

COMPLETE WATER TEMPERATURE CONTROL STATION

ECO-MIX™ MEGATRON® LEAD FREE MODEL 1NB-LF

- 3/4" HOT & COLD INLETS
- 1" MIXED OUTLET
- 3/4" RETURN PIPING
- 1.0 to 44 GPM(3.7 to 167 l/min)

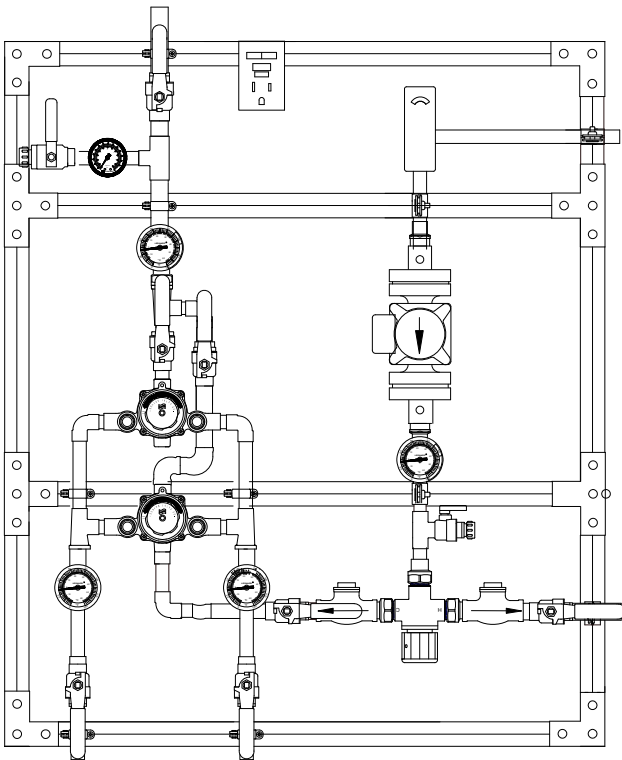
Valve assembly is ASSE 1017 Certified



Valve assembly is CSA Certified



Valve assembly is certified to meet Low-Lead requirements of wetted surface area containing less than 0.25% lead by weight. All other fittings and components, the sum total of which comprise the wetted surface of this product, contain less than one quarter of one percent of lead by weight.



See page 2 for
 Specification detail

See page 3 for
 Drawing detail

See page 4 for
 Flow capacity chart

See page 5 for
 Options

Engineer's Approval	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>	



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

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



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REQUIRED INFORMATION WHEN ORDERING

- Circulator requirements must be specified by the Engineer, **lines 1 and 2 are REQUIRED, line 3 is optional**
 1. Circulated flow required, (not mixing valve flow) _____ **SEE NOTE ***
 2. Head required without Megatron Assembly _____
 3. Standard pump is TACO 0013, if another manufacturer is preferred please specify, but note that ANY change from standard pump will result in a **PRICE INCREASE** _____

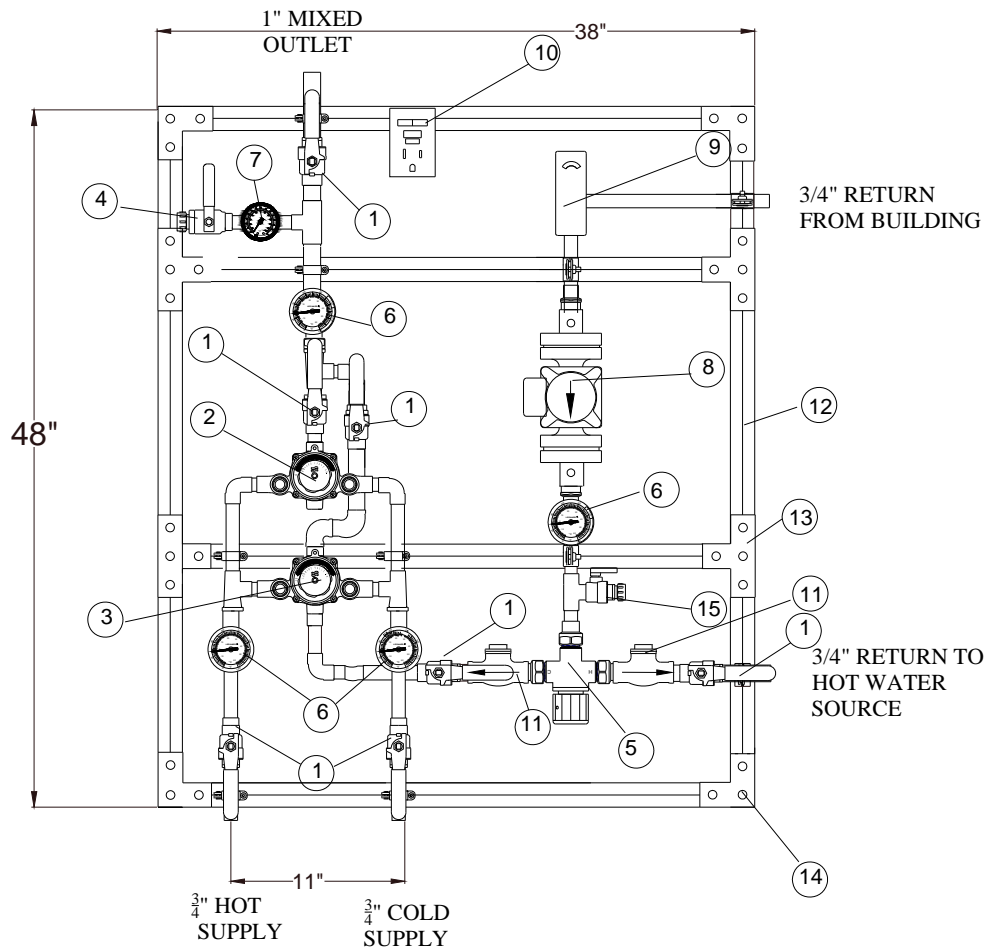
* **NOTE:** If circulated flow rate is greater than 8 GPM please select appropriate Piping Method and Return Line Size from page 5 Piping Options, piping changes will also result in a price increase.

MEGATRON® MODEL 1NB-LF

LEONARD MEGATRON® MODEL 1NB-LF Complete Water Temperature Control Station (1.0 - 44 GPM, 3.7 to 167 l/min) to include:

- Wetted surface area of this product contains less than one quarter of one percent (0.25%) of lead by weight
- Lead Free construction, to comply with LEAD FREE requirements
- ¾" bottom inlet connections (copper tube)
- 1" top outlet connection (copper tube)
- ¾" return line size with piping method #2 (8 GPM maximum flow) see page 5 for piping options.
- Large thermostatic water mixing valve with DURA-trol® solid bimetal thermostat (with Extended 7 Year Limited Warranty) directly linked to hot and cold valve porting, adjustable high temperature limit stop set for 120°F (49°C)*, color-coded dial: C-H, locking temperature regulator, inlet union angle strainer checkstops
- Full port ball valve, pressure gauge on mixed water outlet piping of large mixing valve.
- Small thermostatic water mixing valve with DURA-trol® solid bimetal thermostat (with Extended 7 Year Limited Warranty) directly linked to hot and cold valve porting, adjustable high temperature limit stop set for 120°F (49°C)*, color-coded dial: Cold-Hot, integral checkstops on inlets
- Full port ball valve on outlet of small mixing valve
- GFCI* switch. The GFCI switch will be used to turn the circulator on or off for setup. *Ground Fault Interrupter
- Dial thermometer (range:0 to 140°F, -10 to 60°C) on mixed water outlet of the system.
- Outlet Test Connection with ball valve and ¾" hose connection with cap
- Full port ball valve mounted downstream of test connection on mixed water outlet of the system
- Inlet piping manifold with full port ball valves and dial thermometers (20 to 240°F, -7 to 116°C on hot supply, 0 to 140°F, -10 to 60°C on cold supply) on hot and cold supply inlets
- Return piping, ¾", with aquastat, circulator, dial thermometer (0 to 140°F, -10 to 60°C), automatic return valve to balance system, and check valve
- Maximum operating pressure: 125 PSIG (860KPA)

MEGATRON® MODEL 1NB-LF



Dimensions may vary with the addition of options see page #5

LEGEND

1. Full port ball valve	6. Dial thermometer	11. Flapper check
2. Large TM mixing valve	7. Pressure gauge	12. Galvanized Strut
3. Small TM mixing valve	8. Circulator-As specified by Engineer	13. Tee bracket
4. Test connection	9. Aquastat	14. Corner Bracket
5. Automatic Return Valve	10. Circulator power switch	15. Tee drain

MEGATRON® MODEL 1NB-LF (1.0 TO 44 GPM)

Flow Capacity

MINIMUM FLOW (GPM) (l/min)	SYSTEM PRESSURE DROP (PSIG)										PSI BAR
	5	10	15	20	25	30	35	40	45	50	
1.0 (3.8)	12	18	22	26	30	33	36	39	42	44	GPM l/min
	45	68	83	98	114	125	136	148	159	167	

NOTE: Flowrates will vary depending on existing field conditions. Leonard Valve Company always recommends using CASPAK® sizing software for proper valve sizing and model number applications.

Note: The High Low model must be selected based upon the following:

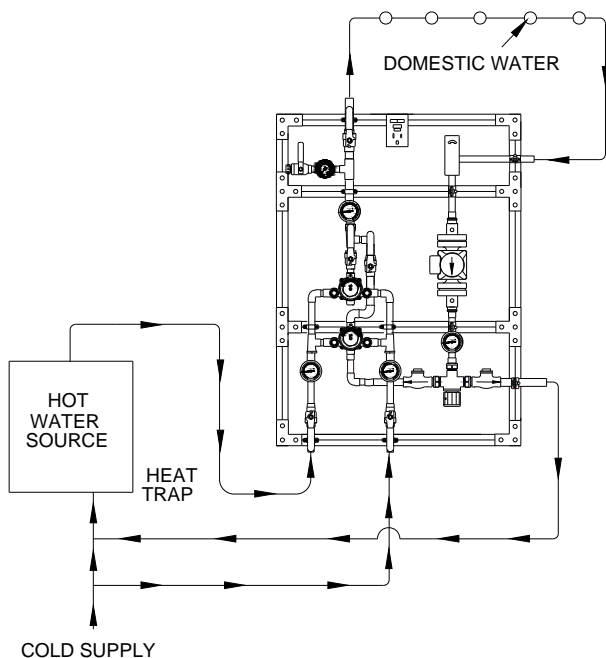
Maximum system demand for mixed water

System pressure drop*

Designer's estimated minimum mixed water flow requirement

*System pressure drop= the pressure available at the inlet of the mixing valve unit minus the pressure required to operate the farthest fixture, i, e., Shower valves, in the building.

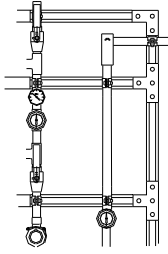
REQUIRED PIPING METHOD #2 (circulated flows less than 8 GPM)



EXTENDED THERMOSTAT WARRANTY

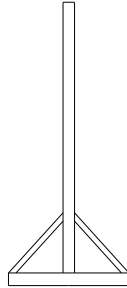
Call the factory at 1-800-222-1208 for details on Leonard's exclusive Extended Limited Warranty for High Low System Thermostats. Note! Specifications are subject to change without notice!!!!

OPTIONS



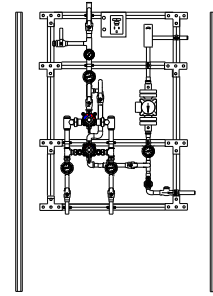
LC

Megatron® furnished without a circulator.



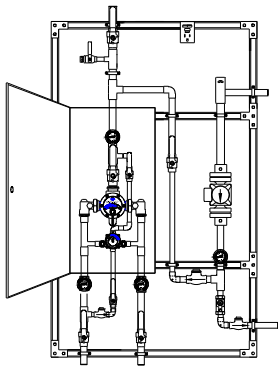
FM

Megatron® with 3 legs, 3 ½” feet and 45 degree braces front and back for mounting to floor in center of room.



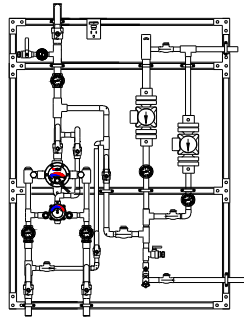
FS

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



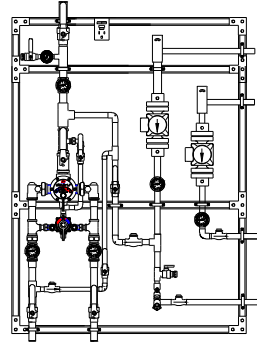
CAB

Megatron® with SS cabinet around mixing valve



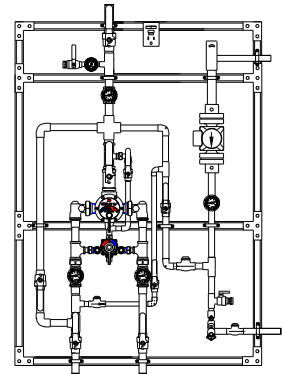
2 PUMPS R

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
- CAB** Cabinet around mixing valve
- 2 PUMP R** - Redundant recirculator pump
- 2 PUMP H** - High temperature loop recirculator pump
- HBP**- High temperature by-pass flush

OPTIONS (shown on next page) *

- AL** Audio Visual Alarm
- CS**- Circuit setter, replaces automatic return valve
- RDU** Remote Display Unit
- LMS-188-4P** Leonard Monitoring system
- LMS-188-4P-BMS** Leonard Monitoring system with module to connect to building management

PIPING OPTIONS *

- M5** Piping Method #5 circulated flows over 8 GPM (Requires **RP** option below)
- RP 1** - 1” Return line size (**M5**)
- RP 1 ¼**” - 1 ¼” Return line size (**M5**)
- RP 1 ½**” - 1 ½” Return line size (**M5**)
- RP 2** - 2” Return line size (**M5**)

* Any option chosen will alter pricing

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OPTION AL: Leonard Single Probe Digital Temperature Alarm

Primary Alarm Box includes:

- 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
- Min./Max. temperature values
- AL option replaces analog outlet dial thermometer with a single digital display



OPTION RDU: Leonard Remote Display Unit

Remote Alarm Delay Option Includes:

- 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'

OPTION LMS-188-4P: Leonard 4 Point Digital Monitoring System with Alarm

Unit includes:

- Four (4) Temperature Probes - Range: -148°F to 212°F Resolution: 1°F
- Audio & visual alarms
- User adjustable high & low temperature alarm set points
- Alarm delay period to prevent nuisance alarms
- Remote alarm contacts (SPDT) with adjustable relay period
- 10/100 Ethernet Connection
- Web Server Interface for Setup & Commissioning
- Unit can send an E-mail transmission of alarms for up to 8 contacts
- Unit can send an E-mail report daily with temperatures readings over the previous day
- LMS-188-4P option replaces analog dial thermometers with a single digital display for all 4 temperatures, incoming hot, incoming cold, outlet and return



OPTION LMS-188-4P-BMS: Leonard 4 Point Digital Monitoring System with Alarm & Enhanced Protocol Communication Interface Module

Primary Alarm Box includes:

- Four (4) Temperature Probes - Range: -148°F to 212°F Resolution: 1°F
- User adjustable high & low set points and initial alarm delay period
- Audio & visual alarms
- Remote alarm contacts (SPDT) with adjustable relay period

ProtoNode Accessory Box includes:

- Interface Module to connect LMS-188-4P-BMS to Building Management System (-BMS) Network, Complete Protocol Package
- Supported protocols include BACnet MS/TP, BACnet IP, Modbus RTU, Modbus TCP/IP, SNMP, JC N2, available simply by selecting the proper DIP switches
- Cat 5 Ethernet Cable not included
- LMS-188-4P-BMS option replaces analog dial thermometers with a single digital display for all 4 temperatures, incoming hot, incoming cold, outlet and return



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