SAUNASAMPO

GLASS SERIES INSTALLING INSTRUCTIONS 2021

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INSTALLATION DESIGN INSTRUCTIONS FOR GALSS SERIES

1 HEATER DIMENSIONING

The heater sizing depends on the sauna's size and usage.
If the sauna is not used continuously, power and fuse capacity can be reduced by increasing the amount of stones in the heater. In continuous use, the power must be sufficient to compensate for the energy consumed by throwing water on the stones.

In general, it is advisable to choose a large stone capacity, because after opening the lid, a larger amount of stones transfers heat to the sauna faster, allowing it to heat up more quickly.

- Small sauna 3–5 m², model GM750, 6.5–10.5 kW, 160 kg of stones
- Medium sauna 4–8 m², model GL750, 6.5–16.2 kW, 200 kg of stones
- Large sauna 8–20 m², model GXL750, 6.5–21 kW, 300 kg of stones
- Extra-large sauna 15–30 m², model UGL750, 10.5–21 kW, 400 kg of stones (this model is equipped with two fans)

The number 750 refers to the height of the insulation casing, which can be 625 or 900 mm. Add 10% to the stone amount if ceramic Kerkes sauna stones are not used. The insulation of the sauna does not play a significant role in how quickly it heats up. However, the amount of stone and glass surfaces clearly increases the heating time. The more stone and glass surfaces there are, the larger the stone capacity that should be selected.

For occasional use, electrical power has little significance, because increasing the power, for example from 10 kW to 16 kW, increases the energy used during a 20-minute sauna session by only about 2 kW, which is negligible if the stones already contain heat equivalent to 20–30 kW.

If the Smart Heater power is dimensioned according to the usual rules of thumb for continuously heated heaters, the power will be sufficient in all conditions. Typically, half the power of a conventional heater is enough. Only continuous use and heavy, all-day throwing of water require about 2/3 of the power of a conventional heater.

For large saunas and continuous use (such as swimming halls and spas), the UGL large-sauna heater has been developed. It has two parallel fans and heats the sauna twice as fast as the GXL heater.

2 SPACE REQUIREMENTS FOR THE HEATER

The number in the heater model indicates the height of the stone container. For example, the stone container height of the GXL750 is 750 mm.
The height of the front edge of the heater lid element is 33–35 cm higher than the stone container height. For example, the front edge height of the GXL750 is 1030–1050 mm.
Minimum space requirements including safety distances:
The required safety distance below the top edge of the heater is 2 cm. In front of the heater, above the top edge, the safety distance is 30 cm.
This is to ensure safety in case the heater lid does not close properly. For example, a 1 cm gap acts like a heat blower, which may ignite a railing or other structure in front of it.

The heater is assembled on site, so no fixed railings or structures should be built around it that cannot be easily removed for maintenance. The heater does not become dangerously hot—you can touch it without causing burns—so it does not require heavy protective railings.

3 ELECTRICAL INSTALLATIONS

The general principle of electrical installation is that all wiring originates from the heater's control unit.

3.1 Control Unit

The dimensions of the heater control unit are: width 27 cm, height 51 cm, and depth 13 cm. For the UGL heater, the control unit dimensions are 32 × 56 × 15 cm. Cables are routed into the control unit from below. Cables coming from above can be guided through a recess behind the control unit, allowing them to run from the ceiling to the lower part of the unit.
All cables connected to the control unit must be sized to allow at least 50 cm of working slack measured from the bottom edge of the unit.
The control unit is processor-controlled and features an informative display, making it easy to adjust heater settings and timers. The interface can be set to operate in English.

3.2 Power Supply Connections to the Heater

The incoming power supply cables to the heater are terminated in junction boxes placed next to the heater in a location that can be accessed without dismantling the heater.

Each rubber cable installed in a junction box must have approximately 2.0 m of installation slack, so that sufficient flexibility remains in the cables during heater installation for maintenance operations. Wiring diagram: www.saunasampo.fi
It is very important that the rubber cables are installed before installation begins, because the heater cannot be assembled until the rubber cables are in place.

Heater power supply

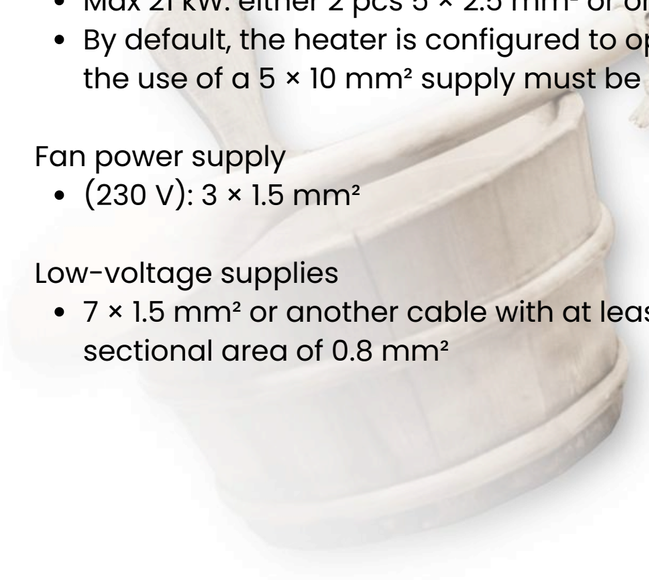
- Max 10.5 kW: 5 × 2.5 mm²
- Max 16.2 kW: either 2 pcs 5 × 2.5 mm² or one 5 × 6 mm²
- By default, the heater is configured to operate with two 5 × 2.5 mm² supplies, so the use of a 5 × 6 mm² supply must be agreed upon when placing the order
- Max 21 kW: either 2 pcs 5 × 2.5 mm² or one 5 × 10 mm²
- By default, the heater is configured to operate with two 5 × 2.5 mm² supplies, so the use of a 5 × 10 mm² supply must be agreed upon when placing the order

Fan power supply

- (230 V): 3 × 1.5 mm²

Low-voltage supplies

- 7 × 1.5 mm² or another cable with at least 6 conductors and a minimum cross-sectional area of 0.8 mm²



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3.3 Sauna thermostat = temperature sensor and overheat protection

The sauna thermostat is installed დაახლოებით 20 cm below the ceiling or at least at the height of the door opening, in a location where airflow from the heater does not blow directly onto the sensor.

A good location is, for example, in the corner on the left side of the door, if the heater is on the same wall on the right side of the door and the hatch opens away from the door wall.

Both the temperature sensor and the overheat protection operate on low voltage. A 4 × 0.8 cable is run for the thermostat and overheat protection, leaving at least 20 cm of installation slack at the wall. Both the temperature sensor and the thermal fuse (used as overheat protection) are connected during heater installation using terminal blocks and protected with a small enclosure about the size of a cigarette pack.

3.4 Lid opening devices

3.4.1 Push buttons

The push button includes a momentary switch (3 V DC) and an indicator light (24 V DC), with a 4 × 0.8 supply cable. The heater lid opens when the button is pressed, and at the same time the indicator light on the button outside the sauna turns on to show that the lid is open.

The lid remains open for a programmed period, typically 15–30 minutes. Each button press restarts the timer, ensuring the lid does not close during bathing. Usually there are two buttons: one in the dressing room and one in the sauna at a height below one meter. The indicator light on the dressing room button shows whether the lid is open, and the lid can be opened from there so the sauna heats up during the time it takes to undress.

The sauna button is there so that if the lid closes during use (because the button wasn't pressed), you don't need to go to the dressing room to reopen it.
There is also an opening button in the control unit. If the control unit is located in the dressing room, a separate button there is not needed.

If the sauna heats up quickly (i.e. the heater has a large amount of stones relative to the sauna size and/or there are no windows or other glass/stone surfaces), a single opening button in the sauna or on the control unit is sufficient.

3.4.2 Motion detectors

Motion detectors can replace push buttons, as their wiring (4 × 0.8) and operating program are the same.

They can be installed discreetly, for example in the ceiling near the door to the washroom or under the sauna benches aimed toward the door.
To avoid false alarms, the detector is programmed not to react to small or brief movements such as curtains swaying. Therefore, it must be placed where it has a clear view of the desired detection area.

If installed under benches with covered gaps, there is a risk that movement is not detected sufficiently through the panel gaps, and the lid will not open.

Cleaning must also be considered. In hotels or similar public spaces, cleaners may not have access to the electrical cabinet, so a preferably lockable switch should be installed to allow them to disable the motion detector during cleaning. This cleaning switch can be replaced by scheduling the heater to be off during cleaning. When the heater is off, the lid will not open even if triggered by the motion detector.

3.5 Remote control from building management system

The heater includes a full weekly timer allowing three separate operating periods per day. It can also be connected to a building management system, in which case it is set to always be “on” and operates whenever it receives a control signal.

3.6 Sauna ventilation control

The control unit includes an output for ventilation control, which starts ventilation when the lid is opened and stops it after a set time once the lid is closed. Ventilation is needed both during use (when the lid is open) and for drying after use. For drying, it is sufficient to remove the humid air. Once the air has been exchanged, there is no more moisture to remove.

When cold air enters after use, it becomes very dry as it warms up, reducing relative humidity significantly—further drying is not needed.

Demand-based ventilation significantly reduces energy consumption by avoiding unnecessary removal of warm air. This output can also be used to control sauna lighting or other functions during use.

4. HEATER INSTALLATION

4.1 Sauna door

The manufacturer usually offers delivery and installation. If delivered without installation, the heater comes fully assembled on a pallet and must be disassembled to fit into the sauna.

The insulation casing may require a wide door. Model GXL750 and larger require a 70 cm doorway; GL750 requires 60 cm.

4.2 Railings around the heater

The outer casing and lid are not extremely hot, so heavy railings are not required. The heater can be installed without guard rails if it is not directly along a walkway. The heater must be serviceable, so it should not be placed in a tight space. Any surrounding railings must be removable, and any fixed structures like brick walls between the heater and benches should be removed before installation.

The heater is delivered fully assembled on a pallet and should be disassembled in reverse order of assembly. Plan the disassembly carefully. For easier installation and maintenance, leave at least 10–15 cm clearance from the wall.

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5. SAUNA FLOOR HEATING

If floor heating is installed, a separate thermostat is recommended, as a standby sauna does not require additional heating.

If the sauna and washroom share the same circuit, the sauna will also be heated unnecessarily when heating the washroom. This wastes energy and increases the temperature at the base of the heater, potentially shortening component lifespan.

6. SAUNA INSULATION

A conventional continuously heated sauna requires insulation to heat effectively. Insulation speeds up heating and reduces power requirements.

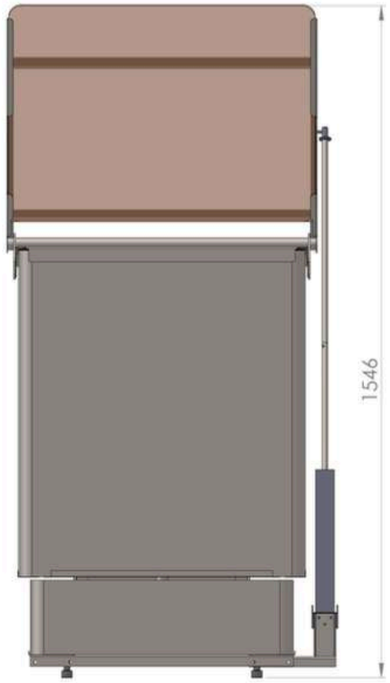
Traditional “always ready” heaters require minimizing stone and glass surfaces, as these absorb heat and prevent proper heating. Insulation itself is less critical, as heat does not penetrate deeply during a single session.

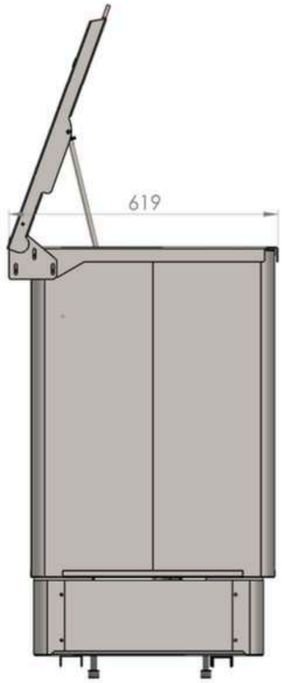
The Saunasampo Smart Heater’s fan delivers more heat than walls and ceiling can absorb, allowing rapid heating. While stone and glass surfaces can slow heating, they do not prevent it.

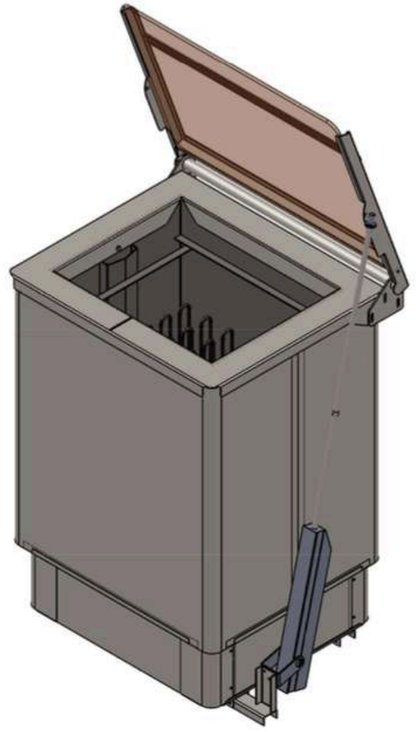
7. FIRE PROTECTION

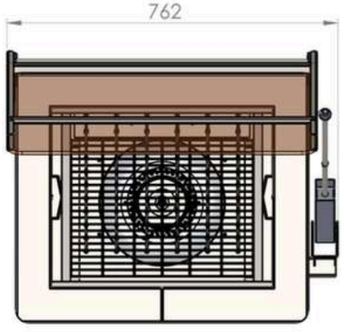
The Smart Heater does not require special fire protection behind it; standard paneling is sufficient.

A 100 × 100 cm black powder-coated ceiling protection plate is available for installation above the heater, mounted 20 mm below the ceiling. If there is a fresh air inlet above the heater, the plate helps mix incoming air with rising hot air.









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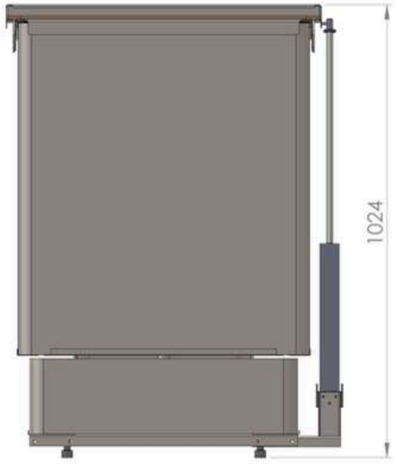
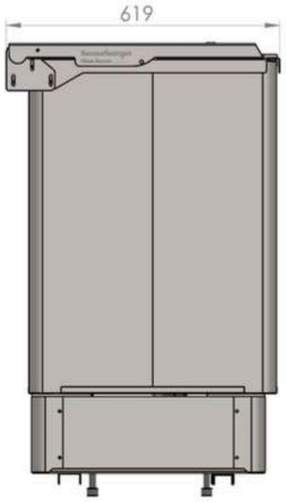
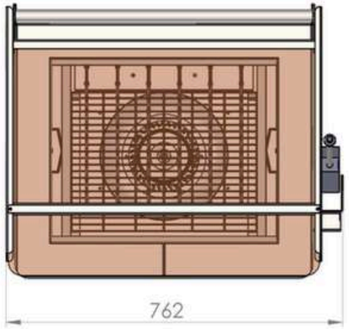
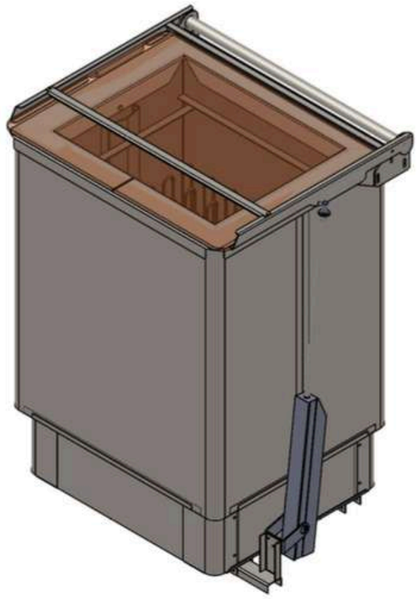
SAUNASAMPO www.saunasampo.fi	Title	Drawning number or name GL-750		
	Project	DWG NO.		









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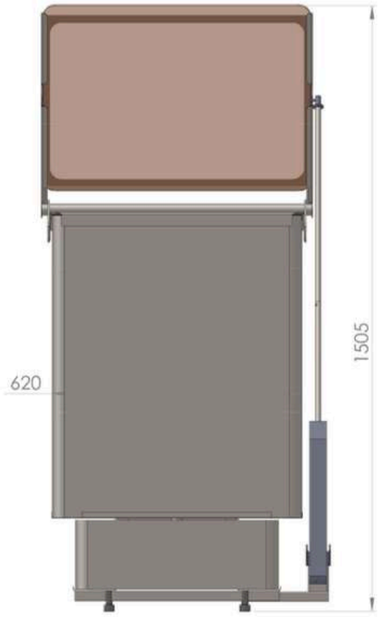

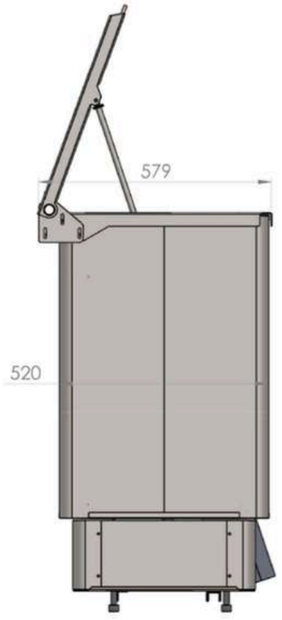

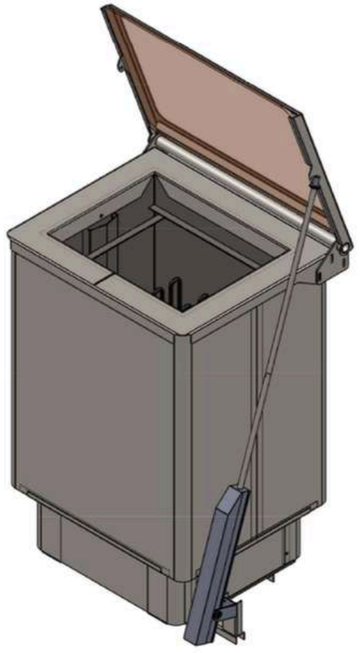

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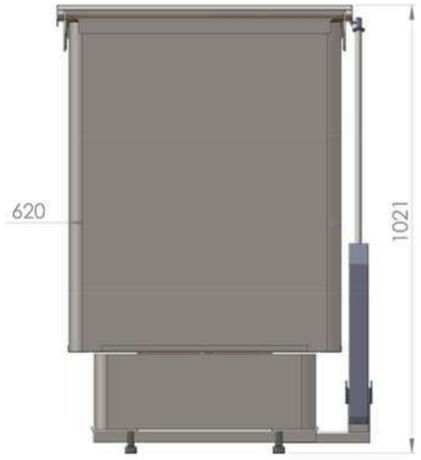

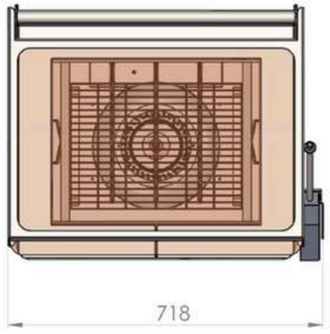

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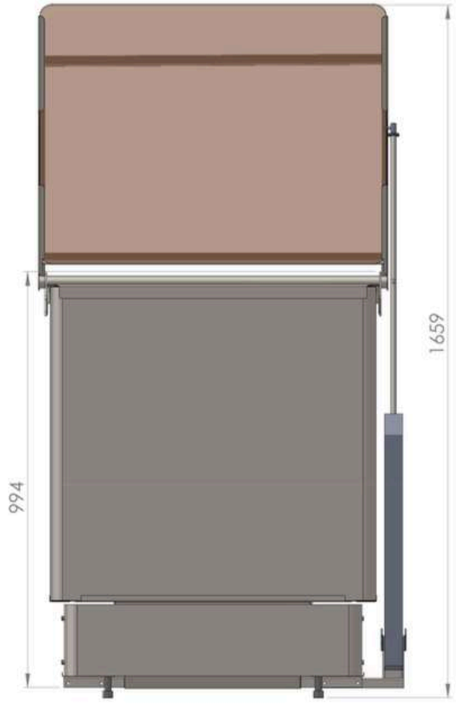

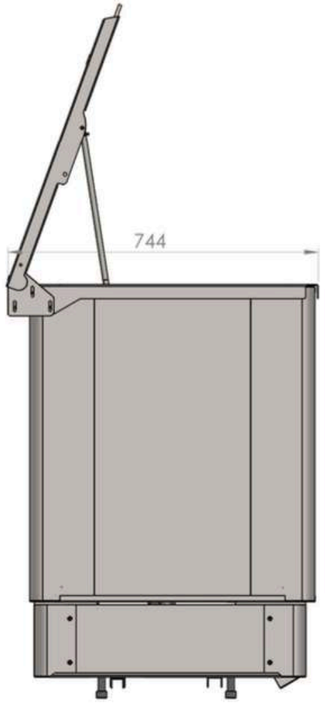

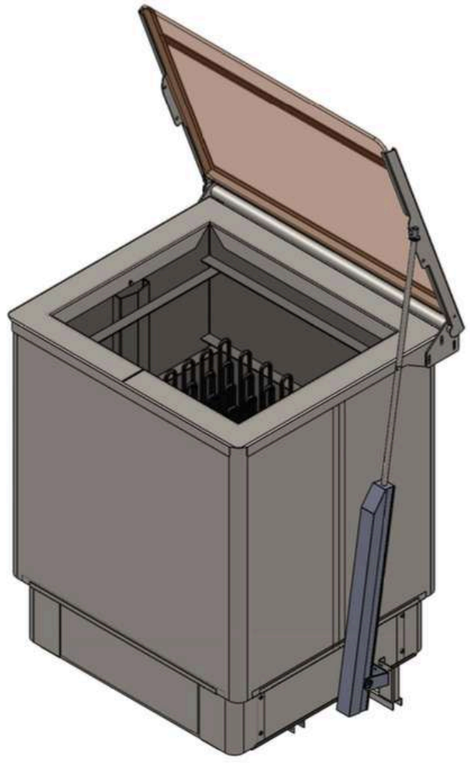

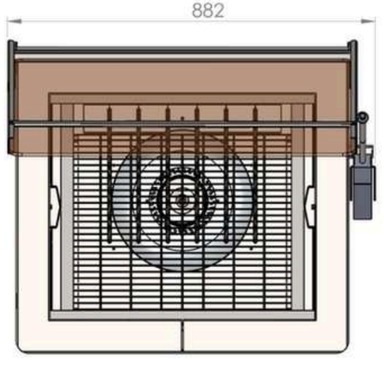

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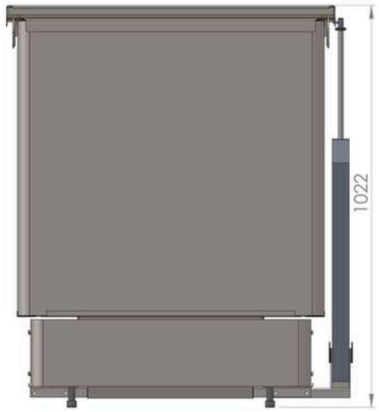

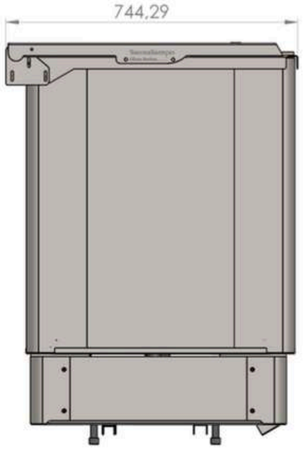

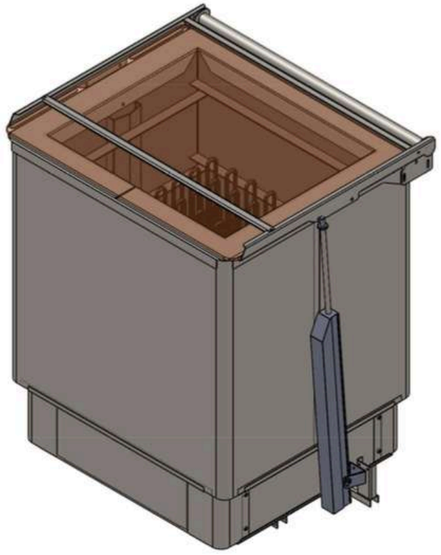

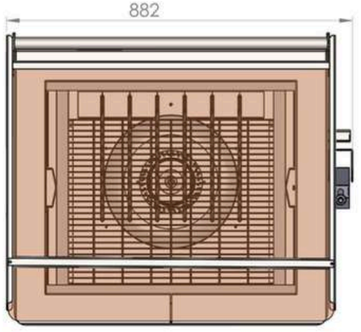

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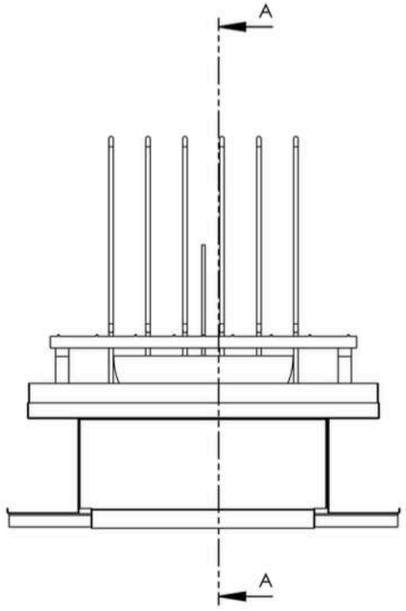
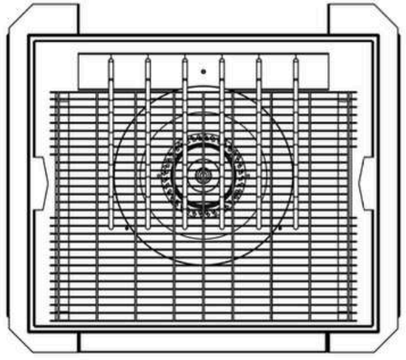
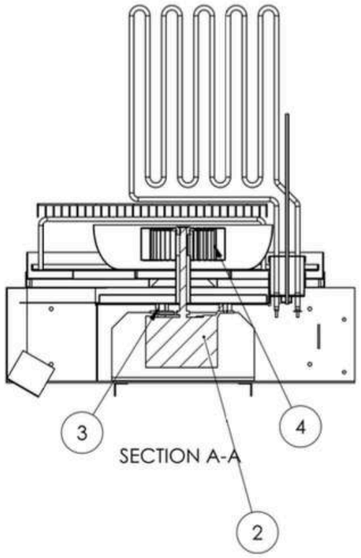
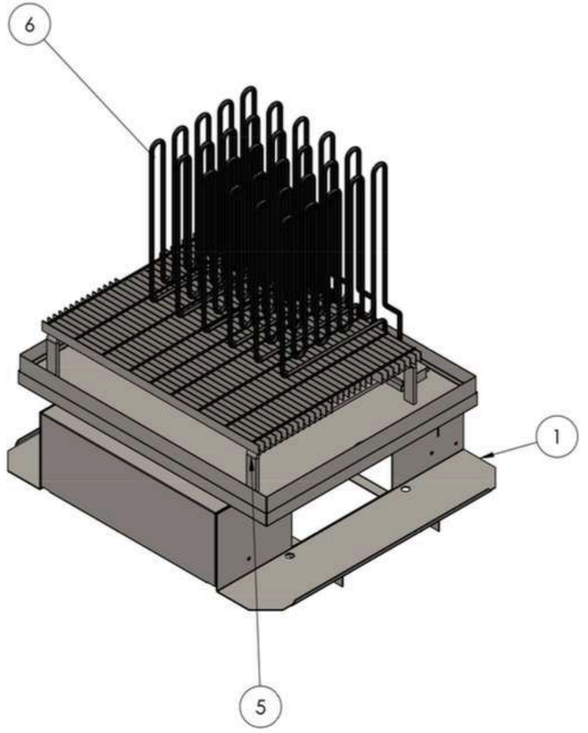






SECTION A-A

ITEM NO.	PART NUMBER	Description	Default/ QTY.	MASS:
1	GXL3_300_Kiukaan_runko	Kiukaan runko	1	26395.93
2	GXL3_50	Tuulettimen moottori	1	1294.54
3	UGXL3_51	Korokepala	3	102.09
4	L604	Tuuletin	1	621.92
5	GXL3_206_Kiviritilä	Kiviritilä	1	8165.5
6	GXL3_130	Vastuspaketti	1	13170.4



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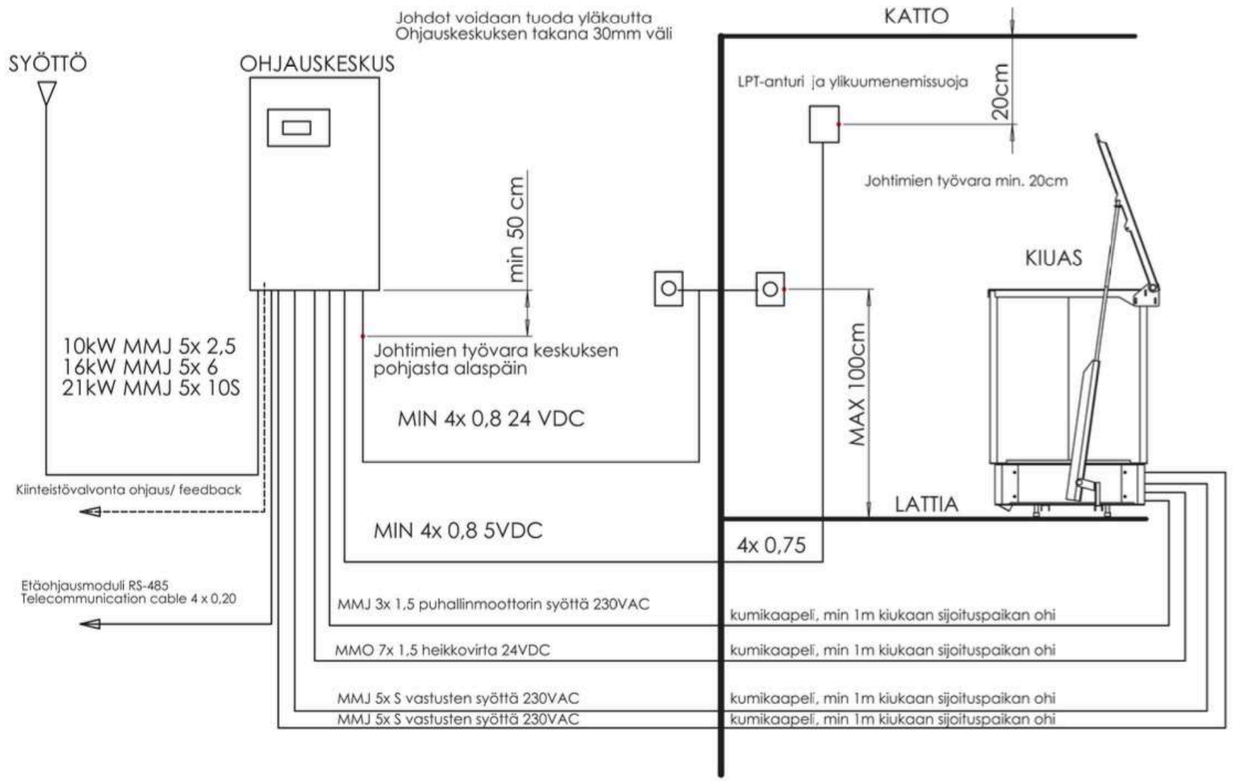

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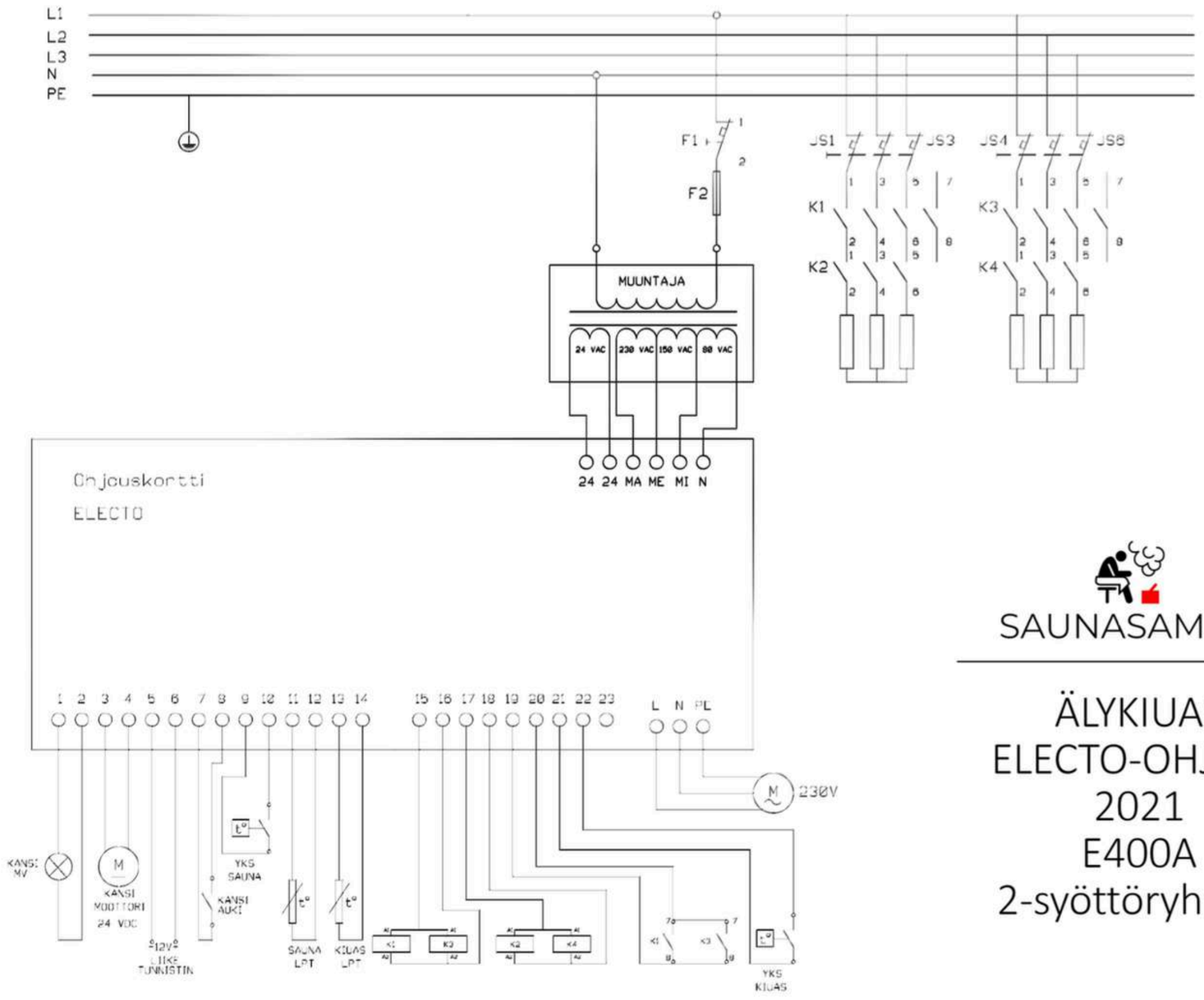

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ÄLYKIUAS ELECTO-OHJAUS 2021 E400A 2-syöttöryhmää