



Thermia Mega E



Top quality commercial heat pump

The **Thermia Mega E** is an addition to the Mega series, our unique series that has set the standard for commercial heat pumps since 2014.

Ground source heat pumps are a good choice for the future as they use renewable energy instead of energy from fossil fuels. In addition, the Mega E optimises the way energy is used with its inverter technology.

Inverter technology – adjusts to real-time demand

The inverter-controlled compressor adjusts the heat load constantly according to the current heat demand. This means you never use more energy than is needed. It performs superbly all year round and has a very high SCOP* value (up to 5.6).

Optimum type and use of refrigerant**

The Mega E contains a refrigerant (R454B) with a GWP of 466, moreover, thanks to its unique design, it requires a small amount of refrigerant.

Versatile and flexible

The Mega E is extremely versatile and flexible and can be installed and used in all types of property. The Mega E is available in a range of different sizes (S, S-E, M, L and XL), with an output range of 10 kW – 85 kW. By connecting several units, you can achieve a total heat output of as much as 1350 kW. It is simple to integrate and combine with other systems and can also be connected to Building Management Systems.

Advanced 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 colour touch screen or remotely via web and mobile



* SCOP 5,6 refers to the Mega E S seasonal coefficient of performance according to the measurement standard EN 14825, based on underfloor heating in a cold climate. The SCOP figure according to the standard EN 14825, for underfloor heating in an average climate is 5,4

** Mega E - The refrigeration circuit is hermetically sealed and contains refrigerants that are subject to the F-gas regulation. The GWP of R454B according to IPCC AR4 is 466, which gives a CO2 equivalent for Mega E S: 1,864 tons, Mega E M: 2,097 tons, Mega E L: 2,749 tons, Mega E XL: 4,101 tons.

System:



Product:



Read more about the energy class in footnotes 10–11 on the next page.

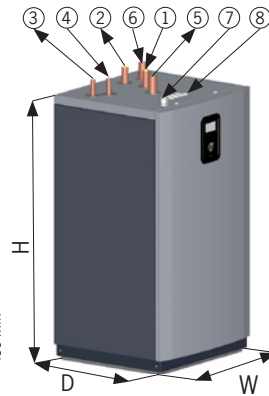
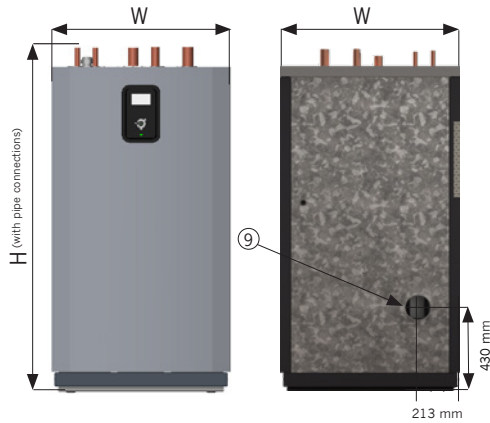
Technical data Mega E

Connections

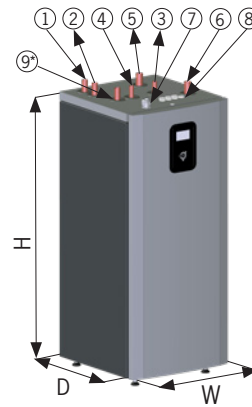
- 1 Heat return (return line)
- 2 Heat supply (supply line)
- 3 Hot gas exchanger (supply line)
- 4 Hot gas exchanger (return line)
- 5 Coolant out (from heat pump)
- 6 Coolant in (to heat pump)
- 7 Lead-ins for incoming supply
- 8 Lead-in for communication cables and sensor
- 9 Air evacuation outlet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

↑ = Flow direction

Mega E^{XL/L}



Mega E^{S/SE/M}



Mega E			Mega E ^S	Mega E ^{SE}	Mega E ^M	Mega E ^L	Mega E ^{XL}
Refrigerant	Type		R454B	R454B	R454B	R454B	R454B
	Amount ¹	kg	4,0	4,0	4,5	5,9	8,8
	Test pressure (low/high pressure)	MPa	3,0/4,3	3,0/4,3	3,0/4,3	3,0/4,3	3,0/4,3
	Design pressure	MPa	4,0	4,0	4,0	4,0	4,0
Compressor	Type		Scroll	Scroll	Scroll	Scroll	Scroll
	Oil		POE	POE	POE	POE	POE
Electrical data 3-N	Mains power supply	Volt	400	400	400	400	400
	Rated power, compressor	kW	14	14	18	21	30
	Rated power, circulation pumps	kW	0,8	0,8	0,8	1	1
	Fuse ²	A	25	25	32	40	63
	Auxiliary heater, 3 steps	kW	N/A	5/10/15	N/A	N/A	N/A
	Fuse auxiliary heater (including compressor and circulation pumps)	A	N/A	32/40/50 ³	N/A	N/A	N/A
Performance	COP ⁴		4,71	4,71	4,50	4,72	4,55
	Heat factor ⁴	kW	20,0	20,0	26,9	35,4	50,3
	Incoming power ⁴	kW	4,24	4,24	5,98	7,51	11,06
	SCOP C, Floor heating (35°C) ^{5a}		5,60	5,60	5,54	5,54	5,44
	SCOP C, Radiator (55°C) ^{5b}		4,31	4,31	4,27	4,46	4,35
	SCOP A, Floor heating (35°C) ⁶		5,40	5,40	5,29	5,32	5,25
	SCOP A, Radiator (55°C) ⁷		4,15	4,15	4,09	4,27	4,18
Power range (B0/W35) ⁸		10-33 ⁹	10-33 ⁹	11-44 ⁹	14-58 ⁹	21-85 ⁹	
Energy class - system ¹⁰	Floor heating (35°C)		A+++	A+++	A+++	A+++	N/A
	Radiator (55°C)		A+++	A+++	A+++	A+++	N/A
Energy class - product ¹¹	Floor heating (35°C)		A+++	A+++	A+++	A+++	N/A
	Radiator (55°C)		A+++	A+++	A+++	A+++	N/A
Max system pressure	Cooling circuit	bar	6	6	6	6	6
	Heating circuit	bar	6	6	6	6	6
Max/min temperature ¹²	Cooling circuit	°C	20/-10	20/-10	20/-10	20/-10	20/-10
	Heating circuit	°C	65 ¹³ /20	65 ¹³ /20	65 ¹³ /20	65 ¹³ /20	65 ¹³ /20
Max/min refrigerant circuit	Low pressure	MPa	0,21	0,21	0,21	0,21	0,21
	High pressure	MPa	4,3	4,3	4,3	4,3	4,3
Sound power level	Min/Max ¹⁴	dB(A)	41-53 ⁹	41-53 ⁹	41-56 ⁹	39-59 ⁹	45-63 ⁹
	Sound power level ¹⁵	dB(A)	47	47	50	44	50
Anti-freeze	Ethanol + water solution -17°C ±2°C ¹⁶						
Dimensions (WxDxH) (without pipe connections)	mm		692x796x1652 ±10	692x796x1652 ±10	692x796x1652 ±10	900x883x1644 ±10	900x883x1644 ±10
Dimensions (WxDxH) (with pipe connections)	mm		692x831x1722 ±10	692x831x1722 ±10	692x831x1722 ±10	900x883x1744 ±10	900x883x1744 ±10
Weight	kg		304	315	311	407	485

- 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 CO2 equivalent corresponding to S: 1,864 ton, S-E: 1,864 ton, M: 2,097 ton, L: 2,749 ton, XL: 4,101 ton
- 2) The minimum recommended fuse size depends on the limitation of the power 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) The minimum recommended fuse group size depends on auxiliary heater setting (5/10/15 kW) in combination with compressor. The maximal steps of auxiliary heater may be configured differently with/without compressor in the controller.

- 4) B0/W35, according EN14511, including circulation pump at 3600 rpm on M, L and XL. 2700 rpm on the models S and S-E.
- 5a) B0/W35, according EN14825, Cold Climate Pdesign S: 33 kW, S-E: 33 kW, M: 44 kW, L: 58 kW, XL: 84 kW
- 5b) B0/W55, according EN14825, Cold Climate Pdesign S: 31 kW, S-E: 31 kW, M: 42 kW, L: 56 kW, XL: 81 kW
- 6) B0/W35, according EN14825, Average Climate Pdesign S: 33 kW, S-E: 33 kW, M: 44 kW, L: 58 kW, XL: 84 kW
- 7) B0/W55, according EN14825, Average Climate Pdesign S: 31 kW, S-E: 31 kW, M: 42 kW, L: 56 kW, XL: 81 kW
- 8) Δt = 10K
- 9) Compressor speed 1500-6000 rpm for M/L/XL, 1500-4500 rpm for S/S-E.
- 10) When the heat pump is part of an integrated system. According to Eco-design Directive 811/2013

- 11) When the heat pump is the sole heat generator and the built-in controller is not included. According to Eco-design Directive 811/2013.
- 12) Please note that it is not possible to combine all brine temperatures with heat transfer fluid temperatures.
- 13) Minimum incoming brine temperature 5° C.
- 14) Sound power level measured according to EN 12102: 2017 and EN 3741: 2010 (B0/W35)
- 15) Sound power level according to energy labelling, measured according to EN 12102:2017 and EN 3741:2010 (B0/W55)
- 16) Always check local rules and regulations before using antifreeze.