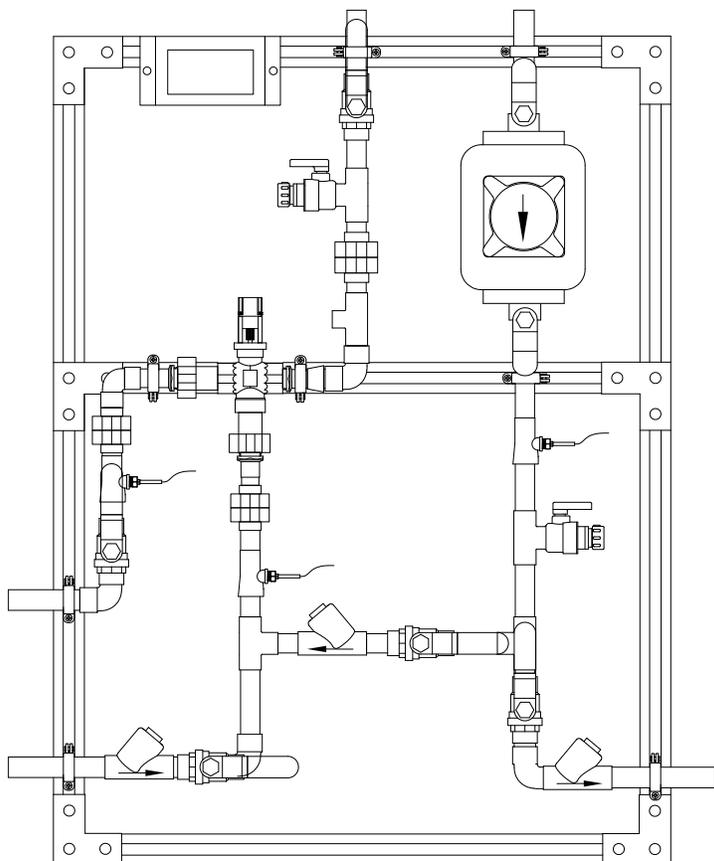


# PROTON PLUS MEGATRON STATION



- Digital Mixing Valve with inlets, outlet and return piping
- Sizes from 1" to 3" outlets
- Stainless steel construction of valve body and all valve parts contacted by water
- Valve controls at times of no use, 0.0 GPM\*
- Maximum operating pressure: 125 PSIG (860 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 95°F and 160°F, Displays outlet temperature
- Simple / intuitive user commissioning and setup
- ETL Listed control box and 120V plug in power supply with 6' cord, optional BPS below
- Suitable for indoor use only
- 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

**STANDARD CONTROL BOX**  
(see page 2 for more information)



**\*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, see minimum flow for minimum pump flow rate

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

Valve is ASSE 1017 Certified



Valve is CUPC Certified



Valve is NSF 61 Compliant / pending

Valve electronics are ETL Certified

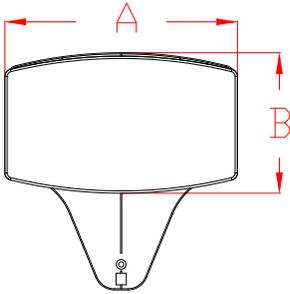


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# PROTON PLUS CONTROLLER



A = 8"    B = 4-3/4"  
Depth = 1-1/4"



## Enhanced Proton Plus Controller includes

- BACnet MS/TP or Modbus RTU Connection which provides ability to serve up all data to BMS system
- Wi-Fi – Wi-Fi enabled
- Programable Disinfection Mode
- Megatron Assemblies include the 3T standard, Three Additional Temperature Sensors for Monitoring of Inlet Hot, Inlet Cold, and Return Temperatures

## 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:
  - Maintenance (Service Required)
  - “Out of Range” Temperature ( $\pm 10^{\circ}\text{F}$ )
  - Broken Temperature Probe
  - Motor Connectivity and Operation
  - Loss of Power

# PROTON PLUS MEGATRON STATION

## Megatron Station to include:

- Inlets, outlet and return connections (copper tube)
- Leonard Proton Digitally Controlled Mixing Valve with simple two line LED display
- Inlet check valves, return line check valves
- Unions on inlets and outlet of mixing valve
- Inlets, outlet and return ball valves
- 3T, Three Additional Temperature Sensors for Monitoring of Inlet Hot, Inlet Cold, and Return Temperatures
- Outlet Test Connection with ball valve and 3/4" hose connection
- Subassembly with return piping, Taco 0034E PLUS circulator, full port ball valves and check valves
- System mounted on struts, galvanized. Struts shall be assembled with three hole flat angle plate using 3/8" grip lock nuts and 3/8" x 1" hex head cap screws, washers and lock washers
- All electrical connections to be completed by Electrical Contractor
- Taco 0034E PLUS standard pump included and installed on PPV-075-LF-M, PPV-100-LF-M, PPV-125-LF-M

High-performance, variable speed, wet-rotor circulator with high-efficiency ECM permanent magnet technology, Simple 3-button control

An intuitive digital user interface lets you choose between a variety of operating modes; activeADAPT™, five Constant Pressure curves, five Proportional Pressure curves, Min/Max fixed speed or speed control through 0-10V DC or PWM external input

Digital LED screen displays; Watts, GPM, Head, RPM and diagnostic error codes  
Maximums of 34 feet of head and 50 GPM

- Taco 2400-50S standard pump included and installed on PPV-150-LF-M, PPV-200-LF-M



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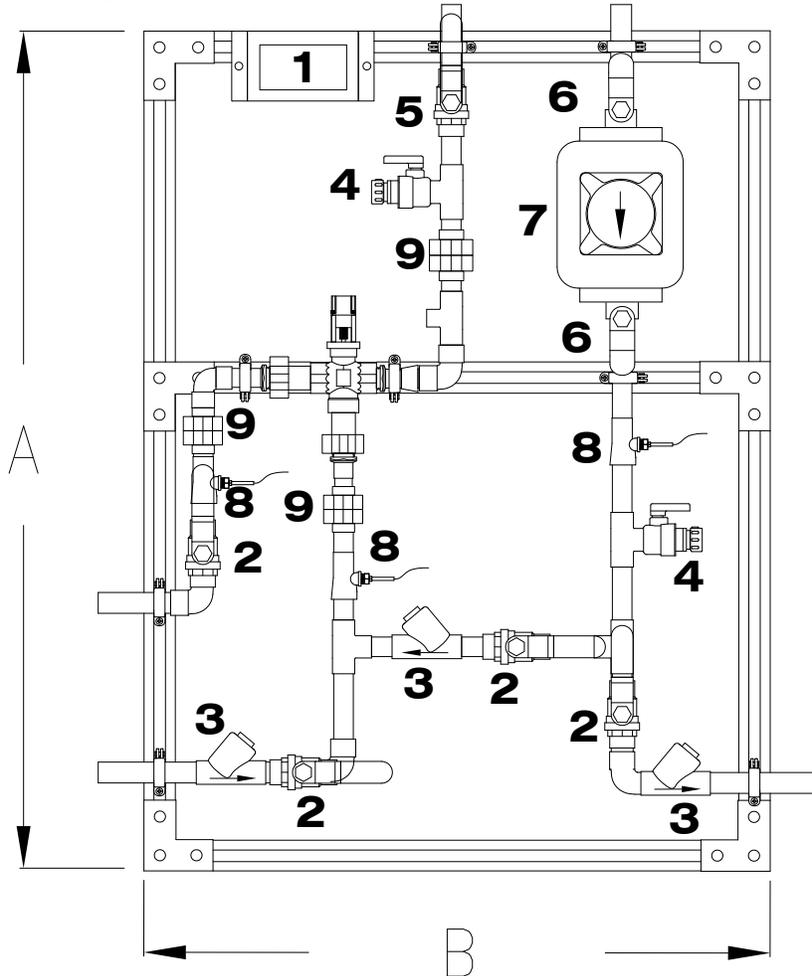
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# PROTON PLUS MEGATRON STATION DIGITAL TEMPERATURE CONTROL STATION

\*Image not to scale\*, Dimensions will vary with any options



- 1. PROTON PLUS VALVE AND CONTROLS
- 2. FULL PORT BALL VALVE
- 3. CHECK VALVE
- 4. 3/4" TEST CONNECTION
- 5. OUTLET FULL PORT BALL VALVE

- 6. PUMP SHUT-OFFS
- 7. CIRCULATOR
- 8. 3T TEMPEPRATURE SENSORS
- 9. UNIONS

MODEL #	A (+/-6")	B (+/-6")
PPV075LF-M	39"	31"
PPV100LF-M	40"	36"
PPV125LF-M	41"	39"
PPV150LF-M	42"	40"
PPV200LF-M	48"	72"



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# PROTON PLUS MEGATRON STATION

✓	MODEL #	INLETS	OUTLET	RETURN
	PPV075LF-M	3/4"	1"	3/4"
	PPV100LF-M	1-1/4"	1-1/2"	1"
	PPV125LF-M	1-1/2"	2"	1-1/4"
	PPV150LF-M	2"	2"	1-1/2"
	PPV200LF-M	2-1/2"	3"	2"

<b>Engineer's Approval</b>	Job # _____
	Arch/Eng. _____
	Contractor _____
<p>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.</p>	



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# PROTON PLUS FLOW RATES

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

		PRESSURE DROP (PSI)									
MODEL #	Minimum Flow*	5 PSI	10 PSI	15 PSI	20 PSI	25 PSI	30 PSI	35 PSI	40 PSI	45 PSI	50 PSI
PPV075LF-M	3 GPM	16	24	28	33	37	40	43	46	49	52
PPV100LF-M	5 GPM	35	56	66	77	86	93	102	107	112	118
PPV125LF-M	7 GPM	52	75	92	104	118	131	140	148	156	164
PPV150LF-M	10 GPM	73	100	120	134	147	159	168	177	185	192
PPV200LF-M	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											

**\*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, see minimum flow for minimum pump flow rate

**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.



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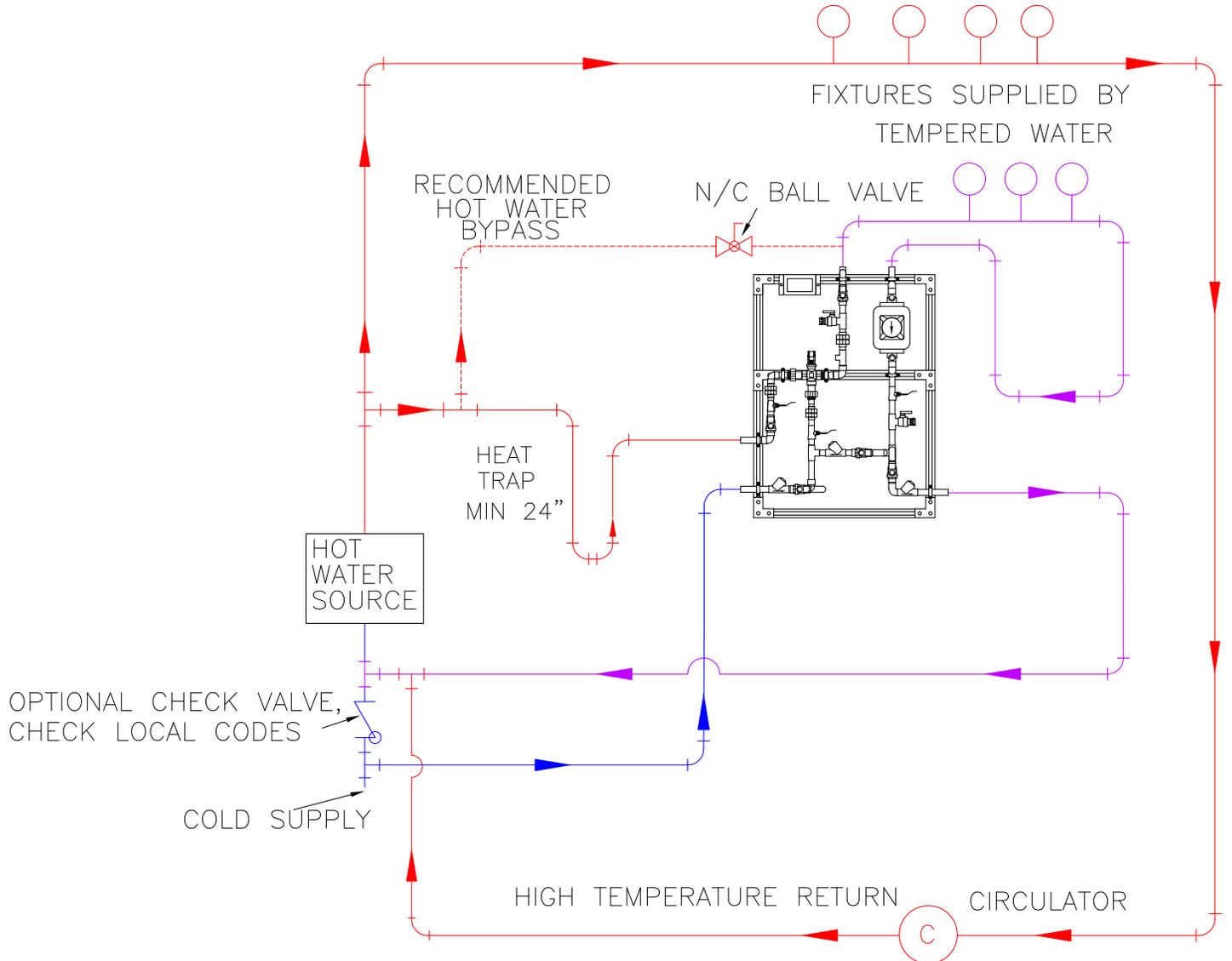
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# REQUIRED PIPING

Please note the inlet hot, inlet cold and outlet locations as they are required to be piped in this configuration or the valve will not work properly

HIGH TEMPERATURE FIXTURES (IF APPLICABLE)



**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](http://www.P65Warnings.Ca.gov)

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.

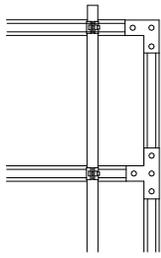
Note: Leonard Valve Company reserves the right of product, or design modifications without notice or obligation.

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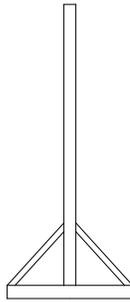
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# OPTIONS



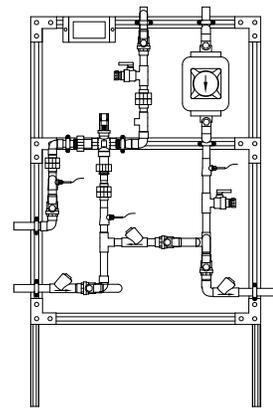
## LC

Megatron® furnished without a circulator.



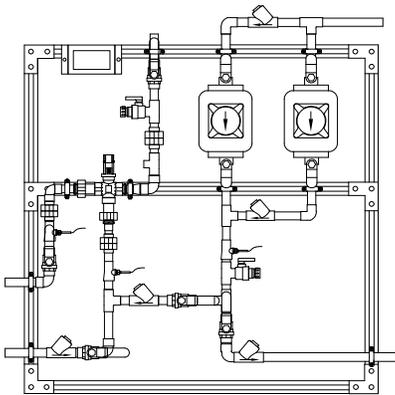
## FM

Megatron® with 3 legs, 3 1/2" feet and 45 degree braces front and back for mounting to floor in center of room.



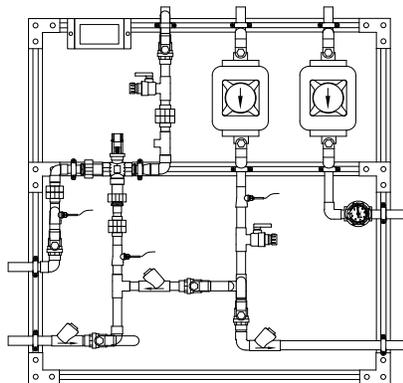
## FS

Megatron® with separate legs to floor to support the unit without hangers.



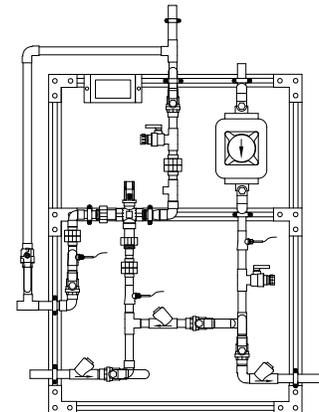
## 2 PUMPS R

Redundant recirculation pump



## 2 PUMPS H

High temperature loop recirculation pump



## HBP

High temperature by-pass flush with locking ball valve

### OPTIONS \*

- LC** Less circulator
- FM** Floor mount
- FS** Free standing
- 2 PUMP R** Redundant recirculator pump
- 2 PUMP H** High temperature loop recirculator pump
- HBP** High temperature by-pass flush
- 265-1** Timer, Analog, 24 hour
- 265-3** Timer, Digital, 7 day
- HOA** HOA switch

### OPTIONS (shown on next page) \*

- AL** Audio Visual Alarm
- RDU** Remote Display Unit
- SCO** Solenoid Control Option
- BPS** Back up Power Supply
- DA** Digital Aquastat
- DG** Digital Gauges
- User chosen pump** (specify on next page)

### PIPING OPTIONS \*

- RP 1** 1" Return line size
- RP 125** 1-1/4" Return line size
- RP 15** 1-1/2" Return line size
- RP 2** 2" Return line size
- RP 3** 3" Return line size

\* Any option chosen will alter pricing



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### OPTION AL: Leonard Single Probe Digital Temperature Alarm

- Single Point Temperature Probe - Range: -148°F to 212°F Resolution: 1°F
- User adjustable high & low set points and initial alarm delay period
- Audible & visual alarms
- Remote alarm contacts (SPDT) with adjustable relay delay period
- AL option replaces analog outlet dial thermometer with a single digital display



### OPTION RDU: Leonard Remote Display Unit

- Activation by Primary Alarm's (pictured above) remote alarm contacts
- Alarm Delay Module with yellow, red, green LED indicators
- Recommended maximum distance from controller to RDU is 500'



### SCO: Solenoid Control Option

- For use with Alarm relay switch
- Galvanized box with dimensions 6" Wide x 6" High x 4" Deep
- Solid state relay and terminal strip mounted and wired
- UL listed 100-240VAC power supply with 10' cord
- For either normally open or normally closed operation
- For use with 24-240 VAC solenoids only



### BPS: Backup Power Supply

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



### OPTION DA: Digital Aquastat

- Electronic digital aquastat with Nema 1 case and SPDT Relay Output



### OPTION DG: Digital Gauges

- Replaces all analog gauges with digital gauges, inlet hot, inlet cold, outlet and return temperature

## OPTION USER CHOSEN PUMP

Standard pump is either the TACO 0034E PLUS or TACO2400-50S depending on model, if another manufacturer is preferred please specify, but note that ANY change from standard pump will result in a **PRICE INCREASE**



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