

TECHNICAL CATALOGUE

ANTIFREEZE VALVES FOR HEAT PUMPS

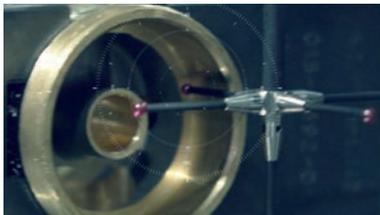
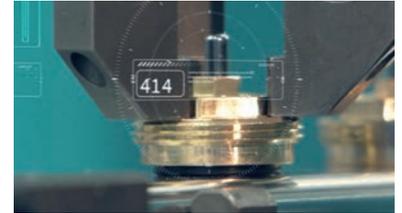


> THE COMPANY

ITAP SpA, founded in Lumezzane (Brescia) in 1972, is currently one of the leading production companies in Italy of **valves, fittings and distribution manifolds** for plumbing and heating systems.

Thanks to a fully automated production process, with 85 transfer machines and 55 assembly lines, it is capable of producing 400,000 pieces per day.

Our innate pursuit for innovation and observance of technical regulations is supported by the company certification ISO 9001. The company has always considered its focus on quality as the main tool to obtain significant business results: today ITAP SpA is proud to offer products bearing the approval of numerous international certifying bodies.



> ITAP products have obtained approvals by more than 30 certification bodies from all over the world.





ANTIFREEZE VALVES FOR HEAT PUMPS

476MM Antifreeze valve for heat pumps



MEASURE	PRESSURE	CODE	PACKING
1" (DN 25)	10bar/145psi	4760100MM	1/50
1"1/4 (DN 32)	10bar/145psi	4760114MM	1/19

TECHNICAL SPECIFICATIONS

Male/male threads.

Body in brass.

Minimum and maximum ambient working temperature: -30°C, 65°C.

Minimum and maximum medium temperature: 0°C, 90°C.

Valve opening temperature: 3°C.

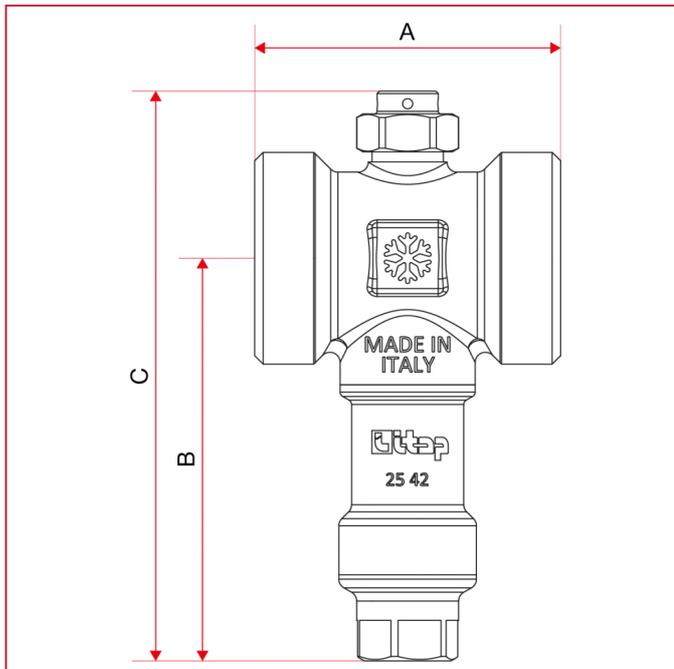
Valve closing temperature: 4°C.

Maximum working pressure: 10bar.

Medium: water.

Threads: ISO 228 (equivalent to DIN EN ISO 228 and BS EN ISO 228).

OVERALL DIMENSIONS

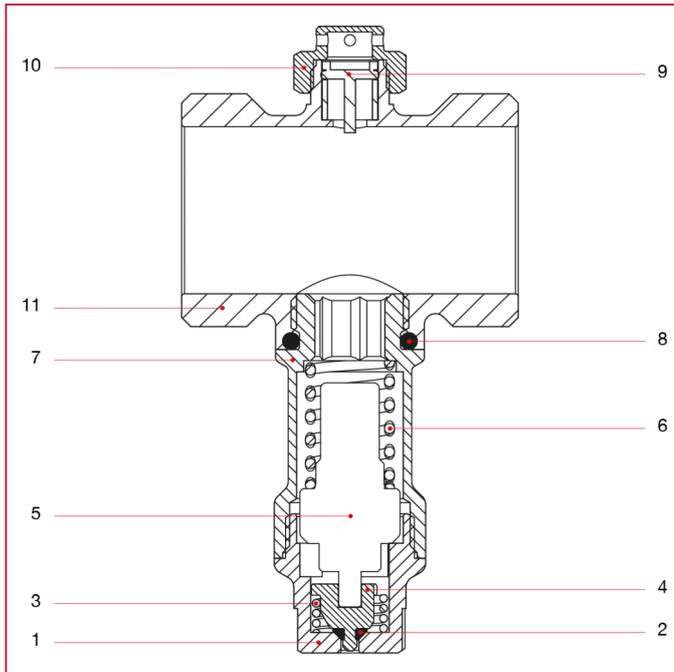




ANTIFREEZE VALVES FOR HEAT PUMPS

	1"	1"1/4
DN	25	32
A	56	60
B	76,5	79,5
C	106,5	112,5
Kg/cm ² bar	10	10
LBS - psi	145	145

MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	Cartridge end adapter	1	Brass CW617N
2	O-ring	1	EPDM
3	Spring	1	Stainless steel AISI 302
4	Shutter	1	Brass CW617N
5	Thermostatic bulb	1	-
6	Spring	1	Stainless steel AISI 302
7	Fitting	1	Brass CW617N
8	O-ring	1	EPDM
9	Vacuum breaker valve	1	POM
10	Cap	1	Brass CW617N
11	Body	1	Brass CW617N



ANTIFREEZE VALVES FOR HEAT PUMPS

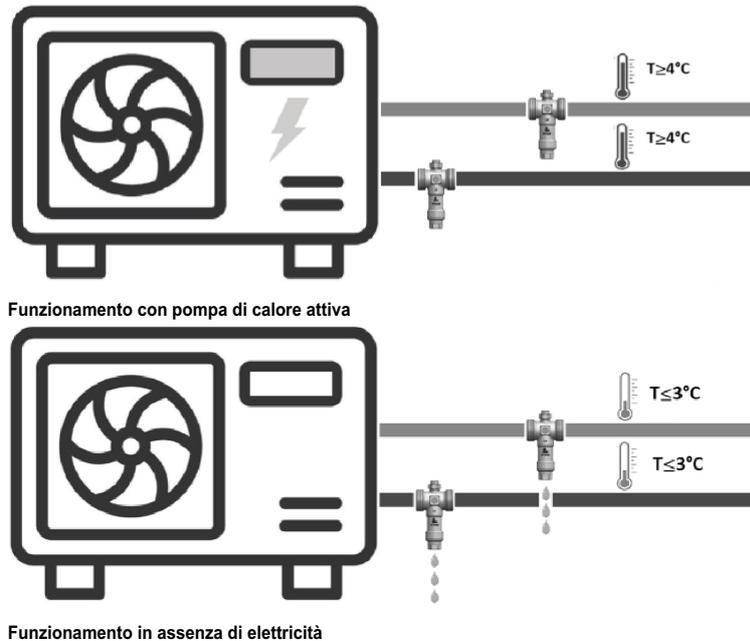
INSTRUCTIONS FOR INSTALLATION, COMMISSIONING AND MAINTENANCE

WARNING:

The following instructions must be read and understood before installing and maintaining the product. Leave this manual as a reference guide for the user. Dispose of the product in compliance with current legislation.

FUNCTION:

The antifreeze valve allows drainage of the medium in the circuit when the circuit temperature reaches an average value of 3 °C.



OPERATING FEATURES:

Allowed fluids: Water

Maximum working pressure: 10 bar

Working temperature range: $0^{\circ}\text{C} \div +90^{\circ}\text{C}$

Ambient temperature range: $-30^{\circ}\text{C} \div +65^{\circ}\text{C}$

Fluid temperature (Opening): $+3^{\circ}\text{C}$

Fluid temperature (Closure): $+4^{\circ}\text{C}$

Accuracy: $\pm 1^{\circ}\text{C}$

MATERIALS:

Body valve: Brass CW617N

Internal components: Brass CW617N

Springs: Steel AISI 302

Seals: EPDM Peroxide

Vacuum breaker valve: POM

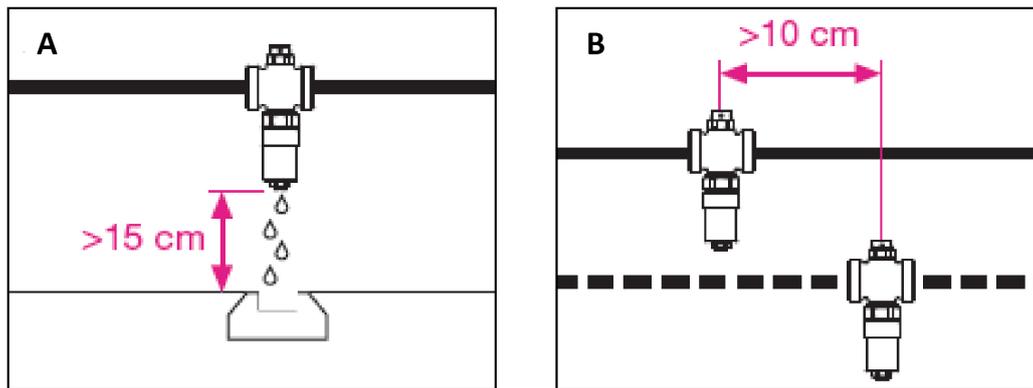
Wax thermostatic element

INSTALLATION:

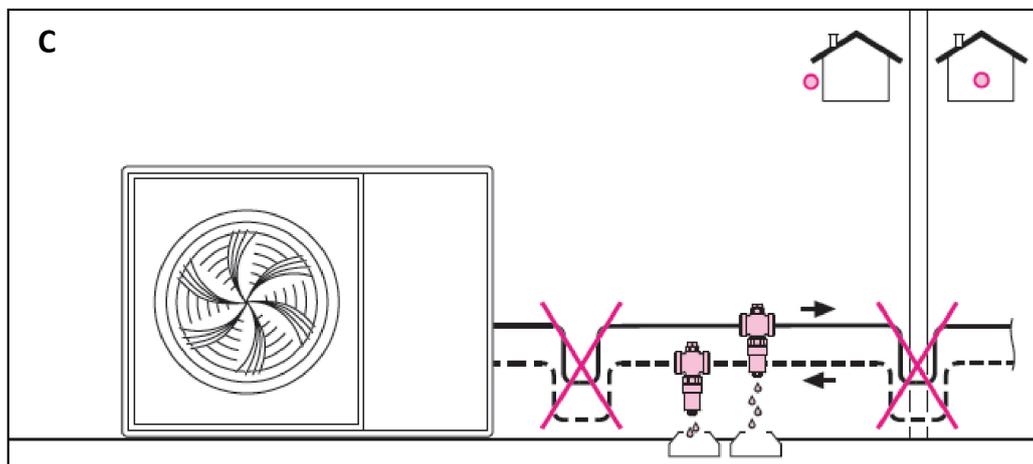
The device must only be installed vertically to allow water to flow out properly and free from obstructions. The antifreeze valves must be installed outside, in the coldest part of the system that is at risk of freezing. We recommend installing the antifreeze valves on both pipes (flow and return). They must also not be placed close to heat sources which could interfere with proper function. Leave at least 15 cm clearance from the ground so the block of ice that may form below will not prevent water from coming out of the valve (fig. A). Keep a distance of at least 10 cm between the antifreeze valves (fig. B).



ANTIFREEZE VALVES FOR HEAT PUMPS



In accordance with applicable regulations, the safety relief valve drain must be channelled using suitable pipes. Do not make any trap connections. If the shape of the connection pipe has the potential to create a trap effect (fig. C), part of the pipe will not be drained and protection against freezing can no longer be guaranteed.





ANTIFREEZE VALVES FOR HEAT PUMPS

476MF Antifreeze valve for heat pumps



MEASURE	PRESSURE	CODE	PACKING
1" (DN 25)	10bar/145psi	4760100MF	1/50
1"1/4 (DN 32)	10bar/145psi	4760114MF	1/19

TECHNICAL SPECIFICATIONS

Threads: male/revolving female nut.

Body in brass.

Minimum and maximum ambient working temperature: -30°C, 65°C.

Minimum and maximum medium temperature: 0°C, 90°C.

Valve opening temperature: 3°C.

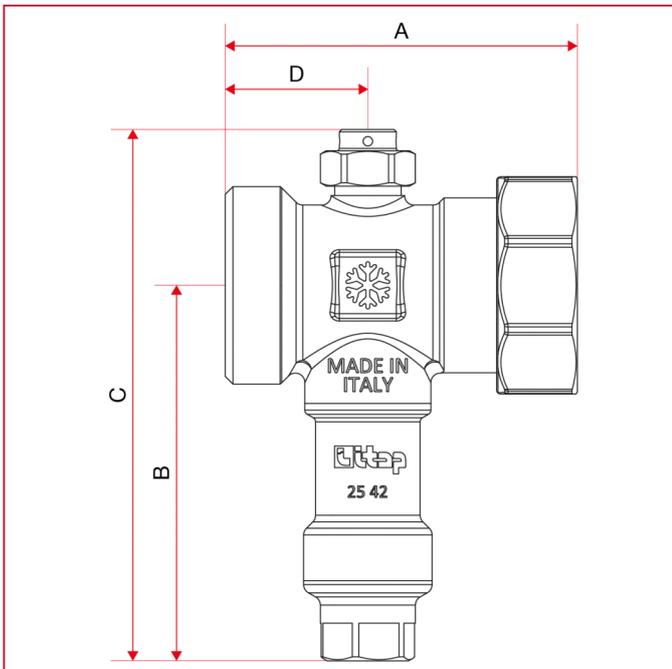
Valve closing temperature: 4°C.

Maximum working pressure: 10bar.

Medium: water.

Threads: ISO 228 (equivalent to DIN EN ISO 228 and BS EN ISO 228).

OVERALL DIMENSIONS

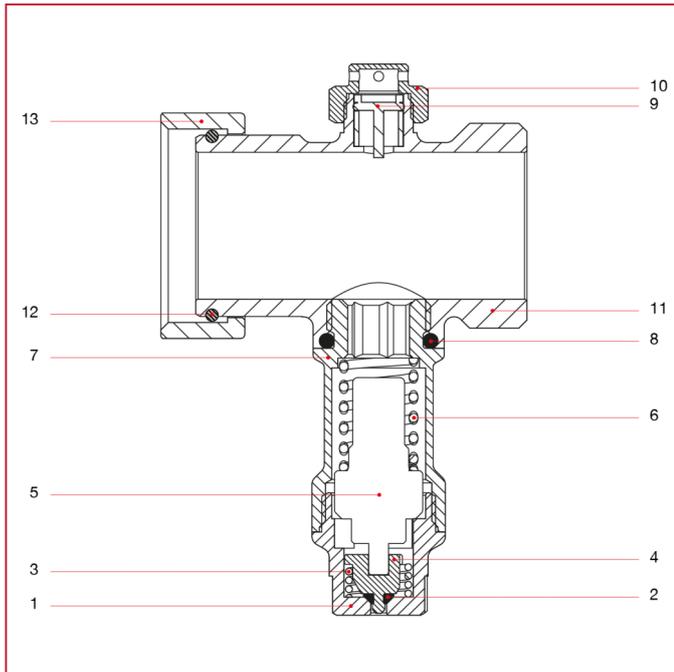




ANTIFREEZE VALVES FOR HEAT PUMPS

	1"	1"1/4
DN	25	32
A	61	67
B	76,5	79,5
C	106,5	112,5
D	28	30
Kg/cm ² bar	10	10
LBS - psi	145	145

MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	Cartridge end adapter	1	Brass CW617N
2	O-ring	1	EPDM
3	Spring	1	Stainless steel AISI 302
4	Shutter	1	Brass CW617N
5	Thermostatic bulb	1	-
6	Spring	1	Stainless steel AISI 302
7	Fitting	1	Brass CW617N
8	O-ring	1	EPDM
9	Vacuum breaker valve	1	POM
10	Cap	1	Brass CW617N
11	Body	1	Brass CW617N
12	Seeger ring	1	Stainless steel AISI 304
13	Nut	1	Brass CW617N



ANTIFREEZE VALVES FOR HEAT PUMPS

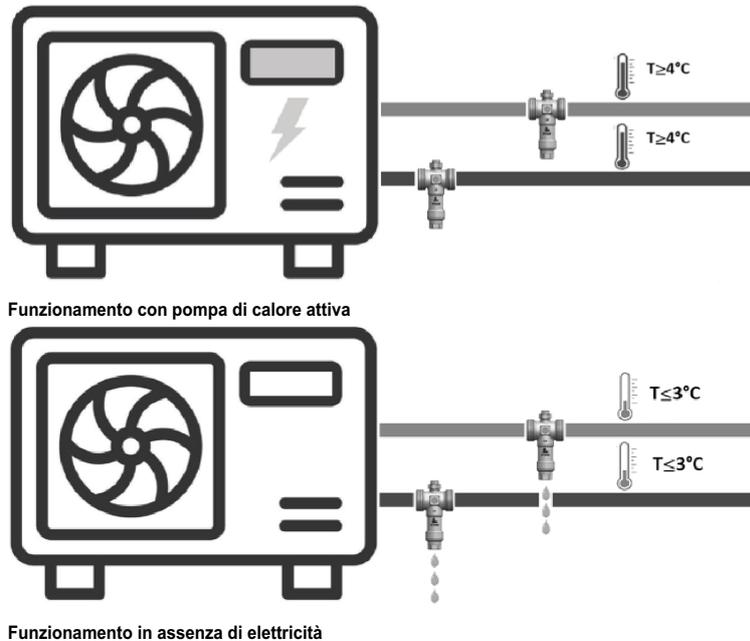
INSTRUCTIONS FOR INSTALLATION, COMMISSIONING AND MAINTENANCE

WARNING:

The following instructions must be read and understood before installing and maintaining the product. Leave this manual as a reference guide for the user. Dispose of the product in compliance with current legislation.

FUNCTION:

The antifreeze valve allows drainage of the medium in the circuit when the circuit temperature reaches an average value of 3 °C.



OPERATING FEATURES:

Allowed fluids: Water

Maximum working pressure: 10 bar

Working temperature range: $0^{\circ}\text{C} \div +90^{\circ}\text{C}$

Ambient temperature range: $-30^{\circ}\text{C} \div +65^{\circ}\text{C}$

Fluid temperature (Opening): $+3^{\circ}\text{C}$

Fluid temperature (Closure): $+4^{\circ}\text{C}$

Accuracy: $\pm 1^{\circ}\text{C}$

MATERIALS:

Body valve: Brass CW617N

Internal components: Brass CW617N

Springs: Steel AISI 302

Seals: EPDM Peroxide

Vacuum breaker valve: POM

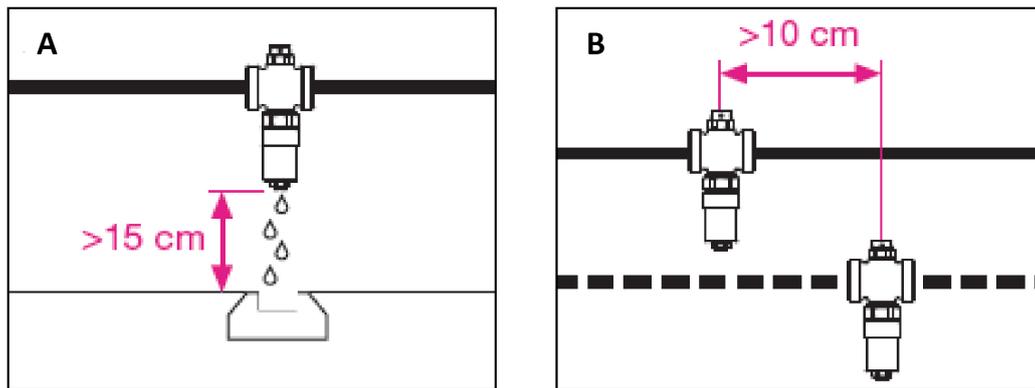
Wax thermostatic element

INSTALLATION:

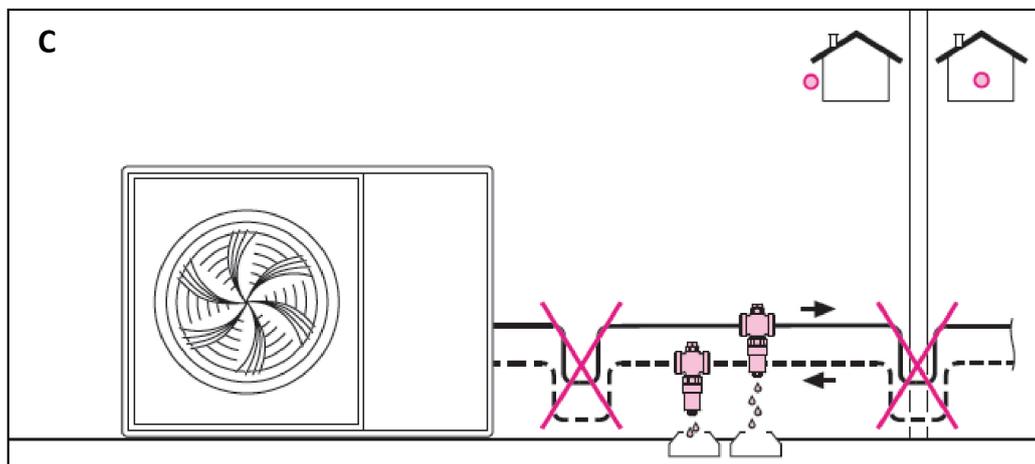
The device must only be installed vertically to allow water to flow out properly and free from obstructions. The antifreeze valves must be installed outside, in the coldest part of the system that is at risk of freezing. We recommend installing the antifreeze valves on both pipes (flow and return). They must also not be placed close to heat sources which could interfere with proper function. Leave at least 15 cm clearance from the ground so the block of ice that may form below will not prevent water from coming out of the valve (fig. A). Keep a distance of at least 10 cm between the antifreeze valves (fig. B).



ANTIFREEZE VALVES FOR HEAT PUMPS



In accordance with applicable regulations, the safety relief valve drain must be channelled using suitable pipes. Do not make any trap connections. If the shape of the connection pipe has the potential to create a trap effect (fig. C), part of the pipe will not be drained and protection against freezing can no longer be guaranteed.





ANTIFREEZE VALVES FOR HEAT PUMPS

476CU Antifreeze valve for heat pumps



MEASURE	PRESSURE	CODE	PACKING
28 mm	10bar/145psi	476C00028CU	1/19

TECHNICAL SPECIFICATIONS

Compression fittings for copper pipe.

Body in brass.

Minimum and maximum ambient working temperature: -30°C, 65°C.

Minimum and maximum medium temperature: 0°C, 90°C.

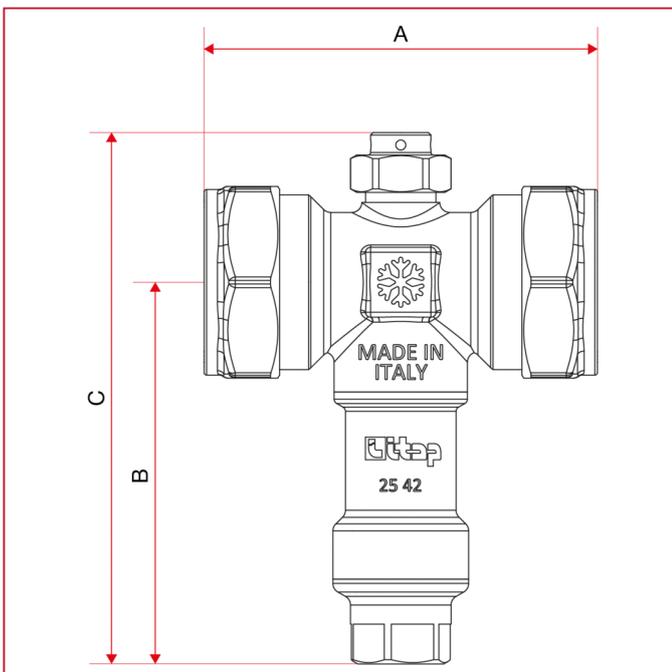
Valve opening temperature: 3°C.

Valve closing temperature: 4°C.

Maximum working pressure: 10bar.

Medium: water.

OVERALL DIMENSIONS

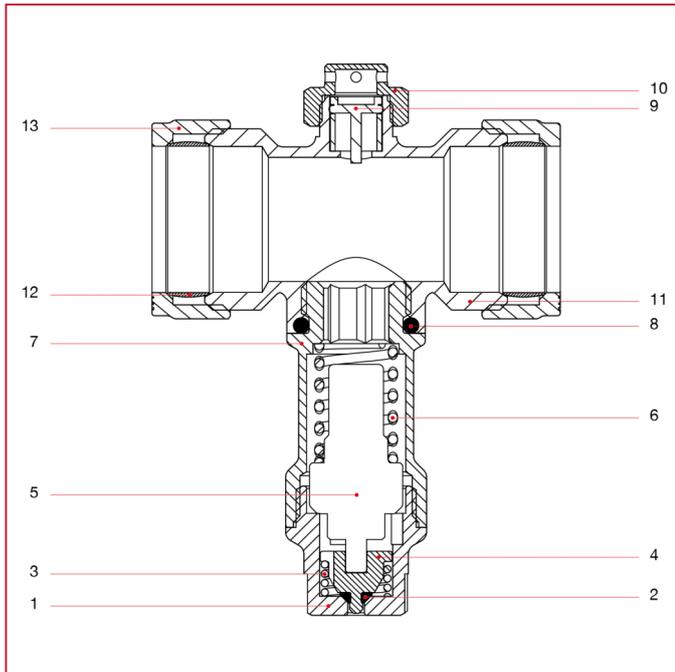




ANTIFREEZE VALVES FOR HEAT PUMPS

28 mm	
DN	25
A	78
B	76,5
C	106,5
Kg/cm ² bar	10
LBS - psi	145

MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	Cartridge end adapter	1	Brass CW617N
2	O-ring	1	EPDM
3	Spring	1	Stainless steel AISI 302
4	Shutter	1	Brass CW617N
5	Thermostatic bulb	1	-
6	Spring	1	Stainless steel AISI 302
7	Fitting	1	Brass CW617N
8	O-ring	1	EPDM
9	Vacuum breaker valve	1	POM
10	Cap	1	Brass CW617N
11	Body	1	Brass CW617N
12	Olive	2	Brass CW508L
13	Nut	2	Brass CW617N



ANTIFREEZE VALVES FOR HEAT PUMPS

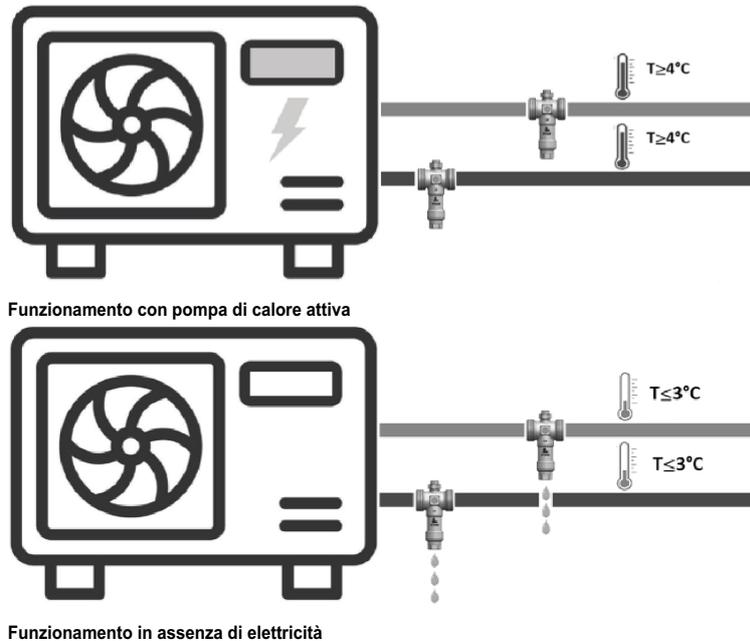
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OPERATING FEATURES:

Allowed fluids: Water

Maximum working pressure: 10 bar

Working temperature range: $0^{\circ}\text{C} \div +90^{\circ}\text{C}$

Ambient temperature range: $-30^{\circ}\text{C} \div +65^{\circ}\text{C}$

Fluid temperature (Opening): $+3^{\circ}\text{C}$

Fluid temperature (Closure): $+4^{\circ}\text{C}$

Accuracy: $\pm 1^{\circ}\text{C}$

MATERIALS:

Body valve: Brass CW617N

Internal components: Brass CW617N

Springs: Steel AISI 302

Seals: EPDM Peroxide

Vacuum breaker valve: POM

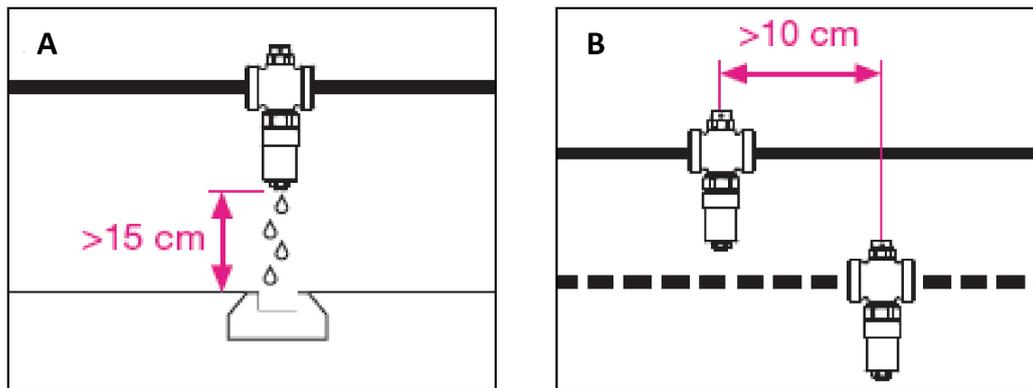
Wax thermostatic element

INSTALLATION:

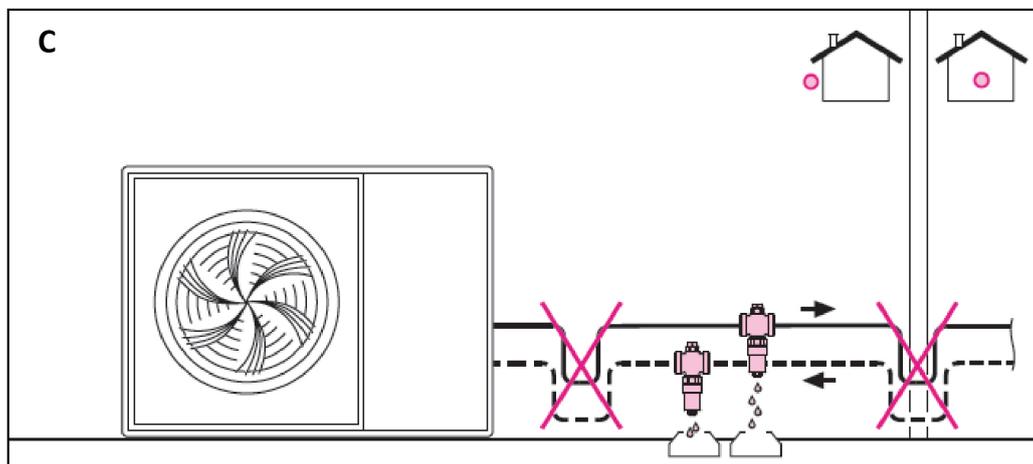
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ANTIFREEZE VALVES FOR HEAT PUMPS



In accordance with applicable regulations, the safety relief valve drain must be channelled using suitable pipes. Do not make any trap connections. If the shape of the connection pipe has the potential to create a trap effect (fig. C), part of the pipe will not be drained and protection against freezing can no longer be guaranteed.





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We reserve the right to make improvements and changes to the products described herein and to the relative technical data, at any time and without forewarning.

rev. 20260318