



BLANCHI F.lli S.p.a.
Plumbing | Gas | Heating Equipment

B-ZeroIce

SERIES 851A - 851B - 851C

Technical data sheet





OPERATION

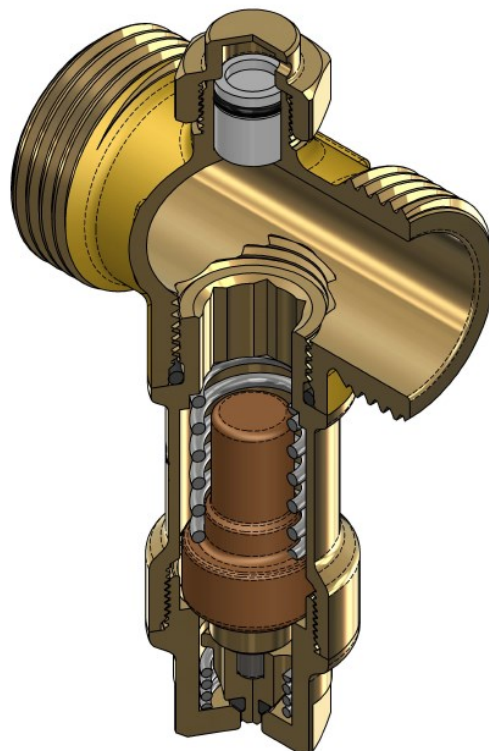
The **B-ZeroIce** antifreeze protection valve, used as an alternative to glycol, prevents the freezing of water inside the heating system pipes. The valve is equipped with an internal sensor that allows the heat transfer fluid to be discharged from the system when its temperature reaches a nominal value of 3°C. This prevents the formation of ice in the system circuit, avoiding possible damage to equipment such as exchangers or pipes. When the temperature of the heat transfer fluid returns to a nominal temperature of 4°C, the antifreeze valve closes and the circuit is hermetically sealed. Designed for systems powered by monobloc heat pumps, it prevents damage to the machine and circuit components in the event of a power failure and temperatures below zero.

TECHNICAL DATA

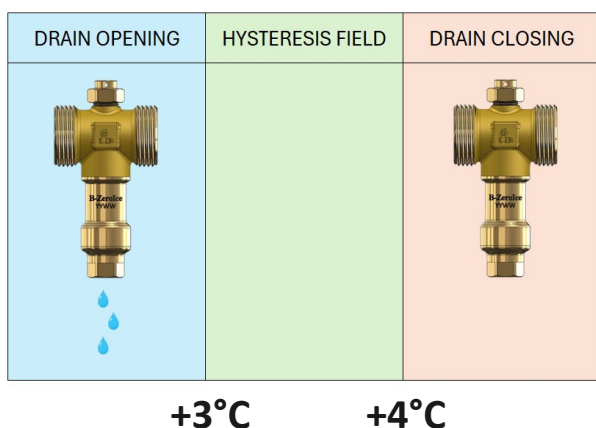
Nominal Pressure:	10 bar
Compatible fluids:	Water
Room temperature:	-30°C ÷ +65°C
Fluid temperature:	0 ÷ +90°C
Fluid temperature (Opening):	+3°C
Fluid temperature (Closure):	+4°C
Accuracy:	±1°C
Threads:	ISO 228-1

MATERIALS

Body valve:	Brass CW617N
Internal components:	Brass CW617N
Springs:	Acciaio INOX AISI 302
Vacuum breaker valve:	POM
Seals:	EPDM
Thermostatic element	



HYSTERESIS FIELD



If the antifreeze valve outlet is in the closed position, it remains closed until the fluid temperature drops to 3°C. If the antifreeze valve outlet is in the open position, and is therefore discharging heat transfer fluid, it remains open and continues to discharge until the fluid temperature returns to 4°C. The advantage of the **B-ZeroIce** valve is that it has a very small hysteresis range of just 1°C.





AVAILABLE VERSIONS

The **B-ZeroIce** valve is available in the following versions:

- Antifreeze valve with male connections ISO 228-1;
- Antifreeze valve with male connections x swivel nut ISO 228-1;
- Antifreeze valve with connections for copper pipe.

851A

Antifreeze valve with male connections ISO 228-1



CODE	SIZE	Kvs
851A000600	1"	42 m ³ /h
851A000700	1" 1/4	60 m ³ /h

851B

Antifreeze valve with male connections x swivel nut ISO 228-1



CODE	SIZE	Kvs
851B000600	1"	37 m ³ /h
851B000700	1" 1/4	60 m ³ /h

851C

Antifreeze valve with connections for copper pipe

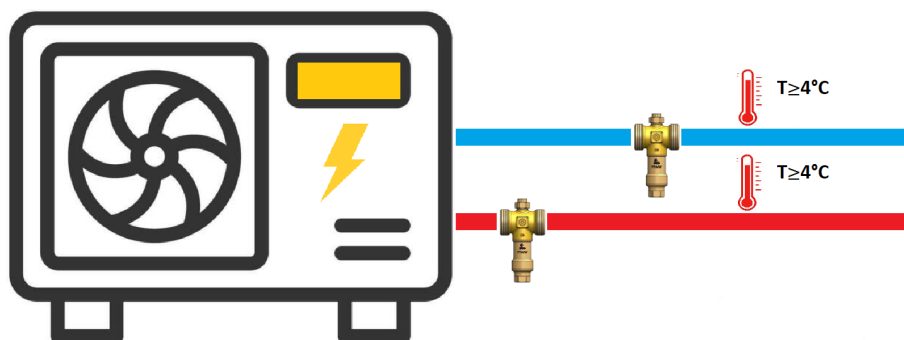


CODE	SIZE	Kvs
851C000600	Ø 28 mm	42 m ³ /h

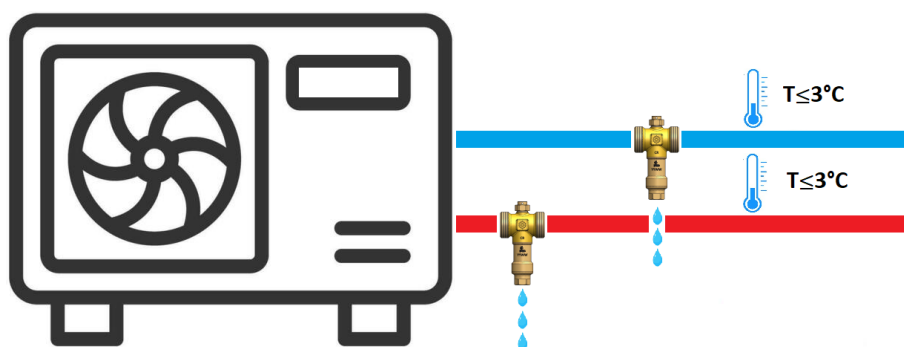




Operation with active heat pump



Operation in the absence of electricity



During normal operation of the heat pump, the possibility that the fluid temperature drops below 3°C is extremely remote (usually the operating limits of the flow temperature in cooling are 5°÷ 25°C. Read the instructions for the installed heat pump). The antifreeze protection valve comes into operation especially in the event of a lack of electrical power to the heat pump for long periods (for example in the event of a blackout or fault).



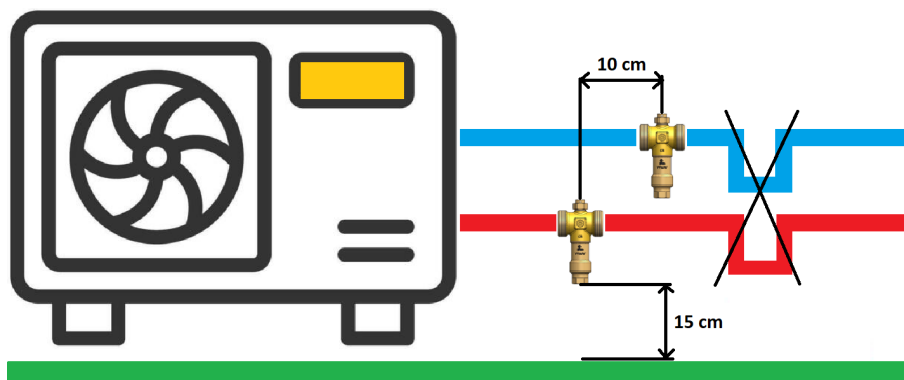
WARNING: If there is no electrical power to the heat pump, check the system pressure.

INSTALLATION

The **B-ZeroIce** valve must only be installed in a vertical position, with the discharge route facing downwards, directing the discharge fluid to a suitable collection point. Leave a space of at least 15 cm between the discharge valve and the collection point, to avoid the possible formation of a column of ice from the discharged fluid. The antifreeze valves must be installed outside, where the lowest temperatures can be reached in the event of a heat pump block. To maintain correct operation, they must be positioned away from heat sources and protected from rain, snow and direct sunlight. It is recommended to install the antifreeze valves on both pipes (delivery and return) maintaining a distance between the two valves of at least 10 cm. Otherwise, a pipe could remain full of water with the consequent risk of ice formation. It is recommended to always keep the system under pressure, even during discharge, for correct operation of the antifreeze device.



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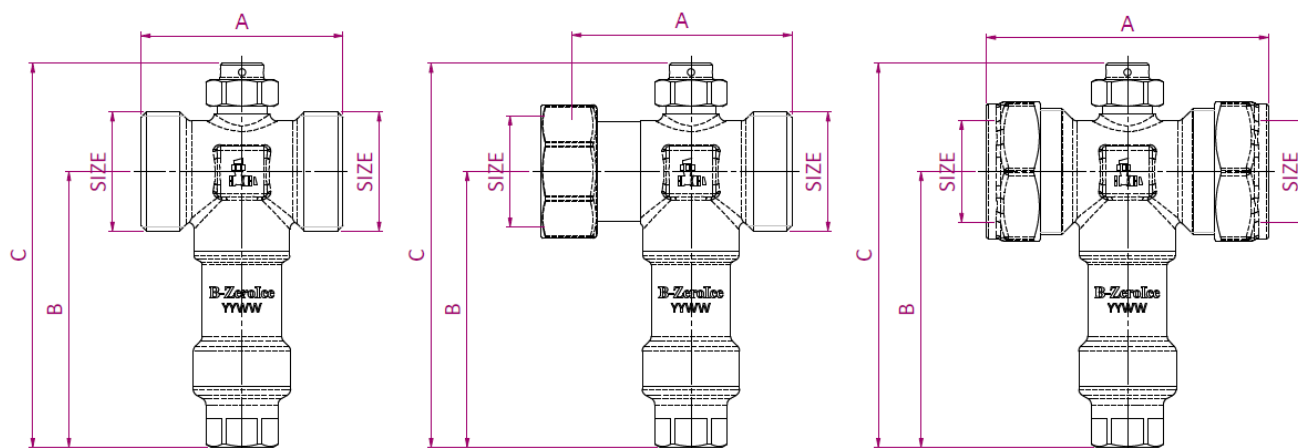


To ensure correct operation:

- the antifreeze protection valve MUST NOT be insulated or covered with other materials.
- avoid siphon connections because, in the event of the drain being opened, the siphon would prevent the remaining part of the fluid contained in the circuit from coming out.
- before installation, it is recommended to clean the system pipes and install appropriate filtration devices.

Safety warnings. Installation, commissioning and periodic maintenance of the product must be carried out by professionally qualified personnel, in accordance with national regulations and/or local requirements. The qualified installer must take all necessary precautions, including the use of Personal Protective Equipment, to ensure his/her own safety and that of third parties. Incorrect installation may cause damage to people, animals or things for which Bianchi F.lli S.p.a. cannot be held responsible.

DIMENSIONS



CODE	SIZE	A (mm)	B (mm)	C (mm)
851A000600	1"	56	76,5	106,5
851A000700	1" 1/4	60	80	113,5
851B000600	1"	61	76,5	106,5
851B000700	1" 1/4	65	80	113,5
851C000600	Ø 28	78	76,5	106,5



SPECIFICATION SUMMARY

Series 851A

Antifreeze valve. Threaded male connections DN 25 (1") and DN 32 (1 1/4") ISO 228-1. Brass body. Maximum operating pressure 10 bar. Operating temperature range 0–90°C. Ambient temperature range: -30–65°C. Water temperature for opening the drain: 3 °C. Water temperature for closing the drain: 4 °C.

Series 851B

Antifreeze valve. Male connections x swivel nut DN 25 (1") and DN 32 (1 1/4") ISO 228-1. Brass body. Maximum operating pressure 10 bar. Operating temperature range 0–90°C. Ambient temperature range: -30–65°C. Water temperature for opening the drain: 3 °C. Water temperature for closing the drain: 4 °C.

Series 851C

Antifreeze valve. Connections for copper pipe DN 25 (Ø28). Brass body. Maximum operating pressure 10 bar. Operating temperature range 0–90°C. Ambient temperature range: -30–65°C. Water temperature for opening the drain: 3 °C. Water temperature for closing the drain: 4 °C.

The descriptions and photographs contained in this product data sheet are provided for information purposes only and are not binding. Bianchi F.lli reserves the right to make any technical and design improvements to its products without prior notice.



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