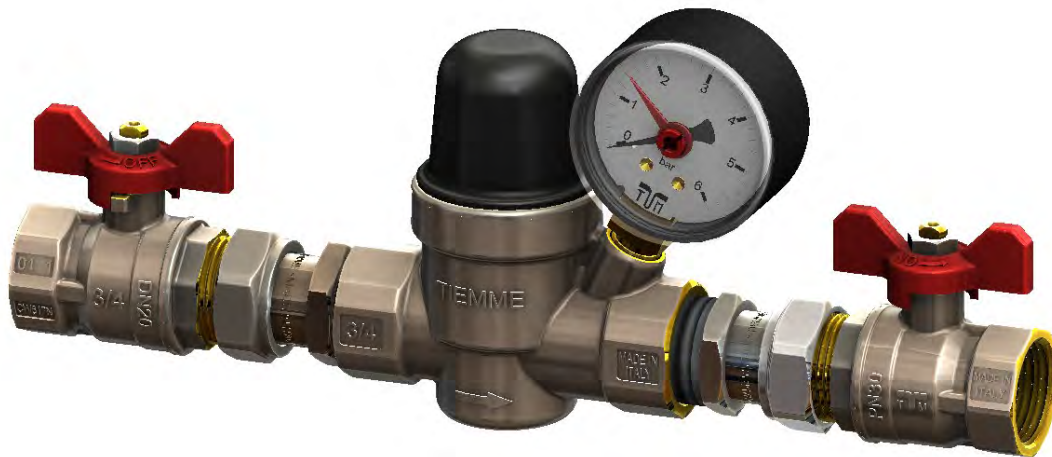


## 3161

### AUTOMATIC FILLING UNIT - HIGH CAPACITIES

### WITH SHUT-OFF VALVES, RETENTION DEVICE AND PRESSURE GAUGE



#### DESCRIPTION

The filling unit **Art. 3161** is used to automatically load and top up the water in the closed-circuit heating system, allowing the regulation of the pressure in the circuit.

Installed on the water supply pipe, it fills/replenishes until the desired pressure is reached (calibration pressure).

The filling unit is equipped with a check valve to prevent any reversal of the flow.

#### ADVANTAGES/STRENGTHS

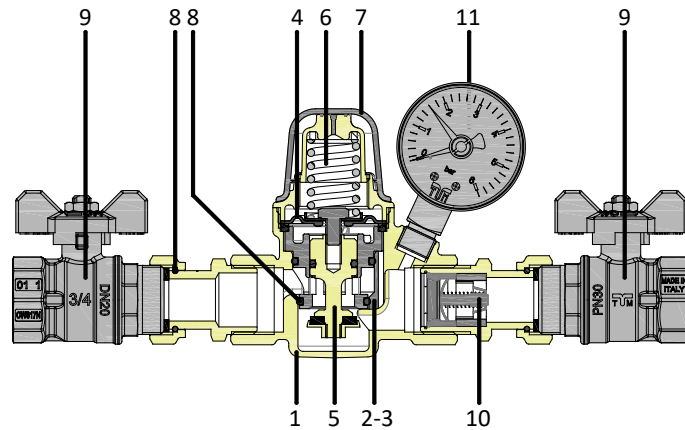
- The kit Includes:
  - compensated pressure reducer with integrated filter
  - a pair of shut-off valves
  - retention device
  - pressure gauge
- Regulates and maintains pressure in closed-circuit systems: automatic functioning.
- Adjustable to the desired pressure value (adjustment range 1 ÷ 6 bar).
- Removable reducer cartridge to facilitate cleaning/maintenance.

#### PRODUCTION RANGE

| Art. | Code     | Fittings         |
|------|----------|------------------|
| 3161 | 317 0007 | G 1/2" (ISO 228) |
|      | 317 0008 | G 3/4" (ISO 228) |

**CONSTRUCTION FEATURES**

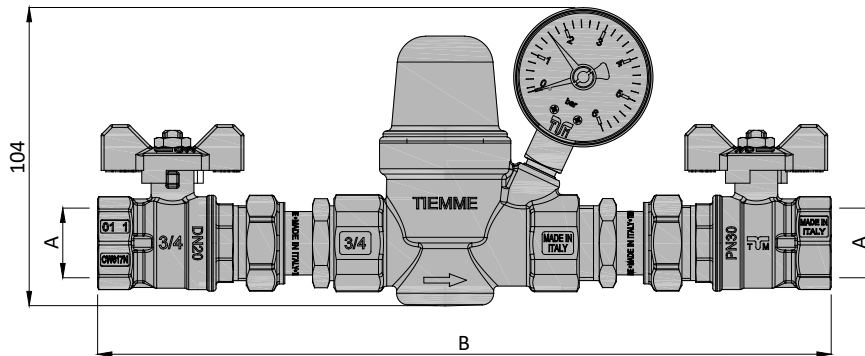
- (1) Body: CW617N nickel-plated brass
- (2) Cartridge: POM
- (3) Filter mesh: Stainless steel
- (4) Membrane: EPDM
- (5) Shutter: CW614N brass
- (6) Spring: Steel
- (7) Cap: PE
- (8) O-ring seal: EPDM
- (9) Shut-off valves: CW617N nickel-plated brass
- (10) Check valve: POM
- (11) Pressure gauge: Radial connection G 1/4" - Ø50 - scale 0 ÷ 6 bar
- Threads: ISO 228



**TECHNICAL SPECIFICATIONS**

- Maximum working temperature: + 65 °C
- Minimum operating temperature: -20 °C (provided that the fluid remains liquid)
- Maximum operating pressure: 16 bar
- Adjustment range: 1 ÷ 6 bar
- Factory setting: 3 bar
- Filtration degree of filtering mesh: 500 µm
- Fluid compatibility: Drinking water

**DIMENSIONAL AND STRUCTURAL SPECIFICATIONS**



| Art. | Code     | A        | B   |
|------|----------|----------|-----|
| 3161 | 317 0007 | G 1/2" F | 232 |
|      | 317 0008 | G 3/4" F | 257 |

Dimensions in mm.

## DESCRIPTION AND OPERATION

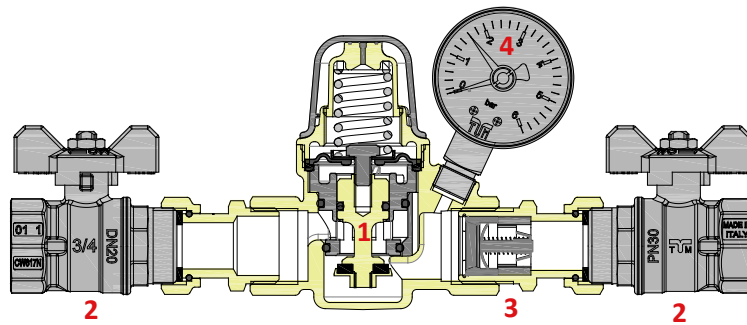
As briefly explained, the filling unit **Art. 3161** is used **to automatically load and top up the water in a closed-circuit heating system**, allowing the regulation of the pressure in the circuit.

The use of the filling unit is particularly useful to compensate for pressure drops due to the expulsion of air from the circuit which takes place via venting valves and deaerators.

The automatic filling unit, installed on the water supply pipe to the thermal unit, fills/replenishes until the desired pressure is reached (calibration pressure).

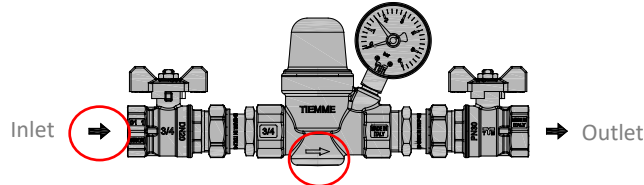
The filling unit **Art. 3161** is composed of:

- (1) **Compensated pressure reducer with integrated filter.**
- (2) **Pair of shut-off valves:** they allow to shut off the power supply and therefore interrupt the make-up function. Useful during plant maintenance, or in case of breakage of any part of the circuit.
- (3) **Check valve:** prevents the return of the fluid present in the system to the aqueduct.
- (4) **Pressure gauge:** allows to view the pressure in the circuit to be supplied (downstream of the reducer).

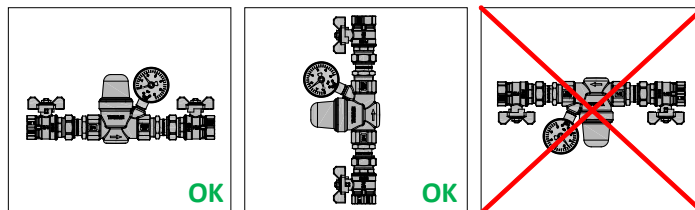


## INSTALLATION

- Remove any dirt due to the assembling of the system (hemp, shavings, etc.) before proceeding with the installation of the filling unit.
- If the water from the main network is rich in suspended impurities, although the reducer is equipped with an integrated removable filter, it is recommended to install a Y or self-cleaning filter upstream of the filling unit.
- Respect the flow direction indicated by the arrow printed on the reducer body.

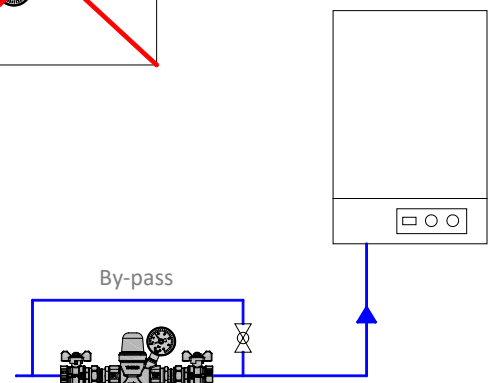


- Install the filling unit in an accessible position, in order to easily carry out periodic inspections.
- The filling unit can be installed equally in a **horizontal** or **vertical position**. Avoid positioning the valve upside down as, over time, impurities can deposit on the membrane, making it insensitive to small pressure variations.



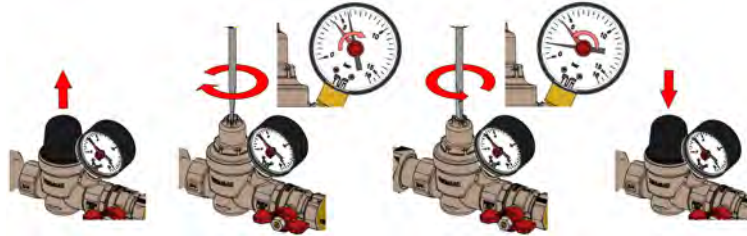
- The filling unit must be installed on the water supply pipe to the thermal unit.

The provision of a by-pass line allows to significantly reduce the system filling times. We recommend filling the system almost completely through the by-pass and only completing the filling by using the power supply unit.



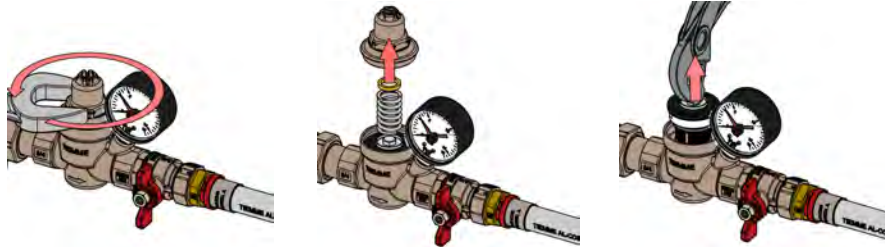
- Calibration to the desired pressure value: Before being packaged, all the pressure reducers are tested and outlet calibrated at a pressure of 3 bar. The outlet pressure can be easily changed once the unit is installed on the system. To change the outlet pressure, simply unscrew and remove the black plastic cap, then, using a screwdriver, act on the brass spring press; **turning clockwise the outlet pressure increases, turning anticlockwise the outlet pressure decreases**.

The calibration operation is completed when the pressure gauge indicates the desired pressure.



## MAINTENANCE

- For the correct operation of the filling unit, it is recommended to periodically clean the cartridge and the filtering mesh inside the pressure reducer. Close shut-off valves, unscrew the lower part of the reducer cover, remove the cartridge and perform the cartridge cleaning operations, or if necessary, proceed with the insertion of the new cartridge in its seat (spare part code **318 0053**).



Then replace the cartridge with the filter, the spring, screw the cover back and calibrate the reducer as described in the "INSTALLATION" paragraph above.

- Periodically clean any filters (Y-shaped or self-cleaning) installed upstream of the unit.

*TIEMME RACCORDERIE SpA declines all responsibility in the event of failures and/or accidents deriving from non-compliance with these indications or improper use of the system. The information shown does not exempt the user from scrupulously following the regulations and good technical standards in force.*

## SPARE PARTS



**Art. 3180C**  
**Code 318 0053**  
Replacement cartridge for pressure reducer and filling unit.

## ITEM SPECIFICATIONS

**Art. 3161**

Automatic filling unit - high flow rates with shut-off valves, retention device and pressure gauge.

Made of: nickel-plated CW617N brass body, POM cartridge, stainless steel filter, EPDM membrane, CW614N brass shutter, steel spring, PE cap, EPDM o-ring seal, nickel-plated CW617N brass shut-off valves, POM check valve, pressure gauge radial connection G1 / 4" - Ø50 - scale 0 ÷ 6 bar, ISO 228 threads.

Maximum operating temperature: + 65 °C. Minimum operating temperature: -20 °C (provided that the fluid remains liquid). Maximum operating pressure: 16 bar. Adjustment range: 1 ÷ 6 bar. Factory setting: 3 bar. Filtration degree of filtering mesh: 500 µm. Fluid compatibility: drinking water. Production range: connection G 1/2" and G 3/4".

## CERTIFICATIONS

