



A WATTS Brand

NRS-4, NRS-8, NRS-13, NRS-20 High-Low Recirculation Station

NRS Features:

- Pre-assembled and tested recirculation station
- Navigator® High-Low thermostatic valve
- Shutoff valves on inlets and outlets
- Temperature/pressure gauges on inlets
- Outlet setup connection
- Return line with circulating pump, balancing valve, and check valves
- GFCI outlet
- Mounted to enamel coated strut

Navigator® High-Low Valve Features:

- Reliable liquid-filled thermostat with 10 year warranty
- Integral strainer checkstops on inlets
- Adjustable set point within temperature range
- Accurate temperature control to within $\pm 3^{\circ}$ F
- Positive shutoff of flow in the event of cold supply line failure or thermostat failure
- Easy installation and serviceability
- Dirt and lime resistant
- Factory assembled and tested
- Universal mounting capability
- Dial Thermometer

Valve Specifications

Maximum Operating Pressure

125 PSI (860 kPA)

Maximum Inlet Temperature

200° F (93° C)

Temperature Range

Std.	90° F (32° C) to 120° F (49° C)
High	110° F (43° C) to 140° F (60° C)

Set Point

110° F (43° C)
130° F (54° C)

Product Compliance (for individual TMV valves only)

Listed by IAPMO R&T to

- ASSE 1017, CSA B125.3
- Uniform Plumbing Code (UPC)
- National Plumbing Code of Canada
- International Plumbing Code (IPC)



Listed by ASSE International to

- ASSE 1017

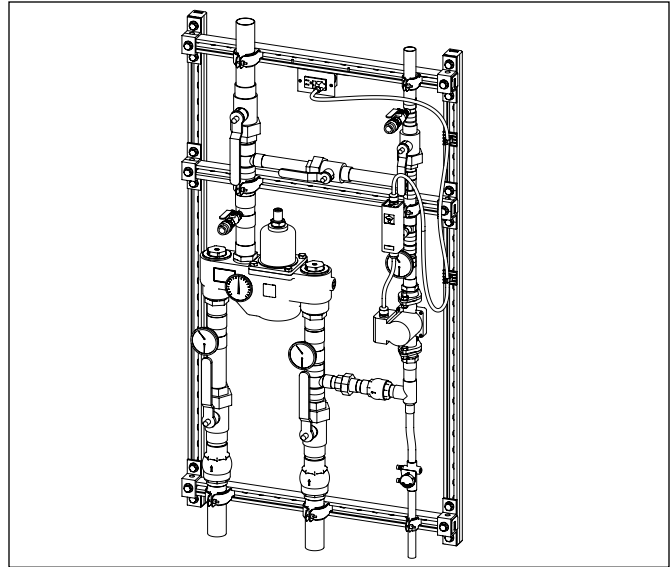


Listed by NSF International to

- NSF/ANSI 372

Engineer's Approval _____

Consult local and national codes. Conformity and compliance to local and national codes is the responsibility of the installer.



Models (Must select one)

Model	Description
NRS-4	Navigator Recirculation Station with HL45 (S59-3045)
NRS-8	Navigator Recirculation Station with HL80 (S59-3080)
NRS-13	Navigator Recirculation Station with HL130 (S59-3130)
NRS-20	Navigator Recirculation Station with HL200 (S59-3200)

Standard Selections (Must select one from each category)

Recirculation Pump (select one)

Note: Plumbing designer must verify the pump and return line selections match the requirements of the facility plumbing system.

RP2	Bell & Gossett NBF-9U
RP3	Bell & Gossett PL-30B
RP4	Bell & Gossett PL-36B
RP5	Bell & Gossett PL-55B
RP6	Taco 008-SF6-IFC
RP7	Taco 009-SF5-IFC
RP8	Taco 0013-SF3-IFC
RP	Other _____

Return Line (select one)

R1	3/4" Return Line
R2	1" Return Line
R3	1 1/4" Return Line
R4	1 1/2" Return Line
R5	2" Return Line

Optional Selections

Aquastat (select one)

AQ	Aquastat
0	None

Thermostat (select one)

S	Standard Range Thermostat
H	High Range Thermostat



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Valve Specifications (continued)

Flow Capacities – GPM

Model	Min* Flow	Pressure Drop – PSI						
		5	10	15	20	30	45	60
NRS-4 (S59-3045)	1.5	12.5	19.0	24.0	28.5	37.0	47.0	56.5
NRS-8 (S59-3080)	2.0	26.0	36.0	44.0	51.0	63.0	77.0	88.0
NRS-13 (S59-3130)	4.0	40.0	58.0	71.0	83.0	102.0	126.0	147.0
NRS-20 (S59-3200)	5.0	60.0	91.0	109.0	127.0	157.0	192.0	220.0

Flow Capacities – L/Min

Model	Min* Flow	Pressure Drop – Bar						
		0.5	1.0	1.5	2.0	2.5	3.0	4.0
NRS-4 (S59-3045)	5.5	58.0	89.0	115.0	137.0	157.0	175.0	209.0
NRS-8 (S59-3080)	7.5	110.0	157.0	193.0	223.5	250.5	275.0	318.0
NRS-13 (S59-3130)	15.0	184.5	265.0	327.0	380.0	427.0	470.0	546.0
NRS-20 (S59-3200)	19.0	282.5	405.0	499.5	580.0	651.0	715.5	831.0

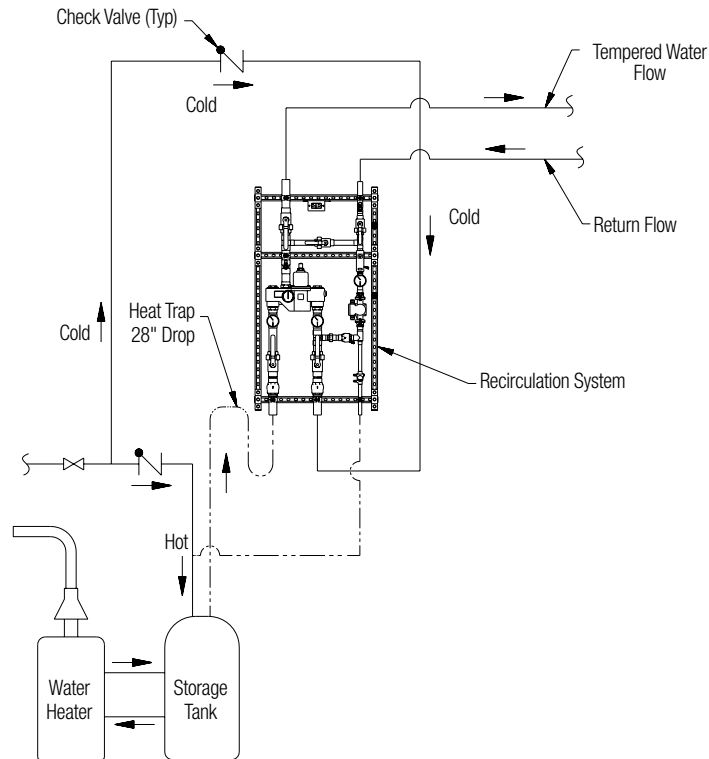
Sample Specification

Recirculation station consisting of Navigator® High-Low thermostatic mixing valve in combination with piping assembly, inlet/outlet shutoff valves, pressure/temperature gauges, circulating pump (specified by engineer), circuit setter balancing valve, and GFCI outlet. All components pre-assembled to enamel coated strut and tested by manufacturer.

High-Low thermostatic mixing valve assembly shall consist of a liquid-filled thermostat and a stainless steel piston and liner assembly with positive shutoff of hot water when cold water supply fails. Valve will restrict flow of cold water in the event of loss or interruption of the hot water supply. All flow is shut off in the event of thermostat failure. Construction shall be bronze body and cap with replaceable corrosion resistant components, including stainless steel piston and liner. Valve shall come equipped with integral checkstops, removable strainers, and thermometer. Liquid filled thermostat shall be warranted for a period of 10 years.

*When properly installed near the hot water source with a **continuously operating** recirculation pump, the valve will maintain set temperature with a .5 GPM (2.0 L/Min) draw from the plumbing system. (See diagram below).

Recirculation Diagram



Consult local and national codes. Conformity and compliance to local and national codes is the responsibility of the installer.



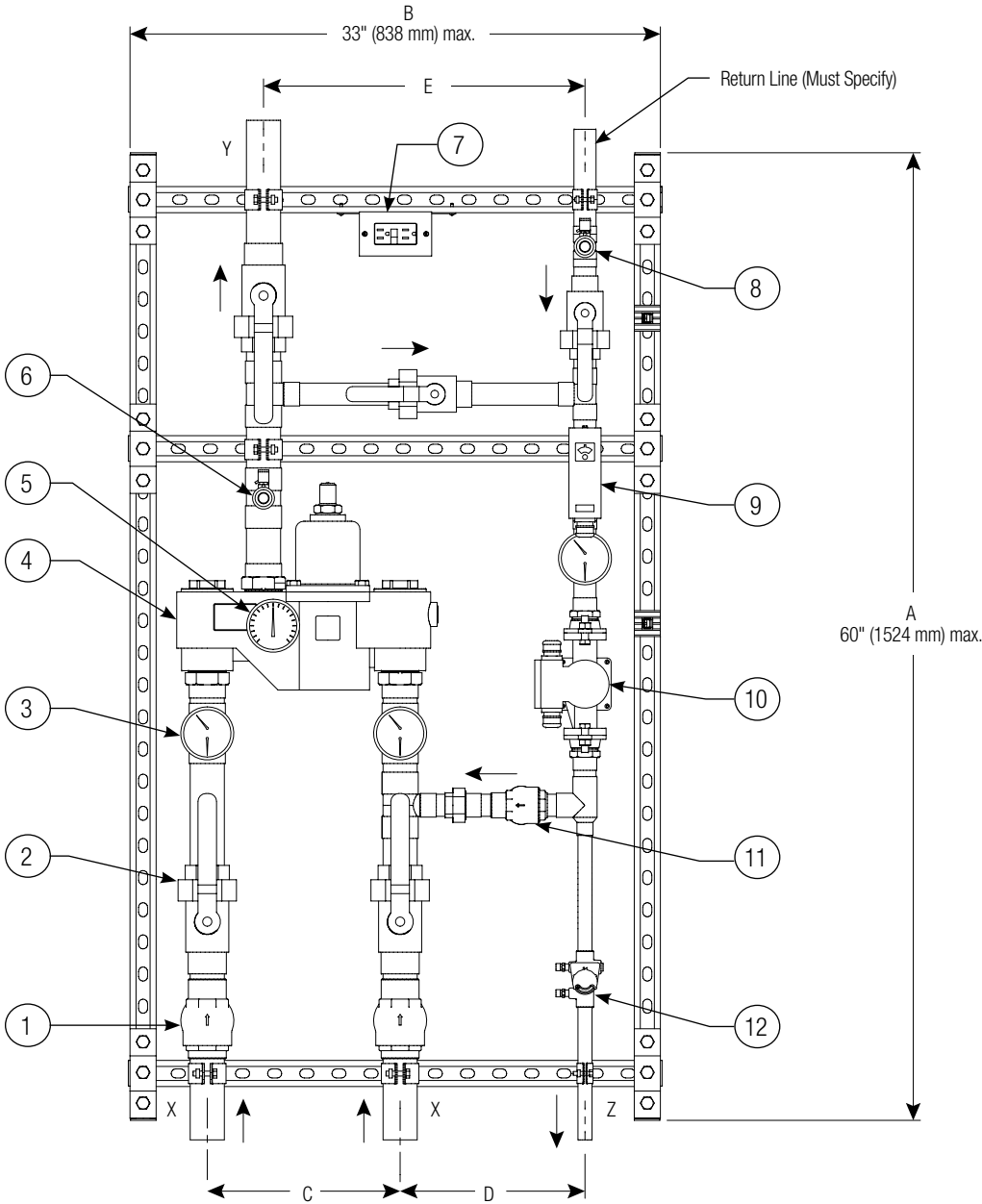
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Dimensions – Inches (mm)

Model	A	B	C	D	E	X ^{NCT}	Y ^{NCT}	Z ^{NCT}
NRS-4	60 (1524)	27 (686)	7 (178)	11-1/2 (292)	16-1/2 (419)	3/4 (19)	1 (25)	3/4 (19)
NRS-8	60 (1524)	29 (737)	8-3/4 (222)	11-1/2 (292)	17-3/4 (451)	1 (25)	1-1/4 (32)	3/4 (19)
NRS-13	60 (1524)	31 (787)	10-1/2 (267)	11-1/2 (292)	19-1/4 (489)	1-1/4 (32)	1-1/2 (38)	3/4 (19)
NRS-20	60 (1524)	33 (838)	12 (305)	11-1/2 (292)	20 (508)	2 (51)	2 (51)	3/4 (19)

Key	Description
1	Check Valve
2	Union Ball Valve
3	Temperature/Pressure Gauge
4	Thermostatic Valve
5	Temperature Gauge
6	Outlet Setup Connection with Ball Valve and Vacuum Breaker
7	GFCI Outlet
8	Purge Connection with Ball Valve and Vacuum Breaker
9	Aquastat (Recommended)
10	Circulating Pump
11	Check Valve
12	Circuit Setter Valve



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