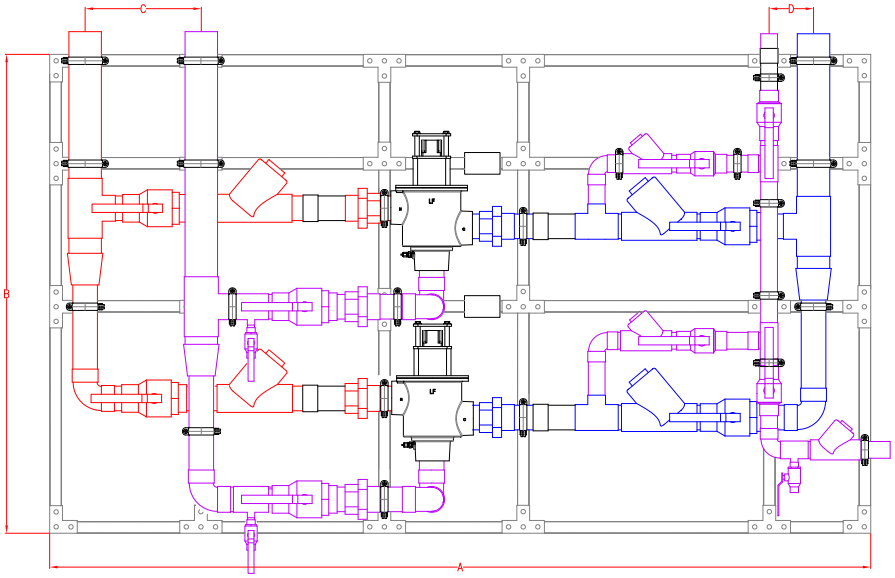
NUCLEUS®
DIGITALLY CONTROLLED MIXING VALVE

# MEGATRON® MODEL M-PNV-300-LF-2PS-LC DIGITAL TEMPERATURE CONTROL STATION

**STANDARD CONTROL BOX**

**NEW "ENHANCED FEATURE SET" CONTROL BOX**

**SEE SELECTABLE OPTIONS PAGE 2**




**APPROXIMATE DIMENSIONS**
**A = 8'-8" B = 5'-0" C = 1'-3" D = 5-1/2"**
***Image not to scale***

- Digital Mixing Valve with 3" inlet ball and check valves, 3" Outlet with ball valve and integral RTD Sensor per valve
- Additional Integral RTD Sensors for three critical measurement points; Inlet Hot Water, Inlet Cold Water, and Return Water temperature per valve
- Additional Integral Pressure Sensors for two critical measurement points; Inlet Hot Water and Inlet Cold Water per valve
- Manifold System with 4" inlets, 5" outlet, 2" Return piping (101.6mm, 101.6mm, 50.8mm)
- 0.25 GPM** (.95 L/min) minimum flow capacity (per valve)
- Controls water temperature to ± 2°F in accordance with ASSE 1017
- Controls water temperature to ± 2°F at the NV-300-LF during times of low/no system demand
- Maximum operating pressure: 125 PSIG (860KPA)
- 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 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 (1 per valve)
- Option for Backup Uninterruptable Power Supply in the event of primary power loss w/ approx. two hours run time
- 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
- 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.

See Page 3 for Piping Method Detail & Flow Capacity Chart, Page 4 for Options

| **Engineer's Approval** | **Job #** _____<br>**Arch/Eng.** _____<br>**Contractor** _____ |
|---|---|

**Product is non-cancellable and non-returnable from date from order with factory. Signed submittal required with purchase order.**

**Valve assemblies are ASSE 1017 Certified**

**Valve electronics are UL Certified** c UL us LISTED

**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

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.

**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.

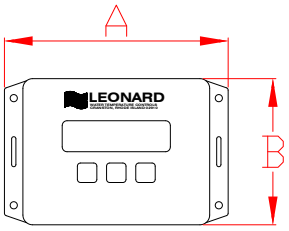
Note: The models shown represent Leonard Products which are believed to be equivalent in type and function to items specified. Leonard Valve Company is not responsible for errors or omissions due to differences in interpretations of information provided.

**1360 Elmwood Avenue, Cranston, RI 02910 USA**
**Phone: 401.461.1200 Fax: 401.941.5310**
**Email:** info@leonardvalve.com
**Web Site: http://www.leonardvalve.com**

# PNV-CONTROLLER OPTIONS

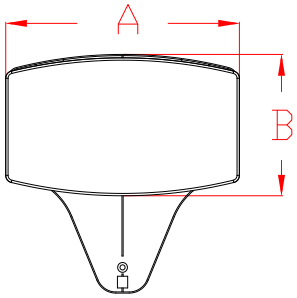
## Standard Controller 1.0 Version


**A** = 6”  **B** = 4”
**Depth** = 1-3/4”




## Enhanced Controller 2.0, 2.5, 3.0 Versions


**A** = 8”  **B** = 4-3/4”
**Depth** = 1-1/4”




## STANDARD CONTROLLER:

_____ **1.0** – See PAGE 1 for info

## ENHANCED CONTROLLER OPTIONS:

_____ **2.0** – Enhanced Proton Controller with Programable Disinfection Mode

**Options:**

_____**3T**– Three Additional Temperature Sensors for Monitoring of Inlet Hot, Inlet Cold, and Return Temperatures

_____ **REL** – 5 Relay Contacts that Switch during Alarm State

- Helpful for Remote Alerts Within Building to Assist Maintenance and Service Personnel
- 5 Unique States:
  - Loss of Power
  - Broken Temperature Probe
  - “Out of Range” Temperature (±10°F)
  - Motor Connectivity and Operation
  - Maintenance (Service Required) @ <90%Full travel

_____ **2.5** – Enhanced Proton Controller including all of 2.0 as well as BACnet MS/TP Connection which provides ability to serve up all data to BMS system

**Options:**

_____**3T** – Three Additional Temperature Sensors for Monitoring of Inlet Hot, Inlet Cold, and Return Temperatures

_____ **REL** – 5 Relay Contacts that Switch during Alarm State (as shown above)

_____ **3.0** – Enhanced Proton Controller including all of 2.5 as well as all items below as standard,

- WiFi – Wifi enabled
- 3T - 3 Additional Temperature Sensors for Monitoring of Inlet Hot, Inlet Cold and Return Temperatures
- REL - 5 Relay Contacts that Switch during Alarm State



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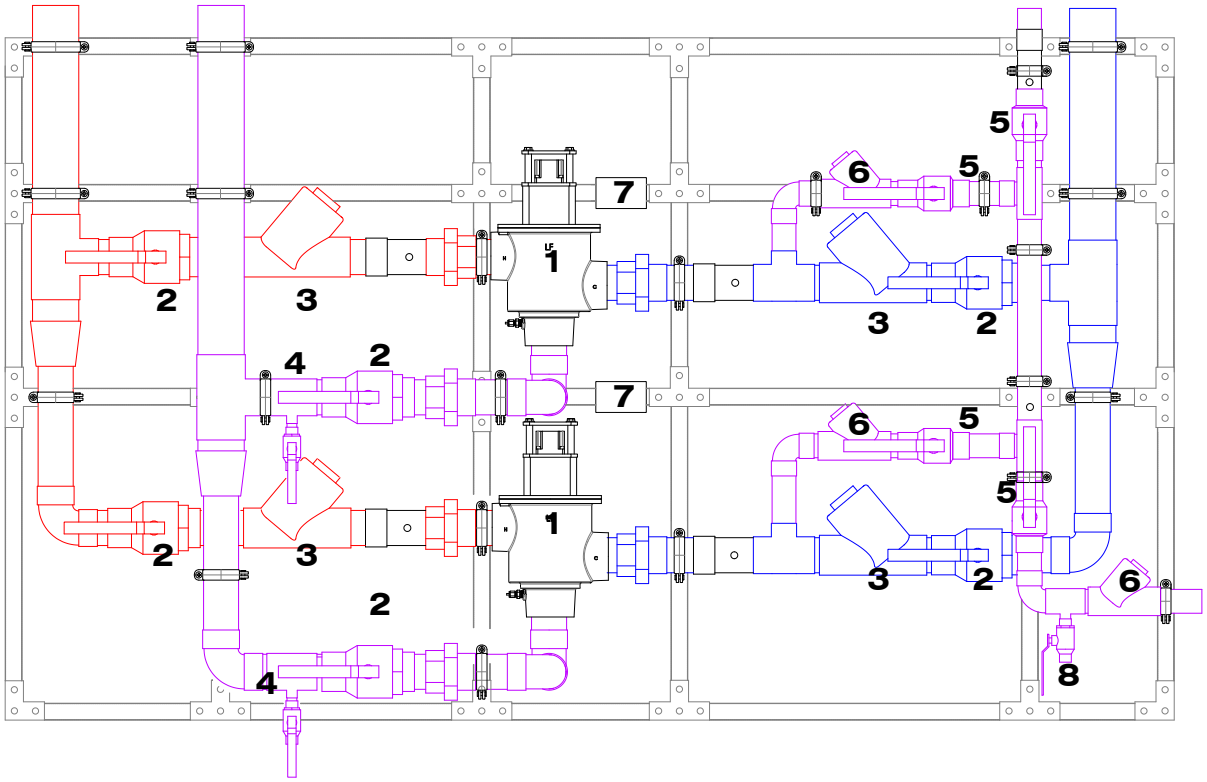
# MEGATRON® M-MODEL PNV-300-LF-2PS-LC
# DIGITAL TEMPERATURE CONTROL STATION

***Image not to scale***




1. PROTON VALVE AND CONTROLS
2. 3" FULL PORT BALL VALVE
3. 3" CHECK VALVE
4. ¾" TEST CONNECTION
5. 2" FULL PORT BALL VALVE
6. 2" CHECK VALVE
7. GFCI ELECTRICAL OUTLET
8. BOILER DRAIN CONNECTION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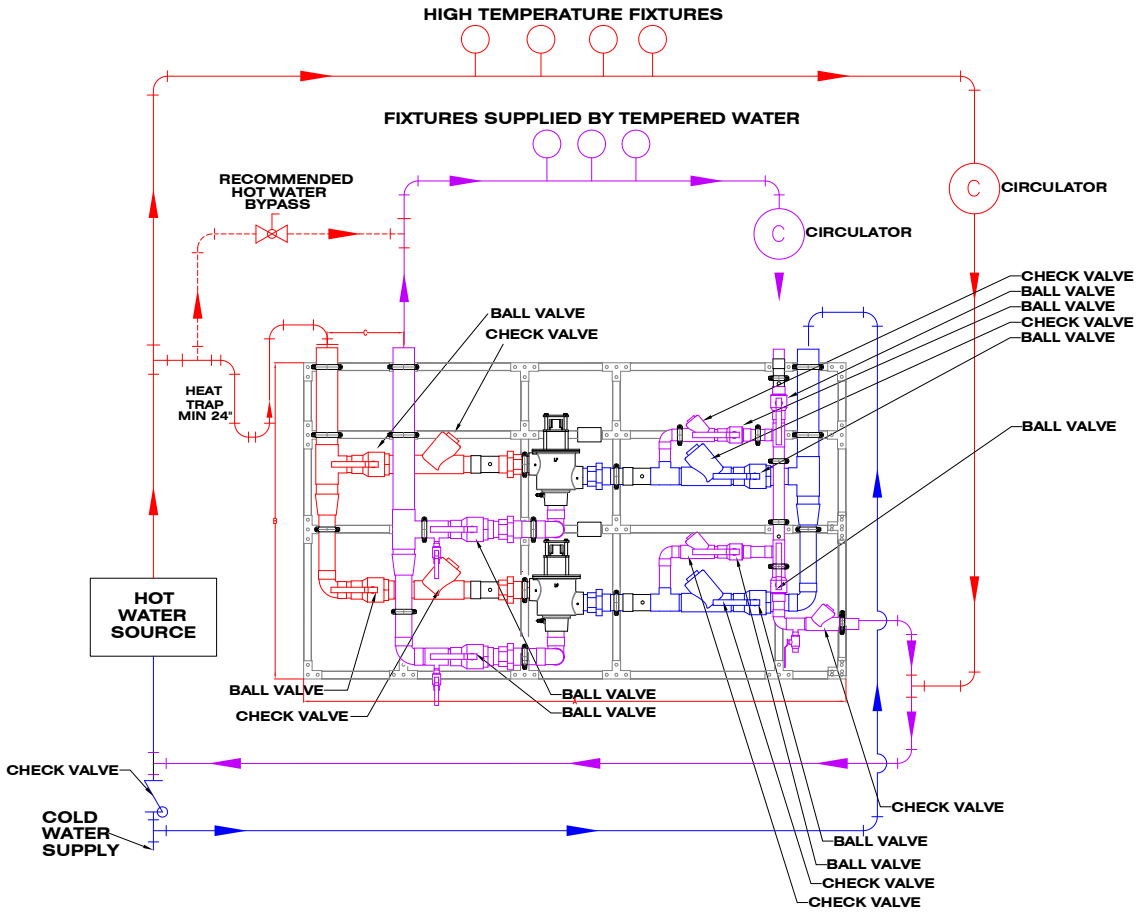
# MEGATRON® MODEL M-PNV-300-LF-2PS-LC
# 2” RETURN PIPING METHOD W

***Image not to scale***




# MODEL PNV-300-LF
## Single Valve Flow Capacity

| 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** | 97 | 135 | 163 | 191 | 213 | 235 | 262 | 288 | 296 | 303 | GPM |
| (.95) | 366 | 510 | 616 | 722 | 805 | 888 | 990 | 1089 | 1119 | 1145 | 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 AND ACCESSORIES

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

## ____BPS – Backup Power Supply

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

## ____RP3 – 3” Return piping

## ____CUPC – Certified Valve Assembly

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

| |
|---|
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| **Product is non-cancellable and non-returnable from date from order with factory. Signed submittal required with purchase order.** | |

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



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