Thermia Mega Eco

Mega Eco

Commercial heat pump with a green edge

Thermia Mega Eco is a smart choice and a wise step towards a better environment and a greener tomorrow. Ground source heat pumps generally contribute by utilizing a renewable energy source. Mega Eco is an inverter-controlled commercial ground source heat pump with a large output range, a climate-friendly refrigerant, and a very low CO_2 equivalent*.

Next-generation refrigerant
Mega Eco contains one of the next-generation refrigerants (R454B), which gives a 78% lower GWP value**, compared to similar products. Due to the very low GWP value, the CO2 equivalent is also very low compared to geothermal heat pumps in the same segment.

Greener, better, higher – savings all year round
Inverter technology makes Mega Eco an extremely flexible and versatile product, which can be installed and used in all types of property. Mega Eco is available in the XL and L models with an output range of 14 kW – 85 kW and has a very high SCOP*** value (up to 5.54), which keeps energy consumption at a minimum throughout the year. By connecting several units, you can achieve a total heating effect of a whopping 1350 kW.

Advance control system and superb hot water production
Thermia's HGW (hot gas water) technology gives you hot water "for free" when the building is heated. Hot gas exchangers are standard, which makes hot water production extra cost-effective.

The Mega series is known for its powerful control and can be easily combined with another control system like BMS. Monitoring and control take place directly on the heat pump's color touch screen or via web and mobile.

RETAILER:

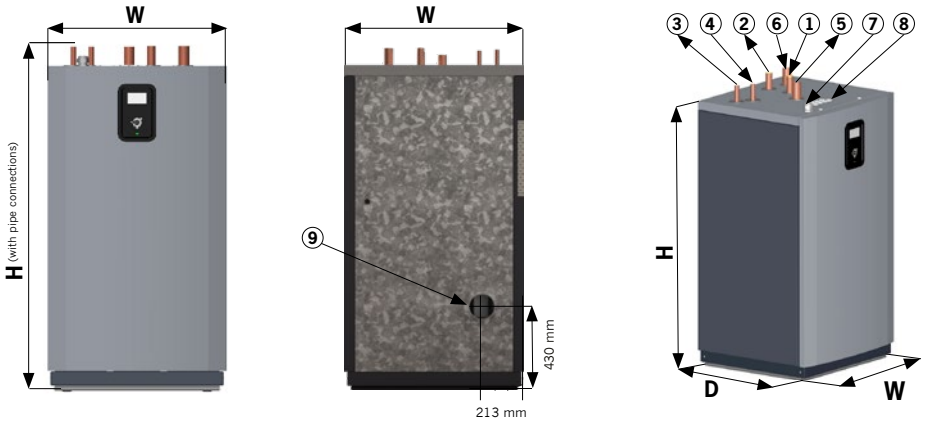
Technical data Mega Eco

Connections

1 Heat return (return line)
2 Heat supply (supply line)
3 Hot gas exchanger (supply line)
4 Hot gas exchanger (return line)
5 Coolant out (from heat pump)
6 Coolant in (to heat pump)
7 Lead-ins for incoming supply
8 Lead-in for communication cables and sensor
9 Air evacuation outlet (Ø125mm)

= Flow direction

Mega Eco^{XL}



Mega Eco			Mega Eco^{L}	Mega Eco^{XL}
Refrigerant	Type		R454B	R454B
	Amount[1]	kg	5.9	8.8
	Test pressure (low/high pressure)	MPa	3,0/4,3	3,0/4,3
	Design pressure	MPa	4,0	4,0
Compressor	Type		Scroll	Scroll
	Oil		POE	POE
Electrical data 3-N	Mains power supply	Volt	400	400
	Rated power, compressor	kW	21	30
	Rated power, circulation pumps	kW	1,0	1,0
	Fuse[2]	A	40	63
Performance	COP[3]		4,72	4,55
	Heat factor[3]	kW	35,4	50,3
	Incoming power[3]	kW	7.75	11,00
	SCOP C, Floor heating (35°C)[4a]		5.54	5,44
	SCOP C, Radiator (55°C)[4b]		4.46	4,35
	SCOP A, Floor heating (35°C)[5]		5.32	5,25
	SCOP A, Radiator (55°C)[6]		4.27	4,18
	Power range (B0/W35)		14-58[15]	21-85[15]
Energy class - system[7]	Floor heating (35°C)		A+++	N/A
	Radiator (55°C)		A+++	N/A
Energy class - product[8]	Floor heating (35°C)		A+++	N/A
	Radiator (55°C)		A+++	N/A
Max system pressure	Cooling circuit	bar	6	6
	Heating circuit	bar	6	6
Max/min temperature[9]	Cooling circuit	°C	20/-10	20/-10
	Heating circuit	°C	65[10]/20	65[10]/20
Max/min refrigerant circuit	Low pressure	MPa	0,21	0,21
	High pressure	MPa	4,3	4,3
Sound power level	Min/Max[11]	dB(A)	39-59[12]	45–63[12]
	Sound power level[13]	dB(A)	44	50
Anti-freeze			Ethanol + water solution -17°C ±2°C[14]	Ethanol + water solution -17°C ±2°C[14]
Dimensions (WxDxH) (without pipe connections)		mm	900x883x1644 ±10	900x883x1644 ±10
Dimensions (WxDxH) (with pipe connections)		mm	900x883x1744 ±10	900x883x1744 ±10
Weight		kg	407	485

* The CO2 equivalent is the most accurate measure for a product. The measurement shows the GWP value times the filling amount and thus also takes into account how much refrigerant a specific product contains. GWP stands for "Global warming potential" and is expressed in GWP/gram of gas.
** Similar products with refrigerant R410A.
*** SCOP (Seasonal Coefficient of Performance according to the international EN14825 standard) is a measurement that shows how effective the heat pump is on an annual basis under all seasonal weather conditions.

1) The refrigerant circuit is hermetically sealed and subject to the F-gas directive. Global Warming Potential (GWP) for R454B according to IPCC AR4 is 466, giving a CO_2 equivalent corresponding to XL: 4,101 ton, L: 2,749 ton.
2) The minimum recommended fuse size depends on the limitation of thepower supply in combination with compressor. The maximum power allowed for the auxiliary heater may be configured differently, with and without compressor for adaptation in case of low fuse. Auxiliary heater and compressor are operated with L1, L2 and L3. Controller and circulation pumps are operated with L1. Complies with IEC61000-3-12 at Ssc
3) B0/W35, according EN14511
4a) B0/W35, according EN14825, Cold Climate Pdesign XL: 84 kW L: 58 kW
4b) B0/W55, according EN14825, Cold Climate Pdesign XL: 81 kW L: 58 kW
5) B0/W35, according EN14825, Average Climate Pdesign XL: 84 kW L: 58 kW
6) B0/W55, according EN14825, Average Climate Pdesign XL: 81 kW L: 58 kW
7) When the heat pump is part of an integrated system. According to Eco-design Directive 811/2013
8) When the heat pump is the sole heat generator and the built-in controller is not included. According to Eco-design Directive 811/2013.
9) Please note that it is not possible to combine all brine temperatures with heat transfer fluid temperatures.
10) Minimum incoming brine temperature 5° C.
11) Sound power level measured according to EN 12102: 2017 and EN 3741: 2010 (B0/W35)
12) Compressor speed 1500-6000 rpm
13) Sound power level according to energy labelling, measured according to EN 12102:2017 and EN 3741:2010 (B0/W55)
14) Always check local rules and regulations before using antifreeze.
15) Δt = 10K