

I.B.C. Boiler Series

Installation and Commissioning Guide

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This User Guide is Applicable to:

I.B.C. Boiler Panels - SL 20-115 / SL 28-160 Models (Left Side Connection)

- T-BO-IB-1101-L** SL 115/160 Panel with (1) Hi Temp Zone, (1) Take Off and Left Side Connection of the Boiler
- T-BO-IB-1201-L** SL 115/160 Panel with (2) Hi Temp Zones, (1) Take Off and Left Side Connection of the Boiler
- T-BO-IB-1301-L** SL 115/160 Panel with (3) Hi Temp Zones, (1) Take Off and Left Side Connection of the Boiler
- T-BO-IB-1400-L** SL 115/160 Panel with (4) Hi Temp Zones, and Left Side Connection of the Boiler

I.B.C. Boiler Panels - SL 20-115 / SL 28-160 Models (Right Side Connection)

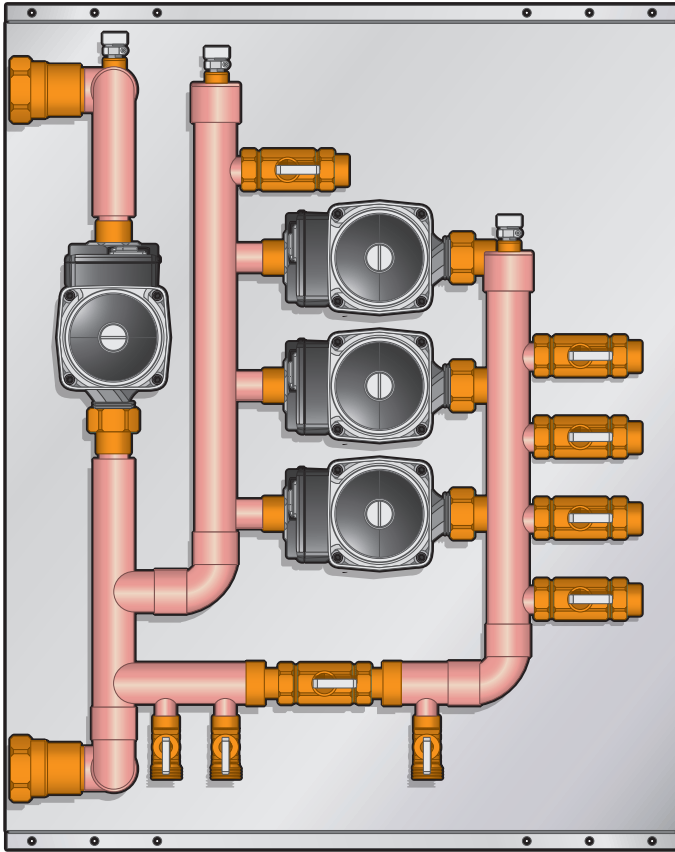
- T-BO-IB-1101-R** SL 115/160 Panel with (1) Hi Temp Zone, (1) Take Off and Right Side Connection of the Boiler
- T-BO-IB-1201-R** SL 115/160 Panel with (2) Hi Temp Zones, (1) Take Off and Right Side Connection of the Boiler
- T-BO-IB-1301-R** SL 115/160 Panel with (3) Hi Temp Zones, (1) Take Off and Right Side Connection of the Boiler
- T-BO-IB-1400-R** SL 115/160 Panel with (4) Hi Temp Zones and Right Side Connection of the Boiler

I.B.C. Boiler Panels - VFC 45-225 Models

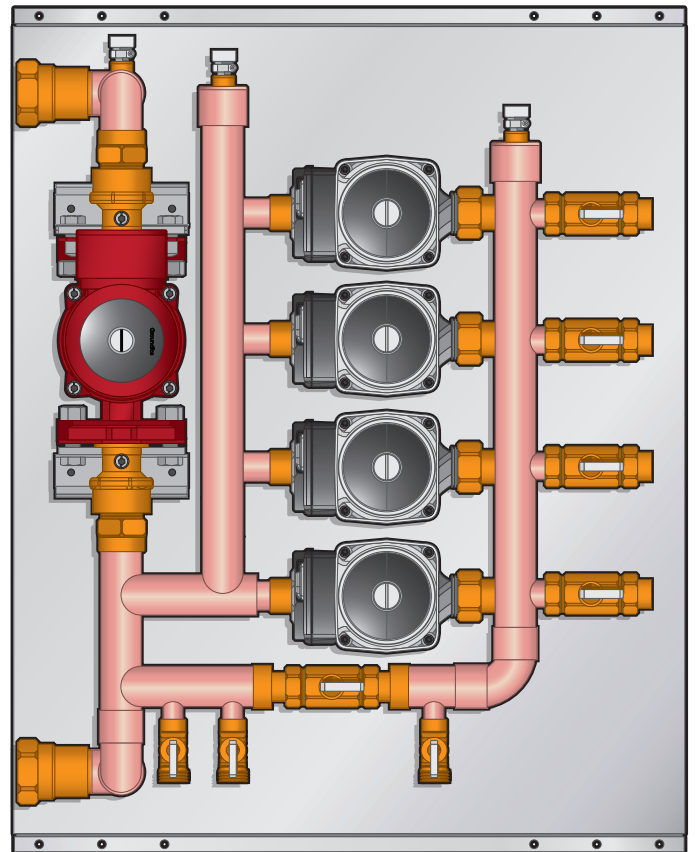
- T-BO-IB-2101** VFC 45-225 Panel with (1) Hi Temp Zone and (1) Take Off
- T-BO-IB-2201** VFC 45-225 Panel with (2) Hi Temp Zones and (1) Take Off
- T-BO-IB-2301** VFC 45-225 Panel with (3) Hi Temp Zones and (1) Take Off
- T-BO-IB-2400** VFC 45-225 Panel with (4) Hi Temp Zones

*** Note:**

The following parts lists and application drawings are general samplings. Each panel configuration dictates the required components, including pump type. See the Technical Data section of the manual for specific information on each part in your particular variation of the Tamas I.B.C. Boiler Board.



T-BO-IB-23XX Model Shown



T-BO-IB-24XX Model Shown

Description

The Tamas I.B.C. Boiler Panel product line contains a series of expandable panels suited for a variety of applications and building sizes using the I.B.C. Boiler Series.

Use

When a T-BO-IB-XXXX panel is connected to a I.B.C. Boiler system, the panel regulates the water distribution quantity to accommodate demand.

Optional secondary injection mixing components, as well as low and high temperature zones can be added to the system.

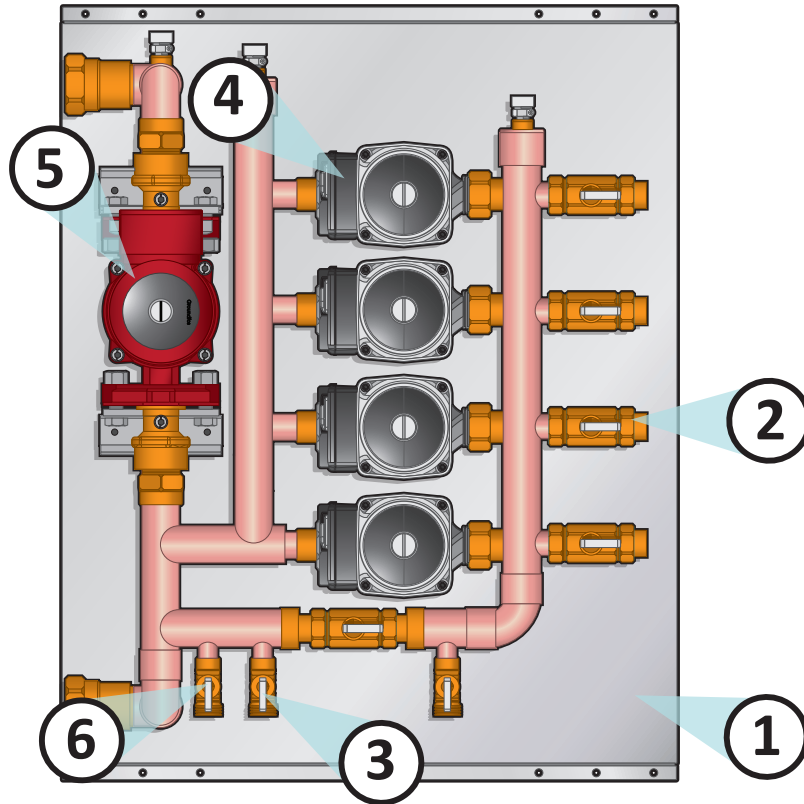
The panel can accommodate up to four zones plus the boiler pump. Boiler pump is a UPS 15-58 suitable for VFC 15-150, VFC 25-255, and SL 20-115GZ. For additional models, contact Tamas Hydronic Systems.

Main Features

- Hydraulic separation between the primary and the secondary
- Powder coated enclosure
- ETL approved
- Compatible connections: 1" or 1 ¼"

Technical Data

- Max. Operating Temperature: 90°C/194°F
- Max. Ambient Temperature: 50°C/122°F
- Max. Operating Pressure: 10 Bar/145 PSI
- Power supply: 120V 15A



T-BO-IB-1400-R Model Shown

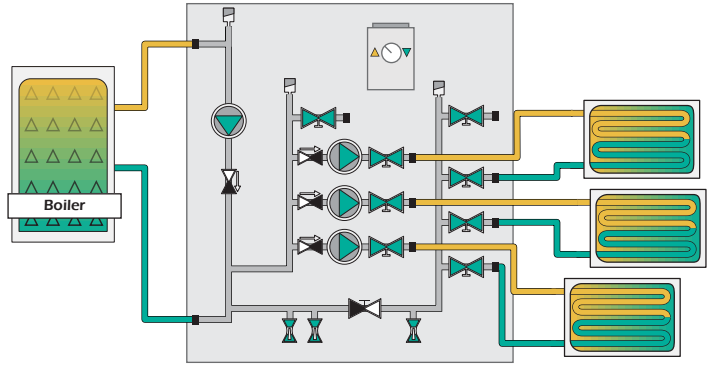
Components			
1	22" x 26" Galvanized Back Plate	4	Zone Pumps (UPS 15-58)
2	Ball Valves	5	Boiler Pump (UPS 26-99) If Applicable
3	Hose Bib Hook-up 1/2"	6	Expansion Tank Hook-up 1/2"

Operation of the Primary

The primary circuit is composed of a boiler pump, manual air vent.

When the I.B.C. Boiler Series panel is connected to the boiler, the panel regulates the water distribution quantity to accommodate the demand

- The heating fluid coming from I.B.C. Boiler enters in A
- The hydronic separation (close tees) permits the dynamic separation of the primary and secondary flow
- The boiler pump circulates the water through the primary circuit and keeps the temperature on the primary loop



Operation of the Secondary

On the secondary side, different configurations are possible; one, two, three or four zones can be supplied.

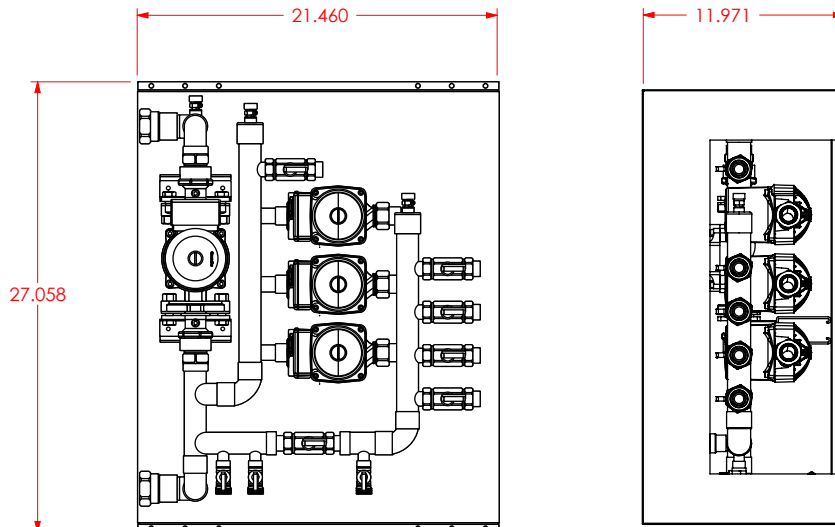
If the zone temperature falls below the users designated setting on a thermostat (sold separately), for example, the panel initiates a signal back to the boiler and turns on the boiler pump and zone pumps.

When the zone temperature is satisfied, the thermostat or aquastat turns off the boiler and the zone pump.

Operation of the Domestic Hot Water (DHW)

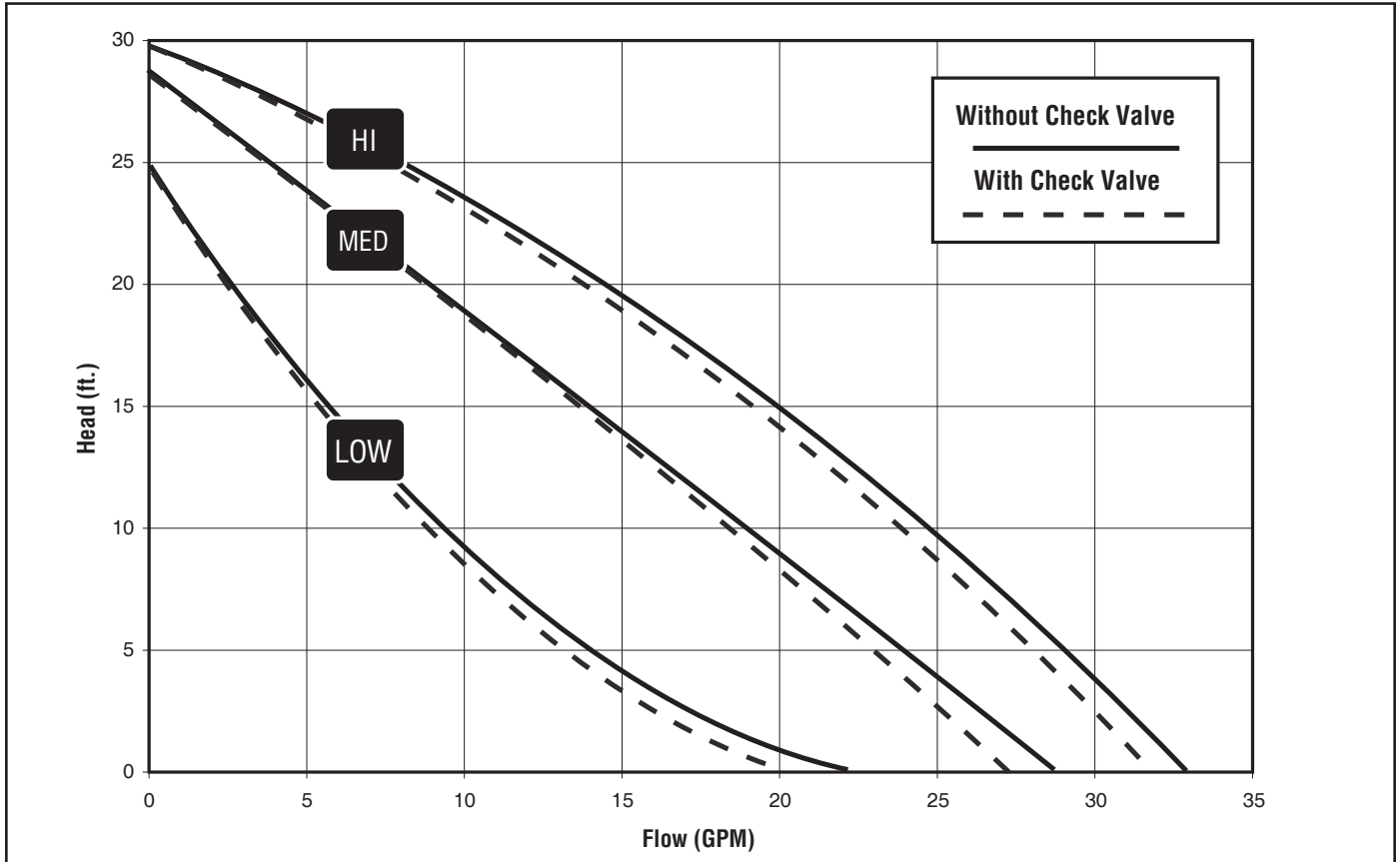
When a domestic hot water demand to the boiler is signalled, the boiler disconnects the active zone pumps and rises the internal temperature. This water is heated and distributed as domestic hot water. When the domestic hot water demand is satisfied; the I.B.C. Boiler turns off the high temperature target output and reverts to the pre-set zone temperatures that were previously active.

Dimensions

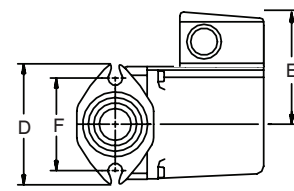
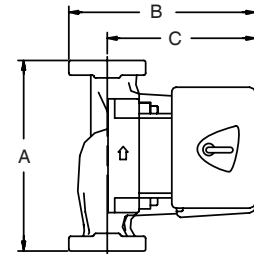


NOTE: Dimensions are in inches.

UPS 26-99 SFC Pump Specifications



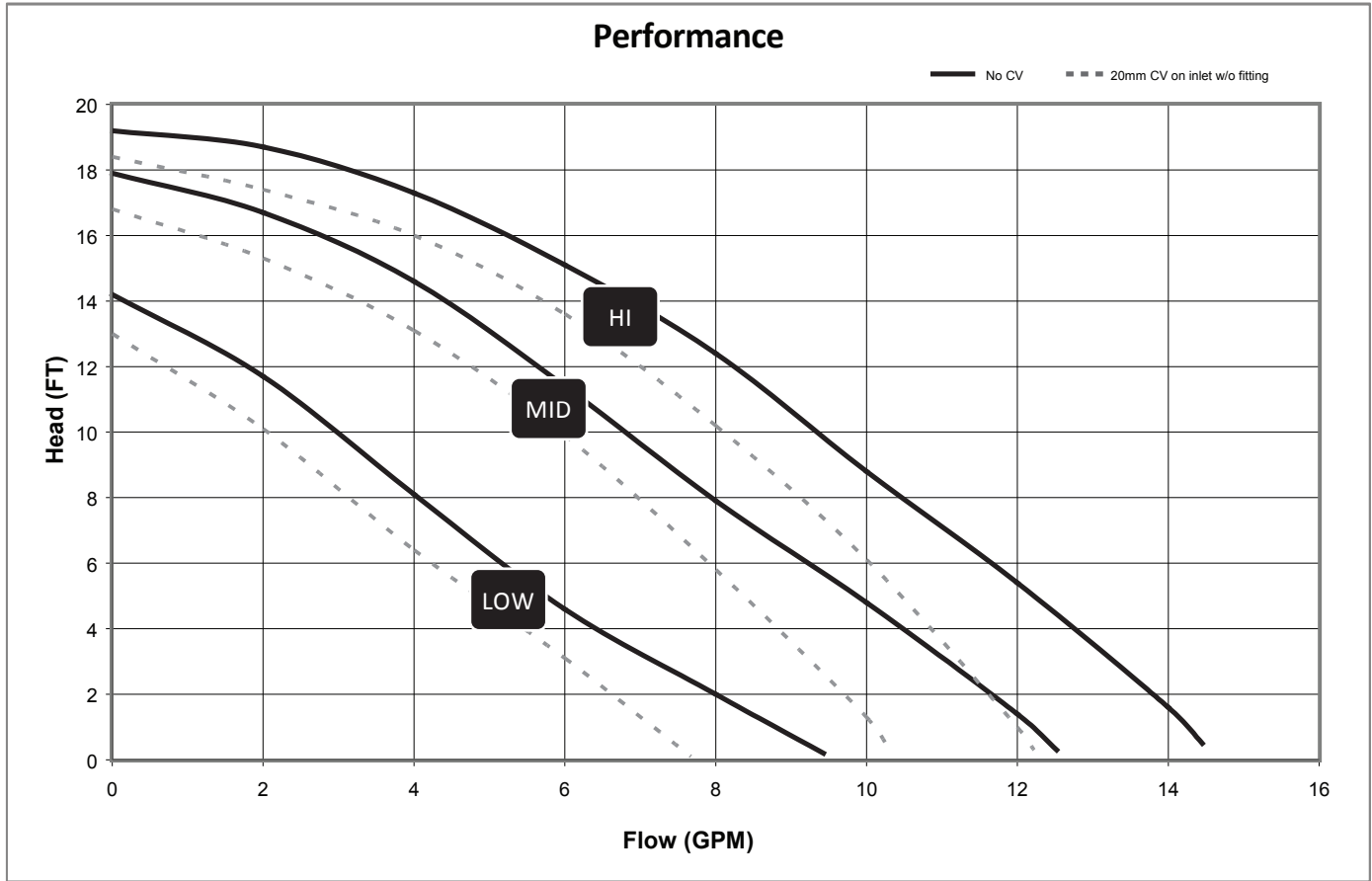
Flow range: 0 - 34 U.S. GPM
 Head range: 0 - 30 FEET
 Motors: 2 Pole, Single Phase
 Maximum fluid temperature: 230°F (110°C)
 Min. fluid temperature: 36°F (2°C)
 Maximum working pressure: 145 PSI



MODEL	VOLTS	AMPS	WATTS	HP	CAPACITOR
115V	Spd. 3	1.8	197	1/6	20mF/180V
	Spd. 2	1.5	179	1/6	20mF/180V
	Spd. 1	1.3	150	1/6	20mF/180V

Model Type	A	B	C	D	E	F	Connection Type and Size	Approximate Shipping Wt. (lbs)
UPS 26-99 SFC	6 1/2	6	4 7/8	3 1/2	3 7/16	3 5/32	GF 15/26 Flange - (2) 1/2" Dia. Bolt Holes	10.3

UPS 15-58RU 3 Speed Pump

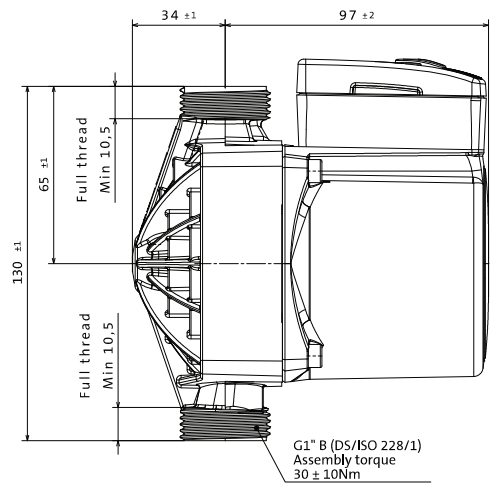
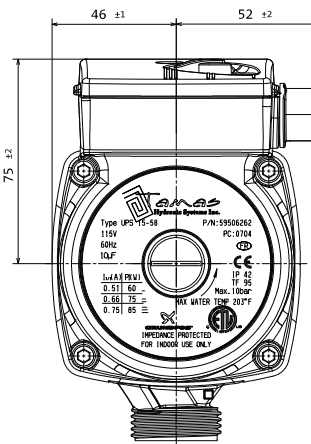


Technical Specifications

Flow range: 0 - 14.2 U.S. GPM
 Head range: 0.1 - 19 FEET
 Motors: 2 Pole, Single Phase
 Max. fluid temperature: 230°F (110°C)
 Min. fluid temperature: 36°F (2°C)
 Max. working pressure: 145 PSI

Approvals

ETL
 NSF Std 61
 Annex G

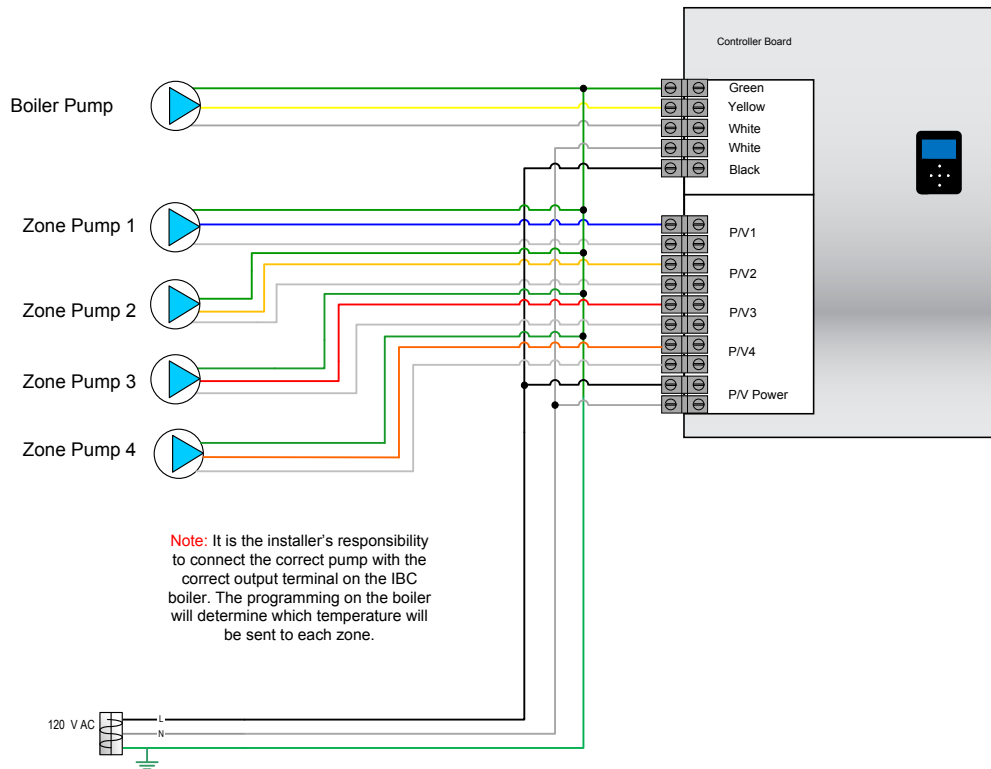


		AMPS	WATTS	HP	CAPACITOR
115V	Spd. 3	0.75	87	1/25	10mF/180V
	Spd. 2	0.66	80	1/25	10mF/180V
	Spd.1	0.55	60	1/25	10mF/180V

Wiring

All electrical wiring to the panel (including grounding) must conform to local electrical codes and/or National Electrical Code, ANS/NFPA No. 70-latest edition, or the Canadian Electrical Code, C22.1- Part 1.

Wiring Schematic for Panels With 3 Demands or Less



Boiler Pump

The boiler pump should be connected to the White/Yellow/Green labeled Boiler Pump on the IBC Boiler.

Zone Pumps (P/V1 to P/V3)

The pump zone terminal block is located on the upper right hand edge of the controller. The upper three pair of contacts on this green connector strip is then powered to manage up to three zone pumps. The top pair for zone #1, the second pair for zone #2, etc. Once the controller is programmed for the respective zones, the boiler will manage all the zones.

P/V Power

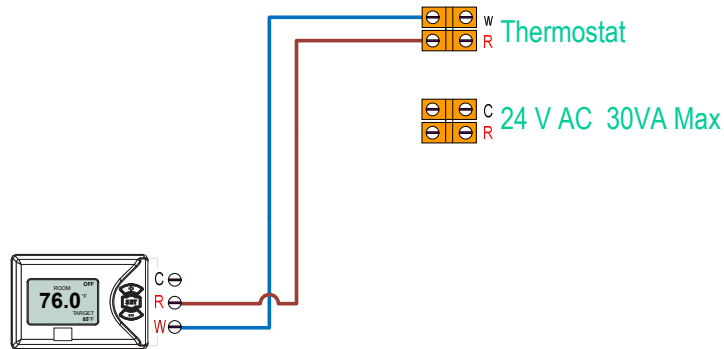
Line – Voltage wiring is done within the field-wiring diagram terminal strip in the IBC control board. Connect a 120 VAC/15 Amp supplies to the “AC IN” tagged leads in the wiring box.

Thermostat 1-2

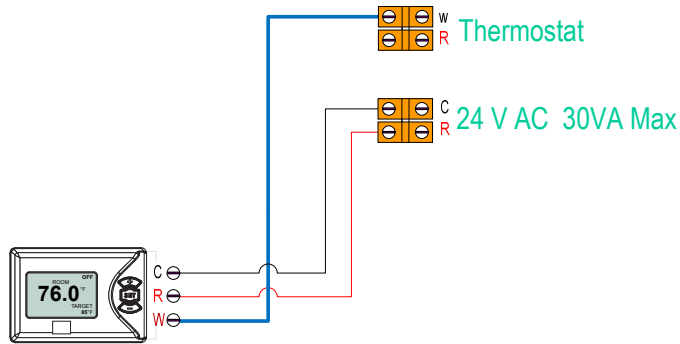
Connect the thermostat for a space heating zone to the terminal block on the Tamas Panel. Do not supply 24V power to the thermostat circuits or attempt to supply 24V AC for any other application.

For the thermostats that require continuous 24V AC power source, connect the thermostat power input to the 24V AC terminal on the Tamas Panel.

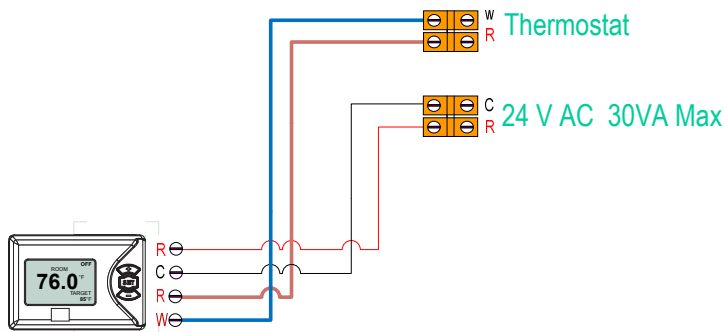
2 Wire Thermostat



3 Wire Thermostat



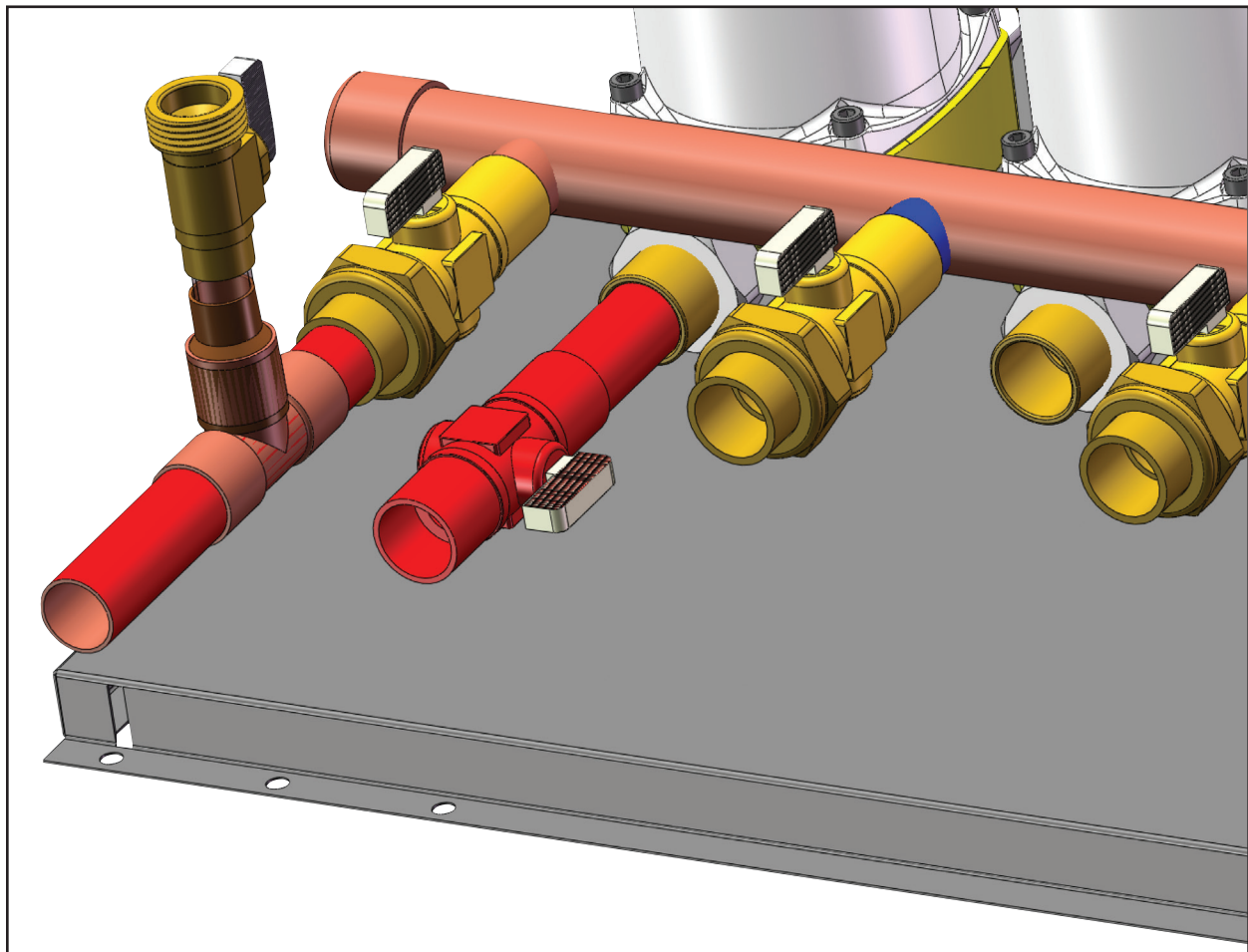
4 Wire Thermostat



System Filling Procedure

1. Disconnect power from the Tamas Hydronic panel
2. Install recommended purging valve on return zone line.(field supplied see below drawing)
3. Close all isolation valves to the zones
4. Begin filling the panel through the provided hose bib connection on the panel
5. Open the return isolation valve on the panel
6. Begin filling the system
7. Slowly open the purging valve on the return side of the zone line to let the air out of the system
8. After the above procedure is done, close the air purging valve
9. Finally close all the valves to isolate the zone from the panel before moving on to the next zone.
10. Repeat this procedure based on the amount of zones on the board
11. Once all the zones have been purged, you can open all the isolation valves

IMPORTANT This procedure applies to filling the system one zone at a time.



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 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 Inc.' s 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.

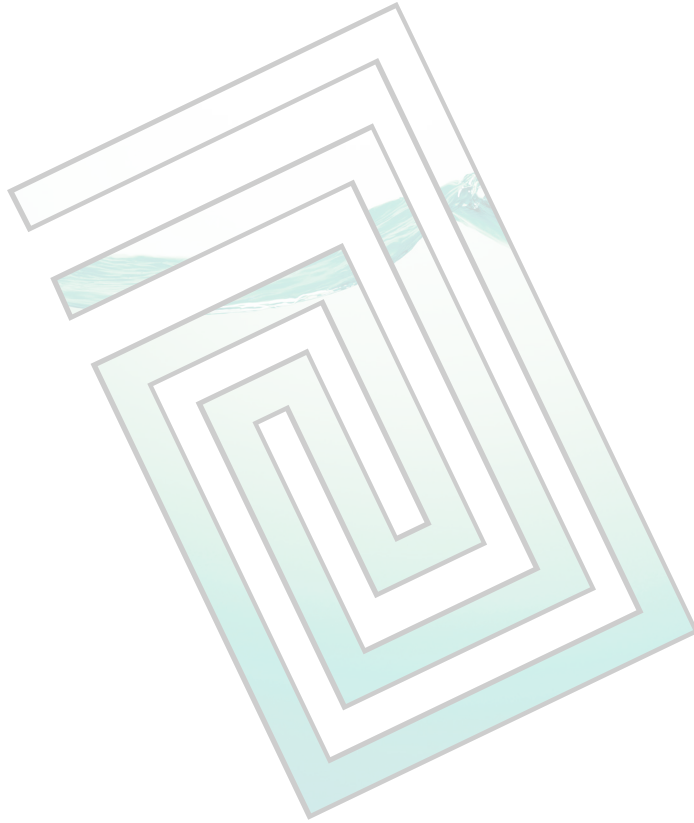
This limited warranty statement gives the purchaser specific legal rights. The purchaser may also have other rights which vary from state to state in the United States, from Province to Province in Canada and from Country to Country elsewhere in the world.

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.



Custom, Reliable Hydronic Systems

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