

AURORA 40 GROUND-SOURCE HEAT PUMP (-12...+60 °C), HEATING AND COOLING

Aurora 40 ground-source heat pump is the most powerful heat pump module in the Aurora Block hybrid heating system. It draws heat from the ground, so the output stays steady even in hard frost.

- Output 20-51 kW, COP up to 4.49
- Fluid temperature range -12...+60 °C
- Heating and cooling from the same unit
- Electrical supply 3 × 32 A, maximum 19.5 kW
- Dimensions 1140 × 1440 × 1600 mm, weight 495 kg
- 2" Camlock connections, modules stack on top of each other
- IoT Spine remote control as standard



TECHNICAL ATTRIBUTES

Power	20-51 kW	Sähköliitäntä	3 x 32 A, maks. 19,5 kW
COP	jopa 4,49	Measurements	1140 x 1440 x 1600 mm
Käyttöalue	-12...+60 °C	Weight	495 kg
		Liitännät	2" Camlock

ADDITIONAL PRODUCT DESCRIPTION

Aurora 40 ground-source heat pump takes its heat from the ground, whose temperature stays stable regardless of the season. The output is 20-51 kW and the fluid temperature range -12...+60 °C. It is the main module of the Aurora Block system on sites with a high demand for output.

Who is the Aurora 40 ground-source heat pump for?

The module is intended for large construction projects, industrial sites and long-running works.

It suits sites that already have a borehole or ground loop, or where one can be installed. In return you get heat production that does not weaken as the outdoor temperature falls.

The footprint is 1140 × 1440 mm, so it fits a tight plot and can be stacked on top of another unit.

Why the Aurora 40 ground-source heat pump stays steady all year

A pump that takes heat from the air loses efficiency as the outdoor air gets colder. The temperature of the ground, by contrast, stays almost the same right through the winter.

The module therefore delivers steady output during a cold spell too, and the COP reaches up to 4.49.

Steady output also means a predictable energy bill, which makes the project's cost estimate easier.



Aurora 40 ground-source heat pump heats and cools

The fluid temperature range of -12...+60 °C covers both heating and cooling.

In winter the module heats the building and dries the structures. In summer the same unit cools, for example, a hall, a server room or a temporary office, with no separate equipment.

Note that the Aurora 40 ground-source heat pump is not suitable for frost thawing – use the Aurora 28 module or the Aurora 64 boiler for that.



Main module of the hybrid system

Aurora Block combines heat pumps and fuel-fired backup heat into one automatically controlled system.

Aurora 40 covers the base load. When the outdoor temperature drops to about -25 °C or the power supply fails, the system starts the Aurora 64 boiler, which has 16 hours of battery backup.

Heating therefore continues uninterrupted even when the heat pump alone is not enough.

Remote control and monitoring with Spine

The IoT Spine platform is integrated into the module. Temperatures, energy consumption and unit status are visible in real time, and deviations trigger an alarm.

The system selects the cheapest source of heat itself and optimises consumption continuously. Read more about [Spine heating control](#).

Arctic Warm states the operating reliability of the Aurora Block system at over 99 % across demanding sites.

Aurora 40 ground-source heat pump - technical data

Unit type	Ground-source heat pump
Output	20-51 kW
COP	up to 4.49
Fluid temperature range	-12...+60 °C
Electrical supply	3 × 32 A, max. 19.5 kW
Dimensions (W × D × H)	1140 × 1440 × 1600 mm
Weight	495 kg
Connections	2" Camlock
Remote control	IoT Spine, standard
Main functions	Heating, cooling, drying
Frost thawing	No - use the Aurora 28 or Aurora 64 module



Add the product to your quote cart and ask for a quote – we will size a configuration that fits your site.

Putting the module into service

The module is lifted into place, connected to the ground loop and the heat distribution with 2" Camlock couplings and wired to a 3 × 32 A supply.

Settings are made in the Spine service. After that the system adjusts its output to the measured temperature with no need to visit the site.

As the demand for output grows, further modules are chained alongside.

Sizing and expanding with the project

One module covers a demand of 20–51 kW. On larger sites modules are chained in parallel, so the total output grows step by step.

In phased construction this means the full heating output does not have to be bought at the start. Capacity is added as the heated volume grows.

In an example configuration, Aurora 28, Aurora 40 and Aurora 64 modules together form a 296 kW system.



Energy consumption and emissions

Most of the heat comes from the ground, so purchased energy is only used to run the compressor.

According to Arctic Warm, Aurora Block cuts total costs by up to 30 % and carbon dioxide emissions by up to 90 % compared with fuel-fired heating. Finland's national energy agency [Motiva](#) publishes background on heat pump technology.

As the share of fuel falls, cost predictability improves.

Frequently asked questions

What is the output of the Aurora 40 ground-source heat pump?

The output is 20-51 kW and the COP up to 4.49.

In what temperatures does the Aurora 40 ground-source heat pump work?

The fluid temperature range is -12...+60 °C. At around -25 °C the hybrid system transfers heat production to the Aurora 64 boiler.

Is the module suitable for frost thawing?

No. Use the Aurora 28 air-to-water heat pump or the Aurora 64 boiler for frost thawing.

Does the Aurora 40 ground-source heat pump also cool?

Yes. The module produces both heating and cooling.

What are the dimensions and weight?

The dimensions are 1140 × 1440 × 1600 mm and the weight 495 kg. The modules are stackable.

What electrical supply is required?

The supply is 3 × 32 A and the unit's maximum output 19.5 kW.

What is the difference between the Aurora 40 and Aurora 28 modules?

Aurora 40 takes its heat from the ground and has a higher output. Aurora 28 takes its heat from the outdoor air, is lighter to move and also handles frost thawing.

Does the unit need a separate network connection?

No. The IoT Spine platform is integrated into the module and the connection works without a local network.

Request a quote for the Aurora 40 module

Add the Aurora 40 ground-source heat pump to your quote cart and send the request – we answer quickly. You can collect several modules in one cart. The full range is on the [heating page](#). If you want to ask something first, open the chat in the bottom right corner.

OTHER PRODUCT IMAGES

