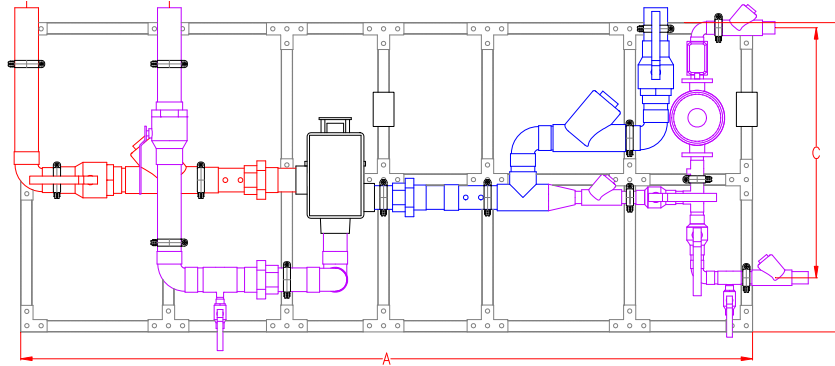




NUCLEUS® MEGATRON® MODEL NV-300-LF
DIGITALLY CONTROLLED MIXING VALVE
DIGITAL TEMPERATURE CONTROL STATION



APPROXIMATE DIMENSIONS
A = 8'-0" B = 3'-5" C = 2'-9" D = 1'-7"

Image not to scale

- Digital Mixing Valve with 3" inlet ball and check valves, 3" Outlet with ball valve and integral RTD Sensor
- 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
- 3" inlets, 3" outlet (76.2mm X 76.2mm)
- 0.25 GPM** (.95 L/min) minimum flow capacity
- Controls water temperature to $\pm 2^\circ\text{F}$ in accordance with ASSE 1017
- Controls water temperature to $\pm 2^\circ\text{F}$ at the NV-300-LF during times of low/no system demand
- Automatic Hot/ Cold Water shutoff upon cold/ hot water inlet supply failure
- 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 Protocol Languages on-board communication
- Cloud based data logging and monitoring capabilities
- User programmable set point range between 65°F and 180°F
- Displays outlet temperature with options to display 4 additional temperature inputs, 1 flow channel input, & 1 configurable flow or pressure
- 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

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.

**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. *Factory supplied circulator standard with B&G PL-55B with option to provide "Less Circulator" " _LC "

See Page 2 for Specification Detail, Page 4 for Piping Method Detail & Flow Capacity Chart, Page 5 for Options

<p>Engineer's Approval</p>	<p>Job # _____</p> <p>Arch/Eng. _____</p> <p>Contractor _____</p>	<p>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.</p>
<p>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.</p>		<p>CAUTION! All thermostatic water mixing valves have limitations. They will NOT provide the desired accuracy outside of their flow capacity range. Consult the Flow Capacity Chart and DO NOT OVERSIZE. Minimum flow must be no less than as indicated.</p>
		<p>Product is non-cancellable and non-returnable from date from order with factory. Signed submittal required with purchase order.</p>

Valve assembly is ASSE 1017 Certified 

Valve electronics are UL Certified 



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

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Email: info@leonardvalve.com
Web Site: <http://www.leonardvalve.com>

REQUIRED INFORMATION WHEN ORDERING

Circulator requirements must be specified by the Engineer, **lines 1 & 2 are REQUIRED, line 3 is optional**

1. Circulated flow required, (not mixing valve flow) _____
2. Head required without Megatron Assembly _____
3. Standard pump is B&G PL-55B, Option is Less Circulator "LC" _____

LEONARD MEGATRON® MODEL NV-300-LF

Complete Digital Water Temperature Control Station to include:

- 3" inlet connections (copper tube)
- 3" outlet connection (copper tube)
- Maximum operating pressure: 125 PSIG (860KPA)
- Leonard Nucleus® Digitally Controlled Mixing Valve with simple two line LED display and plumbing dashboard diagram status indicator LED's
- Swing type check valves and full port ball valves on inlet piping
- Outlet Test Connection with ball valve and 3/4" connection
- Full port ball valve mounted downstream of test connection on mixed water outlet of the system
- Subassembly with 1-1/2" return piping, Aquastat, circulator, full port ball valves and check valves
- Aquastat with temperature differential of 5 to 30°F (3 to 17°C)
- Two GFCI* switches. The circulator GFCI switch will be used to turn the circulator on or off for setup
Ground Fault Connection Interrupter
- System mounted on 2 separate struts, galvanized. Struts shall be assembled with three hole flat angle plate on corners, four hole tee plates or two hole flat plate connectors on all other support pieces using 3/8" grip lock nuts and 3/8"x 1" hex head cap screws, washers and lock washers
- All electrical connections to be completed by Electrical Contractor



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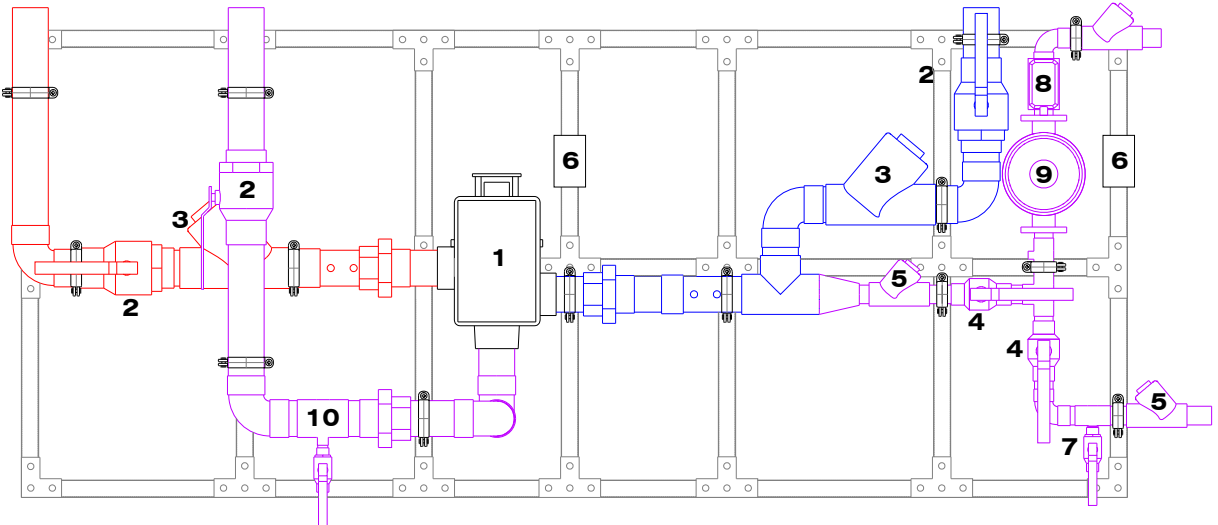
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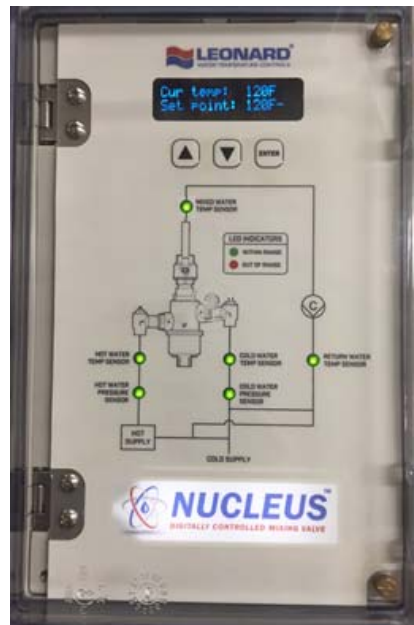
LEONARD MEGATRON® MODEL NV-300-LF DIGITAL TEMPERATURE CONTROL STATION

Image not to scale



- | | |
|--------------------------------|----------------------------|
| 1. NUCLEUS VALVE AND CONTROLS | 6. GFCI ELECTRICAL OUTLET |
| 2. 3" FULL PORT BALL VALVE | 7. BOILER DRAIN CONNECTION |
| 3. 3" CHECK VALVE | 8. AQUASTAT |
| 4. 1-1/2" FULL PORT BALL VALVE | 9. CIRCULATOR |
| 5. 1-1/2" CHECK VALVE | 10. 3/4" TEST CONNECTION |

NUCLEUS VALVE CONTROL BOX



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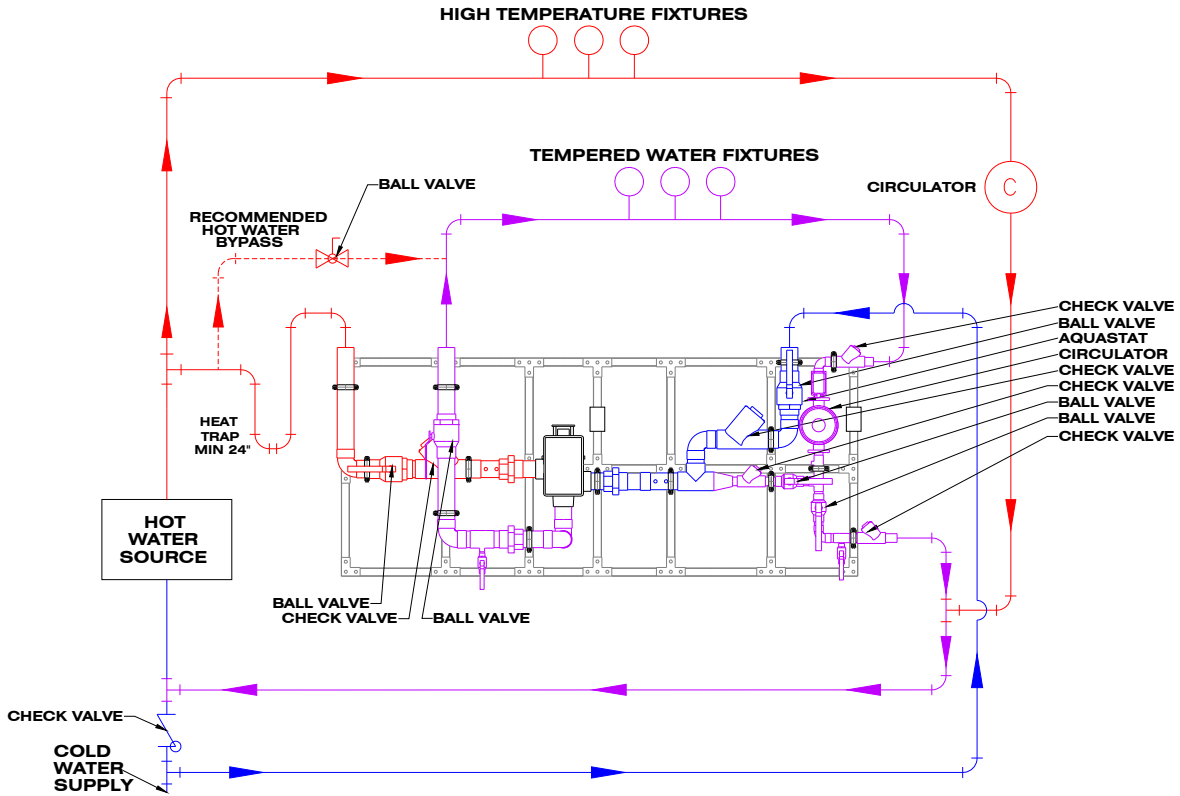
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MEGATRON® MODEL NV-300-LF 1-1/2" RETURN PIPING METHOD W

Image not to scale



MODEL NV-300-LF Flow Capacity

MINIMUM FLOW (GPM) (l/min)	PRESSURE DROP										PSI BAR
	5	10	15	20	25	30	35	40	45	50	
0.25** (.95)	97	135	163	191	213	235	262	288	296	303	GPM l/min
	366	510	616	722	805	888	990	1089	1119	1145	

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.



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OPTIONS AND ACCESSORIES

ANY OPTION CHOSEN WILL ALTER PRICING – CONTACT LEONARD VALVE COMPANY FACTORY

- ___ **RDU** Remote Display Unit
- ___ **SCO** Solenoid Control Option
- ___ **BPS** Backup Power Supply Unit
- ___ **LC** Less Circulator
- ___ **DB** Daughter Board
- ___ **CUPC** Certified Valve Assembly



___ **RDU – Remote Display Unit**

- Activated when Nucleus relay switch is in alarm mode
- Alarm Delay Module with yellow, red, green LED indicators
- UL listed 100-240VAC power supply with 10’ cord
- Unit includes 9V NiMH rechargeable battery back up
- User selectable timer
- VELCRO mounting strips provided
- Recommended maximum distance from controller to RDU is 500’



___ **SCO – Solenoid Control Option**

- For use with Nucleus 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

___ **DB – Daughter Board Option**

- To display up to 4 additional temperature inputs, 1 flow channel input, and 1 configurable flow or pressure input channel.
- Choose one or more below

- ___ **T5**
- ___ **T6**
- ___ **T7**

- ___ **T8**
- ___ **F1**
- ___ **F2** or ___ **P3**

___ **LC – Less Circulator Option**

- Assembly Shipped without circulator

___ **CUPC – Certified Valve Assembly**

- Special wafer check valves included
- For use where cUPC certification is necessary

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Note: Leonard Valve Company reserves the right of product, or design modifications without notice or obligation.



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