WARNING!

- Make sure that there are no non-unsuitable object on top of the heater or in the sauna room before starting the sauna heater.
- Do not cover the sauna heater. This creates a fire hazard.
- Do not touch the top of the heater. This will cause severe burns.
- Incorrect ventilation or an incorrectly placed sauna heater can, under certain circumstances, cause excessive drying of the wood in the sauna and create a fire hazard.
- Cover sauna floors with a non-slip material.
- Never hose down the sauna.
- There must always be at least 50 mm (2.0 in) insulation directly behind the wood panelling in the sauna (no other material may be used, such as particle board, plaster, etc).
- Sauna doors must always open outwards. All that should be needed to open the sauna door is just a little light pressure.
- Do not use the sauna for any purpose other than sauna bathing.
- Do not install more than one sauna heater in a sauna room, unless you follow exactly the special instructions for twin-heater installations.
- Sauna fragrances, etc. may ignite if poured undiluted into the stone compartment.
- Never leave young children unattended in the sauna.
- Sauna bathing is not always suitable for persons in poor health. Consult your doctor for advice.
- Keep this information for future reference.

INSTALLATION

Fig. 1.

The Tylö Combi RC sauna heater (separate control panel CC 20, which is delivered with the heater).

Installing the sauna heater.

The sauna heater should be placed on the same wall as the door, see figure 7. As an exception, the heater may be placed on a side wall, but as close as possible to the wall with the door. Fit the heater 270 mm (10.6 in) above the floor, observing the regulations for the minimum distance to the side wall.

Tylö sauna heaters are connected by a standard cable (Fk or EKK) approved for permanent installation. The cable (EKK) or conduit is laid on the outside of any heating insulation; see fig. 4. A single-core cable (Fk) should be protected by a plastic conduit up to the heater, or in flexible metal conduit with internal insulation.

When the heater has been installed, a set screw (K, fig. 4) locks it in place so that the heater cannot be removed from the wall.

Fig. 2 – Minimum safety distances.

A = standard installation. **B =** recess installation.

Please refer to the table for minimum distances to side wall (X,Y). When installing Combi RC model sauna heaters in a recess, the sensor (C) should be placed 250 mm (9.8 in) from the rear wall of the recess and 1500 mm (59 in) above floor level.

Fig. 3 – Minimum safety distances.

Minimum distance to sauna fittings in front of a sauna heater.

Fig. 4 – Combi RC.

A = electric conduit. **B** = wooden panel. **C** = insulation. **D** = sensor (should be installed on the wall 1500 mm (59 in) above floor level). **E** = capillary tube/thermistor wire. **G** = separate control panel. **H** = Hanging console. **I** = vent. **J** = wooden batten. **K** = set screws. **L** = temperature limit control (in the reservoir). **M** = drainage pipe.

Fix the hanging console at a minimum distance (N) of 180 mm (7.1 in) from the side wall and 675 mm (26.6 in) above floor level (O).

Fig. 5-6 – Combi RC.

1 = sauna heater. **2 =** thermistor (sensor). **3 =** control panel CC 20. **4 =** external on/off-switch (if any). **5 =** mains fuse box.

Amperage and conductor area:

kW	230-240V 3~		230-240V~		400-415V 3N~		200-208V~		200-208V 3~	
	amp	mm²	amp	mm²	amp	mm²	amp	mm²	amp	mm²
6,6	17	4	29	10	10	1,5	33	10	19	4
8	20	4	35	10	12	2,5	40	16	23	6

Volume and minimum installation distances:

kW power	Sauna volume min/max cu.m.	Min. distance from side wall (mm)		Minimum ceiling height in sauna (mm)
		standard installation "X"	recess installation "Y"	
6.6	4–8	110	200	1900
8	6–12	110	200	1900

Installation of separate control panels.

Control panel type CC 20 is electronically controlled, and can have a remote control at one or more locations. The control cable between the sauna heater and the control panel must be a shielded cable (LiYCY). Connect the shielding to plinth 12 in the CC20, see the wiring diagram.

Alternative placement

The control panel is mounted on the wall inside the sauna room, no more than 1000 mm above floor level (fig. 5) or outside the sauna at any distance from it (fig. 6).

Fig. 16 Wiring diagram.

1 = sauna heater. **2 =** thermistor (sensor). **3 =** control panel. **4 =** external power switch (if any).

Check the heater's type identification plate to ensure the right voltage before you connect the electricity supply. **Don't forget to ground the unit!**

Unusual voltages or number of phases.

Before connecting the heater to a different voltage or number of phases than those described in the wiring diagram, contact Tylö Customer Service.

BUILDING INSTRUCTIONS

The importance of correct sauna ventilation.

Incorrect sauna ventilation can result in hot floors and benches, scorched walls and ceilings (the temperature limit control will be triggered)! So we do urge you to follow our instructions for sauna ventilation carefully.
Adjust the air outlet to evacuate 6–8 cu.m (7.8-10.5 cu.yd) of air per person, per hour, when the sauna is in operation.
Mechanical sauna ventilation is not to be recommended, as the forced air supply can cause a fire hazard through the wooden panelling drying out.

Fig. 7. Sauna heater and door on the same wall.

The "air circulation" created by the door should work together with the hot air generated by the sauna heater. To facilitate this, the heater should be placed on the same wall as the door (If exceptional circumstances require the heater to be fitted to a side wall, make sure it is located in close proximity to the wall with the door).

Fig. 8. Inlet vent always directly below the heater.

The inlet vent should be driven straight through the wall directly below the centre of the sauna heater. The cross-section of the vent for a family sauna is approx. 125 sq.cm (19.4 sq.in).

Fig. 9. The outlet vent should never discharge directly into the open air.

Position the air inlet and outlet vents as far away from one another as possible e.g. diagonally opposite. The outlet vent should be located high on a wall or in the ceiling, and should have the same cross-section area as the inlet vent.

Spent air should always be led back into the area where the door and air inlet are located - it must never be discharged directly into the open air. The air flowing from the sauna is continually being replenished in the room outside. This thermal ventilation method always works, no matter whether the pressure in adjacent rooms is negative or positive.

If there is a gap above the sauna ceiling, do not seal it completely. To ventilate a cavity above the sauna, drill or cut at least one ventilation hole into the cavity through the wall on which the sauna door is located.

Alt. A: Outlet vent through the sauna wall (seen from above). The vent is placed high up, near the ceiling.

Alt. B: Outlet vent through the cavity above the sauna ceiling (seen from the side).

Alt. C: Outlet vent through a drum under the ceiling in the sauna (seen from the side). The outlet duct should be placed in the angle between the ceiling and the wall. The drum can be built of wooden panelling and should have the same area dimension as the outlet vent.

Important!

Avoid placing the outlet vent so that it is led into a part of the building which is kept cold. This eliminates the risk for condensation.

Fig. 10. Recommendations for sauna construction:

A. Floor frame, corner posts, studs, ceiling frame.

B. Battens, rafters, vents.

C. 50 mm (1.7 in) mineral wool as heat insulation, approx. 20 mm (0.8 in) air gap if towards an outer wall.

D. 12 mm (0.5 in) wooden panel in walls and ceilings. There should always be at least 50 mm (1.7 in) of insulation behind the wooden panel; no other material, such as particle board or plaster, may be used.

E. Bonded, non-slip plastic floor-covering, extending approx. 50 mm (1.7 in) up the walls behind the wooden panelling.

F. Inlet vents should always be fully open. May be fitted with a shuttered vent on the outside.

G. Outlet vent, can be fitted with a sliding hatch to adjust through-flow.

H. Benches of at least 22 mm (0.9 in) thick knot-free pine (or aspen or lime).

I. Drainage channel (recommended in public saunas). Never place a drainage channel or drain under the sauna heater.

Fig. 11. Heater guard.

The stones and the top of the sauna heater get very hot! In order to reduce the risk of accidental contact, Tylö always recommend that a heater guard be mounted as shown in the sketches.

Some words of advice:

- There should never be a drain in a sauna. However, all public saunas should have a drainage channel connected to a drain outside the sauna (no drainage channel is needed in a private sauna).
- If the sauna has a window in the door or wall, treat the entire lower moulding with boat varnish and seal the joint between the glass and the moulding with a water-resistant silicone sealant. This prevents any condensation on the glass from seeping into the joint.
- Varnish the threshold and door handles a few times with boat varnish to maintain the finish and simplify cleaning the sauna. Benches, decorative edging and back supports should be oiled on both sides with Tylö sauna oil.
  Note: All other wood in the sauna should be left untreated.
- Install floor decking only if the floor is slippery. Floor decking is impractical and prolongs the drying time for any water spilt on the floor.
- Treat the bucket and ladle with boat varnish, or oil them with Tylö sauna oil. The bucket will remain watertight and the wood will be beautifully preserved. Never leave the wooden bucket in the sauna after a sauna bath.
- Before you enjoy your first sauna bath, heat the sauna room up to approx. 90°C (194°F) and leave the heater to run for about 1 hour. This will rid the room of that “new” smell.
- Clean your sauna regularly. Scrub the benches and floor with soft soap. It is a mild, gentle detergent and leaves a pleasant fragrance.

GENERAL INFORMATION

Fig. 12. Filling the stone compartment.

Only use stones of the dolerite type (Tylö sauna stones), as “ordinary” stones can damage the unit. Fill the stone compartment around the elements from bottom to top, stacking the stones approx. 50 mm (1.7 in) above the front edge at the top of the unit. Do not press the stones into place.

Fig. 13.

Never place stones above the side air chambers. This prevents air circulation, the unit becomes overheated and the temperature limit control is triggered.

Check the stone compartment at least once a year.

This is especially important for public saunas and saunas in frequent use. Remove all stones from the compartment. Clean away any small stones, grit, gravel and chalky deposits from the bottom of the stone compartment. Re-use only stones which are whole and intact, replacing them when necessary with new dolerite stones.

Temperature limit control.

Tylö sauna heaters have a temperature limit control built into the terminal box on the heater. This is activated automatically if there is any risk of overheating. More often than not, the cut-off is triggered because of incorrect sauna ventilation or an incorrectly located sauna heater. The problem could also be that the stone compartment has been improperly filled. Contact an expert to reset the temperature limit control.

Fig. 14. Built-in humidifier.

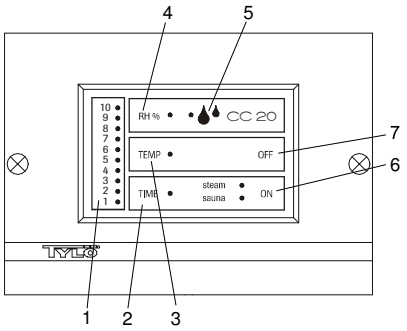
Fill the built-in reservoir (D, Fig. 14 and 15) with water before switching on the sauna, and you will have a pleasantly humid sauna right from the start, which accelerates and stimulates perspiration. You can also add a few drops of sauna fragrance to the water in the humidifier.

Note: Do not mix up the humidifier and the reservoir. See Fig. 15.

Sprinkling water on the stones

Should always be done with the ladle, never with a hose or bucket.
Note: The stones must be hot first.

OPERATING INSTRUCTIONS
Combi RC



General

Functions.

1 = setting scale. **2 =** time settings. **3 =** temperature settings. **4 =** humidity settings. **5 =** water level LED. **6 =** on. **7 =** off.

Main power switch.

A mains switch on the base of the sauna heater can be used to interrupt the electricity supply to the heater. This switch should be used if the sauna will not be used for a longer period, such as several weeks. Note: The memory function must be reset each time the power has been interrupted.

Temperature setting.

(Unit in ON position)

Press TEMP – the previous temperature setting is displayed.

The numbers indicate a rising temperature scale. Experiment to find the temperature that suits you best. Begin for example by setting the temperature at position 4. If you find that you would prefer a higher or lower temperature, adjust the setting until you find the ideal bathing temperature for you (usually 70-90°C (158-194°F) for traditional dry and wet sauna baths, 45-75°C (113-167°F) for steam saunas and herbal saunas).

Humidity settings.

(Unit in ON position)

Press RH% – the previous humidity setting is displayed. The numbers indicate a rising scale. Experiment to find the humidity that suits you best. Begin for example by setting the humidity at position 4. If you find that you would prefer a higher or lower humidity, adjust the dial until you find the ideal humidity for you. Note: The electronic control logics limits the maximum humidity at given temperatures.

Timer settings.

(Unit in OFF position)

The numbers in this case represent the pre-set time setting (= the number of hours before the sauna heater automatically switches on). To set the timer:

Press TIME – to select the desired time, 1–10 hours.

Press ON – the timer is activated and the *time* LED flashes during the pre-set time period. The unit will start with the sauna settings that were last used. Once the sauna heater has been activated, it remains on for 3 hours, after which it automatically switches off. If you want to switch it off earlier, just press OFF.

Traditional sauna bathing.
Dry and wet saunas
(70–110°C (158-230°F), 5–30 RH%)

Press ON – only the *sauna* LED should be lit. The memory function automatically sets the previous temperature and humidity (if any).

Press TEMP – if you want to change the pre-set temperature.

The built-in timer automatically switches the sauna heater off after 3 hours. If you want to switch it off earlier, just press OFF. To extend the bathing time, press ON – only the *sauna* LED should be lit.

If you want steam production at traditional sauna bathing:

Press RH% – if you want to change the humidity setting. Setting 1 on the humidity scale = no steam production.

Adding water – fill until the water level LED shines steadily (a buzzer will sound – approx. 8.0 litres (14 pts)). Use regular drinking water. Steam production will cease when the water level becomes too low and the level LED starts flashing (a pulsating buzz sounds).

The electronic control logics will not begin the steam production until the selected bathing temperature is reached.

The electronic control logics automatically adjusts the humidity to given temperatures.

Steam Sauna (Tylarium).
(45-70 °C (113-158 °F), 20-65 RH%)

Press ON – until the *steam* and *sauna* LEDs glow steadily. The memory function automatically uses the previous settings for temperature and humidity.

Press TEMP – if you want to change the temperature setting. (Setting 1 produces steam only).

Press RH% – if you want to change the humidity setting.

Adding water – fill until the water level LED shines steadily (a buzzer will sound – approx. 8 litres (14pts)). Use regular drinking water. Steam production will cease when the water level becomes too low and the level LED starts flashing (a pulsating buzz sounds).

The built-in timer automatically switches the heater off after 3 hours, and the automatic drying process is activated. The *steam* and *sauna* LEDs flash, even if you manually pressed OFF.

The drying cycle lasts for about 20 minutes, after which the unit switches off compleely. If you do not want to activate the drying process, press OFF again. but if you prefer to switch the heater on immediately after bathing time before the drying process commences, press ON – the *steam* and *sauna* LEDs will glow steadily.

To extend the bathing time after the heater has switched to the drying process (in other words, when both LEDs are flashing), first press OFF and then ON. Both LEDs should then shine with a steady light.

Steam production only.

Choose settings according to above, then push TEMP – and select setting 1 on the temperature scale.

Important!

- If the sauna has a window in the door or wall, treat the entire lower moulding with boat varnish and seal the joint between the glass and the moulding with a water-resistant silicone sealant. This prevents any condensation on the glass from seeping into the joint.
- Sauna benches, decorative edging and back supports should be oiled on both sides with Tylö sauna oil.
- Never scatter sauna fragrance in the water inlet (A, Fig. 15) or in the herb bowl (B, Fig. 15). This will cause a heavy foam build-up and may trigger the temperature limit control (L, Fig. 4). Empty the reservoir and rinse it clean of the fragrance, and then reset the temperature limit control.
- Fill the water inlet with drinking water (A, Fig. 15), until the water level LED shines steadily (a buzzer will sound – if you keep filling, the water will overflow). Steam production will cease when the water level becomes too low and the lever LED starts flashing (a pulsating buzz sounds). If you want more steam, add more water, preferably hot. 1.0 litre (1.8 pts) of water is enough for approximately 20 minutes of steam production.
- To prevent a build-up of calcium deposits, empty the reservoir after each sauna bath. Note: The water is HOT! Disconnect the hose (M, Fig. 4), hold it up high and remove the plug. Lower the hose over a suitable vessel and empty the remaining water.
- De-scale the reservoir regularly with Tylö Solvent de-scaling agent. Switch on the heater (max humidity, min temperature) and let it run until the water in the tank begins to boil. Switch of the heater and wait for approximately 5 minutes Mix one bag (2.8 oz) with 4 quarts of water, pour it into the water inlet (A, Fig. 15). Leave the

de-scaling agent to work for approximately 1 hour, then empty and flush the reservoir generously.

- Clean the herb bowl and fragrance cup regularly. Remove the entire top section and rinse it under running water. Clean the bottom of the reservoir as needed.
- During any steam bath, the outlet vent should always be closed or only slightly open.

HOW TO GET THE MOST OUT OF YOUR SAUNA

- Always shower before going into the sauna.
- Take a towel in with you to sit on. Stay inside the sauna only as long as it feels pleasant. Go out now and then to cool off and freshen up with a quick shower.
- Show consideration for other bathers. Don't set the temperature higher than is pleasant for all those using the sauna.
- Young children love saunas. Let them splash about with a tub of water on the floor or the lower benches where it is somewhat cooler. But remember to keep an eye on them at all times.
- Round off your sauna with a long, cool shower.
- Never get dressed right after your sauna. This will only cause you to perspire. Relax, treat yourself to a cold drink and enjoy a sensation of true well-being. Don't get dressed until your body has cooled down and your pores have closed once again.

Traditional sauna bathing - dry saunas and wet saunas.

Dry and wet saunas are bathing forms whose history is shrouded in the mists of time. These hot baths are best enjoyed at temperatures between 70°C and 90°C (158°F and 194°F).

In **dry saunas**, where the stones are not sprinkled with water, the relative humidity (RH) is as low as 5–10%.

In **wet saunas**, when water is ladled on the hot stones from time to time, the relative humidity rises steeply to 10–30%, and you can feel how the quivering waves of heat massage their way into your skin. A few drops of Tylö Sauna Fragrance added to the water poured over the stones give a pleasantly invigorating sensation, clearing nasal cavities and helping you breathe more easily. Round off your sauna with the intensive tingling sensation you get when you pour even greater amounts of water over the stones. Wet saunas are considered by most people to be the traditional way to enjoy a sauna, and they are the most popular too.

Important! Use ordinary drinking water. Salt-water or brackish water will damage the heating elements. Never hose down the heater. Devices that provide continuous water sprinkling are not permissible.

Steam and herbal saunas (Tylarium).

A steam sauna is a milder version, at only 45–70°C (113°F-158°F), and with a continual steam production that maintains a high relative humidity of 20–65%.

The sauna heater constantly adapts humidity levels to the choosen setting. You can change the humidity at any time using the RH button on the control panel. No matter what value you have set, you can also change the humidity by reducing or increasing the opening of the air outlet vent. To briefly increase the humidity, you can pour a ladlefull of water over the hot stones.

For a fragrant, refreshing herbal sauna, put some fresh or dried herbs and spices in the herb bowl (B, Fig. 15), then relax and enjoy the revitalising scents in a steaming tropical climate. Test your own compositions: birch leaves, lavender, mint, spices, tea bags (!) and other exciting scents. You can also sprinkle a few drops of Tylö Sauna Fragrance in the scent cup (C, Fig. 15) – never in the herb bowl (B, Fig. 15) or the water reservoir (A, Fig. 15). There are six fragrances: Eucalyptus, Mint, Menthol, Pine, Lemon and Birch.

Tylö Sauna Fragrances can also be added to the water you splash over the stones.

Fig. 15. Different holders for water – herbs – fragrances

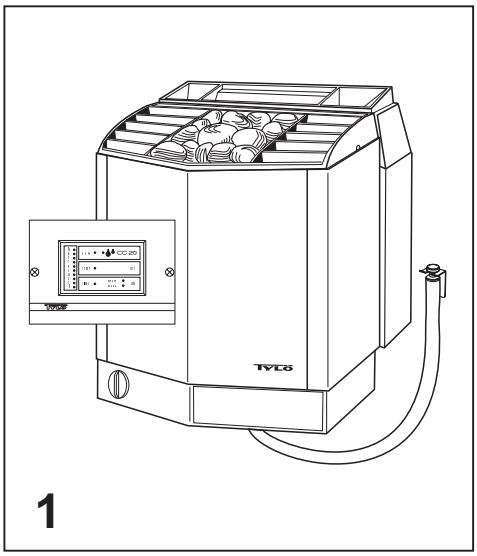
A = water filling. **B =** herbs and spices / steam outlet.
C = fragrances. **D =** built-in humidifier. Both you and your sauna heater will benefit if you do not confuse these concepts!

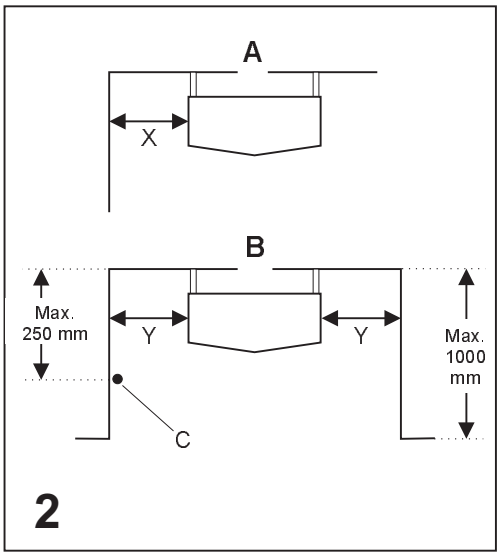
TYLARIUM™

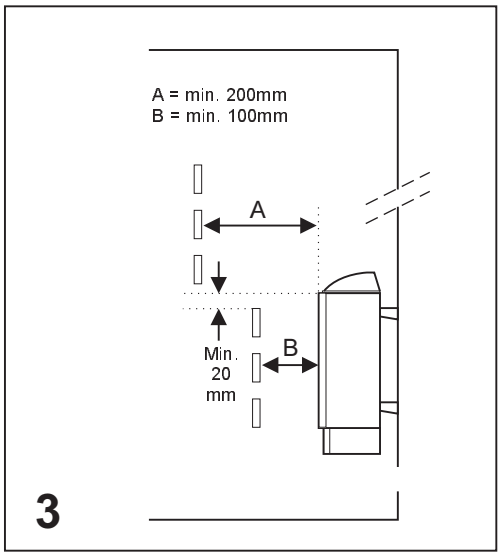
The unique combination of both traditional saunas and soft, mild steam baths in the same sauna room is also called Tylarium. Use the electronic control panel to select the kind of sauna you want, along with the desired temperature and time. Then sit back, relax and enjoy the exquisite bath. Once in a while, add some rejuvenating herbs or other balsam fragrances to create a new sauna sensation.

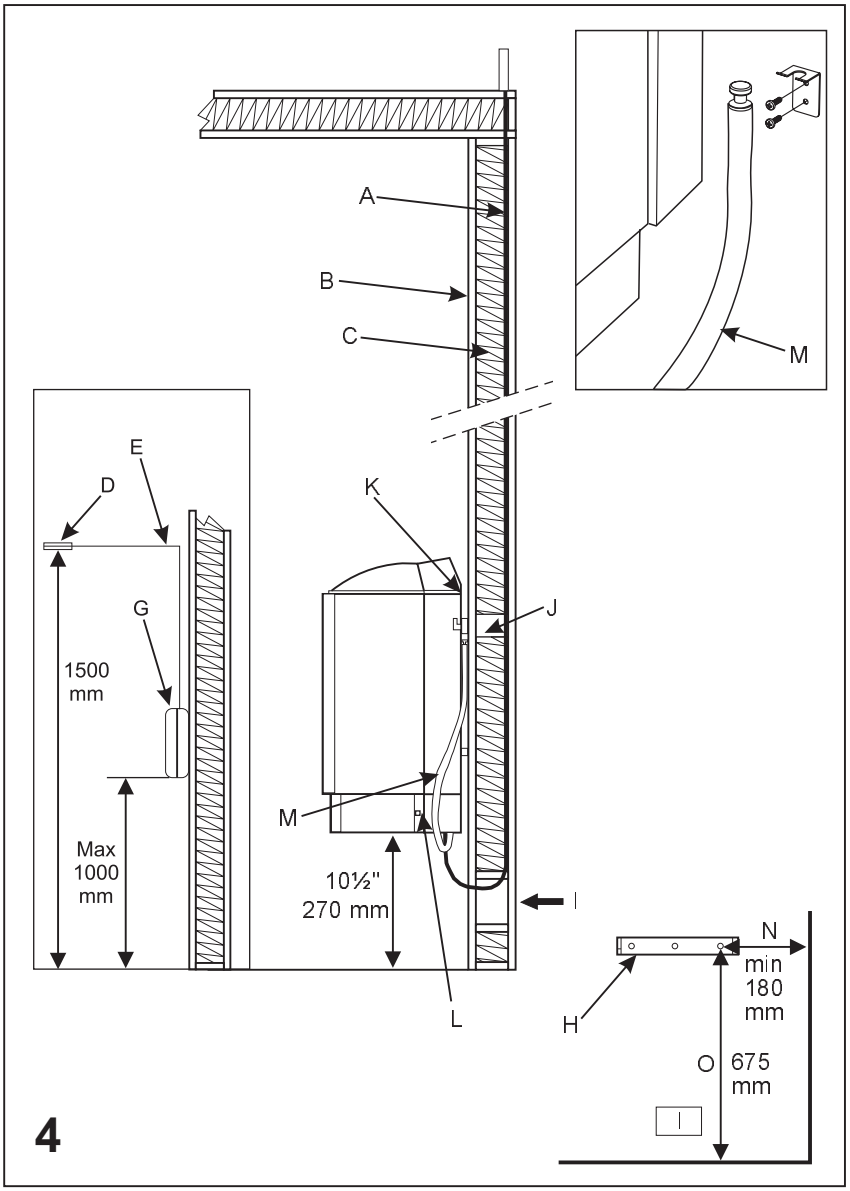
TYLÖ AB, Svarvaregatan 6, S-30250 Halmstad, Sweden.

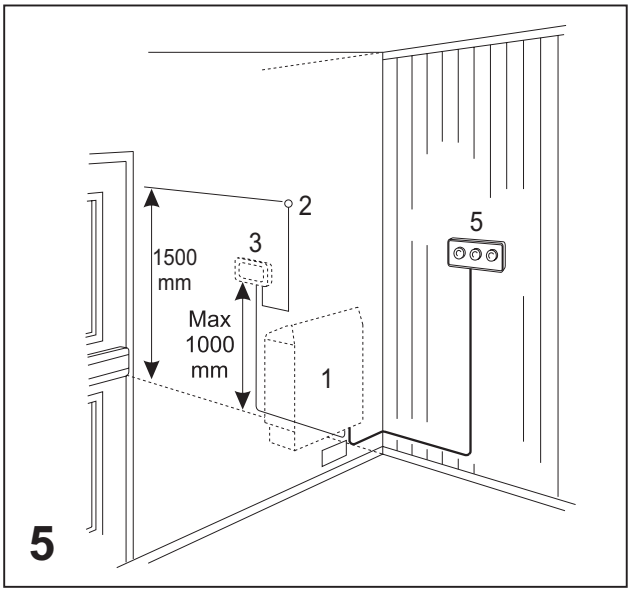
Phone +46 35 299 00 00, Fax +46 35 299 01 98.

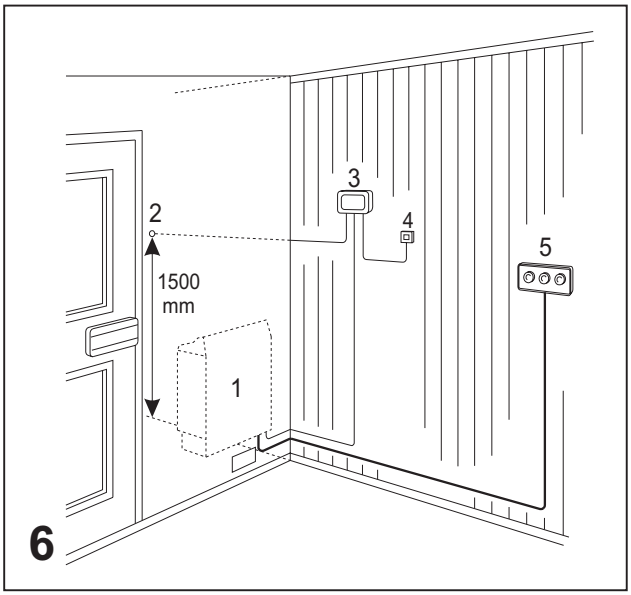

1

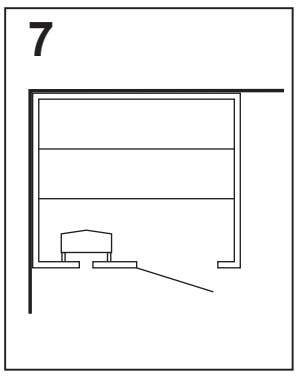

A
X
B
Max.
250 mm
Y
Y
Max.
1000
mm
C
2

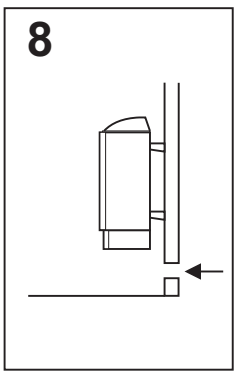

A = min. 200mm
B = min. 100mm
A
Min.
20
mm
B
3

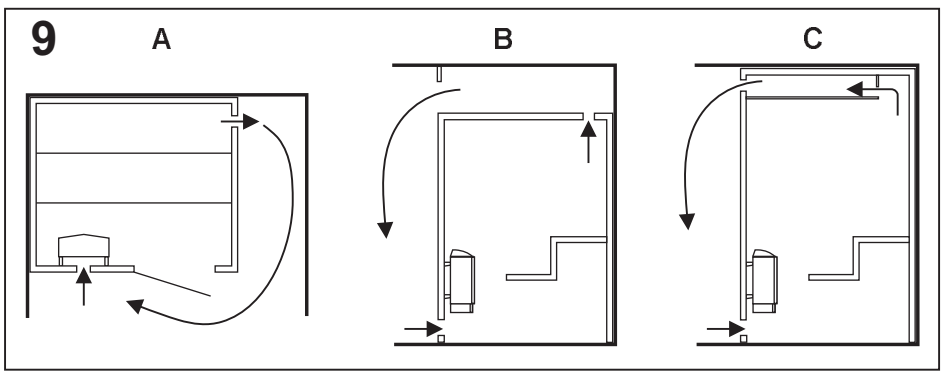

A
B
C
M
E
D
K
G
J
1500
mm
Max
1000
mm
M
10½"
270 mm
L
H
N
min
180
mm
O
675
mm
4

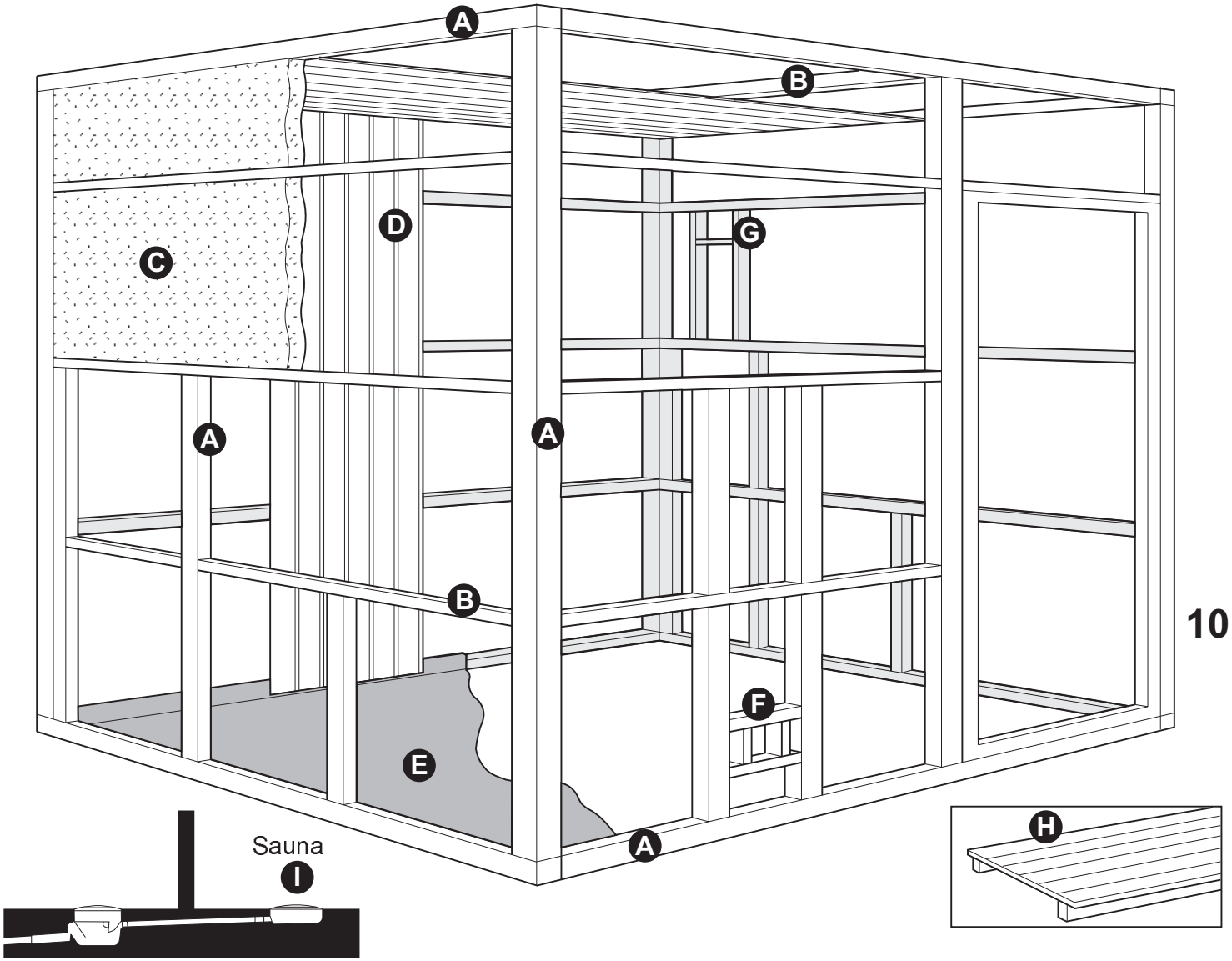

2
3
5
1500
mm
Max
1000
mm
1
5


3
4
2
5
1500
mm
1
6

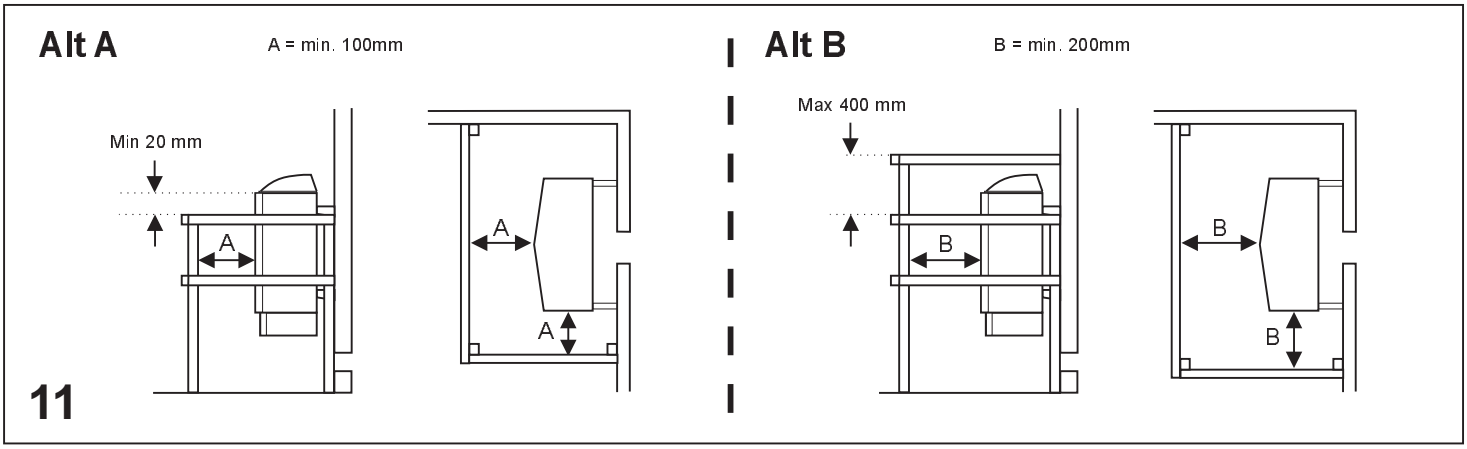

7


8

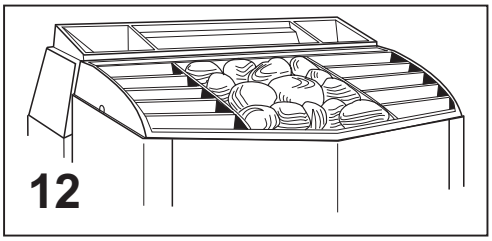

9
A
B
C



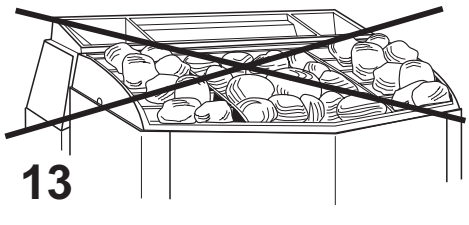
10



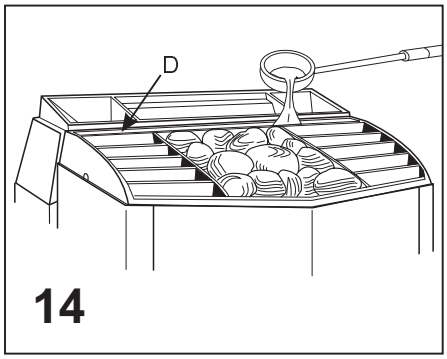
11



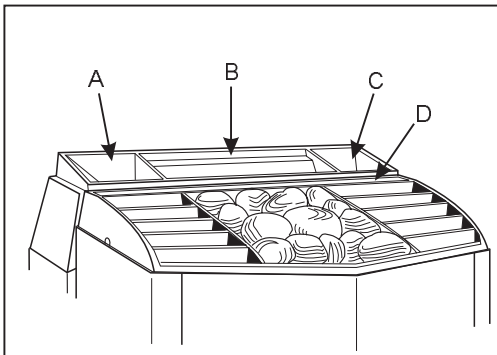
12



13



14

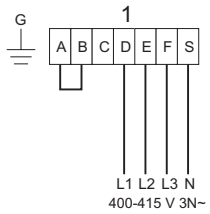


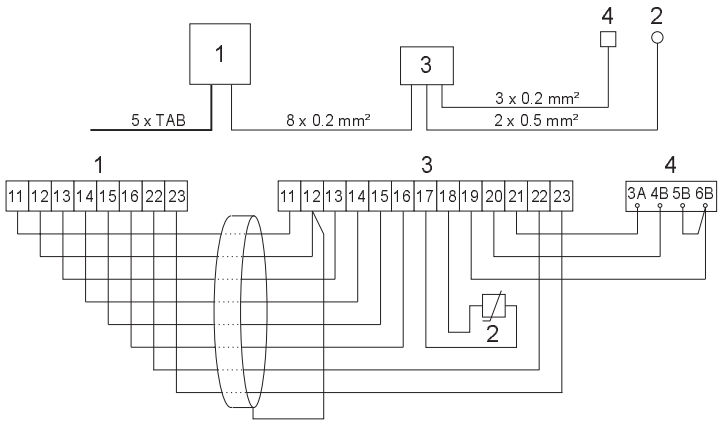
15

400 - 415 - 440 V 3N~

16 Combi RC 6-8

1 = Combi RC 6, Combi RC 8
2 = thermistor (sensor)
3 = CC20
4 = external switch



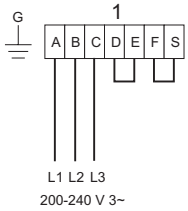


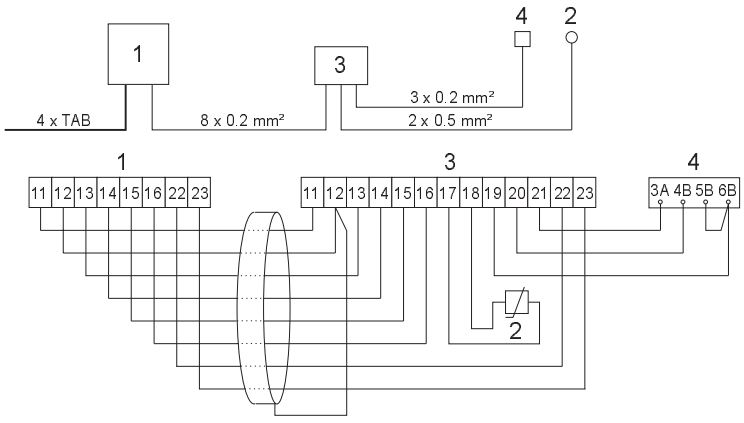
WARNING! THIS APPLIANCE MUST BE EARTHED!

200 - 208 - 230 - 240 V 3~

17 Combi RC 6 - 8

1 = Combi RC 6, Combi RC 8
2 = thermistor (sensor)
3 = CC20
4 = external switch



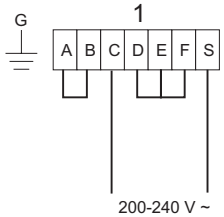


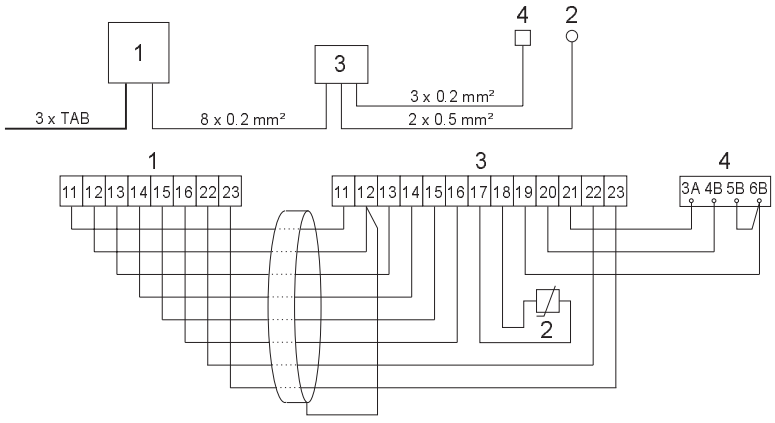
WARNING! THIS APPLIANCE MUST BE EARTHED!

200 - 208 - 230 - 240 V~

18 Combi RC 6-8

1 = Combi RC 6, Combi RC 8
2 = thermistor (sensor)
3 = CC20
4 = external switch





WARNING! THIS APPLIANCE MUST BE EARTHED!