



# HIVE

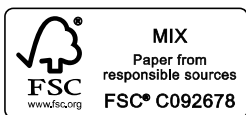
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# HIVE

## ELECTRIC SAUNA HEATER Installation and operation manual

**NB!** The following instructions for electrical works must be carried out by a certified electrician.

The product must be installed as a complete set. The HUUM HIVE electric sauna heater delivery set contains:

- electric heater;
- installation and operation manual for the electric heater.

**NB!** The electric heater requires a control panel and stones.

## THINGS TO CHECK BEFORE INSTALLATION

- Does the output (kW) match the volume (m<sup>3</sup>) of the sauna room? See Table 1.
- In case there are any uninsulated brick, tile or glass walls in the sauna room, an additional volume of 1.5 m<sup>3</sup> should be added to the sauna room for each such square meter of the wall.
- The suitable output of the heater will be determined based on that volume according to Table 1.
- The producer's warranty guarantee is invalid if the heater and sauna room have been dimensioned incorrectly!
- Minimal safe distances between the sauna room's ceiling and walls to consider in installing the electric heater are listed in Table 1.

## INSTALLATION

### Positioning the heater

- The heater must be positioned in such a way that there is a safe distance between flammable materials and the external surfaces of the heater. See Figure.
- In installing the heater, it must be prevented that people could have physical contact with the heater or that other dangerous situations could emerge during the heating process.
- The heater holds approximately 270 kg of stones.
- The inputs of the power cable are on the bottom cover of the heater.

Table 1	Output kW	Room m <sup>3</sup>	Weight kg	A mm	B mm	Ø mm	H mm
HIVE Mini 6	6	5-8	14	60	580	460	750
HIVE Mini 9	9	9-15	16	90	640	460	750
HIVE Mini 11	10,5	10-20	16	110	680	460	750
HIVE 12	12	12-25	20	120	800	560	750
HIVE 15	15	15-30	21	150	860	560	750
HIVE 18	18	18-35	22	180	920	560	750

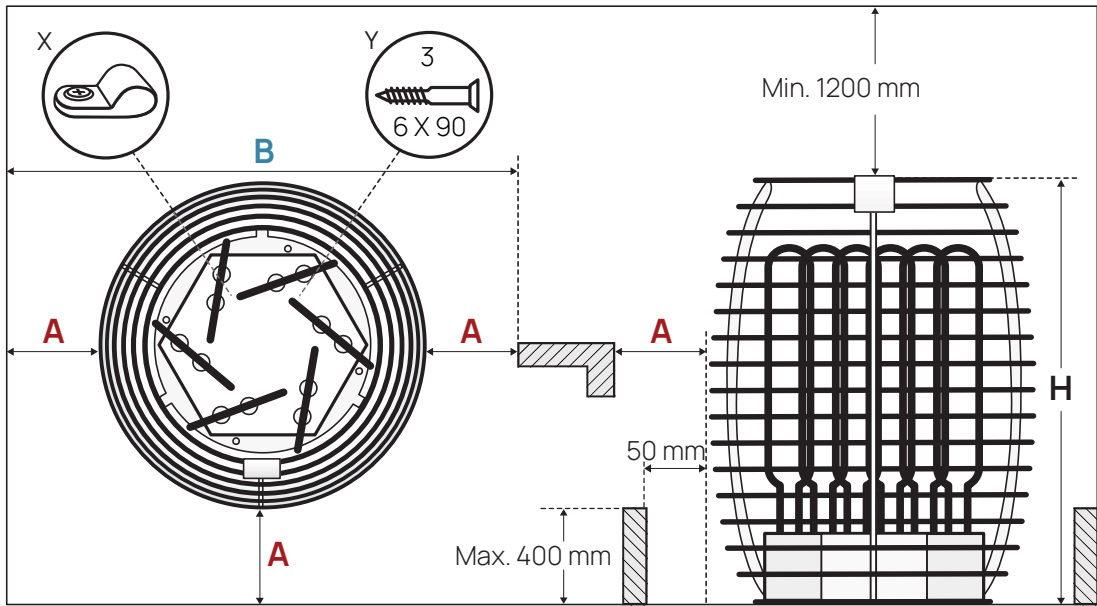


Table 2	Output kW	Elements kW	Circuit Breaker A	Power cable N × mm <sup>2</sup>	Quantity of stones* kg
HIVE Mini 6	6	2	3 × 10	5 × 2.5	12 × 15
HIVE Mini 9	9	3	3 × 16	5 × 2.5	12 × 15
HIVE Mini 11	10,5	3 × 3.5	3 × 16	5 × 2.5	12 × 15
HIVE 12	12	2	3 × 20	5 × 4	18 × 15
HIVE 15	15	2 / 3	3 × 25	5 × 4	18 × 15
HIVE 18	18	3	3 × 32	5 × 6	18 × 15

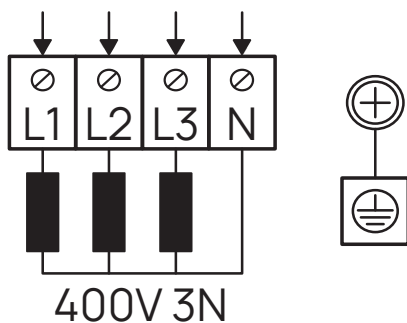
**\* If you use an air tunnel, subtract 30 kg from the amount of stones provided in the table.**

### Connecting the heater to the power supply

- Only a certified electrician is allowed to connect the heater to the power supply.
- A rubber insulated SIHF-JB cable or an equivalent cable must be used as the connection cable.
- It is recommended to connect the unit to the mains without an earth-leakage circuit breaker.
- The maximum current intensity in the cross-sectional area of the cable and circuit breaker are listed in Table 2.

**NB!** It is forbidden to use a non-heat-resistant cable with PVC isolation as the power cable. The joint box must be waterproof and it must be located up to 50 cm from the floor.

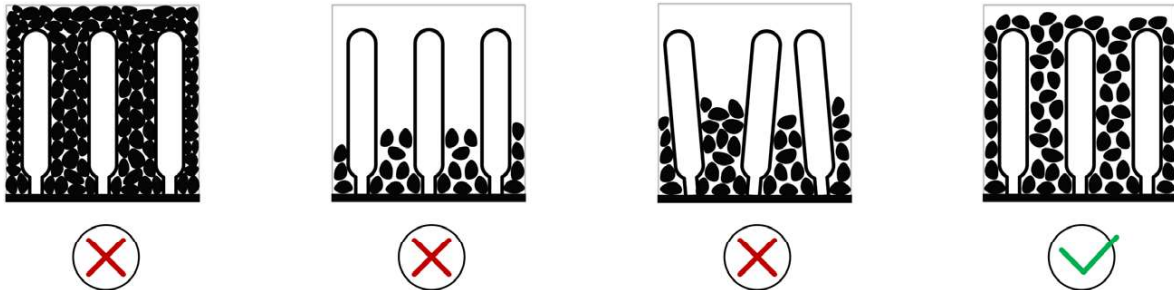
- Open the cover of the heater's electrical box.
- Attach the power cable on the terminal block according to the circuit diagram.
- Close the cover.
- Fix the cable on the output with a cable strap.



## Fitting the stones

- The stones must be washed clean before laying.
- Make sure that the heating elements are not bent during the process.
- There must be sufficient air circulation around the heater elements.
- Stack the stones sparsely between the heating elements. If the stones have been stacked too close to each other, the heating elements may overheat (= shorter useful life) and slow the heating of the sauna.
- Stones with a diameter of 5-10 cm are suitable for the heater.
- The stones on the external surface of the heater must be stacked close to one another. The heating elements must not be visible.
- Using ceramic stones in the HIVE heater is allowed at the user's responsibility.

**ATTENTION!** A too sparsely filled stone container causes fire hazard!



Before switching the heater on, the insulation resistance might prove to be lower than the standard. The reason for that is the moisture seeped into the insulating layer during storage in the warehouse and transportation.

The moisture evaporates in 1–2 hours of heating the electric heater.

## Controlling the heater

All certified control panels may be used in controlling the heater. The output of the heater must remain in the interval determined by the control panel's producer.

## Guard rails

- It is recommended to construct a guard rail around the heater. We recommend using materials with low heat capacity and bad thermal conductivity for the guard rail.
- Upon using flammable materials, it is necessary to leave the specified minimal safety clearances between the heater and flammable constructions.

**NB!** Installing the heater closer to flammable constructions than at the distance of the minimal required protection belt may cause fire hazard.

## SAUNA ROOM

### Wall materials and insulating the sauna room

In a sauna with electric heating, all massive heat accumulating wall surfaces (brick, glass brick, rendering etc.) must be insulated to use the electric heater with a regular output.

#### The following sauna wall and ceiling construction is considered to be sufficiently insulated:

- a carefully installed insulation wool layer of 100 mm (min. 50 mm);
- the construction is damp proofed with taped aluminium paper or other reflective material;
- there is a 10 mm air gap between the damp protection and boarding;
- light wooden boards with about a 12–16 mm thickness have been used for interior finishing;
- there is an air gap of at least 5 mm on the edge of the ceiling panels at the upper part of the wall panelling.

In order to use the heater with a regular output, it would be practical to bring the ceiling of the sauna lower (regular 2100 mm – 2300 mm, min. height of sauna room 2000 mm) so that the volume of the sauna room diminishes. The ceiling is insulated with an insulation layer at least 100 mm thick and boarded according to the method described above.

Wood should be used to cover internal surfaces; an exception may be made for heat resistant walls in the vicinity of the heater.

**ATTENTION!** Insulating the heat barrier has to be approved by the fire inspector. Insulating flues in use is forbidden!

**NB!** Covering the walls or floor with light protective material, for example, mineral tiles that are installed directly on the surface of the walls or ceiling might cause the dangerous overheating of the wall or ceiling material.



## Floor of the sauna room

The heater stones in use crumble due to temperature changes. The pieces and pebbles breaking away from the heater stones are washed on the sauna's floor with the steam-making water. Hot stone parts may damage plastic flooring under and near the heater.

Heater stone particles and sprays from the steam-making water (e.g., with iron content) may absorb into the light joints of a tile floor. In order to avoid aesthetic damage (caused by the reasons mentioned above), ceramic tiles and dark joint filler should be used under and around the heater.

## Ventilation of the sauna

- In order to guarantee a sufficient supply of oxygen and fresh air, the sauna's ventilation must be as efficient as possible. It is advisable to direct the fresh air into the sauna room from above the heater stones.
- As an alternative, the fresh air may be directed in from under the heater.
- The air inlet must be equipped with an adjustable valve.
- The exhaust valve must be installed in the opposite wall from the inlet valve at least 20 cm above the height of the inlet valve.
- It is advised to install a ventilation valve at the upper part of the sauna room for the final ventilation.

## WARNING!

- Before turning on the electric heater, always check the sauna room and heater.
- The heater may be used only when it has been correctly filled with stones.
- Do not cover the heater—this causes fire hazard.
- Do not touch a working heater, it causes burns.
- Ventilating the sauna room incorrectly may dry the wood too much and cause a fire hazard in the sauna.
- Only tap water may be used for making steam.
- Never make steam by using a water hose.
- There must always be at least 5 cm of fireproof heat insulation under the boarding.
- Sauna doors must always open outward.
- Do not use the sauna for any other purpose than it is meant to be used.
- Do not install more than one heater in the sauna room.
- Undiluted sauna essences etc. may ignite when poured directly on the stones.
- Do not leave small children in the sauna unattended.
- Sudden cooling after staying in the steam room is not recommended for people with poor health. Consult a doctor.
- Enjoy the sauna as long as it is comfortable for you.
- Keep this information in a secure place.
- The product's warranty guarantee does not extend to heating elements.

## WARRANTY

Buyer is obligated to read user manual and follow instructions and requirements presented. Damage to the product caused by not following instructions and requirements will void warranty.

If any defects are found on the product, where manufacturer can be blamed, then buyer has the right to demand fixing or replacing the product. Demands must be made not later than 5 years after buying the product. Purchase receipt needs to be presented when warranty demands are made.

### Warranty Terms

- Warranty applies only to electric heaters that have been used according to the manual
- NB! Warranty does not cover heating elements. They are considered as consumable parts.
- Warranty does not cover wear that occurs from natural usage.
- Warranty does not cover defects or wear caused by planned use.
- Warranty does not imply when:
  - damage or defects are caused by transportation or other actions not controlled by manufacturer;
  - product has been damaged by carelessness or overload;
  - product has not been installed correctly;
  - product has been modified in any way;
  - warranty period is over;
  - product is not complete.

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