

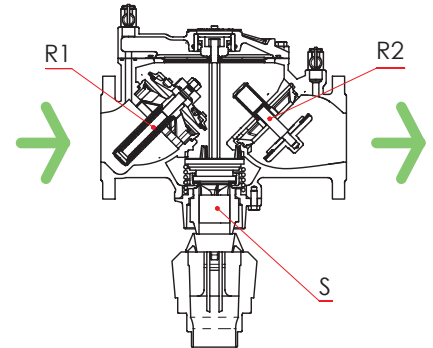
Instruction and Recommendations

The information provided here is delivered with each product, and contains "Instructions for use and maintenance"; it is also available on our website: www.brandoni.it (download section)

OPERATING PRINCIPLE

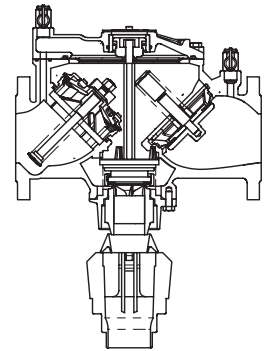
NORMAL OPERATION: REGULAR FLOW

Under normal conditions, the relief valve is closed, and the water flows through the 2 check valves (R1 and R2). Due to the head loss of valve 1, the pressure in the intermediate section is at least 140 millibar less than the upstream pressure. This difference acts upon the membrane and closes the relief valve.



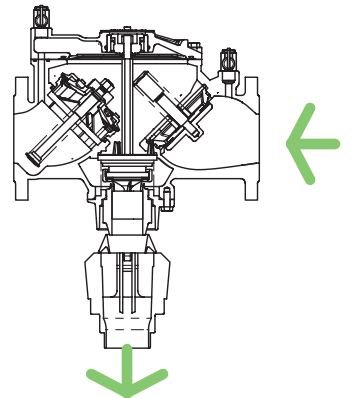
NO FLOW: NORMAL PRESSURE

The check valves (1 and 2) are closed and the relief valve remains closed.



BACK PRESSURE: DOWNSTREAM OVERPRESSURE

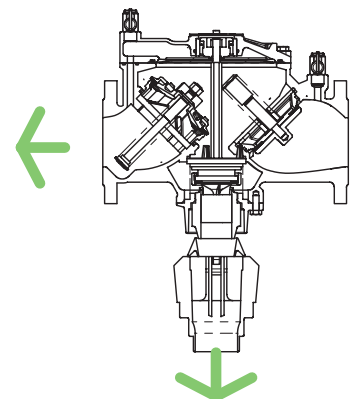
The downstream check valve (R2) closes, preventing potentially contaminated water from flowing into the supply pipe. If the downstream check valve is not perfectly watertight, the polluted water can seep into the central chamber. As the pressure in the central chamber increases, the relief valve opens and the polluted fluid discharges.



BACK-SIPHONAGE: UPSTREAM DEPRESSION

If the upstream pressure accidentally decreases, the check valves (1 and 2) automatically close; so the pressure difference between the upstream section and the central section is reduced; the spring opens the relief valve and the central chamber empties.

Consequently, the flow between the upstream area and the downstream area is interrupted, making it completely safe. The emptying of the central chamber causes a fall in pressure and brings the valve back to the initial safety conditions.



IMPORTANT: PRIOR TO INSTALLATION

A correct example of how to install the backflow preventer is shown in Fig. A.

1. The device must be located in a common, easily accessible area of the building, it must be ventilated and not subject to flooding. (The preventer should preferably be placed outside building works and above the soil).

2. The backflow preventer must be located away from every area that may be flooded, always considering the highest level that water may reach in adjacent areas, in case of frequent flooding.

3. Around the device, there must be enough room to enable easy installation or removal.

It must be easily accessible for repair work and working tests.

4. When the device is placed in an installation which may pollute the drinking water supply network, all networks supplying sanitary or food processing systems must be installed upstream with respect to the backflow preventer and the downstream network must be marked with the conventional safety signs and colours, in accordance with UNI 5634P regulations.

5. The opening of the relief valve must enable the water to drain off as a result of gravity.

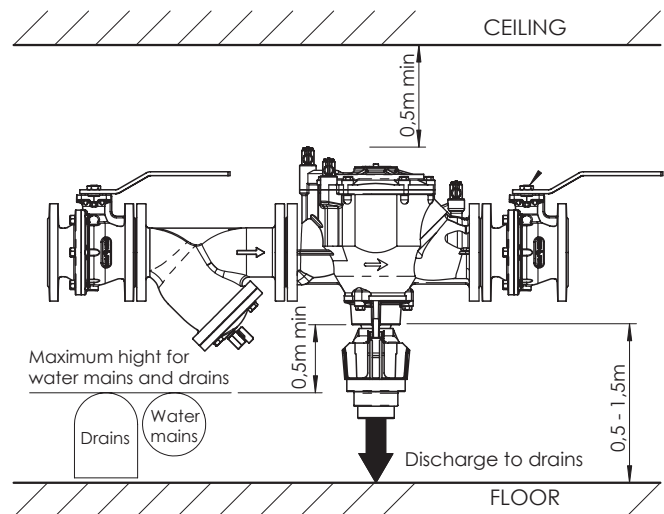
6. When running a test with the ECO3TEST device, pressure gauges must be at the same height as the backflow, to ensure correct measurement by the differential pressure gauge.

7. The discharge device must not give off toxic fumes into the room. The discharged waters must not be harmful to the environment: the health authorities should be consulted in the cases established by the current regulations.

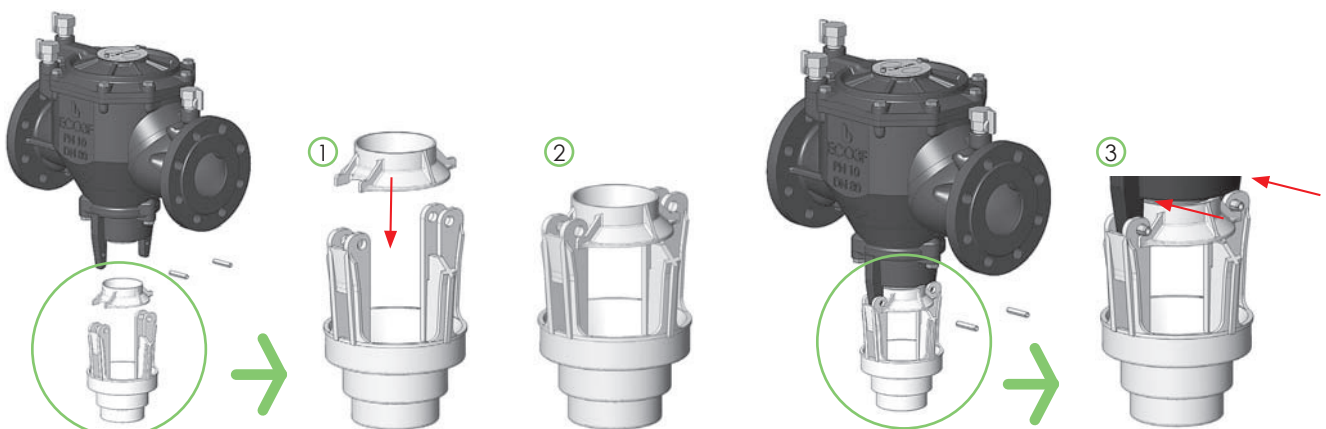
8. The leakage recovery system, located under the bleed valve mouth, and the discharge water recovery works must have a minimum section, corresponding to the following values:

DN	65	80	100	150
Internal diameter of drain pipe		75 / 90 / 120		

FIG. A



CONVEYOR ASSEMBLY



1/2. Insert the upper cover into the drain conveyor

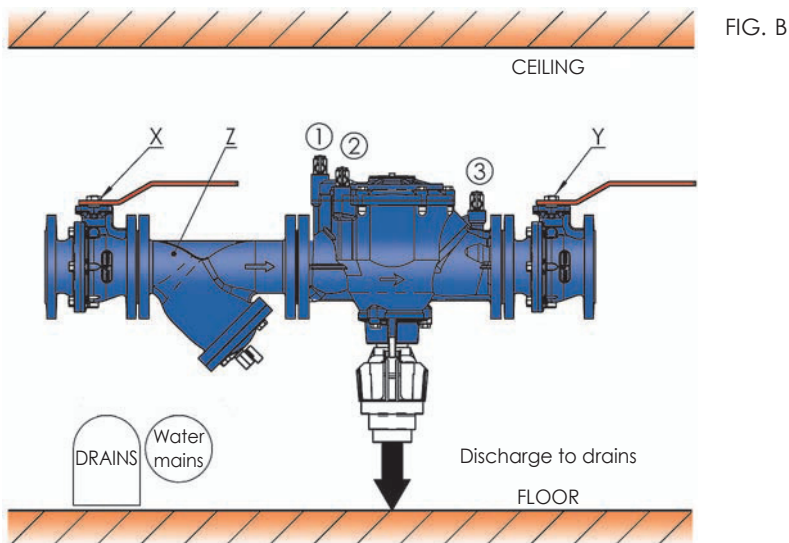


3. Fix the cover to the back flow preventer with the plugs included

Flanged backflow preventer with controllable reduced pressure zone

INSTALLATION

Follow the directions as shown in Fig B.



1. Install an interception valve x upstream with respect to the backflow preventer.
2. Install an interception valve y downstream with respect to the backflow preventer.
3. When the valves are closed install a strainer with a bleed plug upstream with respect to the preventer, making sure that water flows in the direction indicated on the body.

WARNING

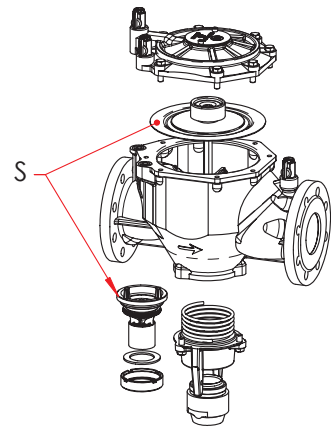
The strainer is essential if the preventer is to work properly. Make sure that, during the installation there are no residual parts in the pipes that may serious damage to the device.

4. Install the backflow preventer between the strainer and the downstream valve, always following the direction indicated on the body
5. Close valves 1-2-3
6. Remove the plastic protection cap located under the bleed valve
7. Fix the bleed pipe
8. Slowly open the upstream valve X
9. Slowly open the preventer valves, in the order 3-2-1, from downstream to up upstream; let them bleed, and close
10. Slowly open the downstream valve Y
11. The backflow preventer is now working. Make sure that the relief valve does not leak. In case of leakage, check if there are pressure decreases in the upstream section.

MAINTENANCE

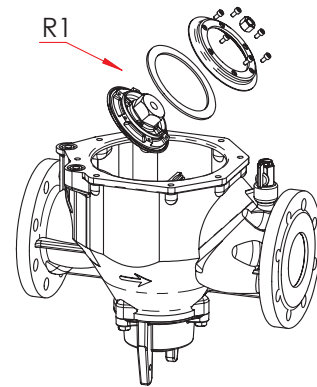
MAINTENANCE OF THE RELIEF VALVE

- Unscrew the cap bolts
- Take out and replace the CLOSING DEVICE S



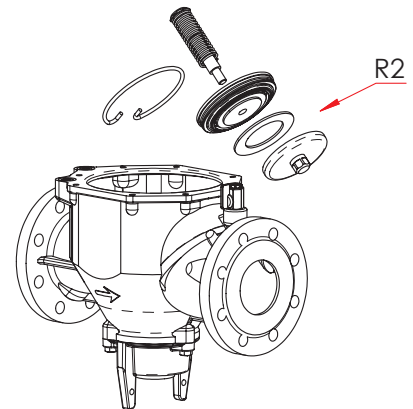
MAINTENANCE OF THE UPSTREAM

- Unscrew the nut and take out the shutter of upstream valve R1
- Replace the seal



MAINTENANCE OF THE DOWNSTREAM

- Take out the upstream valve R2 by acting on the elastic ring
- Unscrew the nut
- Replace the seal



SPARE PARTS (CODES)

SPARE PARTS	ECO3F.065	ECO3F.080	ECO3F.100	ECO3F.150
R1	K025996C80	K030996C80	K040996C80	K060996C80
R2	K025997C80	K030997C80	K040997C80	K060997C80
Rs	K025998C80	K030998C80	K040998C80	K060998C80
Upstream valve seal	025071C70	030078C70	040078C70	060071C70
Downstream valve seal	025078C70	030071C70	040071C70	060078C70