

Pre-adjustable automatic filling unit assemblies for high flow rates

series 554 - 574



Function

The automatic filling unit is a device consisting of a pressure reducing valve with compensating seat, an inlet strainer, an upstream shut-off valve with built-in check valve and a downstream shut-off valve.

It is installed in the water supply pipework in sealed heating systems and its main function is to maintain the system pressure stable at a set value, automatically topping up with water, as required.

This product has the characteristic of being pre-adjustable, which means that it can be adjusted at the required pressure value before the system filling phase.

After installation, during the filling or topping-up phase, feed will stop when the set pressure is reached.

A pre-assembled version is also available, complete with upstream backflow preventer and shut-off valve.

Reference documentation

- Tech. broch. 01085 Pressure reducing valves, series 5350
- Tech. broch. 01022 Backflow preventer, series 574
- Tech. broch. 01021 "Ballstop" ball valve with built-in check valve

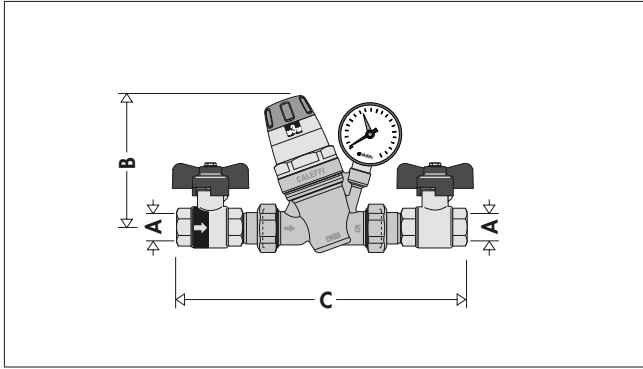
Product range

- Code 554040 Pre-adjustable automatic filling unit assembly for high flow rates, with pressure gauge connection and setting indicator _____ Size 1/2"
- Code 5541.0 Pre-adjustable automatic filling unit assembly for high flow rates, with pressure gauge and setting indicator _____ Sizes 1/2", 3/4"
- Code 574001 Charging unit with pressure gauge, complete with BA type backflow preventer, series 574, strainer and shut-off valve _____ Size 3/4"

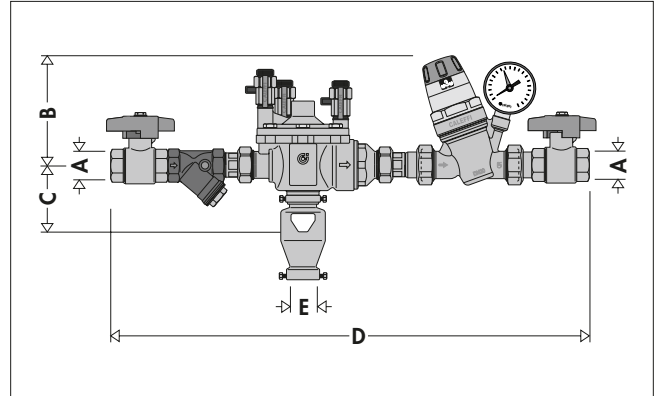
Technical specification

	554040 - 5541.0	574001
Materials (554040 - 5541.0 codes only) Body: Cover: Control spindle: Moving parts: Seals: Filter: Shut-off valves:	dezincification resistant alloy CR EN 12165 CW602N PA 66 G 30 stainless steel dezincification resistant alloy CR EN 12164 CW602N NBR stainless steel brass EN 12165 CW617N, chrome-plated	dezincification resistant alloy CR EN 12165 CW602N stainless steel dezincification resistant alloy CR EN 12164 CW602N NBR stainless steel brass EN 12165 CW617N
Performance Max. pressure upstream: Pressure setting range: Factory setting: Max. working temperature: Pressure gauge scale: Filter mesh size Ø: Medium:	16 bar 1 – 6 bar 3 bar 60°C 0 – 10 bar 0,51 mm water	10 bar 1 – 6 bar 3 bar 60°C 0 – 10 bar 0,40 mm water
Connections Inlet: Outlet: Pressure gauge:	1/2", 3/4" F 1/2", 3/4" F 1/4" F	3/4" F 3/4" F -

Dimensions



Code	A	B	C	Weight (kg)
554040/140	1/2"	112	204	1,72
554150	3/4"	112	232	1,9



Code	A	B	C	D	Weight (kg)
574001	3/4"	112	30	505	6,1

Construction details 554 series

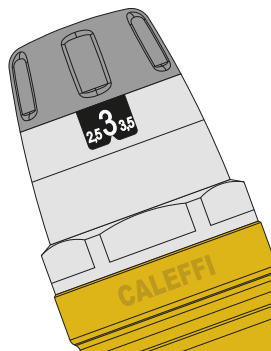
The 554 series filling unit assembly consists of:

- Pressure reducing valve, series 5350
- Ball valve with built-in check valve, series 3230
- Shut-off ball valve

Pre-adjustment

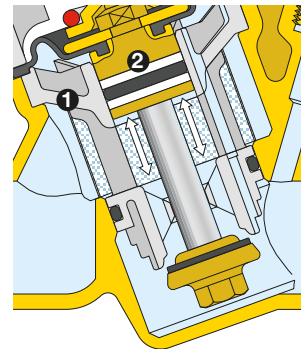
554 series filling unit assemblies are provided with an adjustment knob and a calibration pressure indicator which is visible from both sides. This pressure indicator has an incremental movement, so that the pressure can be adjusted continuously, with the value being displayed at 0,5 bar increments.

The system pressure can thus be pre-set to the required value even before the reducer is installed.



Non-stick materials

The central support **1** containing the moving parts, is made of a plastic material with a low adhesion coefficient. This solution minimises the possibility of limescale formation, the main cause of eventual malfunctions.

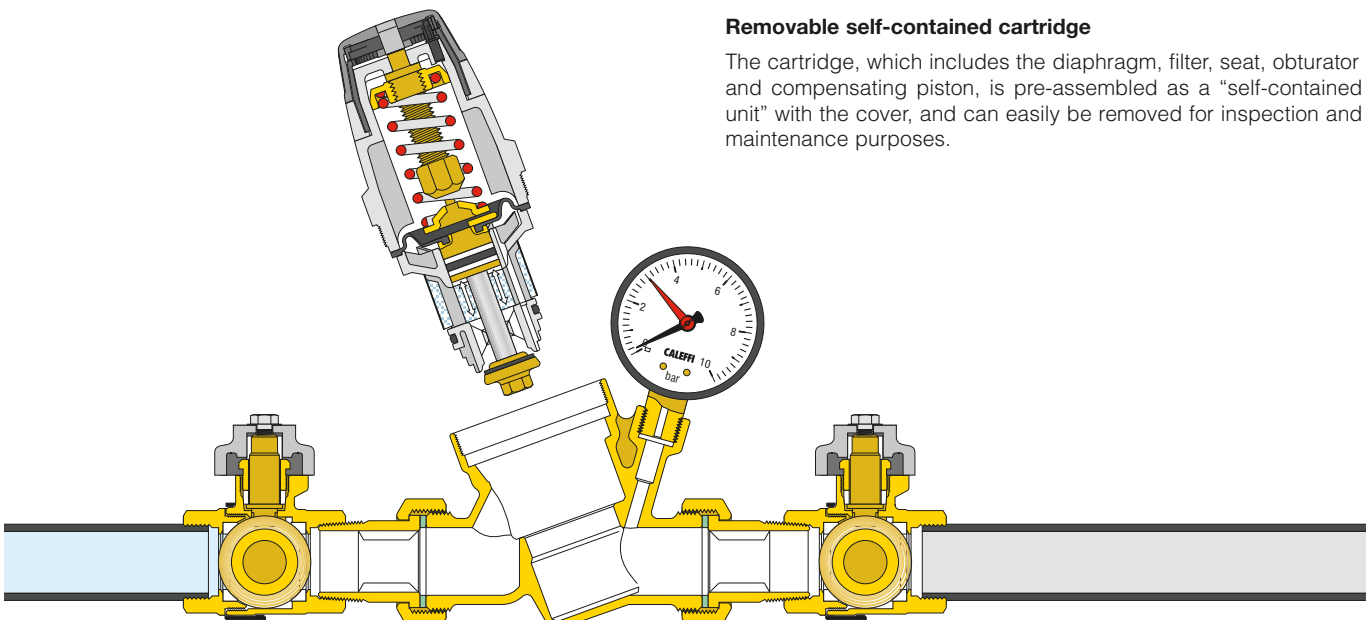


High pressures

The zone exposed to the upstream pressure is constructed in such a way that it can operate at high pressure. Thanks to the PTFE anti-extrusion rings **2** on the compensating piston, the valve can be used in continuous service with upstream pressures of up to 25 bar.

Removable self-contained cartridge

The cartridge, which includes the diaphragm, filter, seat, obturator and compensating piston, is pre-assembled as a "self-contained unit" with the cover, and can easily be removed for inspection and maintenance purposes.

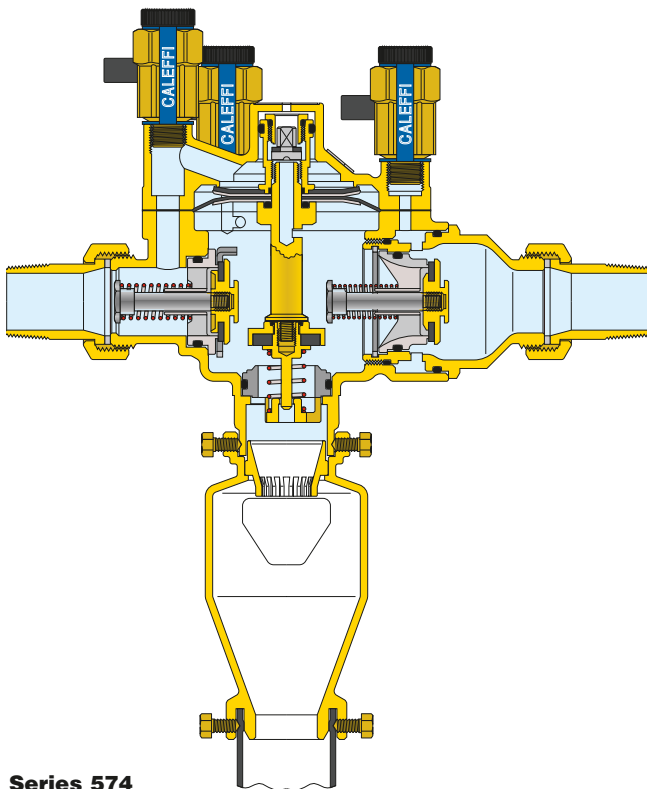


• **Code 574001**

The filling unit is a device placed between the heating system and the public mains or the internal water supply system. In order to prevent potentially polluted water, (which may be hazardous to human health), from flowing back from the heating system, it is always advisable to install a pre-assembled kit with backflow preventer.

574001 code filling unit assembly consists of:

- Controllable, reduced pressure zone backflow preventer, BA type, series 574
- Pre-adjustable pressure reducing valve, series 5350
- Shut-off ball valves
- Y-strainer, series 577



Series 574

BA type controllable reduced pressure zone backflow preventer series 574, designed in compliance with the EN 12729 European standard - "Devices to prevent pollution by backflow of potable water. Controllable backflow preventer with reduced pressure zone. Family B - Type A".

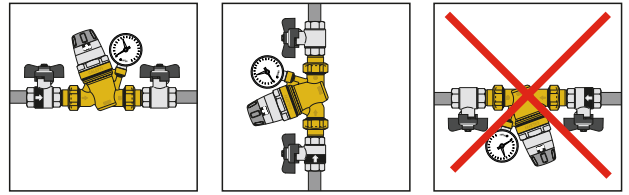
BA type backflow preventer can be installed to prevent pollution from types of water classified up to the category 4 in accordance with the EN 1717 standard "Protection against pollution of potable water in water installations and general requirements of devices to prevent pollution by backflow".

The types of water contained in water systems are classified in this standard according to the degree of risk to health.

Category 4 Fluid that presents a significant health hazard due to concentrations of "toxic substances".

Installation

1. Filling unit can be installed in either vertical or horizontal pipework. However, the unit must not be installed upside down.

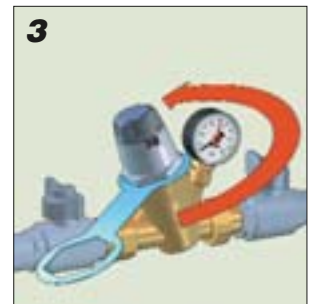


2. The special method of mechanical pre-adjustment with pressure setting indicator makes it possible to set the unit to the required value in the system before the beginning of the filling phase.
3. When the system is being commissioned, the unit is normally calibrated at a pressure no lower than the hydrostatic pressure plus 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.
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 top-up condition, merely re-open the valve. The pressure in the system will gradually return to the set pressure.

Maintenance

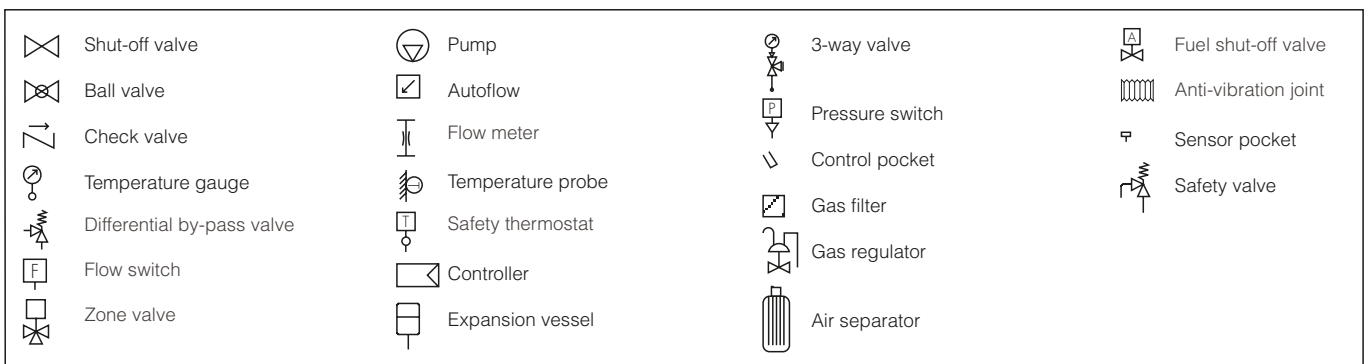
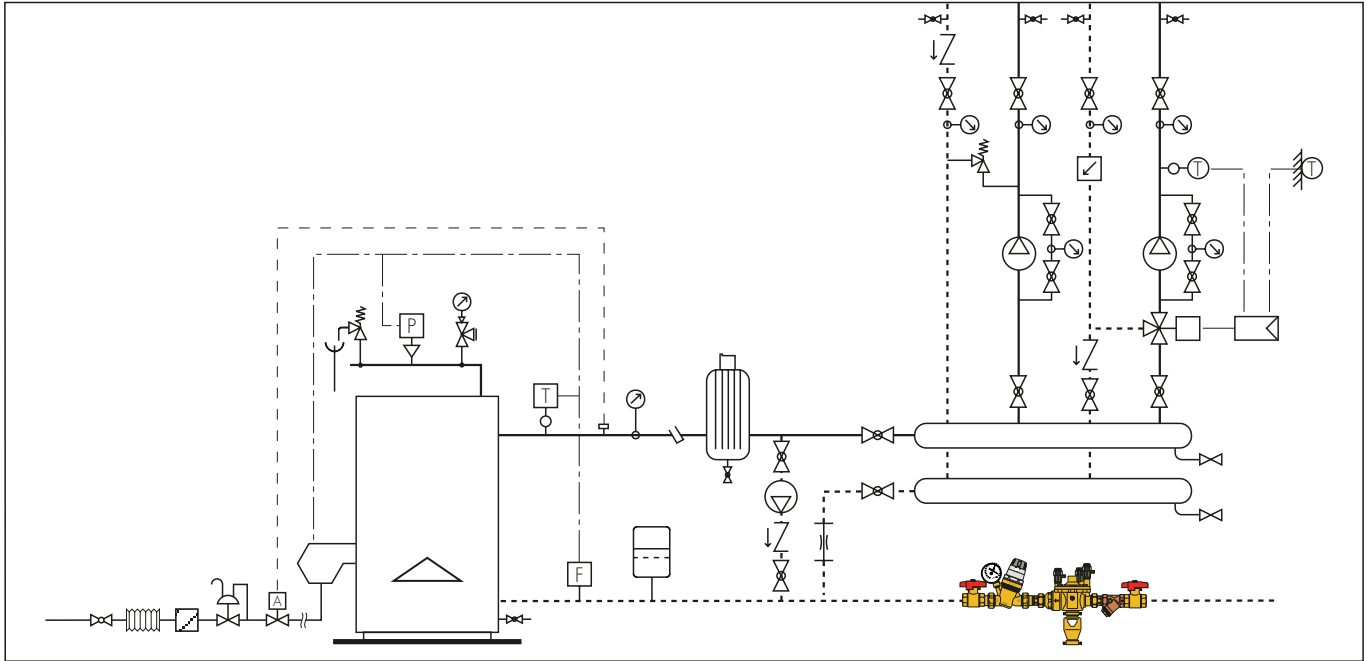
For inspection, cleaning or replacement of the complete regulating cartridge:

- 1) Isolate the reducer.
- 2) The special construction of the regulating unit requires no adjustment of the calibrated pressure, which can be left at the set value.
- 3) Remove the upper cover, using a suitable spanner. The upper cover is integral with the internal regulating cartridge.
- 4) Carry out the essential operations of checking and cleaning the filter.
- 5) The whole self-contained cartridge can be refitted or replaced with a spare. When the cartridge is screwed back into the valve body the pressure indication windows will return to the original position.



- 6) Reopen the shut-off valves. The pressure will return to the original set value.

Application diagram



SPECIFICATION SUMMARIES

Series 554

Pre-adjustable automatic filling unit assembly. 1/2" F (1/2" and 3/4") threaded connections. Body and moving parts in dezincification resistant alloy. Maximum working temperature 60°C. Maximum inlet pressure 16 bar. Pressure setting range 1 - 6 bar. Consisting of: pressure reducing valve with compensating seat, cover in PA 66 G 30, filter in stainless steel, siliding surfaces in anti-scaling material, diaphragm and seals in NBR, removable for maintenance operations, pressure setting indicator for the device pre-adjustment, pressure gauge scale 0 - 10 bar (version with pressure gauge), 1/4" F pressure gauge connection (version with pressure gauge connection); upstream shut-off ball valve with built-in check valve, chrome plated; downstream shut-off ball valve, chrome plated.

Code 574001

Charging unit with backflow preventer. 3/4" F connections. Maximum working temperature 60°C. Maximum working pressure 10 bar. Consisting of: pressure reducing valve with compensating seat, body and moving parts in dezincification resistant alloy, cover in PA 66 G 30, seals in NBR, pressure setting range 1 - 6 bar, complete with strainer; downstream pressure gauge scale 0 - 10 bar; BA type controllible reduced pressure zone backflow preventer, complying with EN 12729, body in dezincification resistant alloy, diaphragm and seals in NBR, discharge tundish with fixing collar for the discharge piping; shut-off ball valve in brass; backflow preventer Y-strainer.

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