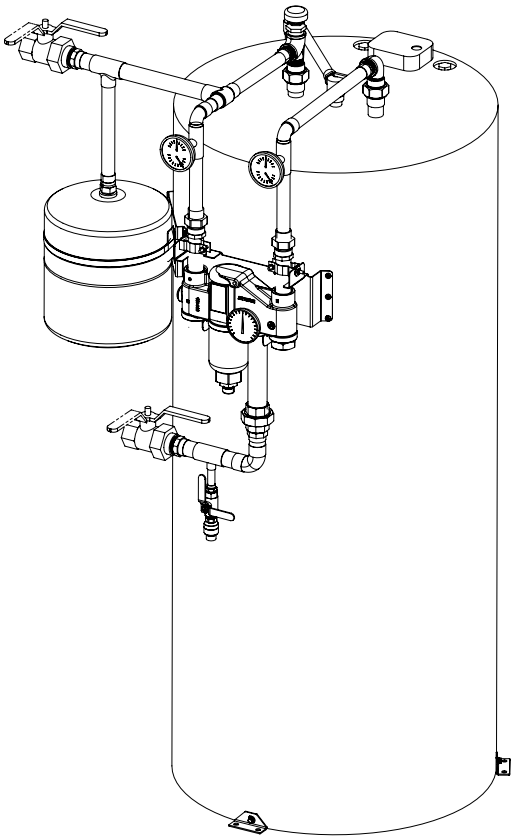
Installation



Navigator® Tepid Water System

Model S19-T120

Table of Contents

Read the instructions in this manual before beginning installation. Save these instructions and refer to them for inspection, maintenance, and troubleshooting information.

For questions regarding the operation, installation or maintenance of this product, visit bradleycorp.com or call 800.BRADLEY (800.272.3539).

Product warranties and parts information may also be found under “Resources” on our website at bradleycorp.com.

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Safety Information

Installation

Failure to comply with proper installation and maintenance could contribute to a valve failure resulting in severe bodily injury including scalding, chilling and/or death depending upon system water pressure changes and/or supply water temperature changes.

ANSI/ISEA Z358.1 requires this unit to be used with a clean, potable, uninterrupted supply of water. Constant power supply to safety equipment is necessary for it to function and to keep water tepid.

Before installation make sure that this equipment will meet the requirements of the potential hazardous contaminants in your location.

Installation and maintenance of this system must be completed by a qualified plumber and electrician in compliance with all national and local codes. Compliance and conformity to local codes and ordinances is the responsibility of the installer. Use this Thermostatic Mixing in accordance with ASSE standard 1071.

Weekly Inspections

Regular checking and cleaning of the valve's internal components and check stops is necessary for maximum life and proper product function. Periodic inspection and yearly maintenance by a licensed contractor is required. Corrosive water conditions and/or unauthorized adjustments or repairs could render the valve ineffective for it's intended service. Frequency of cleaning and inspection depends upon local water conditions.

Operation of emergency thermostatic mixing valves and fixtures must be tested weekly per ANSI/ISEA Z358.1.

Perform regular checks of the recirculation pump and flow switch (if equipped) along with strainers for clogged debris and clean if necessary.

Water Temperature

ANSI/ISEA Z358.1 requires tepid water. Suitable range is 60°F to 100°F (16°C to 38°C). Personal injury is possible outside this temperature range. Output temperature of the valve must be checked and adjusted at initial installation and on a quarterly basis.

This valve does not provide protection from pipe freezing.

Moving the System

Drain the hot water tank completely before moving. Lifting or moving a tank with water may cause damage to the unit or a loss of stability when in motion.

Perform functional test upon relocation of equipment.

To avoid product or property damage:

- Make all water and electrical connections at temperatures above freezing (32°F (0°C)).

Model Numbers & Description

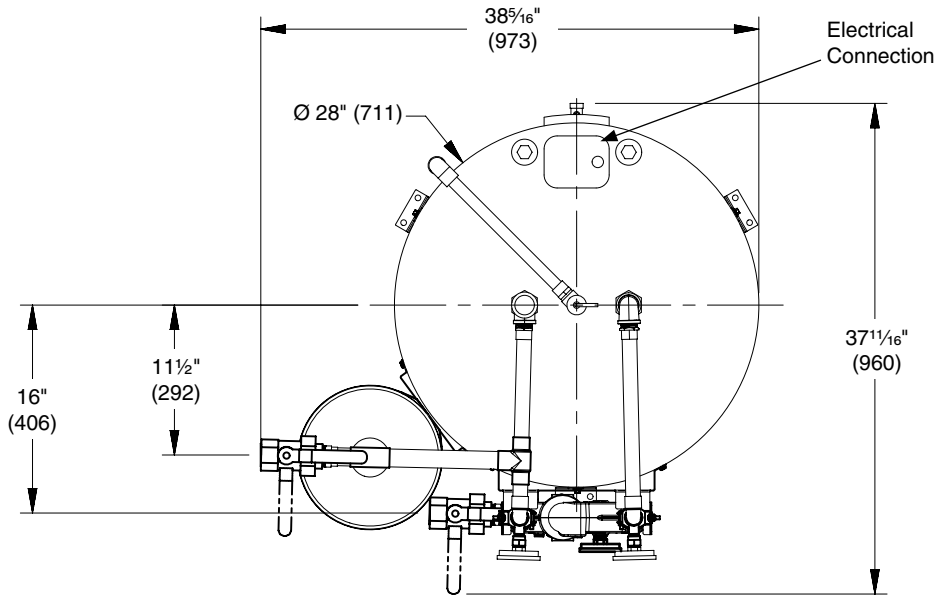
Model Number	Phase	Volts	Watts	Full Load Amps
S19-T120A	1	208	4500	21.6
S19-T120B	1	240	4500	18.8
S19-T120C	1	277	4500	16.5
S19-T120D	1	480	4500	9.4
S19-T120E	3	208	4500	21.6
S19-T120F	3	240	4500	18.8
S19-T120G	3	277	4500	16.2
S19-T120H	3	480	4500	9.4

Conversion Kits

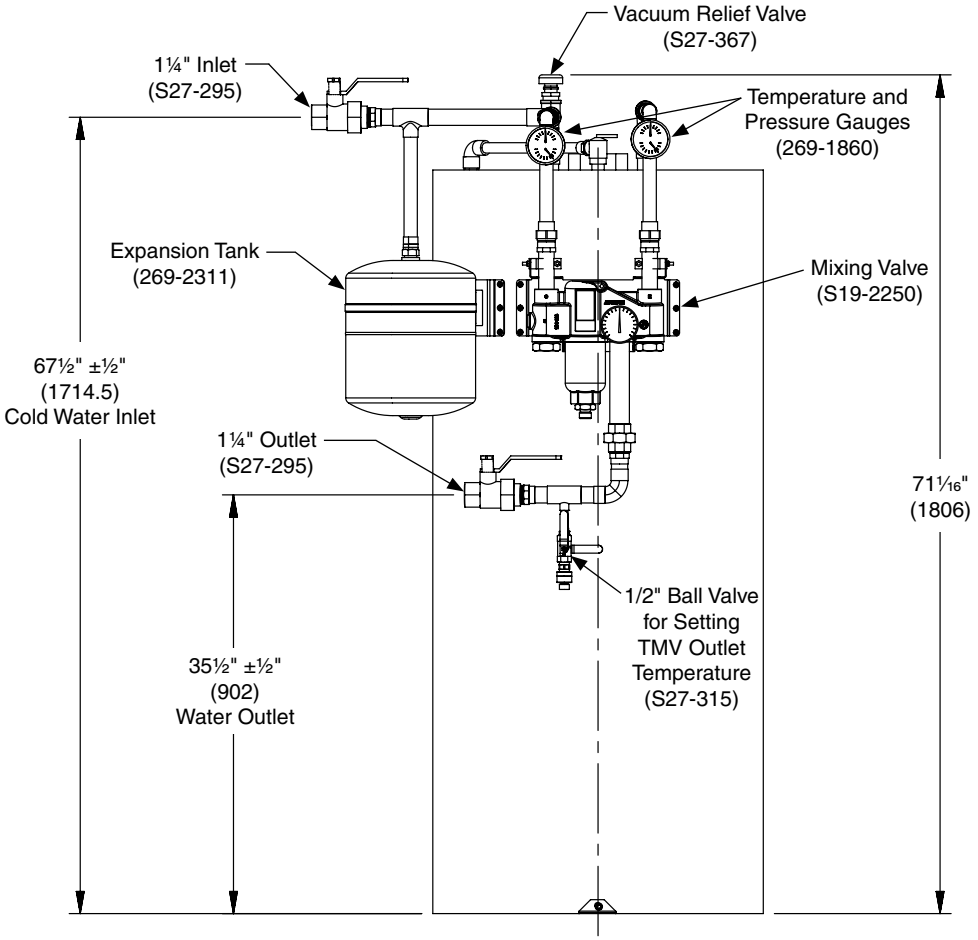
Description	Part Number
208V Conversion Kit	269-2864
240V Conversion Kit	269-2865
480V Conversion Kit	269-2866

Dimensions & Components (mm)

Top View

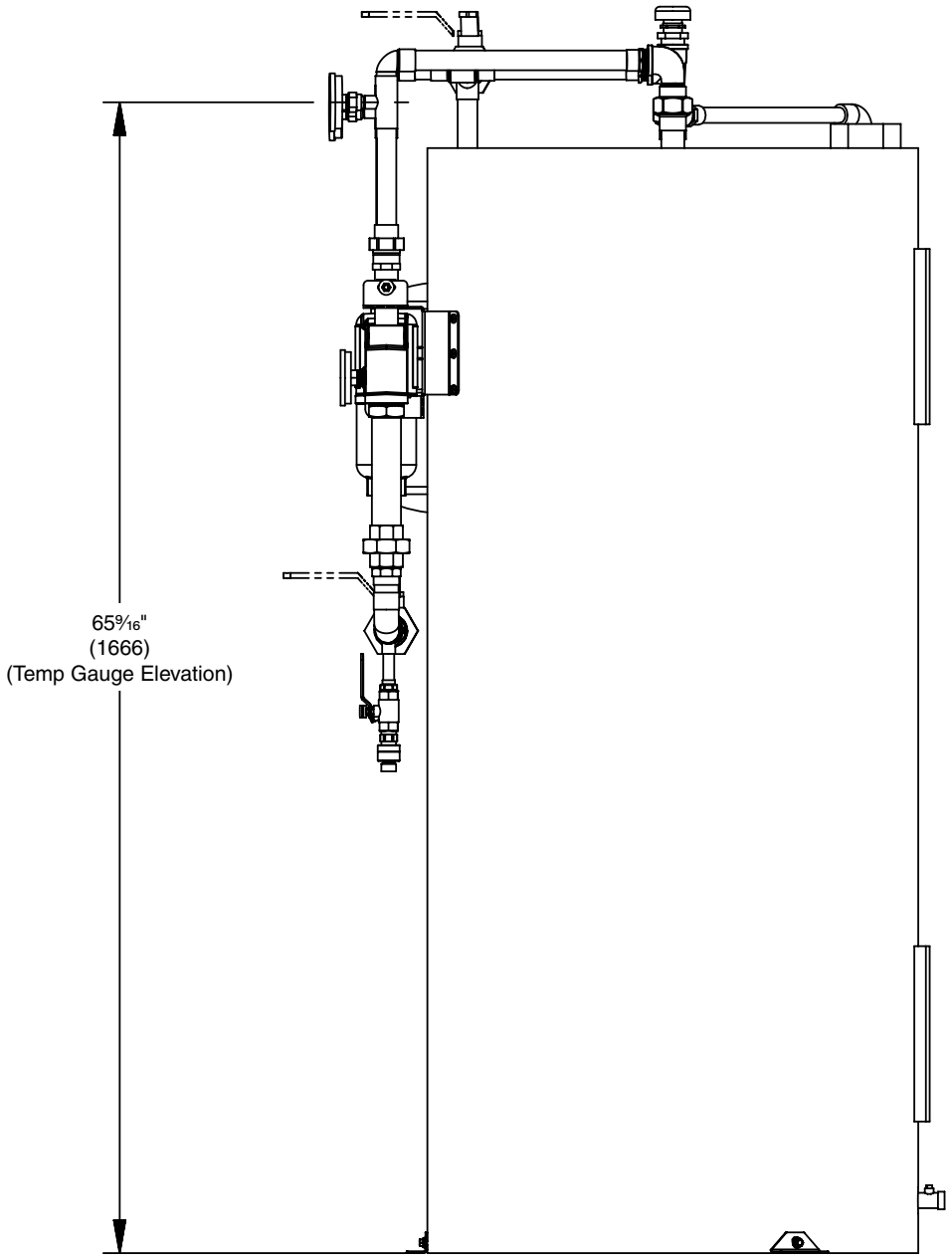


Front View



Dimensions & Components (mm)

Right Side View



Shipping and Handling Instructions

Base Model No.	Description	Approximate Weight (less shipping skid)
S19-T120	Tepid Water System	350 lb

Tepid Water System

Bradley Tepid Water Systems are transported within the continental United States and Canada via commercial truck.

NOTICE! Use caution when transporting, and always use proper lifting techniques. Weight distribution is unbalanced and the product is susceptible to tipping which will result in damage to the product.

NOTICE! Check load ratings on equipment intended to be used to transport the enclosure. Standard safety procedures for forklift transport of larger than 2000 pounds should be followed at all times.

- Bottom Lift: Lift only from bottom of unit. During transit, transport close to the ground. Use all standard safety measures and precautions prior to and during transit.
- If immediate destination of the unit is storage, refer to the Storage and Preservation Guide.

Each unit will be accompanied by document packaging that includes the installation instructions and electrical schematics, if applicable. Store all documents for reference.

Tepid Water System Preconstruction Guide

Thank you for your business. The purpose of Bradley's Tepid Water System preconstruction guide is to provide important preinstallation information to the customer that has determined their product specification needs are met by a tepid water system. If additional information is still required contact the Bradley Corporation Technical Service Department.

Technical Documents Available

- Storage and Preservation Guide
- Installation Instructions
- Tepid Water System Preconstruction Guide

Recommended Equipment, Materials & Supplies to be provided by Installer

- (6) 3/8" diameter, 3" long anti-corrosion expansion anchors (2 per mounting plate), see next page
- Electrical supply materials (if applicable)
- Plumbing supply materials (if applicable)
- Properly rated lifting equipment which exceeds the total weight of the unit
- Installer must supply freeze protection equipment for the water supply leading up to the unit (if applicable)

⚠ WARNING DO NOT energize shower without first following all instructions in Steps 1 thru 5. Connections should be performed by a certified electrician and plumber only.

Preinstallation Instructions

All practices are based on local codes and standards. Local codes and standards apply to all steps in the installation instructions.

- Contact the authority having jurisdiction over local codes and ordinances regarding the disposal of waste water prior to installation.
- Contact the authority having jurisdiction over local codes and ordinances regarding the plumbing and electrical codes prior to installation.
- Confirm that the installation area is a level plane.
- Make allowances to ensure the water heater is grounded prior to connecting power.
- Identify a location that is capable of delivering a supply of water and power which will meet system plumbing and electrical requirements.
- Review minimum electrical requirements based on the unit and options selected. Refer to wiring schematic or system rating labels provided with unit.

Storage and Preservation Guide

Keep the tepid water system stored in original packaging until installation.

Recommended Storage Criteria

- Store the tepid water system where temperatures are above 35°F (5°C) at all times.
- Indoor storage is recommended.
- Minimize excessive transportation around a job site to reduce risk of damage.

Alternate Storage

If the tepid water system is stored in an outdoor environment, care should be taken to protect the tepid water system from rain or other falling precipitation via tarp or other waterproof material or runoff and accumulation of ground water from any source that may exceed 3" depth.

1 Prepare Tepid Water System

⚠WARNING To prevent personal injury or damage to the components, follow all manufacturer's warnings and instructions when performing any maintenance or installation of components used in this tepid water system.

⚠WARNING To prevent personal injury and electrical system failure, DO NOT energize electrical power prior to priming the water in the system.

⚠WARNING System is not freeze protected without an energized electrical connection. It is recommended that installation be completed when ambient temperature is above freezing.

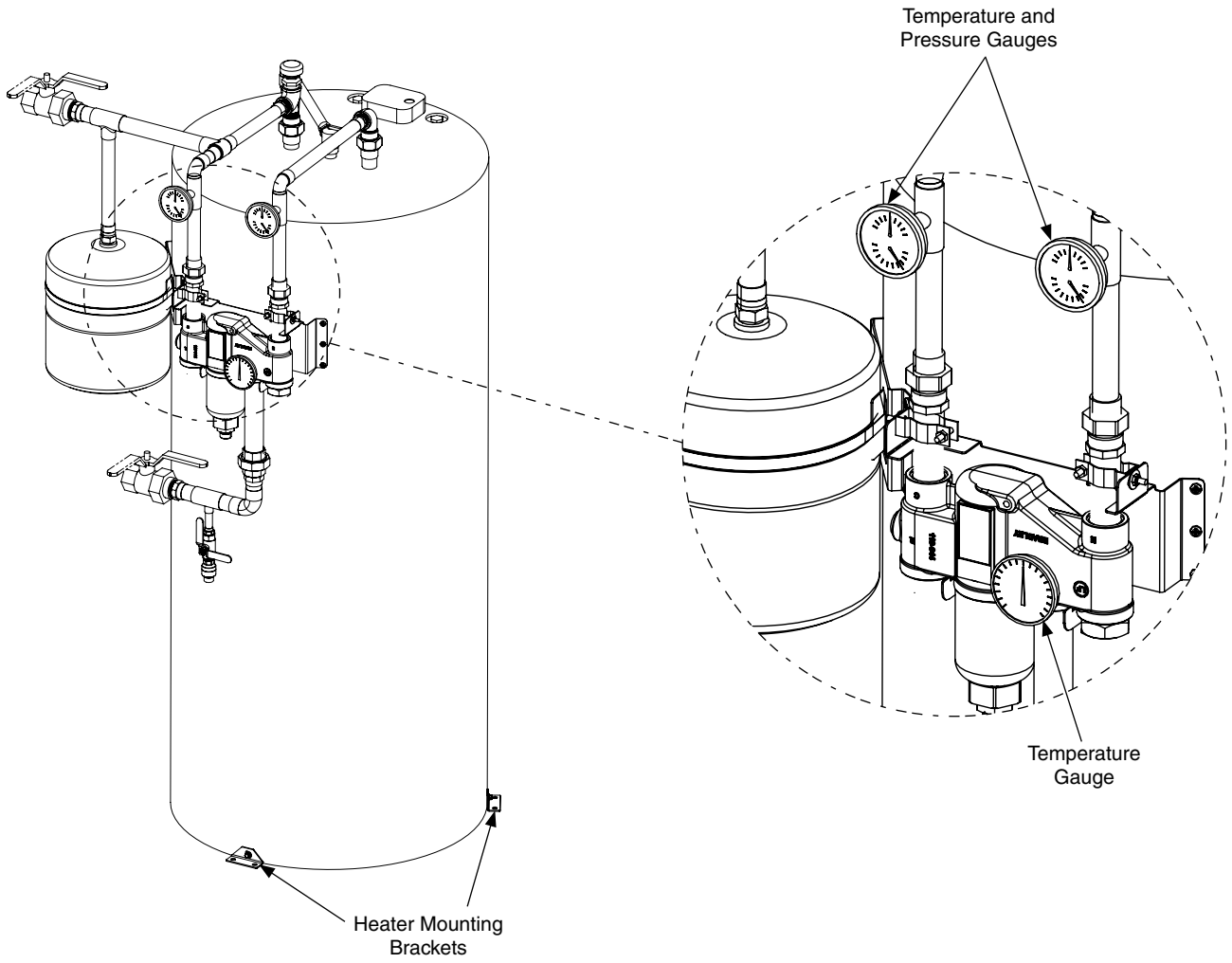
⚠WARNING To prevent personal injury and damage to the unit, the installer may need to provide adequate support for the supply piping.

A Remove all packing materials.

B Remove heater from skid/palette.

C Verify that mounting brackets are attached to bottom of tank.

D Apply pipe sealant or Teflon tape to threads of temperature/pressure gauges. Install temperature/pressure gauges in front side of mixing valve and in the hot and cold water inlets.

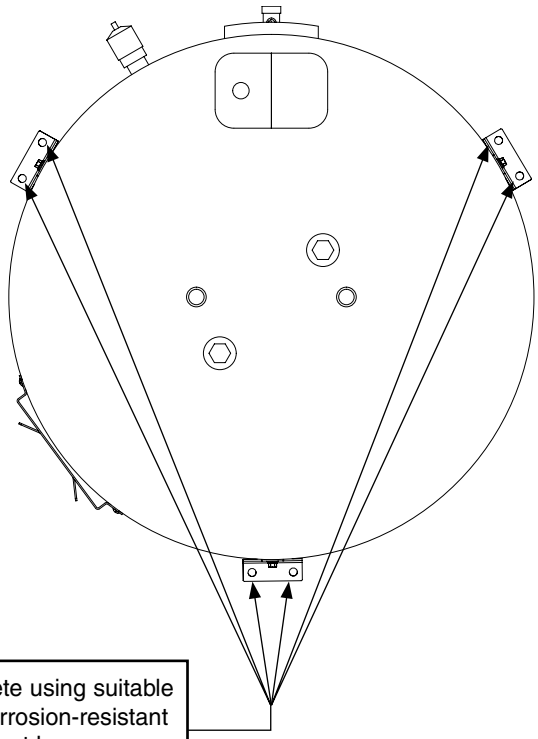


2 Secure Heater

All practices are based on local codes and standards.
Local codes and standards apply to all steps in the installation instructions.

NOTICE! Install anchors per manufacturer's recommendations and local codes and ordinances.

A Place the heater in permanent location. Ensure location meets clearance requirements.



B Secure the heater to the concrete using suitable concrete anchoring devices. Corrosion-resistant anchoring devices (8 places) must be 3" long x 3/8" diameter.

3 Electrical Connections

⚠WARNING To prevent personal injury and damage to the components, surge protection is recommended.

⚠WARNING To prevent personal injury and damage to the components, follow all manufacturer's warnings and instructions when performing any maintenance or installation of components used in this enclosed safety shower.

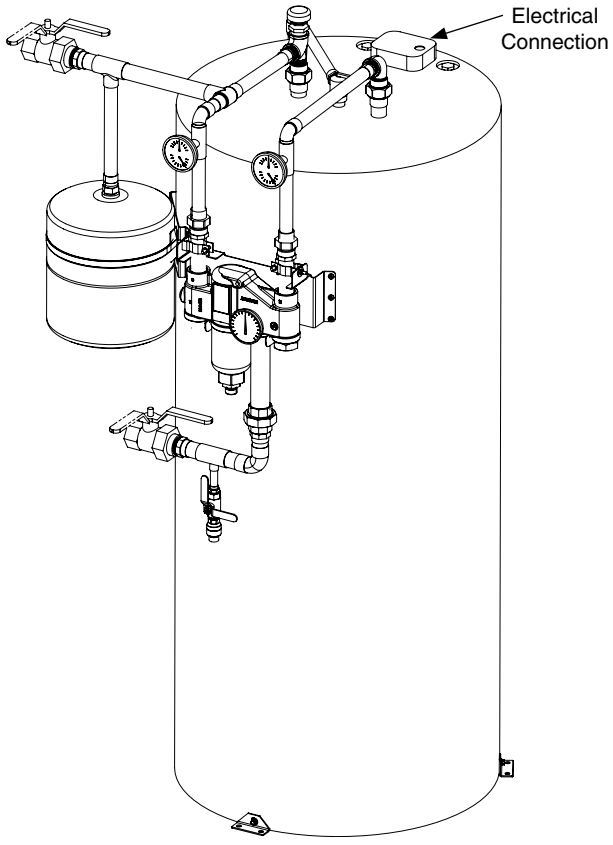
⚠WARNING To prevent personal injury or damage to the components, make sure electrical disconnect is in the OFF position.

NOTICE! System is not freeze protected without an energized electrical connection. It is recommended that installation be completed when ambient temperature is above freezing.

Install system according to national and local electrical codes.
Follow all lockout/tagout procedures when performing any electrical maintenance to the system.

A Verify that disconnect switch (provided by customer) is in the OFF position.

B Install/wire per heater manufacturer's installation instructions (attached to heater).

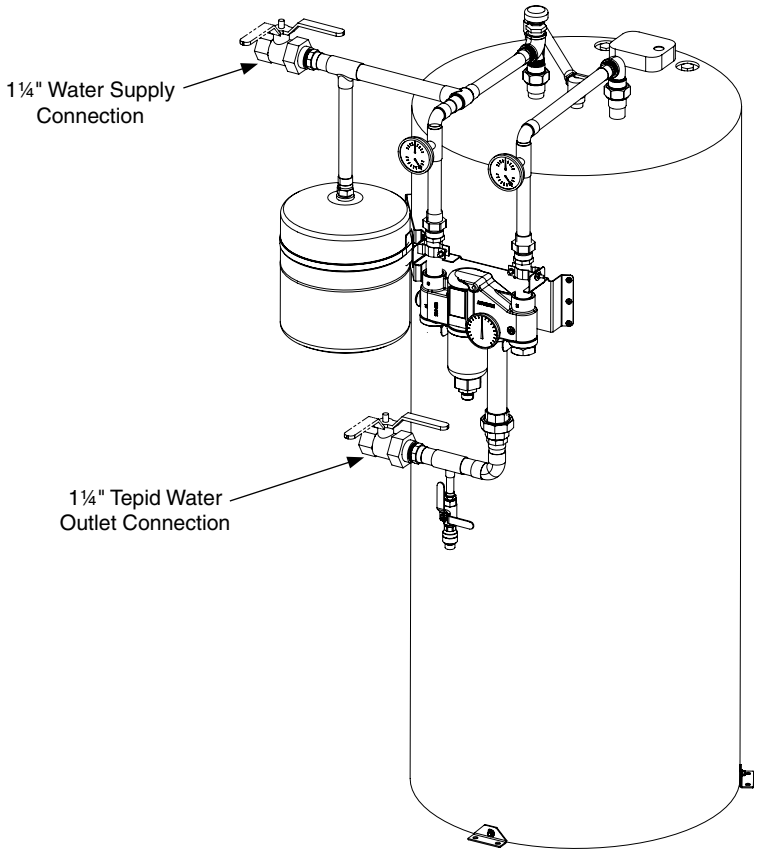


4 Connect Water Supply

A Apply pipe sealant or Teflon tape to seal all pipe and fitting connections. Use care to avoid excess pipe sealant or Teflon tape, which may enter the plumbing system. Ensure all fitting connections are properly secured.

B Connect water supply with a minimum of 1¼" NPT water supply piping to the unit (piping by installer).

C Connect tepid water outlet with a minimum of 1¼" NPT water piping to the tepid water system (piping by supplier).



5 Tank Fill

Make sure all valves (supply inlet, mixing valve inlets and outlet, and tank safety valve) are closed before beginning.

A minimum of 60 psi is required at the hot water tank inlet to allow proper system function downstream of mixing valve.

A Open the temperature-pressure relief valve. This vents the air from the top of the tank during fill.

B Open the supply inlet. The tank will begin to fill. Continue filling the tank until water comes out of the overflow pipe. This confirms that air is purged from the tank.

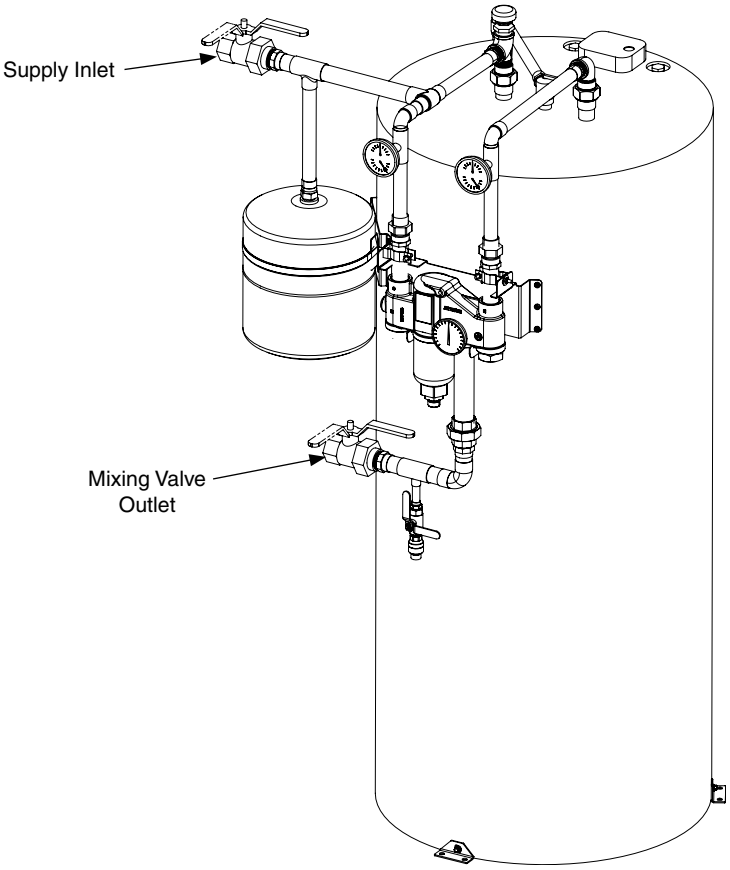
C Close the temperature-pressure relief valve.

D Check all system fittings for water leaks.

E Open nearby fixture to permit air in system to escape.

F Gradually open the mixing valve outlet.

G Close nearby fixture as water starts to flow.



Refer to mixing valve instructions for tepid water temperature adjustment.

Actual valves and plumbing may vary slightly from what is shown.

6 Energizing the Unit

⚠WARNING Do not energize unit prior to filling heater with water.

A Follow heater manufacturer's startup procedure in installation instructions (attached to heater).

Heater is preset to 160°F to maximize capacity when serving safety fixtures. See heater manufacturer's instructions for adjusting temperature if 160°F is not desired.

Performing Preventive Maintenance

Regularly clean any debris out of the hot and cold water inlet screens inside of the mixing valve..

Drained System Restart

The system may require restarting if the heater tank was drained for maintenance or any other reason after initial installation. If the system has been drained and deactivated, follow Steps 5 and 6 prior to reactivation.