Thermia Atria Optimum
Atria Duo Optimum

The silent heat pump that can also handle tougher conditions.

**Thermia Atria Optimum** is an air source heat pump with variable speed controlled circulation pumps. This means the heat pump always works under ideal conditions, which reduces the overall energy consumption.

The heat pump consists of two units – one indoor part and one outdoor part. As all of the Atria Optimum’s essential parts (such as the compressor and electronic controls) are located indoors, the heat pump is particularly well suited to locations with harsh weather conditions and a cold climate.

Atria Optimum has been developed to be extremely quiet. The low noise level is mainly due to the outdoor unit’s unique acoustic design.

The high annual efficiency* allows you to reduce your energy consumption by up to 80%. What’s more, the built-in TWS technology** means that the hot water is produced faster and at higher temperatures than with traditional technique.

With the optional accessory Thermia Online you have the ability to remotely control and monitor your heat pump via a computer, tablet and smartphone.

The **Thermia Atria Duo Optimum** is a good choice if you have a low ceiling height or require very large amounts of hot water.

*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

#### Atria 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. 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

#### Atria Duo 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 Optimum/Atria Duo Optimum

<table>
<thead>
<tr>
<th>Refrigerant</th>
<th>Type</th>
<th>Amount</th>
<th>kg</th>
<th>kW</th>
<th>kW</th>
<th>kW</th>
<th>kW</th>
<th>kW</th>
<th>kW</th>
<th>kW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Electrical data

<table>
<thead>
<tr>
<th>3-N, -50Hz</th>
<th>Main supply</th>
<th>Volt</th>
<th>400</th>
<th>400</th>
<th>400</th>
<th>400</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rated power compressor</td>
<td>kW</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>Rated power circulation pumps/fan</td>
<td>kW</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td>Auxiliary heater, 5 steps</td>
<td>kW</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>Start current <strong>1</strong></td>
<td>A</td>
<td>22</td>
<td>24</td>
<td>26</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Fuse</td>
<td>A</td>
<td>10/16/20/20/25</td>
<td>16/20/20/25/25</td>
<td>16/20/20/25/25</td>
<td>16/20/20/25/25</td>
</tr>
</tbody>
</table>

#### Electrical data

<table>
<thead>
<tr>
<th>1-N, -50Hz</th>
<th>Main supply</th>
<th>Volt</th>
<th>230</th>
<th>230</th>
<th>230</th>
<th>230</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rated power compressor</td>
<td>kW</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>Rated power circulation pumps/fan</td>
<td>kW</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td>Auxiliary heater, 3 steps</td>
<td>kW</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>Start current <strong>1</strong></td>
<td>A</td>
<td>22</td>
<td>24</td>
<td>26</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Fuse</td>
<td>A</td>
<td>25/32/40/50</td>
<td>32/40/50/50</td>
<td>32/40/50/50</td>
<td>32/40/50/50</td>
</tr>
</tbody>
</table>

#### Energy class - system

- **Floor heating (35°C), Radiator (55°C) A+**
- **Floor heating (35°C), Radiator (55°C) A+**
- **Floor heating (35°C), Radiator (55°C) A+**
- **Floor heating (35°C), Radiator (55°C) A+**

#### Energy class - product

- **Domestic hot water A**
- **Domestic hot water A**
- **Domestic hot water A**
- **Domestic hot water A**

#### Lowest outdoor temperature allowed for compressor start

<table>
<thead>
<tr>
<th>°C</th>
<th>20</th>
<th>20</th>
<th>20</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling circuit °C</td>
<td>20/25</td>
<td>20/25</td>
<td>20/25</td>
<td>20/25</td>
</tr>
<tr>
<td>Heating circuit °C</td>
<td>55/20</td>
<td>55/20</td>
<td>55/20</td>
<td>55/20</td>
</tr>
</tbody>
</table>

#### Anti freeze media**

- Ethylene glycol + Water solution with a freezing point below -32 ± 1°C
- Propylene glycol or ethanol may not be used.

---

*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.*

** Annual efficiency is a measure that describes how efficiently your heat pump works over a whole year, including both warm and cold periods as well as hot water production.

---

*Thermia Heat Pumps reserves the right to make changes without further notice.*

[Thermia Heat Pumps](www.thermia.com)