

For new and old
single-family homes



Tehowatti Air
air to water heat pumps

The savings will surely warm your heart!



Did you know that you can also update your heating system piece by piece?
Half of all air to water heat pumps sold are installed alongside
an old oil boiler, achieving savings of even more than 1,000 euros a year.



House and domestic water heating with a single system

The Jäspi Tehowatti Air system makes use of thermal energy found outdoors to heat the building and its domestic water. It is suitable for use in newbuilds and as a replacement for or addition to oil or electric heating systems on renovation projects.



Tehowatti Air can be connected with underfloor heating or existing radiators in a property. As a replacement for oil heating, a heat pump can reduce energy costs by up to 50%. The output of Tehowatti Air makes it suitable for most single-family homes (50–200 m²).

The Tehowatti Air system consists of two parts:

The outdoor unit is an air to water heat pump, which draws energy found outdoors and transfers the heat generated by compressor to an indoor unit. The indoor unit is used to circulate heat indoors and heat domestic water.

Maximum output with minimal energy consumption

The outdoor unit is inverter-driven, i.e. it constantly adapts to meet the given heating needs and only uses the necessary amount of energy.

Heating resistance ensures the production of heat even when temperatures fall well below zero.

The energy contained in outdoor air decreases as the air grows cold. If the heat pump is unable to draw enough energy from outdoors, the indoor unit heating resistor will automatically supplement the heating energy and ensure that the necessary additional heat is generated.



Energy efficiency for new and old buildings.



pros

The Finnish solution is the smart choice

Substantial energy savings

Air to water heat pumps reduce household heating costs substantially. The amount of free energy obtained from the outdoors is, ideally, two-thirds of the total household heating requirement. This translates to substantial savings for the homeowner.

Environmentally-friendly


Tehowatti Air reduces the environmental impact of housing by transferring energy from the outdoors to meet heating needs. Energy drawn from the outdoors is clean and emissions-free. This is what makes it a more environmentally-friendly heating method than electric heating - it reduces CO2 emissions and the use of fossil fuels.

State-of-the-art technology

The high-quality components and materials used in the Finnish-made Tehowatti Air provide long-term savings thanks to its extremely low need for maintenance and minimal energy consumption. The indoor and outdoor unit are very quiet in operation and the indoor unit can be placed, for example, in the utility room.

User-friendly

Tehowatti Air works automatically and adapts to changes in the weather and household requirements. However, making adjustments is simple, because the system boasts an extremely user-friendly interface. The Tehowatti Air can also be remotely controlled online or with a mobile app.



Environmentally-friendly and ready for installation

Jäspi products are tested and fitted for installation at the factory, thus allowing us to ensure the highest standard of quality and make short work of installation. Our products are delivered with all the necessary installation equipment and components, such as the control automation, expansion tank, circulator pumps, buffer tank, and diverter and relief valves.

The outdoor unit collects thermal energy

Heat output is fine-tuned automatically in line with prevailing weather conditions and heating needs. This keeps the unit's energy consumption as efficient as possible. Energy is drawn from the outdoor air down to a temperature of -20 °C. In extremely low temperatures, additional energy is gradually generated by the heating resistor, thus ensuring the minimal energy consumption of supplemental heating.

Because the energy is being drawn from outdoors, ice will form on the outdoor unit in freezing temperatures. The Tehowatti Air comes equipped with a defroster function, which automatically defrosts the unit and moves the meltwater to the home's sewage or drainage system. This prevents ice from forming under or around the outdoor unit.

Indoor unit distributes heat

The indoor unit distributes heat generated by the heat pump and alternately heating the heating circuit and domestic water. The indoor unit has a smart control system, which adapts the pump operation to meet the heating needs of the home. The control logic is constantly optimising the air flow, cold circuit flow and heat circulation circuit

Although the indoor unit is only 1.8 metres high, it contains a built-in, 215-litre water heater.





Set the temperature as needed – even with a mobile device.



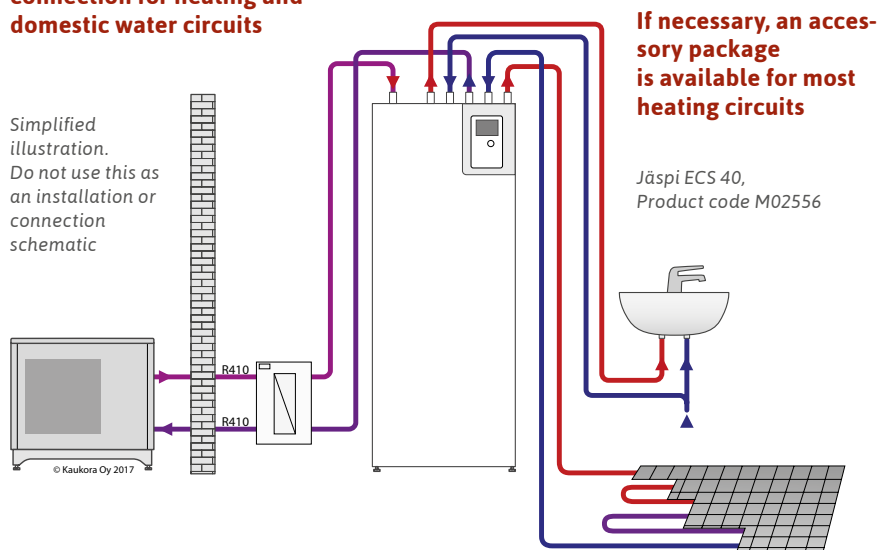
The myUpway remote management service comes standard with the Jäspi Tehowatti Air system.



215 litres of water is enough to handle even the biggest sauna gathering.

Tehowatti Air Split basic connection for heating and domestic water circuits

Simplified illustration. Do not use this as an installation or connection schematic



The Aaltonen family of Satakunta:

"Tehowatti Air cut our energy bills in half."

We carefully planned our heating system update and compared different heating methods. The goal was to save big on energy with a moderate investment. We also considered replacing our old oil boiler with a new one, but replacement of the oil tank and its placement in the utility room of our house proved to be difficult.

We decided to go with an air to water heat pump. After scouring the Internet, we were most impressed by the Jäspi air to water heat pumps. A local, highly esteemed HVAC contractor also recommended the Jäspi heat pumps. In addition to this, a trip to the Kaukora factory showroom in Raisio convinced us that this was the way to go. The Jäspi Tehowatti Air was a bullseye – it cut our energy bills in half.

- Single-family home built in 1972 in Satakunta
- Heated area approx. 130 m², total area 160 m²
- House previously oil-heated, with consumption approx. 2,300 l/year

Jäspi knows Finnish homes and conditions



Jäspi products are designed and manufactured in Finland. The design is based on extensive knowledge of the heating industry and years of experience with the demanding conditions of the north. Jäspi products are reliable, require next to no maintenance and boast the highest standard of quality, right down to the last detail.

You can switch from oil heating piece by piece

A functional oil heating system with just a Tehowatti Air outdoor unit. Later, the oil boiler can be replaced with a Tehowatti Air indoor unit. If the property has a Jäspi Tehowatti electric boiler, it will serve as the indoor unit, thus allowing it to be connected with the Tehowatti Air outdoor unit control automation.



More output with an electric boiler

In large properties, heating output can be increased to 12 kW by connecting a Lisäwatti electric boiler to the Tehowatti Air.

Small steps toward big savings

Did you know that you can also update your heating system piece by piece? Half of all air to water heat pumps sold are installed alongside an oil boiler. The system can be updated later with a new water heater as well as by replacing the oil boiler with a Tehowatti Air indoor unit.

Purchasing an air to water heat pump is the simplest way to increase the energy rating of an older home. The warmer the climate is where you live (southern Finland) and the lower the temperature of the inlet water (underfloor heating), the bigger the energy savings you'll get from your air to water heat pump.

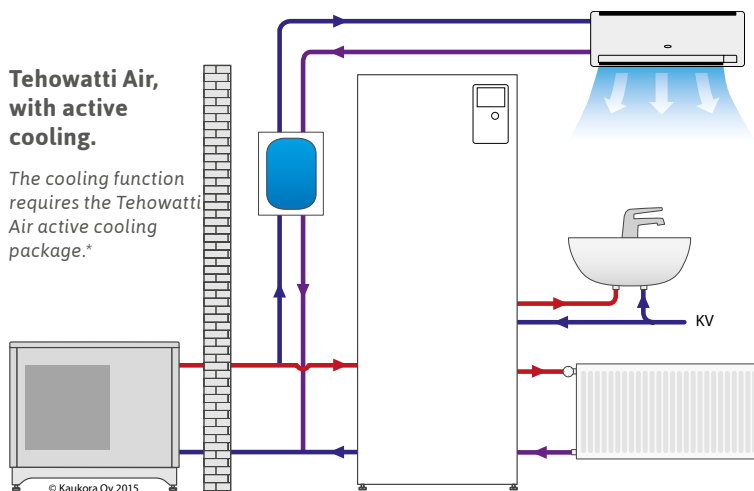
Additional functions based on your needs

Need to cool off?

Keeping your home's temperature down during hot summer weather enhances your living comfort. An option for the Tehowatti Air is the cooling function, which is used to cool the indoor air.

Interested in remote control?

Tehowatti Air can also be controlled with a smartphone or computer anywhere and anytime. The myUpWay remote management function comes standard with the system.



* The JÄMÄ ACS 310 accessory card and supplies and Jäspi Buffer 50 tank (HVAC no. 5058527) JÄMÄ COOL 4 wall-mounted unit (HVAC no. 5360128) or JÄMÄ COOL 5 roof-mounted unit (HVAC no. 5360129)

OUR EXPERT RESPONDS:

Why air to water heating and not ground source heating?

Elias Lindén, Business Manager Heat Pumps, Jäspi:

An air to water heat pump and ground source heat pump both do the same thing: they heat both the building and the domestic water inside it.

However, the air to water heat pump does not require drilling a thermal well, which is a major expense for people opting for ground source heating. This is why the repayment period for an air to water heat pump is several years shorter.

The air to water heat pump outdoor unit is mounted on the wall or a ground stand, which means it will not necessarily damage the yard and does not require a building permit. In addition to this, ground source heating is not suitable for all lots due to, for example, the type of soil or zoning regulations.

SAMPLE HOUSE 150 m ²	Oil heating	Electric heating	Ground source heat pump	Air to water heat pump
Annual consumption	2200 liter	20 000 kW/h	7500 kW/h	10 000 kW/h
Energy price	0,6–1,0 €/liter	13 cents/kWh	13 cents/kWh	13 cents/kWh
Heating cost/year	1300–2200 €	2600 €	1000 €	1300 €
Savings/year vs oil heating	0 €	kalliimpi	300–1200 €	0–1100 €
Heating system renovation cost	5000 €	–	13 000– 17 000 €	10 000 €
Return on investment vs oil heating	–	–	over 7 years	Best case scenario 5 years
Note! Building size, insulation, domestic water consumption and annual weather variations affect consumption and savings.	Oil prices fluctuate. Renovation costs may increase if the oil tank also needs replacing.	New building codes require additional insulation or air to water heat pumps for homes with electric heating.	Drilling a thermal well will increase the investment cost.	Annual savings and the length of the repayment period depend on energy prices.

The sample calculation was made using energy prices for January 2016. © Kaukora Oy 1/2017 We reserve the right to make changes.

JÄSPI®

Bringing heat to homes since 1949



Installers have it easy with the Jäspi Tehowatti Air

The Finnish-made Jäspi is a joy to install, because the delivery package contains all the required equipment and components.

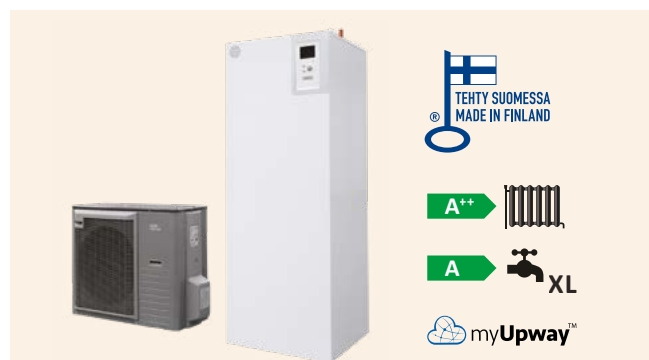
Jäspi Tehowatti Air	Split	Mono	Nordic
Water temp.	max 58 °C	max 58 °C	max 65 °C
Min. operating temp.	-20 °C	-20 °C	-25 °C
Installation	HVAC or refrigeration technician	HVAC technician	
Energy transfer	The refrigerant transfers energy through heat exchangers to the indoor unit.	Energy is transferred by means of water from the outdoor unit directly to the indoor unit. All of the heat pump's operating technology is found in the outdoor unit.	

Finnish Jäspi products are manufactured by Kaukora Oy

Tuotekatu 11, P.O. Box 21, 21200 Raisio, FINLAND
tel. +358 (0) 2 4374 600
kaukora@kaukora.fi

Find the nearest dealer: www.jaspi.fi

We reserve the right to make changes. © Kaukora Oy 10/2019



Jäspi Tehowatti Air

Main fuse for the property power supply: min. 3x25A (current transformers included as standard equipment). Domestic water output 40 °C when pump is in Eco-Normal-Luxus mode 220-250-280 l. The myUpWay remote management function comes standard with the system.

Indoor unit

Dimensions, HxDxW 1670x600x620 mm
Weight 115 kg
Water capacity 215 l

Additional electrical power: 9 kW (step controlled, power monitor standard)

Outdoor unit Split 8 / Mono 8

Dimensions, HxDxW 750x960x340 / 900x102x420 mm
Weight 60 / 90 kg
Compressor Twin Rotary / Inverter
Noise level 50/40 dB(A) At a distance of 2 m in an open space

• HVAC no. 5058548 includes: indoor unit + AWHP (Split 8 kW) + ground stand

• HVAC no. 5058534 includes:
indoor unit + AWHP (Mono 8 kW) + ground stand

FOR HOMES WITH WATER-CIRCULATED ELECTRIC HEATING

using a Jäspi Tehowatti, we recommend supplementing the unit with a Jäspi Basic air to water heat pump.