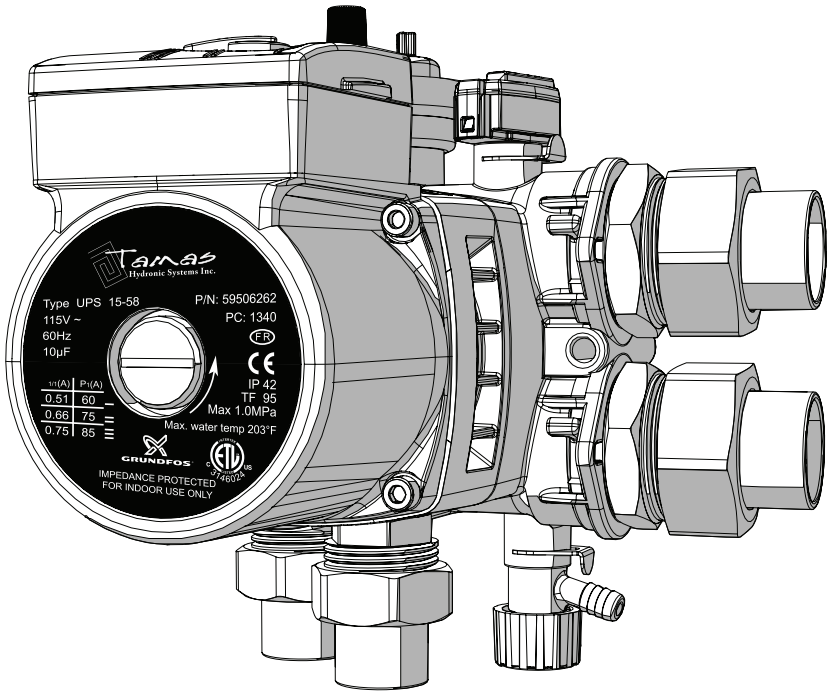
Tamas Hydronic Systems Inc.

Tamas Hydronic Systems

User Guide



Z-Block

Hydronic Zoning Block

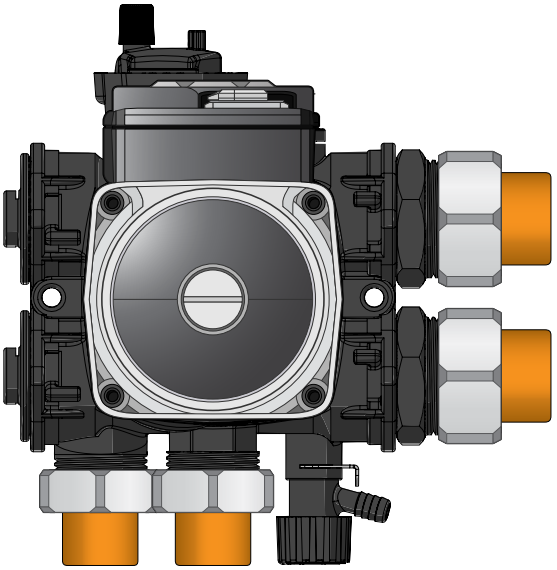
Installation and Assembly Guide

Table of Contents

This User Guide is Applicable to:

Tamas Z-Block	
025-0050	Z-Block (Tamas Zone Block Kit) Box Product
025-0051	Z-Bock Alpha (Tamas Zone Block Kit) Box Product
023-0053	Z-Block TMV

*** Note:**
The following parts lists and application drawings are general samplings. Each configuration dictates the required components. See the Technical Data section of the manual for specific information on each part in your particular variation of the Tamas Zone Block.



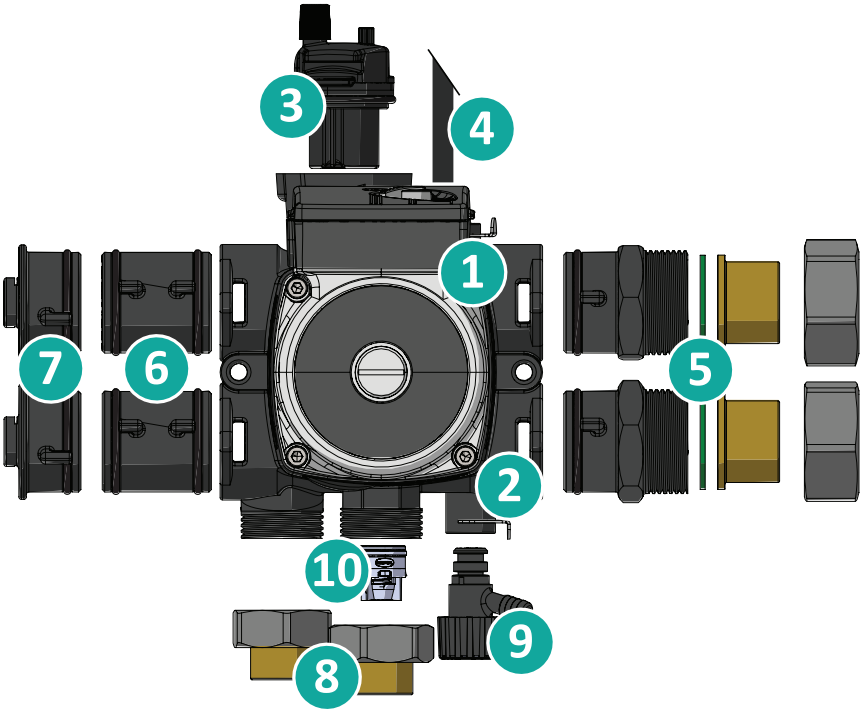
Overview

The Tamas Z-Block is a device combining a hydraulic separator and distribution manifold pump header used in heating systems. The Z-Block is an expandable zone pumping system, designed to work as a boiler pump, injection pump, or as a zoning pump.

It can be expanded with other Z-Blocks to suit a variety of residential, commercial and Industrial applications. The Z-Block is easy to assemble and install, making it suitable for all skill levels. This unique design allows the Z-Block to be installed in a variety of small spaces for new installations or retro-fits.

Main Features

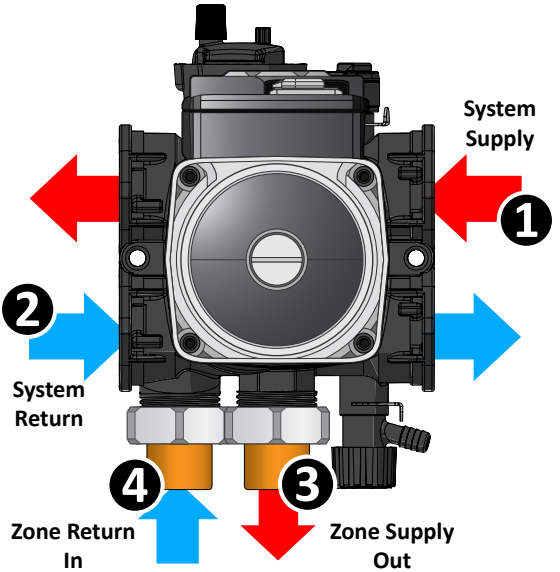
- Fully customizable, with the option to add pieces to accommodate for specific job requirements
- Expandable for any residential application
- Adaptable, the 1 ¼" diameter manifold can accomodate large flow rates
- Flexible, it can be used as an injection pump, boiler pump, zone pump
- ETL approved

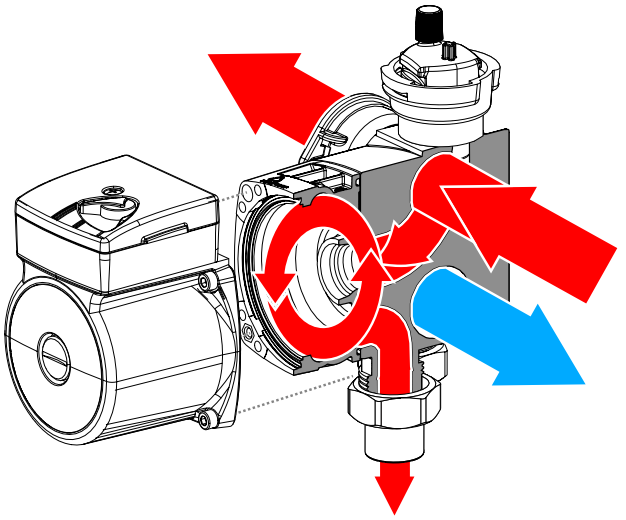


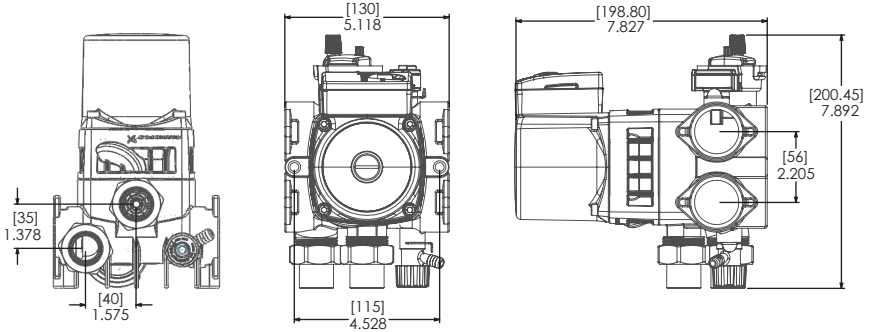
Components			
1	*UPS 15-58 Three Speed Pump*	6	*Z-Block Expansion Connections*
2	*Supply/Return Manifold*	7	*End Cap with Sensor Port*
3	*Built-in Autovent*	8	*3/4" Sweat Connections*
4	*Power Cord*	9	*Bult-in Purge Valve*
5	*1 1/4" High Flow Rate Adapter with Sweat Connections*	10	*Built-in Check Valve*

Operation

The Z-Block distribution manifold works in the following way: The heating fluid from the heat emitter enters via connection 1, and returns via connection 2. Delivery to the zone system is via the lower right connection on the Z-Block. The fluid returning from the zone system (connection 3) flows towards the pump (connection 4).







*Dimensions are in Inches [Millimeters]

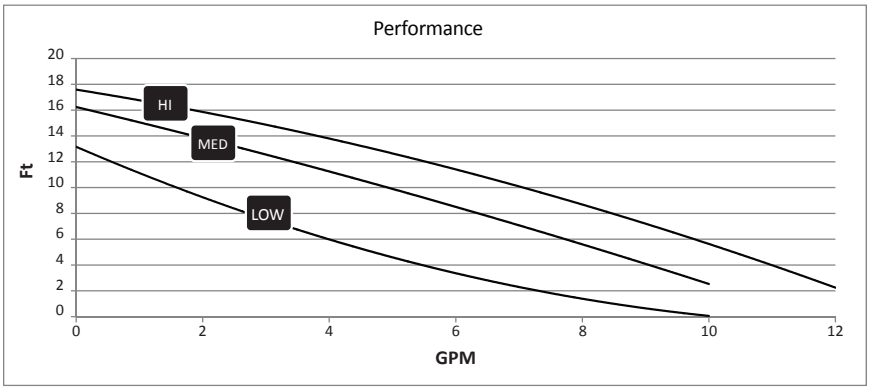
Zone/Boiler Pump

Technical Data

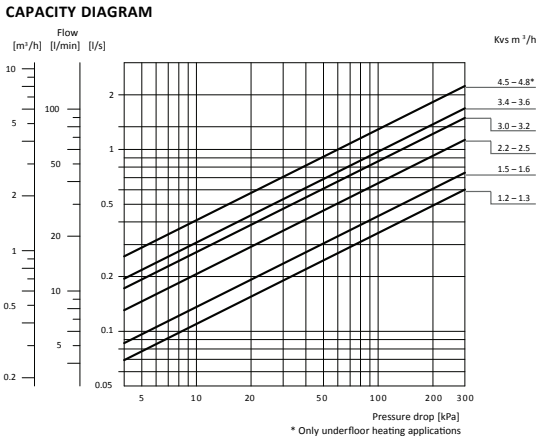
Speed Number:	3
Max-Flow:	17.2 US gpm
Head Max:	19.36 ft
Max. Operating Pressure:	45 psi
Max. Temperature:	203°F (95°C)
Pumped Liquid:	Water or Ethylene Glycol up to 50% Concentrate

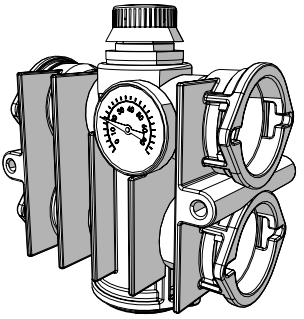
Electrical Data

Main Frequency:	60 Hz
Rated Voltage:	1 x 115 V
Current in Speed 1:	0.55 A
Current in Speed 2:	0.66 A
Current in Speed 3:	0.75 A



3-Way Mixing Valve (Optional)

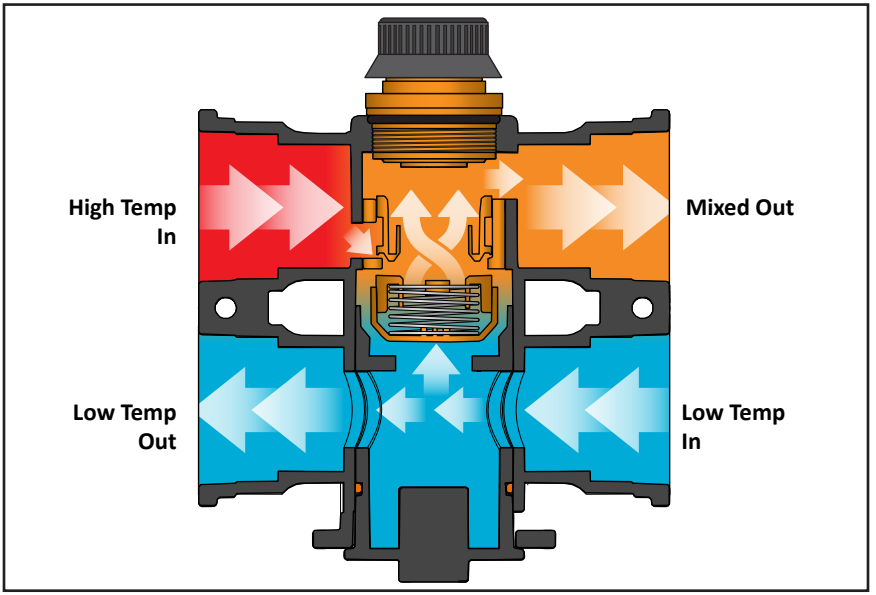




Technical Data

Temperature Range:	45°C - 65°C
Kvs:	3.5

Flow Diagram

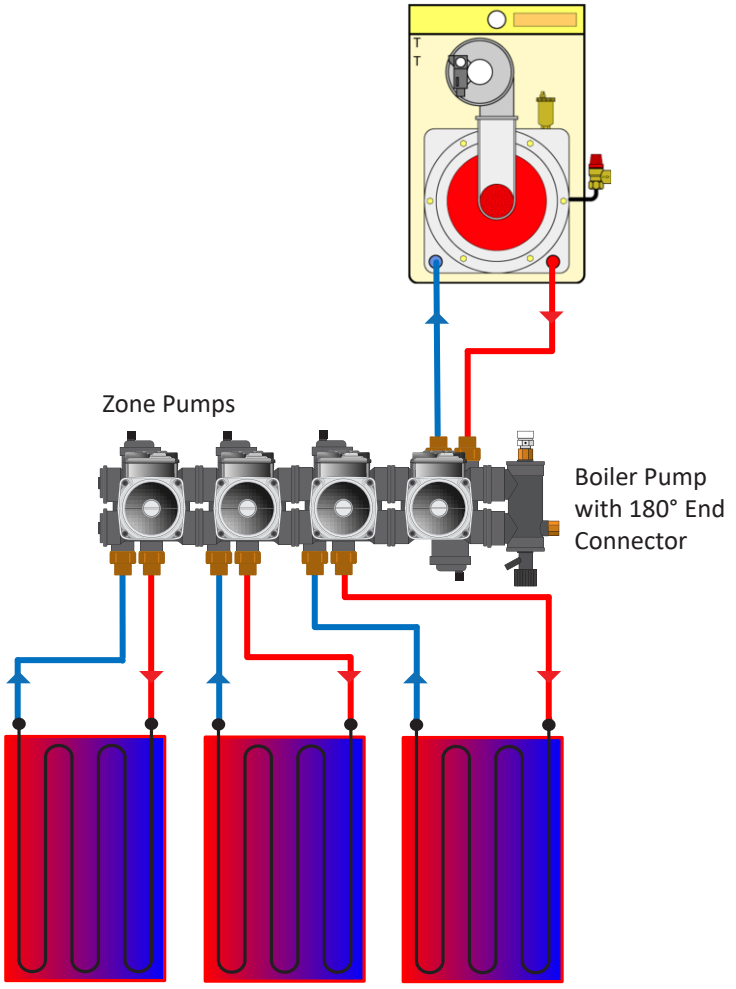


Applications

The Tamas Z-Block is designed to be assembled and installed in multiple configurations and orientations.

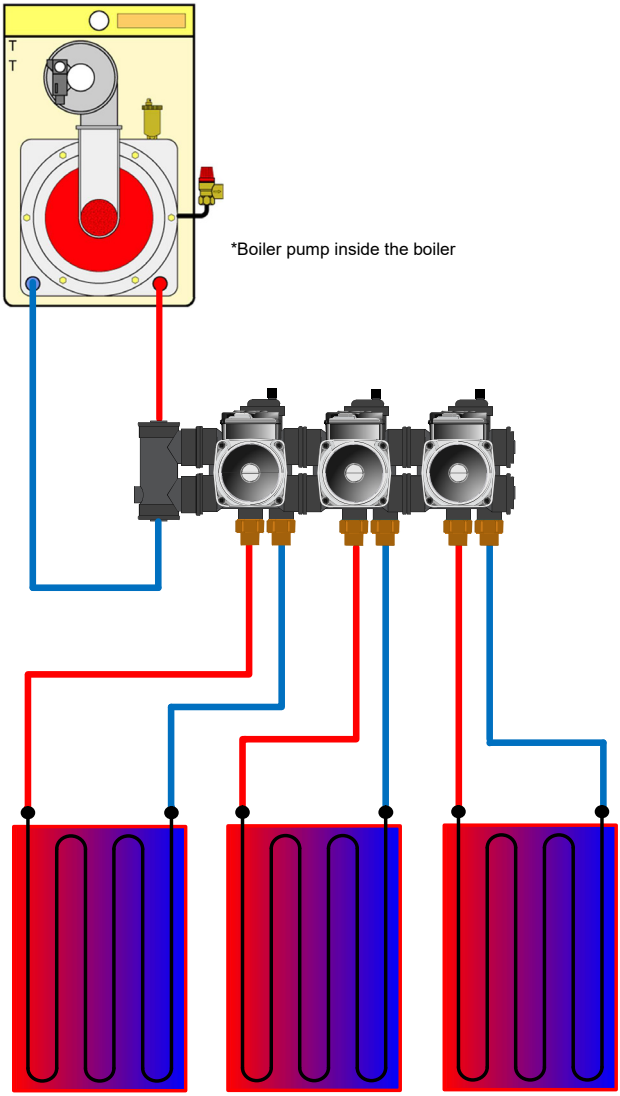
1) Boiler Pump with Zoning

As a boiler pump in a multiple zone application. You must use optional part #025-0005 180° End Connection for creating primary/secondary piping arrangement. See page 12 for Z-Block inverted pump configuration.



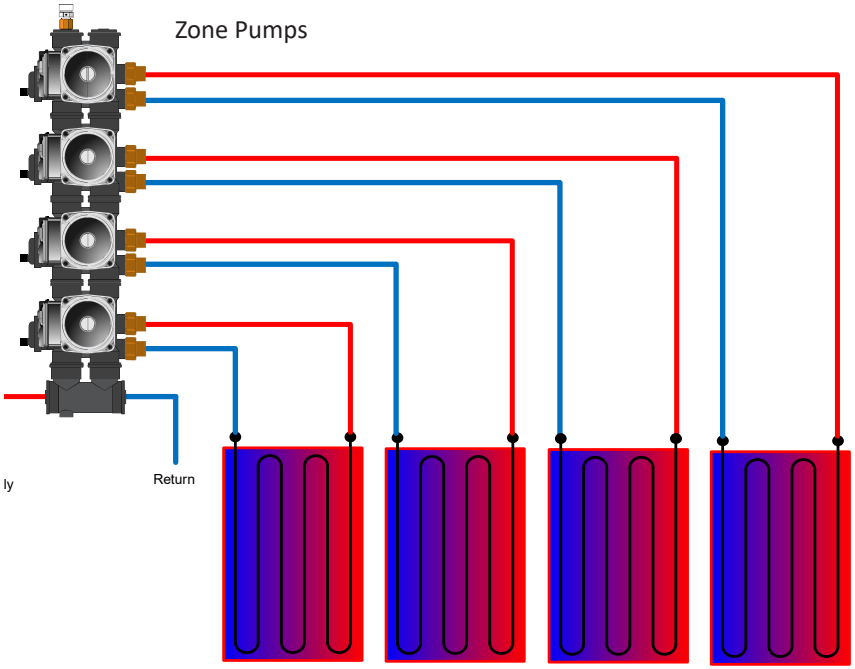
2) Zone Pump (Primary Pump is not Required)

Zoning in a hydronic system for individual or multiple zones. The maximum amount of connected Z-block modules is 10 in a single supply to the manifolds. When a primary pump is not needed the 180 connector is added for primary/ secondary connection. This will reduce piping material on site. See page 12 for Z-Block inverted pump configuration.



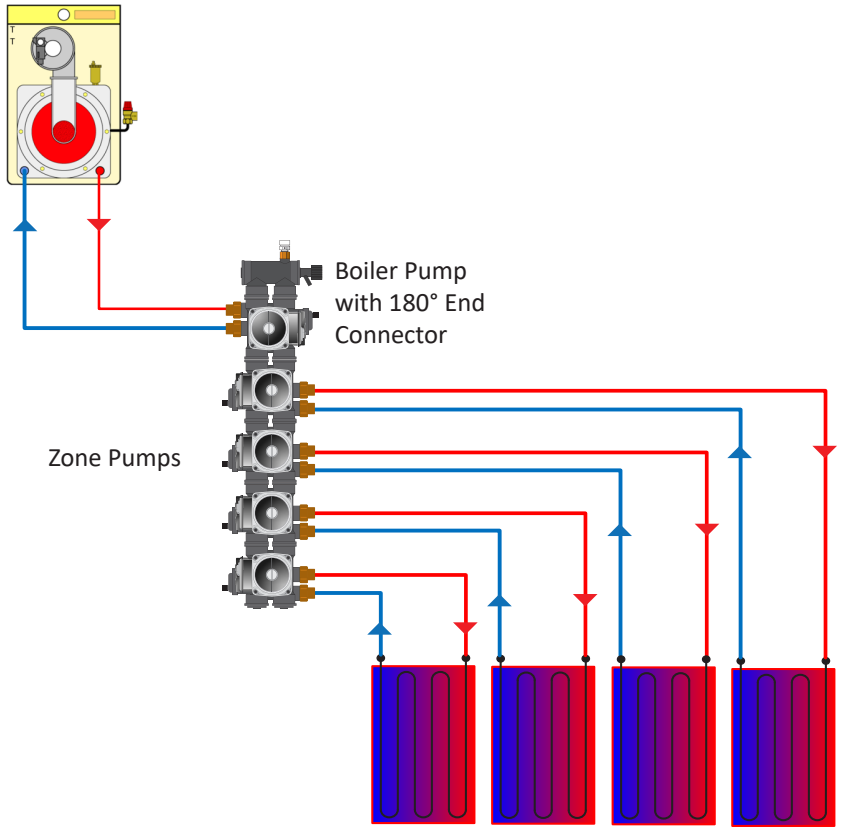
3) Vertical Arrangement

The Z-Block can be installed in a vertical configuration. When installing multiple Z-Block modules vertically, the sensor & vent fitting (Part#025-0021) for the air vent must be installed on the topmost end cap.



4) Vertical Arrangement with a Boiler Pump

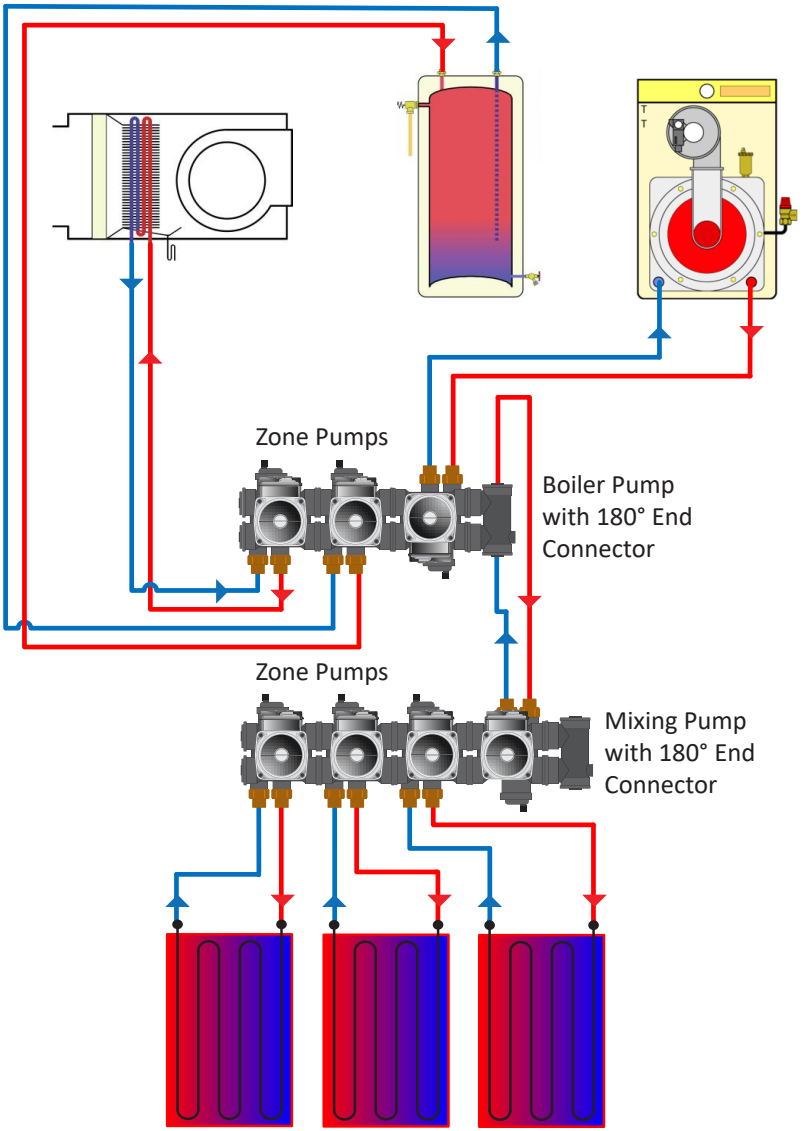
The Z-Block can be installed in a vertical configuration. When installing multiple Z-Block modules vertically with a boiler pump, two optional parts must be used: the 180° end connector (Part#025-0005) and the sensor & vent fitting (Part#025-0021) for the air vent or thermistor sensor.



Note: For vertical installation with a Z-Block as a boiler pump, it is necessary to use the 180° End Connector for venting purposes. See page 15 for assembly instructions, and page 14 for vent fitting instructions.

5) Injection Pump

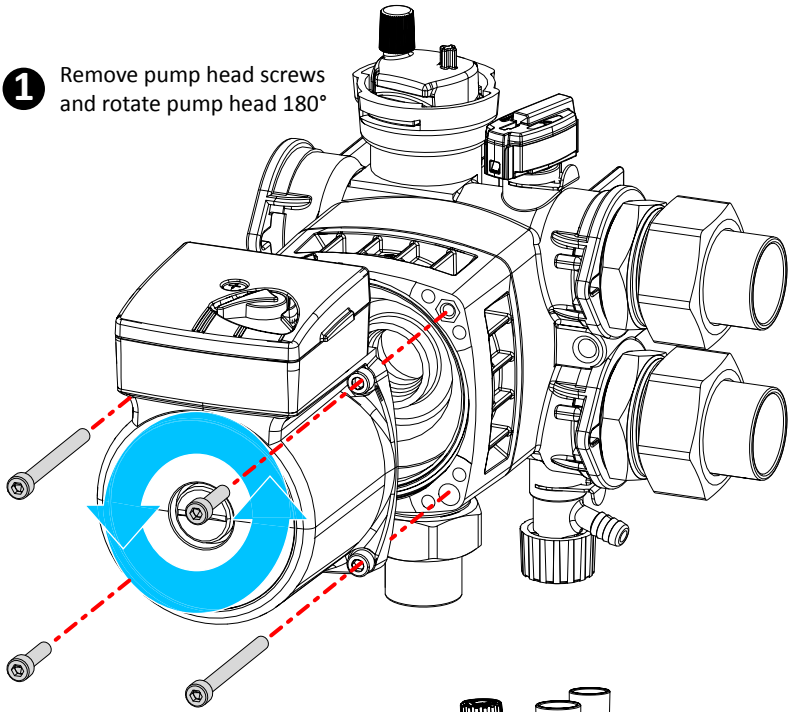
As an injection pump in a Tamas multiple zone application, to temper the water temperature. You must use optional part #025-0005 180° End Connection for creating primary/secondary piping arrangement. Injection pump controller not supplied. See page 12 for Z-Block inverted pump configuration.



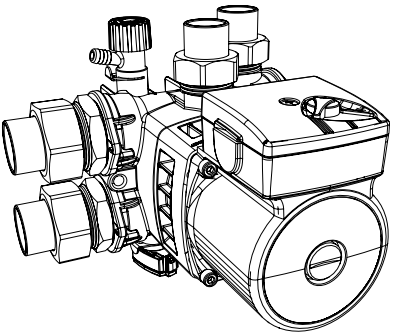
Rotating the Pump Head

When using the Z-Block as boiler/injection pump, connect the Z-Block to the manifold in an **inverted position**. In this position, the pump head (Part #025-0010) will need to be inverted 180° as well. To do this, remove the 4 pump bolts and turn the pump head to the desired location. Replace the screws when finished.

⚠ **Do not spin the pump base.**

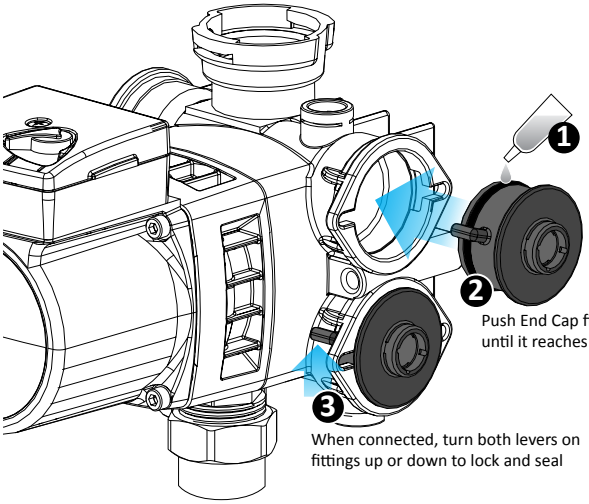


1. Remove pump head screws and rotate pump head 180°



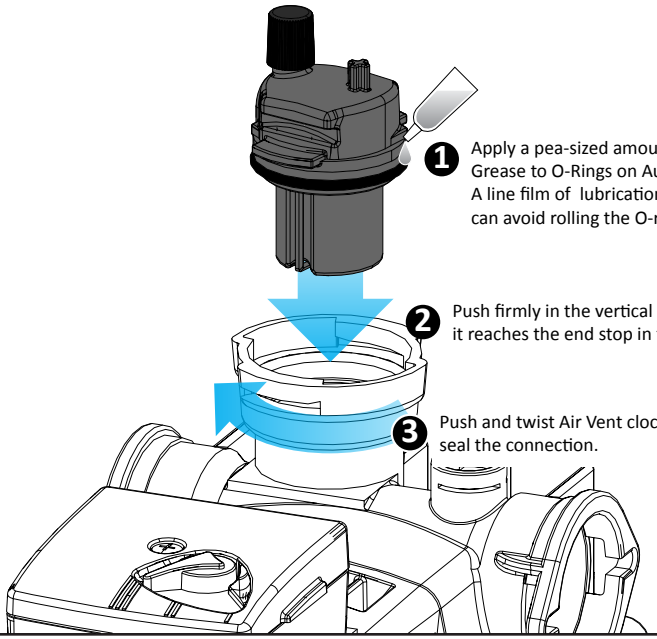
2. Final Configuration, shown on right

End Cap Installation



1. Apply a pea-sized amount of Silicon Grease to O-Rings on End Cap. A line film of lubrication can avoid rolling the O-ring.
2. Push End Cap firmly in the axial direction until it reaches the end stop in the Z-Block
3. When connected, turn both levers on fittings up or down to lock and seal

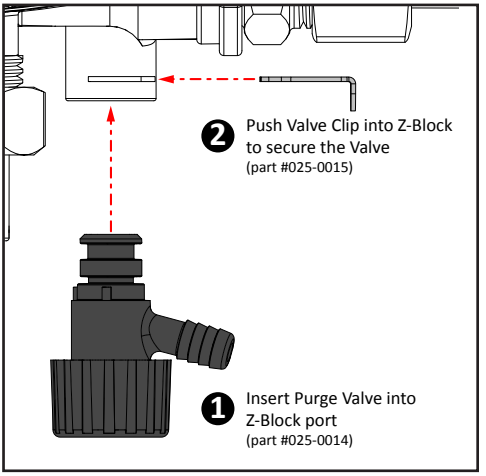
Autovent Installation



1. Apply a pea-sized amount of Silicon Grease to O-Rings on Autovent. A line film of lubrication can avoid rolling the O-ring.
2. Push firmly in the vertical direction until it reaches the end stop in the Z-Block.
3. Push and twist Air Vent clockwise to seal the connection.

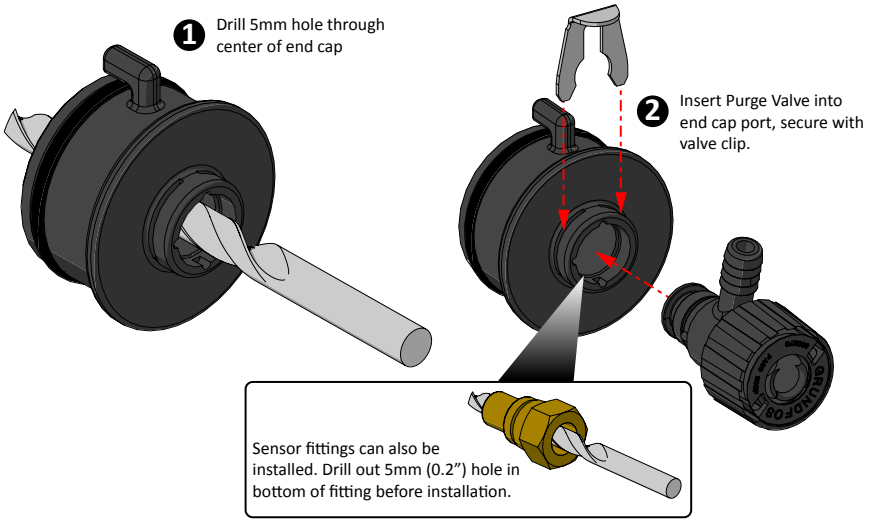
Purge/Drain Valve Installation

1. Insert the purge valve until it reaches the end stop in the Z-Block
2. Once the purge valve fitting is fully seated, slide the fitting clip into the groove in the port, securing the fitting to the block.



Purge/Drain Valve Installation in End Cap

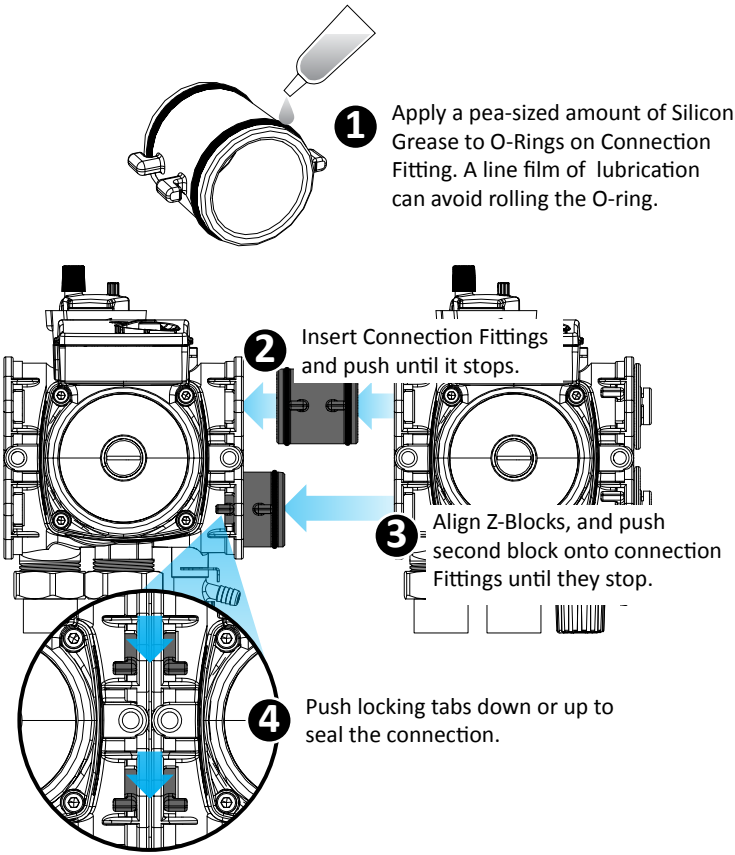
Depending on the orientation of the Z-Block distribution manifold, the purge valve can be installed in one of the end caps. To do this, drill a 5 mm (02”) hole through the center opening on the end cap, and insert the purge valve. Once the purge valve fitting is fully seated, slide the fitting clip into the groove in the port, securing the fitting to the block.



Z-Block Distribution Manifold Assembly

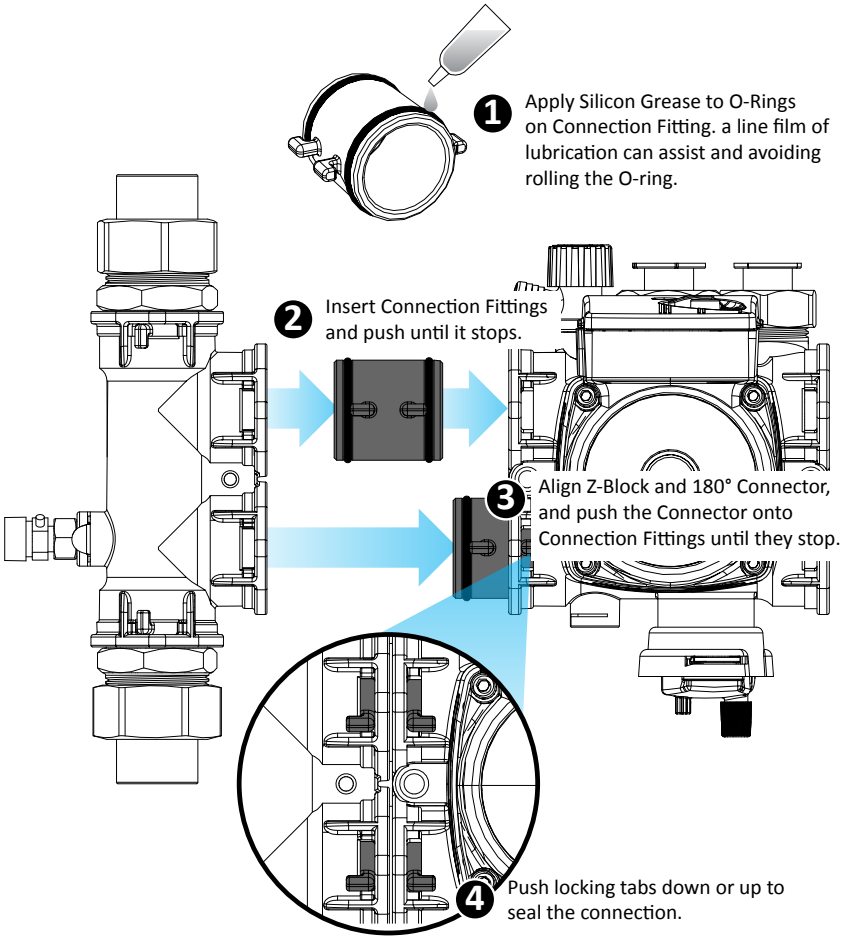
The Z-block modules with bayonet connection are manually assembled to produce distribution manifolds with the necessary number of connections. The operation is extremely simple, but it's important to check that the machined end parts are clean and free of impurities, and to lightly lubricate the O-ring with silicone grease if necessary.

The bayonet connection system does not require the use of tools, and as such, there is no need to place twisting or crushing force on the modules; this could deform or damage these parts, thereby affecting their operation.



180˚ End Connector Assembly

1. Add silicone grease to the O-ring, a line film of lubrication can assist and avoiding rolling the O-ring
2. Position the Z-block and the connection fitting (Part #025-0003) side by side.
3. Push firmly in the axial direction until it reaches the end stop.
4. Repeat the same procedure with the second connection fitting as shown below.
5. To enable the bayonet connection between Z-Block modules and the 180 end connection, position the Z-block with the 180 end connection fitting side by side. Push firmly in the axial direction until it reaches the end stop.



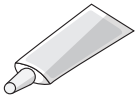
x 1
Z-Block Base
#025-0001

x 2
End Cap
#025-0002

x 2
Connecting Nipple
#025-0003

x 2
1 G Fitting
#025-0004

x 4
O-ring
#025-0006



x 1
Silicon Grease
#025-0007

x 2
5mm Mount Screws
#025-0008

x 1
Pump Base
#025-0009

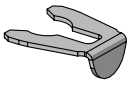
x 1
Pump Head
#025-0010

x 1
Pump Base Large O-ring
#025-0011

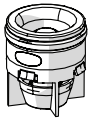
x 1
Pump Base Small O-Ring
#025-0012

x 1
Auto Vent
#025-0013

x 1
Purge Valve
#025-0014



x 1
Sensor & Purge Valve Clip
#025-0015



x 1
Check Valve
#025-0018

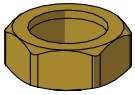
x 1
Pump Power Cable
#025-0020

x 2
Pump Mount Screws
#025-0022

x 2
1" Nut
#006-0306

x 2
1" Nut Seal
#006-0310

x 2
3/4" Tail Piece
#006-0311



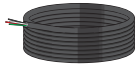
x 2
1 1/4" Nut
#006-0325

x 2
1" Tail Piece
#006-0331

x 2
1 1/4" Nut Seal
#006-0332

Optional
180 End
Connector
#025-0005

Optional
Pressure &
Temp Sensor
#025-0016

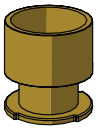


Optional
Sensor
Cable
#025-0017

Optional
Sensor &
Vent Fitting
#025-0021

Optional
Tamas Slip
Fitting
#006-0313

Optional
Tamas Ball
Valves
#025-0049



Optional
22 x 32mm
Slip Adapter
Fitting
#006-0315

Accessories available from Tamas Hydronic Systems INC.

Phone: ***+1(403) 279 0020***
Fax: ***+1 (403) 279 0747***
Email: ***info@tamashydronic.com***

Limited Warranty

Tamas Hydronic Systems Inc. warrants each of its products to be free from defects in workmanship and materials under normal use and service for a period of 24 months from date of purchase from a Tamas Hydronic Systems inc. authorized Dealer.

If the product proves to be defective within the applicable warranty period, Tamas Hydronic Systems inc. on its sole discretion will repair or replace said product. Replacement product may be new or refurbished of equivalent or better specifications, relative to the defective product. Replacement product need not be of identical design or model. Any repair or replacement product pursuant to this warranty shall be warranted for not less than 90 days from date of such repair, irrespective of any earlier expiration of original warranty period. When Tamas Hydronic Systems Inc. Provides replacement, the defective product becomes the property of Tamas Hydronic Systems Inc.

Warranty Service, within the applicable warranty period, may be obtained by contacting your nearest Tamas Hydronics Systems inc. office via the original Authorized Agent and requesting a Return Material Authorization Number (RMA #). Proof of purchase in the form a dated invoice/receipt must be provided to expedite the issuance of a Factory RMA.

After an RMA number has been issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit. The RMA number must be visible on the outside of the package and a copy included inside the package. The package must be mailed or otherwise shipped back to Tamas Hydronic Systems Inc. with all costs of mailing/shipping/insurance prepaid by the warranty claimant.

Any package/s returned to Tamas Hydronic Systems Inc. without an approved and visible RMA number will be rejected and shipped back to purchaser at purchaser's expense. Tamas Hydronic Systems Inc. Reserves the right, if deemed necessary, to charge a reasonable levy for costs incurred, additional to mailing or shipping costs.

Limitation of Warranties.

If the Tamas Hydronic Systems Inc. product does not operate as warranted above the purchasers sole remedy shall be, at Tamas Hydronic Systems option, repair or replacement. The foregoing warranties and remedies are exclusive and in lieu of all other warranties, expressed or implied, either in fact or by operation of law, statutory or otherwise, including warranties of merchantability and fitness for a particular purpose/application. Tamas Hydronic Systems Inc. neither assumes nor authorizes any other person to assume for it any other liability in connection with the sale, installation maintenance or use of Tamas Hydronic Systems Inc. products.

Tamas Hydronic Systems Inc. shall not be liable under this warranty; if its testing and examination discloses that the alleged defect in the product does not exist or was caused by the purchasers or third persons misuse, neglect, improper installation or testing, unauthorized attempts to repair or any other cause beyond the range of intended use, or by accident, fire, lightning or other hazard.

Limitation of Liability.

In no event will Tamas Hydronic Systems Inc. be liable for any damages, including loss of data, loss of profits, costs of cover or other incidental, consequential or indirect damages arising out of the installation, maintenance, commissioning, performance, failure or interruption of a Tamas Hydronic Systems Inc. product, however caused and on any theory of liability. This limitation will apply even if Tamas Hydronic Systems Inc. has been advised of the possibility of such damage.

Local Law.

This limited warranty statement gives the purchaser specific legal rights. The purchaser may also have other rights which vary from state to state in the United States, from Province to Province in Canada and from Country to Country elsewhere in the world.

To the extent this Limited Warranty Statement is inconsistent with local law, this statement shall be deemed modified to be consistent with such local law. Under such local law, certain disclaimers and limitations of this statement may not apply to the purchaser. For example, some states in the United States, as well as some governments outside the United States (including Canadian Provinces), may:
Preclude the disclaimers and limitations in this statement from limiting the statutory rights of a consumer (e.g. United Kingdom); Otherwise restrict the ability of a manufacturer to enforce such disclaimers or limitations; or
Grant the purchaser additional warranty rights which the manufacturer cannot disclaim, or not allow limitations on the duration of implied warranties.

Notes

Notes

Notes

www.tamashydronic.com

Custom, Reliable Hydronic Systems

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