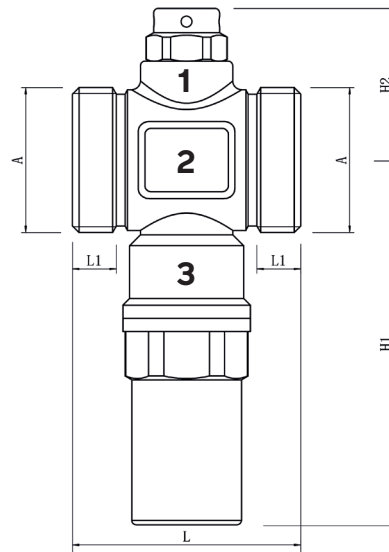
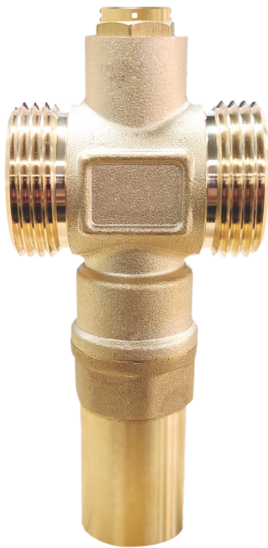


ANTI-FREEZE VALVE

20400010

INSTALLATION AND OPERATING INSTRUCTIONS



- 1 Vacuum breaker
- 2 Valve body
- 3 Drain valve with thermostatic element

TECHNICAL DATA

Medium:	Water without glycol
Operating temperature:	0°C to +90°C
Ambient temperature range:	-30°C to +60°C
Opening temperature:	+3°C
Closing temperature:	+4°C
Max. operating pressure:	10 bar
Accuracy:	±1°C
Connection:	Male thread acc. to DIN EN ISO 228-1
Valve body:	Brass CW617N
Seals:	EPDM
O-Ring:	EPDM

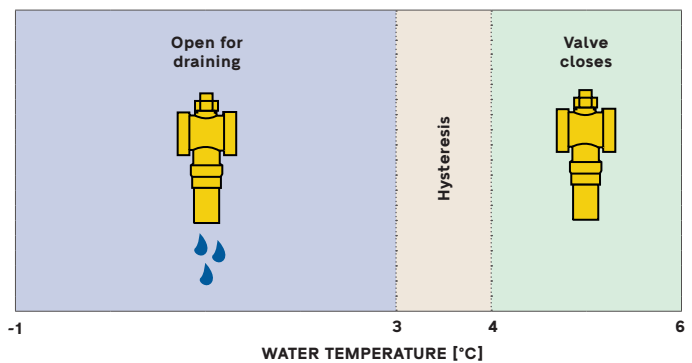
ITEM	G	DN	L	L1	L2	H1	H2	Kvs value
20400010-06	1"	25	52	10	10	82,5	33	55 m³/h
20400010-07	1 1/4"	28,5	59	14	14	84,5	35	70 m³/h
20400010-08	1 1/2"	32	62	15,5	15,5	86	36,5	88 m³/h

OPERATING PRINCIPLE

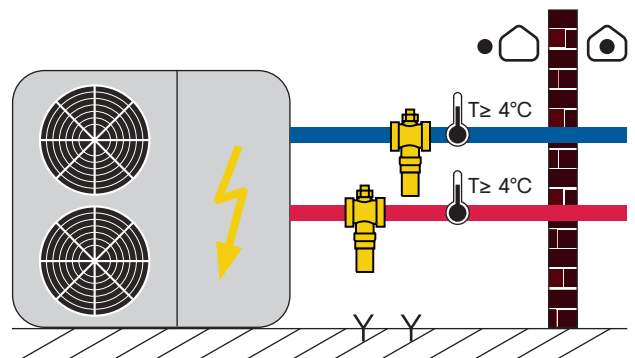
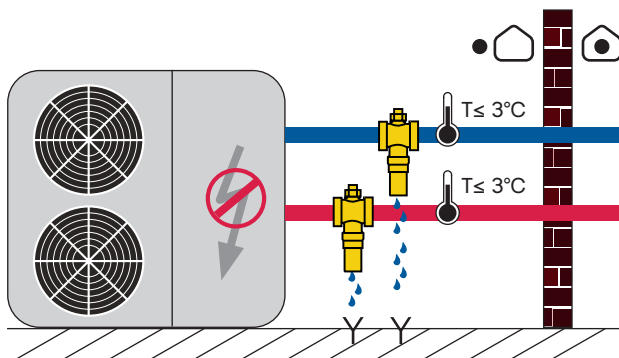
Anti-freeze valves are used in closed-loop systems, particularly in heat pump installations, to prevent water in the circuit from freezing and to avoid potential damage to the system and pipework.

The anti-freeze valve becomes active when the heat pump is out of operation for an extended period – for example, during power failures or system malfunctions. When the water temperature in the system drops below 3 °C, the anti-freeze valve opens automatically to drain the water from the pipes.

NOTE: The anti-freeze valve is designed for use in glycol-free systems.

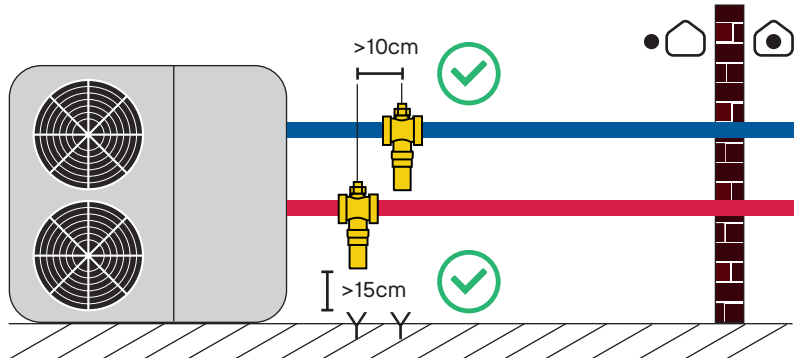
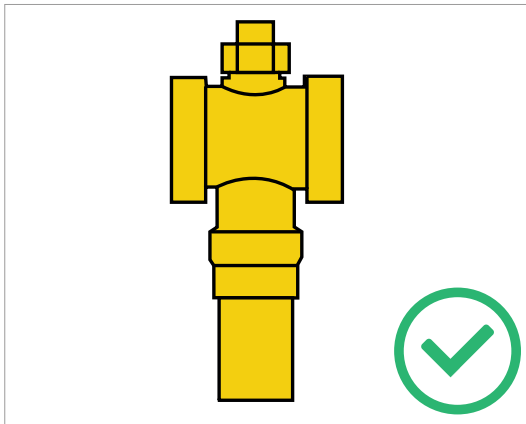


When the water temperature in the system **drops below +3 °C**, the anti-freeze valve opens automatically to drain the water. It remains open until the water temperature **rises again above +4 °C** (hysteresis). Once the temperature exceeds +4 °C, the drain valve closes and the system can return to normal operation.

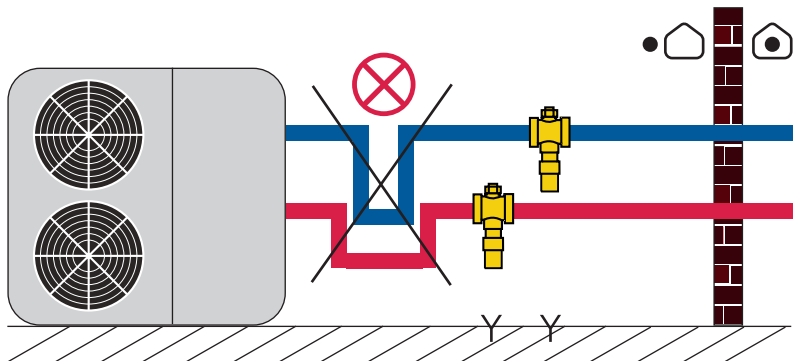
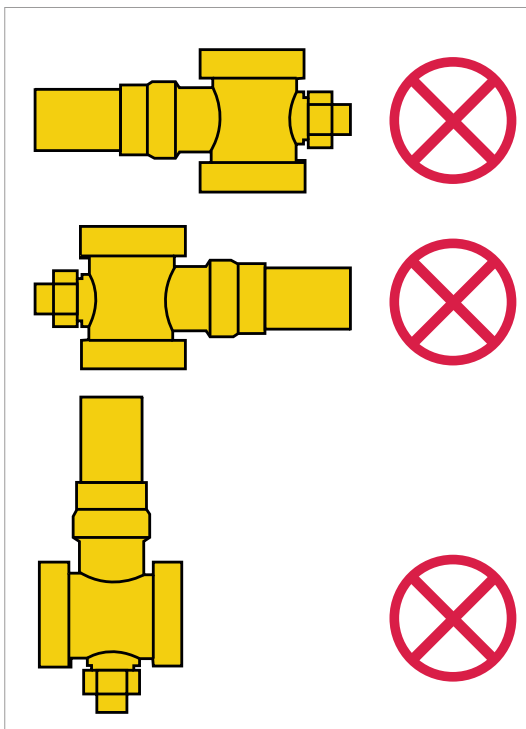


INSTALLATION

Install the anti-freeze valves as follows:



- **Vertical installation only** with the drain valve pointing downwards.
- With the outlet pointing downwards to direct the discharged fluid to a suitable collection point. Maintain a distance of **at least 15 cm** between the drain valve and the collection point to prevent ice build-up from blocking the outlet.
- On the flow and return pipes, maintain a distance of **at least 10 cm** between the two valves, with the pipework sloping slightly towards the anti-freeze valves.
- Outside the building, at the point in the pipework where the lowest temperature may be reached when the heat pump is out of operation.
- Well away from heat sources and protected from rain, snow and direct sunlight.
- The anti-freeze valve must **NOT** be insulated or covered with other materials.
- Avoid siphon-like pipe routing, as this may prevent fluid in the circuit from draining.
- Before installing the valves, clean the system pipework and install suitable filter devices.



WARNING

- The system must remain pressurised at all times to ensure correct operation of the anti-freeze valve.
- After a power failure or malfunction, the system pressure must be checked!
- Any fluid loss must be replenished!