



# Thermia Comfort Optimum



Comfort Optimum

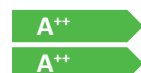
## The complete climate control system.

**Thermia Comfort Optimum** is a perfect climate control system that ensures a pleasant indoor climate all year round. The combination of a heat pump and a cooling system provides you with warmth in the winter, coolness in the summer and hot water every day of the year. You simply select the temperature you want in your home and Comfort Optimum will do the rest.

The Thermia Comfort Optimum has speed control, which means that its performance can be continuously adjusted to the prevailing requirements and conditions. No unnecessary work – maximum efficiency and minimum energy consumption all the time.

The total energy consumption is low: the pump's high annual efficiency (SPF)\* makes it possible for you to reduce your heating consumption by more than 70 %. The cooling function consumes as little energy as a normal 100-watt bulb, and the TWS\*\* technology built into the water tank allows great amounts of hot water to be produced with minimal energy consumption.

The pump utilises rock, surface ground, ground water or lake water as its heat sources.



A++ energy class when the heat pump is part of an integrated system  
A++ energy class when the heat pump is the sole heat generator  
Energy class according to Eco-design Directive 811/2013



# Technical data Comfort Optimum

## Connection

The brine lines can be connected on either the left or right hand sides of the heat pump.

- 1 Brine return line (Brine in), 28 Cu
- 2 Brine supply line (Brine out), 28 Cu
- 3 Heating system supply line, 22 Cu: 4-10 kW,
- 4 Heating system return line, 22 Cu: 4-10 kW,
- 5 Connection for bleed valve, 22 Cu
- 6 Hot water pipe, 22 mm
- 7 Cold water pipe, 22 mm
- 8 Lead-in for incoming power supply, sensors and communication cable



Comfort Optimum			4	6	8	10
<b>Refrigerant</b>	Type		R407C	R407C	R407C	R407C
	Amount <sup>11</sup>	kg	0.75	1.2	1.35	1.45
<b>Compressor</b>	Type		Scroll	Scroll	Scroll	Scroll
<b>Electrical data 3-N, -50Hz</b>	Main supply	Volt	400	400	400	400
	Rated power, compressor	kW	2.3	3.0	3.2	4.2
	Rated power, circulation pumps	kW	0.1	0.1	0.1	0.3
	Auxiliary heater, 3 steps	kW	3/6/9	3/6/9	3/6/9	3/6/9
	Start current <sup>1</sup>	A	15	9	10	12
	Fuse	A	16 <sup>4</sup> /20 <sup>5</sup> /25 <sup>6</sup>	10 <sup>4</sup> /16 <sup>5</sup> /20 <sup>6</sup>	10 <sup>4</sup> /16 <sup>5</sup> /20 <sup>6</sup>	16 <sup>4</sup> /16 <sup>5</sup> /20 <sup>6</sup>
<b>Performance</b>	COP <sup>2</sup>		4.58	4.74	4.88	4.84
	COP <sup>3</sup>		4.09	4.04	4.34	4.24
	Heating capacity <sup>3</sup>	kW	4.09	5.33	7.51	9.40
	Power input <sup>3</sup>	kW	1.0	1.3	1.7	2.2
<b>Energy class - system</b> <sup>9</sup>	Floor heating (35°C)/Radiator (55°C)		A++/A+	A++/A+	A++/A++	A++/A++
	<b>Energy class - product</b> <sup>10</sup>	Floor heating (35°C)/Radiator (55°C)	A++/A+	A++/A+	A++/A++	A++/A++
	Domestic hot water		A	A	A	A
<b>Min/max temperature</b>	Cooling circuit	°C	20/-10	20/-10	20/-10	20/-10
	Heating circuit	°C	60/20	60/20	60/20	60/20
<b>Anti freeze media</b>			Ethanol + water solution with freezing point -17 ±2 °C <sup>8</sup>			
<b>Sound power level</b> <sup>7</sup>		dB(A)	42	47	44	46
<b>Water volume</b>		l	180	180	180	180
<b>Weight</b>	Empty	kg	165	180	185	190
	Filled	kg	345	360	365	370

The measurements are performed on a limited number of heat pumps which can cause variations in the results. Tolerances in the measuring methods can also cause variations.

\* SPF = (Seasonal Performance Factor) is the measurement of how efficiently the heat pump operates over the whole year.

\*\* TWS = Patented heating technique for water heaters, developed by Thermia.

1) According to IEC61000.

2) At BOW35 Δ10K warm side (excluding circulation pumps).

3) At BOW35 according to EN 14511 (including circulation pumps).

4) Heat pump with 3 kW auxiliary heater

5) Heat pump with 6 kW auxiliary heater

6) Heat pump with 9 kW auxiliary heater

7) Sound power level measured according to EN ISO 3741 at BOW45 (EN 12102).

8) Always check local rules and regulations before using antifreeze.

9) When the heat pump is part of an integrated system.

According to Eco-design Directive 811/2013

10) When the heat pump is the sole heat generator and the built-in controller is not included. According to Eco-design Directive 811/2013.

11) The refrigerant circuit is hermetically sealed and subject to the F-gas directive. Global Warming Potential (GWP) for R407C according to EC 517/2014 is 1774, giving a CO<sub>2</sub> equivalent corresponding to 4: 1331 kg, 6: 2129kg, 8: 2395, 10: 2572kg.