



# Thermia Mega Eco



Mega Eco<sup>XL</sup>

## 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<sub>2</sub> 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 CO<sub>2</sub> 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 model with an output range of 21 kW – 85 kW and has a very high SCOP\*\*\* value (up to 5.44), 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.



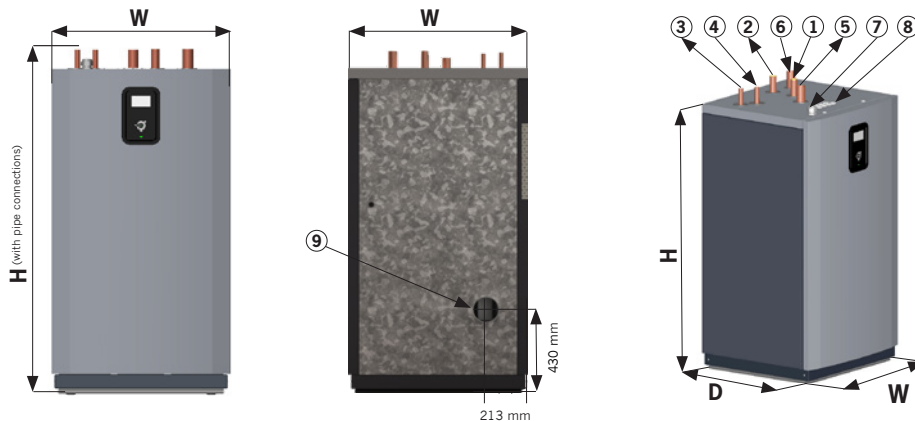
# Technical data Mega Eco

## 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<sup>XL</sup>



| Mega Eco   |  | Mega Eco <sup>XL</sup> |   |
|--|--|------------------------|---|
| <b>Refrigerant</b>                                   | Type                                       |                        | R454B   |
|  | Amount <sup>1</sup>                        | kg                     | 8.8   |
|  | Test pressure (low/high pressure)          | MPa                    | 3,0/4,3   |
|  | Design pressure                            | MPa                    | 4,0   |
| <b>Compressor</b>                                    | Type                                       |                        | Scroll  |
|  | Oil  |                        | POE   |
| <b>Electrical data 3-N</b>                           | Mains power supply                         | Volt                   | 400   |
|  | Rated power, compressor                    | kW                     | 30  |
|  | Rated power, circulation pumps             | kW                     | 1,0   |
|  | Fuse <sup>2</sup>                          | A                      | 63  |
| <b>Performance</b>                                   | COP <sup>3</sup>                           |                        | 4,55  |
|  | Heat factor <sup>3</sup>                   | kW                     | 50,3  |
|  | Incoming power <sup>3</sup>                | kW                     | 11,00   |
|  | SCOP C, Floor heating (35°C) <sup>4a</sup> |                        | 5,44  |
|  | SCOP C, Radiator (55°C) <sup>4b</sup>      |                        | 4,35  |
|  | SCOP A, Floor heating (35°C) <sup>5</sup>  |                        | 5,25  |
|  | SCOP A, Radiator (55°C) <sup>5</sup>       |                        | 4,18  |
| Power range (B0/W35)                                 |  | 21-85 <sup>15</sup>    |   |
| <b>Energy class - system<sup>7</sup></b>             | Floor heating (35°C)                       |                        | N/A   |
|  | Radiator (55°C)                            |                        | N/A   |
| <b>Energy class - product<sup>8</sup></b>            | Floor heating (35°C)                       |                        | N/A   |
|  | Radiator (55°C)                            |                        | N/A   |
| <b>Max system pressure</b>                           | Cooling circuit                            | bar                    | 6   |
|  | Heating circuit                            | bar                    | 6   |
| <b>Max/min temperature<sup>9</sup></b>               | Cooling circuit                            | °C                     | 20/10   |
|  | Heating circuit                            | °C                     | 65 <sup>10</sup> /20                              |
| <b>Max/min refrigerant circuit</b>                   | Low pressure                               | MPa                    | 0,21  |
|  | High pressure                              | MPa                    | 4,3   |
| <b>Sound power level</b>                             | Min/Max <sup>11</sup>                      | dB(A)                  | 45-63 <sup>12</sup>                               |
|  | Sound power level <sup>13</sup>            | dB(A)                  | 50  |
| <b>Anti-freeze</b>                                   |  |                        | Ethanol + water solution -17°C ±2°C <sup>14</sup> |
| <b>Dimensions (WxDxH) (without pipe connections)</b> | mm   |                        | 900x849x1644 ±10                                  |
| <b>Dimensions (WxDxH) (with pipe connections)</b>    | mm   |                        | 900x849x1744 ±10                                  |
| <b>Weight</b>  | kg   |                        | 485   |

\* The CO<sub>2</sub> 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<sub>2</sub> equivalent of XL corresponding to 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) B0/W35, according EN14511  
4a) B0/W35, according EN14825, Cold Climate Pdesign 84 kW  
4b) B0/W55, according EN14825, Cold Climate Pdesign 81 kW  
5) B0/W35, according EN14825, Average Climate Pdesign 84 kW  
6) B0/W55, according EN14825, Average Climate Pdesign 81 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