

AURORA 50 GROUND-SOURCE HEAT PUMP 20-51 KW - STABLE HEAT FOR TEMPORARY SITES

Aurora 50 ground-source heat pump is the ground-source unit of the Aurora Block modular climate control system. It delivers stable and highly efficient heat wherever borehole energy is available.

- Output capacity 20-51 kW, maximum COP up to 4.5 (B0/W35)
- Automatic borehole capacity monitoring prevents ground loop overload
- Fluid heating and cooling -12...+60 °C
- Electrical supply 3 x 32 A / 400 V, max power input 19.5 kW
- Stainless steel piping and frame, weight 495 kg
- Self-venting high-efficiency circulation pump
- 2" flange connection, modules are stackable
- Spine remote control as standard, 5-year licence included



SKU: 1050601004

TECHNICAL ATTRIBUTES

Power	20-51 kW	Suurin ottoteho	19,5 kW
COP	4,5 (B0/W35)	Measurements	1140 x 1440 x 1600 mm
Nesteen lämpötila	-12...+60 °C	Weight	495 kg
Sähkösyöttö	3 x 32 A / 400 V	Liitântä	2"

ADDITIONAL PRODUCT DESCRIPTION

Aurora 50 ground-source heat pump takes its heat from the ground, whose temperature stays stable regardless of the season. Output capacity is 20-51 kW and the fluid temperature range $-12...+60$ °C. It is the main module of the Aurora Block system wherever borehole energy is available, and it is particularly well suited to longer temporary installations. The SKU is 1050601004.

Who is the Aurora 50 ground-source heat pump for?

The module is meant for sites with a borehole or another ground loop available. It suits longer temporary installations where heating continues for months or years.

Typical applications are large construction sites, temporary premises, greenhouses and security-of-supply installations. The unit also suits cases where variation in outdoor temperature must not show in heat output.

When the heat demand grows, more modules are chained alongside without dismantling the existing installation.

Aurora 50 ground-source heat pump keeps output steady

The ground temperature stays almost the same all year, so the heat source does not weaken in frost. The maximum COP is 4.5 at the B0/W35 measuring point.

The fluid temperature range is $-12...+60$ °C, so the same module produces both heating and cooling.

The unit monitors borehole capacity automatically so that the collector loop is not overloaded. The monitoring keeps operation within design limits even over long heating seasons.



Aurora 50 ground-source heat pump as the main hybrid module

Aurora Block combines heat pumps and fuel-fired backup heat into one centrally managed energy grid. All units interconnect with 2" flange couplings.

This module covers the base load. When the outdoor temperature drops to about -25°C or the power supply fails, the system starts the [64 kilowatt backup heating unit](#), which has eight hours of battery backup.

This module is not used for ground thawing. That has its own dedicated unit, a [separate thawing trailer](#) carrying 600 m of thawing hose.

Aurora 50 ground-source heat pump and Spine remote control

The module is controlled and adjusted through the Spine platform. You see temperatures, energy consumption and the device status in real time, and deviations raise an alarm. A five-year Spine licence is included in the delivery.

Remote control reduces site visits and shortens response time when something goes wrong. Read more about [Spine heating control](#).

Arctic Warm reports over 99 % operating reliability for the Aurora Block system in demanding installations.

Aurora 50 ground-source heat pump - technical data

Device type	Ground-source heat pump
SKU	1050601004
Output capacity	20-51 kW
Maximum COP	up to 4.5 (B0/W35)
Fluid temperature	$-12...+60^{\circ}\text{C}$
Borehole monitoring	Automatic, prevents ground loop overload
Electrical supply	3 x 32 A / 400 V three-phase
Max power input	19.5 kW
Dimensions (W x D x H)	1140 x 1440 x 1600 mm
Weight	495 kg
Structure	Stainless steel piping and frame, self-venting circulation pump
Connection	2" flange

Distribution	Fan units or hydronic circuit
Ground thawing	No - use the Aurora Frost trailer
Control	Spine platform, 5-year licence included



Add the product to your quote request cart and ask for a quotation – we size the right configuration for your site.

Download the product sheet as a PDF

All technical data is also available as a one-page product sheet in PDF format. The sheet covers the key features, system integration and the full specification table. [Download the PDF product sheet \(Aurora 50\)](#)

Commissioning the module

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

Heat is distributed through water-circulating fan units or directly into a hydronic circuit. Settings are made in the Spine service, after which the system adjusts itself according to the measured temperature.

In an example configuration, Aurora modules together form a 296 kW system.



Emissions and running costs

Ground-source operation is emission-free, and purchased energy is only needed to run the compressor and the pumps. Fuel is consumed only when the redundancy layer starts.

According to Arctic Warm, Aurora Block lowers total costs by up to 30 % and CO₂ emissions by up to 90 % compared with fuel-fired heating. Finland's national energy agency [Motiva](#) publishes background on heat pumps and energy efficiency.

When heating is based primarily on a heat pump, the costs become considerably more predictable.

Structure and relocation

The piping and frame structure are stainless steel throughout, and the circulation pump is self-venting and high-efficiency. The module weighs 495 kg and fits a 1140 x 1440 mm footprint.

Units are stackable and relocatable. Moving from one site to the next takes no dismantling work, because the connections are 2" flange couplings.



Frequently asked questions

What is the output of the Aurora 50 ground-source heat pump?

Output capacity is 20–51 kW and the maximum COP 4.5 at the B0/W35 measuring point.

In what temperatures does the module work?

The fluid temperature range is $-12...+60$ °C. At about -25 °C the hybrid system moves heat production to the Aurora 64 backup heating unit.

What does borehole capacity monitoring do?

The unit follows the load on the collector loop automatically and limits the draw so that the borehole field is not overloaded even over a long heating season.

Does the module cool as well?

Yes. Fluid heating and cooling covers $-12...+60^{\circ}\text{C}$, so the same module serves all year round.

Is the module suitable for ground thawing?

No. Ground thawing uses the Aurora Frost trailer, which has 64 kW of heating power and 600 m of thawing hose.

What electrical supply is needed?

The supply is 3 x 32 A / 400 V three-phase and the maximum power input 19.5 kW.

What is the product code?

The SKU is **1050601004**. Use it in quotation requests and spare part enquiries.

How does this differ from the air-to-water model?

This unit takes its heat from the ground and has a higher output. Aurora 28 takes its heat from the outdoor air and is lighter to move.

Request a quote for the Aurora 50 module

Add the Aurora 50 ground-source heat pump to your quote request cart and send the request – we answer quickly. You can collect several modules in one cart. The full range is on the [worksite heating page](#). If you want to ask something first, open the chat in the bottom right corner.

OTHER PRODUCT IMAGES

