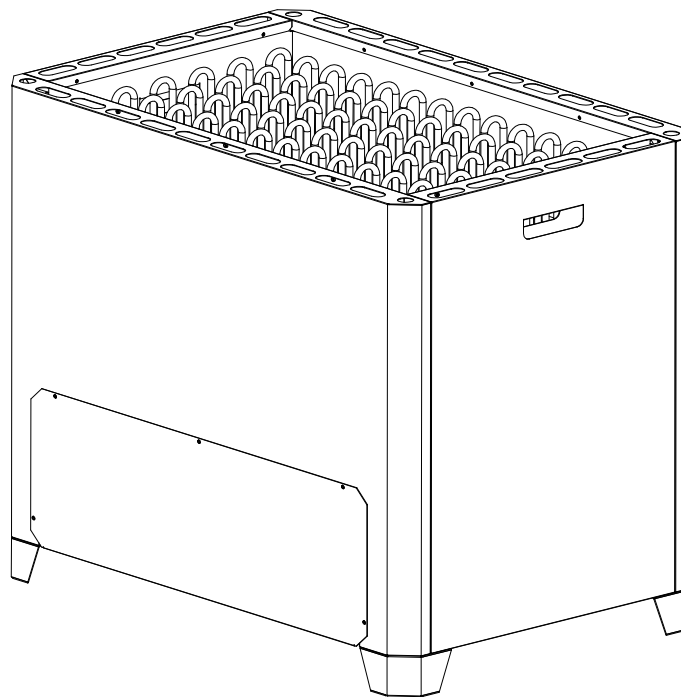


TOLO-C-A (10.5KW - 36KW)

Stainless Steel Sauna Heater Manual



Please read the manual carefully before installation & use
and keep the manual for further reference

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1. Introduction

Thank you for choosing TOLO-C-A sauna heater with rational design, reliable performance, steady effort and convenient installation. Sauna-bathing kit is mainly composed of the heater and sauna room. After Sauna-bathing, people feel the flow of the spirits, excrete virus in body, eliminate fatigue, release the muscle and also good for health.

TOLO-C-A sauna heater is designed for big sauna room, the models are from 10.5KW- 27KW. (Ref to table 1).

2. Safety Warning

- ◆ It's forbidden to use the sauna heater for any other purposes.
- ◆ The heater gets extremely hot during operation and should not be touched otherwise burns may result.
- ◆ Children should be adequately supervised.
- ◆ Elderly persons, pregnant women, as well as those people who are suffering from heart disease, high blood pressure, diabetes or people not in good health, please seek medical opinions before using the sauna room.
- ◆ This appliance is not intended for use by person (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.
- ◆ Do not smoke in the sauna room.
- ◆ Do not use the sauna room when under the influence of alcohol.
- ◆ Do not use the sauna room immediately after strenuous exercise.
- ◆ Leave the sauna room at once if you feel sleepy, sick or uncomfortable.
- ◆ Ensure there is good ventilation for the sauna room.
- ◆ **When you go out, or may not use sauna heater in long time, please DISCONNECT the general power supply to sauna heater.**



Commercial operators should post a notice of these precautions in a prominent position near sauna room.

3. Parameters And Dimensions

(Only apply to European style voltage and phase)

Model	Power	Heating element	Voltage	Current	Phase	Size of wire	Stones arrange
	KW	N*KW	V	A	N	N*mm ²	KG
TOLO-C105-A	10.5	3*1.5+3*2.0	380-415	16	3N	5*2.5	40~50
TOLO-C120-A	12.0	6*2.0	380-415	18	3N	5*4.0	40~50
TOLO-C150-A	15.0	3*2.0+3*3.0	380-415	23	3N	5*4.0	60~75
TOLO-C180-A	18.0	6*3.0	380-415	27	3N	5*6.0	85~100
TOLO-C210-A	21.0	6*2.0+3*3.0	380-415	32	3N	5*6.0	85~100
TOLO-C240-A	24.0	6*3.0+3*2.0	380-415	38	3N	5*10.0	85~100
TOLO-C270-A	27.0	9*3.0	380-415	41	3N	5*10.0	85~100
TOLO-C300-A	30.0	6*2.0+6*3.0	380-415	46	3N	5*10.0	85~100
TOLO-C360-A	36.0	12*3.0	380-415	55	3N	5*16.0	85~100

Notes: Above room volume is subject to sauna room with heat preservation.

Table 1

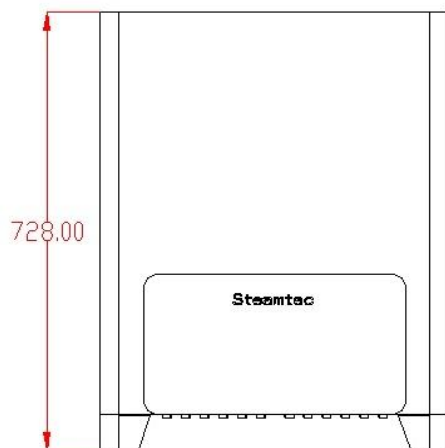
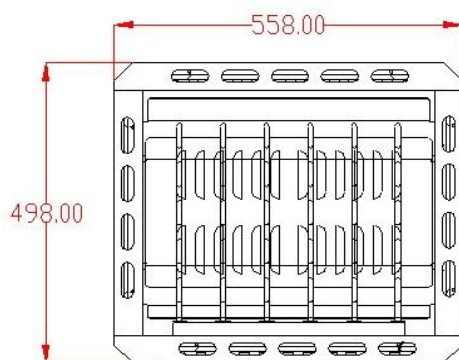


Figure1 10.5-18KW

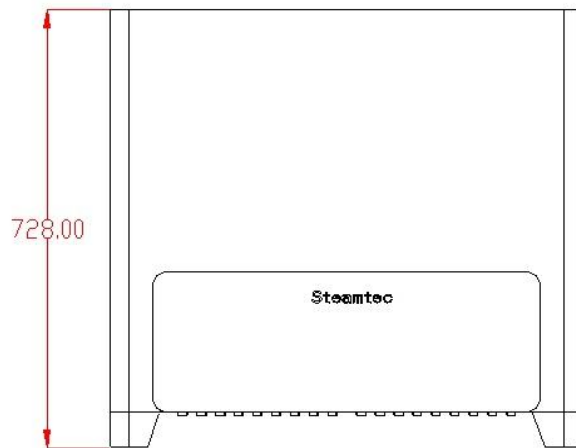
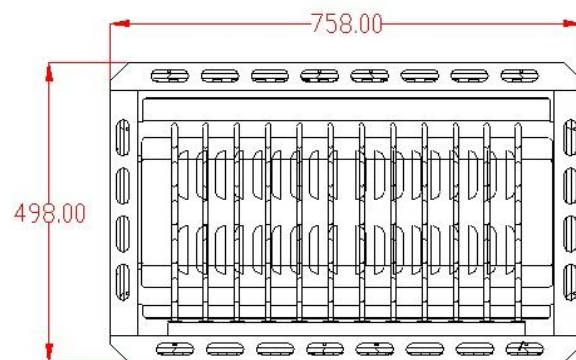


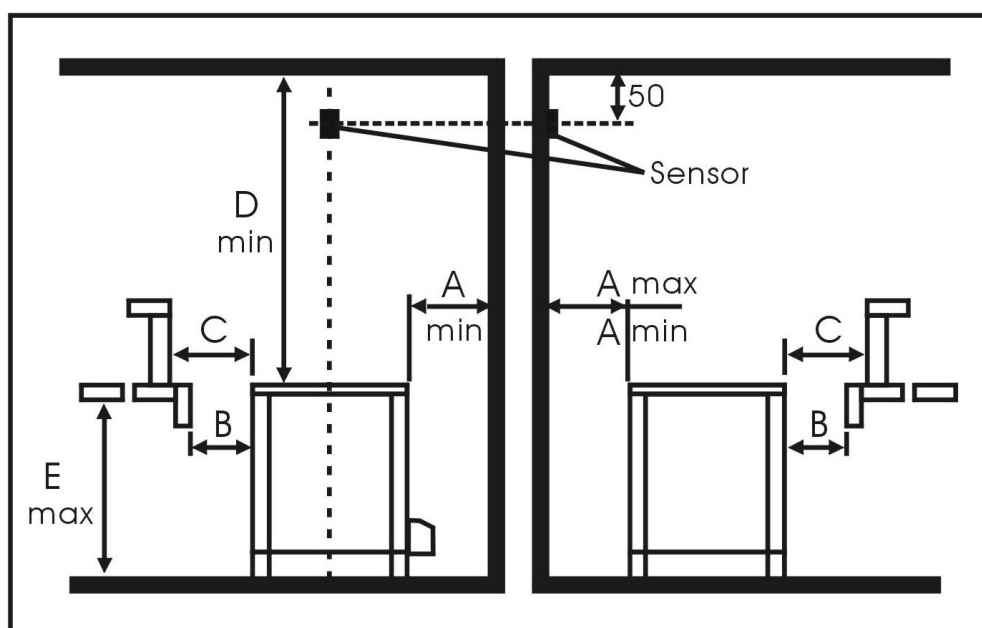
Figure2 21-36KW

4. Installation

4.1. Installations of sauna heater

Attentions:

- ◆ All circuits should be installed by licensed electricians and conform to local and national codes. Improper electrical connection can cause fire or electric shock.
- ◆ Power supply must be cut off before installation, maintenance and repair. Press the on/ off button on the controller can NOT cut power from the supply.
- Check if the sauna heater power and model is suitable for your room (ref to table 1). Room volume in table 1 is subject to sauna room with heat preservation, if your room are without heat preservation, please consult your dealer for suitable power and model.
- ◆ An Residual Current Device (RCD) must be installed in the power supply circuit for safety purpose.
- ◆ The location of the heater should fulfil the minimum requirements concerning the distances given in below figure 3 & table 2.
- ◆ The required minimum height of sauna room is 1900mm.
- ◆ Choose the cable wire according to table 1 and the cable wire need to be able to bear extremely high temperature 170°C (It is recommended to use rubber cable wire).
- ◆ Do not install more than one heater in a sauna room, if must need to install two heaters in one room, minimum distance 400mm should be guaranteed between two heaters when installing.
- ◆ The heater gets very hot when working, to avoid the risk of accidental contact with the heater, it is recommended that a heater guard to be provided. The guard could be made into many kinds of patterns in accordance with the location place, but some size must be made as figure 3 & table 2.
- To prolong the life of your sauna you can use a heat proof board behind and above the heater to prevent charring, for commercial cases this should be more seriously considered.



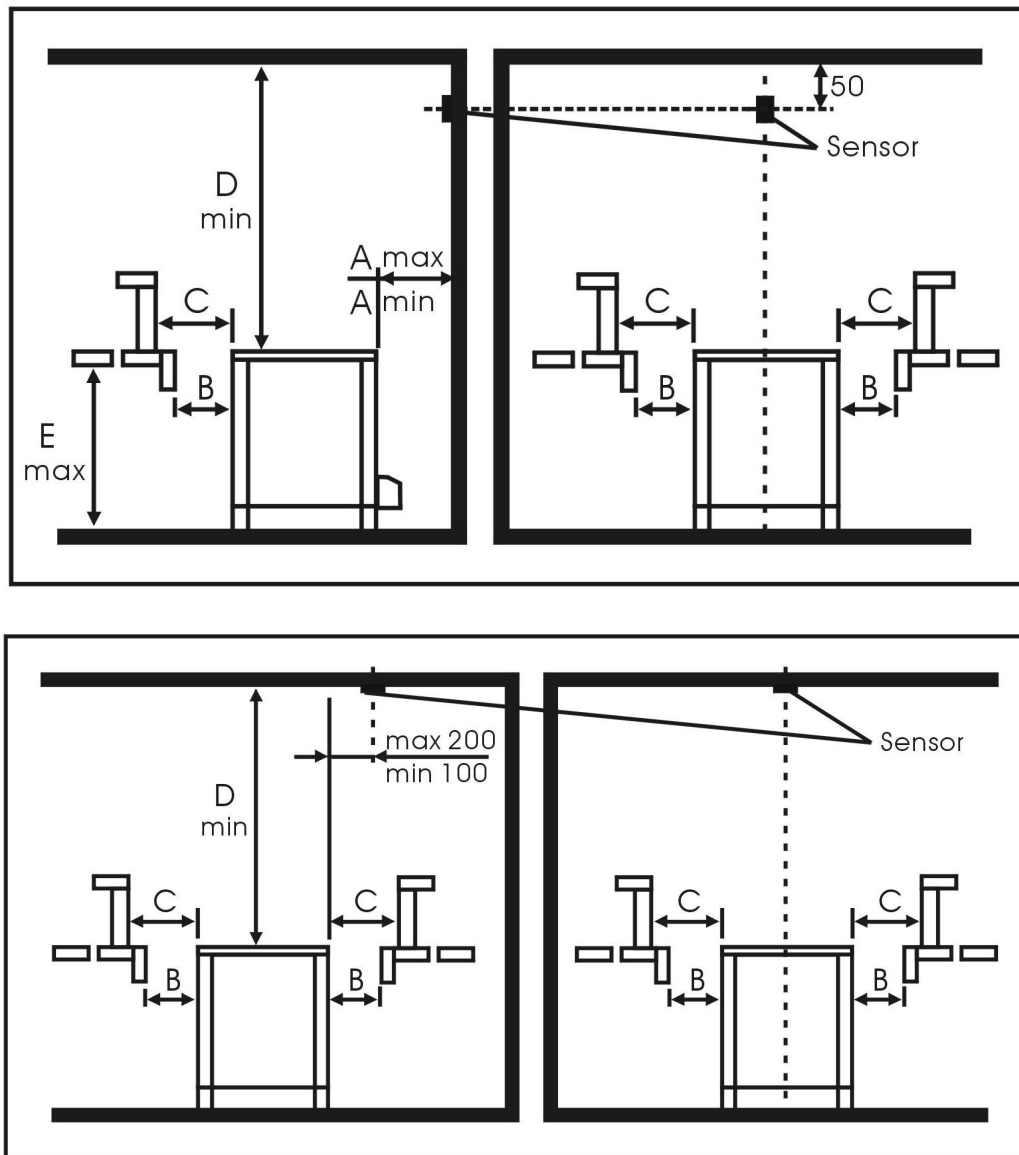


Figure 3 The location of heater

Model	Safety distance					
	A	A	B	C	D	E
	min mm	max mm	min mm	min mm	min mm	max mm
TOLO-C105-A	120	220	150	200	1400	680
TOLO-C120-A	120	220	150	200	1400	680
TOLO-C150-A	160	260	150	200	1400	680
TOLO-C180-A	160	260	150	200	1400	680
TOLO-C210-A	160	260	150	200	1400	680
TOLO-C240-A	160	260	150	200	1400	680
TOLO-C270-A	200	300	300	300	1600	680
TOLO-C300-A	200	300	300	300	1600	680
TOLO-C360-A	200	300	300	300	1600	680

Table 2 Safety distance

4.2. Installations of controller & temp sensor

Please refer to CON4 controller manual or Touch screen controller manual for installations details.

4.3. Circuit installation and diagram

Attention:

For All Tolo external control sauna heater, power will be supplied into control system first, and control system will then give power supply to sauna heater.

Please connect terminal labeled “ L1, L2, L3, N,  ” on sauna heater to terminal labeled “ U, V, W,

N,  ” on control system respectively.

Please refer to CON4 controller manual or Touch screen controller manual for more circuit installations.

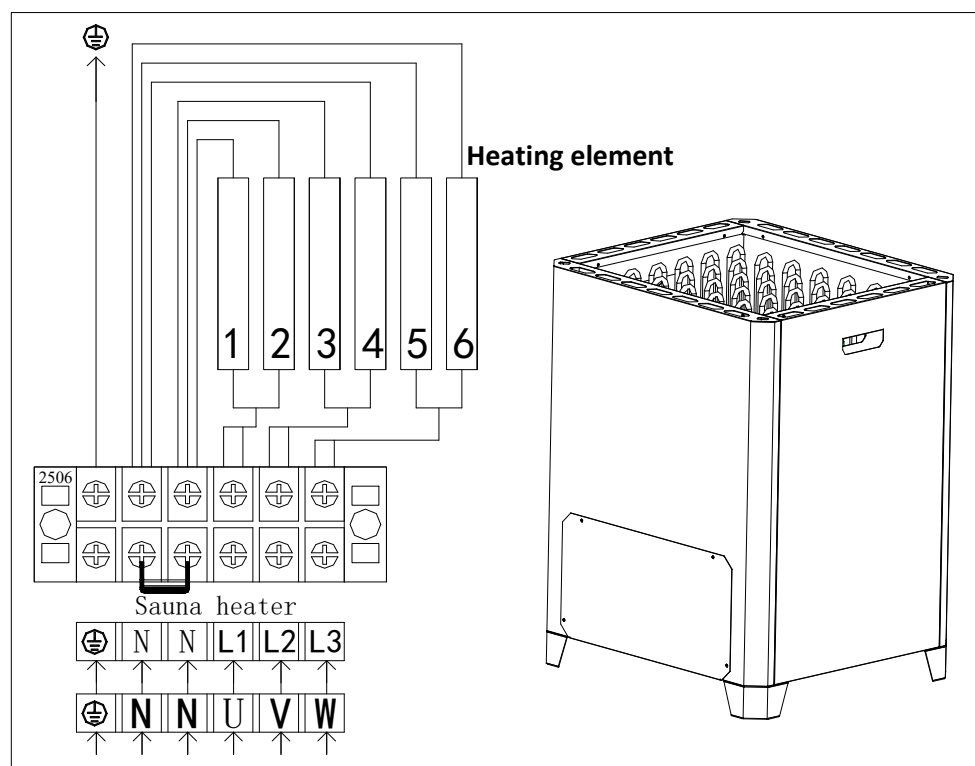


Figure 4-1 10.5KW 12KW 15KW 18KW European 380~415V 3 Phases, for CON4

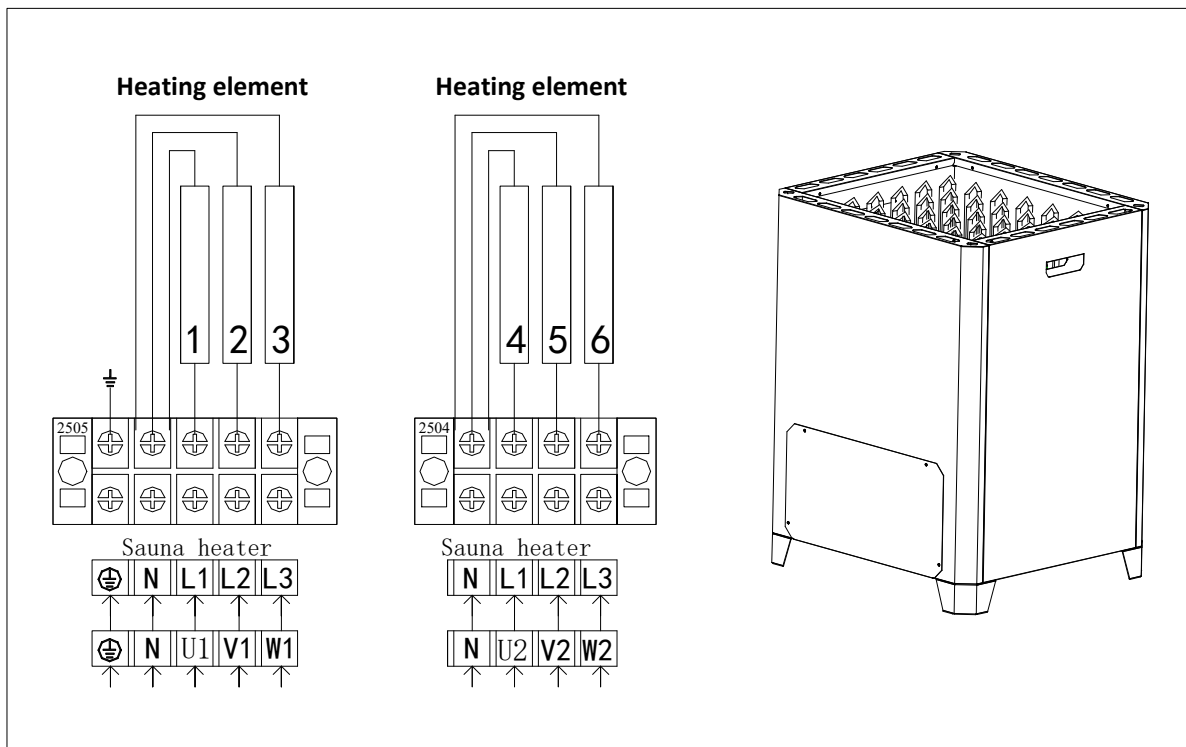


Figure 4-2 10.5KW 12KW 15KW 18KW European 380~415V 3 Phases,
for KSA touch screen controller

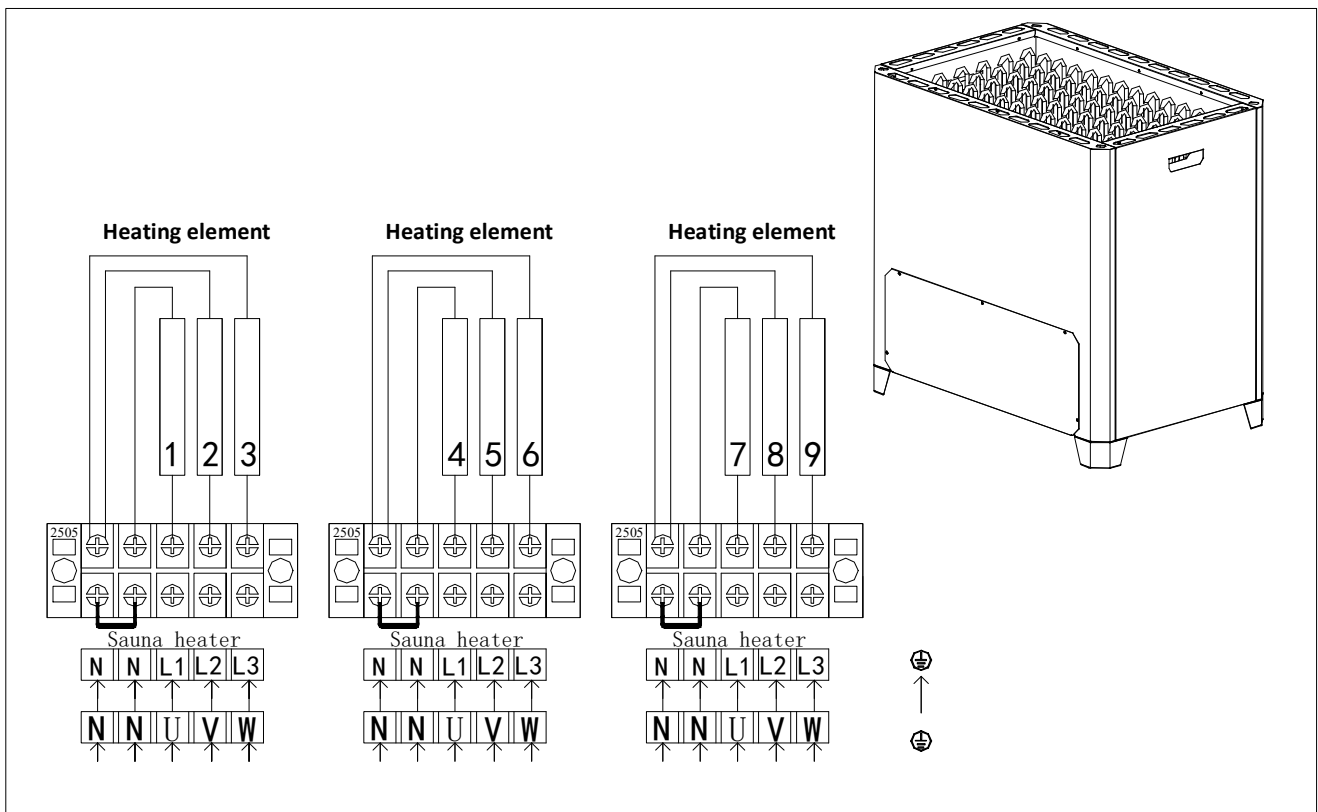


Figure 5-1 21KW 24KW 27KW European 380~415V 3 Phases,
For CON4 and KSA touch screen controller

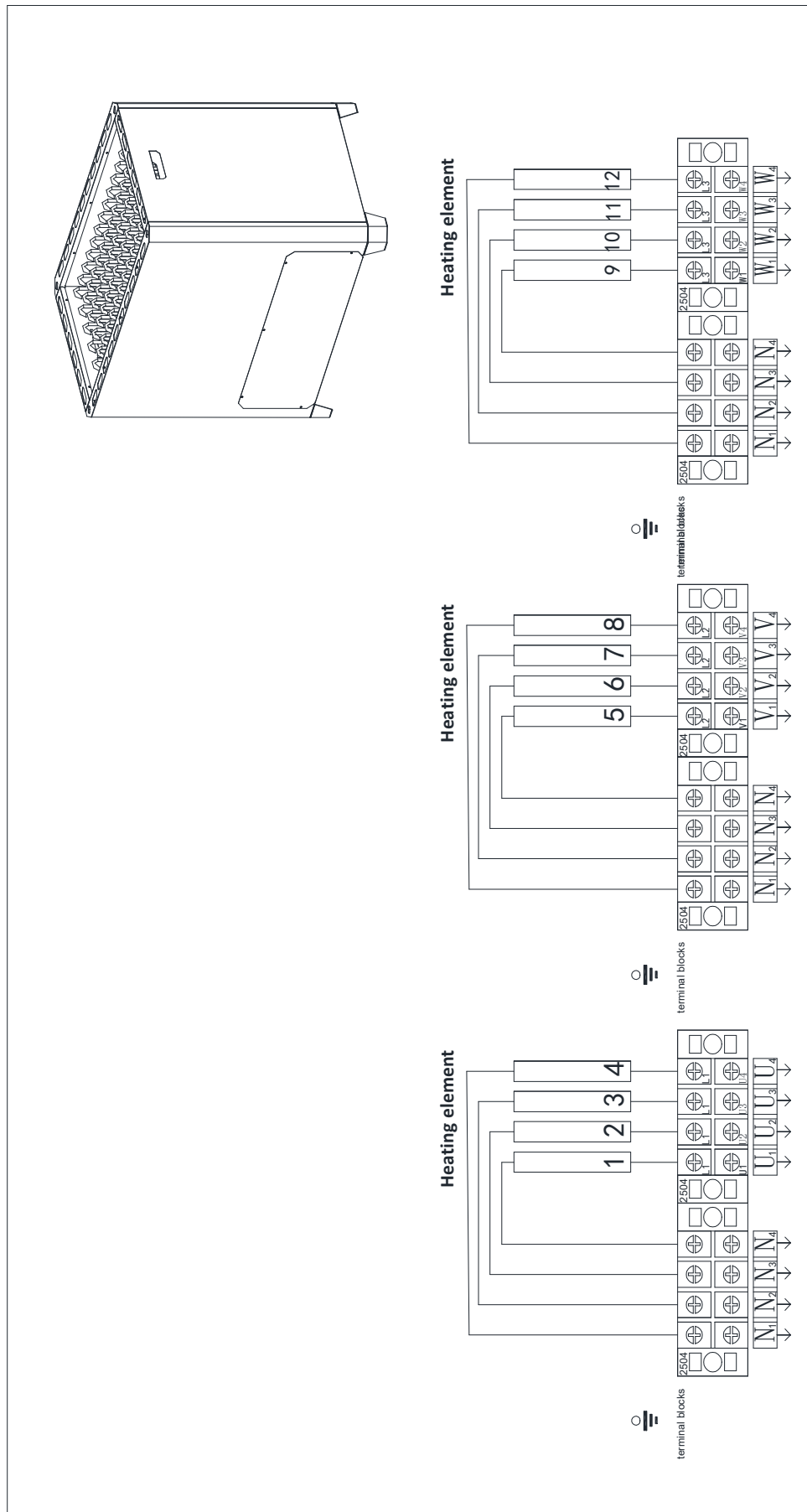


Figure 5-2 30KW 36KW European 380~415V 3 Phases,
For KSA touch screen controller

5. Functions And Operation

Ensure there is nothing near the heater before switching on it. The heater and the stones may emit smells when you use the heater for the first time, make sure that the sauna room has been efficiently ventilated or open the sauna room door.

The temperature that bather preferred to is about 60~90°C. Too powerful heater will heat sauna room too quickly while the temperature of stones may remain insufficient. Consequently, the water thrown on the stones will run through and but will not produce sufficient vapor. On the other hand, if the heater is under-powered, the heating time will be much longer.

Attentions:

- Do not hang clothes to dry in the heater, for this may cause a risk of fire.
- Do not bake food in heater .
- Keep away from the heater when it is hot, the outer surface of the heater may burn your skin.
- Never put cover on the heater.
- Do not use heater without stone.
- Do not put wood on the heater.
- Do not use chlorinated water.

For time and temperature setting, please refer to CON4 controller manual or KSA-elegance Touch screen controller manual.

6. Sauna Stone Arrangement

Cautions:

- Do not use the heater without stones, otherwise it may cause a fire.
- Only use the original sauna stone, or the stone for use in heater.
- Do not use ordinary stone, that may emit harmful substance, easily break and do not possess good heating capacity.
- Wash the stones to clear the dust before putting them into the heater. The diameter of stone is about 3-8 cm. Stones of unspecified sizes should not be used.
- **Put the larger stones at the bottom of stove compartment and the smaller ones on the top, do not pile them tightly so that air can flow freely.**
- **The stones should not be placed too tightly or too loosely. The stones should averagely cover the heater element. (See figure 6).**
- Rearrange the stones in the heater at least once a year or twice if it is in frequent use (maximum 500 hours). To decide the correct volume of stones in the heater, refer to technical data provided in table 1.

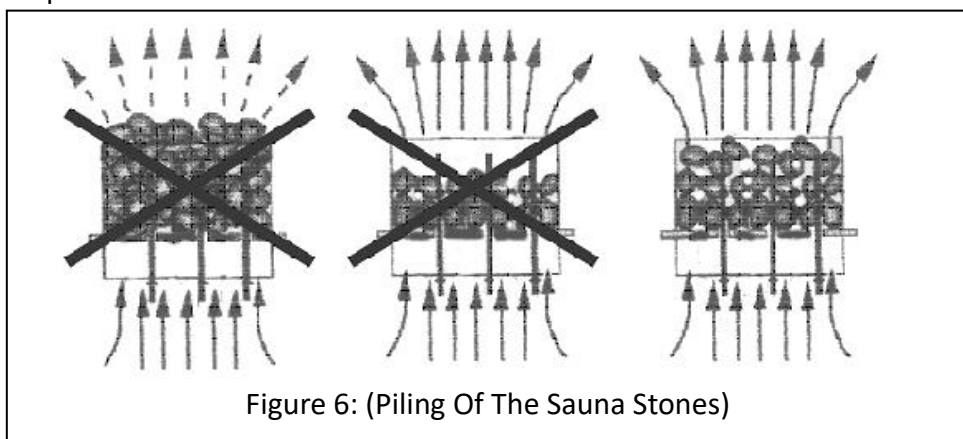


Figure 6: (Piling Of The Sauna Stones)

7. Sauna Room Ventilation

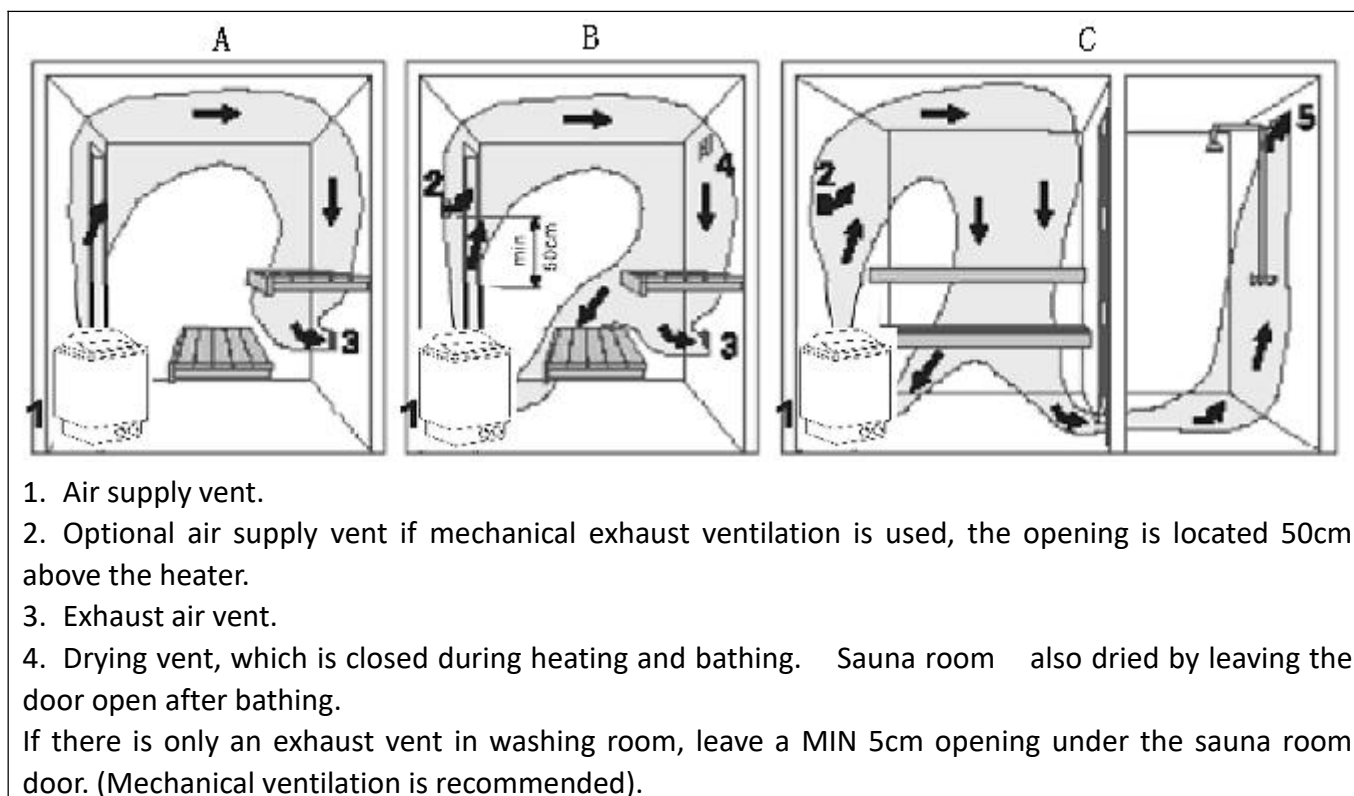


Figure 7: (location of inlet and outlet vent)

- To ventilate the Sauna room, the way is to draw air around the heater and move the heat to the farthest part of sauna room.
- Considering air ventilation of sauna room, the inlet vent and the outlet vent should be installed.
- The inlet vent may be installed on the wall below the heater (figure 7A). When using the mechanical ventilation, inlet vent is placed at least 50cm above the heater (figure 7B) or on the ceiling above the heater (figure 7c). The heavy cold air that is blown into sauna room is mixed with the light hot air from the heater, bringing fresh air for the bathers. The inlet vent should have a diameter of 5-10 cm .
- The outlet vent should be placed diagonally opposite to the inlet. It is advised the outlet vent is placed under the platform in a sauna room as far as possible from the inlet vent. It can be installed near the floor, or lead outside through a pipe from the floor going to a vent to the sauna ceiling, or under the door (to the washroom). In this case, the sill slot must be at least 5cm and it is recommended there is mechanical ventilation in the Wash Room . The size of the outlet should be twice of the inlet.

8. Sauna Room Insulation

The door, ceiling and walls of sauna room are necessary to be insulated in order to preserve heat. To prevent spreading moisture to other rooms or wall structure, make sure that moisture-roof is appropriate in sauna room. Moisture-proof must be placed between panel and heating insulation. Moisture and thermal proofing should be installed from outside to inside, such as:

- Recommend that the MIN thickness of the thermal insulation in the walls is 50mm and in the ceiling is 100mm.
- Aluminum foil laminate is affixed over the heating insulation as a vapor barrier.
- Leave at least 20mm air slot between vapor barrier and inside panel.
- Leave a slot between wall panel and ceiling to prevent gathering moisture behind the panel.

9. Warranty And Services

Product: TOLO-C-A stainless steel sauna heater	Warranty Time
Controller	1 year
Control box	1 year
Heater body (internal&external full stainless steel)	5 year
Heating element 840(in right way for piling of the stones)	2 year

Table 3

Notes:

- Warranty period will count from the ex-factory date of sauna heater.
- Limited free warranty only including provide free spare parts and our remote services, not including any other direct or indirect costs / losses.
- Limited warranty is offered to all customers. Any quality problem will be covered according to above file. Please provide the maintenance record when you ask for warranty.
- Our company has the right to decide whether to repair or to change. Approval must be obtained from our company before shipping back the product. The customer has to pay for the transportation fee and any parts fee beforehand.
- Any clause mentioned in the manual is not covered by the warranty.
- This warranty does not cover any defect, malfunction or failure caused by, or resulting from unauthorized installation, maintenance and repair, improper power supply, and any action which violates the manual.
- Damage caused by accident, misusing of chemistry products, or any other reason which are beyond our company's responsibilities will not be covered. Any product whose label, nameplate has been removed, altered, damaged is not covered either.
- After the free warranty period, services are still available if all cost is covered by the customer.
- Our company is not responsible for any direct or indirect damage caused by the sauna heater.
- The warranty does not cover any faults resulting from not follow our sauna stone arrangement instructions.

10. Heating Elements Replacement

Figure 8 Heating element replacement instruction:

