

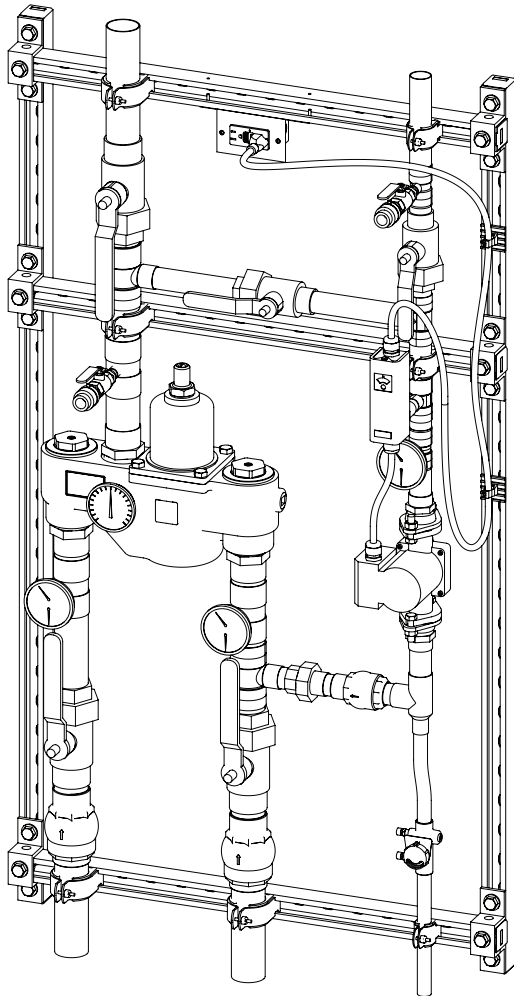
Installation

NRS-4, NRS-8, NRS-13, NRS-20

Navigator® Recirculation System

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Individual Thermostatic Mixing
Valves are listed



Inlet Connections: 3/4" to 2" NCT
 Outlet Connection: 3/4" to 2" NCT
 Temperature Range: 90–120°F
 Maximum Pressure: 125 PSIG
 Inlet Temperature Hot: 120–200°F
 Inlet Temperature Cold: 33–80°F
 Minimum Temperature Differential
 (from valve set point): 15°F



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.



For troubleshooting or service parts, refer to instruction sheets for the appropriate Navigator® valve.

Model	Valve	Instruction Sheet
NRS-4	S59-3045	215-1293
NRS-8	S59-3080	215-1295
NRS-13	S59-3130	215-1302
NRS-20	S59-3200	215-1299



Safety Information

To ensure proper operation:

Installation

Failure to comply with proper installation and maintenance instructions 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.

Use this thermostatic mixing valve in accordance with ASSE standard 1017.

When installed in accordance with ASSE standard 1017, the valve is designed to be installed at or near the boiler or water heater. When installed as an ASSE 1017 valve, the valve does not function as an ASSE 1016, ASSE 1069 or ASSE 1070 valve.

This valve should not be used where ASSE standard 1016 devices are required.

This valve does not provide protection from pipe freezing.

Installation of this system must be completed by a qualified plumber in compliance with all national and local codes. Compliance and conformity to local codes and ordinances is the responsibility of the installer. Should these codes differ from the information in the manual, follow the local codes. Inquire with governing authorities for additional local requirements.

Inspection

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 its intended service. Frequency of cleaning and inspection depends upon local water conditions.

Output temperature of the valve must be checked and adjusted at initial installation and on a quarterly basis.

Water Temperature

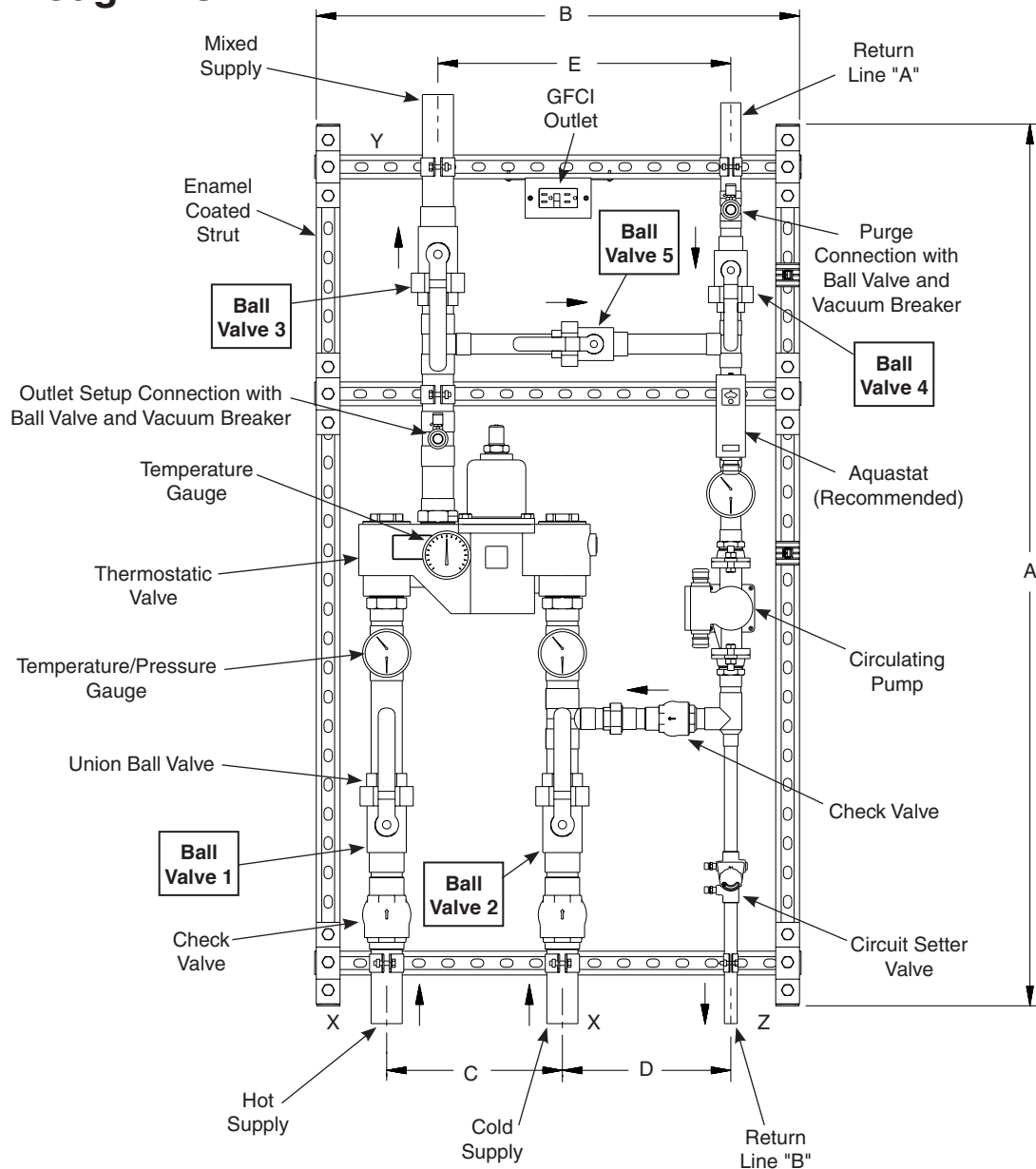
Final temperature adjustment is the responsibility of the installer.

Supplies Required for Installation

- Appropriate mounting hardware (provided by installer)
- 5/32" Allen wrench
- Blade screwdriver

1 Rough-Ins

(mm)



Dimensions - Inches								
Model	A	B	C	D	E	X ^{NCT}	Y ^{NCT}	Z ^{NCT}
NRS-4	60	27	7	11-1/2	16-1/2	3/4	1	3/4
NRS-8	60	29	8-3/4	11-1/2	17-3/4	1	1-1/4	3/4
NRS-13	60	31	10-1/2	11-1/2	19-1/4	1-1/4	1-1/2	3/4
NRS-20	60	33	12	11-1/2	20	2	2	3/4

Dimensions - Millimeters								
Model	A	B	C	D	E	X ^{NCT}	Y ^{NCT}	Z ^{NCT}
NRS-4	1524	686	178	292	419	19	25	19
NRS-8	1524	737	222	292	451	25	32	19
NRS-13	1524	787	267	292	489	32	38	19
NRS-20	1524	838	305	292	508	51	51	19

2 Connect Supply Lines and Install Thermometer



Flush the supply lines before beginning installation.



Do not run circulation pump until system is full of water.



When the check valves are in the open (operating) position, the cover screw for the stop/check stem will be flush with the valve cap.

A Mount the recirculation station to the wall in desired location.

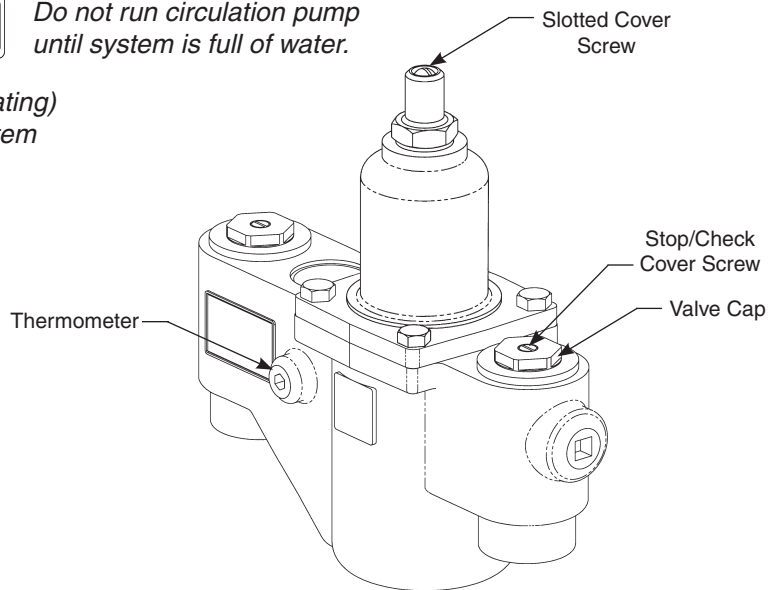
B Connect hot and cold valve supply inlets to appropriate hot and cold supply piping.

C Connect mixed supply outlet from the recirculation system to the tempered supply piping.

D Connect return line "A" to return piping from building. Connect return line "B" to piping that connects to cold water inlet of water heater.

E Install thermometers/pressure gauges into required locations.

F Close all ball valves.



G Pressurize the recirculation system. Check for leaks.

H Connect electrical connection to GFCI outlet.

3a Adjust Temperature - Option 1 (From Test Connection)



DO NOT SKIP THIS STEP!!!



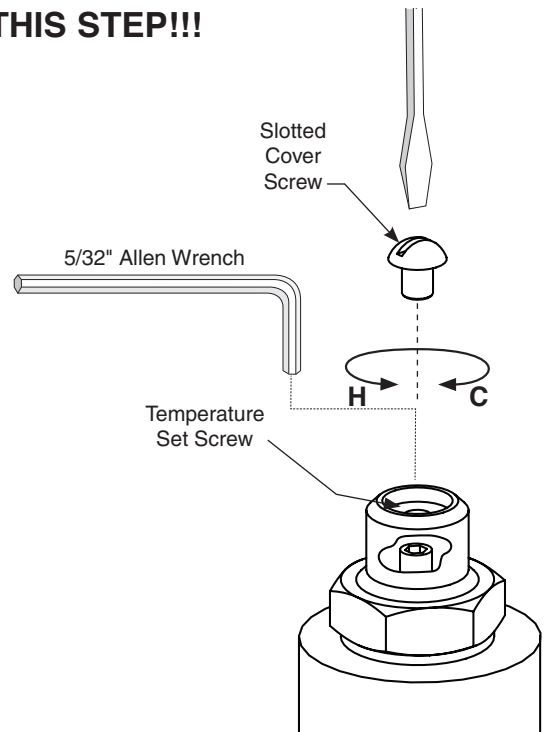
This device must be checked for final temperature and adjusted as necessary. The standard preset factory temperature setting is 105°F (40.5°C). [the range of the valve is 90°F – 120°F (32°C – 49°C)]. Consult proper medical and/or safety authorities for the optimum temperature recommended for your particular application.

A Slowly open ball valves 1 and 2 to fill thermostatic valve.

B Connect hose to outlet setup connection to test connection on valve outlet.

C Open test port ball and check the temperature when approximately 10 gpm water flow is reached (equivalent to four standard showers) and adjust if necessary.

D When Aquastat is provided, set high temperature limit to 5°F above set point of valve.



3b Adjust Temperature - Option 2 (From Building Fixtures)



DO NOT SKIP THIS STEP!!!



This device must be checked for final temperature and adjusted as necessary. The standard preset factory temperature setting is 105°F (40.5°C). [the range of the valve is 90°F – 120°F (32°C – 49°C)]. Consult proper medical and/or safety authorities for the optimum temperature recommended for your particular application.

A

Slowly open ball valves 1 and 2 to fill thermostatic valve. Open ball valve 3 to fill plumbing system.

B

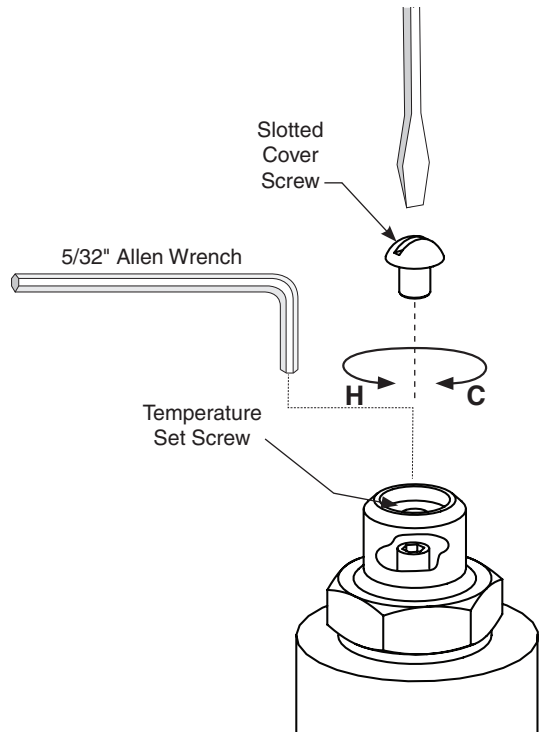
When plumbing system is full, air can be purged from the system by attaching hose and opening the purge connection.

C

Open enough fixtures to check the temperature when approximately 10 gpm water flow is reached (equivalent to four standard showers) and adjust if necessary.

D

When Aquastat is provided, set high temperature limit to 5°F above set point of valve.



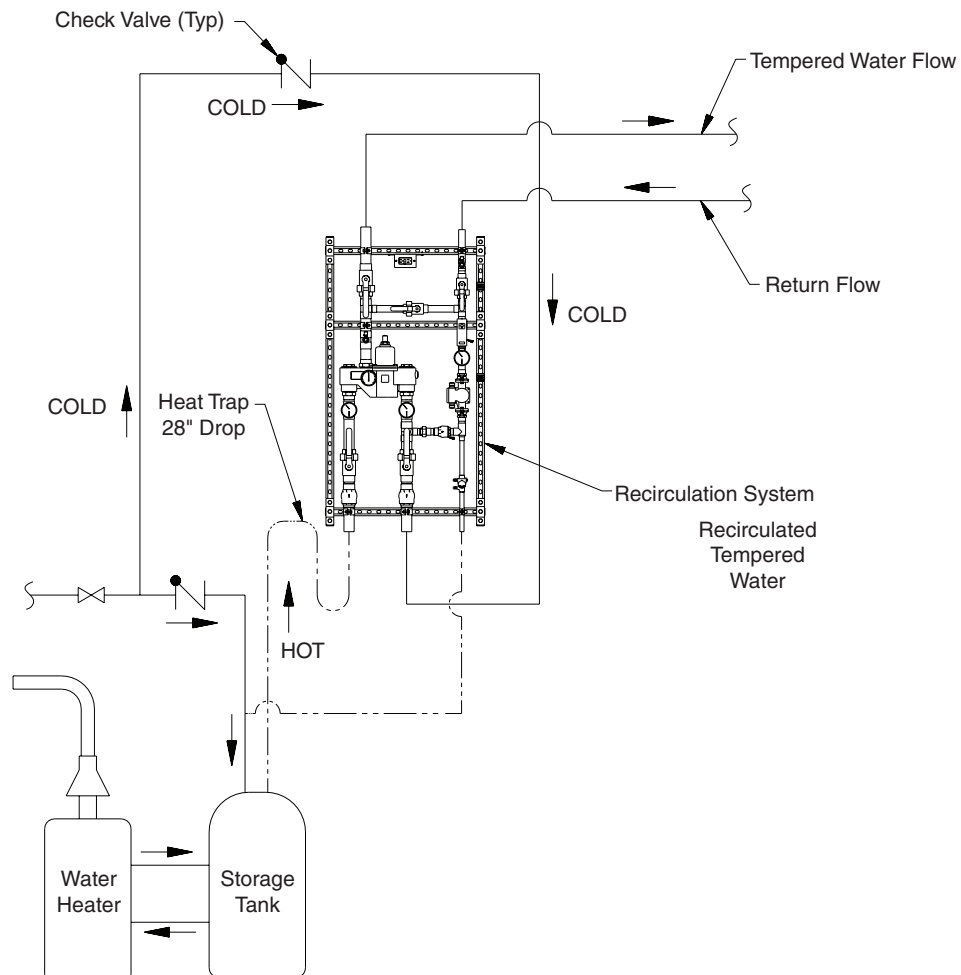
4 Water Recirculation Setup



Do not run circulation pump dry. Operation without water circulation could result in pump or motor damage.



Recirculating the water in the system provides constant regulation of the water temperature. Flush the supply lines thoroughly after completing installation. Close off all fixtures and label them as not available for use during the recirculating process.



Refer to page 3 for Ball Valve reference numbers and locations.

1. With the temperature adjusted on the thermostatic mixing valve and the recirculating pump off, make sure Ball Valve 5 is closed.
2. Open Ball Valve 3 to allow water throughout the building system. As water is circulating, trapped air in the system can be evacuated by using the purge connection in the return line. To do this, make sure Ball Valve 4 is closed and then open the ball valve on the purge connection. Close the purge connection ball valve when air evacuation is complete. Reopen Ball Valve 4; this will allow return line water thru to the cold inlet side of the thermostatic valve and to the hot water storage.
3. Plug in the recirculating pump and observe the temperature/pressure gauge in the return line. The temperature should rise.
4. When an aquastat is provided, verify it's temperature limit switch is set to 5° above the set point of the valve.
5. Set the circuit setter to allow 5% of the return line water back to the hot water storage.
6. Observe temperature for 30 minutes. If temperature increases, close circuit setter slightly. If temperature decreases, open circuit setter slightly. Repeat this until the system is balanced. When balanced, the thermostatic valve outlet temperature should be approximately 5° warmer than the return line temperature.
7. Tighten screw on circuit setter.