

# CLIFF

ENG

ELECTRIC SAUNA HEATER

3-13



IPX4





ENG

# CLIFF

## ELECTRIC SAUNA HEATER Installation and operation manual

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

**NB!** We recommend a specialist to lay the stones on the heater.

**NB!** This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

**NB!** Children should be supervised to ensure that they do not play with the appliance.

**NB!** The installation instructions for appliances for public saunas that do not have a timer shall state that a pilot lamp showing that the heater is switched on is to be installed in the attendant's room.

The safety of the products is based on EN 60335-2-53: 2011 "Household and similar electrical appliances. Safety. Part 2-53: Particular requirements for sauna heating appliances and infrared cabins".

The HUUM CLIFF electric sauna heater delivery set contains:

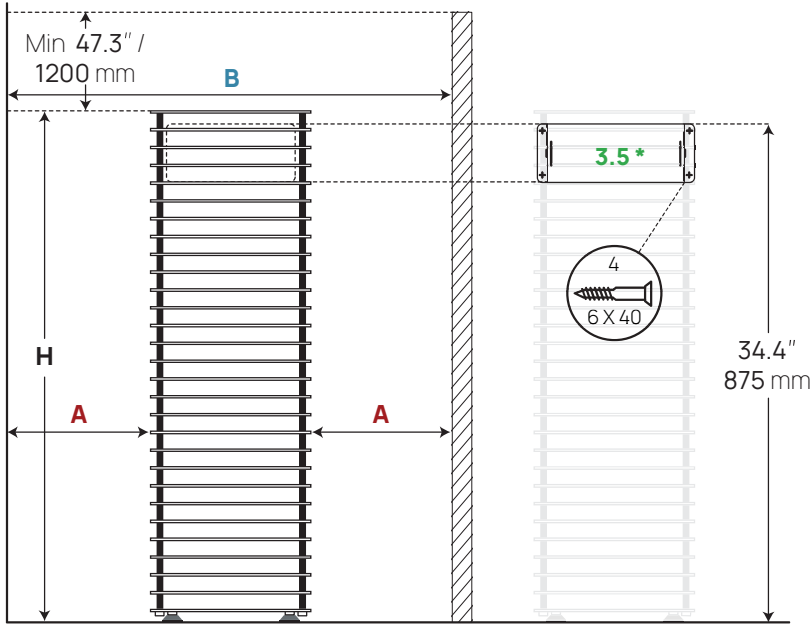
- electric heater;
- installation and operation manual for the electric heater.
- 2 blocks for disassembling the slats of the sauna stove.

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

**WARNING!** Do not place anything combustible close to heater, above the heater, and on both sides of the heater. This includes but not limited to towels, lights, robe hooks, accessories, etc. Nothing should be on the same wall as your heater that is combustible.

## THINGS TO CHECK BEFORE INSTALLATION

- Does the output (kW) match the volume (ft<sup>3</sup>/m<sup>3</sup>) of the sauna room? See Table 1-2.
- In case there are any uninsulated brick, tile or glass walls in the sauna room, an additional volume of 53 ft<sup>3</sup> (1.5 m<sup>3</sup>) should be added to the sauna room for each 11 ft<sup>2</sup> (1 m<sup>2</sup>) of the wall.
- The suitable output of the heater will be determined based on Table 1-2.
- 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 in view of installing the electric heater are listed in Table 3.



\* CLIFF Mini 3.5 is attached to the wall with a special bracket  
See CLIFF Mini 3.5 heater data in the table below.

Table 1	Output kW (240 V)	Room	Amps A	Circuit breaker A	Wire size AWG
CLIFF Mini 3.5	3.5	124-212 ft <sup>3</sup> 3,5-6 m <sup>3</sup>	14.58	15	14
CLIFF 6	6	176.5-353 ft <sup>3</sup> 5-10 m <sup>3</sup>	25	30	10
CLIFF 9	9	318-530 ft <sup>3</sup> 9-15 m <sup>3</sup>	37.5	50	8
CLIFF 10.5	10.5	353-600 ft <sup>3</sup> 10-17 m <sup>3</sup>	43.75	50	6

Table 2	Output kW (208 V)	Room	Amps A	Circuit breaker A	Wire size AWG
CLIFF Mini 3.5	2.6	106-160 ft <sup>3</sup> 3-4.5 m <sup>3</sup>	12.5	15	14
CLIFF 6	4.5	160-265 ft <sup>3</sup> 4.5-7.5 m <sup>3</sup>	21.63	30	10
CLIFF 9	6.75	230-388 ft <sup>3</sup> 6.5-11 m <sup>3</sup>	32.45	40	8
CLIFF 10.5	7.9	265-441 ft <sup>3</sup> 7.5-12.5 m <sup>3</sup>	37.98	50	8

Table 3	A	B	H	Width/ Depth	Weight
CLIFF Mini 3.5	2.36 in 60 mm	15.35 in 390 mm	38.4 in 975 mm	12.6 in/5.9 in 320 mm/150 mm	33 lb 15 kg
CLIFF 6	2.36 in 60 mm	15.35 in 390 mm	38.4 in 975 mm	12.6 in/ 12.6 in 320 mm/320 mm	35.2 lb 16 kg
CLIFF 9	9.45 in 240 mm	29.5 in 750 mm	38.4 in 975 mm	12.6 in/ 12.6 in 320 mm/320 mm	35.2 lb 16 kg
CLIFF 10.5	9.45 in 240 mm	29.5 in 750 mm	38.4 in 975 mm	12.6 in/ 12.6 in 320 mm/320 mm	37.5 lb 17 kg

## INSTALLATION

### Positioning the heater

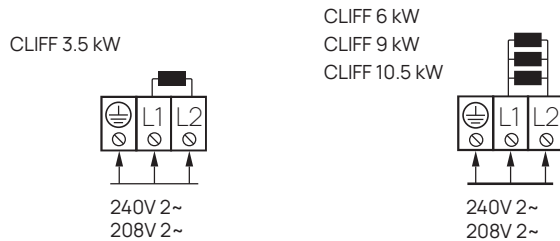
- The heater must be positioned in such a way that there is a safe distance between flammable materials and the external surfaces of the heater. See Table 3.
- In installing the heater, it must be prevented that people could have physical contact with the heater or that other dangerous situations could emerge during the heating process.
- CLIFF Mini holds approximately 132 lb (60 kg) of stones and CLIFF holds approximately 330 lb (150 kg).
- The input of the power cable is located on the bottom cover of the heater.

### Connecting the heater to the power supply

- A method to disconnect all poles from the mains (a circuit breaker) must be installed on the power circuit before the sauna controller.
- Only a certified electrician is allowed to connect the heater to the power supply.
- The power cable of the heater must meet the requirements of UL 62 in US and CSA 49 in Canada.
- 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 1 and Table 2.
- The cable must be secured to the clamp on the cover screw.

**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 20 in (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.

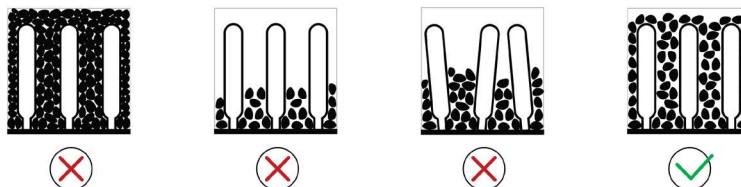


## Fitting the stones

- Make sure that the heating elements are not bent during the process.
- There must be sufficient air circulation around the heater elements.
- We recommend washing the stones before filling the receptacle.
- 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 1.2-1.9 in (3-5 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 CLIFF heater is allowed at the user's responsibility.

**ATTENTION!** Too sparsely filled stone container causes fire hazard!

**NB!** We recommend a specialist to lay the stones on the heater.

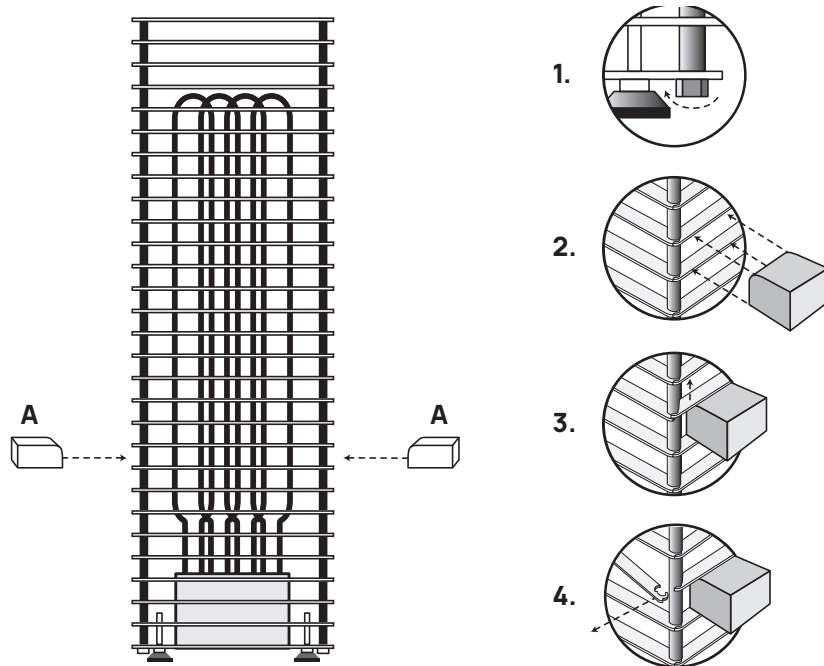


## Removing the ribs of the heater

For fitting the stones, all of the ribs are removable by props (A).

1. On the bottom of the heater, release the nuts of the threaded rod by 5 mm.
2. Push the props between the ribs of the heater.
3. Release the rib from both ends.
4. Carefully remove the rib from the joint, first from the right end and then the left.

**NB!** Pull the rib away from the heater without using force or turning the rib – avoid bending the tenons!



The rib under the removed rib is instantly removable in a similar fashion.

The procedure is reversed for putting the ribs back. The rib must be attached to the joint from the left end first and then from the right.

## First-time use of the sauna heater

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.

Product can be used only with controlunit with timer function. Including other than those for installation in public saunas, shall be provided with a timer. For appliances for use in blocks of flats, hotels and similar locations, the operating period of the sauna heater shall be limited to 12 h with a minimum rest period of 6 h before any automatic restarting. For other appliances, the operating period of the timer shall be limited to 6 h, automatic restarting not being allowed.

## 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.

**ATTENTION! IF THE HEATER IS INSTALLED CLOSER TO FLAMMABLE CONSTRUCTIONS THAN AT THE DISTANCE OF THE MINIMAL REQUIRED PROTECTION BELT IT MAY CAUSE A 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 4 in, minimum 2 in (100 mm, min. 50 mm);
- the construction is damp proofed with taped aluminium paper or other reflective material;
- there is a 0.4 in (10 mm) air gap between the damp protection and boarding
- light wooden boards with about a 0.5-0.65 in (12-16 mm) thickness have been used for interior finishing;
- there is an air gap of at least 0.2 in (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 86.6 - 91 in, min. height of sauna room 86.6 in (2200-2300 mm, min. height of sauna room 2200 mm) so that the volume of the sauna room diminishes. The ceiling is insulated with an insulation layer at least 4 in (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 7.9 in (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.
- Incorrect ventilation of the sauna room 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 2 in (5 cm) of fireproof heat insulation under the boarding.
- Sauna doors must always open outwards.
- Do not use the sauna for a purpose it is not intended for.
- Do not install more than one heater into the sauna room.
- Undiluted sauna essences etc. may ignite when poured directly onto the stones.
- Do not leave small children unattended in the sauna.
- 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 at a safe 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 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.

All demands shall be presented directly to reseller or using e-mail for Canada: [canada.support@huumsauna.com](mailto:canada.support@huumsauna.com) or for USA: [usa.support@huumsauna.com](mailto:usa.support@huumsauna.com)

Find the latest updates on our website [www.huumsauna.com](http://www.huumsauna.com)

