Hydro Tech Integrations - Anti-freeze Valve Manual

Function Anti-freeze valves are used to avoiding the freezing of water in pipes and subsequent damage to the pipe. When the average water temperature in the system drops below 3°C, the anti-freeze valve automatically opens to drain the water from the pipes.

Technical characteristics

Valve material: EN 12165 CW617N / C46500

Medium: Water Maximum working pressure: 10bar

Working temperature range: 0°C~65°C

Ambient temperature range: -30°C~60°C

Medium temperature (Opening): 3°C

Medium temperature (Closing): 4°C

Accuracy: ±1°C

KV Table

A (G)	NPT 1"	G 1"	Φ28	G 1 1/4"	G 1 1/2"
DN	25	25	27	28.5	32
KV	55	55	64	70	88
Q3	0.3	0.3	0.3	0.3	0.3
Q0.5	3	3	3	3	3

(The valve pressure is 3bar before test, the pressure difference is 1bar after test) KV: Flow rate when pressure loss is 1bar, measured in m³/h. Q3: Water temperature 3°C, and the flow rate at a pipeline pressure of 3bar (l/h). Q0.5: Water temperature 0.5°C, and the flow rate at a pipeline pressure of 3bar (l/h).

Operating Principles When the water temperature inside the valve drops below 3°C, the temperature-sensitive element automatically opens the piston for drainage. When the water temperature exceeds 4°C, the drainage piston automatically closes, stopping the drainage.

Installation: The valve must be installed vertically, with the outlet facing downwards, to allow the drained water to flow out smoothly and free from obstructions. It must be installed on warm water pipes which freezes the easiest. The anti-freeze valve must be placed away from heat sources to keep them working properly. The system must always maintain pressure to ensure the proper functioning of the anti-freeze valve. The outlet of the anti-freeze valve should be at least 15cm above the ground level to prevent ice accumulation from obstructing the outlet.

Precautions:

1. There should be no trap connections before or after the anti-freeze valve. If such connections cause water accumulation and prevent water from flowing into the anti-freeze valve, the valve will no longer provide its anti-freeze function.
2. The anti-freeze valve must be free of insulation treatment to ensure the system sensor functions correctly.
3. When installed outdoors, the anti-freeze valve must be protected from rain, snow, and direct sunlight.

Disclaimer: We shall not be liable for any damage caused by product failure or incorrect installation. Users are responsible for ensuring proper installation and maintenance in accordance with this manual.