NOVAFREEZE

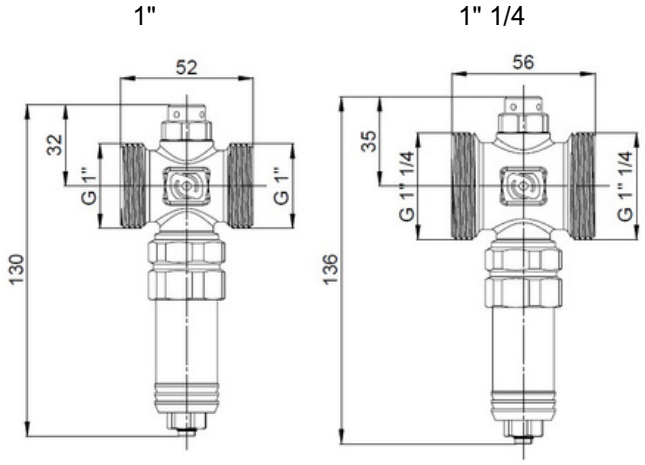
ART. 3791

Function

The antifreeze valve is used in the heat pump closed circulations systems. To avoid accidental power failure and ice forming, the antifreeze valve automatically opens to drain the circulating fluid in the pipeline when the fluid temperature reaches an average value of 3 °C. In heat pumps systems, the goal is to avoid potential damage to the machine and to the pipes. When the water temperature in the valve body is lower than 3 °C, the temperature-sensing element automatically opens the piston to drain fluid. When the fluid temperature exceeds 4 °C, the drain piston will automatically close and stop draining.

Technical data

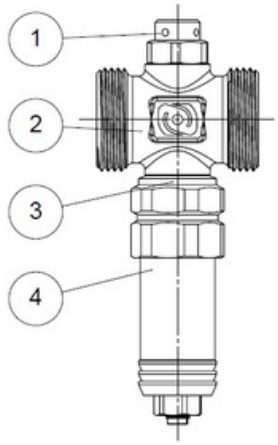
Size	1"	1" 1/4
Medium	Water	
Max. working pressure	10 bar	
Working temperature range	0÷65 °C	
Ambient temperature range	-30÷60 °C	
Opening water temperature	3 °C	
Closing water temperature	4 °C	
Accuracy	±1 °C	
Max. discharge flow rate	1 L/h	
DN	DN25	DN32
Kv	55	70



Configurations

Size		Connections	DN	Opening temperature
1"		G 1" M	DN25	3 °C
1" 1/4		G 1" 1/4 M	DN32	3 °C

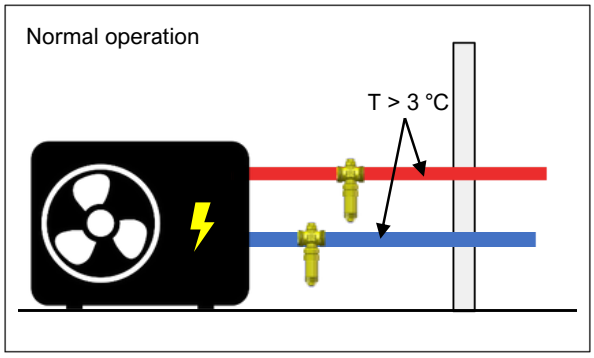
Composition

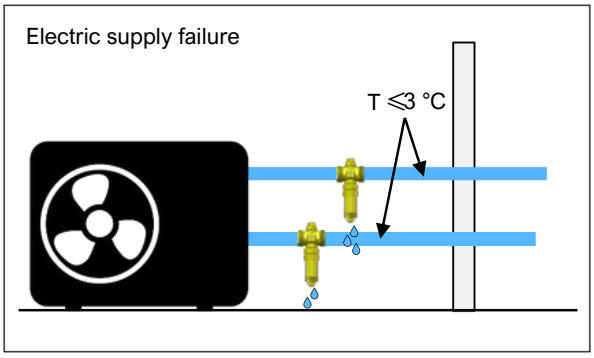


N°	COMPONENTS
1	Vacuum valve
2	Valve body T connection - CW617N
3	Check valve integrated
4	Water sensor cartridge with temperature sensor

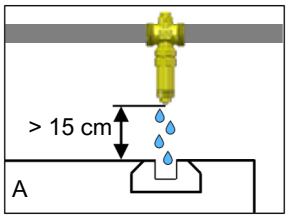
The antifreeze valve has a check valve integrated: when the temperature-sensing valve core is removed, the valve automatically close to prevent water leakage

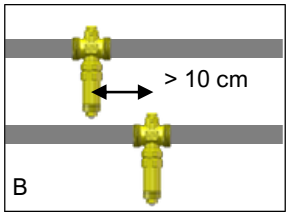
Operation

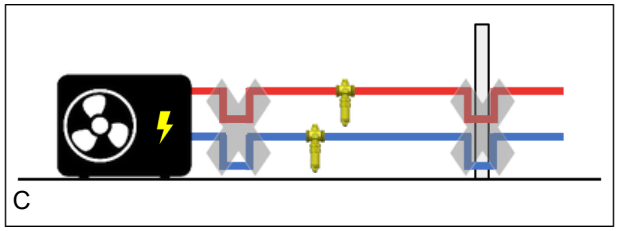




Installation







- The antifreeze valve must be installed in a vertical position, with the drain outlet flushed down, and the place where the water is drained must not be covered to ensure unimpeded drainage.
- The antifreeze valve must be installed outdoors, where the lowest temperatures can be reached if the heat pump is locked. The antifreeze valve should not be too close to the heat source or it will affect its normal operation.
- It is recommended to install antifreeze valves on flow and return pipes, otherwise the outdoor pipes still have the risk of freezing.
- The system must maintain pressure at all time, even while draining, to ensure the antifreeze valve works properly.
- The drain of the antifreeze valve should be at least 15 cm from the ground (figure A) to prevent the drain from freeze water accumulating to block the drain.
- Keep a distance of at least 10 cm between the antifreeze valves (figure B).
- The antifreeze valve must be free of insulation for the system to work properly. When installed outdoors, the antifreeze valve must be protected from rain, snow and direct sunlight.
- Avoid bent pipe. There is a risk of freezing if there are bends in the shape of the pipe that could cause water to accumulate (figure C).