ANTIFREEZE VALVE MANUAL

DESCRIPTION

The primary function of this anti-freeze valve is to maintain water flow within heating and cooling circuits to prevent freezing.When the medium temperature reaches 3°C, the internal sensor activates, allowing water to be discharged from the system. This is particularly designed for single unit heat pump systems, preventing damage to the machine and circuit components during power offand low temperatures.

Technical specifications

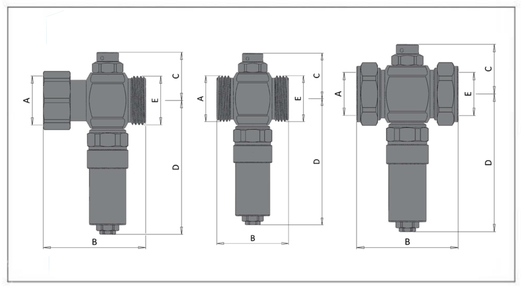
Performance

Medium:	water
Maximum working pressure:	10 bar
Working temperature range'	0-65 ℃
Ambient temperature range:	-30-60 ℃
Medium temperature (opening):	3 ℃
Medium temperature (closing):	4 ℃
Enabling of antifreeze function with outside air temperature:	<5 ℃
Accuracy:	±1 ℃
Kv (straight path): ⌀ 28 mm	64 m³/h
Tightening torque:	80 N·m

Materials

Body:	Brass EN 12165 CW617N
Springs:	Stainless steel EN 10270-3 (AISI 304)
Seals:	EPDM
Connections:	G1″ (ISO 228-1)
	G1 1/4″ (ISO 228-1)
	G1 1/2″ (ISO 228-1)
	Ø28MM for copper pipe
	G1″ MF(ISO 228-1)
	G1 1/4″ MF(ISO 228-1)
	G1 1/2″ MF(ISO 228-1)

A	B	C	D	E
1″	52	79	32	1″
1 1/4″	59	83	36	1 1/4″
1 1/2″	62	83	36	1 1/2″
28MM	71	80	33	28MM
1″F	70	33	91.5	1″M
11/4″F	74	37.5	96	11/4″M
11/2″F	78	40.5	99	11/2″M

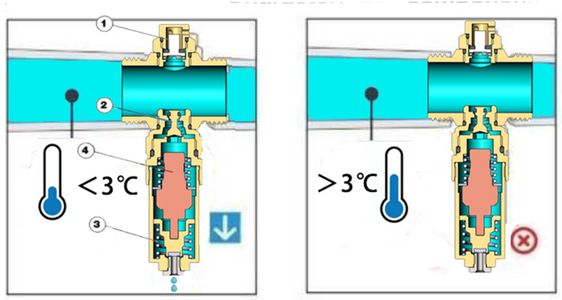


Discharge flow rate

P(bar)	T outside (C)	Flow rate (l/h)
3	-5	0.5
	-20	1

Test conditions:
-straight pipe (⌀ 12 mm, length 1 m) exposed to the outside;
-water temperature inside building 18 ℃.

Water temperature [℃]



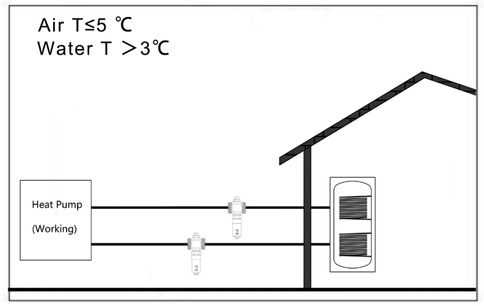
Antifreeze valve
1.Vacuum breaker
2.Automatic shut-off cock
3.Water temperature sensor cartridge
4.Water temperature sensor

Operating Principle
Antifreeze valve

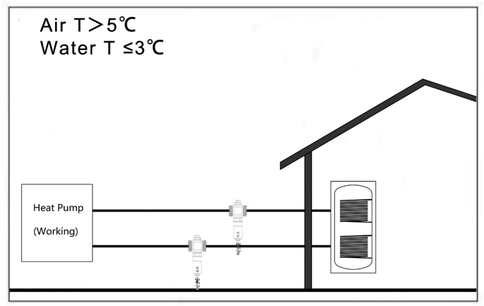
The7201 series antifreeze valve allows drainage of the medium in the circuit when the circuit temperature reaches a value of 3 ℃.

Operating phases

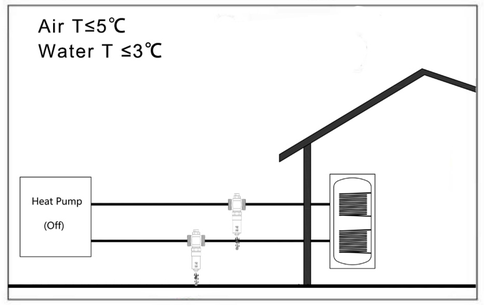
Winter operation in heating mode

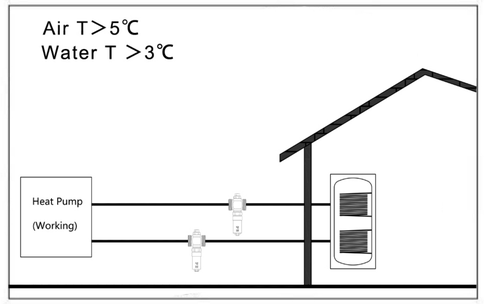


Summer operation in cooling mode



Winter operation in the event of electric supply failure



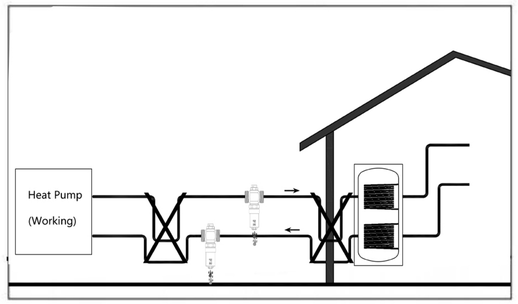


Installation Requirements

The anti-freeze valve must be installed vertically, with the discharge outlet facing downward to ensure proper drainage.

Maintenance

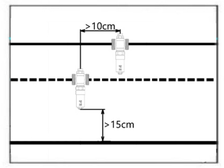
Vacuum Breaker and Temperature Sensor Core are replaceable, ensuring the system remains pressurized.



Maintain a minimum distance of 10 cm between valves, and avoid covering the valve with insulation material.

It should be installed outdoors, away from heat sources, and with the system pressurized.

Avoid creating any trap connections. If the connection pipe is shaped in a way that could cause a trap effect (as illustrated in the
following figure), it will impede drainage and compromise frost protection.



Ensure at least 15 cm of clearance from the ground to prevent ice blockage in the discharge outlet.

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.