

Pre-adjustable filling units

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553 Series

Function

The automatic filling valve is a device consisting of a pressure reducing valve with compensating seat, visual system pressure setting indicator, an inlet filter, anti-scale internal parts, a shut-off valve and a check valve.

It is installed on the water inlet piping in sealed heating systems, and its main function is to maintain the pressure of the system stable at a set value, automatically filling up with water as required.

This valve has been designed as pre-adjustable, which means that it can be adjusted at the required pressure value before the system charging phase.

After installation, during the filling or topping-off phase, the water feed will stop when the set pressure is reached filling 50% faster than other valves. There are no levers to flip or valve to close.

Pre-assembled with the 573 series backflow preventer, the AutoFill™ Combo features an atmospheric vent which is designed to protect drinking water systems from return flow, caused by back-siphoning or back pressure, of contaminated fluids. The 573 series has been specifically certified to standards CSA B64.3 and ASSE 1012.

Product Range 553



- 553542A 1/2" M NPT inlet x 1/2" F NPT outlet
- 553549A 1/2" sweat inlet x 1/2" F NPT outlet
- 553642A 1/2" M NPT inlet x 1/2" F NPT outlet / gauge
- 553649A 1/2" sweat inlet x 1/2" F NPT outlet / gauge

Technical Specifications

Filling unit

- Materials**
- body: brass
 - cover: PA 66 GF 30
 - seals: NBR

Performance

- Suitable fluids: water, glycol solution
- Max. percentage of glycol: 50%
- Max. inlet pressure: 230 psi (16 bar)
- Preset outlet pressure: 3–60 psi (0.2–4 bar)
- Factory setting: 15 psi (1.035 bar)
- Indicator accuracy: ±2 psi (±0.15 bar)
- Max. working temperature: 150°F (65°C)
- Pressure gauge scale: 0–60 psi / 0–6 bar

- Connections**
- 553542A 1/2" male NPT inlet x 1/2" female NPT outlet
 - 553549A 1/2" sweat inlet x 1/2" female NPT outlet
 - 553642A 1/2" male NPT inlet x 1/2" female NPT outlet
 - 553649A 1/2" sweat inlet x 1/2" female NPT outlet



SAFETY INSTRUCTION

This safety alert symbol will be used in this manual to draw attention to safety related instructions. When used, the safety alert symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!** FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.



CAUTION: All work must be performed by qualified personnel trained in the proper application, installation, and maintenance of systems in accordance with all applicable codes and ordinances.



CAUTION: If the automatic filling unit is not installed, commissioned and maintained properly, according to the instruction contained in the manual, it may not operate correctly and may endanger the user..



CAUTION: Make sure that all the connecting pipework is water tight.



CAUTION: When making the water connections, make sure that the unit connecting pipework is not mechanically over-stressed. Over time this could cause breakages, with consequent water losses which, in turn, could cause harm to property and/or people

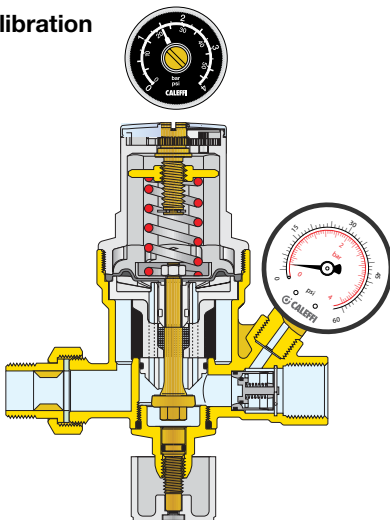


CAUTION: In the case of highly aggressive water, arrangements must be made to treat the water before it enters the unit, in accordance with current legislation. Otherwise the unit may be damaged and will not operate correctly.

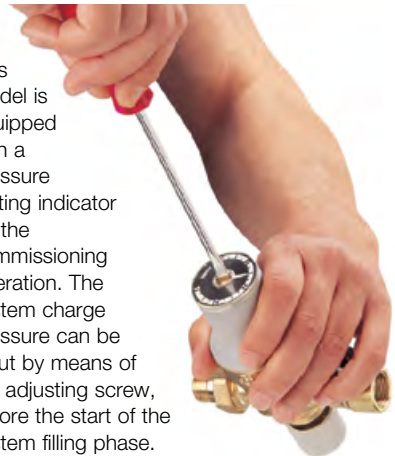
Leave this manual for the user

Construction details

Pre-calibration



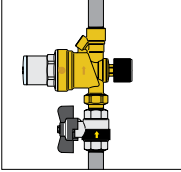
This model is equipped with a pressure setting indicator for the commissioning operation. The system charge pressure can be input by means of the adjusting screw, before the start of the system filling phase.



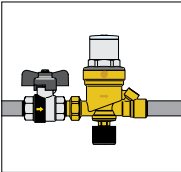
Removable filter cartridge

The cartridge containing the operating mechanisms, protected by a large surface area strainer, is removable. This makes it very easy and quick to carry out inspections, internal cleaning and even replacement of the cartridge itself. Water intake is proportional to the air vented from the system.

Installation



1. Filling unit can be installed in either horizontal or vertical position. It is, however, vital that the unit is not installed upside down.



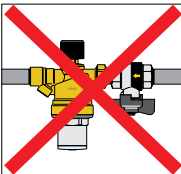
2. The special method of mechanical pre-adjustment with pressure setting indicator makes it possible to set the unit to the required value in the system before the beginning of the filling phase.

3. The unit is normally set at a pressure not less than that obtained by adding the hydrostatic pressure and 4 psi (0,3 bar).

4. During filling, the internal mechanism will automatically regulate the pressure until it reaches the required value, **without the need to oversee the filling operation** itself. This prevents the system being charged to a higher pressure than required.

5. Given the pre-calibrating function, the presence of the downstream pressure gauge is not essential.

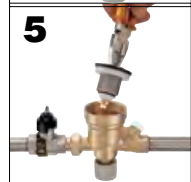
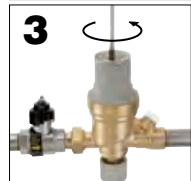
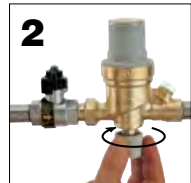
6. When the system is filled, the shut-off valve can be closed. In order to restore the automatic topping-off condition, merely re-open the valve. The pressure in the system will gradually return to the set pressure.



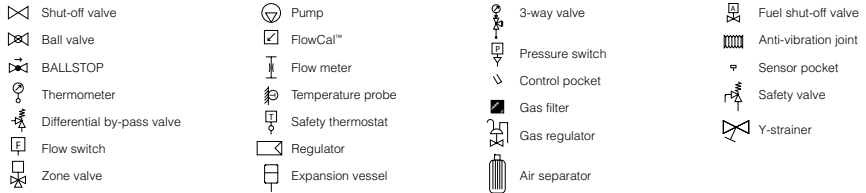
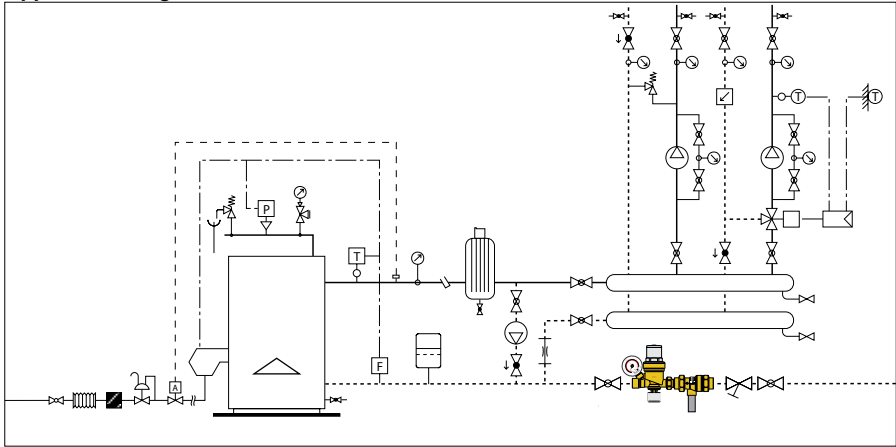
Maintenance

For cleaning, inspection or replacement of the entire cartridge, proceed as follows:

1. Isolate the unit.
2. Open the lower control knob.
3. Unscrew the adjusting screw until it stops.
4. Remove the upper cover.
5. Extract the cartridge using pliers.
6. The entire unit, after inspection, can be reassembled or replaced using a spare cartridge.
7. Re-adjust the equipment.



Application diagram



Replacement parts



NA103 Replacement gauge 0–60 psi/0–4 bar, 1/4" NPT



F59650 AutoFill™ 553 series replacement cartridge



NA10197 AutoFill™ clear plastic disc cover

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