ZERO ANTI-FREEZE VALVES

09/26 E&OE

Image Shown: ZERO14SW



INTELLECTUAL PROPERTY PATENT PENDING

R290 REFRIGERANT HEAT PUMPS — SUITABLE FOR USE WITH HIGH WATER TEMPERATURES GENERATED BY R290 REFRIGERANT HEAT PUMPS

PRODUCT

ZERO28
28mm Zero anti-freeze valve

ZERO35
35mm Zero anti-freeze valve

ZERO001
1" male Zero anti-freeze valve

ZERO114
1 1/4" male Zero anti-freeze valve

ZERO1SW
1" male x 1" female swivel Zero anti-freeze valve

ZERO14SW
1 1/4" male x 1 1/4" female swivel Zero anti-freeze valve

ZERO128SW
28mm x 1" female swivel Zero anti-freeze valve

ZERO11435SW
35mm x 1 1/4" female swivel Zero anti-freeze valve

ZERO112
1 1/2" male Zero anti-freeze valve

* For version with Zero-Guard add ZG to end of part code

ADDITIONAL INFORMATION

- Designed to quickly and accurately react to the water temperature in the heat pump circuit and does not need the influence of the ambient temperature to operate
- A protective ring has been included in the construction to prevent system debris from clogging the operation of the valve
- Double O-rings and reduced surface friction treatment on the operating member also ensures correct operation and reliability even after years of non-movement
- Suitable for reversible heat pump systems with cooling capability

TECHNICAL SPECIFICATION

Maximum inlet pressure (static):	10 Bar
Opening temperature:	3°C
Closing temperature:	4°C
Working temperature range:	0 to 80°C
Ambient temperature range:	-30 to 60°C
Sensitivity:	±1°C
Medium:	Water
Max discharge @ 3 bar:	1.5 l/hour
Kv:	ZERO28 (64m³/h) ZERO35 (70m³/h) ZERO001 (55m³/h) ZERO114 (70m³/h) ZERO1SW & ZERO128SW (33m³/h) ZERO14SW & ZERO11435SW (52m³/h) ZERO112 (112m³/h)

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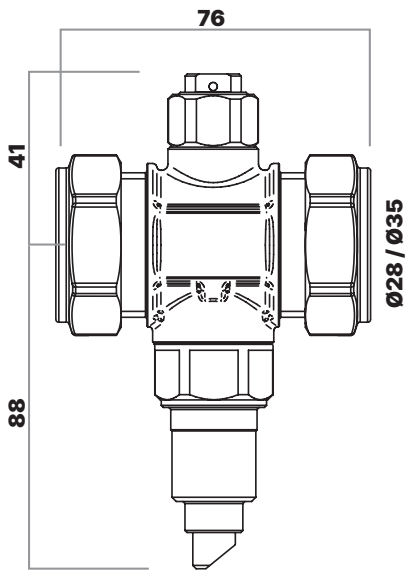
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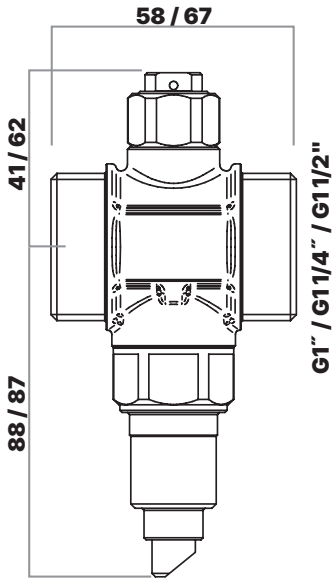
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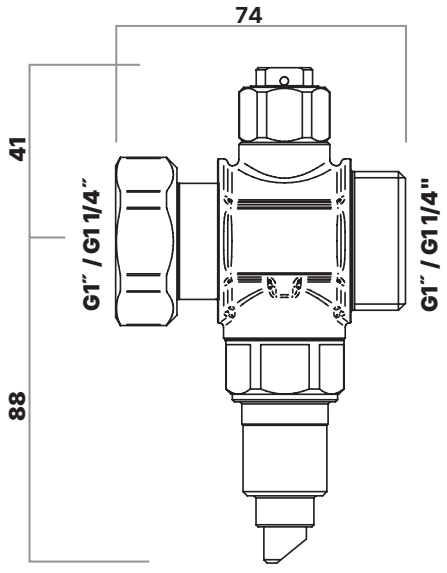
DIMENSIONS - COMPRESSION



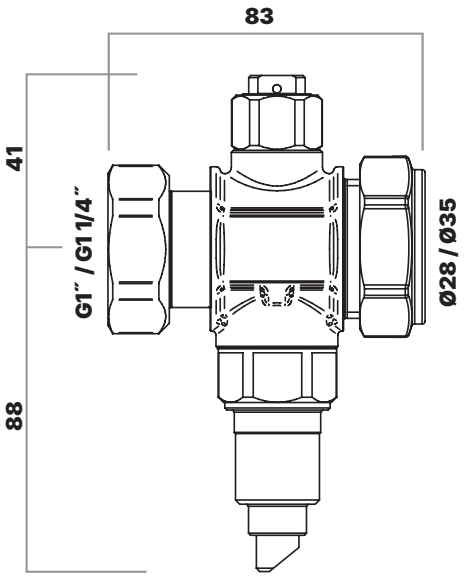
DIMENSIONS - MALE



DIMENSIONS - MALE x FEMALE



DIMENSIONS - COMPRESSION x FEMALE



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Insulating

The patented Inta Zero Anti-Freeze Valves have been specifically designed to quickly and accurately react to the water temperature in the heat pump circuit and do not need the influence of the ambient temperature to operate.

Building regulations Part L states that all external fittings on an Air Source Heat Pump System must be fully insulated to reduce heat loss and maintain system efficiency. Inta Zero Anti-Freeze Valves will still maintain correct operation and discharge the water at the same temperature even when a system is correctly insulated.

The Inta Zero Anti-Freeze valves have been independently tested using a controlled Ambient Temperature between -1°C to 1°C and starting water temperature 10°C to demonstrate the possibility of insulating the Inta Zero Valve without affecting the performance:

Without Insulation
Water Discharge Temperature = 2.49°C
Time taken to begin discharge = 1 hour 4mins
With Insulation
Water Discharge Temperature = 2.03°C
Time taken to begin discharge = 4 hours 3mins

Warning!

If the Inta Zero valves are insulated, then due care must be taken to ensure that all external pipework and fittings are fully and appropriately insulated and sealed. Failure to do so could prevent the proper operation of the Zero valve resulting in colder areas of a system being damaged by freezing. The Anti-vacuum valve must be kept clear at all times, Intatec recommends using the ZEROGUARD anti-vacuum cover (inspected on annual service).



BUILDING REGULATIONS PART L COMPLIANCE

Building regulations Part L states that all external pipework on an Air Source Heat Pump System should be fully insulated to reduce heat loss and maintain system efficiency. Inta Zero Anti-Freeze Valves will maintain correct operation and discharge the water at the same temperature even when a system is correctly insulated.

FULLY INSULATED

The Inta Zero's thermostatic element sits directly in the system's water flow, allowing it to accurately react to the temperature of the system, regardless of ambient temperature. This means the Inta Zero can be fully insulated to help maintain the COP and SCOP of your system without affecting the operation.



Zero Guard

- **Debris & Insect Protection:** Integrated gauze filter and protective cover prevent dust, dirt, leaves, and insects from entering or obstructing the air inlet.
- **Optimised Airflow:** Maintains a clear air passage to ensure rapid, unrestricted airflow into the valve during water discharge cycles.
- **Flexible Installation:** Slim-profile protective cover enables inline or parallel installation on flow and return pipework without the need for offsets.

***Part Code:** ZEROGUARD

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ZERO ANTI-FREEZE VALVES

DIAGRAM

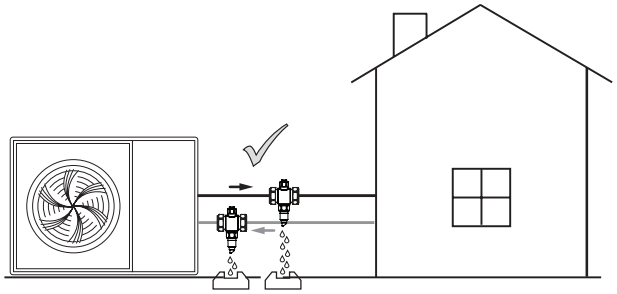


Diagram 1: The Zero antifreeze valves must be installed outdoors, closest to the heat pump, where the lowest temperatures can be reached if the heat pump is not operating.

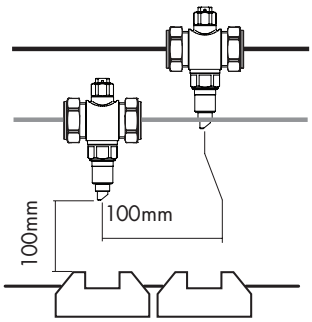


Diagram 2: We recommend 100mm clearance between the valve and the ground and at least 100mm between the valves. If suitable drainage is available, the clearance can be reduced to suit the installation.

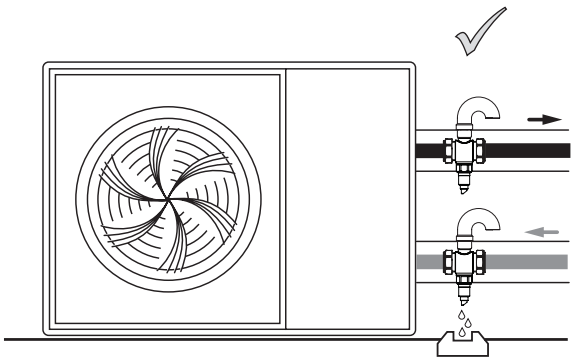
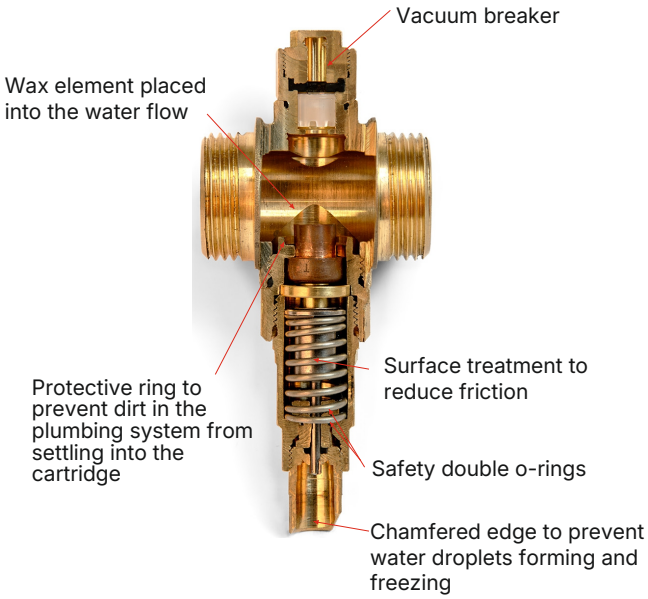


Diagram 3: In situations where the space is limited, the Zeroguard protects the anti-vacuum valve allowing the valves to be stacked one above the other.



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