

MHP0810R

Commercial Heat Pump Water Heating Systems

MODULAR WATER SOURCE HEAT PUMP



DESIGNED ★ ENGINEERED ★ ASSEMBLED

USA



MHP0810R

Specifications

Operating Conditions	Model Number		MHP0810R		
	Nominal DOE Capacity*		836,400		
	Nominal DOE Performance*		4.1 COP		
	Recovery Rate ¹		1,991 Gal/hr		
	Compressor Type		Scroll		
	Refrigerant		R513A		
	Factory Charge		38.5 lbs. x 3		
	Max Water Temperature		175° F		
	Source Water Range		35° F - 120° F		
	Min. Ambient Exposure		33° F		
	Max Working Water Pressure		150 psig (DHW); 300 psig (Source)		
Multi-Pass Unit Sizing	DHW & Source Water Connections		2" FPT x 6		
	DHW Condenser Flow Rate		108 GPM		
	DHW Water Circuit Condenser Pressure Drop ²		7.4 ft Head		
	DHW Water Circuit Cv Value ²		20		
	Source Evaporator Water Flow Rate		144 GPM		
	Source Water Circuit Pressure Drop		11.1 ft. Head		
	Source Water Circuit Cv Value		22		
	External Head Pressure Allowed by Unit		18.7 ft Head		
	Min Cold Cycle Volume ⁵		119 Gallons		
	Min. Warm Cycle Volume ⁶		334 Gallons		
	Min. Tank Recovery ⁷		835 Gallons		
Single-Pass Unit Sizing	DHW & Source Water Connections		2" FPT x 6		
	DHW Condenser Water Flow Rate		66 GPM		
	DHW Water Circuit Condenser Pressure Drop ²		16.9 ft Head		
	DHW Water Circuit Cv Value ²		8		
	Source Evaporator Water Flow Rate		144 GPM		
	Source Evaporator Pressure Drop		11.1 ft Head		
	Source Water Circuit Cv Value		22		
	DHW External Head Pressure Allowed by Unit		19.5 ft Head		
Unit Specifications	Dry Weight		3,440 lbs		
	Operating Weight		3,559 lbs		
	Sound Pressure ⁴		TBD		
	Dimensions (L x D x H)		110 1/8" x 39 1/4" x 74 1/4"		
Power Requirements	Voltage	Compressor LRA	RLA Per Compressor	Wire and Disconnect Sizing	
				MCA	MOCP
	208-230/3/60	605	263	283	350
	440-480/3/60	272	133	143	175
	575/3/60	238	91	98	125



Legend
 LRA: Locked Rotor Amps
 RLA: Rated Load Amps
 MCA: Maximum Current Ampacity (used for wire sizing)
 MOCP: Minimum Overcurrent Protection (minimum disconnect size to be used)

Performance Data

Performance Test Conditions: 50 EWT, 140 LWT, 100% Water Source Side

Entering Source Water Temp (°F)	Supply Heating Capacity (Btu/hr)	Source Cooling Capacity (Btu/hr)	Power Input (kW)	Heating COP	Cooling COP	Combined COP
90°F	841,200	610,890	67.5	3.7	2.7	6.3
80°F	760,900	535,708	66	3.4	2.4	5.8
70°F	680,700	460,626	64.5	3.1	2.1	5.2
60°F	601,900	388,479	62.6	2.8	1.8	4.6
50°F	523,200	316,433	60.6	2.5	1.5	4.1
40°F	456,600	261,092	57.3	2.3	1.3	3.7

In view of ongoing product improvements, design and specification are subject to change without notice. Lochinvar Water Heating Systems can accept no responsibility for possible errors in catalogs, brochures or any other printed material.

Multi-pass Performance Test Data: 140 LWT, Design GPM, 100% Water Source Side

Entering Source Water	Supply Heating Capacity (Btu/hr)	Source Cooling Capacity (Btu/hr)	Power Input (KW)	Heating COP	Cooling COP	Combined COP
110°F	1,008,000	756,194	73.8	4	3	7
90°F	918,000	666,194	73.8	3.6	2.6	6.3
70°F	690,000	444,336	72	2.8	1.8	4.6
50°F	534,000	294,478	70.2	2.2	1.2	3.5
35°F	447,000	217,714	67.2	1.9	0.9	2.9

High Temperature Performance Test Data: 160 EWT, 175 LWT, 100% Water Source Side

Entering Source Water Range	Source Design GPM	Load Design GPM	Supply Heating Capacity (Btu/hr)	Source Cooling Capacity (Btu/hr)	Power Input (KW)	Heating COP	Cooling COP	Combined COP
90 - 104 °F	180	117	874,200	534,365	99.6	2.6	1.6	4.1

Note: Operation over 160 LWT requires the above adjustments to design flow rates, and restricts allowable source temperature ranges as shown. Requires Multipass HP. Source pressure drop increases to 17.2 Ft. Hd. Load side available head allowance drops to 17.4 Ft. Hd.

Notes: Certified to UL60335-1, UL60335-2-40, CSA C22.2 60335-1, CSA 60335-2-40 (LC16116-1) Control Panel: UL508A
Short Circuit Current Rating (SCCR) 100, Compressor Horsepower 25 HP, 1000 hrs. Salt Spray Resistance
Cabinet/Evap

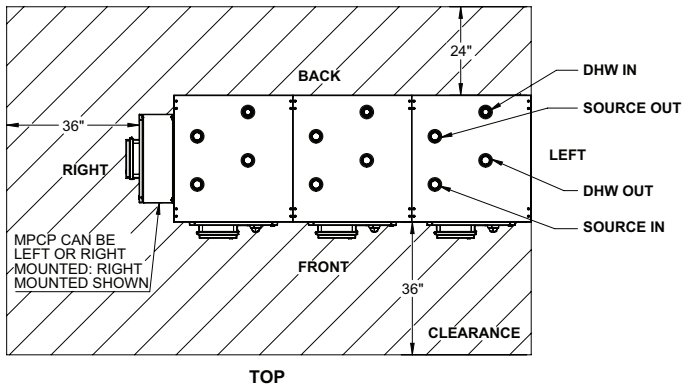
*Nominal DOE specs at 70 EWT, 120 LWT, 80°F 100% water source

1. Recovery rate at 80° F source 100% water, DHW 70 EWT 120 LWT
2. Water Circuit Pressure Drop and Heat Pump Cv value apply to external pump applications
3. Pressure drop allowed by internal circulator for external piping, at design flow rate
4. Sound pressure recorded 3' from unit face, 3' from ground
5. Cold Cycle volume is the volume below the cold trigger sensor. Cold in water over 70° F will need more volume.
6. Warm Cycle volume is the volume of water below the warm/recirc trigger sensor.
7. Tank volume is based on individual project demands, but cannot be lower than minimum value.

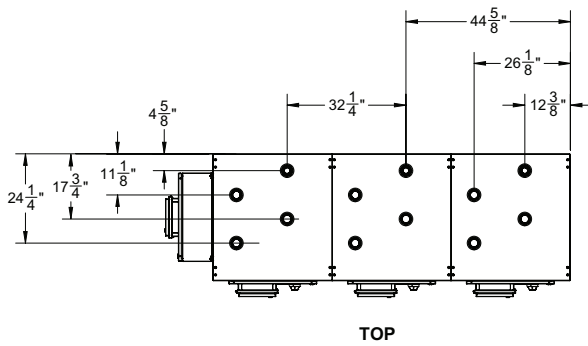
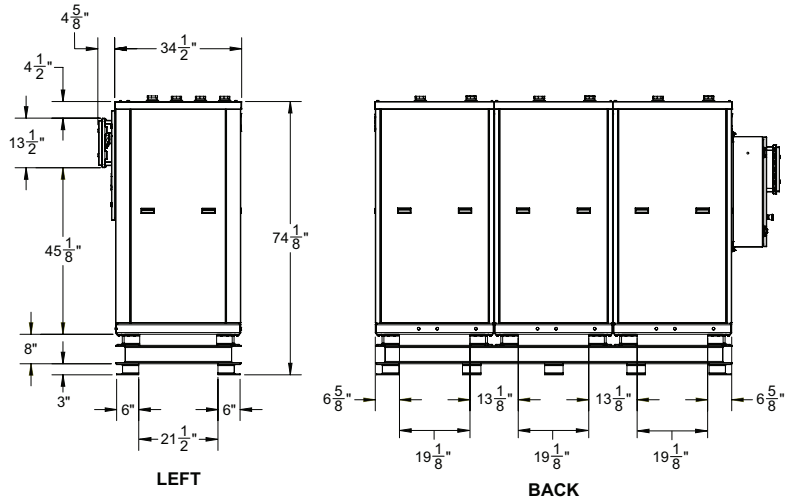
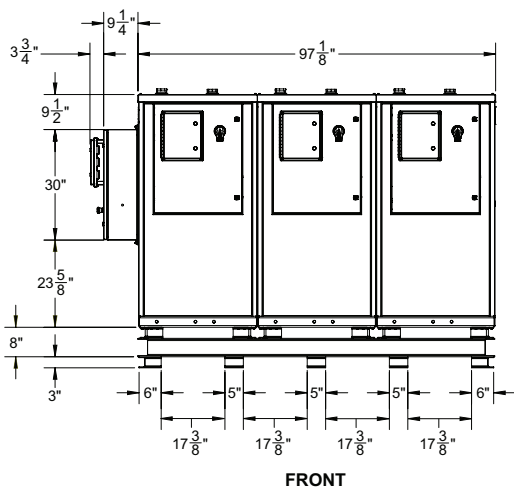
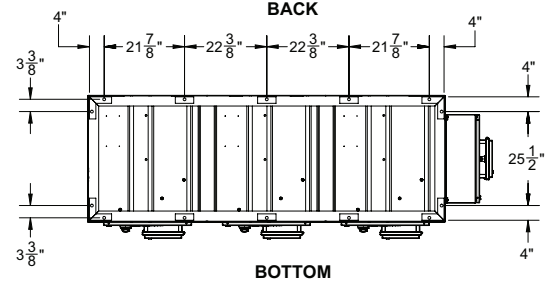
Contact factory for accurate sizing.

Dimensions

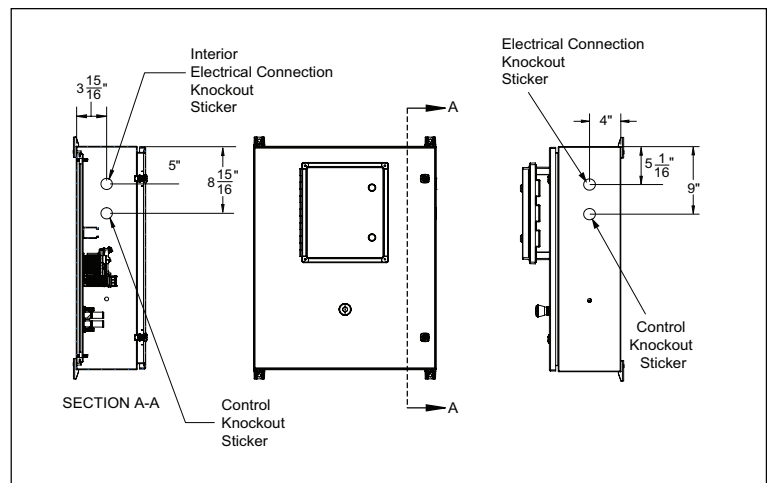
Water Connections and Required Clearances



Anchor Locations



MPCP and PDC Power and Control Knockout Locations



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