



# FROST PROTECTION VALVE

15MM



***PROTECTS SOLAR COLLECTOR PANELS FROM FROST DAMAGE***

## FUNCTION AND FEATURES

- |   |   |
|---|---|
| ■ Prevents ice build-up in domestic systems | ■ Quality Italian made product            |
| ■ Watermark Approved                        | ■ Union nut with EPDM o-ring              |
| ■ No maintenance required                   | ■ DZR brass construction with SS strainer |

## PRODUCT DETAILS

The Frost Protection Valve is designed to protect solar collector panels by preventing the water from freezing when the air temperature drops.

When the air temperature falls below 3°C, the thermostatic element opens the valve, thereby allowing warm water from the solar storage tank to flow through the panels and reducing the chance of the water freezing in the solar collectors.

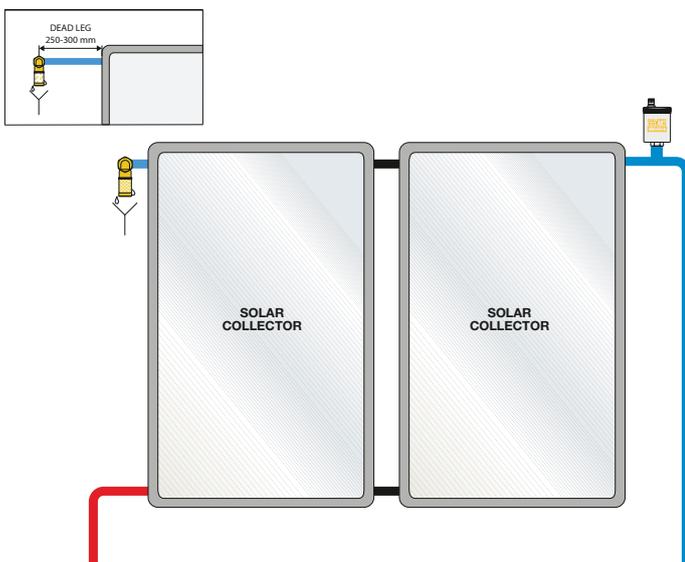
Once the air temperature reaches 4°C, the Frost Protection Valve will close again and the water will stop flowing.



## PERFORMANCE

MEDIUM	Water
MAX WORKING PRESSURE	1000kPa
AMBIENT TEMPERATURE RANGE	-30 - 90°C
OPENING TEMPERATURE	3°C
CLOSING TEMPERATURE	4°C
ACCURACY	1°C
CONNECTION	1/2" F with Nut

## APPLICATION DIAGRAM



## INSTALLATION

Before installing the device, make sure that the system has been flushed and cleaned to remove any traces of dirt that may have accumulated during installation.

The device must only be installed in vertical position, as shown in the diagram, so as to permit a free and unrestricted downward flow of the water as it drains out.

The device must be installed at the points of the circuit which are at risk of freezing, so that water may flow freely and in order to prevent pipes, storages or components located upstream of the device from freezing.



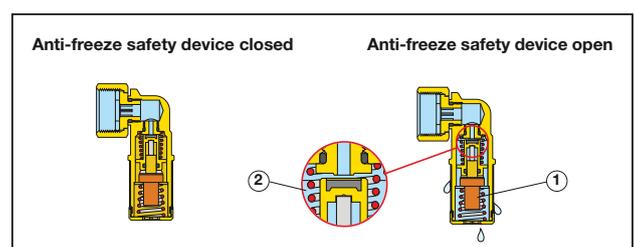
## OPERATION

A thermostatic element (1) in contact with the ambient air controls a shut-off obturator fitted to a passage seat in contact with the water contained in the pipe (2).

When the ambient temperature drops to the minimum intervention value, the thermostat contracts. This causes the obturator to move and open a small passage so that water can drain out, allowing a small amount of water to flow in continuously; this prevents water from freezing inside the pipe.

Water from the supply network, which is usually warmer than the air temperature up to the intervention value, laps the thermostat and causes the opposite action: the channel closes again and normal circuit operating conditions are restored.

For optimal system operation without the risk of freezing, it is recommended that the part of the circuit in which the safety device is installed is connected to the water supply network and a suitable pressure level maintained.



### Volume of water drained

While the frost protection valve is in operation, the drain outlet will drip as a result of the cyclical opening and closing phases taking place correctly. The amount of water drained out varies in accordance with the outdoor temperature, the temperature of the water in the pipe and the length of piping exposed to the air. As a general guide, in the worst case conditions, the amount of water drained out is less than 0,5 l/h.



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