

Installation and User Manual **SAGA ELECTRO**

ELECTRIC SAUNA HEATER:

1112 – 160 – 04	400V – 415V 3N~ / 230V 3~
1112 – 200 – 04	400V – 415V 3N~ / 230V 3~
1112 – 240 – 04	400V – 415V 3N~

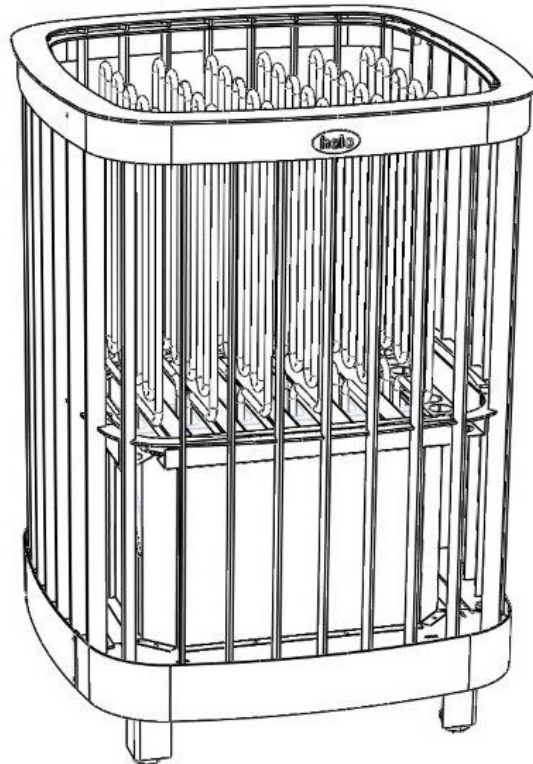
CONTROL PANEL:

1601 – 28 (RA – 28) T2

CONTACTOR BOX

2005 – 14 (WE 14)

400V – 415V 3N~	16kW – 24kW
230V 3~	16kW – 20kW



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1. Quick instructions for use of the sauna heater

1.1. Check before taking a sauna bath

1. The sauna room is suitable for taking a sauna bath.
2. The door and the window are closed.
3. The sauna heater is topped with stones that comply with the manufacturer's recommendations, the heating elements are covered with stones, and the stones are piled sparsely.

NOTE! Ceramic rocks are not allowed.

1.2. Operation of the sauna heater controls

The control panel T2 and Contactor box WE 14 is installed outside the sauna room.

For more detailed installation guide, refer to the specific control panel and contactor box operating instructions.

2. Information for users

Persons with reduced physical and mental capacity, sensory handicap, or little experience and knowledge about how the device is operated (e.g. children), should only operate the device while supervised or according to instructions given by the persons in charge of their safety.

Make sure that children aren't playing with the sauna heater.

2.1. Sauna room

The walls and ceiling of a sauna room should be thermally well insulated. All surfaces that store heat, such as tiled and plastered surfaces must be insulated. It is recommended to use wooden panel cladding inside the sauna room. If there are heat storage elements in the sauna room, such as decorative stone, glass etc., note that these elements may extend the pre-heating period even though the sauna room is otherwise well insulated (see page 5, section 3.1 Preparing for sauna heater installation).

2.2. Rekommenderad ventilation i bastun

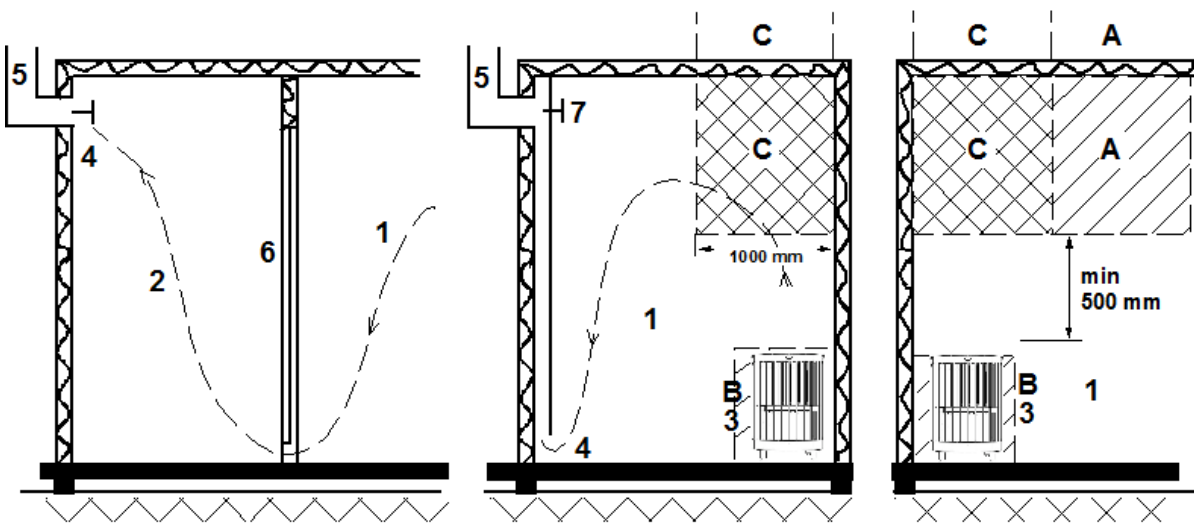


Image. 1 Recommended sauna room ventilation

- | | | |
|---------------|--------------------------|----------------------------|
| 1. Sauna room | 3. Electric sauna heater | 5. Exhaust flue or channel |
| 2. Washroom | 4. Exhaust valve | 6. Door to the sauna room |

7. A ventilation valve can be installed here to be kept closed while the sauna is heated and during bathing.

Inlet vent can be positioned in the A zone. Make sure the incoming fresh air will not interfere with (i.e. cool down) the sauna heater's thermostat near the ceiling.

The B zone serves as the incoming air zone, if the sauna room isn't fitted with forced ventilation. In this case, the exhaust valve is installed min 1m higher than the inlet valve.

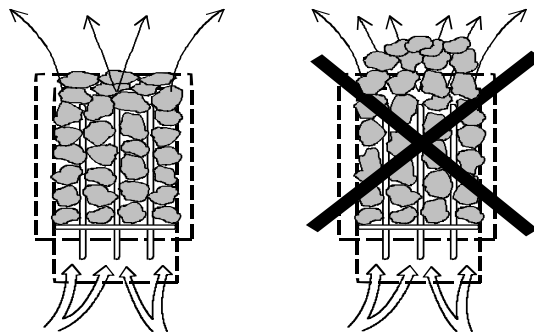
DO NOT INSTALL INLET VALVE WITHIN ZONE C, IF THE SAUNA HEATER'S CONTROL THERMOSTAT IS LOCATED IN THE SAME ZONE.

2.3. Sauna heater stones

Quality stones meet the following requirements:

1. Sauna stones should withstand heat and heat variation caused by vaporisation of the water thrown on the stones.
2. Stones should be rinsed before use in order to avoid odour and dust.
3. Sauna stones should have an uneven surface to supply a larger surface for the water to evaporate from.
4. Sauna stones should be large enough (intended for large sauna heaters, approx. 60 - 100mm), to allow good ventilation between the stones. This extends the useful life of the heating elements.
5. Sauna stones should be piled sparsely in order to enhance ventilation between the stones. Do not bend the heating elements together or against the frame.
6. Rearrange the stones regularly (at least once a year) and replace small and broken stones with new, larger stones.
7. Stones should be piled so that they cover the heating elements. Do not, however, pile a large heap of stones on the heating elements. Please refer to the table on **page 8 Table 2** for an adequate amount of stones. Any small stones included in the stone delivery package should not be placed on the sauna heater, because they might fall through the heater's vertical beams. The warranty does not cover defects resulting from poor ventilation caused by small and tightly packed stones.

Structural clay tiles are not allowed. They may cause damage to the sauna heater. Damages caused by using structural clay tiles will not be covered by the warranty.



2.4. Heating the sauna

Before turning the sauna heater on, make sure the sauna room is suitable for taking a sauna bath. When heated for the first time, the sauna heater may emit some odour. If you detect any odour while the sauna heater warms up, disconnect the sauna heater briefly, and air the room. Then you can turn the sauna heater on again.

The sauna heater is turned on from the control panel that has controls for the heating temperature and time.

The heating of a sauna should be started roughly an hour before you plan to take a sauna bath, so that the stones have time to heat up properly and the air warms up evenly in the sauna room.

Do not put any objects on the sauna heater. Do not dry clothes on the sauna heater or anywhere in its vicinity.

2.5. If the sauna heater will not heat up

If the sauna heater will not heat up, please check that:

- the power is on;
- the main fuses of the sauna heater are intact;
- is there any error messages on the control panel. In case of an error message on the control panel, please refer to the control panel instructions.

3. Instructions for the installer

THE PERSON INSTALLING THE SAUNA HEATER SHOULD LEAVE THESE INSTRUCTIONS AT THE PREMISES FOR THE FUTURE USER.

3.1. Preparing for sauna heater installation

Check the following before installing the sauna heater.

1. The ratio of the heater's input (kW) and the sauna room's volume (m³). Volume recommendations are presented in the table 2 on page 8. The minimum and maximum volumes must not be exceeded.
2. The sauna room height must be a min. of 2100 mm.
3. Glass and stone surfaces will extend the pre-heating period. Each square meter of glass or stone ceiling or wall adds 1.2m³ to the sauna room's volume in terms of needed heater input.
4. Check page 6 Table 1 for a suitable fuse size (A) and the correct diameter of the power supply cable (mm²) for the sauna heater in question.
5. Conform to the safety clearance around the sauna heater as specified in **Table 2 on page 8**. There should be enough room around the sauna heater control equipment for maintenance purposes. Also a doorway can be considered for maintenance purposes.
6. If the the heater is integrated in the sauna benches, the bench model must allow lifting of the lower bench and its frame without tools. **The warranty will not cover dismantling and reassembly of sauna benches.**

3.2 Heaters installation

Follow the safety clearance specifications on page 8 table 2 and image 6 and 7 when installing the sauna heater. The sauna heater is a floor-standing model. The base must be solid, because the sauna heater with rocks weighs about 250 kg.

The sauna heater is levelled by the adjustable legs.

The sauna heater is fixed on the floor from its legs by the provided metal fasteners (2 pcs). This will keep the safety clearances intact during use.

Walls or ceilings must not be clad light-weight cladding, such as incombustible protecting board, because they may cause a fire hazard.

Install the heater so that the type plate can be read. The main switch is on the side of the contactor case. Refer to the contactor case operating manual for more specific instructions

Only a single sauna heater is allowed per sauna room

3.3 Connection of the sauna heater to the mains

The sauna heater must be connected to the mains by a qualified electrician and in compliance with current regulations. The sauna heater is connected with a semi-permanent connection. Use H07RN-F (60245 IEC 66) cables or a corresponding type. (See **Table 1 on page 6**) Other output cables (signal lamp, electric heating toggle) must also adhere to these recommendations. Do not use PVC insulated cable as a connection cable for the sauna heater. A multipolar (e.g. 7-pole) cable is allowed, if the voltage is the same. In the absence of a separate control current fuse, the diameter of all cables must be the same, i.e. in accordance with the front fuse. Example: the diameter of the cable connected the light indicator and the circuit command equipment on a 9kW sauna heater has to be a minimum of 2.5 mm². The connecting box on the sauna wall should be located within the minimum safety clearance specified for the sauna heater. The maximum height for the connecting box is 500 mm from the floor, (**see Image 2 on page 6**) If the connecting box is located further than at 500 mm distance from the heater, the maximum height is 1000 mm from the floor. The sauna heater heating elements may absorb moisture from air, e.g. during storage. This may cause bleeder currents. The moisture will be gone after a few heating sessions. It is not recommended to connect the electrical supply through the residual current device switch. If so, the heater must have a residual current device switch of its own. Adhere to the effective electrical safety regulation when installing the sauna heater.

3.4 Electric heating toggle

The electric heating toggle applies to homes with an electric heating system. The contactor case has a connection (marked 55) for controlling the electric heating toggle. Connector 55 and the heating elements are simultaneously live (230V). Refer to the contactor case operating manual for more specific instructions.

Power kW	Sauna heater's connection cable H07RN-F / 60245 IEC 66 mm ² 400 – 415V 3N~	Fuse A	Sauna heater's connection cable H07RN-F / 60245 IEC 66 mm ² 230V 3~	Fuse A	Sauna heater's connection cable H07RN-F / 60245 IEC 66 mm ² 230-240V 1N~/2~	Fuse A
16	5 x 6	3 x 25	-----	-----	-----	-----
16	2x 5 x 2,5	2x 3 x 16	2x 4 x 6	2x 3 x 25	-----	-----
20	2x 5 x 2,5	2x 3 x 16	2x 4 x 6	2x 3 x 35	-----	-----
24	2x 5 x 6	2x 3 x 25	2x 4 x 6	2x 3 x 35	-----	-----

Table 1 Connection cable and fuses

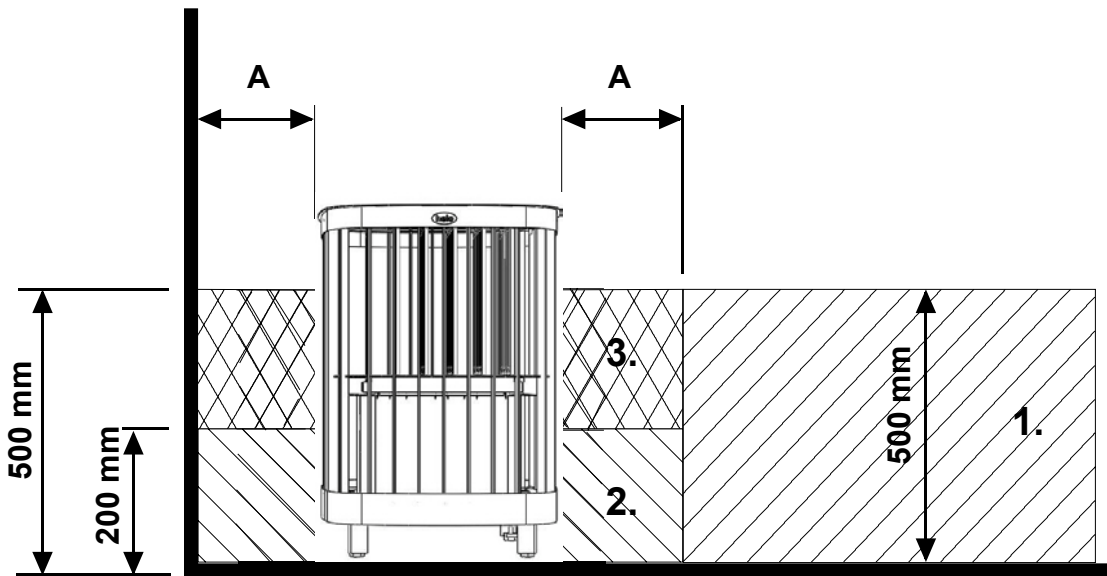


Image. 2 Location for the connection box

3.5 Locating the connecting box for the connection cable in the sauna room

A = Specified minimum safety clearance, see table 2.

1. Recommended location for the connecting box
2. Silumin box recommended in this area.
3. This area should be avoided. Always use a silumin box.

In other areas, use a heat-resisting box (T 125 °C) and heat-resisting cables (T 170 °C). The connection box must be clear of obstacles. When installing the connection box to zones 2 or 3, refer to the instructions and regulations of the local energy supplier.

3.6 Wiring diagram

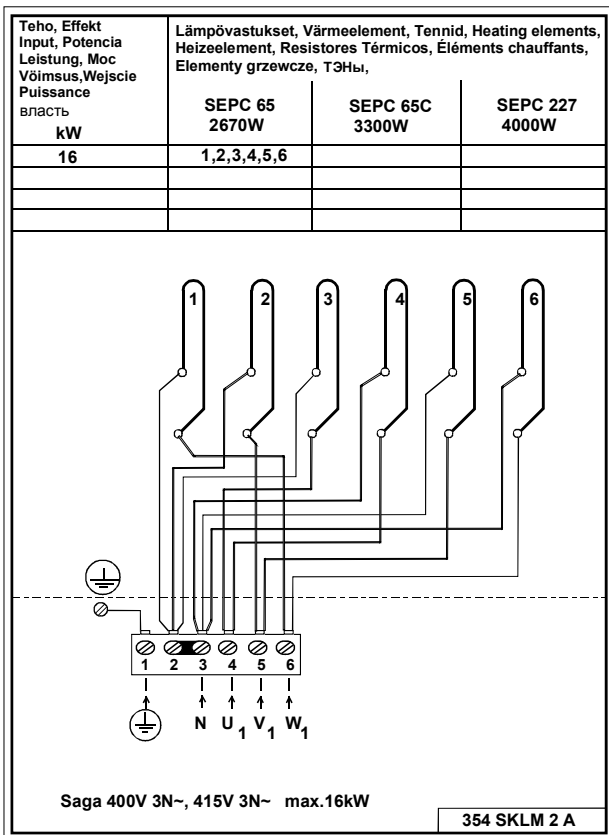


Image. 3 Wiring diagram 1-Group effect 400V-415V 3N~ Max. 16kW

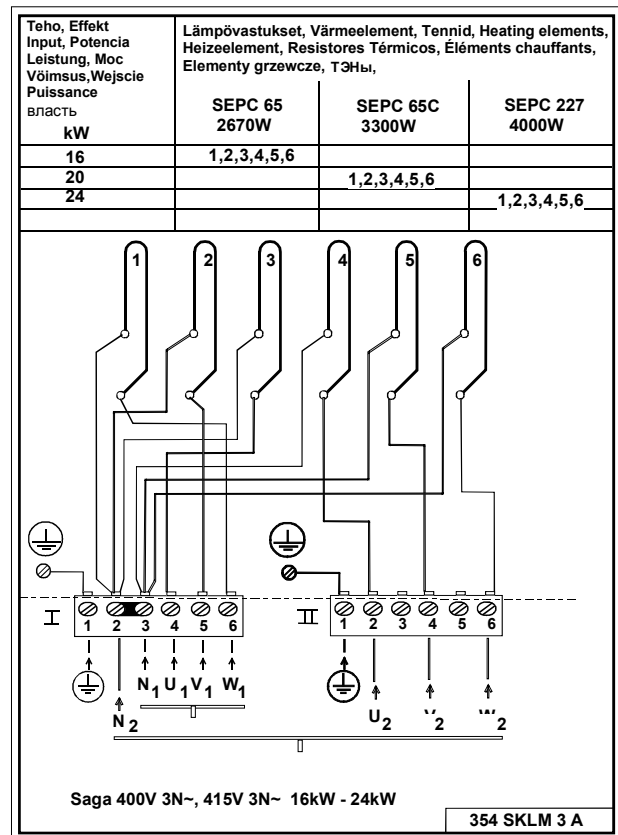


Image. 4 Wiring diagram 2-Group effect 400V-415V 3N~ 16kW-24kW

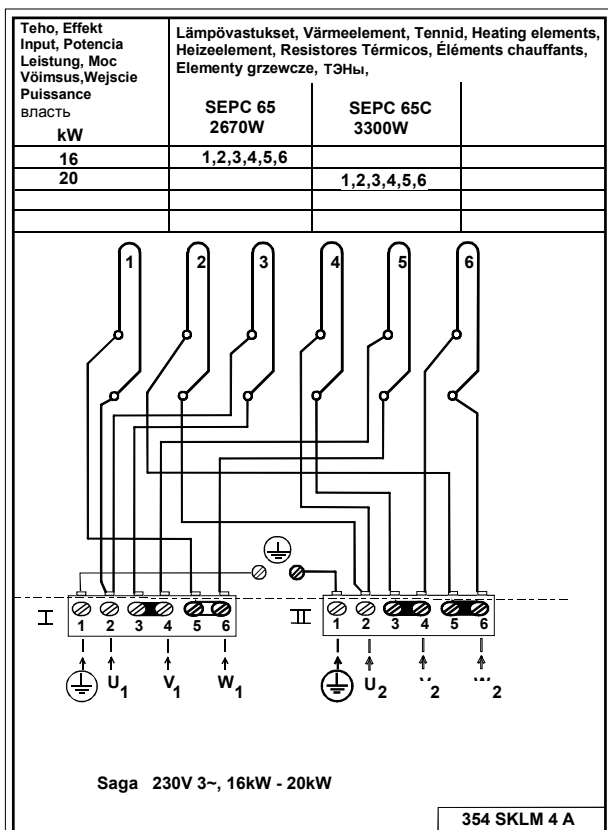


Image. 5 Wiring diagram 2-Group effect 230V 3~ max. 16kW – 20kW

3.7 Safety distances

Specified minimum clearances (in mm) unless otherwise stated.

Corner and wall installation

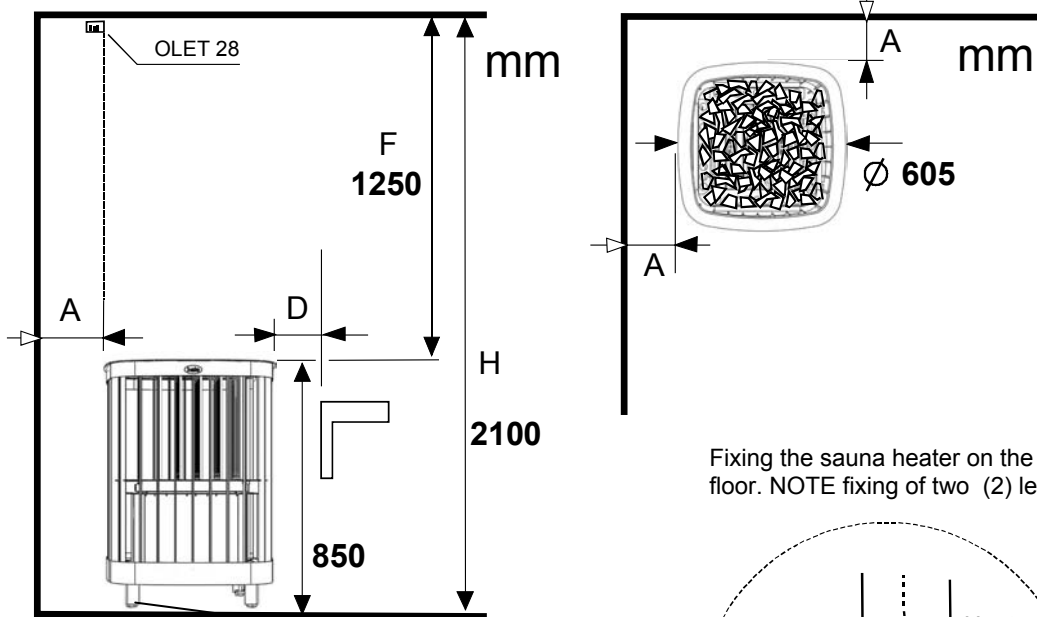
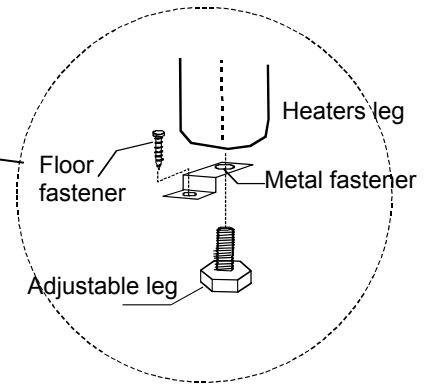


Image. 6 Corner and wall installation

Fixing the sauna heater on the floor. NOTE fixing of two (2) legs



Middle installation

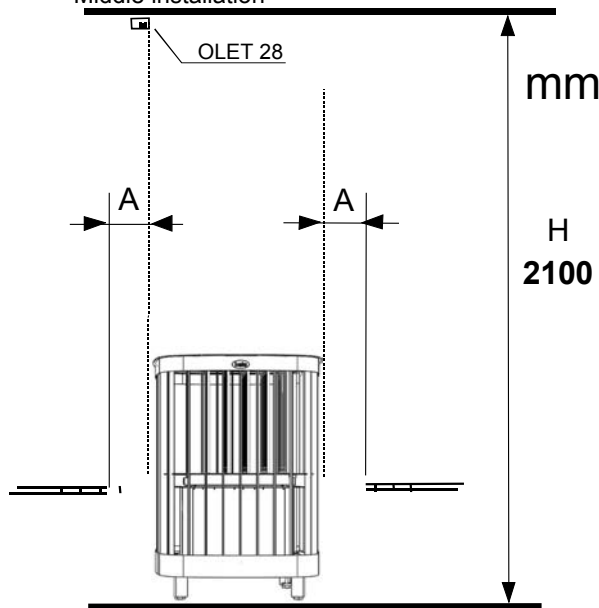
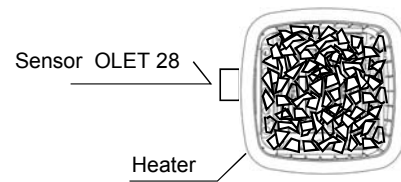


Image. 7 Middle installation

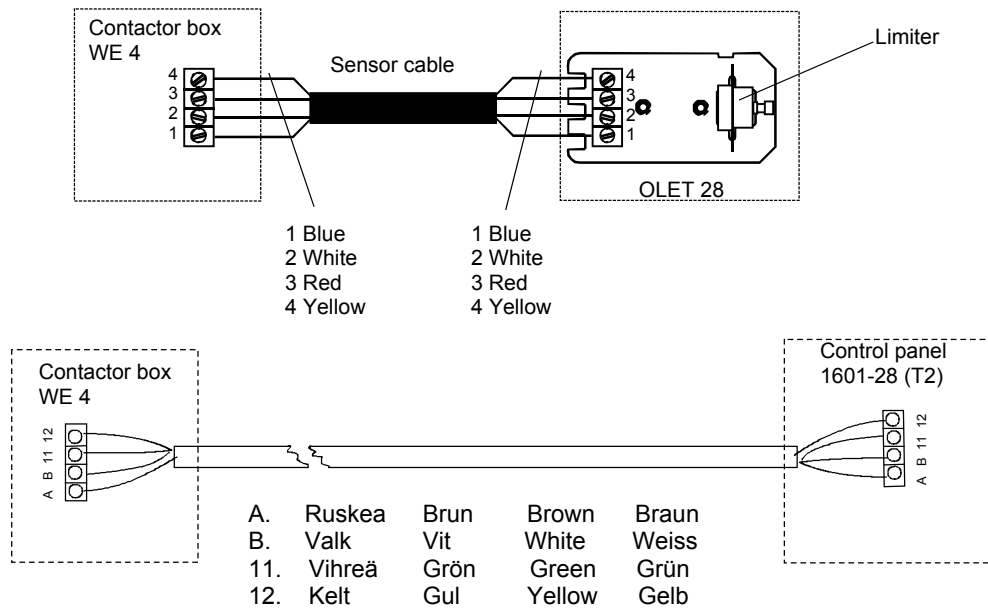
The thermostat must be installed in the side-line to the stove to the ceiling



Power kW	Saunaroom		Height min. H mm	Safety clearances min.			Adequate amount of stones Approx. kg
	min. m ³	max. m ³		On the sides A mm	In front D mm	To the ceiling F mm	
16	16	30	2100	100	100	1250	200
20	20	40	2100	100	100	1250	200
24	24	50	2100	150	150	1250	200

Table 2 Safety clearances

3.8 Principle installation



Principle installation

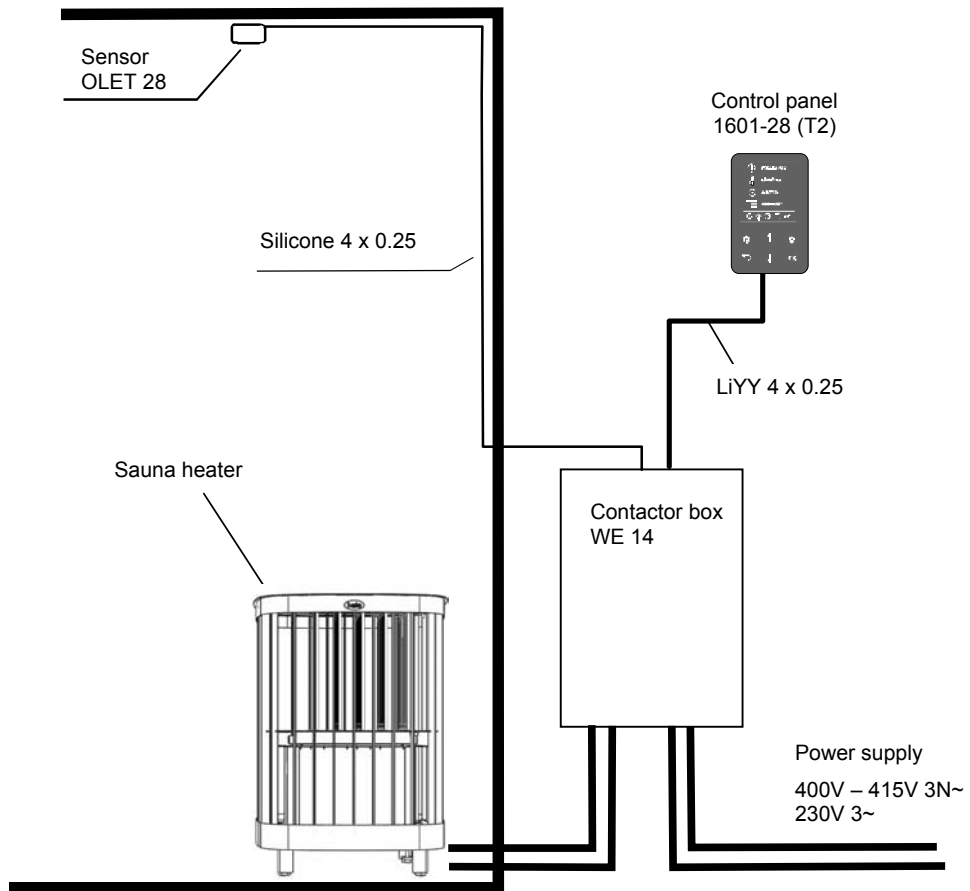


Image. 8 Wiring diagram for the Principle installati

4. ROHS

Ympäristönsuojeluun liittyviä ohjeita

Tämän tuotteen käyttöön päätyttyä sitä ei saa hävittää normaalin talousjätteen mukana, vaan se on toimitettava sähkö- ja elektroniikkalaitteiden kierrätykseen tarkoitettuun keräyspisteeseen.

Symboli tuotteessa, käyttöohjeessa tai pakkauksessa tarkoittaa sitä.



Valmistusaineet ovat kierrätettävissä merkintänsä mukaan. Käytettyjen laitteiden uudelleenkäytöllä, materiaalien hyödyntämisellä tai muulla uudelleenkäytöllä teet arvokkaan teon ympäristömme hyväksi. Tuote palautetaan ilman kiuaskiviä ja verhoukiviä kierrätyskeskukseen.

Tietoa kierrätyspaikoista saat kuntasi palvelupisteestä.

Anvisningar för miljöskydd

Denna produkt får inte kastas med vanliga hushållssopor när den inte längre används. Istället ska den levereras till en återvinningsplats för elektriska och elektroniska apparater.

Symbolen på produkten, handboken eller förpackningen refererar till detta.



De olika materialen kan återvinnas enligt märkningen på dem. Genom att återanvända, nyttja materialen eller på annat sätt återanvända utsliten utrustning, bidrar du till att skydda vår miljö. Produkten returneras till återvinningscentralen utan bastusten och eventuell täljstensmantel.

Vänligen kontakta de kommunala myndigheterna för att ta reda på var du hittar närmaste återvinningsplats.

Instructions for environmental protection

This product must not be disposed with normal household waste at the end of its life cycle. Instead, it should be delivered to a collecting place for the recycling of electrical and electronic devices.

The symbol on the product, the instruction manual or the package refers to this.



The materials can be recycled according to the markings on them. By reusing, utilising the materials or by otherwise reusing old equipment, you make an important contribution for the protection of our environment. Please note that the product is returned to the recycling centre without any sauna rocks and soapstone cover.

Please contact the municipal administration with enquiries concerning the recycling place.

Hinweise zum Umweltschutz

Dieses Produkt darf am Ende seiner Lebensdauer nicht über den normalen Haushaltsabfall Entsorgt werden, sondern muss an einem Sammelpunkt für das Recycling von elektrischen und elektronischen Geräten abgegeben werden.

Das Symbol auf dem produkt, der Gebrauchsanleitung oder der Verpackung weist darauf hin.



Die Werkstoffe sind gemäß ihrer Kennzeichnung wiederverwertbar. Mit der Wiederverwendung, der stofflichen Verwertung oder anderen Formen der Verwertung von Altgeräten leisten Sie einen wichtigen Beitrag zum Schutze unserer Umwelt. Dieses Produkt soll ohne Steine und Specksteinmantel an dem Sammelpunkt für Recycling zurückgebracht werden.

Bitte erfragen Sie bei der Gemeindeverwaltung die zuständige Entsorgungsstelle.

5. Saga Electro Sauna heaters spare part list

Part	Part number	Part name	Saga 160	Saga 200	Saga 240
1	7812550	Mains connector NLWD 1-1	2	2	2
2	4316220	Heating element SEPC 65 2670W/ 230V	6		
3	5207519	Heating element SEPC 65 C 3300W/230V		6	
4	5200800	Heating element SEPC 227 4000W/230V			6