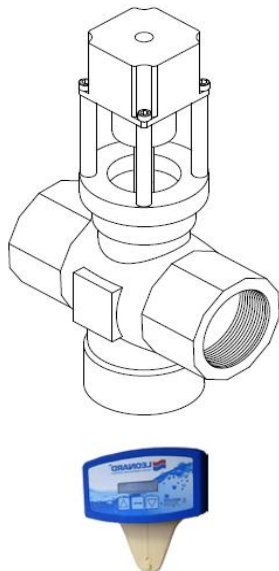


Proton Plus Digital Mixing Valve

1. Proton Plus Digital Mixing Valve

- a. PPV-LF models shall:
 - 1. Have inlet and outlet NPT female connections
 - 2. Be constructed of 100% stainless steel
 - 3. 2-line, 16-character LED display
 - 4. Integral RTD Sensor
 - 5. Maintain temperature with 0.0 GPM flow from the domestic hot water loop
 - 6. Have maximum Operating Pressure no greater than 200 PSI
 - 7. Be certified to ASSE standard 1017 and CSA B125.3-18 and so certified and identified
 - 8. Be cULus listed and identified
 - 9. Be NSF 61 Compliant
- b. PPV-LF shall have all the following operational capabilities:
 - 1. Daily shuttle sweep designed to prevent scale buildup on internal mechanical components
 - 2. +/- 2°F water temperature control at times of use and no demand
 - 3. Self-balancing and does not need to have recirculation balanced or adjusted
 - 4. Automatic shutoff of hot water upon cold water inlet supply failure
 - 5. Automatic shutoff of cold water upon hot water inlet supply failure
 - 6. Maintain last control position in the event of power failure or be equipped with UPS standby power for approximately 2 hour run time
 - 7. Programmable set point range of 95-180°F (18-82°C)
 - 8. Simple/intuitive user commissioning and setup
 - 9. ETL Listed control box and 120v plug in power supply with 6' cord
- c. Control Box shall have the following options standard
 - 1. Disinfection Option
 - 2. BMS connectivity utilizing BACnet MS/TP connection or Modbus RTU
 - 3. Wi-Fi enabled
 - 4. Optional 3T (3 additional temperature probes for hot and cold inlet in addition to return)
 - 5. Optional REL (Connectivity for 5 relay states)
 - 6. Optional Back up Powers Supply for uninterruptable power supply for up to two hours run time in the event of primary power loss



Valve size will most likely be less than inlet / outlet pipe sizes

		PRESSURE DROP (PSI)									
MODEL # Size	Minimum Flow*	5 PSI	10 PSI	15 PSI	20 PSI	25 PSI	30 PSI	35 PSI	40 PSI	45 PSI	50 PSI
PPV075LF 3/4"	3 GPM	16	24	28	33	37	40	43	46	49	52
PPV100LF 1"	5 GPM	35	56	66	77	86	93	102	107	112	118
PPV125LF 1-1/4"	7 GPM	52	75	92	104	118	131	140	148	156	164
PPV150LF 1-1/2"	10 GPM	73	100	120	134	147	159	168	177	185	192
PPV200LF 2"	12 GPM	106	148	182	205	230	244	256	266	274	280
		Flow in Gallons per Minute (GPM)									
Valves should be sized based on a 5 to 10 PSI pressure drop											
Valve size will most likely be less than inlet / outlet pipe sizes											