

Tankless Water Heater Panel Series

Installation and Commissioning Guide



Tamas Hydronic Panels
Tankless Water Heater Series
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This User Guide is Applicable to:

Tankless Water Heater Panels - Closed Loop, Low Temp

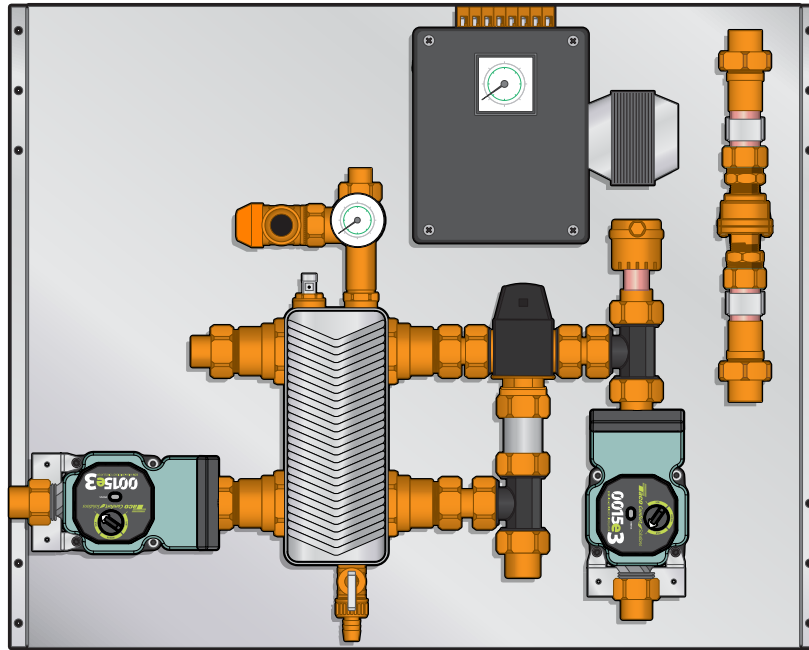
T-BO-RO-1010HX-LT	Tankless Water Heater Panel with 0015e3 Pump, (1) Low Temp Zone with 0015e3 Pump and (1) Heat Exchanger
T-BO-RF-1010HX-LT	Tankless Water Heater Panel with 0015e3 Pump, (1) Flow Switch, (1) Low Temp Zone 0015e3 Pump and (1) Heat Exchanger
T-BO-RO-1020HX-LT	Tankless Water Heater Panel with 0015e3 Pump, (2) Low Temp Zone with 0015e3 Pump and (1) Heat Exchanger
T-BO-RF-1020HX-LT	Tankless Water Heater Panel with 0015e3 Pump, (1) Flow Switch, (2) Low Temp Zone 0015e3 Pump and (1) Heat Exchanger
T-BO-RO-2010HX-LT	Tankless Water Heater Panel with UPS 26-99 Pump, (1) Low Temp Zone with 0015e3 and (1) Heat Exchanger
T-BO-RF-2010HX-LT	Tankless Water Heater Panel with UPS 26-99 Pump, (1) Flow Switch, (1) Low Temp Zone with 0015e3 and (1) Heat Exchanger
T-BO-RF-2020HX-LT	Tankless Water Heater Panel with UPS 26-99 Pump, (1) Flow Switch, (2) Low Temp Zone with 0015e3 and (1) Heat Exchanger
T-BO-RF-2030HX-LT	Tankless Water Heater Panel with UPS 26-99 Pump, (1) Flow Switch, (3) Low Temp Zone with 0015e3 and (1) Heat Exchanger
T-BO-RF-2110HX-LT	Tankless Water Heater Panel with UPS 26-99 Pump, (1) Flow Switch, (1)High Temp Zone, (1) Low Temp Zone with 0015e3 Pumps and (1) Heat Exchanger

Tankless Water Heater Panels-Open Loop, Low Temp

T-BO-RO-1010-LT	Tankless Water Heater Panel with 0015e3 Pump and (1) Low Temp Zone with 0015e3 Pump
T-BO-RF-1010-LT	Tankless Water Heater Panel with 0015e3 Pump, (1) Flow Switch and (1) Low Temp Zone with 0015e3 Pump
T-BO-RO-2010-LT	Tankless Water Heater Panel with UPS 26-99 Pump and (1) Low Temp Zone with 0015e3 Pump
T-BO-RF-2010-LT	Tankless Water Heater Panel with UPS 26-99 Pump, (1) Flow Switch and (1) Low Temp Zone with 0015e3 Pump
T-BO-RF-2020-LT	Tankless Water Heater Panel with UPS 26-99 Pump, (1) Flow Switch and (2) Low Temp Zone with 0015e3 Pump

*** 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 Tankless Water Heater Panel.



T-BO-RF-1010HX-LT Model Shown

Description

The Tank-less water heater panel is designed to be used in applications where domestic hot water (D.H.W.) and another load are present. (i.e. floor warming, fan coil). The panel is designed where isolation of water/ glycol mixtures is needed via a flat plate heat exchanger to isolate the domestic water from the load.

Operation

When the Tamas Tank-Less Water Heater Panel is connected to a tank-less water heater (instantaneous water heater) the panel regulates the water distribution and temperature to accommodate demand. If the room, or floor temperature falls below the users desired setting on a thermostat, the panel initiates a signal to the tank-less unit to turn on the primary pump and the zone pump. The two pumps will turn off once the demand temperature has been satisfied, or there has been a demand for D.H.W.

In the event that the tank-less unit is on for domestic hot water production, water flows through the flow switch on the Tamas panel to disengage the pumps to allow for the DHW priority. Once the hot water demand in the dwelling has been satisfied, and water stops flowing through the flow switch, and if there is still a zone demand present, the pumps on the Tamas panel will turn back on and continue heating the space that is calling for heat.

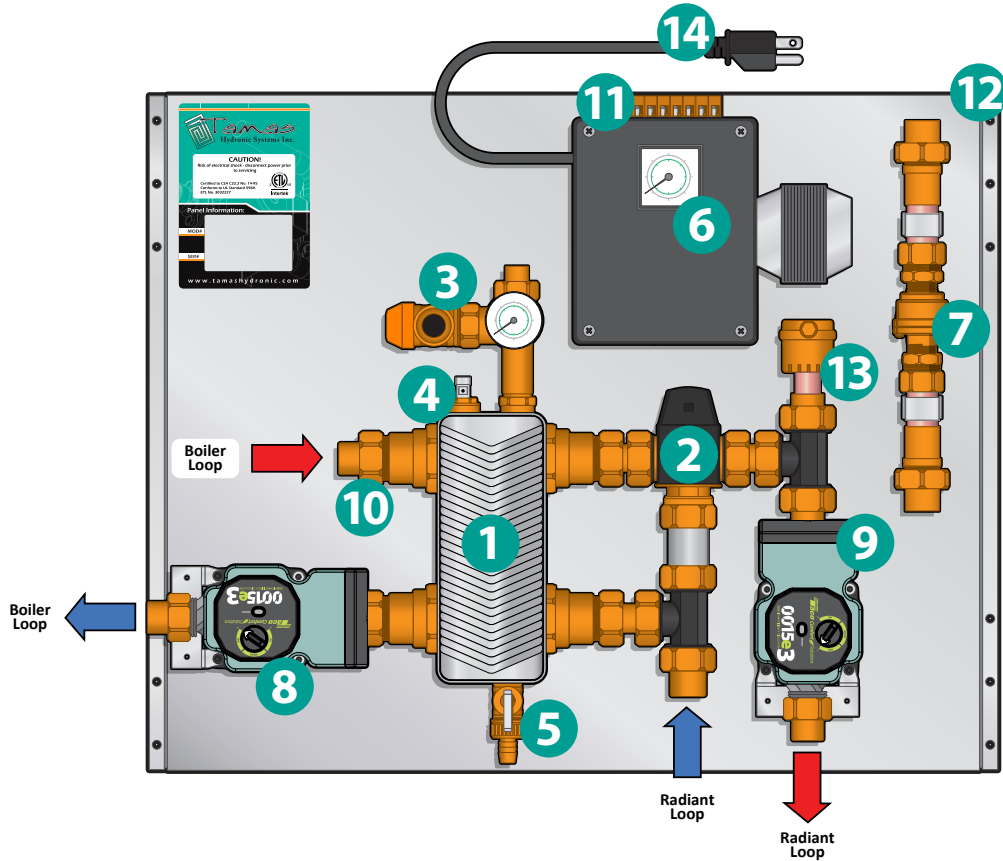
Main Features

- Galvanized steel back plate and powder coated steel cover
- Plug and Play
- Thermostatic mixing valve
- ETL approved

Technical Data

- Max. Operating Temperature: 93°C/200°F
- Max. Ambient Temperature: 49°C/120°F
- Max. Operating Pressure: 10 Bar/145 PSI

Components T-BO-RF-1010HX-LT



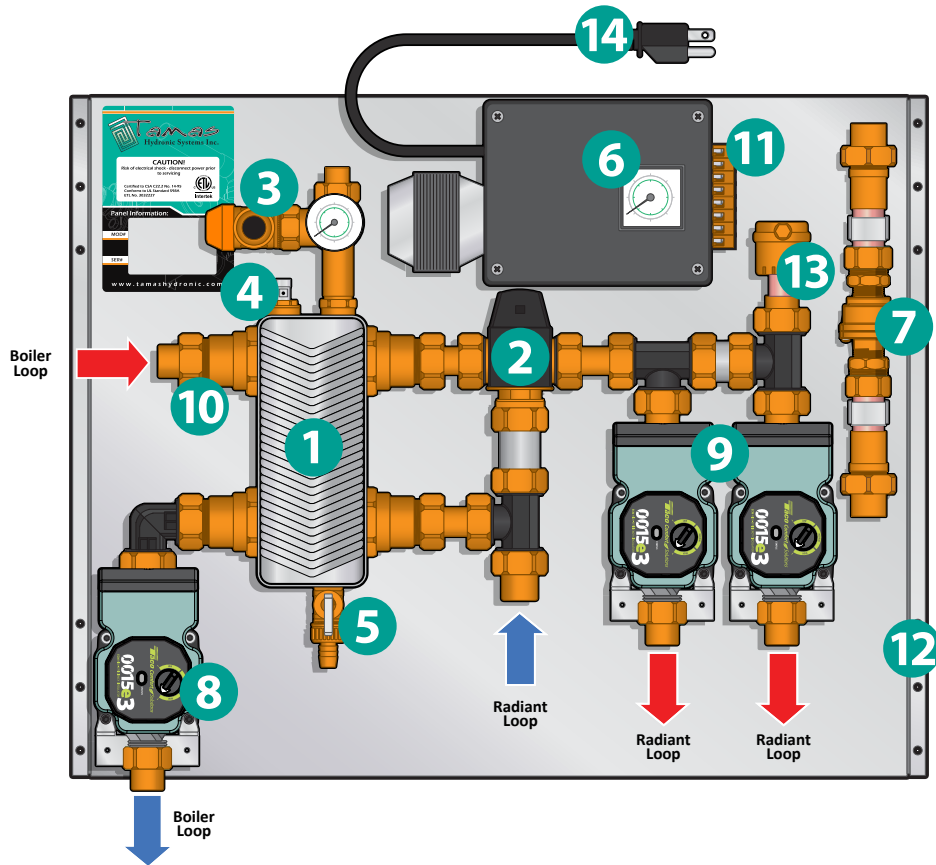
Components	
1	20 Plate Heat Exchanger
2	3/4" Thermostatic Mixing Valve
3	3/4" Pressure Relief Valve
4	Air Vent
5	Hose Bib Hook Up
6	Tamas Control Box & Temperature Gauge
7	Flow Switch
8	Boiler Pump 0015e3
9	System Pump 0015e3
10	3/4" Tailpieces
11	24V Terminal Connections
12	Galvanized Steel Backplate
13	Expansion Tank/Air Vent Connection
14	110V Power Cord

Available Accessories



Optional Isolation Valve kits are available for this product.

Components T-BO-RF-1020HX-LT



Components

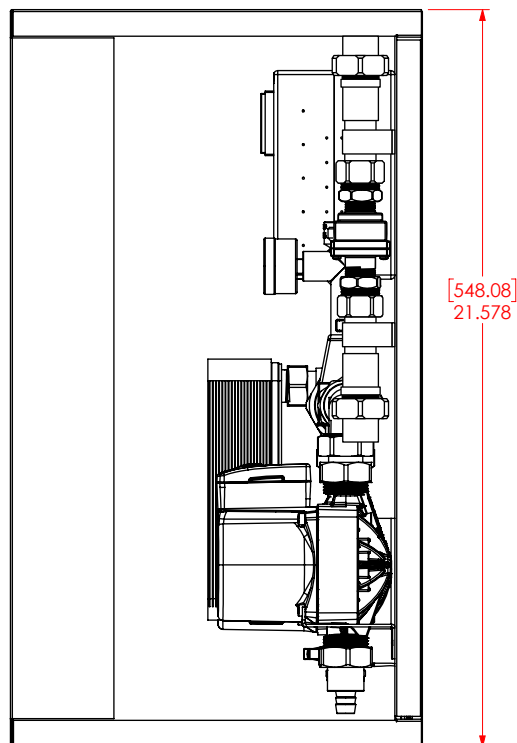
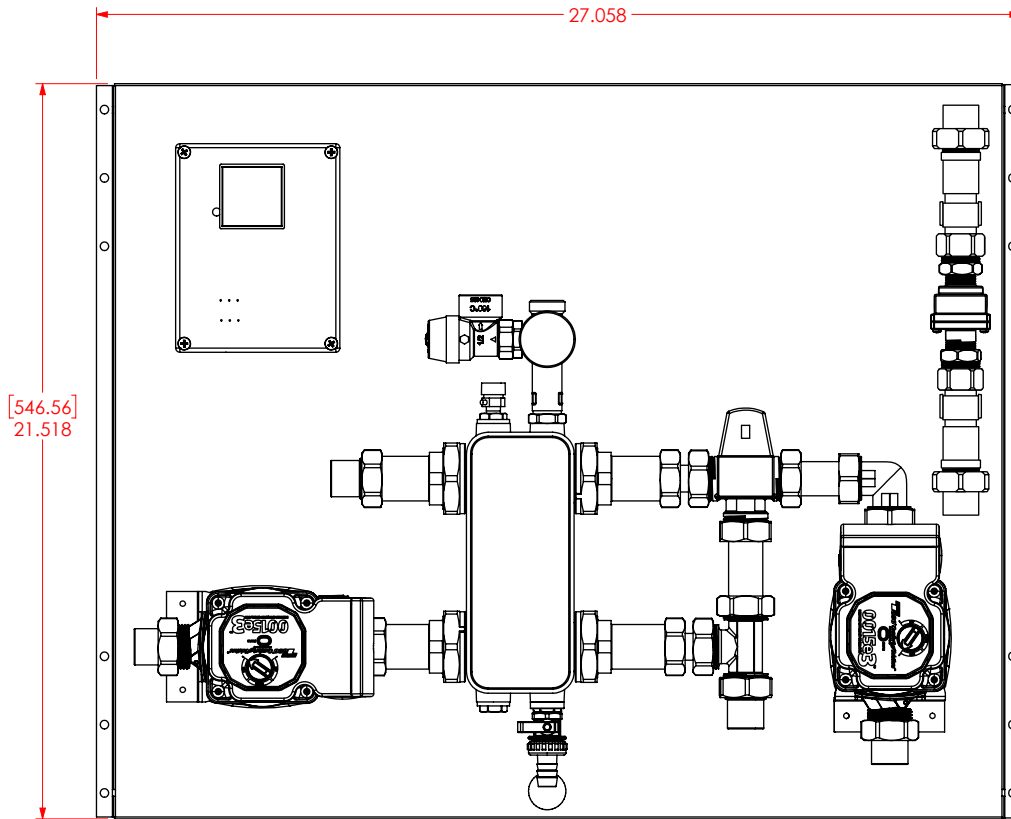
1	20 Plate Heat Exchanger	8	Boiler Pump 0015e3
2	3/4" Thermostatic Mixing Valve	9	System Pumps 0015e3
3	3/4" Pressure Relief Valve	10	3/4" Tailpieces
4	Air Vent	11	24V Terminal Connections
5	Hose Bib Hook Up	12	Galvanized Steel Backplate
6	Tamas Control Box & Temperature Gauge	13	Expansion Tank/Air Vent Connection
7	Flow Switch	14	110V Power Cord

Available Accessories

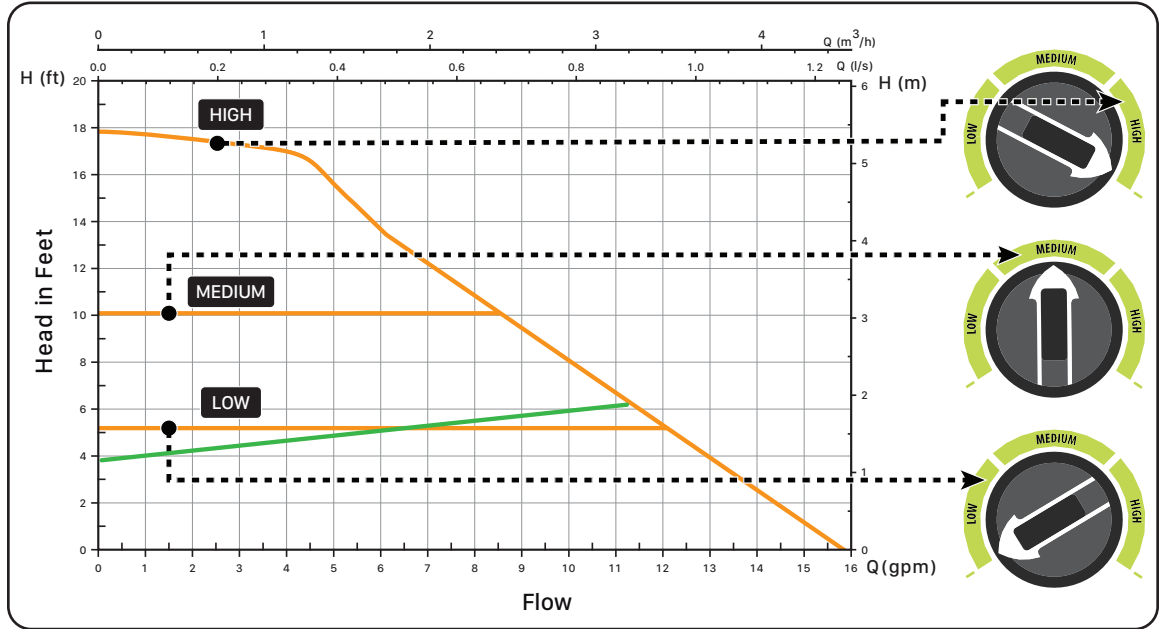
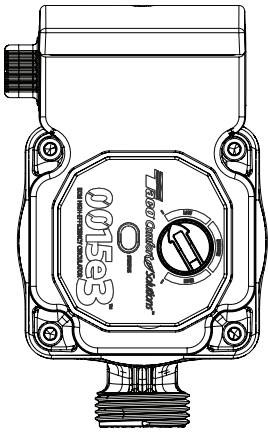


Optional Isolation Valve kits are available for this product.

Dimensions

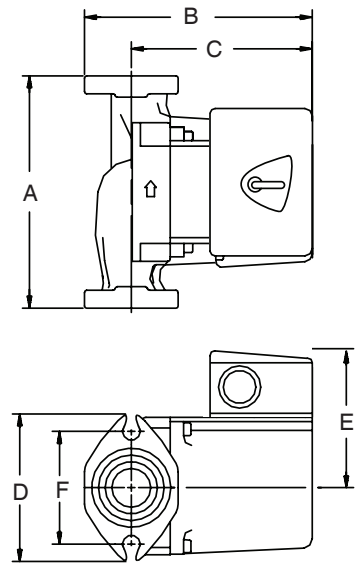
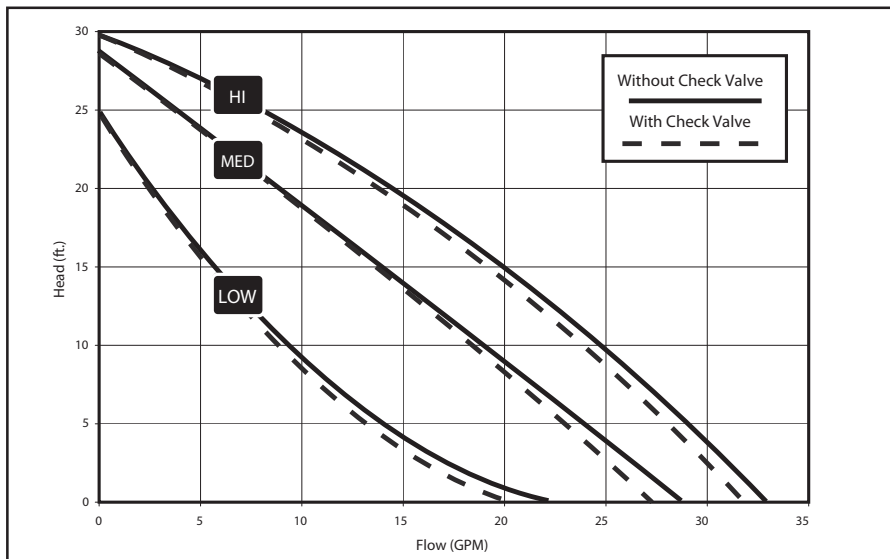


Pump Circulator Taco 0015e3 (3 Speed Pump)



Flow Range:	0-16 GPM	Voltage:	120V, 60 Hz Single phase
Head Range (ft):	0-18'	Max. Operating Power:	44W
Max. Water Temp.:	230°F (110°C)	Max. AMP Rating:	0.54
Min. Water Temp.:	36°F (2°C)		

Pump Circulator UPS 26-99



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

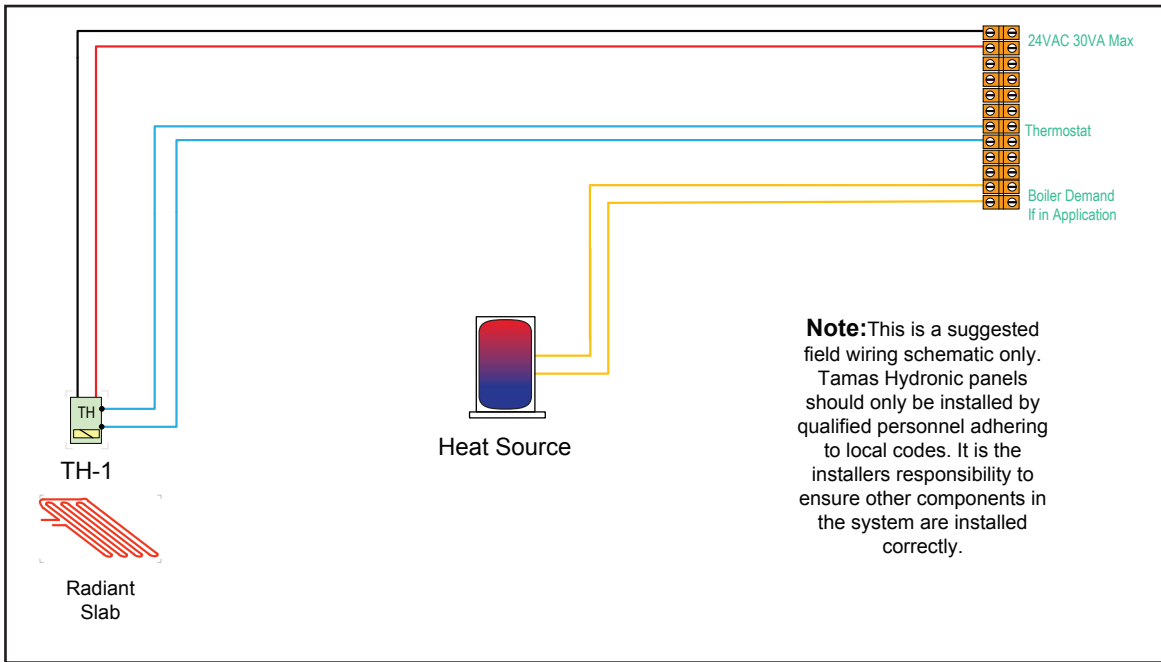
MODEL	VOLTS	AMPS	WATTS	HP	CAPACITOR
115V	Spd. 3	1.8	197	1/6	20mF/180V
	Spd. 2	1.5	179	1/6	20mF/180V
	Spd. 1	1.3	150	1/6	20mF/180V
230V	Spd. 3	0.9	196	1/6	5mF/400V
	Spd. 2	0.8	179	1/6	5mF/400V
	Spd. 1	0.7	150	1/6	5mF/400V

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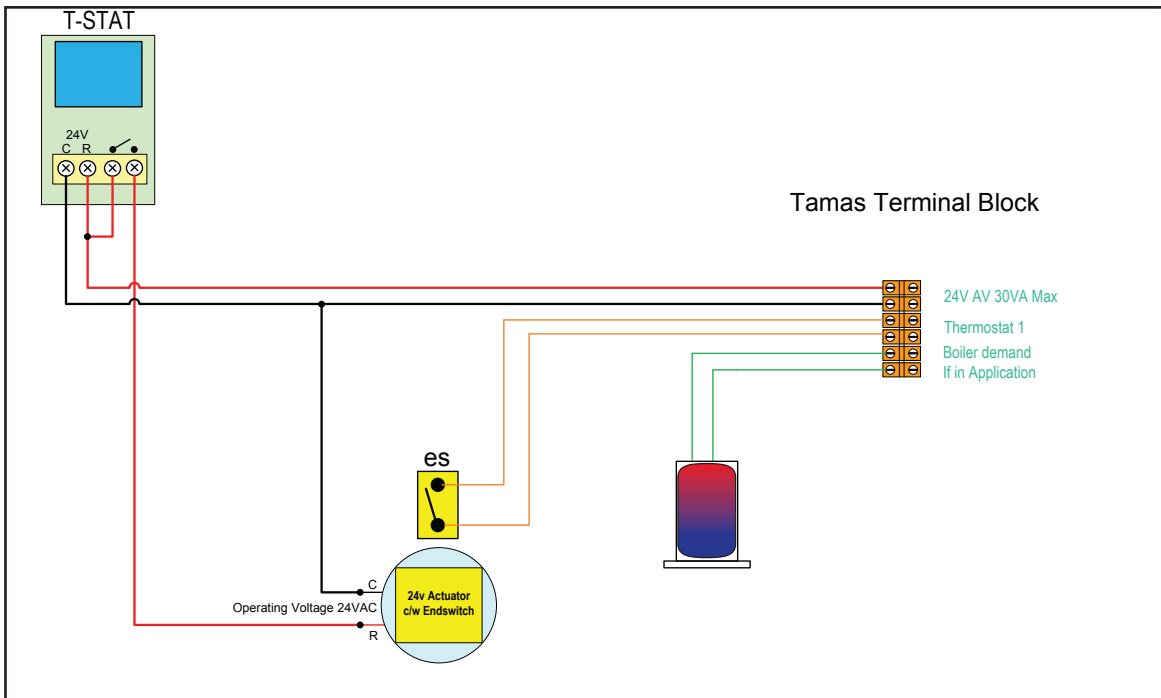
Wiring

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.

Field Wiring



Field Wiring When Actuator/Zone Valve is Present

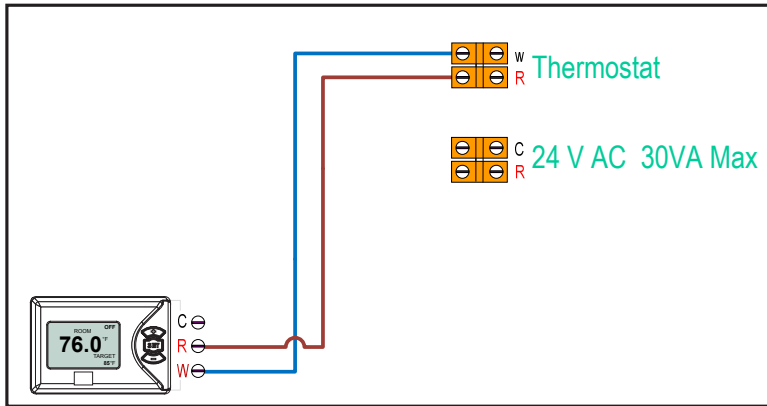


Thermostat Connections

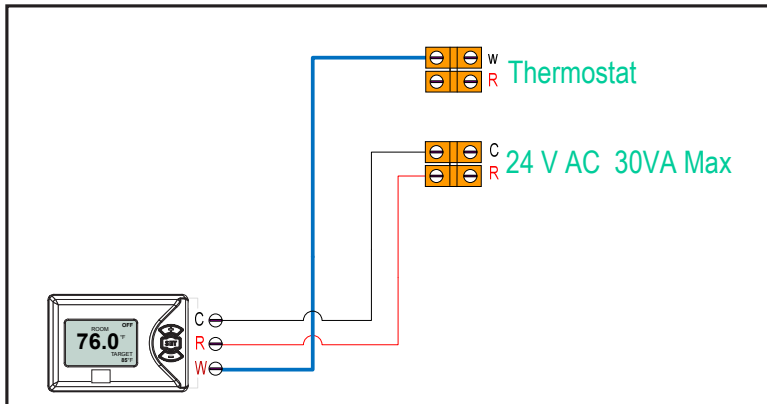
Connect the thermostat for a space heating zone to the terminal block on the Tamas Panel. Do not supply 24V power to the thermostat circuits or attempt to supply 24V AC for any other application.

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

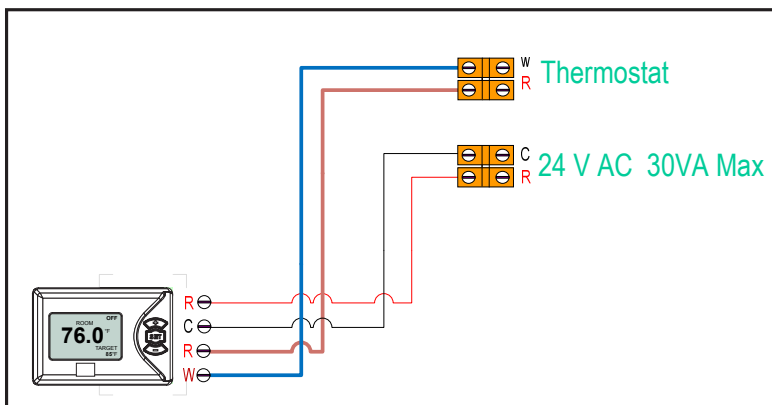
2 Wire Thermostat



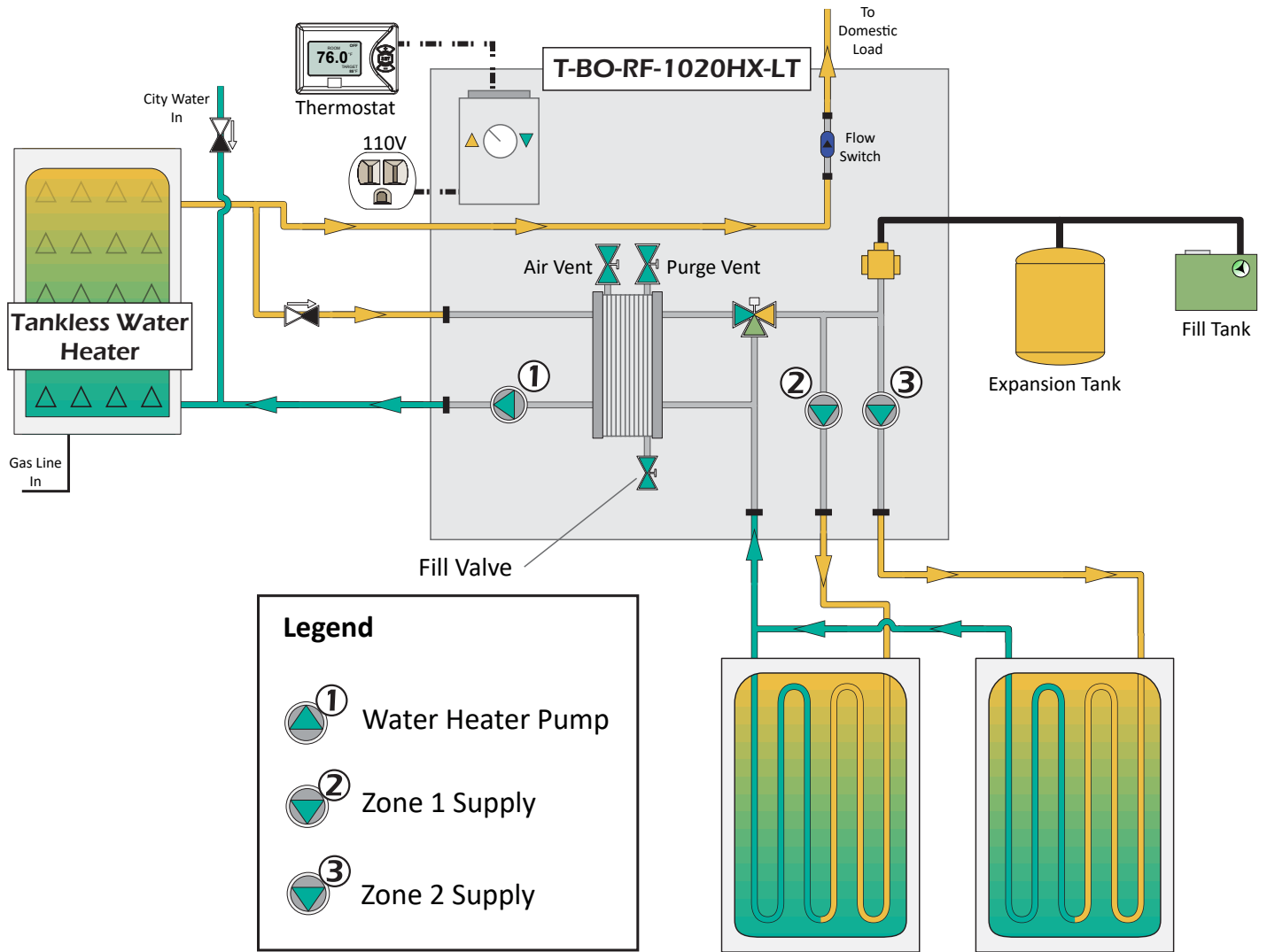
3 Wire Thermostat



4 Wire Thermostat



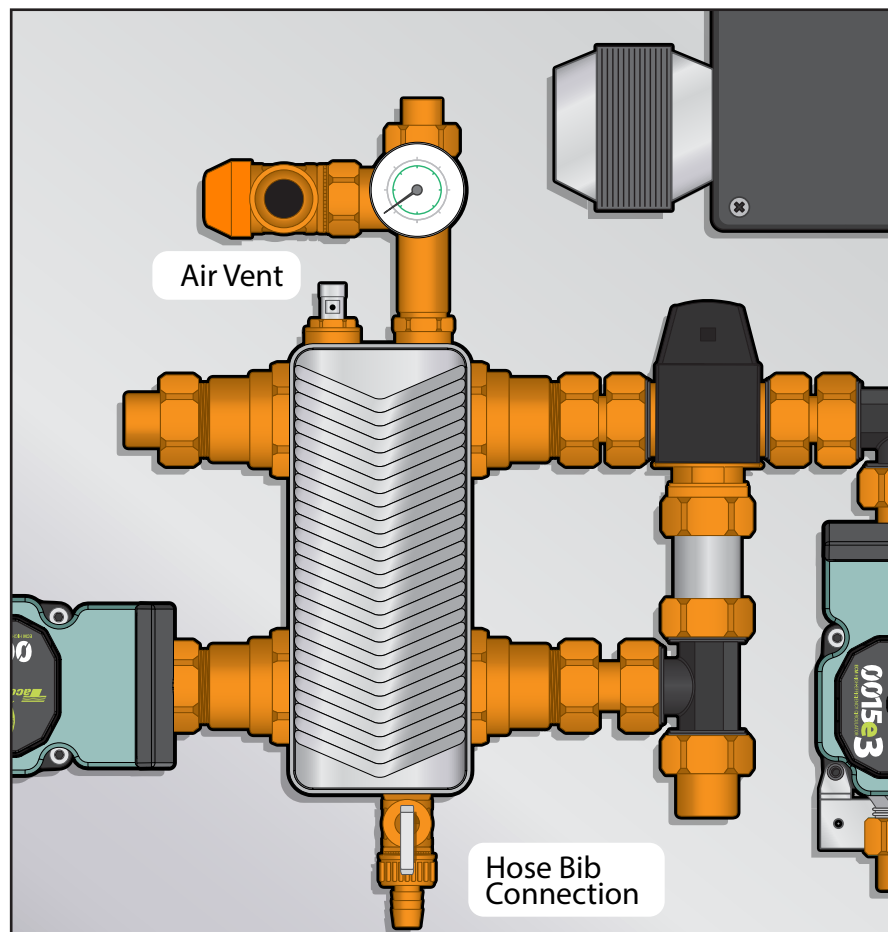
Water Tank Piping Schematic



System Filling Procedure

1. Disconnect power from the Tamas Isolation panel
2. Install recommended purging valve on return zone line (field supplied)
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 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 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.

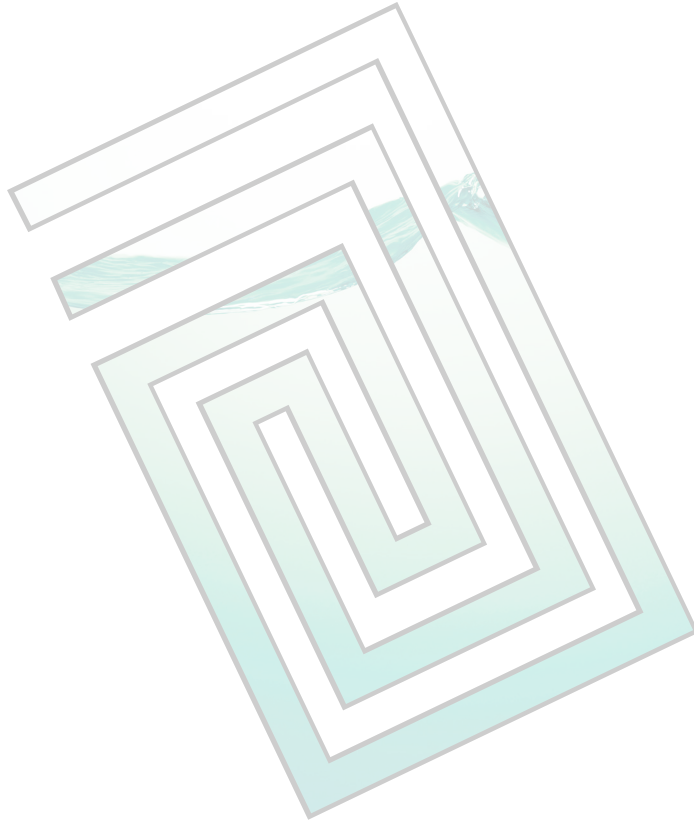
This limited warranty statement gives the purchaser specific legal rights. The purchaser may also have other rights which vary from state to state in the United States, from Province to Province in Canada and from Country to Country elsewhere in the world.

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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