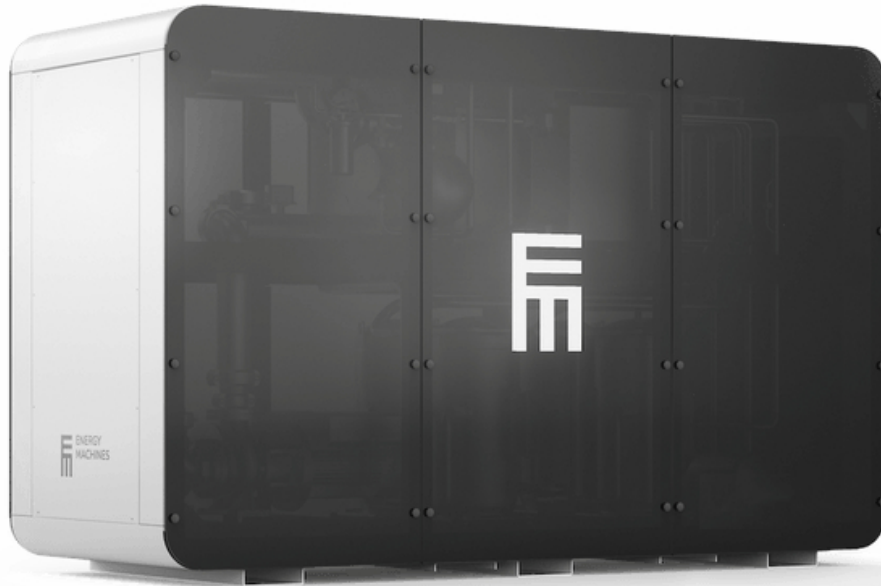


EMA Datasheet

EMA-4480-2-4-SC (R1234ze)

EMA-4480-2-7-SC (R515B)



This EMA Energy Machines™ model contains two circuits with a twin compressor in each. It includes a subcooling system enabling the efficient recovery of heat energy between the condenser and expansion valve. This results in higher performance due to a greater energy uptake in the machine's evaporator process.

The EMA is designed to handle large pressure drops on the chilled water side using the machine's internal chilled water pump. With integrated control valves and circulation pumps, the EMA comes as a completely reversible heat pump in one unit.

Performance

Heating		Cooling	
HP without subcooler	351 kW	HP without subcooler	544 kW
HP with subcooler	468 kW	HP with subcooler	690 kW
CP without subcooler	232 kW	CP without subcooler	440 kW
CP with subcooler	350 kW	CP with subcooler	585 kW
Electricity 4 compressors	119.5 kW	Electricity 4 compressors	104.6 kW
COP	3.92	COP	4.21
HP = Heating power, CP = Cooling power, COP = Coefficient of performance			

Design parameters

Heating		Cooling	
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)	16°C / 10°C
Subcooler (in/out)	7°C / 39°C	Subcooler (in/out)	7°C / 29°C
Chilled fluid = water, Heated fluid = water			

Pressure drop at rated flow

Heating		Cooling	
Heated fluid	10 kPa / 13.8 l/s	Heated fluid	25 kPa / 21.4 l/s
Chilled fluid	36 kPa / 20.2 l/s	Chilled fluid	39 kPa / 22.6 l/s
Subcooler	0.4 kPa / 0.88 l/s	Subcooler	0.4 kPa / 1.61 l/s

Available pressure at rated flow

Heating		Cooling	
Heated fluid	166 kPa / 13.8 l/s	Heated fluid	83 kPa / 21.4 l/s
Chilled fluid	85 kPa / 20.2 l/s	Chilled fluid	55 kPa / 22.6 l/s
Subcooler	57 kPa / 0.88 l/s	Subcooler	34 kPa / 1.61 l/s

Refrigerant

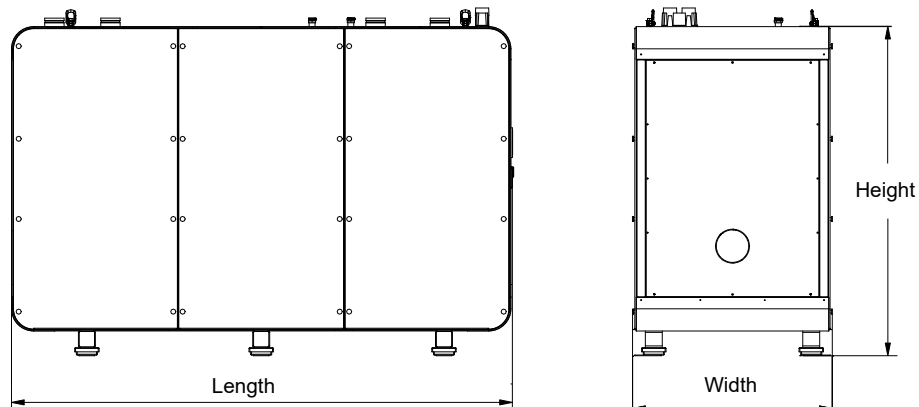
Options	R1234ze	R515B
GWP value	1.37	288
Charge (C1+C2)	26 + 26 kg	

Electricity

Rated power supply	400 VAC / 50 Hz / 3-phase
Rated power input	177.8 kW
Rated current	287.1 A
Rated start current	388.6 A
Fuse	300 A

Dimensions

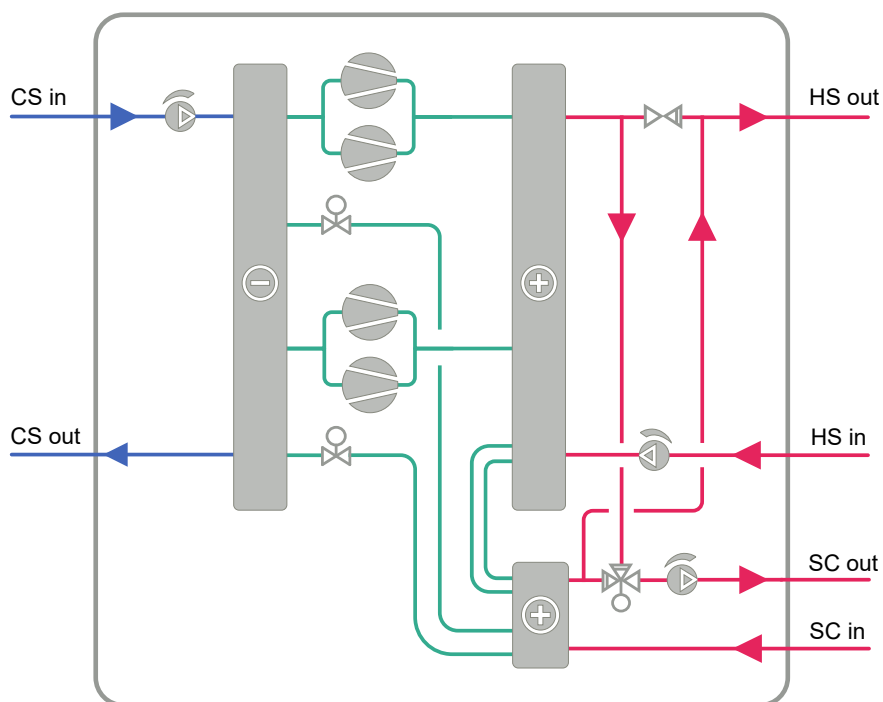
Length / Width / Height	2950 mm / 1170 mm / 2000 mm
Weight (dry/commissioned)	2700 kg / 3000 kg



Ventilated enclosure

Minimum airflow: 95 l/s	Pressure difference shall be ≥ 20 Pa
-------------------------	---

Note: The ventilation fan is not provided with the machine. The pressure difference refers to the difference between the inside and outside of the ventilated enclosure.



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

