

COMPLEMENTARY PRODUCTS

ANTI-FREEZE VALVE SERIES VTN100, VTN200

ESBE Anti-freeze valves protect your heating system from freezing damages in case the fluid temperature gets too low.



VTN100
External thread



VTN200
External thread

OPERATION

The ESBE series VTNx00 is a range of safety valves for mono bloc heat pumps to ensure that in case of a power outage during cold weather, the heatpump and plate heat exchanger should not freeze and break. Series VTN200 includes a second sensor for ambient temperature readings.

When the media temperature drops below 3°C, the valve starts evacuating water allowing warmer water to reach the valve, as it closes again at a media temperature of 4°C. This prevents the system from draining instantly, but ensures that the water in the system will not freeze. An anti vacuum valve ensures that all the water can be evacuated if the need for this occurs. As the temperature in the media rises again, the valve closes and there is no need for resetting the valve.

Series VTN200, with a second sensor sensing the ambient temperature, prevents the safety valve from draining the system if media temperature drops below opening temperature while ambient temperature is without risk of freezing.

The Anti-freeze valves are available in G 1" and G 1¼" external threads in PN10. The main part of the valve is made from brass and regulated by a very precise wax element. ESBE VTN100 and VTN200 can be installed vertically ±45°.

SERVICE AND MAINTENANCE

No maintenance needed under normal conditions.

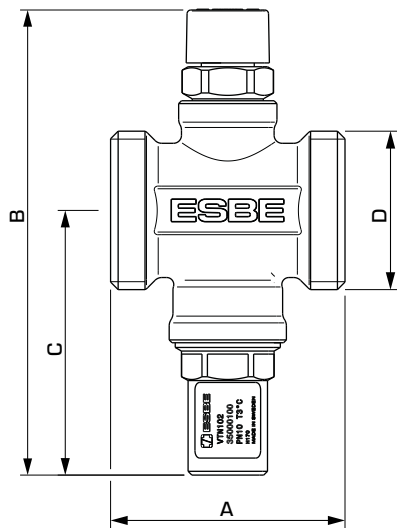
TECHNICAL DATA

Pressure class: _____ PN 10
Max. working pressure: _____ 10 bar
Working temperature range: _____ 0°C to 90°C
Ambient temperature range: _____ -30°C to 60°C
Activation ambient temperature, VTN200: _____ 5°C ±2°C
Media: _____ Heating water (in accordance with VDI 2035)
Media temperature - Opening: _____ 3°C ±1°C
Closing: _____ 4°C ±1°C
Discharge flow rate: _____ 2 l/min @ 1°C and 3 bar
(Kvs 0,07 m³/h @ 1°C)
Connections: _____ External thread (G), ISO 228/1 B

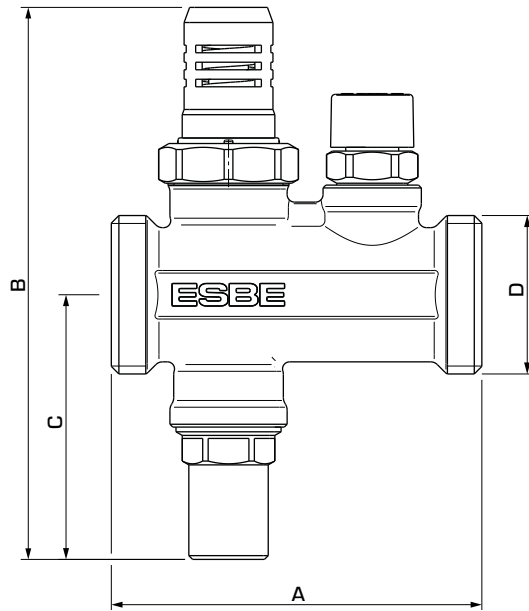
Material
Valve body: _____ Brass
O-ring: _____ EPDM
Spring: _____ Stainless steel

PED 2014/68/EU, article 4.3

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VTN100



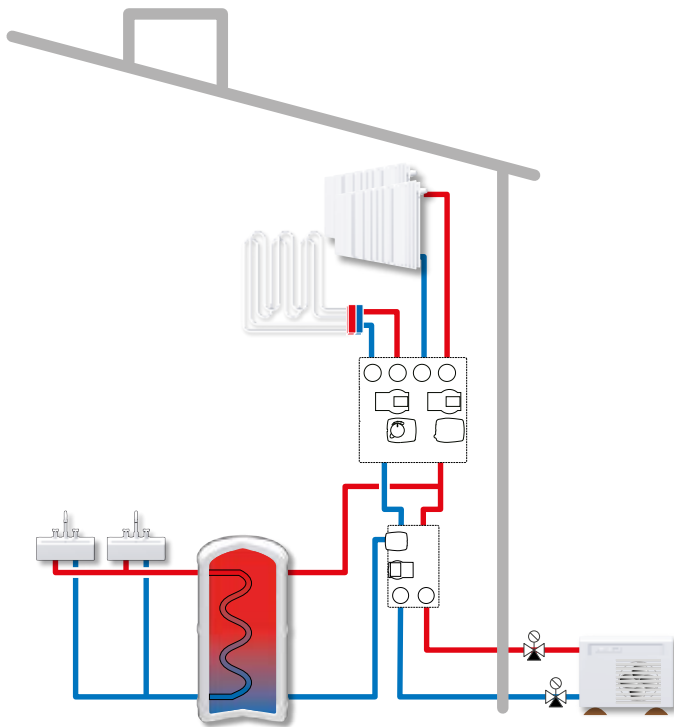
VTN200

SERIES VTNx00

Art. No.	Reference	DN	Dimension [mm]			Connection	Weight [kg]	Note
			A	B	C			
35100100	VTN102	25	58	123	73	G 1"	0,35	
35100200		32	62		70	G 1 1/4"	0,42	
35200100	VTN202	25	94	146	73	G 1"	0,58	
35200200		32	98		70	G 1 1/4"	0,67	

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INSTALLATION EXAMPLES



Anti-freeze valve placed outside in an air-to-water Monobloc Heat pump system.

*The shown applications are only examples of product use!
Before using the product in any application, the regional and national regulations need to be checked.*