

MHP2160

Commercial Heat Pump Water Heating Systems

MODULAR WATER SOURCE HEAT PUMP



DESIGNED ★ ENGINEERED ★ ASSEMBLED

USA



MHP2160

Specifications



Operating Conditions	Model Number		MHP2160				
	Recovery Rate [†]		2,584 Gal/hr				
	Compressor Type		Scroll				
	Refrigerant		R134a				
	Max Water Temperature		160° F				
	Source Water Range		40° F - 100° F				
	Max Working Water Pressure ^{†††}		150 psig				
							
				Water Connections		2" FPT Copper	
				Condenser Water Flow Rate		400 GPM	
				Condenser Pressure Drop*		10.76 ft Head	
				Evaporator Water Flow Rate		400 GPM	
				Evaporator Pressure Drop*		11.19 ft Head	
Multi-Pass Unit Sizing	External Head Pressure Allowed by Unit		3.08 ft Head / 50 ft run of 2" pipe				
	Heated Water Connections		1-1/2" FPT Copper				
	Source Water Connections		2" FPT Copper				
	Average Condenser Water Flow Rate		200 GPM				
	Condenser Pressure Drop*		1.92 ft Head				
	Evaporator Water Flow Rate		400 GPM				
Single-Pass Unit Sizing	Evaporator Pressure Drop*		11.19 ft Head				
	External Head Pressure Allowed by Unit		3.46 ft Head / 50 ft run of 1-1/2" pipe				
	Dry Weight		9,200 lbs				
	Operating Weight		10,400 lbs				
	Standard Sound Rating		87 dB				
	Dimensions (L x W x H)		Based on configuration selected				
Power Requirements	Voltage	Compressor LRA	RLA Per Compressor	Wire and Disconnect Sizing ^{††}			
				MCA	MCOP / MFS		
	208-230/3/60	560	92.9	Based on configuration selected			
	440-480/3/60	270	49.3	Based on configuration selected			
	575/3/60	198	28.2	Based on configuration selected			

Note: Pump for heated side provided by Lochinvar, Customer responsible for providing source side pump.

[†] Water heated from 50° F to 150° F with 75° F entering source water temperature.

^{††} Max 5 MHP0270 units per single point electric service.

^{†††} 150 psi on dhw side w/ integrated pump, 250 psi on dhw side w/out integrated pump & 300 psi on source side.

*XXXX ft Head per module

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)

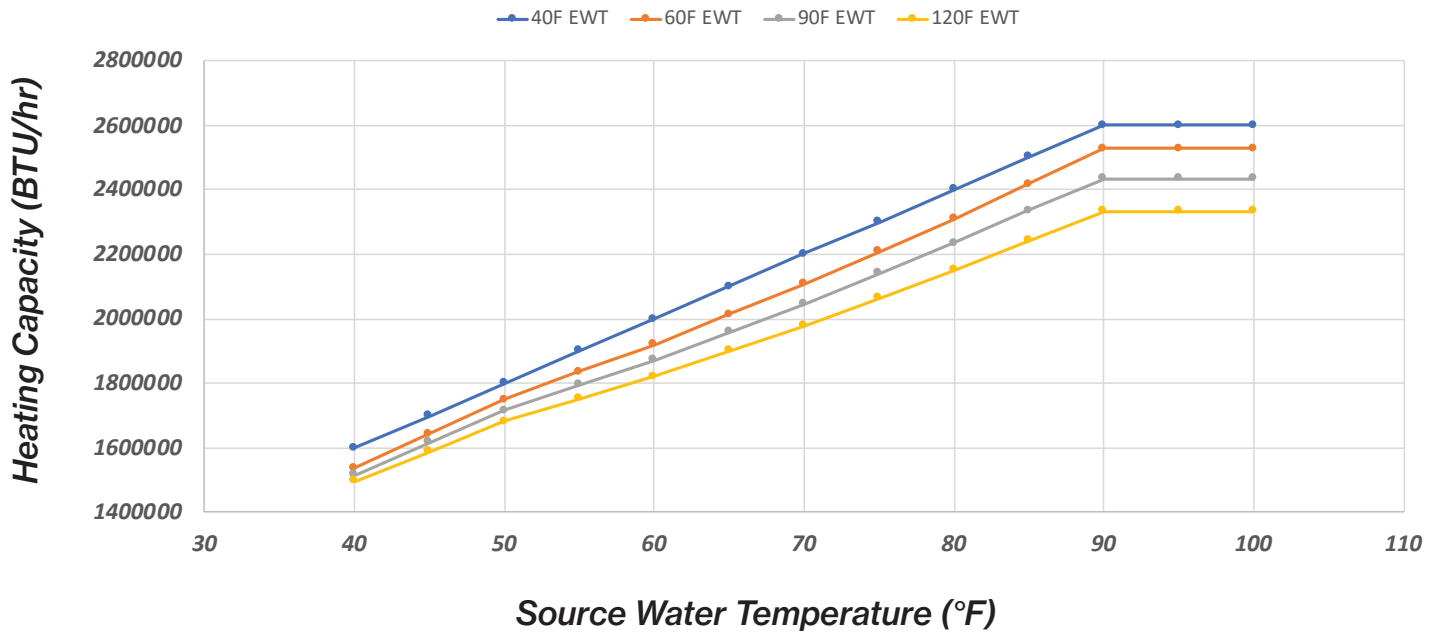
Performance Data

Model	Entering Source Water Temp(°F)	Leaving Source Water Temp(°F)	Source Cooling Capacity (Btu/hr)	Entering Heated Water Temp(°F)	Leaving Heated Water Temp(°F)	Supply Heating Capacity (Btu/hr)	Power Input (kW)
MHP2160	42°F	36	1210400	50	57.7	1545600	98.24
		36.2	1173600	60	67.7	1538400	106.64
		36.4	1135200	70	77.7	1531200	115.68
		36.6	1095200	80	87.6	1523200	125.36
		36.8	1054400	90	97.6	1517600	135.6
		37	1011200	100	107.6	1511200	146.56
		37.2	966400	110	117.6	1507200	158.4
		37.4	917600	120	127.6	1501600	170.96
		37.7	870400	130	137.6	1500000	184.56
		37.7	861600	140	147.6	1497600	189.52
	50°F	42.7	1424000	50	58.8	1764800	99.6
		43.1	1381600	60	68.8	1750400	109.36
		43.4	1340000	70	78.7	1740800	117.36
		43.6	1294400	80	88.6	1728000	127.28
		43.9	1228800	90	98.6	1716000	137.76
		44.1	1180800	100	108.6	1704000	148.96
		44.3	1142400	110	118.6	1692800	160.64
		44.6	1081600	120	128.5	1681600	173.76
		44.9	1020800	130	138.5	1674400	187.76
		45.1	974400	140	148.5	1666400	201.6
	60°F	52	1595200	50	59.7	1938400	100.4
		52.3	1548000	60	69.6	1920800	109.12
		52.5	1502400	70	79.6	1906400	118.4
		52.8	1449600	80	89.5	1888000	128.48
		53	1398400	90	99.4	1872800	139.04
		53.3	1344000	100	109.4	1857600	150.56
		53.6	1287200	110	119.3	1840800	162.32
		53.9	1219200	120	129.3	1821600	176.56
		54.2	1162400	130	139.2	1810400	189.76
		54.5	1097600	140	149.1	1797600	202.48
	70°F	61.1	1782400	50	60.6	2128000	101.2
		61.2	1756800	60	70.5	2106400	110
		61.6	1680000	70	80.5	2087200	119.44
		61.9	1620800	80	90.4	2064000	129.6
		62.2	1564800	90	100.4	2044000	140.4
		62.5	1504800	100	110.3	2023200	151.92
		62.7	1440800	110	120.1	2004000	164.32
		63.1	1368000	120	130	1977600	178.8
		63.5	1306400	130	139.9	1960000	191.68
		63.8	1235200	140	149.9	1941600	206.96

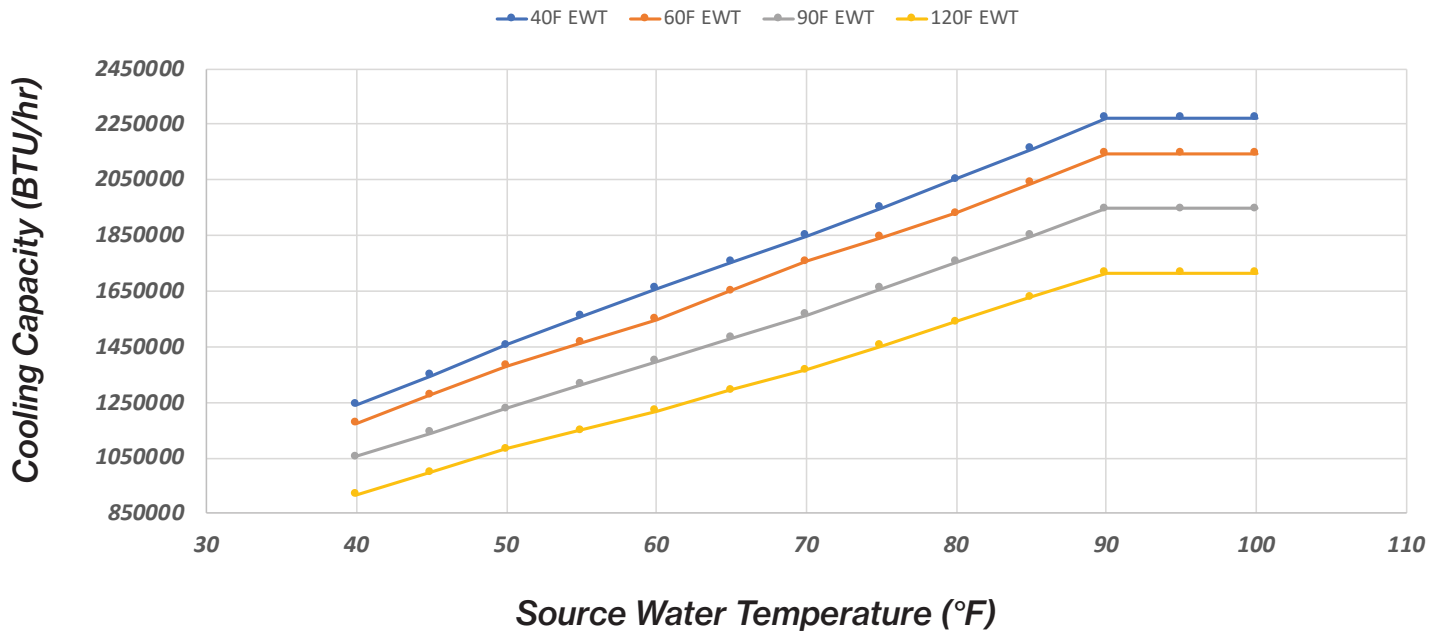
Model	Entering Source Water Temp(°F)	Leaving Source Water Temp(°F)	Source Cooling Capacity (Btu/hr)	Entering Heated Water Temp(°F)	Leaving Heated Water Temp(°F)	Supply Heating Capacity (Btu/hr)	Power Input (kW)
MHP2160	80°F	70	1987200	50	61.7	2334400	101.92
		70.3	1929600	60	71.5	2308000	110.88
		70.6	1873600	70	81.4	2284800	120.48
		70.9	1812000	80	91.3	2258400	130.64
		71.2	1753600	90	101.2	2235200	140.8
		71.7	1678400	100	111.1	2202400	153.2
		72	1611200	110	121	2176800	165.68
		72.4	1539200	120	131	2151200	179.12
		72.8	1464000	130	140.9	2124000	193.36
		73.1	1385600	140	150.7	2099200	208.88
	90°F	78.9	2208800	50	62.8	2559200	102.64
		79.35	2146400	60	72.7	2527200	111.68
		79.8	2084800	70	82.5	2499200	124.88
		80.25	2014400	80	92.3	2464000	131.68
		80.7	1947200	90	102.1	2434400	142.4
		81.15	1872000	100	111.9	2399200	154.4
		81.6	1799200	110	121.5	2369600	166.64
		82.05	1716800	120	131.1	2333600	180.4
		82.5	1636800	130	140.9	2301600	194.4
		83	1551200	140	150.7	2266400	210.64

Performance Graphs

Heating Capacity vs. Source Water Temperature



Cooling Capacity vs. Source Water Temperature

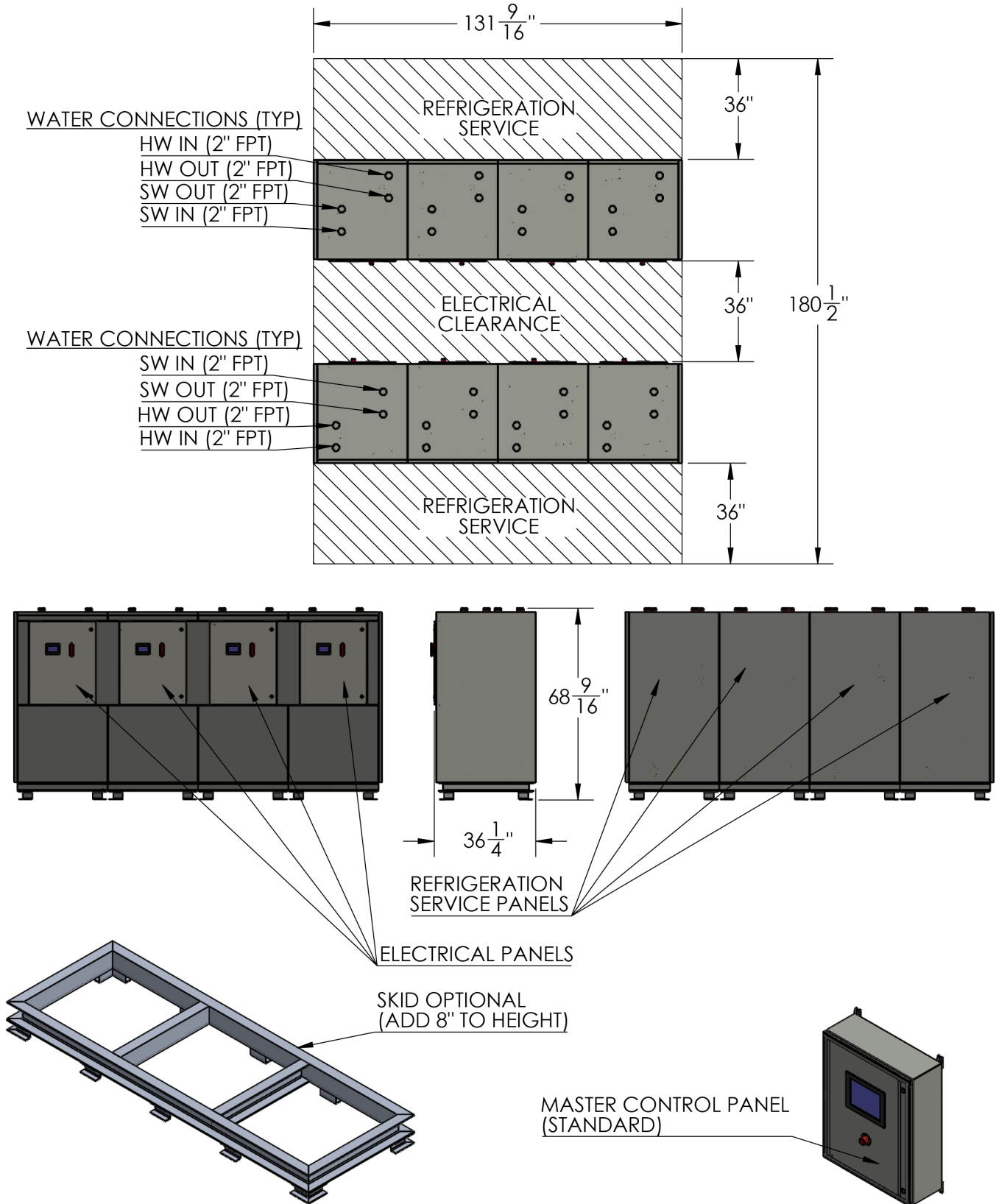


Water heated from 50°F to 150°F with 75°F entering source water temperature

Dimensions

Customer specific layout available utilizing a combination of 8 MHP0270 modules.

*Electrical codes limit a max of 5 MHP0270 modules on a single electrical service



HW - HEATED WATER

SW - SOURCE WATER

NOTE: 36" electrical service clearance per NEC 110.26(A)(1) Working Spaces for "Condition 1". Check with local codes for additional requirements.

NOTES:



MHP2160-02 (Replace MHP2160-01 4/20)

Lochinvar, LLC
300 Maddox Simpson Parkway
Lebanon, Tennessee 37090
P: 615.889.8900 / F: 615.547.1000
[f](#) [in](#) [v](#) [g](#) [Lochinvar.com](#)

10/2022 Printed in U.S.A.