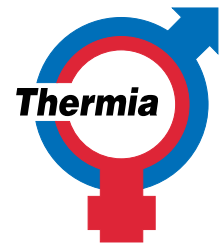


# Thermia Atria Optimum Atria Duo Optimum



Atria Optimum



## The air heat pump with speed control increases your savings.

**Thermia Atria Optimum** is an air heat pump with speed control. This 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 high annual efficiency, which is a measurement of the heat pump's efficiency over the whole year, means that you can reduce your heating costs by as much as 75 percent.

Energy can be retrieved from outdoor air at temperatures down to  $-20^{\circ}\text{C}$ . Electric heating elements provide additional heat at temperatures lower than this. This extra heat is provided in five steps (3, 6, 9, 12 and 15 kW) to give economically sound heating.

The heat pump consists of two units. All essential components are indoors. Demand-controlled defrosting for the outdoor components minimises energy consumption.

The hot water tank is fitted with our TWS\* technique, which means that the hot water is produced faster and at higher temperatures than with traditional technique.

Using the Thermia Online optional feature, you can control your heat pump via the Internet. In the unlikely event that something needs rectifying, you will be alerted automatically via SMS text message or e-mail.

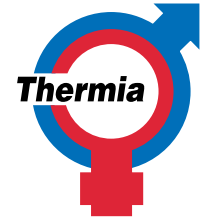
**The Thermia Atria Duo Optimum** is a variant of Thermia Atria Optimum. What separates them is that the Thermia Atria Duo Optimum has a separate hot water tank which makes it a good choice if you have a low ceiling height.

Atria Duo Optimum



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

# Technical data Atria Optimum Atria Duo Optimum



## Connection Atria Optimum

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: 6-10 kW, 28 Cu: 12 kW
- 4 Heating system return line, 22 Cu: 6-10 kW, 28 Cu: 12 kW
- 5 Expansion pipe, 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
- 9 Expansion outlet brine circuit, DN25 int.



Atria Optimum

## Connection Atria Duo Optimum

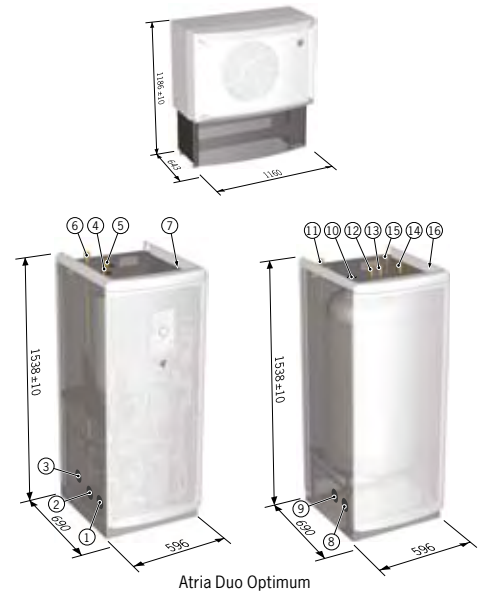
The brine lines can be connected on either the left or right-hand sides of the heat pump.

### Heat pump:

- 1 Brine out, during defrosting, 28 Cu
- 2 Return pipe water heater, 28 Cu
- 3 Brine in
- 4 Heating system supply pipe, 22 Cu: 6-10 kW, 28 Cu: 12 kW
- 5 Heating system return pipe, 22 Cu: 6-10 kW, 28 Cu: 12 kW
- 6 Brine out, normal operation
- 7 Lead-in power and sensor lead

### Water heater:

- 8 Brine in, during defrosting
- 9 Water heater, return pipe
- 10 Bleed valve, at stainless steel water heater
- 11 Brine out, during defrosting
- 12 Hot water pipe, 22 mm
- 13 Cold water pipe, 22 mm
- 14 Water heater supply pipe to TWS coil
- 15 Brine, expansion line when outdoor unit is positioned at high level
- 16 Lead-in sensor lead



Atria Duo Optimum

Atria Optimum/Atria Duo Optimum			6	8	10	12
<b>Refrigerant</b>	Type		R404A	R404A	R404A	R404A
	Amount	kg	0.95	1.45	1.50	1.60
<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	2.0	2.3	3.6	4.4
	Rated power circulation pumps/fan	kW	0.3	0.3	0.4	0.6
	Auxiliary heater, 5 steps	kW	3/6/9/12/15	3/6/9/12/15	3/6/9/12/15	3/6/9/12/15
	Start current <sup>13</sup>	A	12	10	18	17
	Circuit breaker	A	10 <sup>3</sup> /16 <sup>4</sup> /20 <sup>5</sup> /20 <sup>6</sup> / 25 <sup>7</sup> /25 <sup>8</sup> /30 <sup>9</sup>	16 <sup>3</sup> /16 <sup>4</sup> /20 <sup>5</sup> /20 <sup>6</sup> / 25 <sup>7</sup> /25 <sup>8</sup> /30 <sup>9</sup>	16 <sup>3</sup> /16 <sup>4</sup> /20 <sup>5</sup> /20 <sup>6</sup> / 25 <sup>7</sup> /30 <sup>8</sup> /35 <sup>9</sup>	16 <sup>3</sup> /20 <sup>4</sup> /25 <sup>5</sup> /25 <sup>6</sup> / 25 <sup>7</sup> /30 <sup>8</sup> /35 <sup>9</sup>
<b>Electrical data 1-N, -50Hz</b>	Main supply	Volt	230	230	230	230
	Rated power compressor	kW	3.3	4.2	5.4	5.7
	Rated power circulation pumps/fan	kW	0.3	0.3	0.4	0.6
	Auxiliary heater, 3 steps	kW	1.5/3/4.5	1.5/3/4.5	1.5/3/4.5	1.5/3/4.5
	Start current <sup>13</sup>	A	11	21	26	28
	Circuit breaker	A	25 <sup>3</sup> /32 <sup>4</sup> /40 <sup>5</sup>	25 <sup>3</sup> /32 <sup>4</sup> /40 <sup>5</sup>	32 <sup>3</sup> /40 <sup>4</sup> /50 <sup>5</sup>	32 <sup>3</sup> /40 <sup>4</sup> /50 <sup>5</sup>
<b>Performance</b>	COP <sup>1</sup>		3.88	4.06	4.21	4.06
	COP <sup>2</sup>		3.26	3.45	3.29	3.35
	Heating capacity <sup>2</sup>	kW	5.90	7.96	9.85	11.3
	Power input <sup>2</sup>	kW	1.8	2.3	3.0	3.4
<b>Lowest outdoor temperature allowed for compressor start</b>		°C	-20	-20	-20	-20
<b>Max/min temperature</b>	Cooling circuit	°C	20/-25	20/-25	20/-25	20/-25
	Heating circuit	°C	55/20	55/20	55/20	55/20
<b>Anti freeze media<sup>10</sup></b>		Ethylene glycol + Water solution with a freezing point below -32 ± 1 °C				
<b>Sound power level low/high</b>	Indoor unit <sup>11</sup>	dB(A)	42	48	46	48
	Outdoor unit <sup>12</sup>	dB(A)	53/63	53/63	54/67	54/67
<b>Max. pipe length</b> (Cu pipe Ø 28 mm between heat pump and outdoor unit)		m	60 (30+30)	60 (30+30)	60 (30+30)	60 (30+30)
<b>Water volume</b>	Atria Optimum	l	180	180	180	180
	Water heater unit	l	180	180	180	180
<b>Weight</b>	Outdoor unit	kg	94	94	94	94
	Indoor unit Atria Optimum, empty	kg	260	260	260	268
	Indoor unit Atria Optimum, filled	kg	440	440	440	448
	Indoor unit Atria Duo Optimum	kg	154	154	154	162
	Water heater unit, filled	kg	352	352	352	352

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.

- 1) At A7W35 Δ10 warm side (excluding circulation pumps and outdoor unit).
- 2) At A7W35 according to EN 14511 (including circulation pumps and outdoor unit).
- 3) Heat pump with 3 kW auxiliary heater (1-N 1.5 kW).

- 4) Heat pump with 6 kW auxiliary heater (1-N 3 kW).
- 5) Heat pump with 9 kW auxiliary heater (1-N 4.5 kW).
- 6) 12 kW auxiliary heater (compressor off).
- 7) 15 kW auxiliary heater (compressor off).
- 8) Heat pump with 12 kW auxiliary heater.
- 9) Heat pump with 15 kW auxiliary heater.

- 10) Propylene glycol or ethanol may not be used.
- 11) Sound power level measured according to EN ISO 3741 at A7W45 (EN 12102).
- 12) Sound power level measured according to EN ISO 3741.
- 13) According to IEC61000.

Thermia Värme AB reserves the right to make changes without further notice. 100428\_AO\_ADDO\_ENG