

# COMPLETE WATER TEMPERATURE CONTROL STATION

## ECO-MIX™

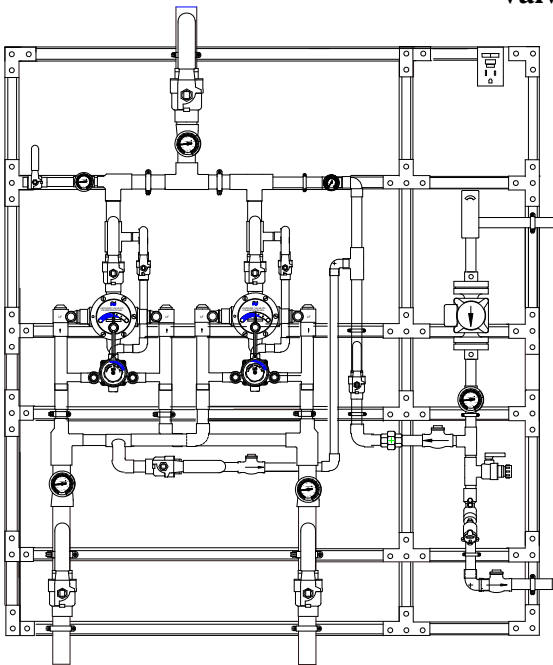
### MEGATRON® LEAD FREE MODEL 7NB-LF

- 2" HOT & COLD INLETS
- 2" MIXED OUTLET
- 1½" RETURN PIPING

Valve assemblies are ASSE 1017 Certified



Valve assemblies are CSA B125.3-12 Certified



Valve assemblies are 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



**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)

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

Engineer's Approval	Job # _____
	Arch/Eng. _____
	Contractor _____



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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) \_\_\_\_\_
2. Head required without Megatron Assembly \_\_\_\_\_
3. Standard pump is B & G PL-36B, if another manufacturer is preferred please specify, but note that  
ANY change from standard pump will result in a **PRICE INCREASE** \_\_\_\_\_

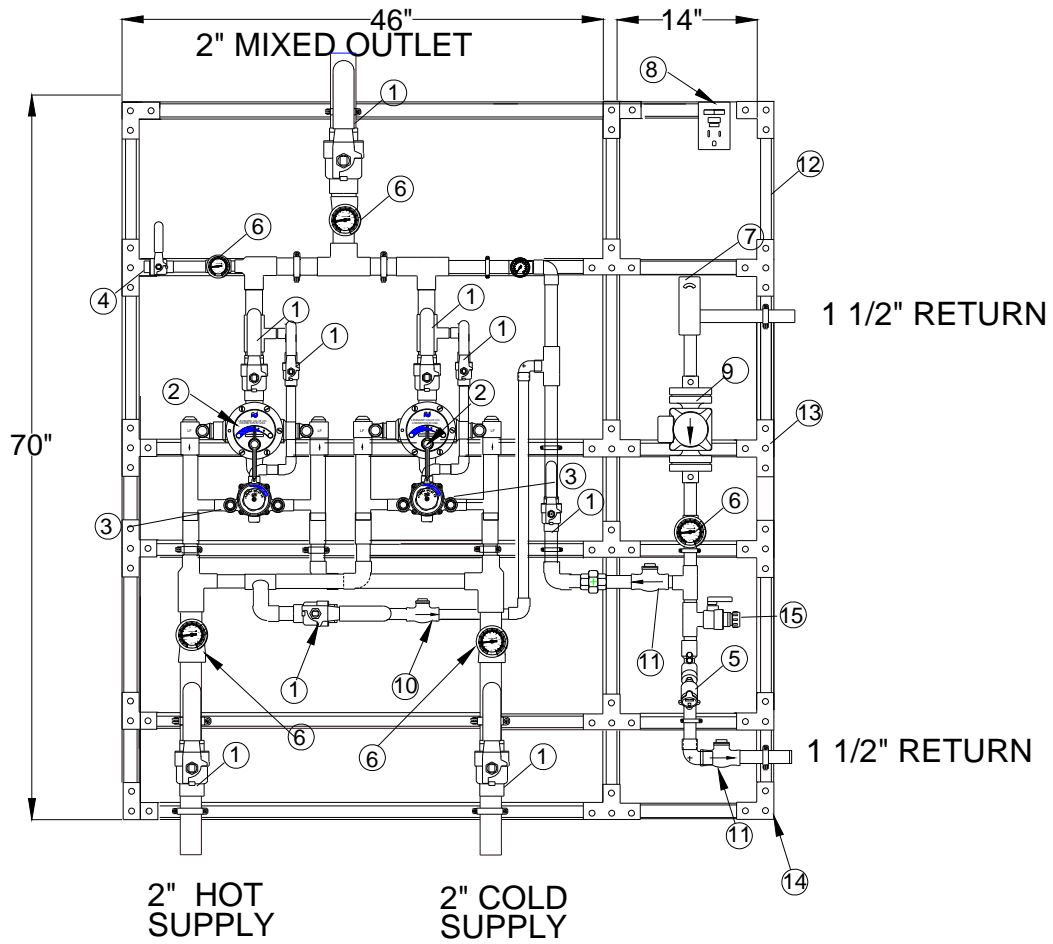
## MEGATRON® MODEL 7NB-LF

LEONARD MEGATRON® MODEL 7NB-LF Complete Water Temperature Control Station to include:

- Lead Free construction, to comply with LEAD FREE requirements
- Wetted surface area of this product contains less than one quarter of one percent (0.25%) of lead by weight
- 2" bottom inlet connections (copper tube)
- 2" top outlet connection (copper tube)
- 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
- Dial thermometer (range:0 to 140°F, -10 to 60°C) and pressure gauge on mixed water outlet of the system.
- Outlet Test Connection with ball valve and 1¼" connection.
- 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, 1½",with aquastat, dial thermometer (0 to 140°F, -10 to 60°C), balancing valve (with positive shutoff) to balance system, and check valve
- Aquastat with temperature differential of 5 to 30°F (3 to 17°C)
- GFCI\* switch. The GFCI switch will be used to turn the circulator on or off for setup. \*Ground Fault Interrupter
- Bypass piping, 1¼", with check valve and isolation ball valve to connect to 1½" method # 5 piping
- Maximum operating pressure: 125 PSIG (860KPA)
- System mounted on strut, galvanized. Strut shall be assembled with three hole flat angle plate on corners, four hole tee plates or two hole flat plate connectors on all other support pieces using 3/8" grip lock nuts and 3/8"x 1" hex head cap screws, washers and lock washers.
- Factory pre-assembled and tested as a complete system
- All electrical connections to be completed by Electrical Contractor

# MEGATRON® MODEL 7NB-LF

## 1 1/2" RETURN PIPING METHOD #5



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. Aquastat	12. Galvanized Strut
3. Small TM mixing valve	8. Circulator power switch	13. Tee bracket
4. Test connection	9. Circulator	14. Corner Bracket
5. Balancing Valve	10. Check valve	15. Tee Drain

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## Flow Capacity

### DOUBLE FLOWRATE WHEN BOTH VALVES ARE OPERATING

SINGLE VALVE ASSEMBLY FLOWRATES SHOWN  
(MINIMUM FLOW RATE HAS BEEN DOUBLED TO 2 GPM)

MINIMUM FLOW (GPM) (l/min)	PRESSURE DROP (PSIG)										
	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
2.0	48	65	80	95	112	120	130	140	158	165	GPM
8	182	273	333	360	424	454	492	530	598	625	l/min

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

Maximum system demand for mixed water

System pressure drop\*

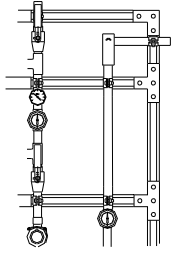
Designer's estimated minimum mixed water flow requirement

\*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.

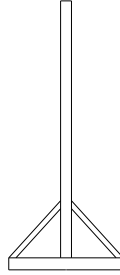
#### EXTENDED THERMOSTAT WARRANTY

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!!!!

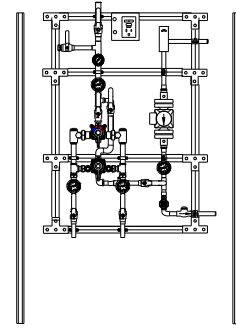
# OPTIONS



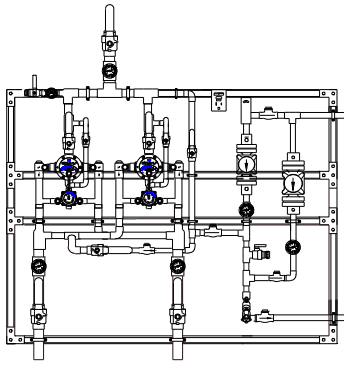
**LC**  
Megatron® furnished without a circulator.



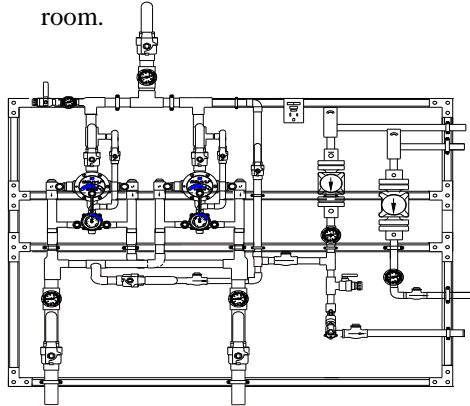
**FM**  
Megatron® with separate 3 legs, 3 1/2" feet and 45 degree braces front and back (shipped loose), attaches to channel of existing megatron for mounting to floor in center of room.



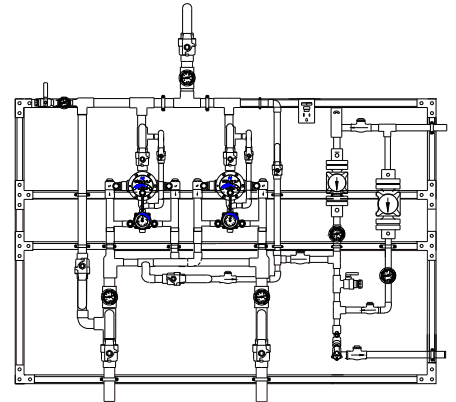
**FS**  
Megatron® with separate legs to the floor (shipped loose), attaches to channel of existing megatron to support the unit without hangers.



**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

## OPTIONS (shown on next page) \*

- AL** Audio Visual Alarm
- 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 \*

- RP 2** - 2" Return line size

\* 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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