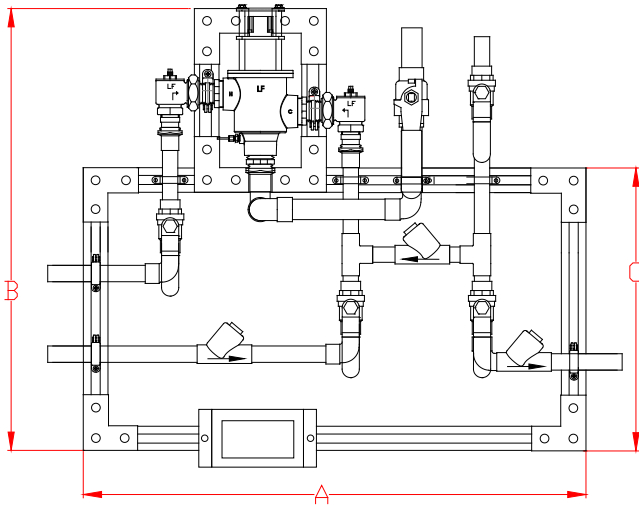




**DIGITALLY CONTROLLED MIXING VALVE**



$$A = 44'' \pm 4'' \quad B = 37'' \pm 4'' \\ C = 22'' \pm 4''$$

**NOTE: Options will change dimensions**

#### STANDARD CONTROL BOX



#### NEW "ENHANCED FEATURE SET" CONTROL BOX SEE SELECTABLE OPTIONS PAGE 2



**\*\*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.

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

## PNV-150-LF-R1

- Digital Mixing Valve with check stops, integral RTD Sensor, return piping assembly
- 1-1/4" inlets, 1-1/2" outlet (32mm X 38mm), 1" return
- 0.25 GPM\*\* (.95 L/min) minimum flow capacity
- Maximum operating pressure: 200 PSIG (1379 KPA)
- Controls water temperature to  $\pm 2^\circ\text{F}$  in accordance with ASSE 1017
- Controls water temperature to  $\pm 2^\circ\text{F}$  during times of low / no system demand
- Automatic Hot/Cold Water shutoff upon cold/ hot water inlet supply failure
- User programmable set point range between  $65^\circ\text{F}$  and  $180^\circ\text{F}$
- UL Listed Control Box
- UL Listed 120V plug in power supply with 6' cord
- Simple/intuitive user commissioning and setup
- Factory assembled and tested
- Not for use in process applications nor intended to deliver final temperature control
- Primary use as an ASSE 1017 Distribution Valve/Master Mixer in a Domestic Hot Water System when combined with proper downstream protection devices approved to ASSE 1016, 1069, 1070 or 1071

#### OPTIONS:

\_\_\_ **BPS** – Back-up Power Supply, uninterruptable power supply with up to 2 hours run time in case of primary power loss

\_\_\_ **R125** – Return line size of 1-1/4" in place of standard 1"

Valve is ASSE 1017 Certified



Valve is CSA Certified



Valve electronics are UL Certified



1360 Elmwood Avenue, Cranston, RI 02910 USA

Phone: 401.461.1200 Fax: 401.941.5310

Email: [info@leonardvalve.com](mailto:info@leonardvalve.com)

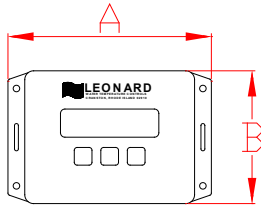
Web Site: <http://www.leonardvalve.com>

# PNV-CONTROLLER OPTIONS

## Standard Controller 1.0 Version



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



## STANDARD CONTROLLER:

\_\_\_\_\_ **1.0** – See PAGE 1 for info

## ENHANCED CONTROLLER OPTIONS:

\_\_\_\_\_ **2.0** – Enhanced Proton Controller with Programmable Disinfection Mode

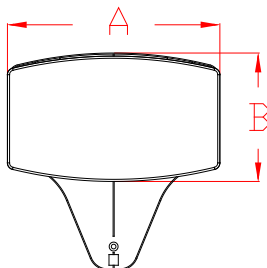
### Options:

- \_\_\_\_\_ **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 ( $\pm 10^{\circ}\text{F}$ )
    - Motor Connectivity and Operation
    - Maintenance (Service Required) @  $<90\%$  Full travel

## Enhanced Controller 2.0, 2.5, 3.0 Versions



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



\_\_\_\_\_ **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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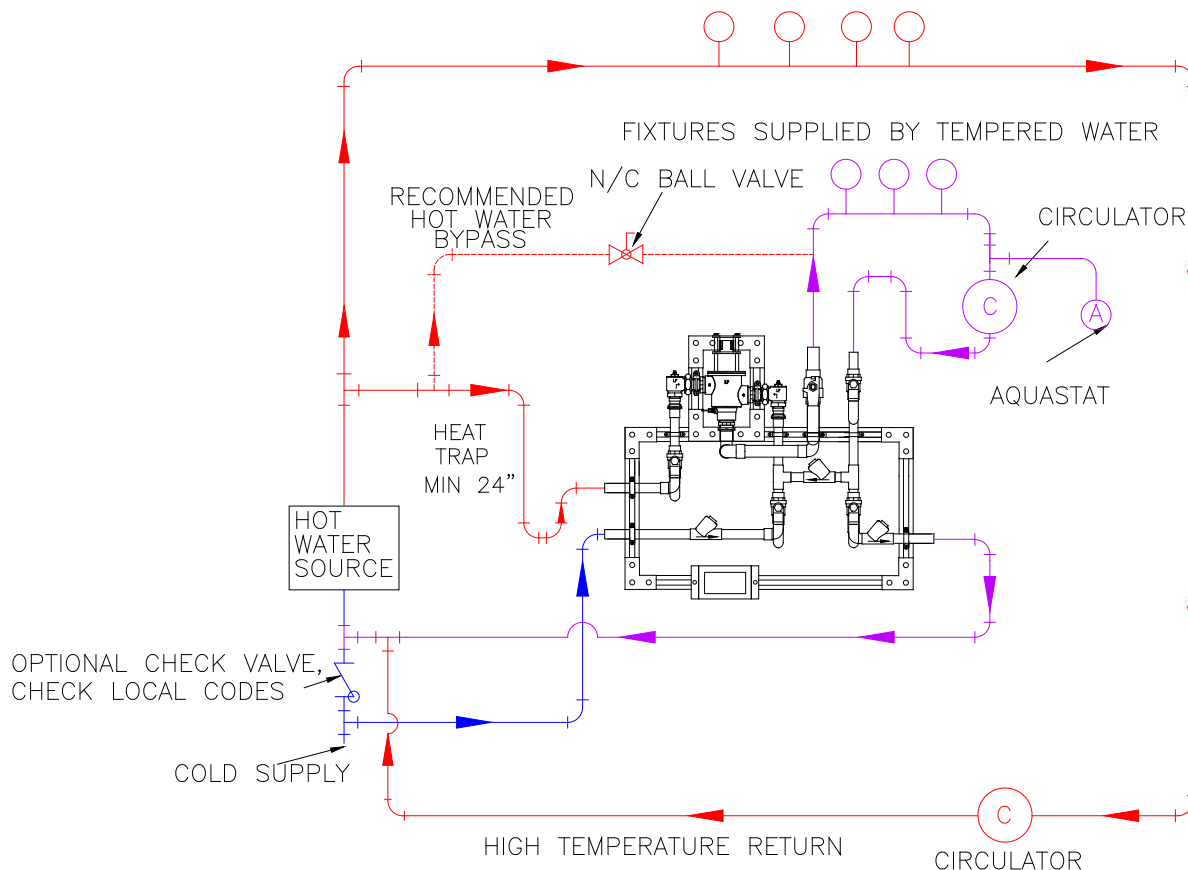
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| MINIMUM<br>FLOW<br>(GPM)<br><br>(l/min) | PRESSURE DROP |     |     |     |     |     |     |     |     |     |       |
|-----------------------------------------|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
|                                         | 5             | ⑩   | ⑮   | ⑳   | 25  | 30  | 35  | 40  | 45  | 50  | PSI   |
|                                         | .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 |

HIGH TEMPERATURE FIXTURES (IF APPLICABLE)



**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:** 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.

**Engineer's Approval**

**Job #** \_\_\_\_\_

**Arch/Eng.** \_\_\_\_\_

**Contractor** \_\_\_\_\_

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



**WARNING:** Risk of cancer and reproductive harm from exposure to lead – See [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**LEONARD®**  
WATER TEMPERATURE CONTROLS

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