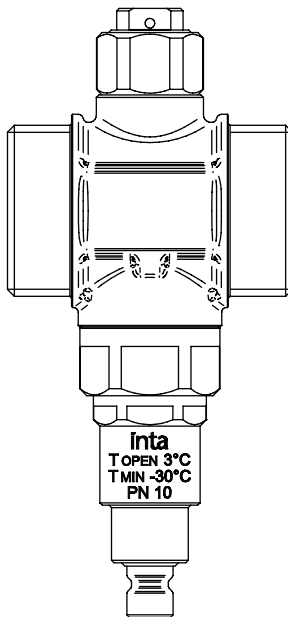


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Zero Anti-Freeze Valve

ZERO001, ZERO114 & ZERO28

Installation and Maintenance Instructions



inta

Intatec Ltd
Airfield Industrial Estate
Hixon
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ST18 0PF

In this procedure document we have endeavoured to make the information as accurate as possible.

We cannot accept any responsibility should it be found that in any respect the information is inaccurate or incomplete or becomes so as a result of further developments or otherwise.

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Introduction

The Inta Zero is a unique anti-freeze valve designed to protect heat pump systems operating with water.

Designed to discharge when the system water temperature goes down to 3 °C preventing ice from forming in the heat pump circuit that could cause breakdown or costly damage to the system.

The Inta Zero has been designed and engineered to avoid negative influences from low ambient temperatures by directly positioning the element in the system water flow, permitting accurate system discharge only when its truly needed.

A protective ring has been included in the construction to prevent system debris clogging the operation of the valve.

Double O-rings and reduced surface friction treatment on the operating member also ensure correct operation and reliability time after time.

These instructions cover the installation, operation and maintenance. Please read the enclosed instructions before commencing the installation of this product, please note;

We recommend that the installation of any Inta product is carried out by an approved installer.

It is recommended, especially in hard water areas, that a water softener such as the ActivFlo or ActivFlo lite be fitted to reduce the risk of calcium deposits forming.

Products

Zero anti-freeze valve 1" M x M connections	ZERO001
Zero anti-freeze valve 1 ¼" M x M connections	ZERO114
Zero anti-freeze valve 28mm	ZERO28

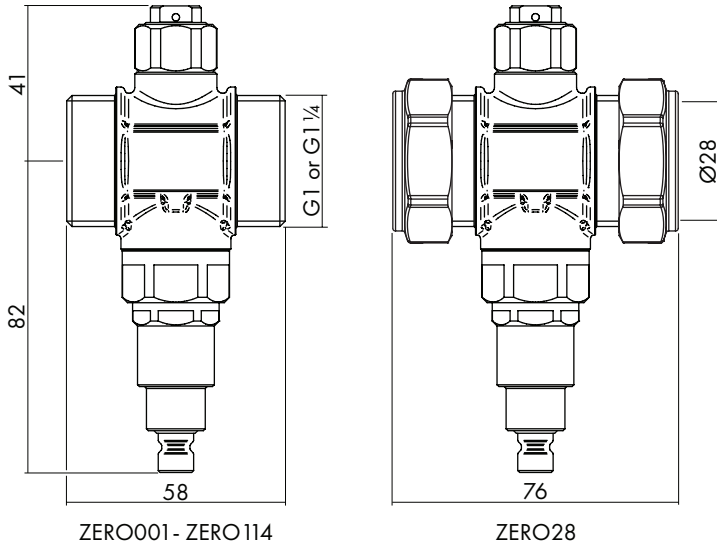
Technical Specification

Max. inlet pressure - static:	10 bar
Medium:	Water
Sensitivity:	±1 °C
Opening temperature:	3 °C
Closing temperature:	4 °C
Threaded connections:	BS EN ISO 228
Compression connections:	BS EN 1254-2

Materials

Valve body:	Brass	BS EN 12165 CW617N
Spring:	Stainless steel	
Temperature element:	Wax	
Internal seals:	EPDM peroxide	
Internal parts:	Brass	BS EN 12164 CW617N

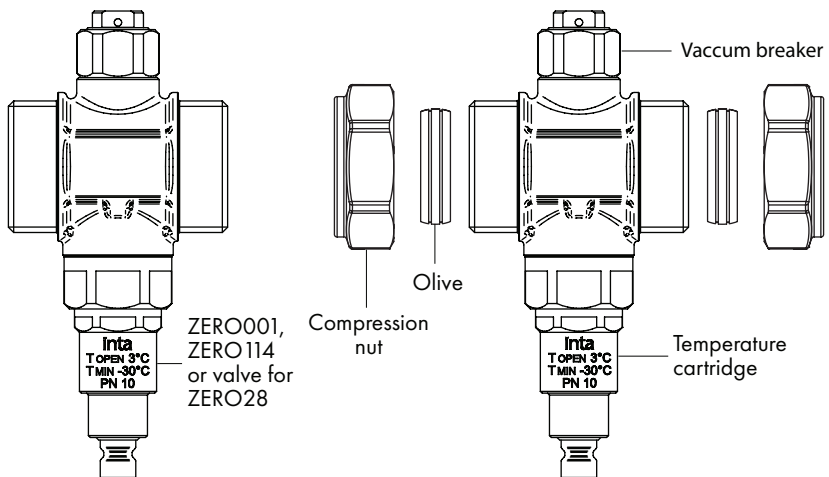
Dimensions



Check Components

Before commencing remove all components from packaging and check each component with the contents list.

Ensure all parts are present, before discarding any packaging. If any parts are missing, do not attempt to install your Inta Zero anti-freeze valve until the missing parts have been obtained.



Preparation for installation

Flush the water supply pipes thoroughly prior to installation. Do not allow debris, PTFE tape or any metal particles to enter the system.

Important: All plumbing is to be installed in accordance with applicable codes and regulations.

Important: When fitting/installing a heat pump system or components it is essential that the correct insulation is used and properly sealed to reduce the heat loss from the system, maintaining the system efficiency.

Installation

The Zero anti-freeze valve must only be installed in a vertical position, with the outlet facing downwards, to allow the draining water to flow out free from obstructions.

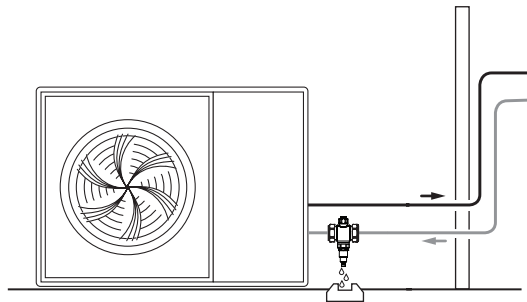
The Zero antifreeze valves must be installed outdoors, where the lowest temperatures can be reached if the heat pump is not operating.

The Zero anti-freeze valve should be properly insulated and sealed to reduce heat loss. Only the vacuum breaker and discharge point should be exposed.

The valve(s) must also not be placed close to heat sources which could interfere with their function.

For the valve(s) to work properly, keep the system under pressure at all times.

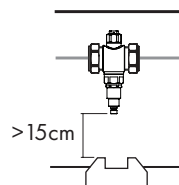
Most installations only require one anti-freeze valve, located outside and at the lowest point in the system.



We recommend at least 15cm clearance between the valve and the ground as discharged water could freeze and hinder the operation of the valve.

The discharge from anti-freeze valves must be collected in a suitable drain and routed to a suitable collection point.

If a second valve is required, Inta recommend leaving at least 10 cm between the valves to avoid water discharging onto the lower valve.



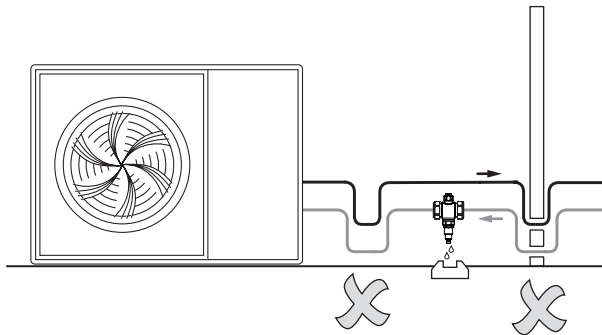
Installation Continued

When installed outdoors, the Zero antifreeze valve must be protected from rain, snow and direct sunlight.

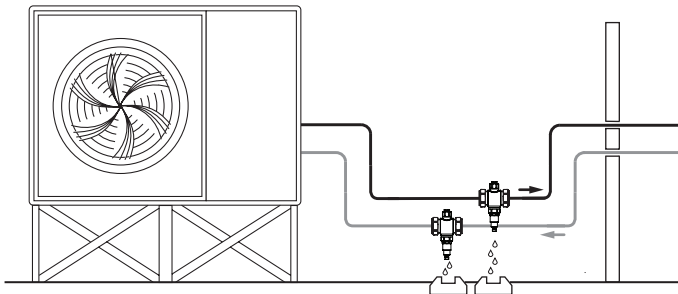
Inta recommend placing a small cover / hood with 1 open face over the vacuum break. This should prevent interference or debris while still permitting air flow.

Do not make any trap connections.

If the shape of the connection pipes has the potential to create a trap effect (as shown below), part of the pipe will not be able to drain and frost protection will no longer be ensured.



Where the heat pump is elevated so the pipework goes down into a U shape (as shown below), this would then require 2 anti-freeze valves to completely drain all the pipework and system.



Maintenance

Vacuum Breaker Replacement

In the event of a malfunction, the vacuum breaker can be removed.

Checking the Vacuum Breaker

In the event of a malfunction, or as part of a planned maintenance programme the vacuum breaker can be removed.

Using a 20mm A/F spanner remove the vacuum breaker from the anti-freeze valve body.

Using a suitable sized spanner remove the cover from the vacuum breaker body.

Remove the sealing washer.

Invert the vacuum breaker body and the plastic vacuum cap should fall out.

If it does not fall out it indicates that the vacuum breaker has not been operating correctly and the vacuum breaker needs to be replaced.

If the plastic vacuum cap does fall out check it and the sealing washer for damage and inside the body for debris, if present wash away with clean water.

Re-assemble and refit into the anti-freeze valve.

Thermostatic Cartridge Replacement

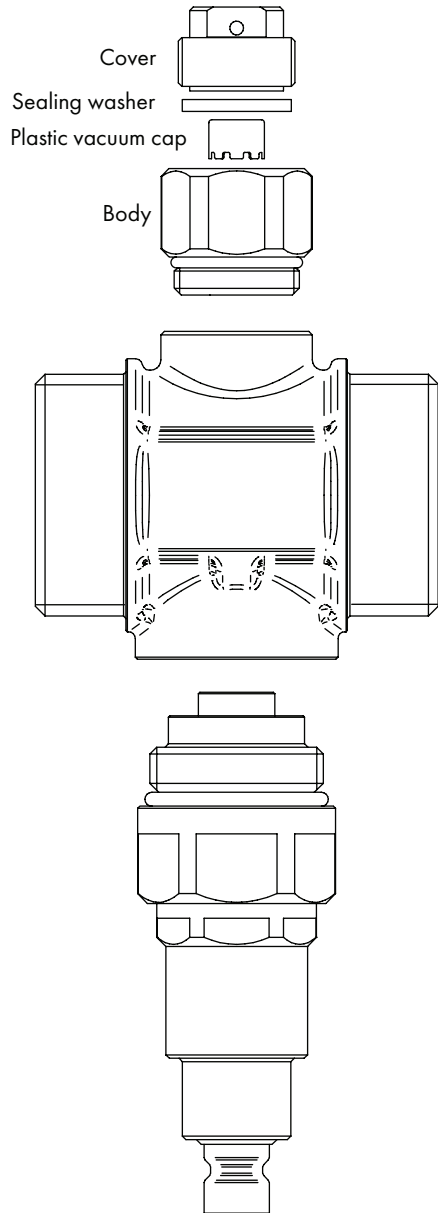
In the event of a malfunction, the thermostatic cartridge can be replaced.

Using a 26mm A/F spanner remove the cartridge from the body and replace with a new one.

Replacement Components

Replacement components are available from Inta.

Fit only genuine Inta replacement components.



Notes:

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Please leave this Manual for the User

To activate your product warranty please visit

www.intatec.co.uk

and click on Product Registration

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