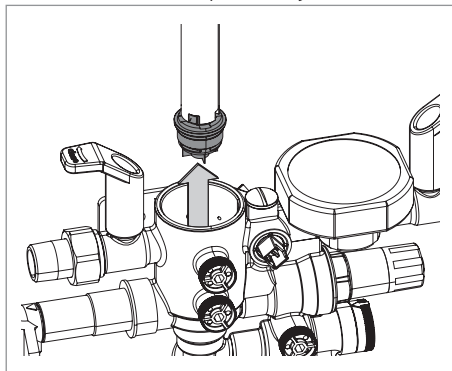
Turn the tool and place the tool from above on the backflow preventer 2.



Make sure that the gaps of the tool engage with the pins of the check valve 2.



Remove the check valve 2 by unscrewing it counterclockwise.

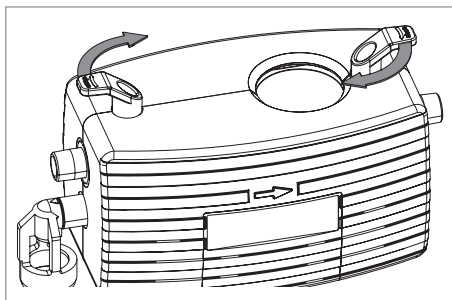


Reassemble in reverse order.
Open the ball valves again.

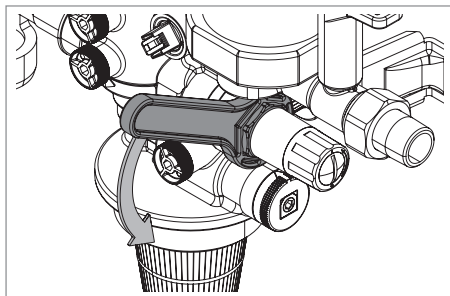
Maintenance pressure reducer

The pressure reducer of the All-in-one connection centre must be serviced annually in accordance with DIN EN 806, Part 5.

Close the shut-off valve on the inlet and outlet side.



Unscrew the pressure reducer with the ring spanner (accessory 4807.00.906) counterclockwise and clean it with clear cold water.

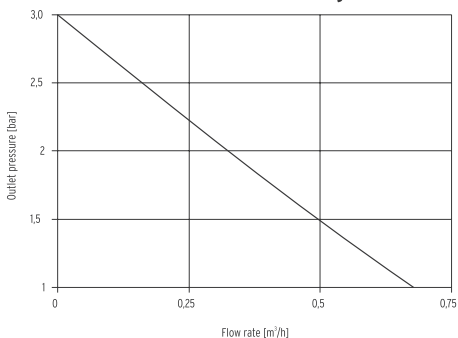


Reassemble in reverse order.
Open the ball valves again.

Technical specifications

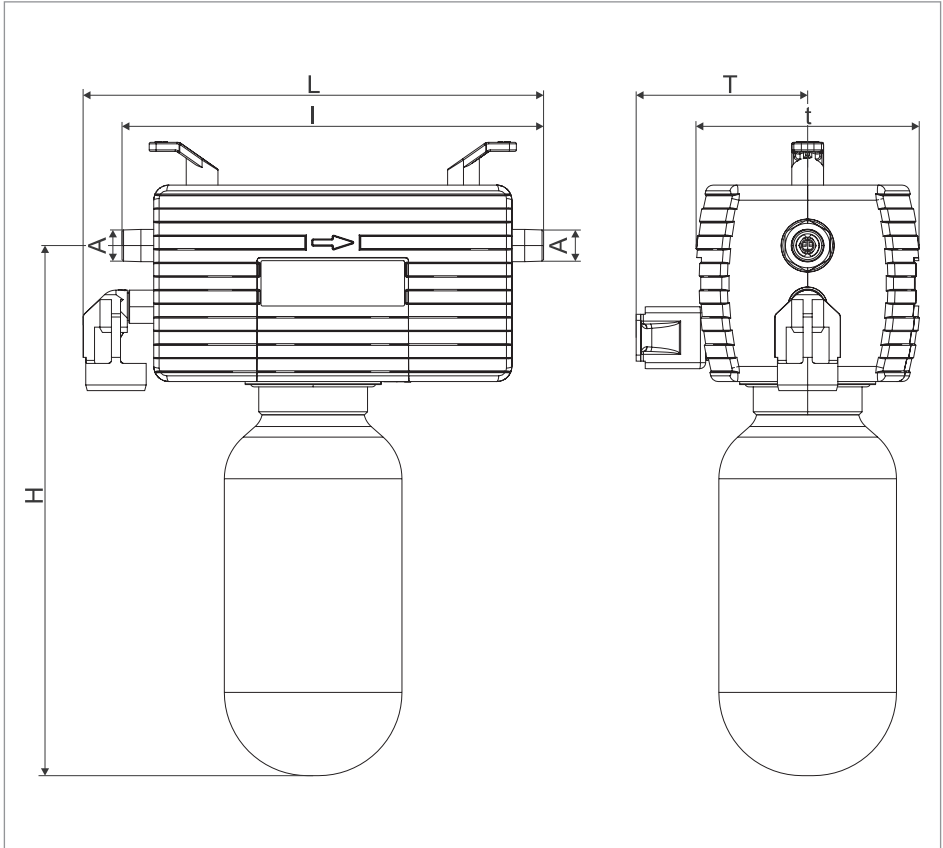
Max. operating pressure:	10 bar
Max. operating temperature:	30 °C (inlet) 65 °C (outlet)
Fluid:	potable water
Outlet pressure:	1 - 5 bar (1,5 bar vorgestellt)
Filling capacity:	0,5 m ³ /h at Δp 1,5 bar (4 - 30 litres cartridge) 0,3 m ³ /h at Δp 1,5 bar (2,5 litres cartridge)

Flow rate without cartridge



Installation and maintenance may only be carried out by an authorised specialist. Observe the maintenance instructions! Do not clean plastic parts with cleaning products containing solvents. After hard knocks or blows, the plastic part concerned must be replaced (even if there is no visible damage). Strong pressure shocks must be avoided. The packaging serves as transport protection. If the packaging is considerably damaged, the valve must not be installed!

Dimensions



Type

ConnectionCenter All-in-one

Nominal size

DN 20

A

R ½"

Dimensions

L (mm)

305 - 327 (adjustable)

l (mm)

279

T (mm)

91 - 113,5 (adjustable)

t (mm)

148

H (mm)

263 (2,5-litre-cartridge)

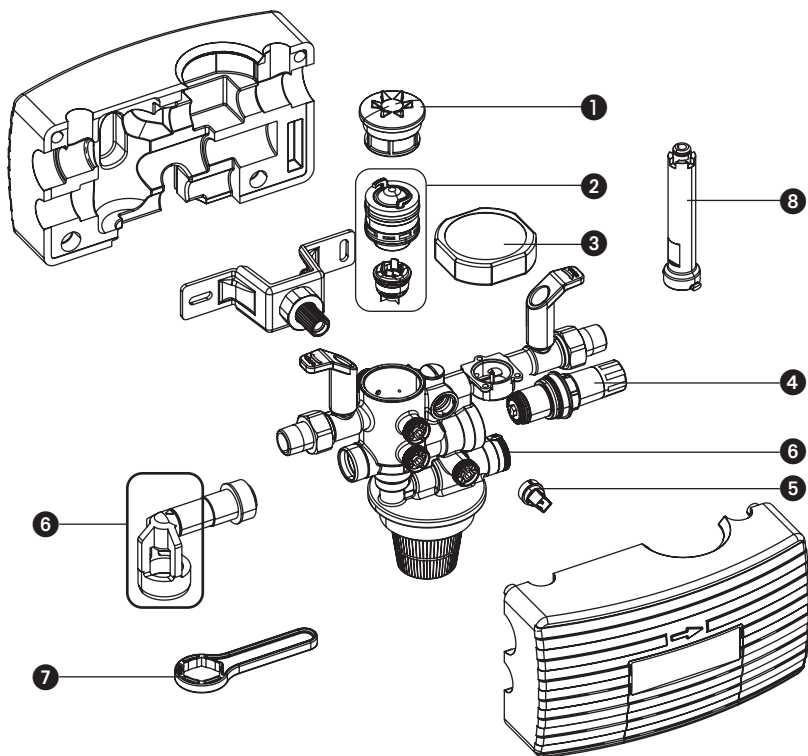
365 (4-litre-cartridge)

562 (7-litre-cartridge)

1017 (14-litre-cartridge)

922 (30-litre-cartridge)

Spare parts / Accessories



1 Plug
3228.00.903

2 Backflow preventer cartridge, complete
6600.00.974

3 Digital capacity control
3228.00.905

4 Pressure reducer cartridge
0315.15.900

5 Pressure sensor
3228.00.904

6 Blending valve, complete
3200.15.914

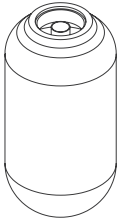
7 Tundish, complete
3228.00.901

8 Ring spanner
4807.00.906

9 Replacement tool
6600.00.970

Accessories

Cartridges



HWE

2,5 litre	3200.00.021
4 litre	3200.00.001
7 litre	3200.00.003
14 litre	3200.00.004
30 litre	3200.00.018

HVE

2,5 litre	3200.00.022
4 litre	3200.00.011
7 litre	3200.00.013
14 litre	3200.00.014
30 litre	3200.00.017

HVE Plus

2,5 litre	3200.00.023
4 litre	3200.00.015
7 litre	3200.00.005
14 litre	3200.00.006
30 litre	3200.00.016

Resin



HWE

2,5 litre	3200.00.942
4 litre	3200.00.904
7 litre	3200.00.906
10 litre	3200.00.937
14 litre	= 2 x 7 litre
30 litre	= 3 x 10 litre

HVE

2,5 litre	3200.00.943
4 litre	3200.00.914
7 litre	3200.00.916
10 litre	3200.00.938
14 litre	= 2 x 7 litre
30 litre	= 3 x 10 litre

HVE Plus

2,5 litre	3200.00.944
4 litre	3200.00.927
7 litre	3200.00.926
10 litre	3200.00.939
14 litre	= 2 x 7 litre
30 litre	= 3 x 10 litre

Accessories

Hardness measuring set
3000.00.913