

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 is certified to meet 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.

PNV-150-LF-R

- 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: 125 PSIG (860 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°F and 180°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

This product meets Low Lead requirements of wetted surface area containing less than 0.25% 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.

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 Pending ASSE 1017 Certified



Valve is Pending CSA Certified



Valve electronics are UL Certified



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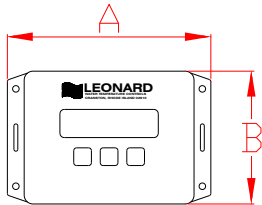
Web Site: <http://www.leonardvalve.com>

PNV-CONTROLLER OPTIONS

Standard Controller 1.0 Version



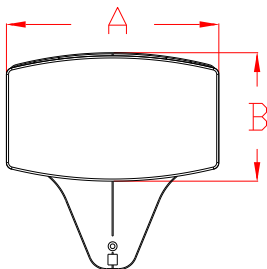
A = 6" B = 4"
Depth = 1-3/4"



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

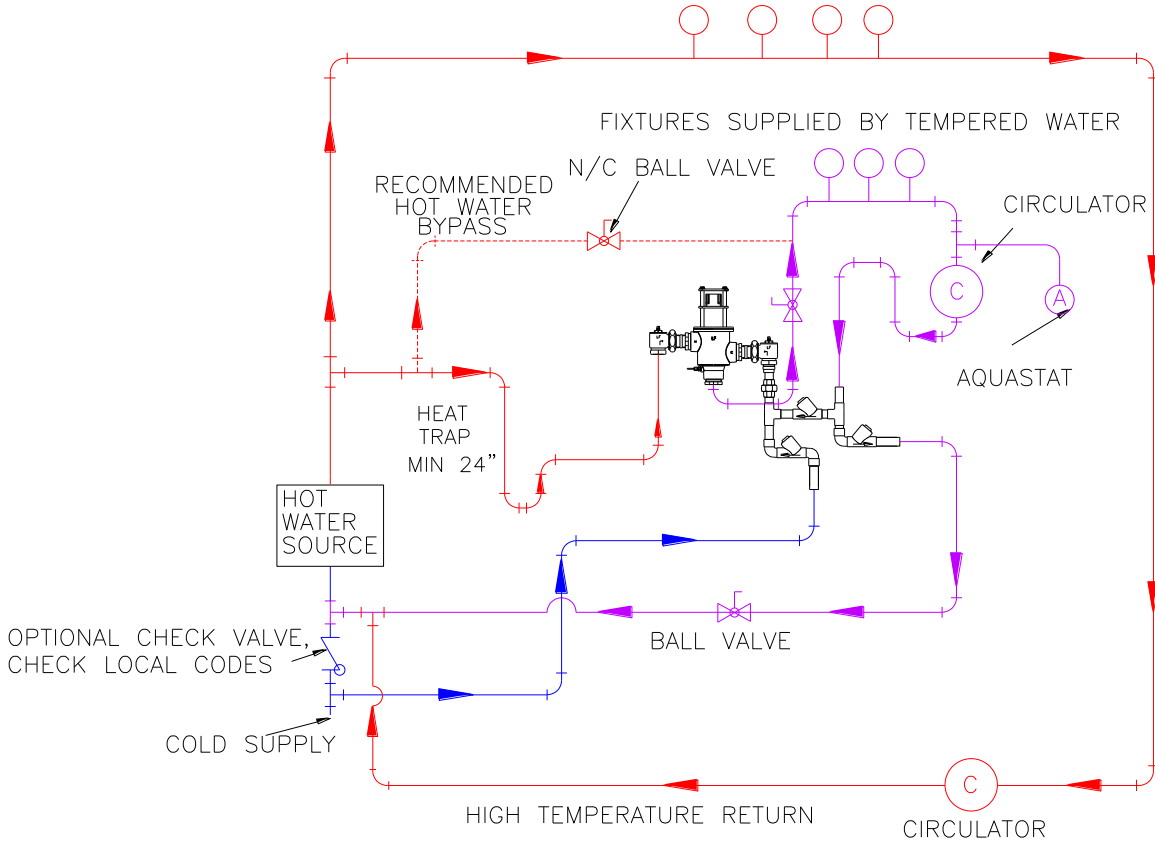
**AVAILABLE \approx 2nd Quarter 2023



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MINIMUM FLOW (GPM) (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.

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