

MHP1080R

Commercial Heat Pump Water Heating Systems

MODULAR WATER SOURCE HEAT PUMP



DESIGNED ★ ENGINEERED ★ ASSEMBLED

USA



MHP1080R

Specifications

Operating Conditions	Model Number	MHP1080R
	Nominal DOE Capacity	1,115,200
	Nominal DOE Performance	4.1 COP
	Recovery Rate ¹	2,655 Gal/hr
	Compressor Type	Scroll
	Refrigerant	R513A
	Factory Charge	38.5 lbs. x 4
	Max Water Temperature	160° 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 8
	DHW Condenser Flow Rate	144 GPM
	DHW Water Circuit Condenser Pressure Drop ²	7.4 ft Head
	DHW Water Circuit Cv Value ²	20
	Source Evaporator Water Flow Rate	192 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 8
	DHW Condenser Water Flow Rate	88 GPM
	DHW Water Circuit Condenser Pressure Drop ²	16.9 ft Head
	DHW Water Circuit Cv Value ²	8
	Source Evaporator Water Flow Rate	192 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
	Min. Cold Water Cycle Volume ⁵	119 Gallons

Unit Specifications	Dry Weight	4,542 lbs
	Operating Weight	4,700 lbs
	Sound Pressure ⁴	TBD
	Dimensions (L x D x H)	142 1/2" 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	350	370	450
	440-480/3/60	272	177	187	225
	575/3/60	238	121	128	150

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

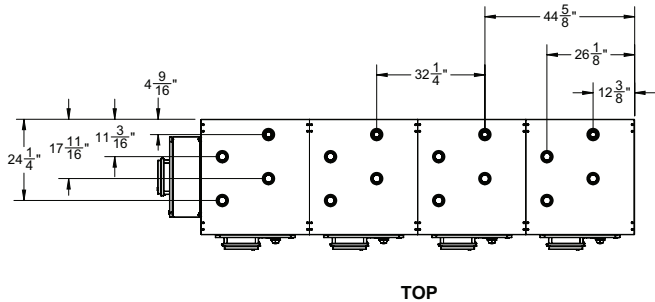
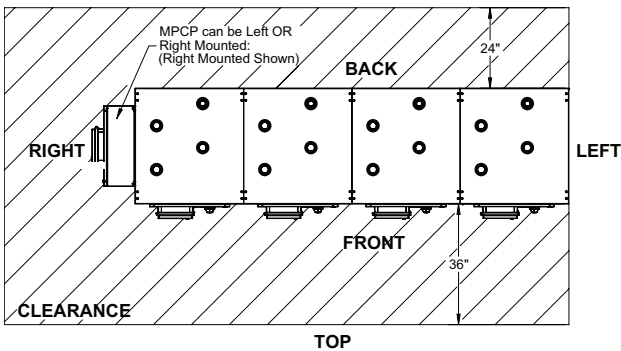
Performance Test Conditions: 50 EWT, 140 LWT, 100% Water Source Side

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	1,121,600	814,520	90	3.7	2.7	6.3
80°F	1,014,600	714,344	88	3.4	2.4	5.8
70°F	907,600	614,168	86	3.1	2.1	5.2
60°F	802,600	518,039	83.4	2.8	1.8	4.6
50°F	697,600	421,910	80.8	2.5	1.5	4.1
40°F	608,800	348,123	76.4	2.3	1.3	3.7

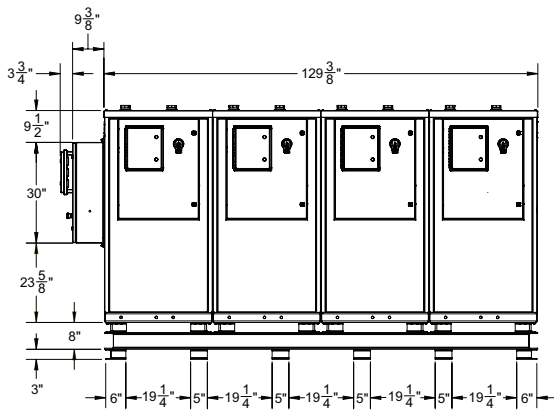
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Dimensions

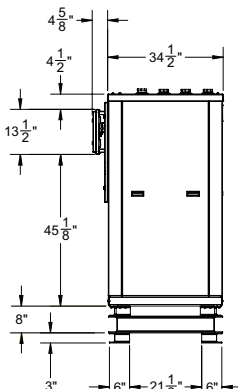
Water Connections and Required Clearances



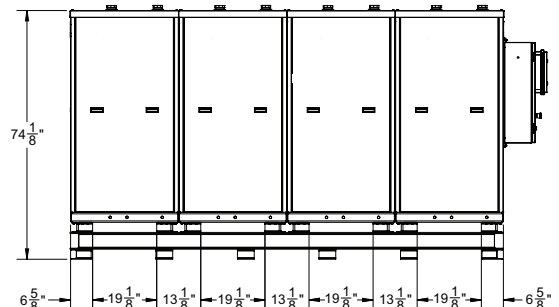
TOP



FRONT

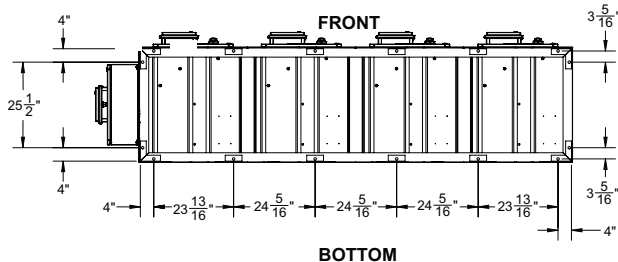


LEFT



BACK

Anchor Locations



BOTTOM

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

1. Recovery rate at 80° F source 100% water, DHW 50 EWT 140 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.



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