ENERGY MACHINES

Heat Pump Datasheet

Models:	EMHP-80-80-2-4	EMHP-80-80-2-7
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		
Circuit	C1	C2
Heating capacity (kW)	91	91
Total heating capacity (kW)		181
Cooling capacity (kW)	62	62
Total cooling capacity (kW)		123
COP	3.11	3.11

Cooling mode		
Circuit	C1	C2
Heating capacity (kW)	169	169
Total heating capacity (kW)		339
Cooling capacity (kW)	135	135
Total cooling capacity (kW)		270
COP	3.92	3.92

COP = Coefficient of performance

Design temperatures

Heating mode	
Heated fluid (in/out)	47°C / 53°C
Chilled fluid (in/out)	1°C / -3°C

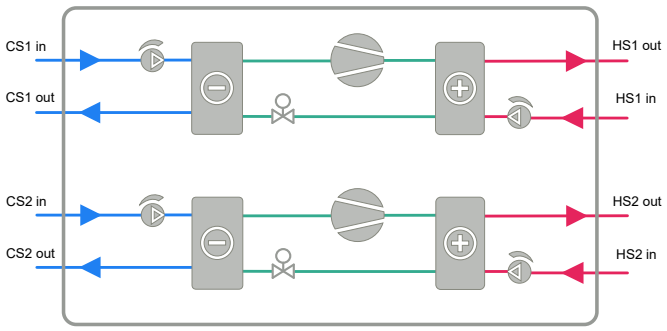
Cooling mode	
Heated fluid (in/out)	37°C / 43°C
Chilled fluid (in/out)	15°C / 10°C

Chilled fluid = ethanol 26%, Heated fluid = water

Flow and pressure

Heating mode	Heated fluid		Chilled fluid	
Circuit	C1	C2	C1	C2
Flow (l/s)	3.62	3.62	3.77	3.77
Pressure drop (kPa)	5.7	5.7	5.6	5.6
Available pressure (kPa)	127	127	128	128

Cooling mode	Heated fluid		Chilled fluid	
Circuit	C1	C2	C1	C2
Flow (l/s)	6.76	6.76	6.59	6.59
Pressure drop (kPa)	18.6	18.6	12.3	12.3
Available pressure (kPa)	97	97	106	106

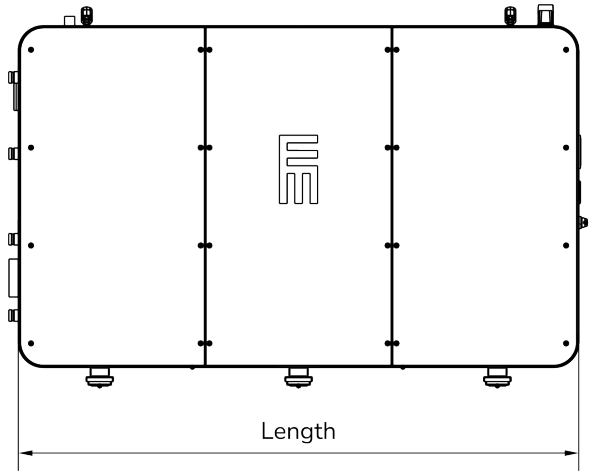


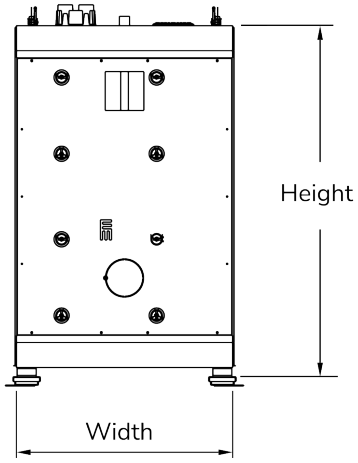
Specifications

Refrigerant		
Type	R1234ze	R515B
GWP	1.37	293
Charge (kg)		17 + 17

Ventilated enclosure*	
Minimum airflow [Qmin] (l/s)	60
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)	138
Rated current (A)	253
Fuse (A)	315

Dimensions**	
Length (mm)	2950
Width (mm)	1160
Height (mm)	1845
Dry weight (kg)	2850
Commissioned weight (kg)	3150
***See dimensional drawings for clearance requirements*	

ENERGY
MACHINES

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