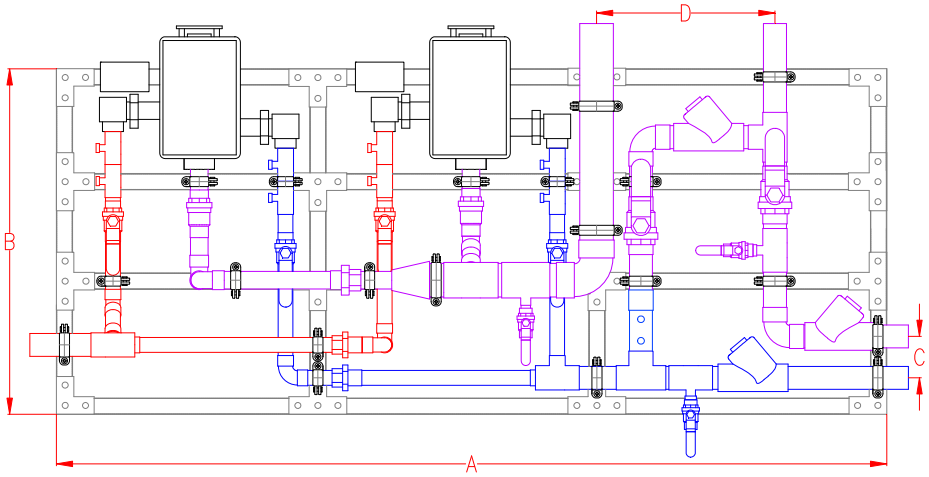
NUCLEUS
DIGITALLY CONTROLLED MIXING VALVE

Submittal S-NV150-LF-2PS-LC-M
April 2024

MEGATRON® MODEL M-NV-150-LF-2PS-LC DIGITAL TEMPERATURE CONTROL STATION



APPROXIMATE DIMENSIONS
A = 6'-11" B = 3'-6" C = 4" D = 1'-9-1/2"
Image not to scale

WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.Ca.gov

- Manifold Assembly with 2" inlets, 3" outlet, 2" return loop piping (50.8mm, 76.2mm, 50.8mm)
- Additional Integral RTD Sensors for three critical measurement points: Inlet Hot Water, Inlet Cold Water, and Return Water temperature
- Additional Integral Pressure Sensors for two critical measurement points: Inlet Hot Water and Inlet Cold Water
- Individual Digital Mixing Valves with 1-¼" inlet ball and check valves, 1-½" Outlet with ball valve and integral RTD Sensor
- 0.25 GPM** (0.95 L/min) minimum flow capacity
- Maximum operating pressure: 125 PSIG (860KPA)
- Controls water temperature to ± 2°F in accordance with ASSE 1017
- Controls water temperature to ± 2°F at the NV-150-LF during times of low/no system demand
- Automatic Hot/ Cold Water shutoff upon cold/ hot water inlet supply failure
- Automatic Hot/Cold Water shutoff upon cold/ hot water inlet supply failure
- Self-Balancing - No need to manually adjust or balance recirculation
- Self-Cleaning - Daily shuttle sweep keeps shuttle free of debris
- Alerts user when unit requires maintenance
- Displays outlet temperature
- User programmable for on-site configuration, high-temperature sanitization mode, and high/ low temperature alarm
- User adjustable settings at the controller or remotely through a Building Automation System/ Building Management System
- Six standard BMS languages, BACnet IP, BACnet MS/TP, Modbus TCP/IP, Modbus RTU, Metasys N2 and Ethernet/IP
- Cloud based data logging and monitoring capabilities
- User programmable set point range between 65°F and 180°F
- Displays outlet temperature, inlet hot water, inlet cold water, return water temperature, inlet pressures, and Options to display 4 additional temperatures, 1 flow channel input and 1 configurable flow or pressure input
- UL Listed 120V plug in power supply with 6' cord
  - Option for Backup Uninterruptable Power Supply in the event of primary power loss w/ approx. two hours run time
- Factory assembled and tested

****NOTE:** The valve will maintain temperature with 0.25 GPM flow from the domestic hot water loop when properly installed near the hot water source with a continuously operating recirculation pump.

Engineer's Approval	**Job #** _____ **Arch/Eng.** _____ **Contractor** _____
Product is non-cancellable and non-returnable from date from order with factory. Signed submittal required with purchase order.	

Note: The models shown represent Leonard Products which are believed to be equivalent in type and function to items specified. Leonard Valve Company is not responsible for errors or omissions due to differences in interpretations of information provided.

NOTE: Flow rates will vary depending on existing field conditions. Leonard Valve Company always recommends using CASPAK® sizing software for proper valve sizing and model number applications.

Valve assembly is ASSE 1017 Certified

Valve assembly is cUPC Certified

Valve electronics are UL Certified

Valve assembly is compliant with Low-Lead requirements of wetted surface area containing less than 0.25% lead by weight. All other fittings and components, the sum total of which comprise the wetted surface of this product contains less than one quarter of one percent of lead by weight.

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LEONARD MEGATRON® MODEL NV150-LF-2PS-LC DIGITAL TEMPERATURE CONTROL STATION

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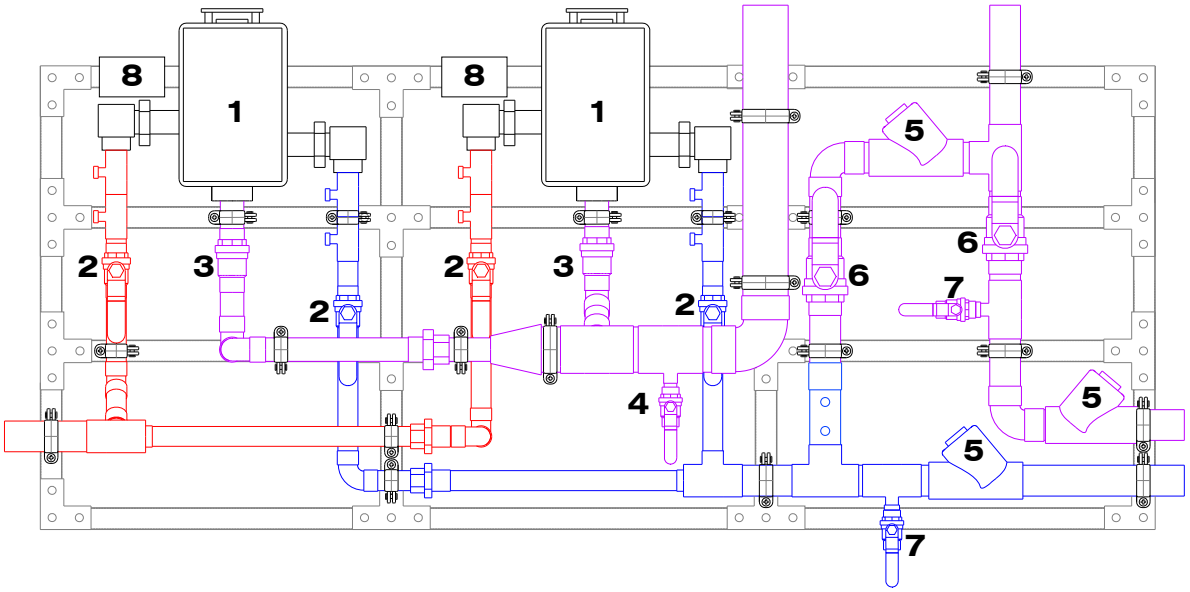
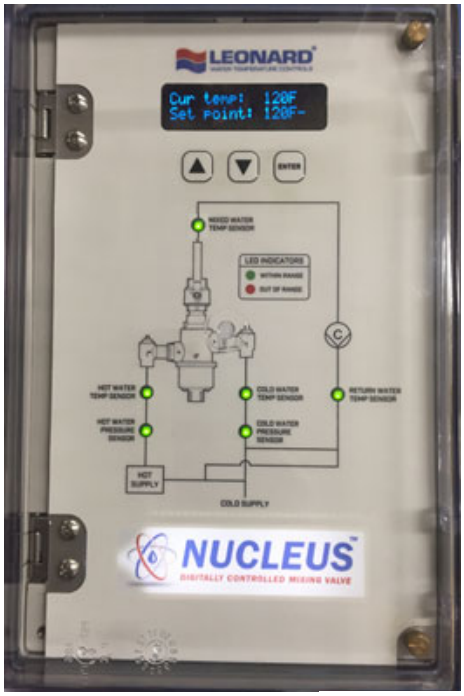


1. NUCLEUS VALVE AND CONTROLS
2. 1-1/4" FULL PORT BALL VALVE
3. 1-1/2" FULL PORT BALL VALVE
4. ¾" TEST CONNECTION
5. 2" CHECK VALVE
6. 2" FULL PORT BALL VALVE
7. DRAIN CONNECTION
8. GFCI ELECTRICAL OUTLET

NUCLEUS VALVE CONTROL BOX



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MEGATRON® MODEL NV-150-LF-2PS-LC

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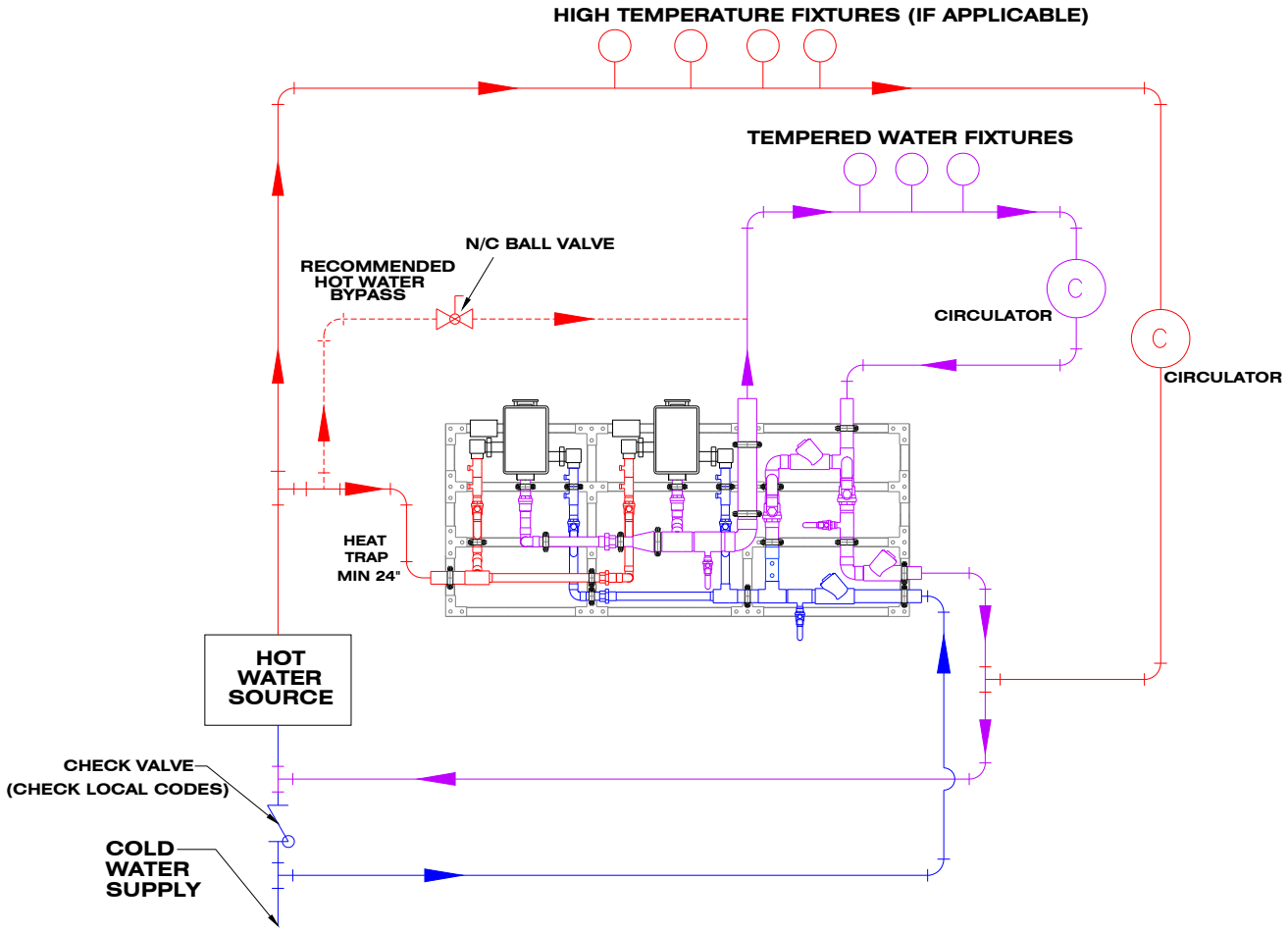

DOUBLE FLOWRATE WHEN BOTH VALVES ARE OPERATING

SINGLE VALVE ASSEMBLY FLOWRATES SHOWN

MINIMUM FLOW (GPM)	PRESSURE DROP										
	5	10	15	20	25	30	35	40	45	50	PSI
(l/min)	.3	.7	.97	1.4	1.7	2.1	2.4	2.8	3.1	3.4	BAR
0.25**	50	72	86	100	115	122	136	140	158	165	GPM
(0.95)**	189	273	326	379	435	462	515	530	598	625	l/min

NOTE: Flowrates will vary depending on existing field conditions. Leonard Valve Company always recommends using CASPAK® sizing software for proper valve sizing and model number applications.
Flow Chart MUST BE DOUBLED for 2 valve parallel assemblies

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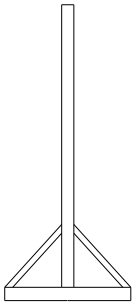
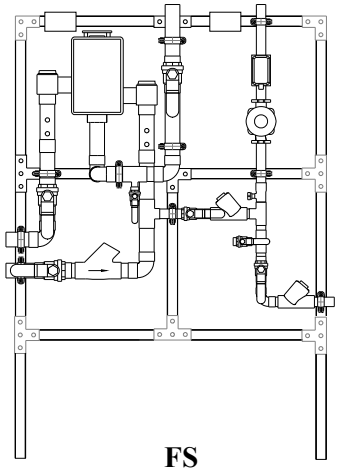
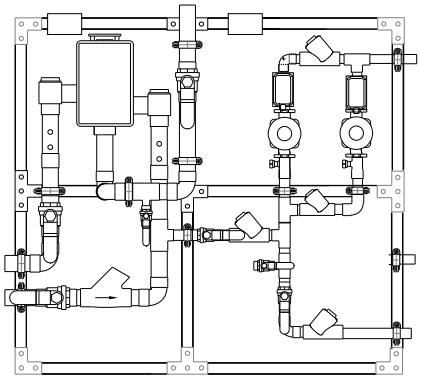
OPTIONS



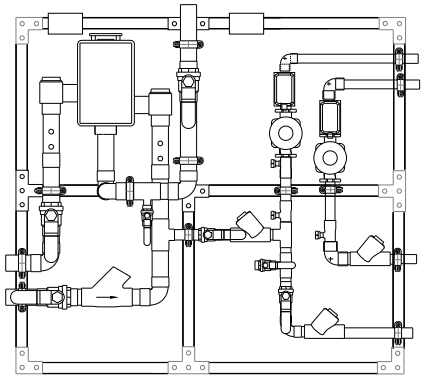
FM
Megatron® with 3 legs, 3 ½" feet and 45 degree braces front and back for mounting to floor in center of room.



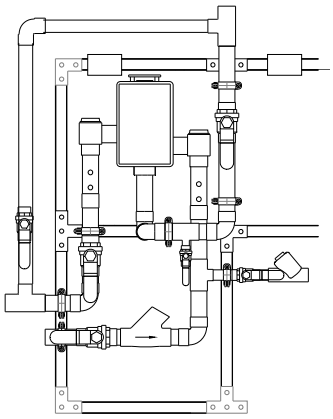
FS
Megatron® with separate legs to floor to support the unit without hangers.



2 PUMPS R
Redundant recirculation pump



2 PUMPS H
High temperature loop recirculation pump



HBP
High temperature by-pass flush with locking ball valve

OPTIONS *

___**FM** Floor mount
___**FS** Free standing
___**2 PUMP R** Redundant recirculator pump
___**2 PUMP H** High temperature loop recirculator pump
___**HBP** High temperature by-pass flush

OPTIONS (shown on next page) *

___**RDU** Remote Display Unit
___**SCO** Solenoid Control Option
___**BPS** Back up Power Supply
___**DA** Digital Aquastat
___**DB** Daughter Board
___**T5** Extra 5th temperature sensor (requires "DB" option)
___**T6** Extra 6th temperature sensor (requires "DB" option)
___**T7** Extra 7th temperature sensor (requires "DB" option)
___**T8** Extra 8th temperature sensor (requires "DB" option)
___**F1** Flow sensor (requires "DB" option)
___**P3** 3rd pressure sensor (requires "DB" option, cannot choose **F2** as well)
___**F2** 2nd Flow sensor (requires "DB" option, cannot choose **P3** as well)

*** Any option chosen will alter pricing**

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OPTION RDU: Leonard Remote Display Unit

- Activation by Primary Alarm's (pictured above) remote alarm contacts
- Alarm Delay Module with yellow, red, green LED indicators
- Recommended maximum distance from controller to RDU is 500'

SCO: Solenoid Control Option

- For use with Alarm relay switch
- Galvanized box with dimensions 6" Wide x 6" High x 4" Deep
- Solid state relay and terminal strip mounted and wired
- UL listed 100-240VAC power supply with 10' cord
- For either normally open or normally closed operation
- For use with 24-240 VAC solenoids only

BPS: Backup Power Supply

- Uninterruptable Power Supply with up to 2 hours run time in case of primary power loss

OPTION DA: Digital Aquastat

- Electronic digital aquastat with Nema 1 case and SPDT Relay Output, replaces standard aquastat

OPTION DB: Daughter Board

- Required extra circuit board, only needed if any options below are chosen

OPTION T5-T8: Extra temperature sensors

OPTION F1: Flow Meter on outlet of mixing valve

OPTION P3: Pressure sensor on return line, cannot be combined with F2

OPTION F2: Flow Meter on return line, cannot be combined with P3

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