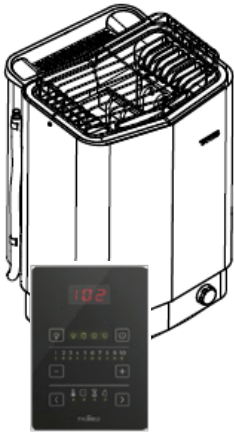




Sense Combi Pure 2.0 QSG (Quick Start Guide)
Please use this QSG ONLY to install this sauna heater.
Keep full manual for later reference and trouble-shooting.

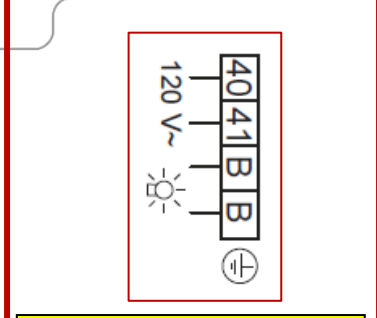
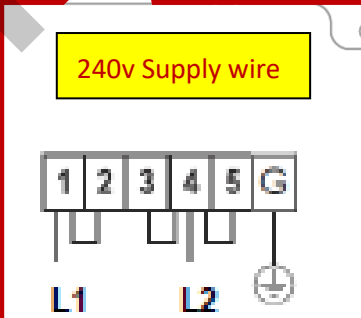
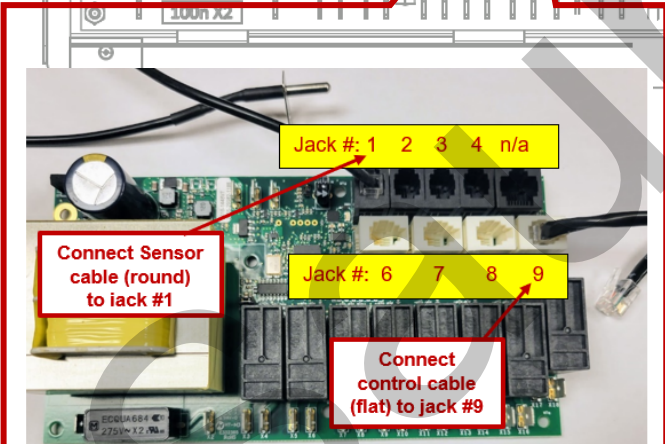
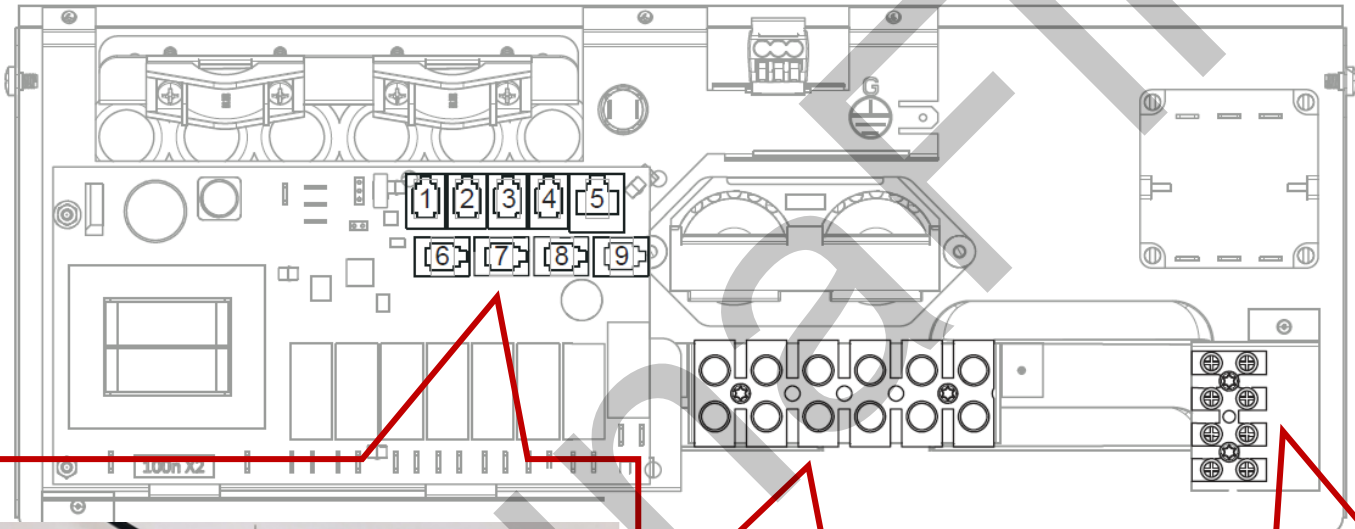


240-volt, single phase

Model	Output (kW)	Copper Wire size	Amps	Breaker
Combi 7	7	8	29.2	40
Combi 8	8.3	8 </td <td>34.6</td> <td>50</td>	34.6	50

Note: Heater rating label shows input for 208v and 240v. Heating elements do not change. The heater output will change based on the voltage applied to heater.

Typical home in USA & Canada is 240-volt, single phase.



Standard control cable length is 15 feet. Longer available for order if required. We discourage splicing or trying to make your own longer cable.

Sensor cable is standard 15'. No option. No need for longer as specified location is close to heater.

Confirm 3X copper connectors installed

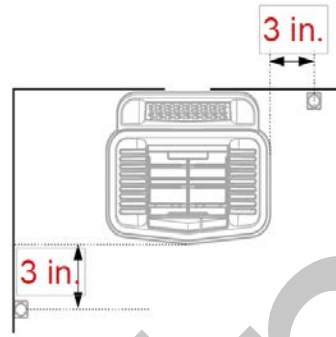
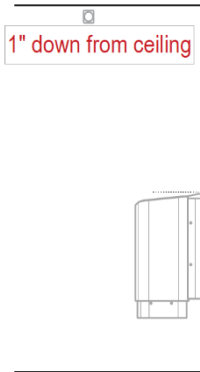
For use only if you want to use sauna control to operate your light (not dimmable). Requires separate 120v supply. (Do NOT take 120v from main 240v supply.)

Heater junction box is a tight fit. Ensure no bare wires make contact with circuit board, or other heater components. When closing junction box cover to ensure wires are not being pushed out of position or trapped in cover.

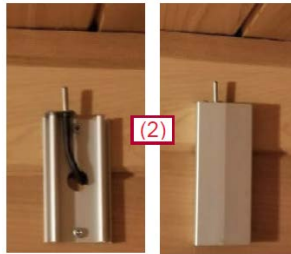
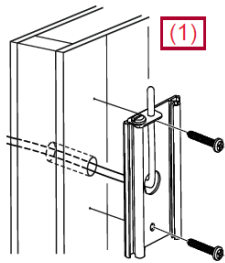
Some prefer or are required to make a weather-proof connection. You may use Liquid tight conduit for the wire exposed within the sauna. For more flexibility, you can install weather proof junction box inside sauna below heater and use flexible SOOW wire to connect to heater

Temperature Sensor Location

Sensor location is very specific and very important for proper function of the sauna heater. Sensor must be 3" to the front or open side of heater (not in corner), 1" down from ceiling.



Temperature Sensor Installation



1. Using Sensor Cover: To hide cable inside wall cavity, you must first feed the sensor wire through the sensor holder, then run wire inside the wall, down to area where heater is to be installed.
2. Sensor tip mounts to top of sensor, 1" maximum down from ceiling. Place cover over holder, making sure not to cover sensor itself.
3. Do NOT mount sensor holder on top of sensor after the fact. (This can affect sensor reading and affect sauna operation).
4. Many choose to install bare sensor without holder and cover. Arguably, this is optimal installation as sensor is fully exposed to air temp, not metal (cover) and more accurately reflects air temperature.

SAUNA VENTILATION

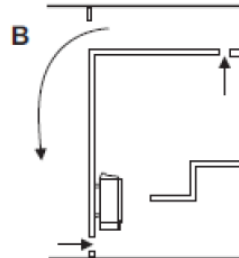
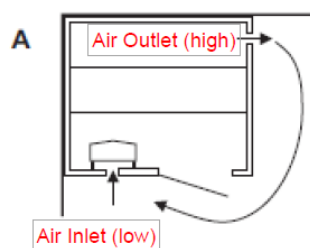
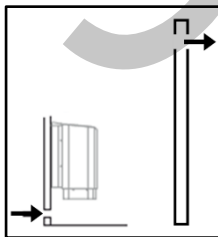
Indoor Sauna: Position the air inlet and outlet vents as far away from one another as possible (diagonally opposite).

The outlet vent should be located high on a wall (A), and should be about 19" sq. should be directed back into house – it should not be discharged directly to the outside.

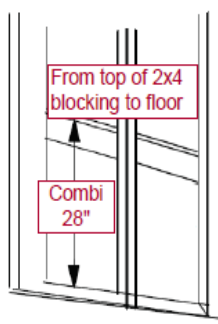
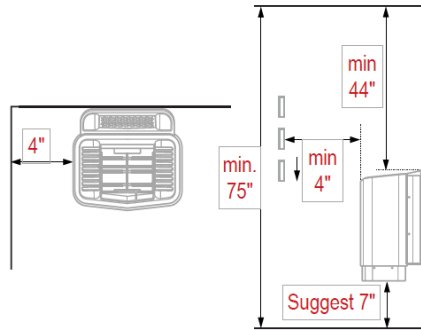
If outlet wall is inaccessible, install outlet vent in far corner of ceiling. Duct over drop ceiling to area in front of sauna (B).

Outdoor Saunas: Outdoors generally have easy access. Some choose to hold off on vents initially and add later if it appears to be necessary.)

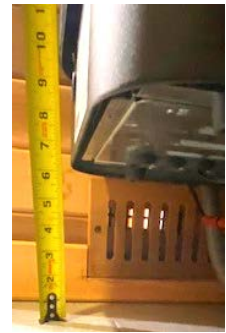
Do not install inlet and outlet vents on same wall. Bad ventilation can be worse than no ventilation.



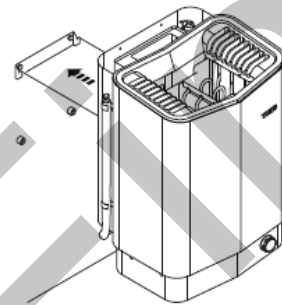
Heater Installation



Secure bracket thru lining into blocking. Otherwise, heater may fall off wall.



1. Minimum distance from side wall: 4" (100 mm)
2. Minimum distance from ceiling: 44" (1100 mm)
3. Minimum from heater guard (front): 4" (100 mm)
4. Minimum from heater guard (side): 2" (50 mm)
5. Minimum ceiling height: 75" (1900 mm)
6. Distance from floor: 7" (175 mm)



PURE 2.0 CONTROL INSTALLATION INSTRUCTIONS

The control panel can be installed inside or outside the sauna room. **If the control is installed inside the room, install no higher than 3' (90 cm) above the floor. No closer than 12" (30 cm) to heater.**

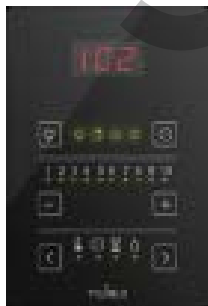
Before applying the control to the wall, connect it to the heater and electrically test everything first.

INSTALLATION WITHOUT BRACKET

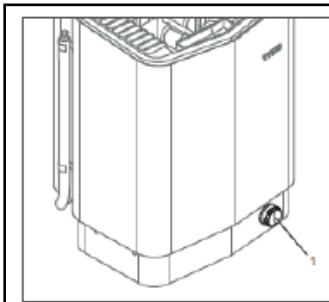
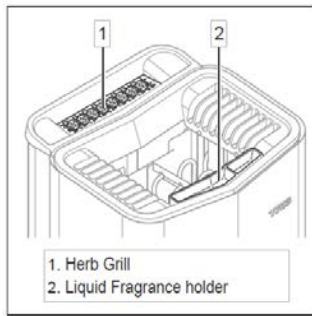
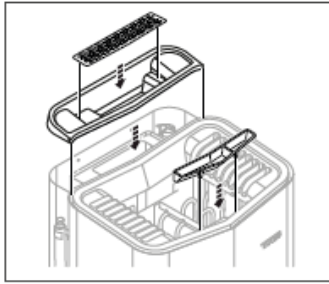
Cut a 1-3/16" (3 cm) hole through the wall big enough for the control panel connector. Clean the surface where the control will be applied to remove all dust. Attach the double-sided adhesive to the control panel. Remove the protective backing from the adhesive and press the control panel firmly to the wall. Silicone sealant can be applied as an extra seal.

INSTALLATION WITH BRACKET

Use the mounting bracket as a template to mark screws holes on the wall. Cut a 1-3/16" (3 cm) hole through the wall big enough for the control panel connector. (If control cable to be surface mounted, connector can be fitted in back of mounting bracket.). Use adhesive to mount the control to the bracket.



See Control box for instructions on how to operate Pure 2.0 control.



Main Power Switch: On/Off Knob comes packed inside rock tray. Field install. Turn knob to turn on heater.

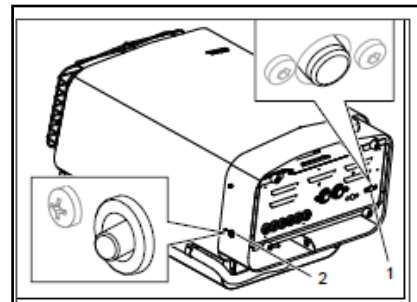


Fig. 9: Resetting the temperature cut-out
1. Temperature cut-out water reservoir
2. Temperature cut-out sauna heater

Cut-out for heater is on left side. When tripped, stem is pushed out. (When tripped, control goes blank.)



First Use:

Turn on heater for one hour to “burn off” any new paint or element oils. The water reservoir does not need to be operating. There may be a little smoke initially. This is normal.

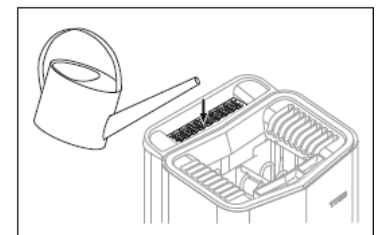
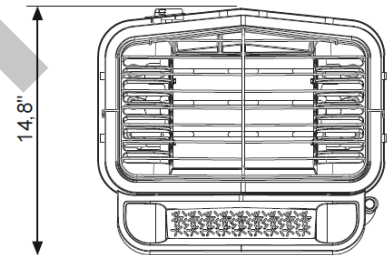
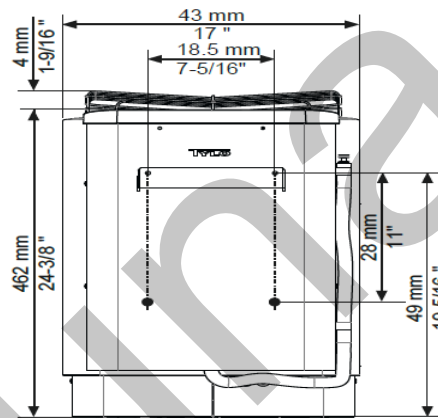
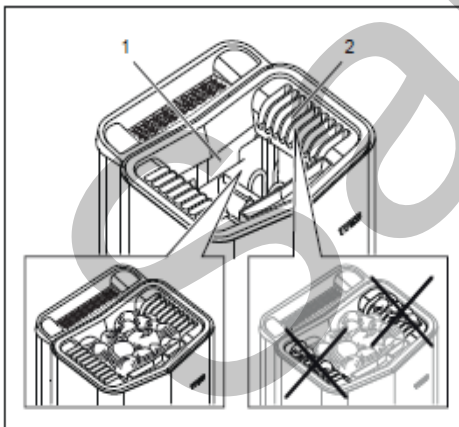


Figure 3: Filling the water reservoir.



Very Important:

Clean rocks before use to remove dust.

Sauna rocks may only be placed in center (deep) rock compartment (1). Never place stones on top of the side air chambers (2). This will obstruct air circulation, causing the unit to overheat and the cut-out switch to activate.

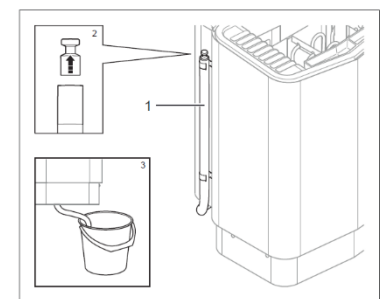


Figure 5: Emptying the water reservoir.

MAINTENANCE

To prevent build up of lime-scale and higher salt/mineral levels empty the reservoir after each use. If this is not done, foam build up may occur which can “trick” water level probe to detect higher than actual water level and risk burning out steam element.

Annually

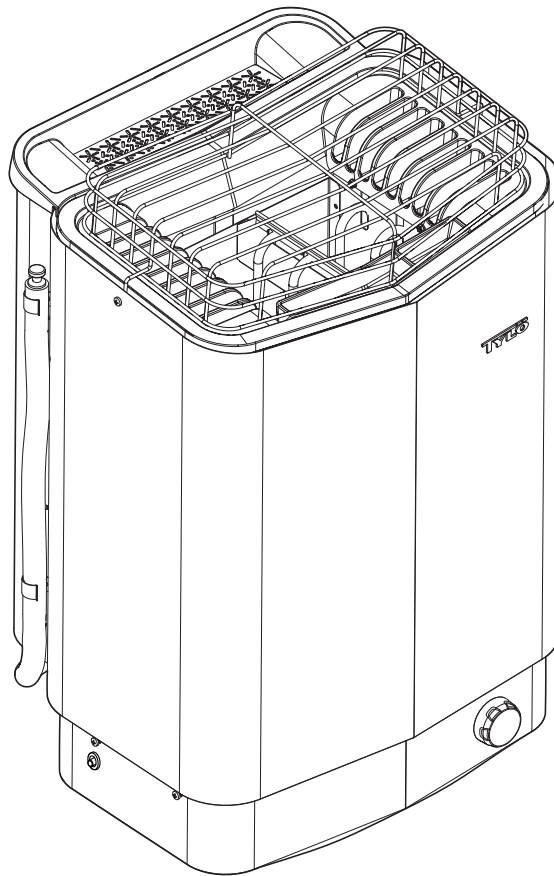
Combi water reservoir should be descaled at least once a year using “Tylo De-Scaler” (see full manual). Clean water level probe using a cloth (see full manual). Check stone compartment. Remove all stones. Remove all small stones, gravel and lime-scale from rock compartment. Replace damaged stones with new ones as required.

SENSE COMBI USA *Pure*

2016-10-18

ENGLISH

INSTALLATION / USER GUIDE



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WARNING!

* **Hyperthermia** occurs when the internal temperature of the body reaches a level several degrees above the normal temperature of 98.6° F. The symptoms of hypothermia include an increase in the internal temperature of the body, dizziness, lethargy, drowsiness and fainting. The effect of hyperthermia include:

- a) Failure to perceive heat;
 - b) Failure to recognize the need of exit the room;
 - c) Unawareness of impending hazard;
 - d) Fatal damage of pregnant women;
 - e) Physical inability to exit the room; and
 - f) Unconsciousness
- Do not take a sauna if using alcohol, drugs or medications.
 - Pregnant women or persons with poor health should consult their physician before using any sauna.
 - Caution fire hazard: Do not use the sauna room for drying clothes, bathing suits, etc. Do not hang towels above heater or place any object other than the rocks supplied on the heater. If any darkening of the wall around the heater is noticed discontinue sauna use immediately.
 - Inspect sauna regularly for required maintenance to heater, control and benches. Replace wood surfaces which show any signs of deterioration.
 - The heater gets extremely hot during operation and should not be touched or burns may result.
 - Minors should be adequately supervised whenever near a hot or warming sauna.
 - Fire sprinkler systems used inside any sauna room should be properly rated for sauna room temperatures.
 - Do not pour chlorinated pool or spa water on heater. Excessive water use on heater may cause damage and void warranty.
 - 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. Children should be supervised to ensure that they do not play with the appliance.

- Electric Shock Hazard - High voltage exists within this equipment. There are no user serviceable parts in this equipment. All installation and service to this equipment should be performed by qualified licensed personnel in accordance with local and national codes.
- Do not construct sauna room so as to restrict air flow through the bottom of the heater.
- Packing the rocks too tightly may cause the heater high limit switch to trip.
- Maintain minimum clearance from heater to wooden surfaces (benches, side walls, heater fence etc.). Mounting brackets supplied. Provides proper clearance from wall behind heater.
- Use only copper wire of the size and type indicated in the Heater Specification Chart and the temperature rating indicated on the heater junction box.
- A guardrail or fence is required around the heater to prevent burns from accidental contact.
- All heaters and controls must be grounded per NEC to prevent electrical shock in case of unit failure.
- Electrical outlets or receptacle must not be installed in a sauna room.
- Do not locate benches over heater.
- For household only.



Keep this user guide!

In the event of any problems, please contact the retailer where you purchased the equipment.

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INSTALLATION GUIDE

BEFORE INSTALLATION

Parts

Check that the following parts are included in the packaging:

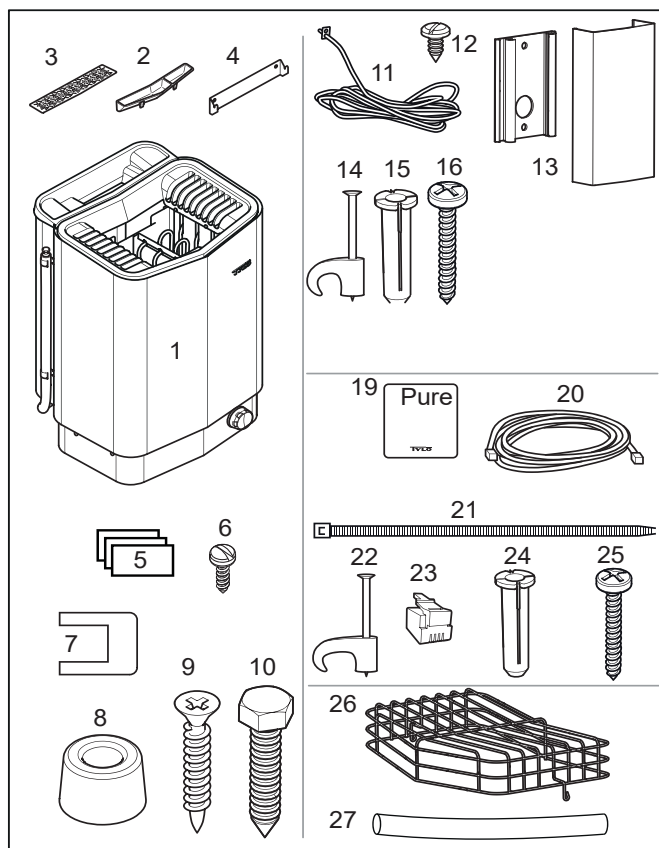


Figure 1: Sauna heater/control panel parts

1. Sauna heater
2. Herb bowl/air humidifier
3. Herb bowl
4. Brackets
5. Warning and Caution plates for the room in multiple languages
6. Screws B 4 x 6.5 x 6 for Warning and Caution plates
7. Connectors x 3
8. Spacers x 4
9. Screws x 4
10. Bracket screws x 2
11. NTC-sensor (Combi Pure)
12. Screw B4x6,5 (x 1 Combi Pure) (x 2 Combi Elite)
13. Sensor cover (Combi Pure)
14. Clips TC (3-5) x 10 pieces
15. Plastic plugs 25x5 x 2 pcs
16. Screws B6x25 x 2 pcs

19. Control panel (Pure)
20. Cable between heater and control panel, RJ10 4P4C, cable length 5 m x 1 pce
21. Cable tie
22. Clips C 3x5 x 10 pieces
23. Modular plug 4, 4/4RJ10 x 2
24. Plastic plugs 25x5 x 3 pcs
25. Screws B6x25 x 3 pcs
26. Rock guard
27. Protection hose Ø14x150 mm x 3 pcs, for RJ10 cables (sensor, control panel, door switch)

Contact your dealer if anything is missing.

Control panel Pure is supplied with Sense Combi Pure.
Control panel Elite WiFi is supplied with Sense Combi Elite.
See separate guides.

Installation requirements

To ensure safe use of the heater, check that the following criteria are met:

- Electrical wiring should be installed in accordance with NEC and all state and local codes.
- Fuse size (A) and power cable size (AWG) must be suitable for the heater (see The section called Connection/wiring diagram, Page 9).
- The sauna ventilation must comply with the instructions in this manual (see The section called Positioning the inlet vent, Page 5, The section called Positioning the outlet vent, Page 5).
- The position of the sauna heater, control panel, and sensors must comply with the instructions in this manual.
- The heater output (kW) must be suitable for the sauna volume (cu.ft.) (See Table 1, Page 3). The minimum and maximum volumes must not be exceeded.
- NOTE: A GFCI device is not required by ETL. A GFCI may be installed if required by local codes. However, GFCI devices will tend to nuisance trip during use of the product.

Table 1: Voltage and sauna volume

Model	Voltage	Sauna volume min. cu.ft.	Sauna volume max. cu.ft.
Sense Combi-U 7 SCU7	208 V	175	265
	240 V	175	320
Sense Combi-U 8 SCU8	208 V	250	360
	240 V	250	440

Installation tools

The following tools and materials are needed for installation and connection:

- level
- tape measure
- electric drill
- screw drivers

Installation planning

Before starting to install your sauna heater:

- Plan the sauna heater positioning (see the Heater positioning - normal installation section, page 4).
- Plan the control panel positioning (see the attached instructions for the control panel for allowable positioning).
- Plan the sensor positioning (see Figure 3, page 4).
- Position the air intake vent (see the Air intake vent positioning section, page 5).
- Position the air exhaust vent (see the Air exhaust vent positioning section, page 5).
- Plan the electrical installation (see the Connection/wiring diagram section, page 9).

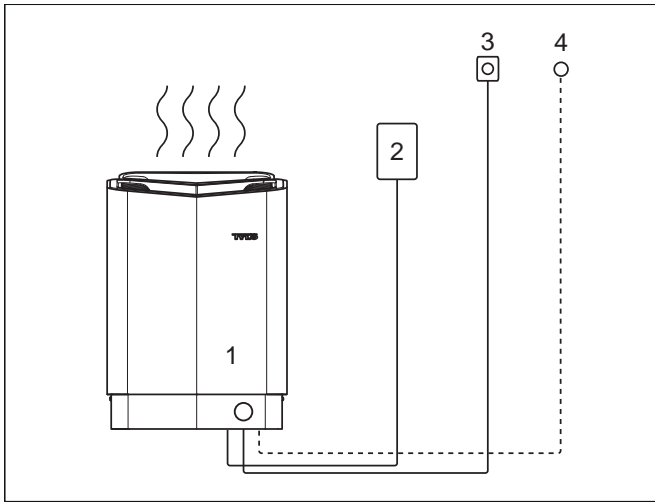


Figure 2: Schematic diagram of installation

1. Sauna heater
2. Control panel
3. Sensor
4. External on/off switch (option, door contact needed for function)



DANGER! No more than one heater may be installed in the same sauna cabin.

Positioning the control panel

The control panel can be installed inside or outside of the sauna room.

The control panel must be correctly positioned with regard to safety distances below when installed inside the sauna room

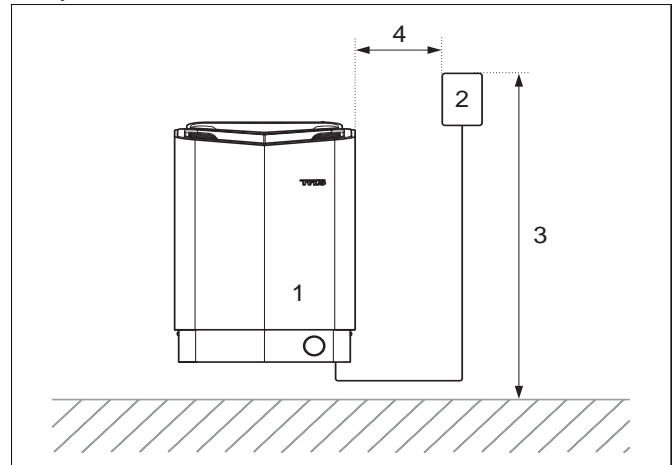


Figure 4: Safety distance, control panel

1. Heater
2. Control panel
3. Max. 36 in
4. Min. 12 in

Positioning the heater - normal installation

Position the sauna heater:

- on the same wall as the door (or the side wall if very close to the door wall).
- Position the heater at a safe distance from the floor, side walls and interior fittings (see Figure 3).

Position the sensor according the picture (see Figure 3).

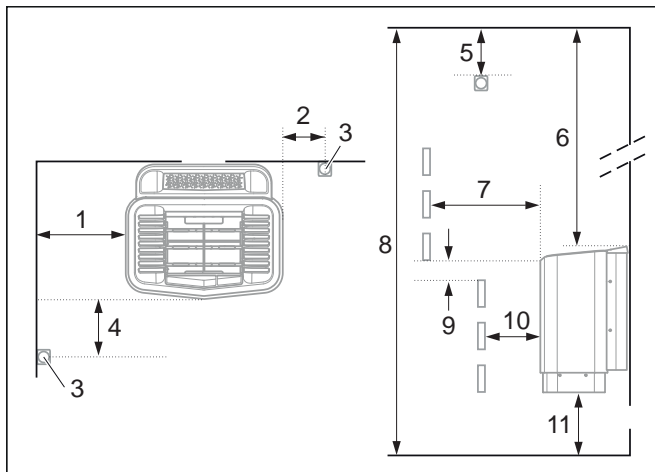


Figure 3: Positioning the heater - normal installation

1. Minimum distance from side wall: 4 in
2. Sensor position alt 1: 3 in from heater
3. Sensor
4. Sensor position alt 2: 3 in from heater front
5. Sensor position: 1 in from ceiling
6. Minimum distance from ceiling: 44 in
7. Minimum distance from interior fittings: 4 in
8. Minimum ceiling height: 75 in
9. Minimum distance: 1 in
10. Minimum distance from interior fittings: 2 in
11. Distance from floor: 7 in



WARNING
REDUCE THE RISK OF OVERHEATING

- * Exit immediately if uncomfortable, dizzy, or sleepy. Staying too long in a sauna is capable of causing overheating.
- * Supervise children at all times.
- * Check with a doctor before use if pregnant, in poor health, or under medical care.
- * Breathing heated air in conjunction with consumption of alcohol, drugs, or medication is capable of causing unconsciousness.



CAUTION
REDUCE THE RISK OF FIRE

Do Not Place Combustible Material On The Heater At Any Time.

Figure 5: Warning/Caution plate

Sauna room ventilation

In a sauna, the air should be changed about 6 times an hour. See Figure 6.

It is recommended that ventilation openings meet the requirements of UL Specification 875. The minimum opening should be determined using one of the following formulas:

$$\text{For } R < 31, \quad V \geq 9.3$$

$$\text{For } R \geq 31, \quad V \geq 0.3 \cdot R$$

where R = the floor area of the room in square feet and
 V = the minimum vent size in square inches

Example Venting Calculation:

Room is 54 sq.ft. (9 ft. by 6 ft.) 54 is larger than 31.

Multiple $54 \times 0.3 = 16.2$ sq. in.

Vent size opening should be 4 in x 4 in.

Positioning the inlet vent

Install the inlet vent straight through the wall under the centerline of the heater.

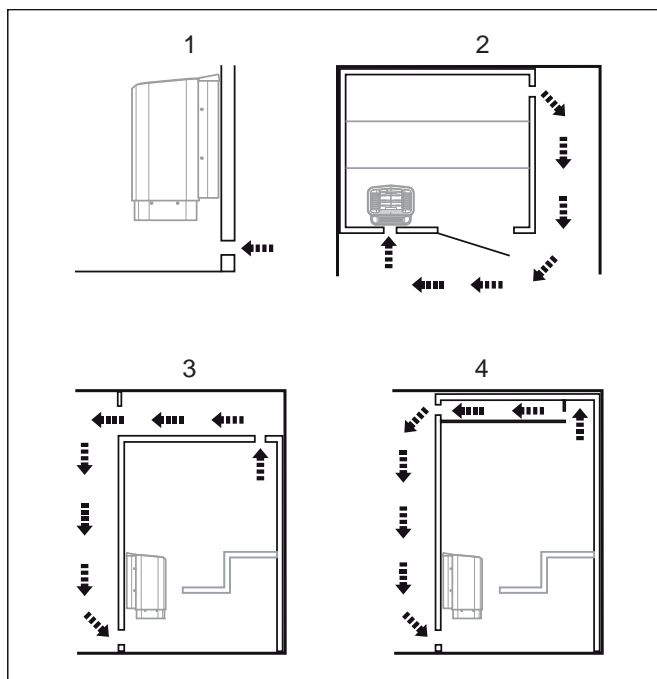


Figure 6: Positioning the air intake and exhaust vents

1. Inlet vent position.
2. Outlet vent position through the sauna wall.
3. Outlet vent position through the cavity.
4. Outlet vent position via duct.

Positioning the outlet vent

Position the outlet vent

- at the maximum possible distance from the air intake vent, e.g. diagonally (see Figure 6).
- high on the wall or in the ceiling (see Figure 6).
- so that it vents into the space that the door and air intake vent open into.

The outlet vent must have the same area as the inlet vent.

Ensure that the outlet vent is open.

Mechanical ventilation is not recommended due to the risk of poor air exchange, which can negatively affect the heater temperature cut-out.

Removing the Rock Guard

Unscrew the two screws on the side of the heater and lift the rock guard upwards, see Figure 7. (This is necessary when filling the stone compartment or cleaning the fragrance holder and air humidifier).

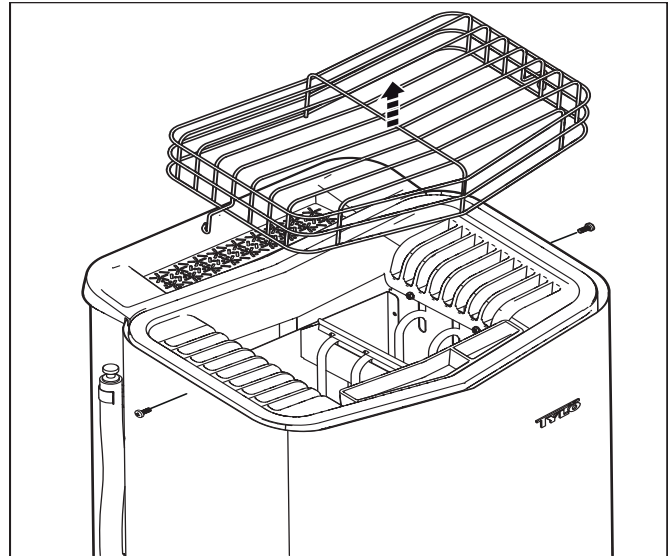


Figure 7: Removing the Rock Guard

Room construction

For safety and reliability, the following rules must be addressed.

- The enclosed WARNING: Reduce the risk of overheating ... warning plate must be mounted on or alongside the door outside the sauna room at about eye level. Use the supplied screws.
- The enclosed CAUTION: Reduce the risk of fire ... caution plate must be mounted on the interior wall above the heater. Use the supplied screws.
- No permanent locking or latch system is to be used on the sauna door.
- Acceptable door fittings are: magnetic catches, friction catches, spring or gravity loaded closures. The door must always open outwards.
- No shower may be installed in a sauna room.
- No electrical receptacle shall be installed inside the sauna room.
- The heater should not be operated without its container properly filled with rocks and the rock guard in place.
- If an intercom speaker is installed, it should be away from the heater and as close to the floor as possible.
- If a room light is installed, it should be a surface mounted bracket type. Wall mounted lights should be about 70" above the floor. Ceiling mounted lights should be of an approved type with a junction box that is remote to the fixture itself. Use only a fixture that uses A.F. or fixture type internal wiring. A 60 watt bulb should provide sufficient lighting.
- Fire sprinkler systems installed inside any sauna room should be properly rated for sauna room temperatures.
- Always mount the heater according to these installation instructions.

Typical wall construction

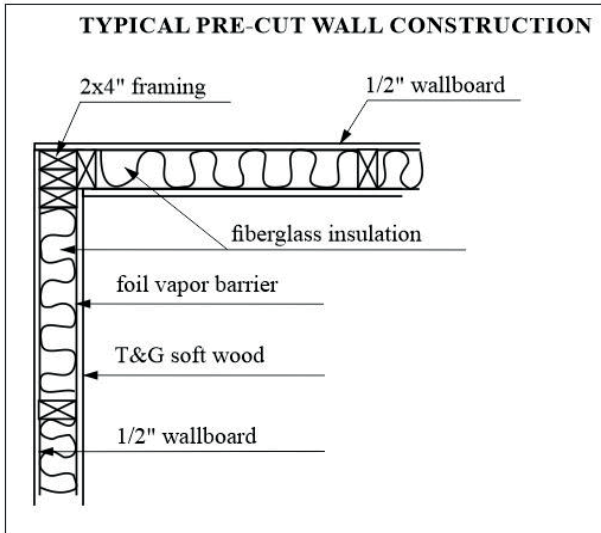


Figure 8: Typical wall construction

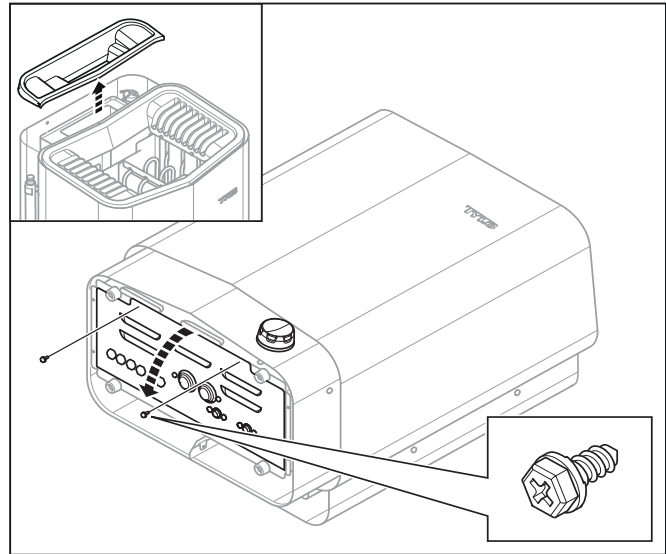


Figure 10: Opening/closing the cover

INSTALLATION

Sauna heater installation

1. Attach the bracket and spacers to the wall following the specified dimensioning (see Figure 9). -

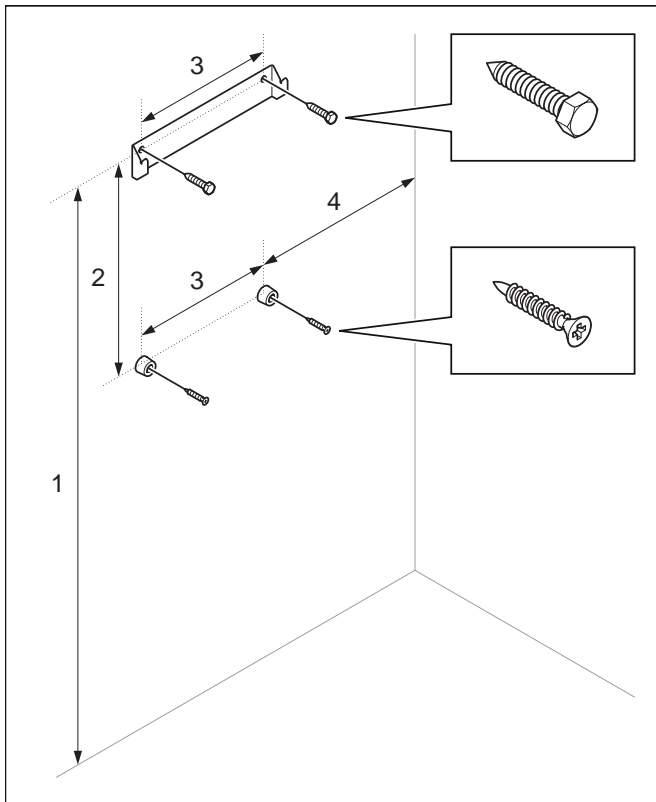


Figure 9: Bracket with screws and spacers

- 1. 26.3 in
- 2. 11.0 in
- 3. 7.3 in
- 4. 9.0 in (minimum distance)

It is easiest to prepare for installation with the heater lying down. To install the heater:

- 2. Remove the cover to the water reservoir and lay the heater down with the front facing upwards (see Figure 10).
- 3. Undo the screws and open the cover (see Figure 10).



WARNING! Always check that the heater is connected to the correct main/phase voltage!

Connect the heater using standard wiring (Fk or EKK) approved for fixed installation. Any single wires (Fk) must be protected in electrical conduits (VP) to the heater.

4. Connect the main supply electrical cable (1) to the terminal (2) (see Figure 11) according to the wiring diagram (see the Connection/wiring diagram section, page 9).

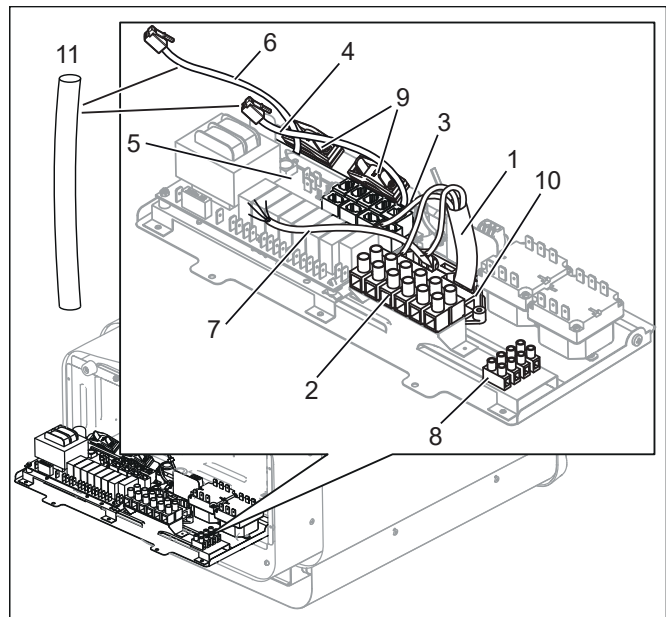


Figure 11: Circuit board

- 1. Electrical cable
 - 2. Terminal for connection of electrical cable
 - 3. Cable grommet (x6)
 - 4. Control panel cable
 - 5. Modular contacts for connection of control panel, sensor etc.
 - 6. Sensor cable
 - 7. Light cable (if connected)
 - 8. Terminal for connection of light (if connected)
 - 9. Strain relief connector for cables to modular contacts (x2)
 - 10. Strain relief connector for electrical cable
 - 11. Protection hose for RJ10 cables
5. Run the cables for the control panel and the temperature sensor through the cable grommets (3). Connect the control panel cable (4) to one of the four RS485 contacts (positions 6-9) (see Figure 11) according to the wiring diagram (see the Connection/wiring diagram section, page 9 fig. 19).
6. Connect the humidity- and temperature sensors cable (6) to one of the four RS485 contacts (positions 6-9) (5) according to the wiring diagram (see the Connection/wiring diagram section, page 9 fig. 19).

7. Connect the light cable (if relevant) (7), see Figure 11, to the terminal (8) according to the wiring diagram Figure 19.
8. Close the cover and tighten the screws (see Figure 10).
9. Hang the heater on the bracket (see Figure 12).

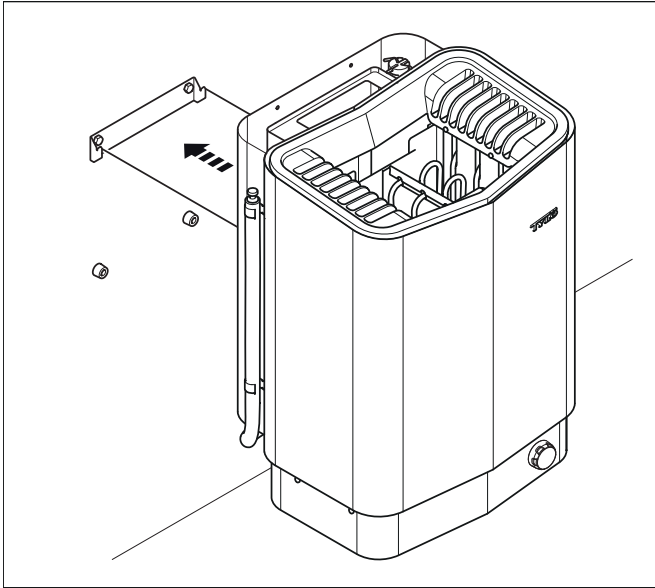


Figure 12: Hang the heater up.

10. Fit the spacers between heater and wall (to prevent the heater from being lifted off) (see Figure 13).

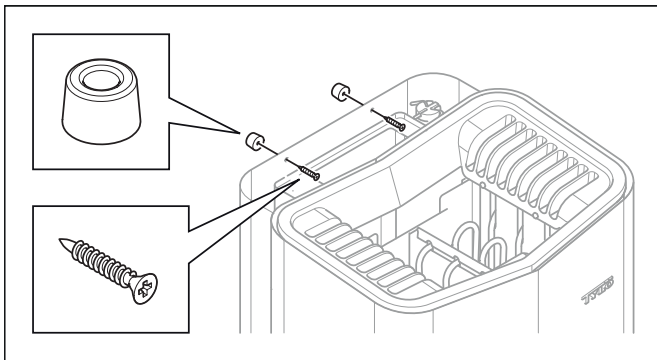


Fig 13: Fit spacers

11. Fit the cover for the water reservoir, herb grille and fragrance holder/air humidifier (see Figure 14).

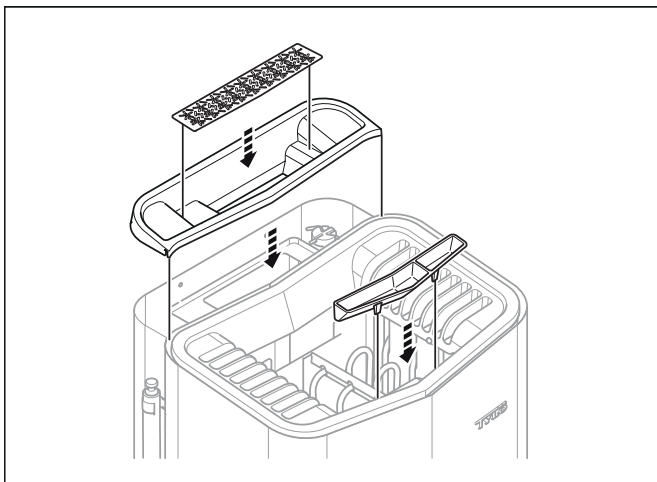


Fig 14: Fitting the cover for the water reservoir, herb grille and fragrance holder/air humidifier

12. Install the sensor on the wall see Fig 15 and 16. The thermistor wire may also be passed through the wall see Fig 17 and 18. Seal any holes in the wall behind the sensor. The thermistor wire may be extended outside the sauna using low voltage wire (2-lead).

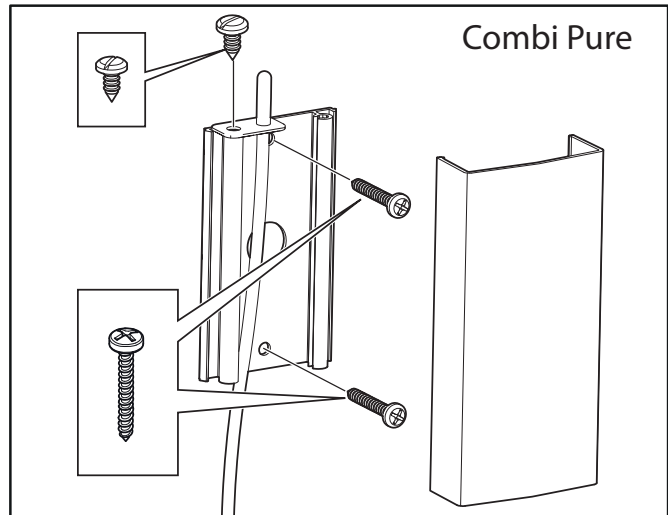


Fig 15: Installing the sensor - Combi Pure.

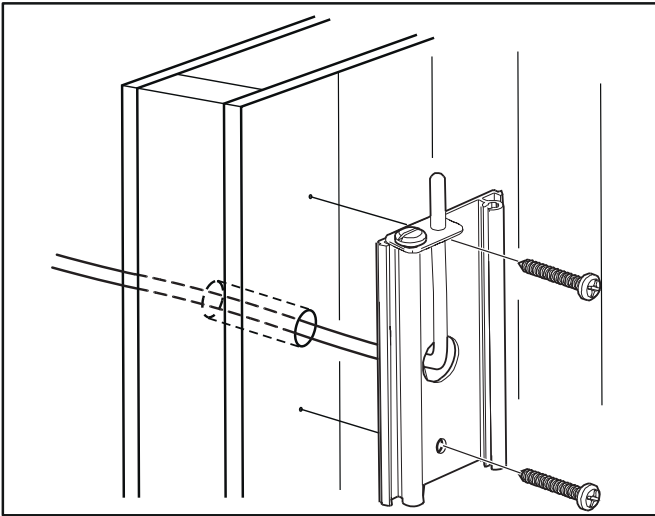


Fig 17: Wiring through the wall - Combi Pure.

Unusual voltages/numbers of phases

Contact Tylö Customer Service before connecting to voltages or numbers of phases that are not listed in the wiring diagram Figure 19.

External ON/OFF switch (option)

The external ON/OFF switch can be positioned anywhere outside the sauna, not to exceed 75 feet from the heater, to avoid voltage loss in the cable. Voltage loss affects the LED indicator for heater status (if built-in and connected to the switch).

For further information, see instructions supplied with the control panel.

CONNECTION/WIRING DIAGRAM

TAB	208 V 1 Phase			240 V 1 Phase		
Model	Amperage Amps	Output kW	Wire Size AWG	Amperage Amps	Output kW	Wire Size AWG
Sense Combi-U 7	26	5,3	10	30	7,0	8
Sense Combi-U 8	30	6,3	8	35	8,3	8

Note: Heating elements do not change for voltage changes. The heater output will changed based on the voltage applied to heater.

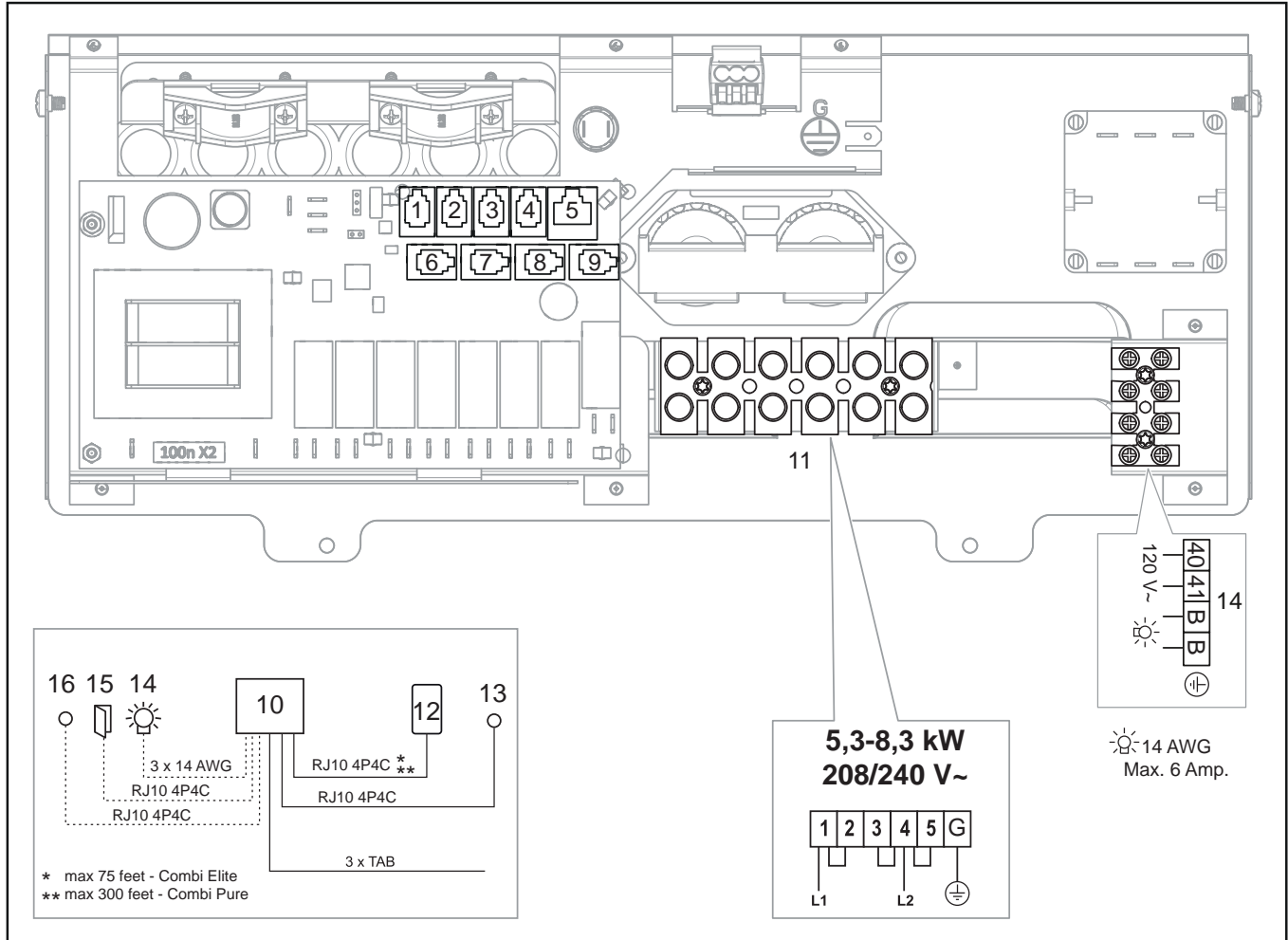


Figure 19: Wiring diagram

- 1. NTC Sensor - *Combi Pure*.
- 2. Ext switch (External switch Optional)
- 3. N/A
- 4. N/A
- 5. N/A
- 6. N/A
- 7. N/A
- 8. N/A
- 9. Controls panels (*Pure or Elite*).
- 10. Heater
- 11. Terminal for connection of electrical cable
- 12. Control panel (connect to positions 6-9)
- 13. Sensor - *Combi Pure* (connect to NTC position 1)
- 14. Light/terminal for connection of light
- 15. Door contact (option)
- 16. External switch (option)

Description of cabling/modular contacts

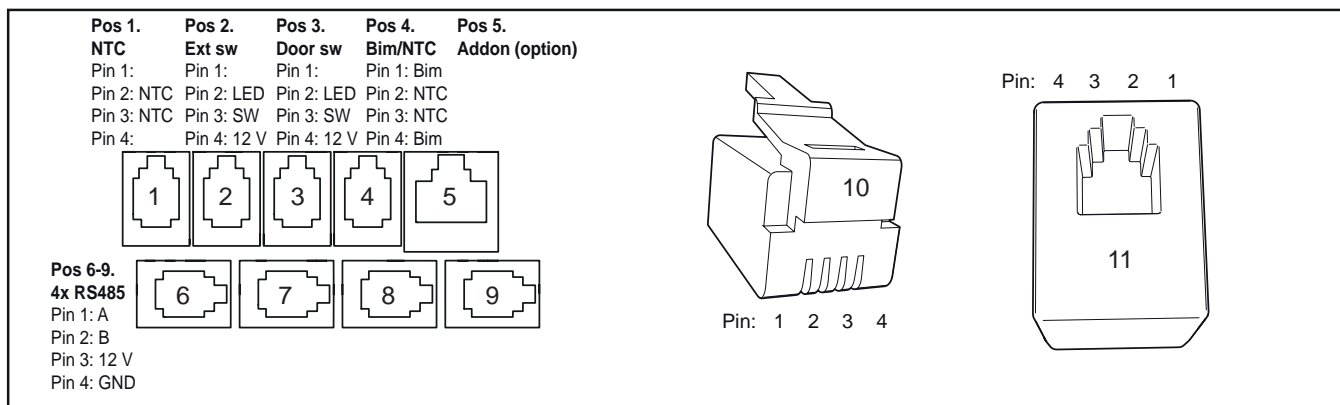


Figure 21: Modular contacts, description (Pos 1-4 and 6-9: RJ10, Pos 5: RJ45)

1. NTC Sensor - *Combi Pure*.
2. Ext switch (External switch Optional)
3. N/A
4. N/A
5. N/A
7. N/A
8. N/A
9. Controls panels (*Pure or Elite*).
10. Modular plug (RJ10) 11. Modular contact (RJ10)

Table 3: Connecting components in modular contacts (maximum cable area for RJ10: 0.90 mm/0.20 mm², AWG24)

Connection of	Pos	Pin	Comment
Combi Pure Temp. sensor (10kohm)	1	2-3	Must be NTC model.
External switch with no wire indicator	2	3-4	Both constant or impulse deactivation works.
External switch with wire indication	2	2-3-4	12VDC (max. 40mA).



NOTE! Crimp pliers are needed if changing modular cabling, e.g. shortening wires.

SELF-INSPECTION OF THE INSTALLATION

To check the installation:

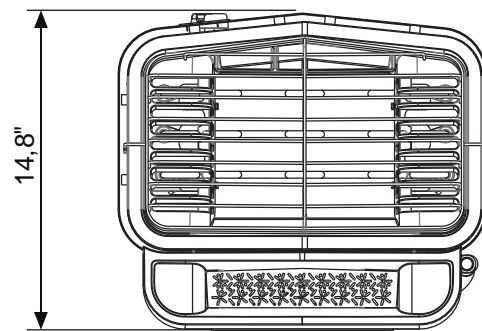
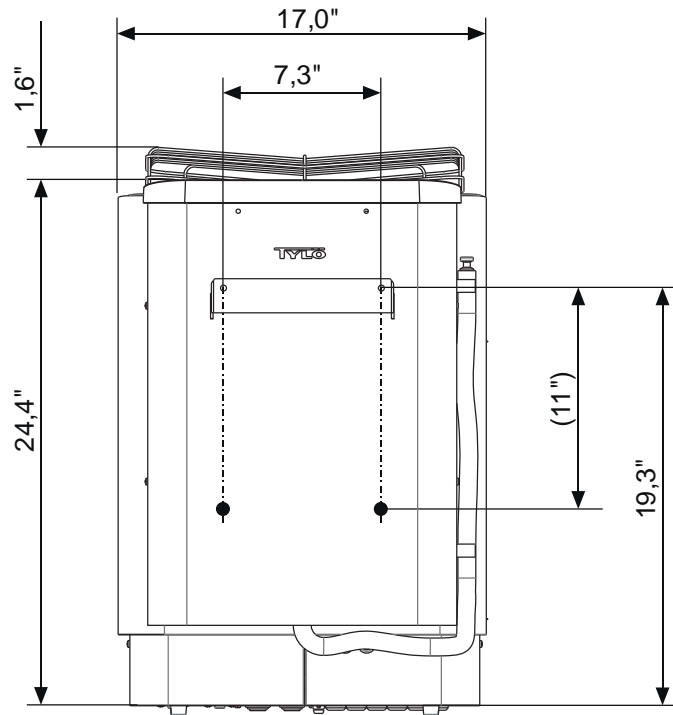
1. Turn power on at the Circuit Breaker Box.
2. Check that the control panel lights up.
3. Start the heater (see User Guide).
4. Check that all three tubular elements start to heat up (go red).

Please keep these instructions!

In the event of problems, please contact the retailer where you purchased the equipment.

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DIMENSIONS




GENERAL INFORMATION

Congratulations on your new sauna heater! Follow this user guide to get the most from your purchase. Wet and dry saunas are forms of bathing which originate way back in history. A hot sauna is best enjoyed at temperatures between 145-190°F.

PRIOR TO USE

The first time you use the heater


Fill the stone compartment

 **NB: Always use dolerite stones (Manufacture's Stones)! "Ordinary" stones may damage the heater. Do not use ceramic stones. Ceramic stones may damage the heater. The heater guarantee does not cover damage caused by ceramic stones.**

Fill the stone compartment around the heating elements from the bottom to the top, to approx. 2" above the top front edge. Do not press the stones into place. Capacity: Approx. 35 lb of stones. Place the stones loosely to allow optimum air circulation. The tubular heating elements must not be squeezed together or against the side.

Sauna stones must:

- tolerate extreme heat and fluctuations caused by water being poured on them.
- be cleaned before use.
- must have an uneven surface, so that the water "clings" to the stone surface and evaporates efficiently.
- be between 1-1/2" to 2" in size to allow air circulation in the stone compartment. This will increase the life of the tubular elements.

 **NB: Never place stones on top of the side air chambers. This way will obstruct air circulation, causing the unit to overheat and the cut-out switch to activate.**

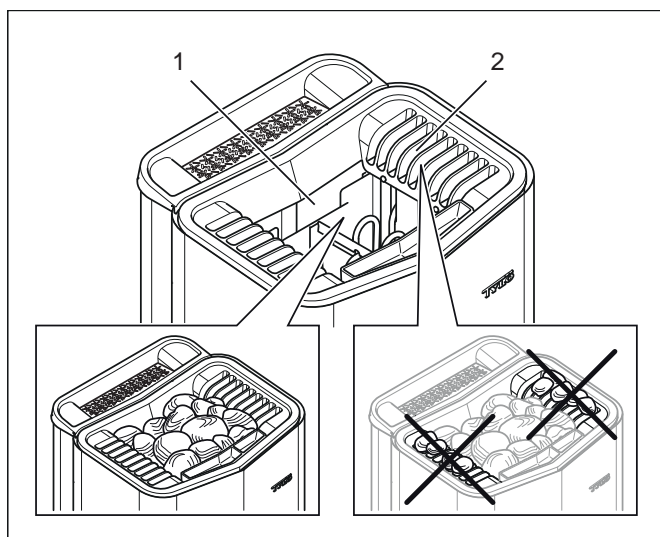


Figure 1: Filling the stone compartment

1. Stone compartment
2. Side chambers

Turn on the heater to remove any new paint odors
To remove "new paint odor" from the heater:
Heat the sauna heater for about one hour. The water reservoir does not need to be working.
A little smoke may appear.

Default settings

Using the control panel for the first time:
See instructions supplied with the control panel.


Prior to each use


Check the following

Check that:

- there are no foreign objects in the sauna cabin, on or in the heater.
- the door and any windows to the sauna cabin are closed.
- that the sauna door opens outwards with a little pressure.

NB:

 **DANGER! Fragrant essences and similar products may ignite, if poured directly onto the stones.**

 **NOTE! Do not use the sauna cabin for any purpose other than taking saunas.**

Turn on the main power switch

The main power switch is at the bottom of the heater.
Switch it on, if it is not already switched on (see Figure 2).

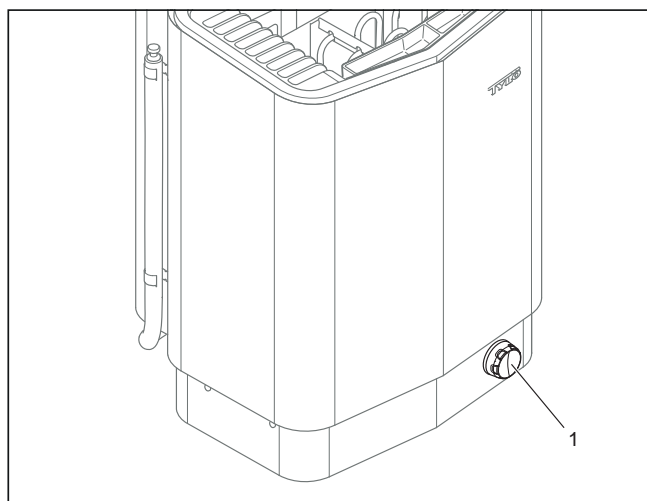


Figure 2: Positioning of the main power switch

1. Main power switch

USE

The control panel in general

See instructions supplied with the control panel.

Water reservoir

The sauna heater works with and without water in the tank. When the water reservoir is in use, max. two out of three heater elements in the stone compartment will be working. The heater switches automatically between the reservoir and stone compartment, depending on which setting has been set on the control panel. See the instructions supplied with the control panel.

Filling the water reservoir:

Before starting the heater, fill the water reservoir by carefully pouring tap water through the herb grille, see fig. 3.

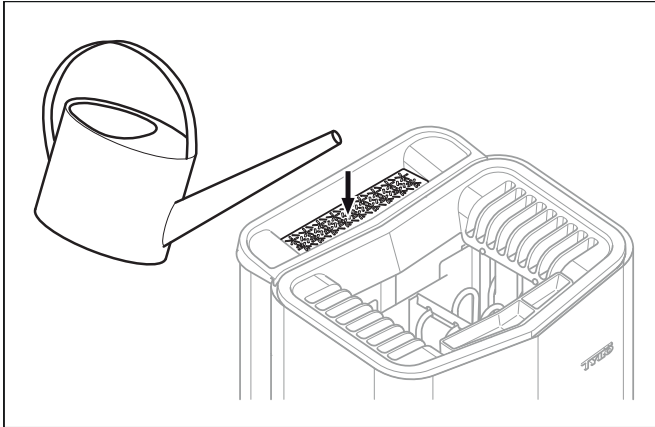


Figure 3: Filling the water reservoir.



Note! Never use salt water - can damage the heater element in the reservoir. It can also cause a build up of foam which causes the level sensor to detect a higher water level than actual, and the heater elements can break.

1. An empty reservoir is shown by two empty drop symbols on the Elite control panel display (Pure control panel shows a flashing drop symbol when the heater is operating). If the reservoir is empty when activating the main switch, three pulsing audio signals will sound

2. When the water level reaches the safety sensor, a filled drop symbols will shown on the Elite control panel display (Pure control panel shows an unlit drop symbol). The heater element in the reservoir can be started.

3. When the water level reaches the upper level sensor, two filled-in drop symbols will show on the Elite control panel display (Pure control panel shows unlit water drop). A continuous audio signal will also sound for approx.: 2 secs, indicating that the water level in the tank is full (in case you do not check the control panel display during filling).



Note! Do not add more water after the audio signal to avoid the water boiling over and out of the reservoir.

Water reservoir in operation:

1. When in use and if the water level drops below the upper level sensor, it will continue to operate as normal but a single filled-in drop symbol will show on the Elite control panel display (Pure control panel shows unlit water drop). Water can be added, and a steady audio signal will sound when the water level reaches full.

2. When in use and if the water level drops below the safety sensor, three pulsing audio signals will sound and two empty drop symbols will show on the Elite control panel display (Pure control panel shows a flashing water drop when the heater is operating). This indicates that there is insufficient water in the reservoir, and the heater element will automatically switch off.

Other functions

Fragrance holder



DANGER! Never put fragrances in the herb bowl or water reservoir.



DANGER! Fragrant essences etc. may ignite if poured directly onto the stones.

To create a pleasant fragrance in the sauna, pour a few drops of Tylö Sauna Fragrance into the water in the fragrance holder. You can also mix a few drops of the sauna fragrance with water in a sauna bucket and pour the water on fully heated stones. Use a sauna ladle for pouring water on the hot stones. Pour max. 1-2 ladles of water at a time, and then wait until the stones have regained sufficient heat before pouring fresh water on the stones again.

Tylö Sauna Fragrance comes in different variants and fragrances.

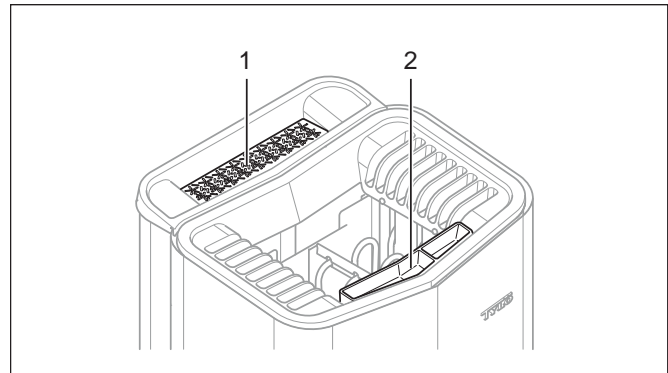


Figure 4: Other functions

1. Herb bowl
2. Fragrance holder/air humidifier

Herb bowl

A fragrant, refreshing herbal sauna can be created with fresh or dried herbs or spices. Enjoy pleasant herbal fragrances in a steamy tropical climate.

To create a fragrant sauna using fresh or dried herbs, put the herbs in the herb bowl (see Figure 4).



TIP! Try different combinations, such as birch, lavender, mint, spices, tea bags and other exciting fragrances.

Air humidifier

WARNING! Do not confuse the instructions for the air humidifier with those for the water reservoir.



DANGER! Do not pour water into the fragrance holder once it has been heated up, as this can cause boiling water to splash on the sauna occupants. Do not stand or sit in front of the heater while water is being poured into the fragrance holder, as hot water can spray out suddenly.

To maintain a comfortable basic level of humidity in the sauna, fill the built-in air humidifier (see Fig. 4) with water before switching on the sauna.



Tip: Pour a few drops of diluted sauna fragrance into the built-in air humidifier.

EXTERNAL ON/OFF SWITCH (OPTION)

External ON/OFF switch can be installed anywhere outside the sauna. The switch is momentary pulse or constant activation. The heater circuit automatically recognises which is used. Heater status and faults on the door contact can be seen if the switch has a built-in LED.

See instructions supplied with the control panel.

AFTER USE**Empty the reservoir**

DANGER! Hot water! Wait until the water has cooled before completing this step.

To prevent the build-up of limescale and higher salt/mineral levels, empty the reservoir after each bath. If this is not done and water is added each time you take a sauna, foam build-up can occur which can cause the level sensor to detect a higher water level than actual, with a risk that the heater element will break.

To empty:

1. Release the hose from the hose clip.
2. Hold the hose up and remove the plug.
3. Lower the hose into a suitable container and drain off the remaining water.
4. Hang the hose on the hose clip.

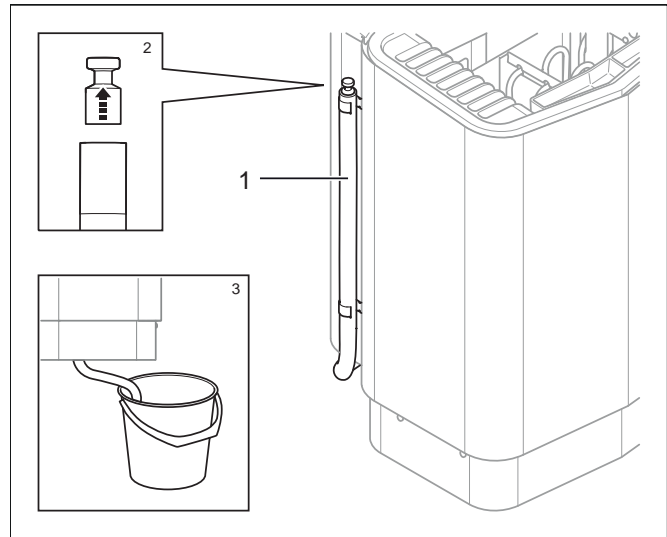


Figure 5: Emptying the water reservoir.

1. Water reservoir hose.
2. Remove plug
3. Lower hose into a suitable container

Switch off main power switch

CAUTION! The heater's memory function will be cancelled if disconnected from the mains for more than 7 days. The date and time will have to be reprogrammed.

The main power switch is at the bottom of the heater.

Switch off here when the heater is not to be used for an extended period (e.g. several weeks).

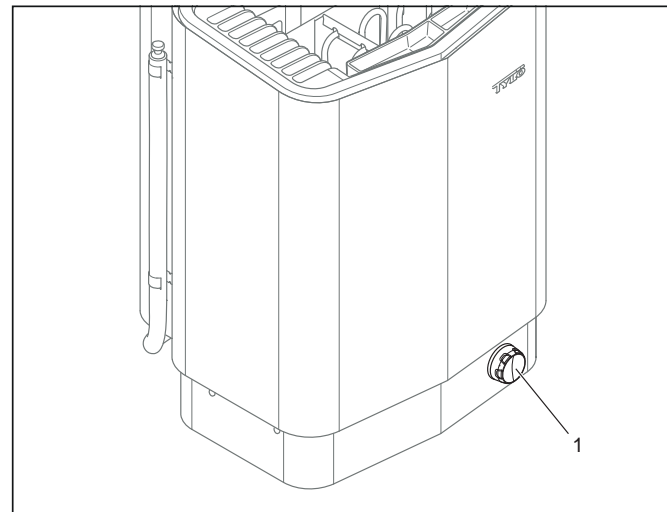


Figure 6: Location of main power switch

MAINTENANCE

After each use	As required	Once annually
Empty the water reservoir.	Descale the water reservoir.	Check the stone compartment.
	Clean the herb bowl and fragrance holder.	
	Clean the electrodes using a cloth or similar. See fig. 7.	

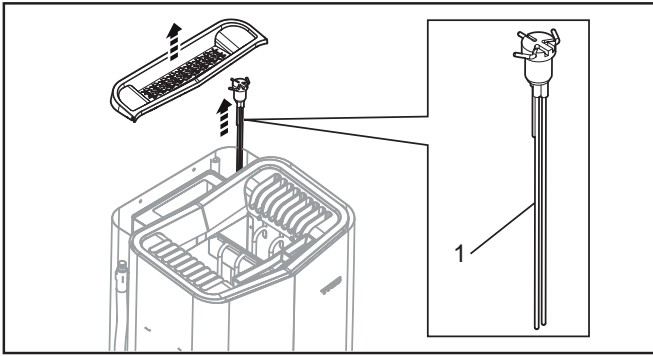


Figure 7: Cleaning the electrodes
1. Electrodes

Descaling the water reservoir

Descal the water reservoir as required using Tylö descaling agent.

How to descale:

1. Remove the herb grille from the herb bowl.
2. Start the steam function (see The section called Use, Page 13) and run until the water boils.
3. Switch off the heater, and wait for about 5 minutes.
4. Mix 2 cups of descaling agent and pour into the water inlet.
5. Leave the descaling agent to work for 1 hour, empty the reservoir and rinse thoroughly.
6. If necessary, repeat the procedure several times until all lime-scale has been removed.

Cleaning the fragrance holder/air humidifier and herb bowl

Clean the fragrance holder/air humidifier and herb bowl as required.

To clean the fragrance holder/air humidifier and herb bowl:

Lift out the fragrance holder/air humidifier and herb bowl and rinse them under running water.

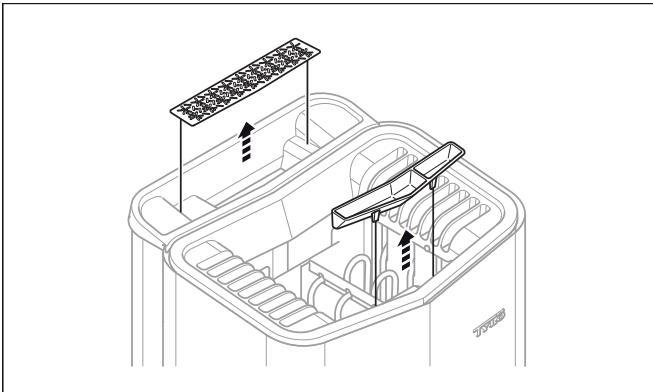


Figure 8: Cleaning the fragrance holder/air humidifier and herb bowl

Check the stone compartment

Check the stone compartment at least once annually or as many times per year as the heater is used per week.

Example: If the unit is used 3 times a week, check the stone compartment 3 times per year.

How to check the stone compartment:

1. Remove all stones from the compartment.
2. Remove any small stones, gravel and lime-scale from the compartment.
3. Put whole, undamaged stones back. Replace damaged stones with new ones as required (see Filling the stone compartment, page 13).



WARNING! If the stone compartment fills up with gravel and small stones, the tubular element can be damaged as a result of overheating, as air flow will be insufficient.

TROUBLESHOOTING

Temperature Safety Switches

The heater's temperature protection devices:

- **PCA** - The temperature safety on the PCA in the heater is designed to prevent components being damaged by overheating. If the safety switch is triggered, an error code shows on the control panel display. If the overheating switch has activated, the heater cannot be started again until the temperature has dropped down 68 degrees (°F) on the PCA.
- **Water reservoir** - The temperature safety switch in the reservoir is designed to protect the heater element from boiling dry. There is a red reset button under the heater which must be pressed in (see Fig. 9). If the cut-out has activated, the button will feel stiff and will 'click' when reset. If the cut-out has not activated and after resetting, the button will feel springy.
- **Heater** - The temperature cut-out in the heater protects the components and woodwork in the sauna from overheating. There is a white reset button on the left side of the heater which must be pressed in (see Fig. 9). If the heater safety switch has activated, the button will feel stiff and will 'click' when reset.

Information!

When the overheating safety switches activate, always check the cause of the problem. The life of the elements and PCA can be adversely affected by each overheating. If systems continues to overheat look at the following: Ventilation deficient? Room volume? Internal heater fault? Water reservoir not properly cleaned?

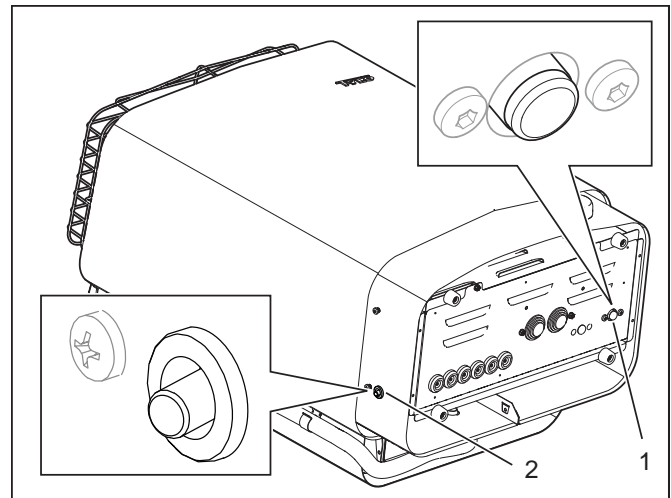


Figure 9: Resetting the temperature cut-out

1. Temperature cut-out water reservoir
2. Temperature cut-out sauna heater

Troubleshooting the control panel

See instructions supplied with the control panel.

Troubleshooting the sauna heater

Information!

Contact the dealer during the guarantee period in the event of faults.

See the instructions for the control panel for details of faults not covered in this user guide.

Table 1: Troubleshooting the sauna heater

Symptom	Possible cause	Remedy
Heater is on but does not create steam. Water boils in reservoir.	<ol style="list-style-type: none"> 1. Water level incorrect. Minimum water level for safety sensor? 2. Humidity settings on control panel do not correspond to operating status? 3. Water reservoir temperature cut-out activated? 4. Heater element in reservoir faulty? 5. If the sauna structure has deficient ventilation in conjunction with dry sauna and high sauna temperature (operating with no water in reservoir), the temperature cut-out can activate because of higher radiating temperature in the heater. 	<ol style="list-style-type: none"> 1. Fill up reservoir. 2. Set humidity to correspond to reservoir operation - read control panel manual. 3. Reset temperature cut-out. For more information, see the section on temperature cut-out on page 14. If the steam function does not work after reset, there is a risk of the reservoir being damaged. 4. An authorized electrician is required to find the fault. 5. Check for possible deficient ventilation.
Heater element in heater stone compartment does not warm up.	<ol style="list-style-type: none"> 1. Temperature settings on control panel do not correspond to operating status? 2. Water reservoir in operation? Only two of the three heater elements in the stone compartment can operate at the same time as the tank, otherwise excessive current is drawn from the electricity supply. This is not a fault outside normal operation. 3. Some of the heater fuses on the main switchboard can have tripped out? 4. Resistor coil in the heater element faulty? 5. Internal heater PCB fault? 	<ol style="list-style-type: none"> 1. Set temperature to correspond to heater element operation in stone compartment. 2. See the instructions supplied with the control panel. 3. Check and replace/reset the fuses in the main switchboard. 4. An authorised electrician is required to find the fault. 5. An authorised electrician is required to find the fault.
Lights in the sauna do not come on when switched on at the control panel.	<ol style="list-style-type: none"> 1. Is lighting connected to the heater? 2. Internal heater PCB fault? 	<ol style="list-style-type: none"> 1. Verify with authorized electrician who performed installation of heater/lighting. 2. An authorized electrician is required to find the fault.
Heater does not work, control panel does not light up.	<ol style="list-style-type: none"> 1. The main power switch is off? 2. Circuit breaker tripped on main electrical panel. 3. Loose contact in cabling between heater and control panel? 4. The specific 12VDC output on one of the PCB's RS485 modular jack to the control panel is faulty due to short-circuit? 5. Transformer on PCB in heater faulty? 6. Control panel faulty? 	<ol style="list-style-type: none"> 1. Turn heater main power switch. 2. Check and replace/reset the fuses in the main switchboard. 3. Switch off heater main power switch and connect each/paired cable to the control panel. Switch on heater main power switch again. If this does not help, an authorized electrician is required to find the fault. 4. Requires an authorized electrician to find the fault, faulty 12VDC output is indicated by LED out next to the RS485 output. Note: if the fault is in the RJ10 cable to the control panel, do not click into a working vacant RS485 outlet to avoid causing a fault in that outlet. RJ10 cable must be replaced/ contacts fitted in the event of a fault. 5. An authorized electrician is required to find the fault. 6. An authorized electrician is required to find the fault.
The fuses or circuit breaker in the building breaker panel trips as soon as the heater is turned on.	<ol style="list-style-type: none"> 1. There is a short-circuit at the heater GND. Can be due to a faulty heater element? 2. Lighting connected to and controlled via the heater faulty? 3. The heater has not been used for a long period, causing an insulation fault in the heater element? 4. Heater has had too much water poured on it? 5. Other internal heater fault? 	<ol style="list-style-type: none"> 1,2,3,4,5. Do not use the heater, switch off at main heater main switchboard trip and disconnect heater fuses on the main switchboard. An authorized electrician is required to find the fault.

SPARE PARTS LIST

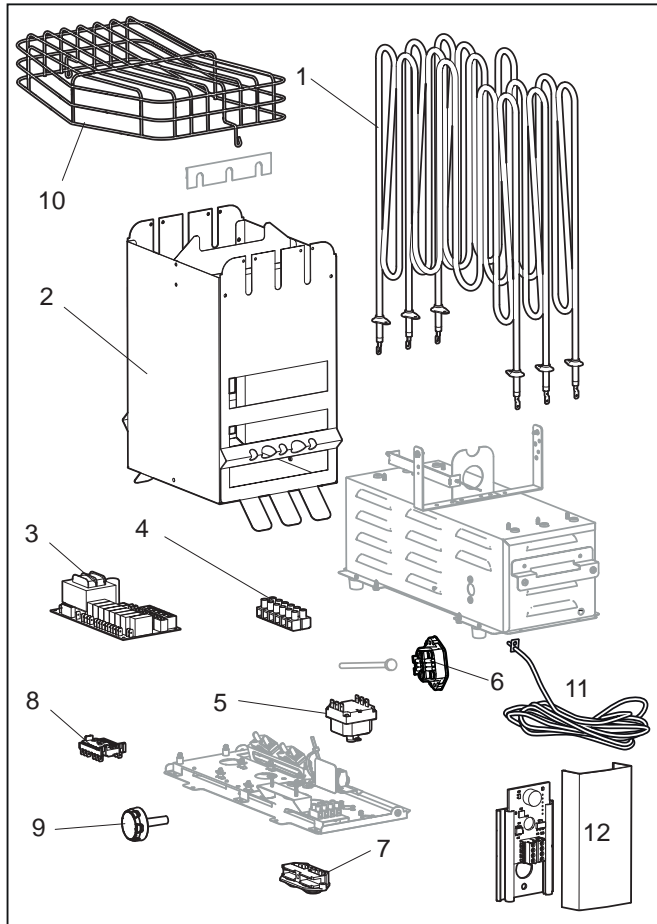


Figure 10: Spare parts 1

- | | |
|---|-----------|
| 1. Combi U8 Tubular Elements | 3001-924 |
| Combi U7 Tubular element | 3001-920 |
| 2. Stone compartment | n/a |
| 3. Circuit board | 9600 0068 |
| 4. Terminal block | 9600 0723 |
| 5. Water tank temperature safety switch | 9600 0002 |
| 6. Sauna heater temperature safety switch | 3119-607 |
| 7. Strain relief connector | 9600 0554 |
| 8. On/Off Switch | 9600 0040 |
| 9. On/off dial | 9600 0132 |
| 10. Rock Guard | 8019-541 |
| 11. NTC sensor - <i>Combi Pure</i> | 9600 0219 |
| 12. Humidity- and temperature sensor - <i>Combi Elite</i> | 9600 0074 |

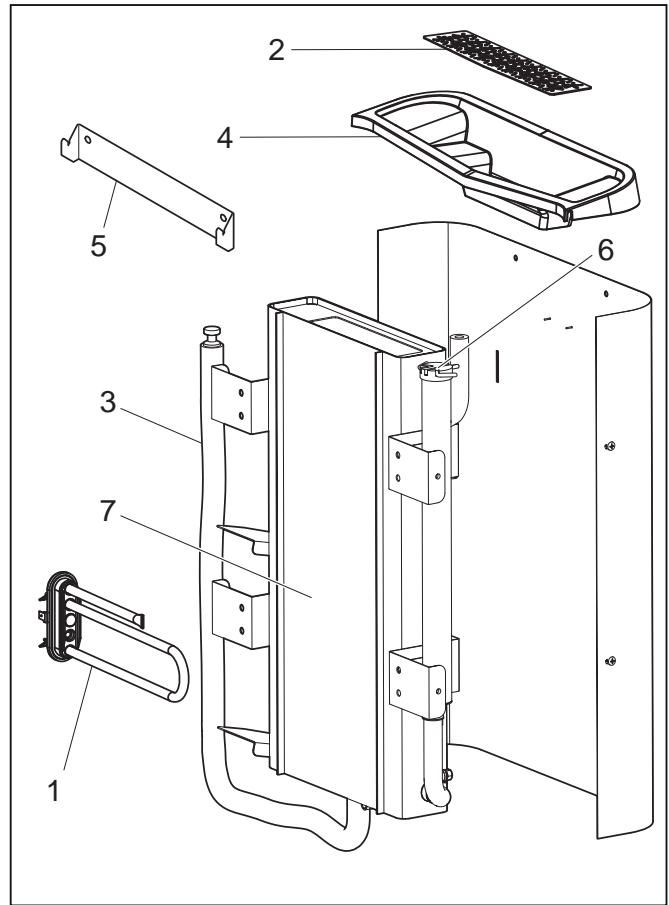


Figure 11: Spare parts 2

- | |
|------------------------------|
| 1. 9600 0223 Tubular element |
| 2. 9600 0730 Herb bowl |
| 3. 9600 0731 Hose with plug |
| 4. 9600 0732 Filler grille |
| 5. 9600 0733 Wall bracket |
| 6. 9600 0734 Electrodes |
| 7. 9600 0218 Water reservoir |

ROHS (RESTRICTION OF HAZARDOUS SUBSTANCES)

Instructions for environmental protection:

Do not dispose of this product with the domestic refuse when no longer in use. Take it to a recycling station for electrical and electronic equipment instead.

For further information, see the symbol on the product, manual or packaging.



Figure 12: Symbol

The different materials can be recycled as specified by their labelling.

You can help protect the environment by recycling or reusing the spent appliances or the materials in them. Take the product to a recycling centre without the sauna stones or the soapstone jacket (if fitted).

Contact your local authorities for details of your nearest recycling centre.

Please keep these instructions!

In the event of problems, please contact the retailer where you purchased the equipment.

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18
HEATER WIRING DIAGRAM

