Regulus

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Installation and Operation Manual

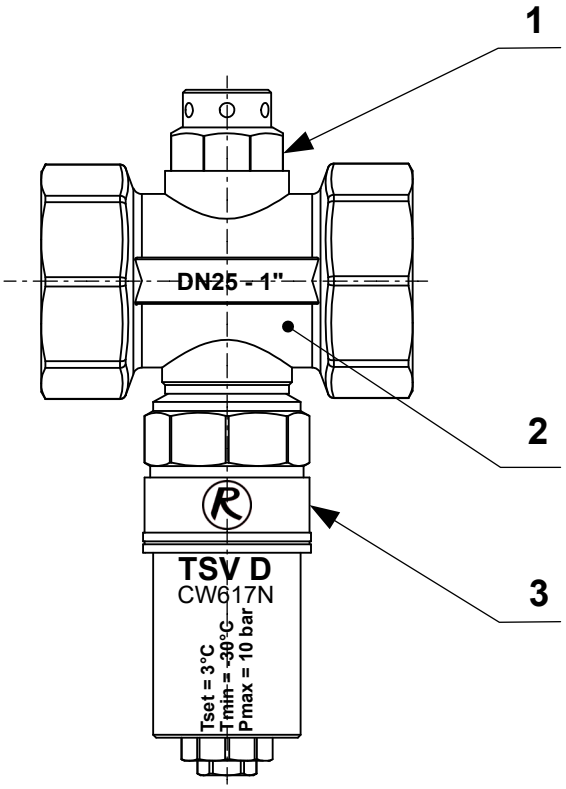
TSV D Thermostatic Antifreeze Valve

EN

TSV D

Description

The valve acts primarily as a protection of a heat pump against freezing in case of a power cut. When the heating circuit temperature drops below 3 °C, the thermostatic element opens and the thermostatic valve starts draining cold water slowly from the piping. Warmer water from the building‘s heating circuit expansion vessel will gradually start flowing into the piping, ensuring that the fluid in the heat pump does not freeze and so its components do not get damaged. If the power cut lasts for too long, the heat pump gets drained completely. When the heating circuit fluid temperature is above 3 °C, the valve is closed.



Components

Key:

1 – air admittance valve
2 – valve housing
3 – replaceable thermostatic element

Technical Data

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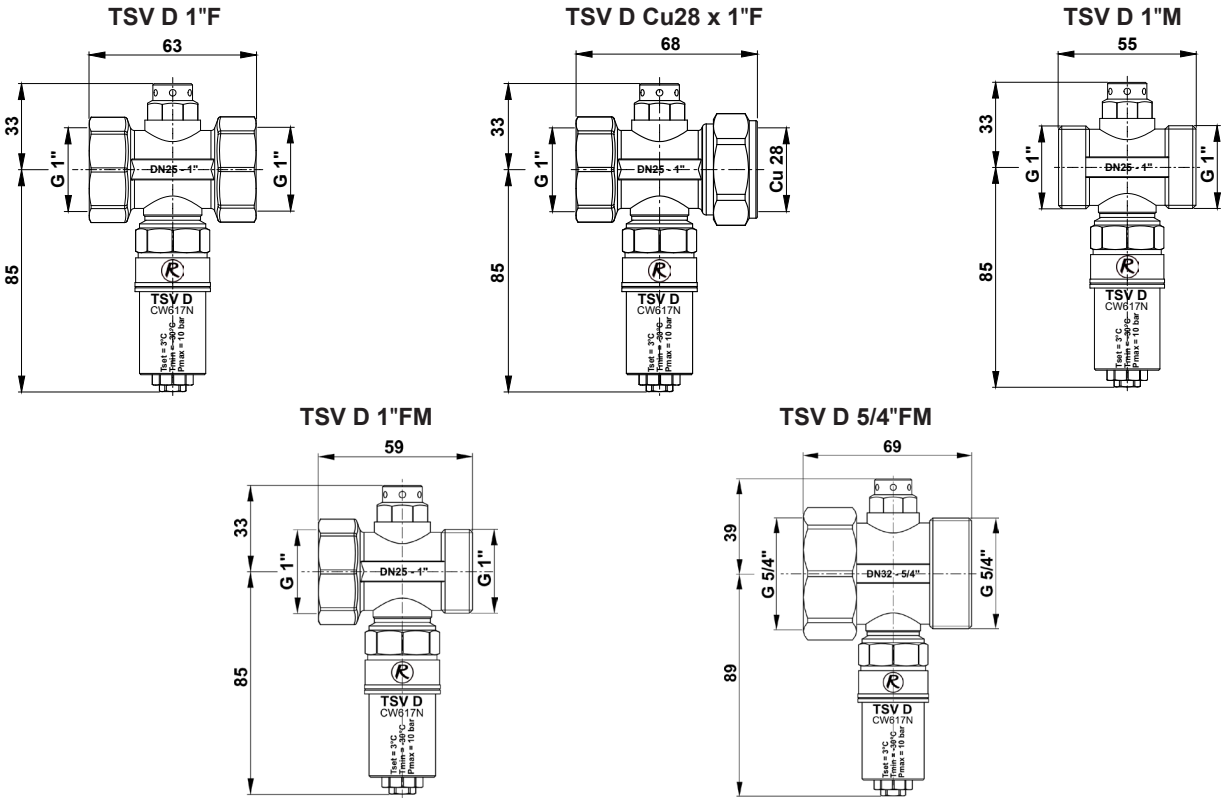
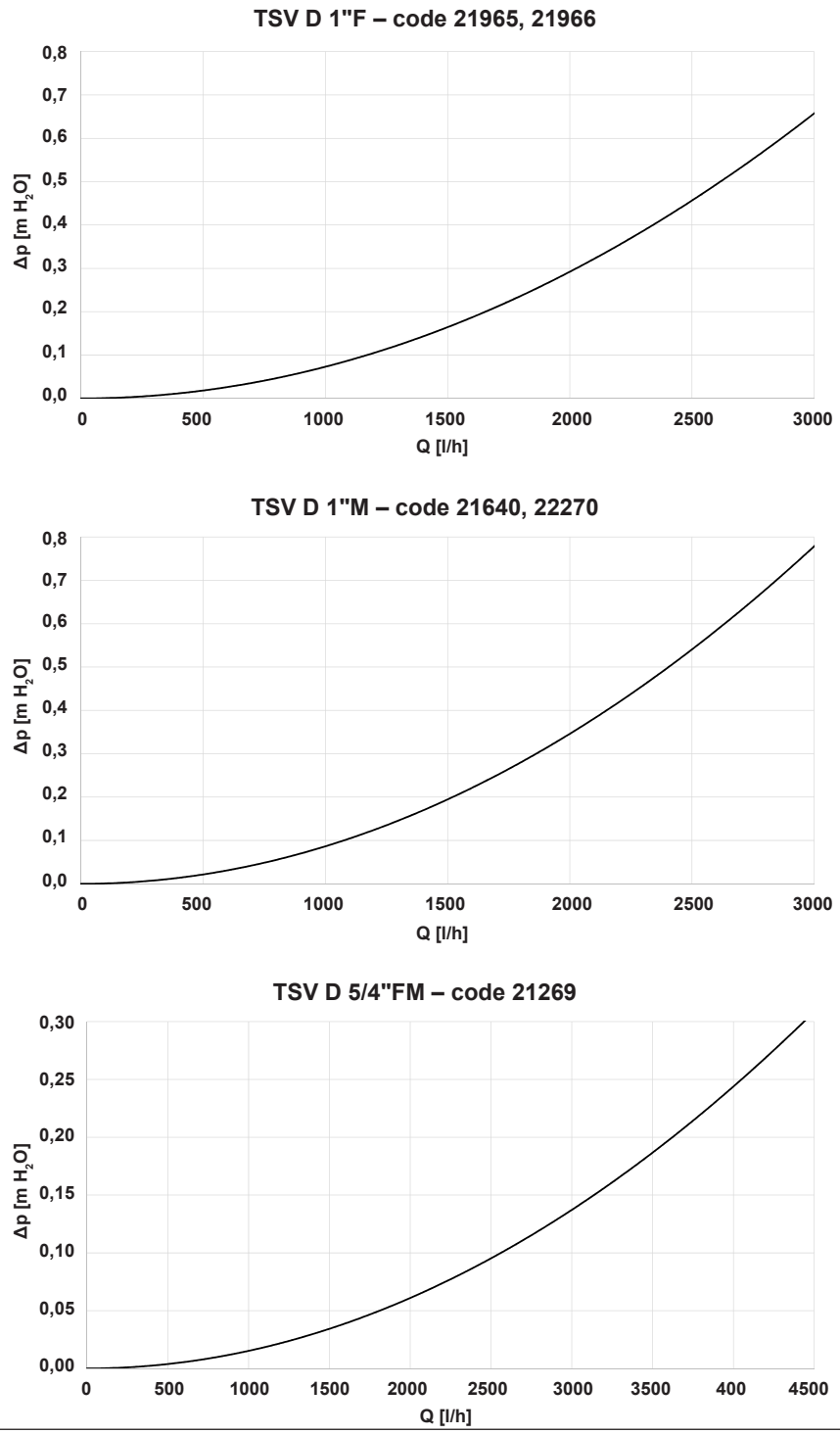


Code	21965	21966	21640	22270	22269
Connections	G 1"F	Cu 28 mm – G 1"F	G 1"M	G 1" FM	G 5/4" FM
Max. working pressure [bar]	10	10	10	10	10
Ambient temperature [°C]	–30 to 60	–30 to 60	–30 to 60	–30 to 60	–30 to 60
Working fluid temperature [°C]	0 to 95	0 to 95	0 to 95	0 to 95	0 to 95
Opening temperature [°C]	2	2	2	2	2
Closing temperature [°C]	3	3	3	3	3
Kvs in straight direction [m³/h]	37	37	34	34	81
Weight [kg]	0.39	0.42	0.36	0.38	0.53

Valve Pressure Drop

Pressure drop diagram



Installation

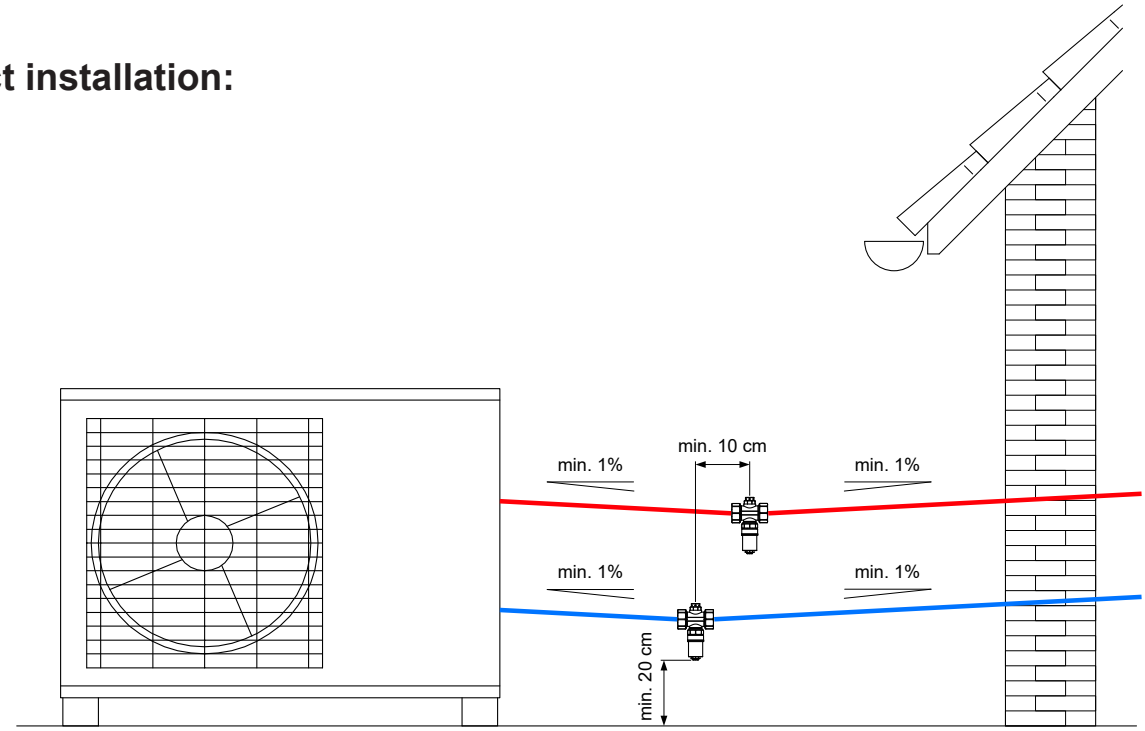
The valve shall be mounted in outdoor piping close to the heat pump. The valve shall be mounted in a vertical position, with the air admittance valve upwards. Install the valve at least 20 cm above ground to prevent the valve outlet from becoming blocked by freezing ice. Do not mount the valves on top of each other. Maintain a distance of at least 10 cm between the valves to prevent the air admittance valve of the lower valve from becoming blocked by freezing ice.

The piping must be sloped towards the valve on both sides and must not have P-traps or other obstacles preventing the free flow of fluid.

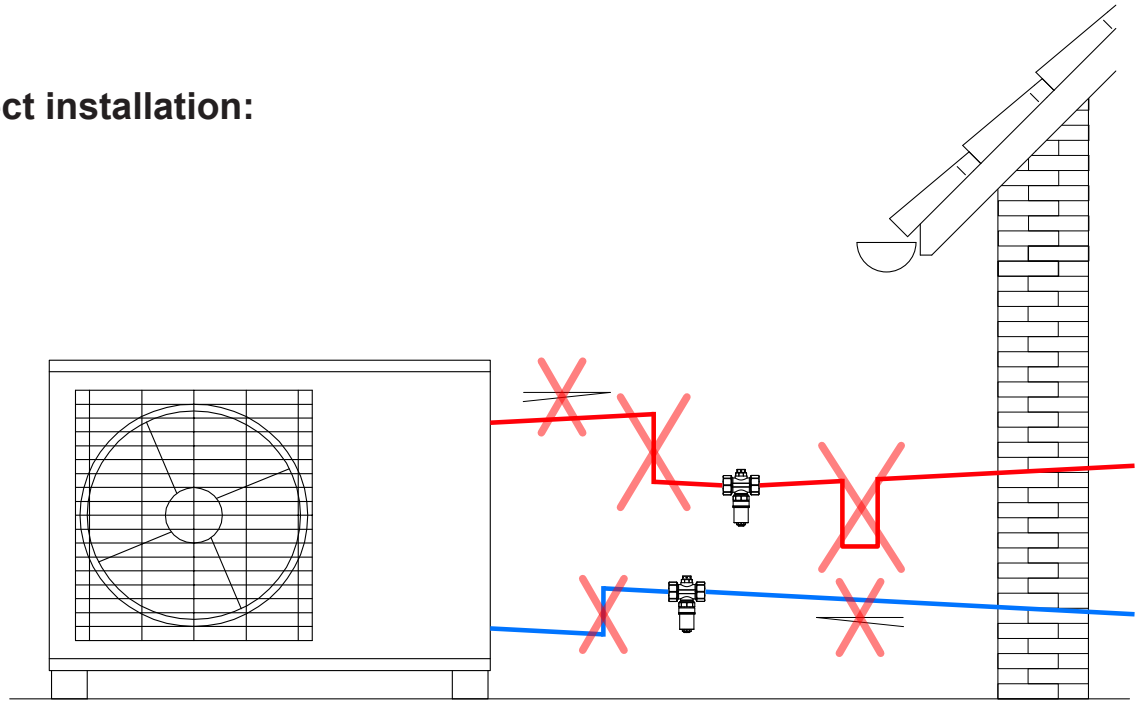
Install the filter with magnet in the piping to prevent the drain part of the valve‘s thermostatic element from becoming clogged with dirt from the heating system - see the instructions for the relevant heat pump.

The valve is supplied with insulation that ensures its proper function and minimizes heat loss.
The valve must not get additional insulation to avoid losing its functionality.

Correct installation:



Incorrect installation:



Operation and Maintenance

If installed correctly, the valve does not require any maintenance.

In the event of a thermostatic element failure, it can be replaced without draining the heating system. The code for the replacement thermostatic element can be found in the spare parts catalogue.

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