

Heat Pump Datasheet

Models:	EMHP-60-60-2-4	EMHP-60-60-2-7
Refrigerant:	R1234ze	R515B
Certification:	CE	CE
Safety class:	A2L	A1

This Energy Machines™ EMHP model contains two refrigerant circuits with a semi-hermetic reciprocating compressor in each. The two refrigerant circuits are completely independent, ensuring the stability of the heating supply.

The EMHP model is specifically designed for heating and cooling purposes. It can handle large pressure drops on the water side using the machine's internal water pumps.

The EMHP comes as a complete heat pump and cooling system in one unit.



Characteristics

Model characteristics	
Energy source	Ground, water, or waste heat
Compressor type	Reciprocating
Capacity control	Frequency controlled, PWM
Special features	Frequency option, high capacity control range, internal pumps

Performance

Heating mode			Cooling mode		
Circuit	C1	C2	Circuit	C1	C2
Heating capacity (kW)	68	68	Heating capacity (kW)	127	127
Total heating capacity (kW)	135		Total heating capacity (kW)	253	
Cooling capacity (kW)	46	46	Cooling capacity (kW)	101	101
Total cooling capacity (kW)	92		Total cooling capacity (kW)	202	
COP	3.12	3.12	COP	3.92	3.92

COP = Coefficient of performance

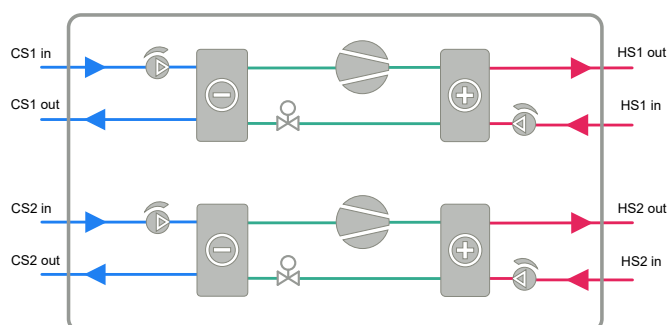
Design temperatures

Heating mode		Cooling mode	
Heated fluid (in/out)	47°C / 53°C	Heated fluid (in/out)	37°C / 43°C
Chilled fluid (in/out)	1°C / -3°C	Chilled fluid (in/out)	15°C / 10°C

Chilled fluid = ethanol 26%, Heated fluid = water

Flow and pressure

Heating mode					Cooling mode				
	Heated fluid		Chilled fluid			Heated fluid		Chilled fluid	
	C1	C2	C1	C2		C1	C2	C1	C2
Circuit	C1	C2	C1	C2	Circuit	C1	C2	C1	C2
Flow (l/s)	2.70	2.70	2.82	2.82	Flow (l/s)	5.05	5.05	4.93	4.93
Pressure drop (kPa)	5	5	5.8	5.8	Pressure drop (kPa)	16	16	12.8	12.8
Available pressure (kPa)	132	132	131	131	Available pressure (kPa)	110	110	115	115

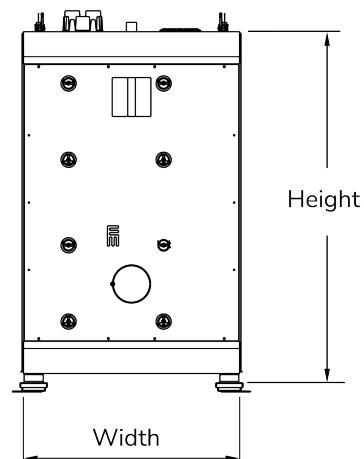
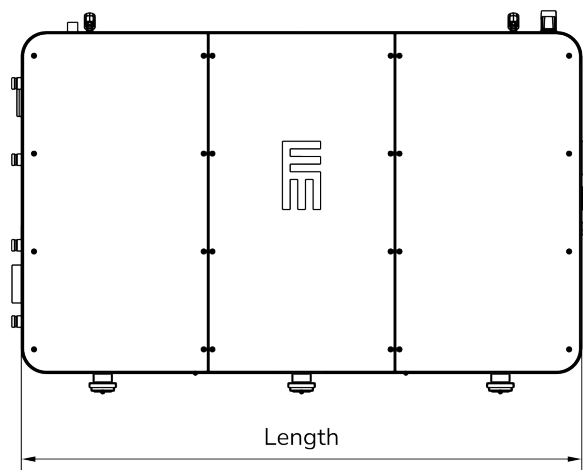


Specifications

Refrigerant		
Type	R1234ze	R515B
GWP	1.37	293
Charge (kg)	12 + 12	

Ventilated enclosure*	
Minimum airflow [Qmin] (l/s)	45
Pressure difference (Pa) shall be ≥	20

*Ventilation fan is not provided. Pressure difference is between enclosure interior and exterior. Applies only to units with A2L refrigerants.



Electricity	
Power supply voltage (VAC)	400
Power supply frequency (Hz)	50
Power supply phase (φ)	3
Rated power input (kW)	105
Rated current (A)	194
Fuse (A)	200

Dimensions**	
Length (mm)	2950
Width (mm)	1160
Height (mm)	1845
Dry weight (kg)	2650
Commissioned weight (kg)	2950
**See dimensional drawings for clearance requirements	

Energy Machines has a policy of continuous product and data improvement and reserves the right to change design and specifications without notice. While Energy Machines strives for accuracy, it does not guarantee the completeness or correctness of the information provided.



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