

MHP0270R

# Commercial Heat Pump Water Heating Systems

**MODULAR WATER SOURCE HEAT PUMP**



DESIGNED ★ ENGINEERED ★ ASSEMBLED

**USA**



# MHP0270R

## Specifications



Operating Conditions	Model Number		MHP0270R		
	Nominal DOE Capacity		278,800 BTU/hr		
	Nominal DOE Performance		4.1 COP		
	Recovery Rate <sup>1</sup>		664 Gal/hr		
	Compressor Type		Scroll		
	Refrigerant		R513A		
	Factory Charge		38.5 lbs.		
	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 Copper		
	DHW Condenser Flow Rate		36 GPM		
	DHW Water Circuit Condenser Pressure Drop <sup>2</sup>		7.4 ft Head		
	DHW Water Circuit Cv Value <sup>2</sup>		20		
	Source Evaporator Water Flow Rate		48 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 <sup>5</sup>		119 Gallons		
	Min. Warm Cycle Volume <sup>6</sup>		334 Gallons		
	Min. Tank Recovery <sup>7</sup>		835 Gallons		
Single-Pass Unit Sizing	DHW & Source Water Connections		2" FPT Copper		
	DHW Condenser Water Flow Rate		22 GPM		
	DHW Water Circuit Condenser Pressure Drop <sup>2</sup>		16.9 ft Head		
	DHW Water Circuit Cv Value <sup>2</sup>		8		
	Source Evaporator Water Flow Rate		48 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 <sup>5</sup>		119 Gallons		
Unit Specifications	Dry Weight		1,074 lbs		
	Operating Weight		1,113 lbs		
	Sound Pressure <sup>4</sup>		72.1dB Front; 71.9 dB Left; 70.9 dB Right; 73.6 dB Rear		
	Dimensions (L x D x H)		32 ½" x 39" x 66 ¼"		
Power Requirements	Voltage	Compressor LRA	RLA Per Compressor	Wire and Disconnect Sizing	
				MCA	MOCP
	208-230/3/60	605	88	108	175
	440-480/3/60	272	45	55	100
	575/3/60	238	30	38	60

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

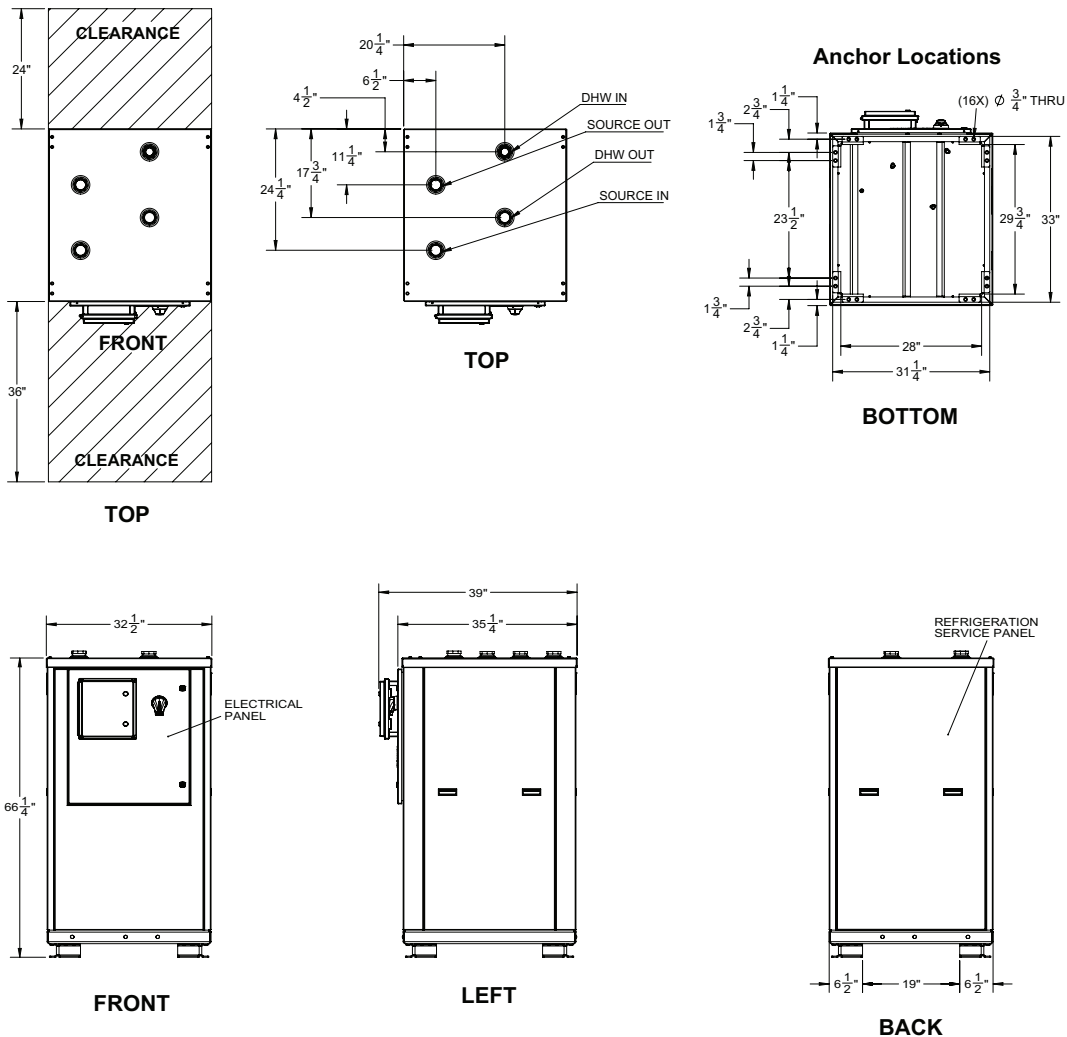
Performance Test Conditions: 50 EWT, 140 LWT, 100% Water Source Side

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	280,400	203,630	22.5	3.7	2.7	6.3
80°F	253,600	178,536	22	3.4	2.4	5.8
70°F	226,900	153,542	21.5	3.1	2.1	5.2
60°F	200,600	129,460	20.9	2.8	1.8	4.6
50°F	174,400	105,478	20.2	2.5	1.5	4.1
40°F	152,200	87,031	19.1	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.

## Dimensions

### Water Connections and Required Clearances



Notes: Certified to UL60335-1, UL60335-2-40, CSA C22.2 60335-1, CSA 60335-2-40 (LC16116-1)  
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.



MHP0270R-01 New

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