

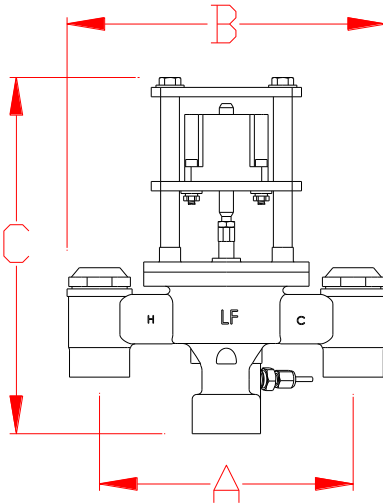


NUCLEUS[®] PROTON[®]

DIGITALLY CONTROLLED MIXING VALVE

Submission Data Sheet S-PNV-125-LF
January, 2023

PNV-125-LF



$A = 6-3/4" \pm 1/2"$ $B = 8-1/2" \pm 1/2"$
 $C = 9-1/2" \pm 1/2"$ **Depth** = $4-1/2" \pm 1/2"$

STANDARD CONTROL BOX



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

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



This product meets Low Lead requirements of wetted surface area containing less than 0.25% lead by weight

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

- Digital Mixing Valve with 1" inlet angled check stops, 1-1/4" Outlet and RTD Sensor
- 1" NPT inlets, 1-1/4" NPT outlet (25mm X 32mm)
- Valve controls at times of no use, 0.0 GPM**
- Maximum operating pressure: 200 PSIG (1376 KPA)
- Controls water temperature to +/- 2°F in accordance with ASSE 1017
- Controls water temperature to +/- 2°F during times of low / no system demand
- Self-Balancing, do not need to adjust or balance recirculation
- Self-Cleaning, daily shuttle sweep keeps shuttle free of debris
- Automatic Hot/ Cold Water shutoff upon cold/ hot water inlet supply failure
- Alerts user when unit requires maintenance
- User programmable set point range between 65°F and 180°F
- Simple/intuitive user commissioning and setup
- Displays outlet temperature
- UL Listed control box and 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 0.0 GPM flow from the domestic hot water loop when properly installed near the hot water source with a continuously operating recirculation pump at 3 GPM.

OPTIONS:

- ___ IOT – Internet of Things, Modbus to Wi-Fi gateway that connects to the Cloud to allow online monitoring of outlet temperature and Modbus connectivity to BMS
- ___ BPS – Back-up Power Supply, uninterruptable power supply with up to 2 hours run time in case of primary power loss

Valve is ASSE 1017 Certified



Valve is CSA Certified



Valve electronics are UL Certified



LEONARD[®]
WATER TEMPERATURE CONTROLS

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Phone: 401.461.1200 Fax: 401.941.5310

Email: info@leonardvalve.com

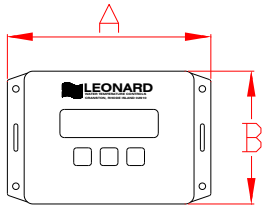
Web Site: <http://www.leonardvalve.com>

PNV-CONTROLLER OPTIONS

Standard Controller 1.0 Version



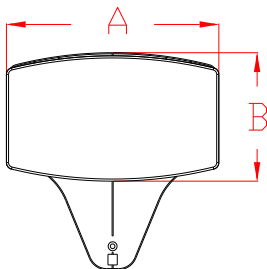
A = 6" B = 4"
Depth = 1-3/4"



Enhanced Controller 2.0, 2.5, 3.0 Versions



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



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

STANDARD CONTROLLER:

_____ **1.0** – See PAGE 1 for info

ENHANCED CONTROLLER OPTIONS:

UL Listing Pending on 2.0, 2.5 and 3.0 controllers
Note: Boxes not field upgradeable

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

Options:

- _____ **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

_____ **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

**AVAILABLE \approx 2nd Quarter 2023

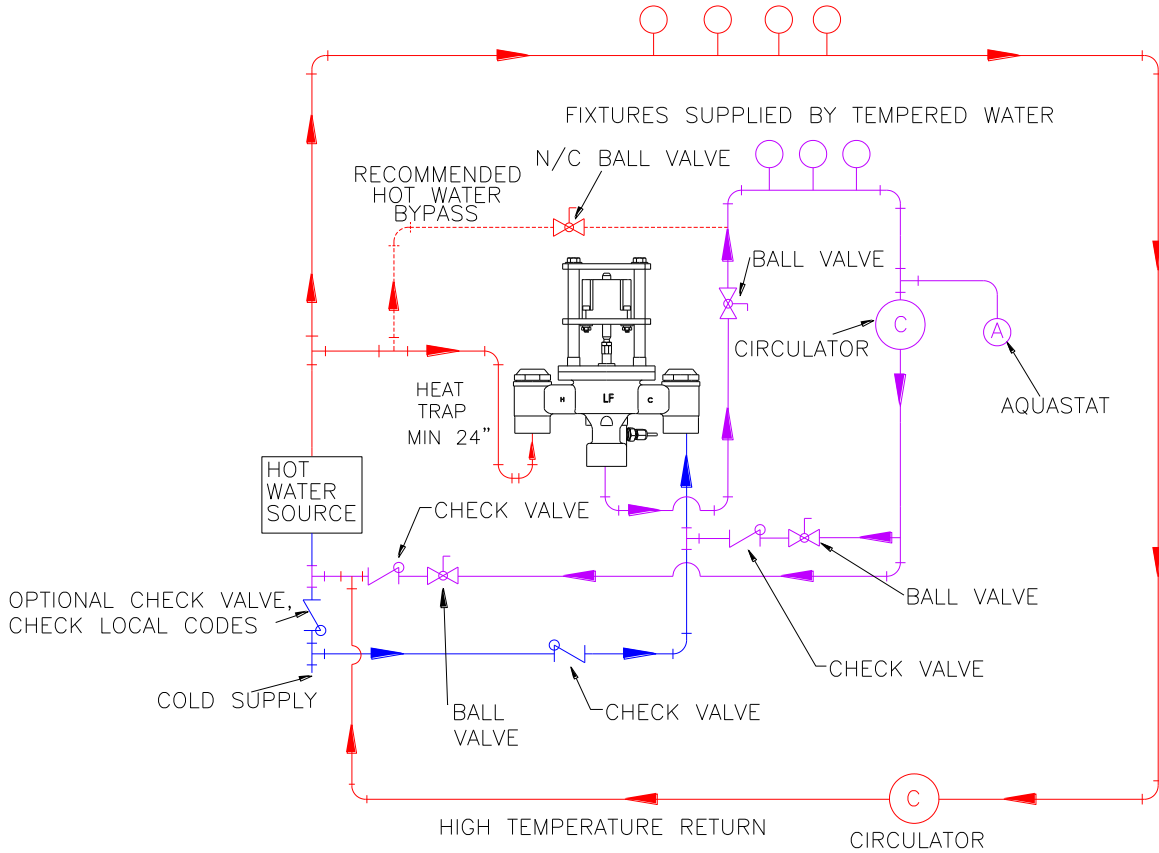


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PRESSURE DROP

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
40	56	66	77	86	95	104	109	114	120	GPM
151	212	250	291	326	360	394	413	432	454	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.

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