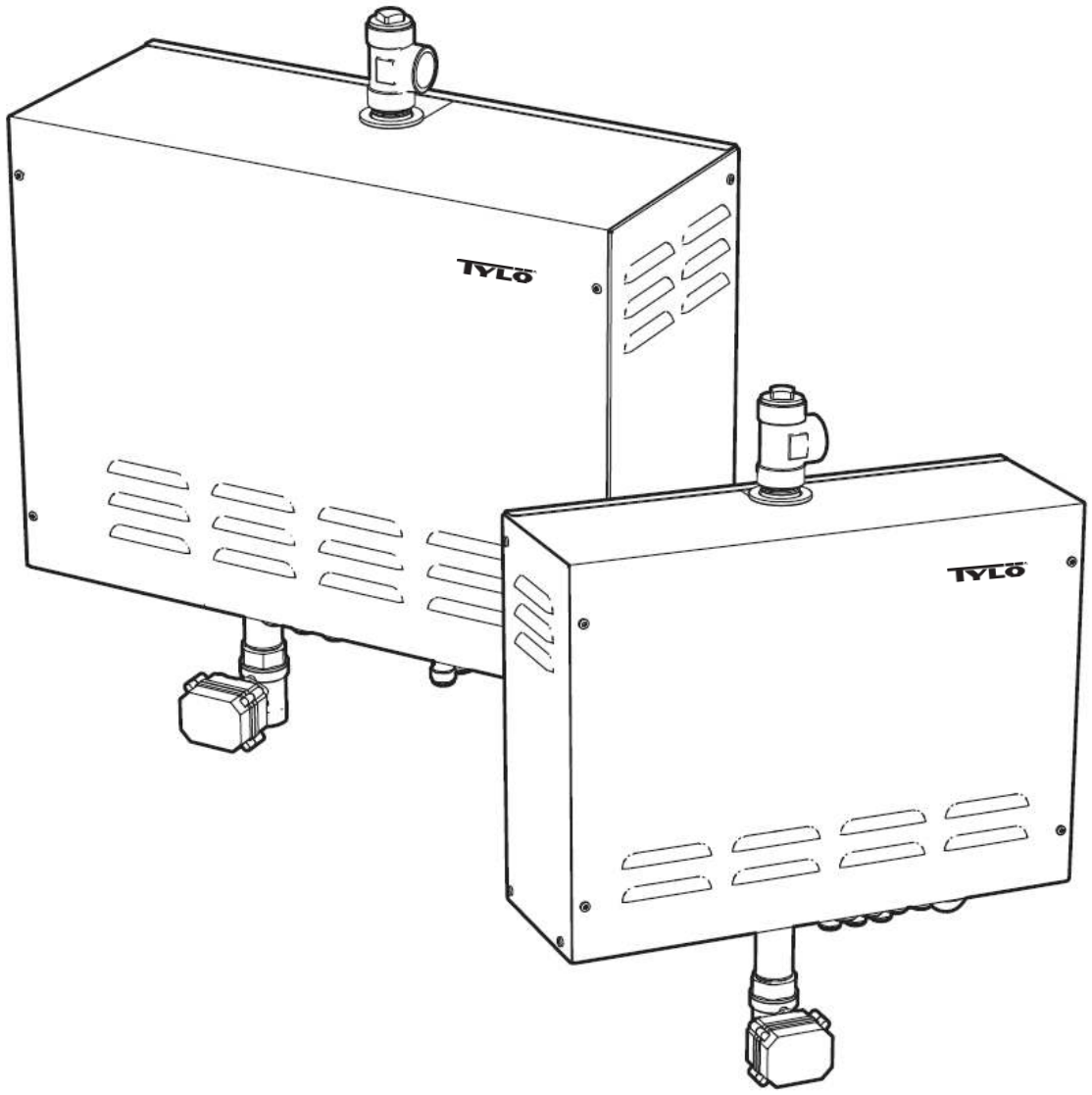
Steam Home/Commercial



Art.nr. 2900 4160

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IMPORTANT!

- *The steam piping must not have any sharp bends.*
- *Do not direct the steam jet against walls, seats or other objects. Always keep a space of at least 80 cm clear in front of the steam nozzle.*
- *There must not be any water pockets in the steam piping or ventilation ducts.* ***IMPORTANT!*** *There must not be any kind of blockage in the steam piping (e.g. taps or valves). The internal diameter of the steam piping must not be reduced.*
- *All steam rooms in continuous use for more than two hours must have an air exchange rate of 10-20 m³ air per person per hour.*
- *The power supply for the steam generator must not be cut off. Therefore avoid installing a power switch, etc. in the power supply line.*
- *The drain pipe must have a continuous fall all the way from the steam generator to the drain.*
- *The ambient temperature for the steam room and steam generator must not exceed 35°C.*
- *The sensor must be located as far from the steam jet as possible.*
- *Descale the steam generator regularly in accordance with the instructions, refer to the heading "Descaling". In areas with hard water, exceeding 4°dH hardness, a water softener or Tylö MACH 2020 water softener must be installed*
- *(Tylö Item no. 9090 8025)*
- *Clean the steam room regularly*
- ***NB!*** *The steam generator drain must always lead to a drainage channel outside the steam room. The steam generator empties its tank 1 hour after each bath, The water will then be 80-85°C!.*
- ***WARNING!*** *There is a jet of hot steam from the steam nozzle. Never leave small children unattended.*
- *This equipment is not intended to be used by anyone (including children) with a mental or physical disability or little experience or knowledge of how to use it, unless instructed or supervised by someone responsible for their safety.*

General

Installation diagram of Steam Home and Commercial
(Fig. 1)

A= Power supply line from electrical distribution board to steam generator. It is an advantage to install a circuit breaker between the distribution board and the steam generator. The circuit breaker must always be switched on. If the current is switched off before automatic emptying and flushing of the tank has taken place (about 70 minutes after bathing is completed), the operation stops, the tank will not be emptied and the life of the steam generator will be reduced.
B= Wiring from control panel to steam generator.
C= Thermistor wire
D= Wiring to optional external on/off switch.
E= Steam pipe
F= Drain pipe.
G= Incoming water.
H= The outlet vent must be connected to a ventilation duct to take the air outdoors.
I= Supply air.
J= Pipe from safety valve.
K= Double swing check valve

Steam room
The steam room must not have any other heat source than the steam generator. The ambient temperature for the steam room and steam generator must not exceed 35°C. Any other sauna adjacent to the steam room must be well insulated with a minimum of 10 cm ventilated space between them.

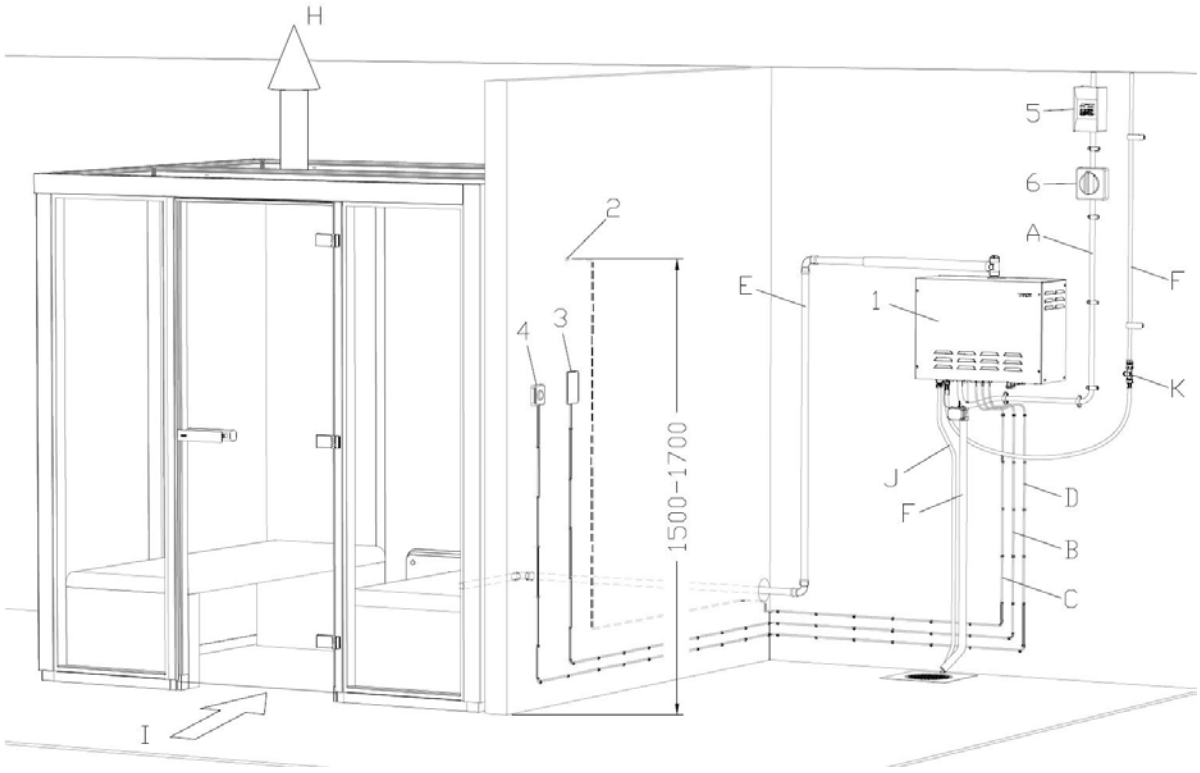


Fig. 1

Location of steam generator
Installation must be carried out by an authorized electrician and authorized plumber. The steam generator must be securely connected. It is installed outside the steam room but as close to it as possible. The maximum length of the steam pipe is 15 meters.
Take care to respect the specified installation distances *(Fig. 2).* These have been defined to permit maintenance and servicing.

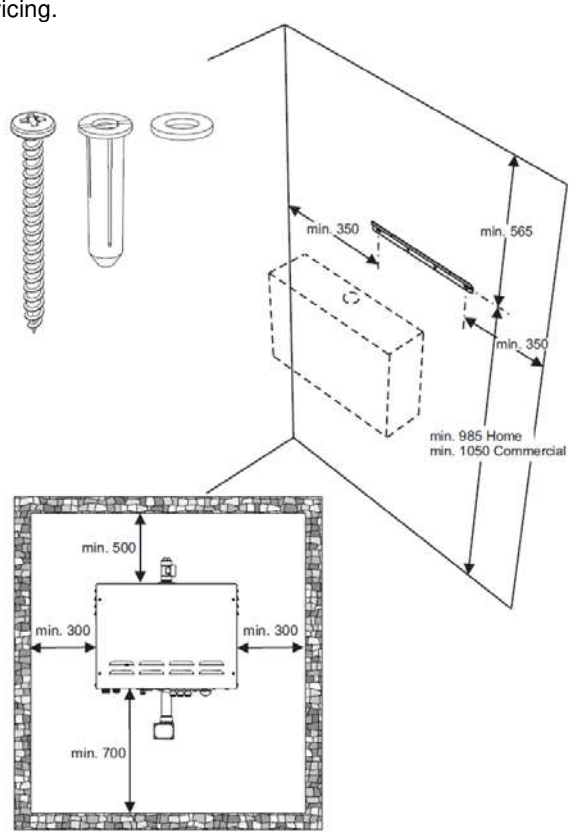


Fig. 2

The steam generator is to be located in a dry and ventilated space with drainage, above, below or on the same level as the steam room. (Never directly above a drain, or into an aggressive environment.) The maximum difference in height between the steam generator and the steam room is 3 meters. *(Fig. 3)*

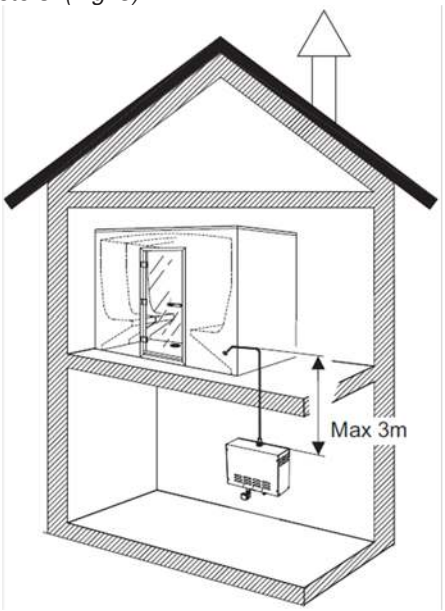


Fig. 3

The steam generator must be installed horizontally, at such a height above the floor so that the drainage pipe will have a good fall to its drain.

Control panel
User guide: supplied with control panel. The steam generator is controlled electronically by the following compatible models:

Elite Wifi - the Tylö Elite Wifi control panel has a processor and an operative system which enables many advanced functions. In addition to a number of personal settings, the Elite can also be programmed to suit your personal timetable. Added to this are such functions as extra fans, fragrance pumps and lighting. The panel has energy-saving functions and the possibility of connection to a wireless network. It can be located inside or outside the steam room.
Elite - the Tylö Elite control panel includes the same functions as the Elite Wifi, except that it cannot be connected to a wireless network with app functionality. It can be located inside or outside the steam room.
Pure - Touch panel with basic functions, to be located inside or outside the steam room.

Temperature cut-out
The steam generator is equipped with a built-in temperature cut-out. If the cut-out has activated, find and rectify the fault with the aid of the fault tracing list in these instructions.

Main power switch
The main power switch is located on the underside of the steam generator *(Fig. 4) (Fig. 5)*. It should only be used when the system will be disconnected for a long period. The automatic emptying function of the steam generator will stop if the power supply is disconnected for any reason.

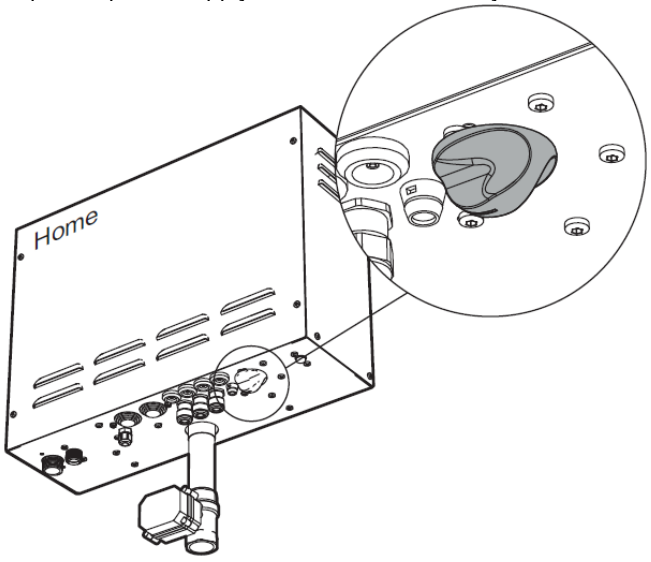


Fig. 4

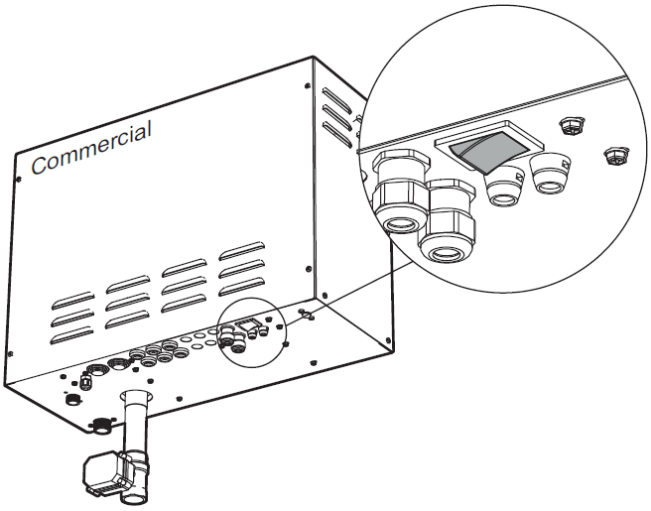


Fig. 5

Floor and drain
There must be drainage inside the steam room. The floor should slope down towards the drain. The flooring may be seamless vinyl, quarry tiles, etc. The foundation work and jointing are to be in the same manner as for a wet room.
Note! Where the flooring and walls are of plastic, beneath the steam nozzle there may arise minor color changes from contact with steam and hot water.

Ventilation
Generally steam rooms that are in use for periods of less than 2 hours do not need any ventilation. All steam rooms in continuous use for more than 2 hours must have an air exchange rate of 10-20 m^3 air per person per hour, for hygienic and functional reasons.
Any cavity above the steam room ceiling should not be completely sealed. Leave at least one vent hole (100cm^2) on the same wall as the steam room door.

Inlet vent
Must be an opening at a low level through the door wall or a gap under the door.

Outlet vent
Must be placed high on a wall or on the ceiling and as far from the inlet vent as possible, although not above the door or at a seating location. The outlet vent must be connected to a ventilation duct to take the air outdoors. An existing duct could be utilized. The ventilation duct must be completely sealed and made of a material that can tolerate high air humidity. Water pockets, where condensed water can collect and cause blockages, must not be present. If the ventilation duct must have a water pocket, a water trap is installed to drain condensed water to a drain.
The size of the outlet vent depends on the requirement that it must be able to evacuate 10-20 m^3 air per person per hour.

Mechanical extraction
If extraction ventilation provided by the natural ventilation principle is insufficient, perhaps due to low pressure in the room from which air is supplied to the steam room, mechanical ventilation must be connected and adjusted to extract a minimum of 10 and a maximum of 20 m^3 per person per hour.

The steam generator functions:
All Tylö steam generators of the *Home* and *Commercial* type are equipped with:

- A stainless steel water tank
- Acid-proof stainless steel tube elements
- Automatic emptying 60 minutes after the steam bath has been switched off
- Automatic flushing clean after emptying
- 3-division output
- Electronic water level regulation
- Electronic level protection
- Limescale removing self-cleaning electrodes
- Continuous steam production
- Always the correct power, regardless of the water quality and level
- Built-in safety valve
- built-in temperature protection
- Built-in dirt filter
- Automation for remote control
- Rinse-proof design
- IP class 23
- Fault code clearing
- Automatic emptying
- Non-return valve
- Backflow protection

Automatic emptying
The steam generator empties out part of its water automatically after 4 hours (factory setting). This automation considerably reduces the build-up of limescale and pollutants in the water tank.

For the automatic emptying and flushing to work, the circuit breaker between the distribution board and the steam generator or main power switch must not be switched off before at least 70 minutes have elapsed since the timer on the control panel has timed out.

Descaling
Some of the limescale released into the steam generator is flushed out during automatic emptying and flushing, but some remains. *Tylö water softener (Tylö Item no. 9090 8025)* filters out the limescale and thus prevents it from reaching the steam generator, which directly contributes to a longer life. Empty the tank after each use of the sauna. To extend the unit's life and reduce the need for manual descaling, a steam generator for public use must be connected to a water softener to remove limescale. This is particularly important if the water hardness is over 4°dH (German water hardness degrees). The descaling agent must not produce foam or give off harmful chemicals. This may cause an incorrect water level to be indicated in the tank, triggering the temperature cut-out (after some time the element will break).

Manual descaling must be performed regularly in accordance with the following table.

Operating time in hours before descaling.					
kW	Tylö Solvent (number of bags)	Sulphamic (grams)	Tylö liquid descaling agent (ml)	Operating hours at different water hardnesses (dH)	
				0.01-1°dH	1-4°dH
3	2	100	250	300	100
6-9	2	100	250*	200	90
12-15	4	200	500	150	84

* 250ml for home

500ml for commercial

The need for manual descaling depends on water quality, the power of the steam generator and the operating time. In order to test the degree of hardness, follow the accompanying EASY TEST instructions and then comply with the recommendations in accordance with

Limescale is the most prevalent cause of operational breakdown. It is therefore important to comply with the descaling intervals in the care and maintenance instructions.

With normal private use, there is very little need for descaling unless the water is very hard. Nevertheless, the steam generator should be descaled at least twice a year. This releases limescale and other deposits that have become attached to the tank walls and heating element.

descaling!

Note!
The steam room must NOT be used during

Instructions for descaling the Tylö Steam generator:

- Switch on the steam generator and leave it running until the water in the tank begins to boil.
- Switch off the steam generator at the control panel and wait about 5 minutes.
- Slacken the lock nut on the 3-way connection at the top of the steam generator. Use a funnel to pour the descaling agent into the tank via the 3-way connection.
- Screw the lock nut on the 3-way connection into place and allow time for the descaling agent to work.
- After about 1 hour, the steam generator will automatically empty and flush the tank clean, and is then ready for use again.

If you want the descaling to work for a longer time, use the power switch to switch off the steam generator. The steam generator will empty out as soon as the power is switched back on.
If there is a large amount of limescale in the steam generator, it will be necessary to perform descaling several times repeatedly, followed by flushing each time.

Tylö Solvent Descaler is non-toxic, odor-free and causes no damage to the steam generator or its components.

Dimensional information

Tylö Steam Generator Home type, dimensions in millimeters

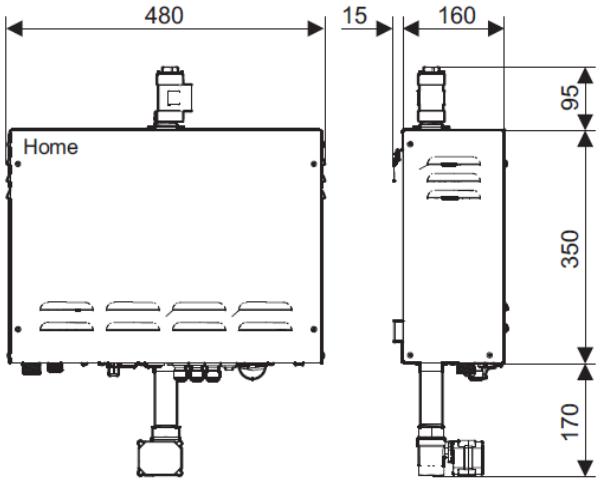


Fig. 6

Tylö Steam Generator Commercial type, dimensions in millimeters

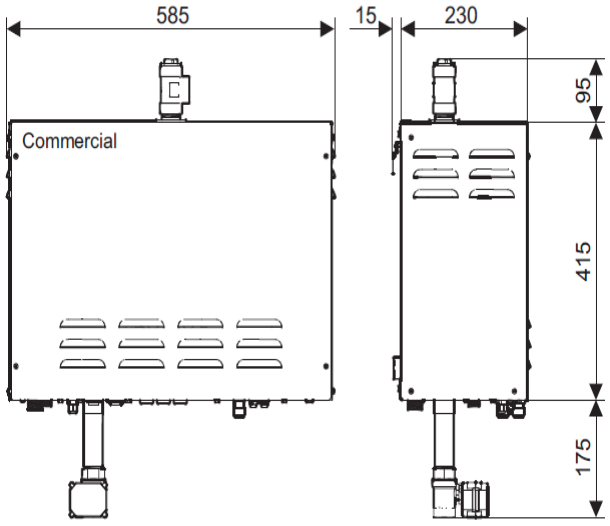


Fig. 7

Correct power rating, related to room volume:

kW	Steam room volume min./max. m³				Steam prod. kg/h
	Toughened glass lightweight wall. Impression, Panacea, etc.		Tiled, concrete, stone, etc. heavyweight wall.		
	with ventilation	without ventilation	with ventilation	without ventilation	
3	–	max. 3	–	max. 2	3,5
6	3 – 8	4 – 15	2 – 5	2.5 – 8	8
9	6 – 16	13 – 24	4 – 10	7 – 16	12
12	14 – 22	22 – 30	8 – 15	14 – 20	16
15	18 – 25	28 – 38	10 – 19	18 – 25	20

Pipework installation

To be done by an authorized plumber.

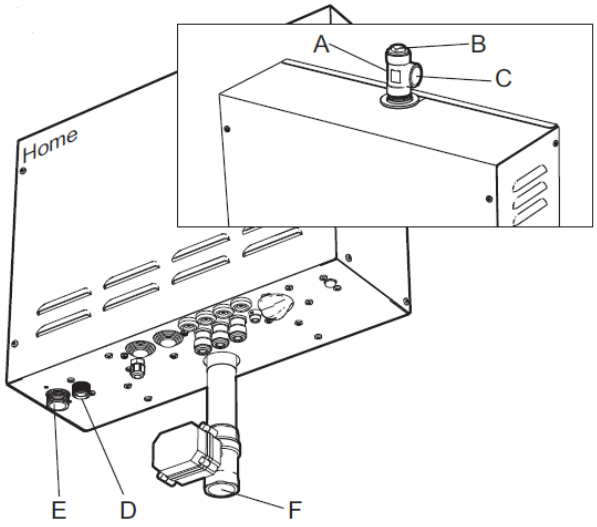


Fig. 8

Home type steam generator (Fig. 8)
A = Connection.
B = Lock nut.
C = Steam outlet.
D = Steam connection. (safety valve)
E = Water connection with built-in dirt filter.
F = Motorized valve.

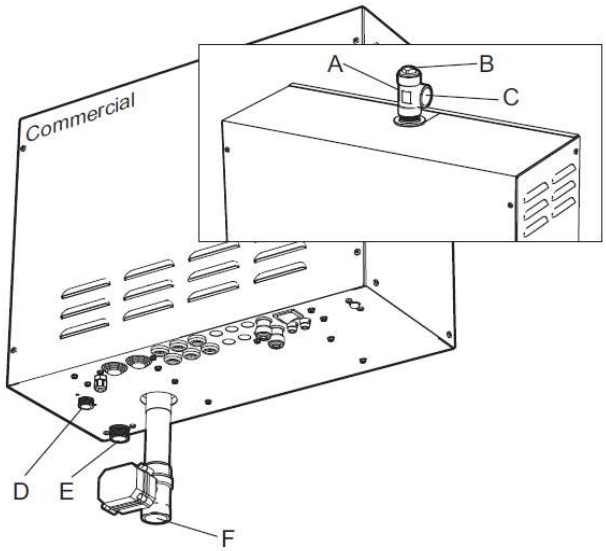


Fig. 9

Commercial type steam generator (Fig. 9)
A = Connection.
B = Lock nut.
C = Steam outlet.
D = Steam connection. (safety valve)
E = Water connection with built-in dirt filter.
F = Motorized valve

Water connection
Connect **cold** water to connection 1 on the steam generator. The incoming water pressure must be between min. 0.2 and max 10 bar.

To avoid banging, the water connection between the copper piping (internal dia. min. 12 mm) and the steam generator to consist of approx. 1 meter of flexible armored rubber hose. Important! Before the incoming water connection is made to the steam generator, the piping system must be flushed clean!
Flushing clean prevents metal particles and other foreign objects entering the steam generator system from the piping. Also remember to install the accompanying non-return valve into the incoming water connection

NB:
In areas with hard water, exceeding 4°dH hardness, a water softener or a ”Tylö de-calcifier” must be installed (Tylö Item No.: 9090 8025). The water softener must not produce foam or give off harmful chemicals.

Steam pipe
Fit the connector, with the lock nut uppermost, to steam outlet 2 on the steam generator. Connect a copper pipe, with an internal diameter of at least 18mm, to the connector steam outlet *(C)*. The steam pipe can have a down-slope either towards the steam room or towards the steam generator. Alternatively the steam pipe can be installed with a slope down towards both the steam room and towards the steam generator.

IMPORTANT!
Water pockets in the steam pipe between the steam generator and the steam room, where condensed water can collect, must not be present.

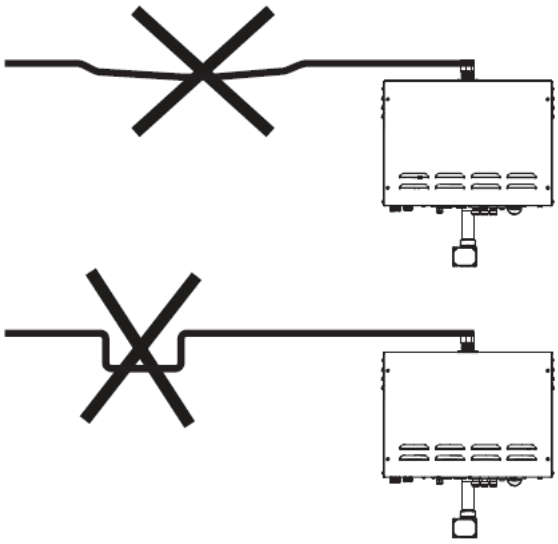


Fig. 10

The steam pipe should have as few bends as possible, and these must be smoothly rounded with a minimum of 5 cm radius. *(Fig. 11)*
Sharp angles must not be present.

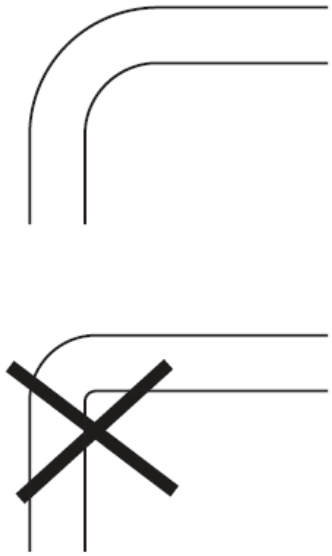


Fig. 11

Important! There must not be any kind of blockage in the steam piping (taps, etc.). The internal diameter of the steam piping must not be reduced.

If the steam pipe is longer than 3 meters, it should be heat insulated with an insulation that can tolerate at least 100°C. If the pipe is not insulated, there is a risk that the steam will cool and condense, resulting in water in the steam pipe.

The distance between inflammable material, such as wood, and an uninsulated steam pipe must not be less than 10 mm.

When running piping through walls, the hole for the lead-through must have a diameter that is 10 mm greater that the external diameter of the pipe.

IMPORTANT!
The steam nozzle is installed inside the steam room at least 40 cm above floor level. Do not locate the nozzle so that the steam jet will hit the wall, seating area or any other object, there must be at least 80 cm clear area in front of the steam nozzle. If the steam room is to be used by children or anyone with a reduced reaction ability or similar, there must be protection present that will prevent unintentional contact with the steam jet nearest to the steam nozzle.

If the steam nozzle will be installed in a Tylö steam room, refer to the installation instructions that accompany the steam room.

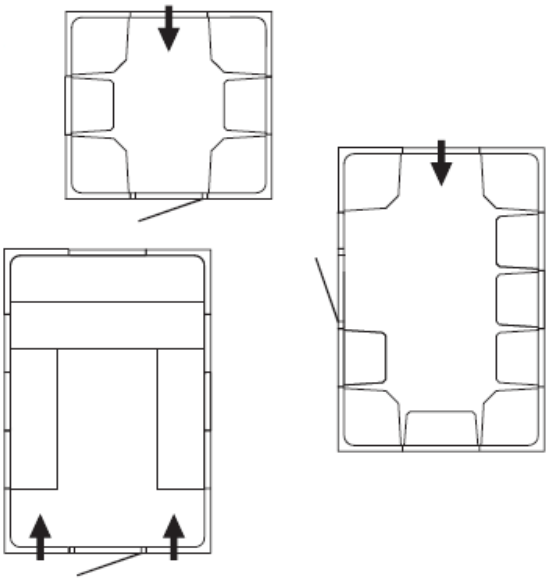


Fig. 12

Drainage
For drainage connect a copper pipe of good quality and an internal diameter of at least 25 mm to connection 3 on the steam generator. The steam generator drain pipe is led to the nearest drain outside the steam room. The temperature of the water being drained is about 80-85°C.

To reduce the temperature of the water and reduce the risk of scale build-up in the drain, a washbasin can be installed between the steam generator and the drain. (Tylö Item no. 9002 9060)

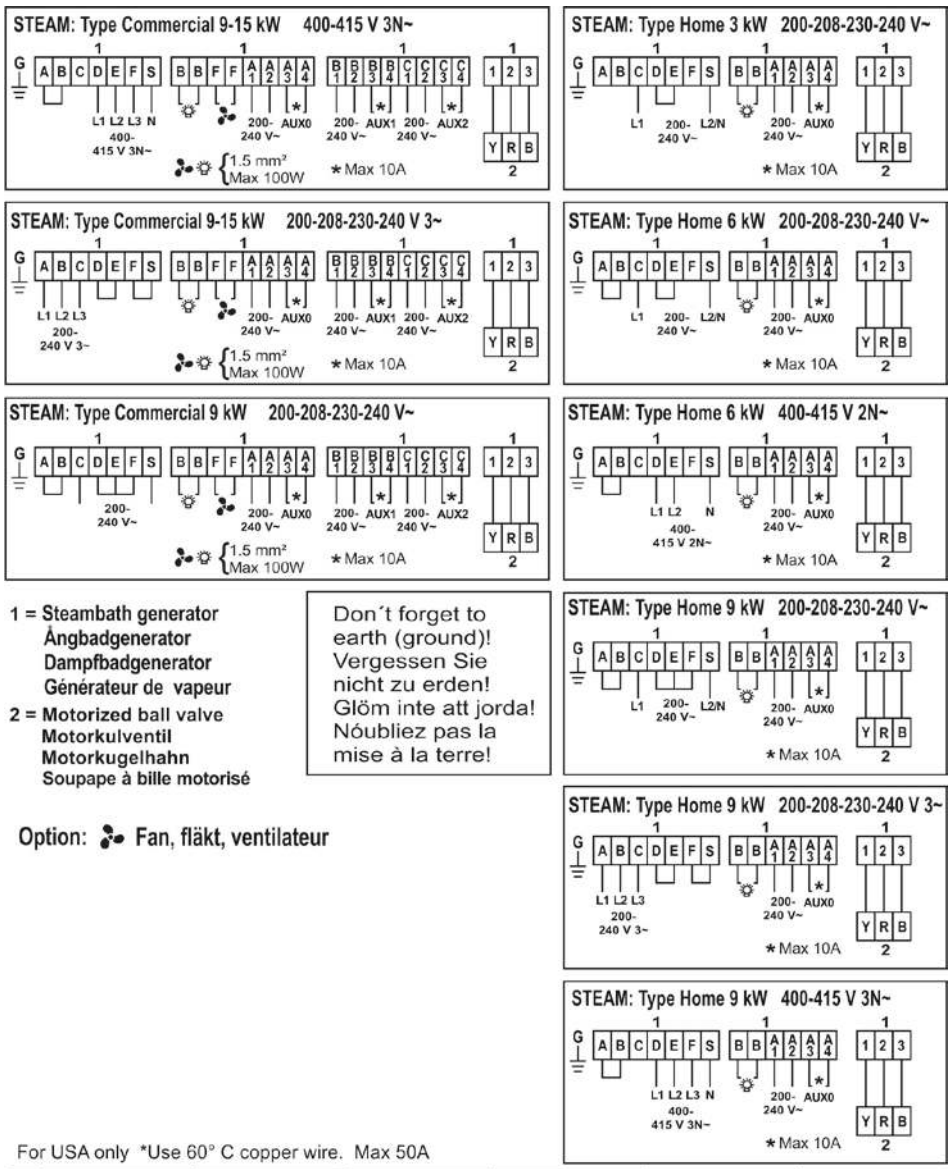
IMPORTANT!
There must not be any kind of blockage in the drain piping (e.g. taps or valves). The drain pipe must have a continuous down-slope all the way from the steam generator to the drain.

Electrical installation

Electrical installation may only performed by an authorized electrician.

The steam generator power supply line comes directly from the electrical distribution board. In this line it is an advantage to install a circuit breaker to be able to temporarily switch off the steam generator during servicing. **The circuit breaker may be switched off no sooner than 90 minutes after completed use of the steam room.**.

The connections diagram in *Fig. 13*shows the connections for both the ”Commercial” and ”Home” type steam generators. Up to 3 steam generators can be connected to the same control panel. More about this can be found in the section ”Multisteam”.



For USA only *Use 60° C copper wire. Max 50A

	400-415 V 2N~			400-415 V 3N~			200-208 V 3~			230-240 V 3~			200-208 V~			230-240 V~		
kW	amp	mm²	AWG	amp	mm²	AWG	amp	mm²	AWG	amp	mm²	AWG	amp	mm²	AWG	amp	mm²	AWG
2.5	-	-	-	-	-	-	-	-	-	-	-	-	12	2.5	14*	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	2.5	-
3.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	2.5	14*
5	-	-	-	-	-	-	-	-	-	-	-	-	24	6	10*	-	-	-
6	9	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	26	10	-
6.6	10	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	28	10	10*
7.5	-	-	-	-	-	-	21	6	10*	-	-	-	36	10	8*	-	-	-
9	-	-	-	13	2.5	-	-	-	-	23	6	-	-	-	-	39	16	-
9.9	-	-	-	14	2.5	14*	-	-	-	24	6	10*	-	-	-	41	16	10*
10	-	-	-	-	-	-	28	10	10*	-	-	-	-	-	-	-	-	-
12	-	-	-	17	4	-	-	-	-	30	10	-	-	-	-	-	-	-
12.4	-	-	-	-	-	-	35	10	8*	-	-	-	-	-	-	-	-	-
13.3	-	-	-	19	4	12*	-	-	-	32	10	10*	-	-	-	-	-	-
15	-	-	-	22	6	-	-	-	-	38	16	-	-	-	-	-	-	-
16.6	-	-	-	23	6	10*	-	-	-	40	16	8*	-	-	-	-	-	-

Fig. 13

Steam room wiring diagram
(Fig. 14.)

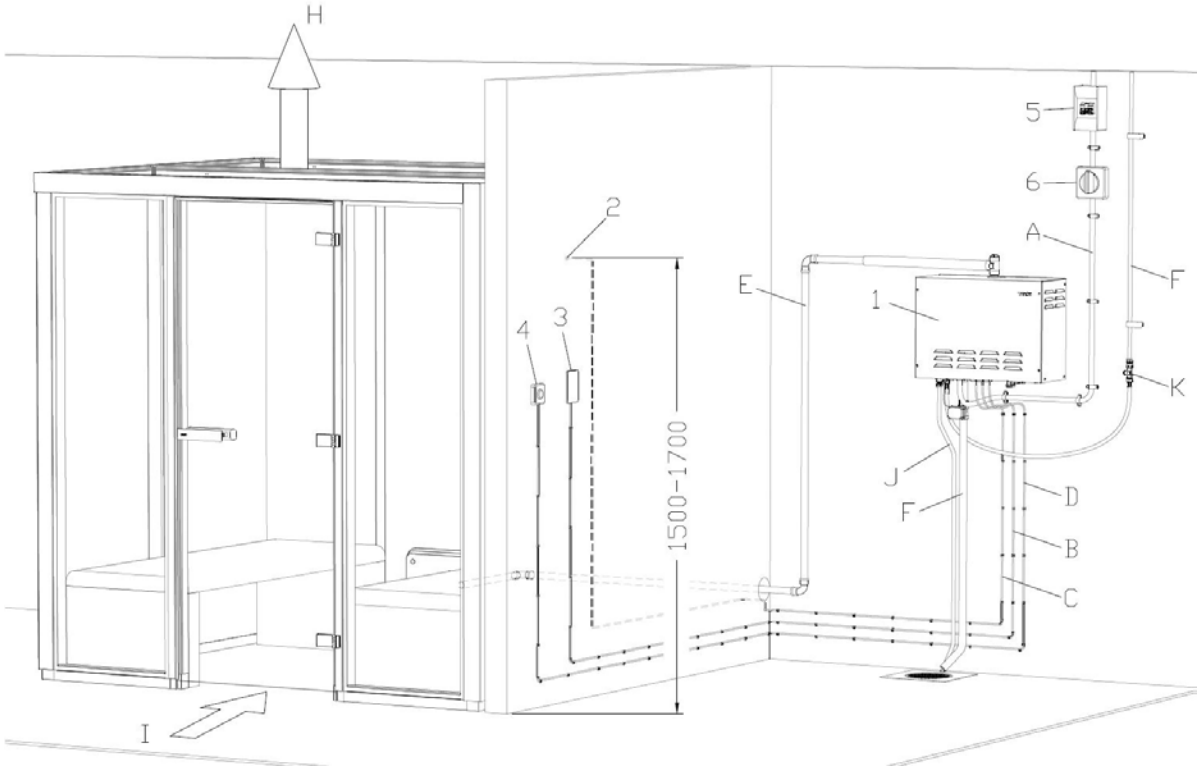


Fig. 14

1. Steam generator
2. Thermistor
3. Control panel
4. Optional external switch
5. 5 = Electrical distribution board.
6. Optional circuit breaker (must always be switched on!)

Connection terminals
To connect the temperature sensor, etc., to the control panel with quick connectors, refer to the circuit board overview *(Fig. 19)*
All the connectors must be in place **before** the power is switched on.

THE CONTROL PANEL MAY ONLY BE CONNECTED OR DISCONNECTED WHEN THE STEAM GENERATOR IS SWITCHED OFF VIA THE MAIN POWER SWITCH. OTHERWISE THE CONTROL PANEL WILL BE DAMAGED!

ALL LOW POWER CABLING MUST BE ENCLOSED IN THE ACCOMPANYING CABLE SLEEVING IN ACCORDANCE WITH FIG. 16

I *Fig. 15* illustrates all the lead-throughs and fuses for the Home and Commercial types:

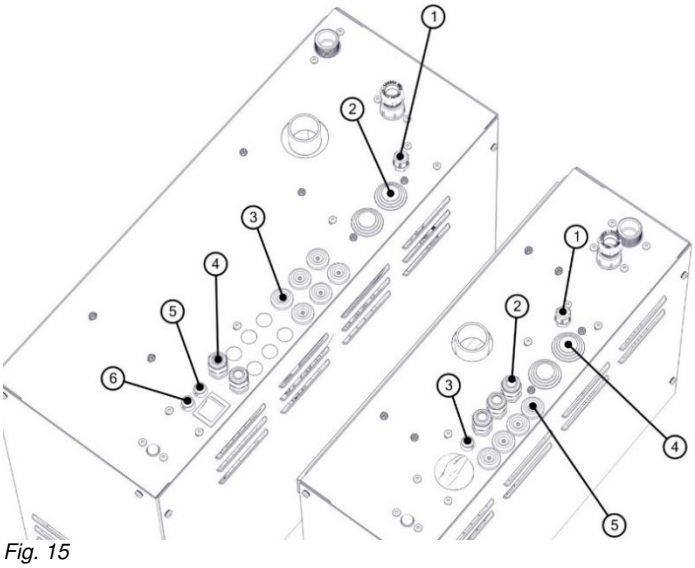


Fig. 15

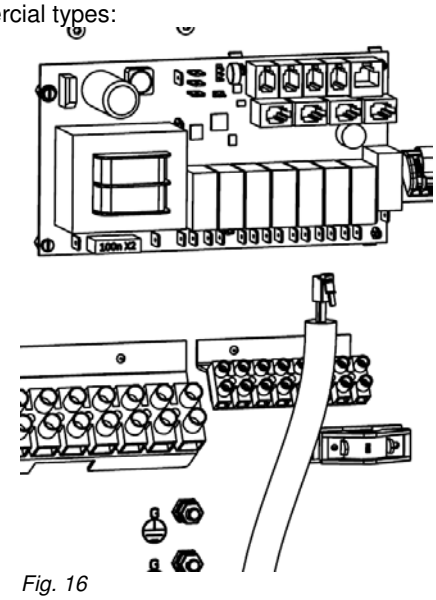


Fig. 16

Home

1. Strain relief connector for cable to motorized ball valve
2. Strain relief connector for AUX and lighting
3. Lighting fuse
4. Strain relief connector for power supply cable
5. Lead-through for the control panel, temperature sensor, etc. that will be connected by quick connectors to the circuit board.

Commercial

1. Strain relief connector for cable to motorized ball valve
2. Strain relief connector for power supply cable
3. Lead-through for the control panel, temperature sensor, etc. that will be connected by quick connectors to the circuit board.
4. Strain relief connector for AUX and lighting
5. Lighting fuse
6. Fan fuse

Lighting
Can be controlled from the control panel.
Refer to the connection label *(Fig. 13)* for the max. power specification.

Positioning of thermistor
The sensor is to be installed 150-170 cm above floor level inside the steam room. Important! The sensor must be located as far from the steam jet as possible. It must not be in either direct or indirect contact with the steam jet.
The thermistor wire can be extended beyond the steam room by means of a low voltage wire (2-core). Refer to the section *"Modular connector description"* for information on the pin configuration.

Option:
External switch - Can be positioned at any distance from the steam room. Connected by means of a low power cable and a RJ10 connector with pin connections as in the section *"Modular connector description"*. Additional external switches must be connected in parallel.
Door contact – Prevents unintended starting of the steam room while the door is open. Connected directly by means of a control board and a RJ10 connector with low power wiring and pin connections as in the section *"Modular connector description"*.

Connection to extra equipment
Possibility to connect extra equipment, such as fans, additional lighting, fragrance pump, etc. The number of functions it is possible to connect is determined by the number of "AUX" inputs.

Product	No. of AUX
Home	1
Commercial	3

Home automation
To start via a home automation system the input for external switches is used to trigger starting the steam generator. So as not to risk inadvertent starting due to incorrect programming, it is recommended that a door contact is added to guarantee that the door is closed. For other settings and programming, refer to the user's instructions for the control panel.

WARNING! SEVERAL POWER SUPPLY CIRCUITS. BEFORE WORKING ON THE EQUIPMENT, CHECK THAT IT IS COMPLETELY WITHOUT VOLTAGE!

Multisteam
Steam Home and Steam Commercial 9/12/15kW offer the possibility of expanding and connecting together up to three facilities served by the same control panel. This creates the possibility of unbroken steam production in all circumstances.

When more than one generator is connected together, one of them is set up to be the "Primary" (factory setting) and is the one which controls the other generators. The other units are then set up to be "Secondary" in accordance with the DIP schematic diagram at *Fig. 17*

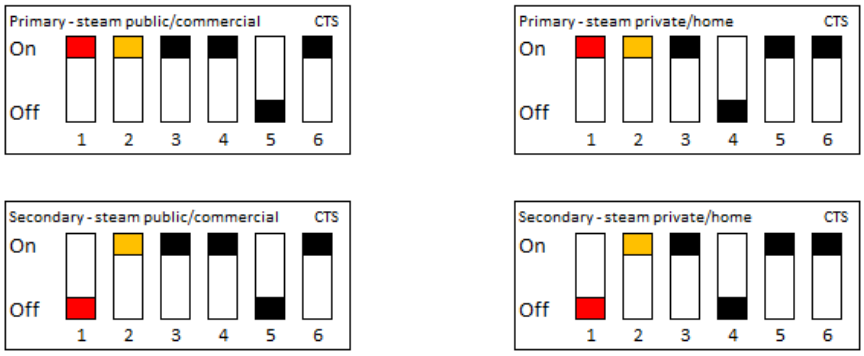


Fig. 17

During operation the steam generator is emptied automatically after 4 hours (factory setting, via settings > auto emptying can be altered) in order to ensure good water quality. When 2 or 3 generators are connected together, the ”Secondary”-generators are emptied at 20 minute intervals after the ”Primary” has been emptied.

The connections between the generators use a low power cable (4 core) with an RJ10 connector, *(Fig. 18.)*
Refer to the section ”*Modular connector description” (Fig.18)* for more information on the pin configuration.

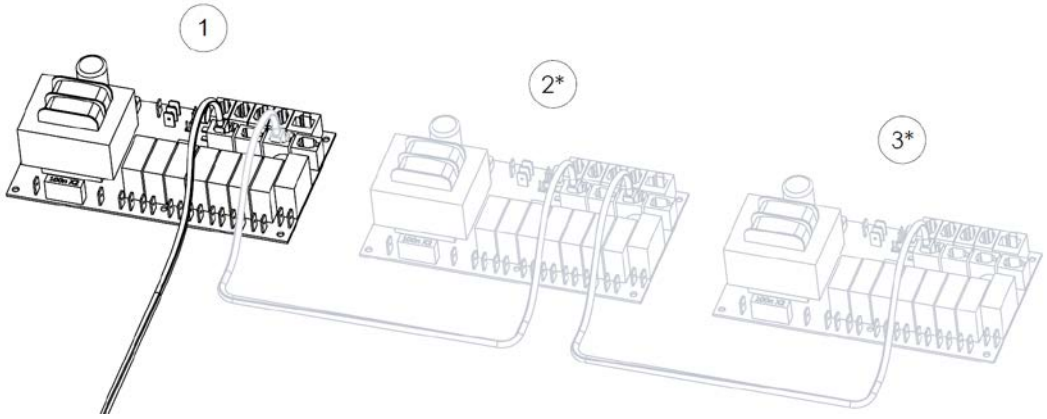


Fig. 18

*= option

If one steam generator needs servicing the others can remain in operation. One generator that is set as a secondary is disconnected by removing the cable from between the circuit boards. *(Fig. 18)*
If the generator that is to be serviced is set as the ”*primary)*, do as follows:

1. Use the circuit breaker to switch off the generator.
2. Disconnect the cable that connects the control circuit boards *(Fig. 18)*
3. Select a *”secondary”* steam generator and change the DIP switch settings to *”primary”* according to the appropriate type. Refer to *Fig. 17.* Then connect the control panel to the new *”primary”*. A new ”initial setup” will be requested, as the generator had not been set up as a *”primary”* earlier.

Modular connector description

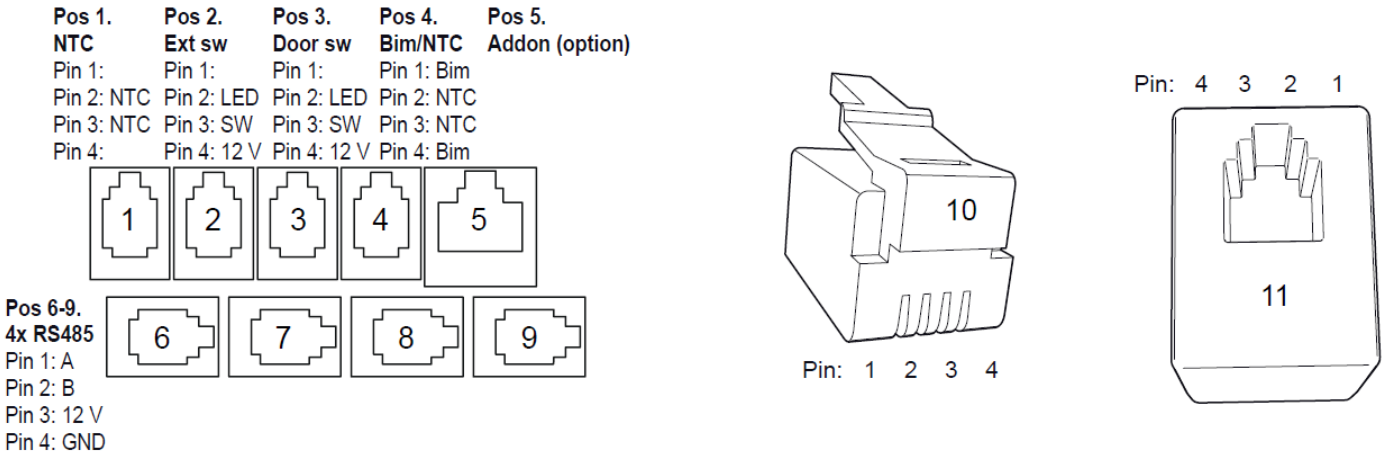


Fig. 19

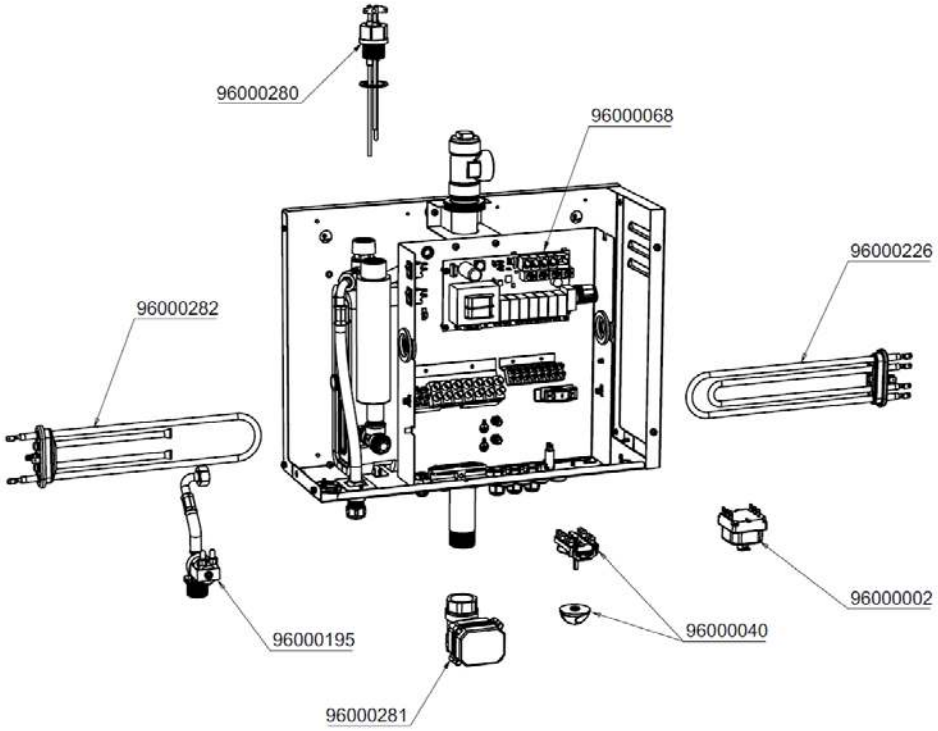
1. NTC Sensor (RJ10)
2. External switch (RJ10)
3. Door contact (RJ10)
4. SEC/NTC Sensor (option) (RJ10)
5. Add on (option for Home)(RJ45)
6. RS485 control panels (RJ10)
7. RS485 control panels (RJ10)
8. RS485 control panels (RJ10)
9. RS485 control panels (RJ10)
10. Modular plug (RJ10)
11. Modular contact (RJ10)

Connecting components to the modular contacts (maximum cable cross-sectional area for RJ10. 0.9mm/ 0.2mm², AWG24)

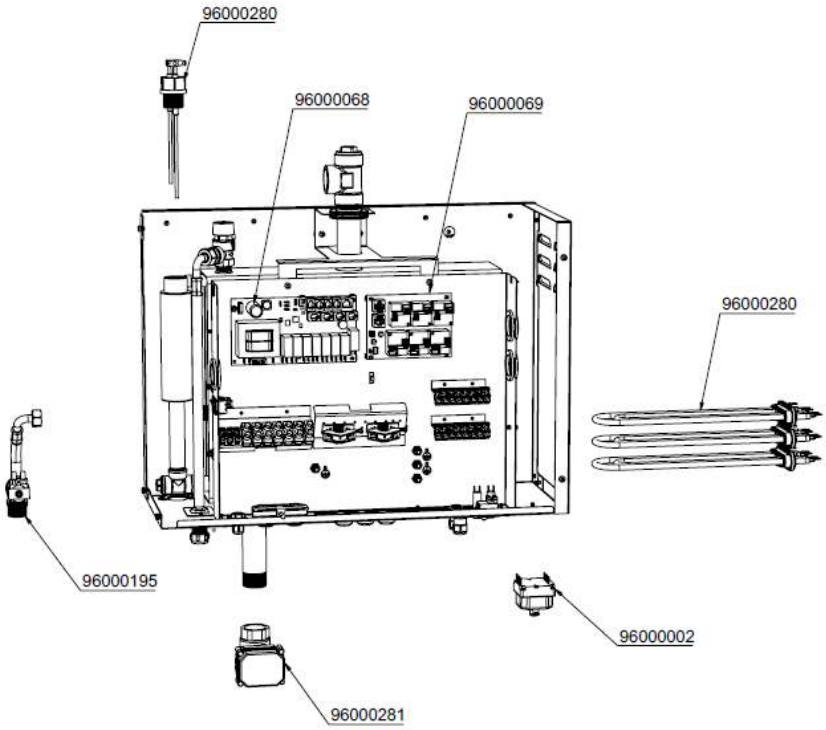
Unit	Position	Pin	Comment
Temp. sensor (10 kΩ)	1	2-3	Must be NTC type. May also be connected at Position 4.
External switch without LED indication	2	3-4	Both constant and impulse deactivation work.
External switch with LED indication	2	2-3-4	12VDC (maximum 40mA). Tylö external switch, item number: 9090 8045
Door contact without alarm for door status	3	3-4	Of type NO (Normally Open). Tylö door contact, Item No.: 9090 8035.
Door contact with alarm for door status	3	2-3-4	12VDC (max. 40mA)

Spare parts list

Home



Commercial



Troubleshooting

Checks and troubleshooting.
In the case of incorrect operation, first check:

- That the control panel and steam generator are connected correctly in accordance with the wiring diagram.
- That the steam generator is installed correctly in accordance with these instructions.
- That the drainage piping has a definite down-slope to the drain.
- That the dirt filter is clean. The filter is positioned at the connection point for incoming water. During cleaning, unscrew the pipe connection, take out the dirt filter and clean out limescale and particles.
- There must not be any water pockets in the steam piping or any ventilation ducts leading from the steam room.
- That the steam piping does not have any sharp bends (min. radius 50 mm).
- That any tap in the water line to the steam generator is not closed.
- That the construction and ventilation of the steam room are in accordance with our instructions.

Troubleshooting list with alternative causes of faults and suggested remedies.

The desired temperature (40-50°C) is maintained in the steam room, but there is no steam inside the room.
Fault cause: Insufficient ventilation in the steam room.
Remedy: Increase the amount of ventilation. If the air exhaust valve extracts less than 10-20 m³ of air per person per hour, there is insufficient ventilation. Can occur if the air exhaust valve is not connected to a mechanical exhaust, or if a water pocket is blocking the ventilation duct.
Fault cause: The incoming air temperature to the steam room is too high.
Remedy: Reduce the temperature of the incoming air to max. 35°C.
Fault cause: The air temperature surrounding the steam room is higher than 35°C.
Remedy: Ensure that the surrounding temperature does not exceed 35°C.
Fault cause: Thermometer is faulty or incorrectly located.
Remedy: The thermometer must be located approx. 150 - 170 cm above floor level and as far away from the steam jet as possible.

The steam room is taking an abnormally long time to warm up.
Fault cause: In the case of steam generator low power, refer to the table.
Remedy: Change to a higher power steam generator.
Fault cause: Too much ventilation in the steam room.
Remedy: Reduce the amount of ventilation. Must be 10-20 m³ air per person per hour.
Fault cause: Fuses in the distribution board have blown/tripped.
Remedy: Change the fuse(s).
Fault cause: The air temperature surrounding the steam room is lower than 15°C.
Remedy: Raise the surrounding temperature or change to a higher power steam generator.
Fault cause: Pipe element broken.
Remedy: Change the pipe element.
Fault cause: The sensor has been placed too close to the steam jet, see test 2.
Remedy: Move the sensor or change the direction of the steam jet.

Neither steam nor heat are present in the steam room.
Fault cause: Fuses in the distribution board have blown/tripped.
Remedy: Change the fuse(s).
Fault cause: Water is not leaving the steam generator.
Remedy: Open the tap that is connected to the pipe for incoming water to the steam generator, and inspect the hose for a kink or similar.
Fault cause: The control panel is set incorrectly.
Remedy: Check the time and temperature settings on the control panel.
Fault cause: The dirt filter is clogged.
Remedy: Remove the filter, that is placed in connection to the incoming water and clean foreign objects and particles from it.
Fault cause: The feed water solenoid valve has jammed.
Remedy: Remove the solenoid valve and clean out foreign objects and particles.
Fault cause: Excessive limescale in the steam generator water tank, see test 1.
Remedy: Change the water tank, complete with the element and electrodes.
Fault cause: The steam generator is connected to an incorrect supply (voltage).
Remedy: Check the voltage and the generator connections, refer to the wiring diagram.
Fault cause: The temperature cut-out has tripped, see test 4.
Remedy: Check for and rectify any faults in the steam pipe, e.g. blockage due to several sharp bends, water pockets or drastically reduced internal diameter. Alternatively the tank may be full of deposits, see above.
Fault cause: Fault in the circuit board, control panel or solenoid valve.
Remedy: Change the faulty component.
Fault cause: Pipe element broken.
Remedy: Change the pipe element.

Hot water runs out through the steam nozzle, no or very little steam in the steam room.
Fault cause: The feed water solenoid valve has jammed due to dirt or an electrical fault, see test 3.
Remedy: Remove and clean the solenoid valve or rectify the electrical fault.
Fault cause: The solenoid valve is broken.
Remedy: Change the solenoid valve.
Fault cause: Circuit board fault.
Remedy: Change the circuit board
Fault cause: Too much deposit on the electrodes.
Remedy: Take out and clean the electrodes. Rub with a cloth until all deposits have been removed.

Hot water squirts jerkily out through the steam nozzle, or in an even trickle, mixed with steam.
Fault cause: Small water pocket in the steam pipe.
Remedy: Eliminate the water pocket.
Fault cause: Excessive length of uninsulated steam pipe.
Remedy: Insulate the steam pipe.
Fault cause: Too much deposit on the electrodes.
Remedy: Take out and clean the electrodes. Rub with a cloth until all deposits have been removed.

Hot water runs continuously out from the steam generator drain pipe.
Fault cause: The automatic draining solenoid valve has jammed.
Remedy: Switch off the steam generator. Test again after 80 minutes. If the fault persists, remove the motorized ball valve for the automatic drain function and clean it.

Loud banging in the water lines when the solenoid valve opens or closes.
Fault cause: The incoming water piping to the steam generator is not satisfactorily secured.
Remedy: Using clamps, firmly secure the incoming water piping to the wall.
Fault cause: Recoil (water hammer) in the incoming water piping.
Remedy: Replace 1 meter of the water piping closest to the steam generator by a flexible type, e.g. armored rubber hose that can withstand the water pressure.

Safety valve opens or temperature protection cut-out trips.
Fault cause: The steam pipe is blocked, see test 4.
Remedy: Remove the blockage.
Fault cause: The internal diameter of the steam piping is drastically reduced, see test 4.
Remedy: Change the pipe or joint component that is causing the reduction (internal diameter min. 12 mm).
Fault cause: These are several sharp bends in the steam pipe, see test 4.
Remedy: Change the bends, they must be gently rounded (minimum radius 50 mm).
Fault cause: Large water pocket in the steam pipe, see test 4.
Remedy: Adjust the water pipe to eliminate the water pocket.
Fault cause: Excessive limescale in the steam generator water tank, see test 1.
Remedy: Descale several times with flushing in between. Change the water tank, complete with the element and electrodes, if that did not work.

Steam production comes and goes at short intervals right from the start.
Fault cause: The sensor is not positioned correctly relative to the steam jet, see test 2.
Remedy: Move the sensor or change the direction of the steam jet.
Fault cause: Limescale or other foreign material in the dirt filter.
Remedy: Remove and clean the dirt filter.

Fan or lighting not working despite correct connections.
Fault cause: A fuse can have blown/tripped.
Remedy: Replace the fuse in accordance with Fig. 15.

TEST 1.
Inspecting the build-up of limescale in the water tank.
Unscrew the lock nut at the top of the steam generator. Use a torch to see inside the tank. Inspect the inside of the tank through the hole. If there is a layer of limescale higher than 3 cm from the bottom, the steam generator has not been serviced as prescribed with regular descaling. The fault could also be that the automatic emptying and flushing have not been working. If there is a switch in the electrical feed to the steam generator, check that it has not been used as a shut-down switch after each steam bath session. Such a switch must not be switched off before not less than 80 minutes have elapsed since the control panel has switched off.

TEST 2.
Functional check of the sensor.
Soak a small hand towel in cold water. Hang the wet towel over the sensor. If the steam generator begins to produce steam within 20 minutes the sensor is serviceable, but positioned incorrectly or the temperature has been set to a value that is too low.

TEST 3.
Functional check of the solenoid valve.
Use a separate switch to check that the solenoid valve is operating satisfactorily. If it leaks. it may be due to dirt or limescale deposits. Check that the dirt filter is intact, and descale the steam generator.

TEST 4.
Checking the steam pipe if the safety valve opens or temperature protection cut-out trips.
Unscrew and disconnect the steam pipe from the steam generator. Start the steam generator and allow it to run for about 1 hour. If the safety valve or temperature protection do not trip during this test, there must be a blockage in the steam pipe that is in the way of the steam. Rectify in accordance with the troubleshooting chart.
If during servicing you wish to empty the tank – Use the switch at the left wall of the electrical cabinet to manually open and close the motorized ball valve.

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

Error codes

Error code	Symptom	Error occurs	Events during error	Comments on error code
1	Temperature sensor in the room not connected or faulty	During operation	Operation interrupted. Emptying of the steam production source takes place 1 hour after the error occurred.	Is the sensor intact? Is it giving an incorrect value? Resistance measurement should show approx. 10kΩ at 25˚C and approx. 677 Ω at 100˚C.
		At off	Only the error code is shown. Steam production source does not empty.	
2	Temperature sensor in the room not connected or faulty	During operation	The standby steam room with its steam production & Tylarium stop working and emptying takes place 1 hour after the error occurred. The steam room only notifies that there is an error. Operation is not interrupted and emptying takes place as normal 1 hour after the steam bath ends.	Is the sensor intact? Is it giving an incorrect value? Resistance measurement should show approx. 10kΩ at 25˚C and approx. 677 Ω at 100˚C. This sensor must be changed if it is faulty, otherwise the standby function of the system cannot be used.
		At off	Only the error code is shown. Emptying does not take place.	

4	The level electrodes in the steam tank are short-circuited	During operation	Operation is interrupted and error code clearing takes place immediately.	About 5 seconds of continuous failure is required to trigger an error code. Check that the electrode pins are touching the electrode tube or alternatively the cables. Error code may be triggered by water with a high concentration of salt or minerals that increases electrical conduction and makes the circuit board believe that the electrodes are short-circuited. In that case clean/descale the water tank and the electrode pins.
		At off	Error code clearing takes place immediately.	
5	The steam tank overfull level electrodes are not working.	During operation	Operation is interrupted and error code clearing takes place immediately.	The uppermost, high (H) electrode has not detected the water level within the preset time, refer to the filling time in the configuration menu. Insufficient water flow? Is the incoming water switched on? Is there a gap in the electrode wire connections GND/high? Grease on the coating surface of the electrode pins? If there is no fault present at the water connection, the value for the water level can be checked in the configuration menu status during restarting, to check that the level has changed from low to mid/high during filling. If the level has not changed at all from low, both the mid and high (M, H) pins are faulty. If the level has only changed to mid, it is only the high pin (H) that is faulty
		At off	The error code cannot be triggered when off, operation must be started for the incoming water feed to open.	
6	Contact lost with the heater network control panel node.	During operation	Operation is interrupted and restarting takes place. For steam production, emptying takes place immediately after restarting is completed in case there is water in the tank.	Poor wiring connection? Check by removing and refitting the RJ10 connector. Check that one of the pins in the female RJ10 connector on the circuit board or control panel may have become misaligned or displaced, so that contact with the connected RJ10 cable has been lost.
		At off	Reboot. For steam production, emptying takes place immediately after rebooting is completed in case there is water in the tank.	
8	The steam tank has overheated	During operation	Operation is interrupted and error code clearing takes place immediately.	The sensor at the NTC input has detected excessively high temperature in the water tank. Check the steam pipe along its length, and its dimensions. Check that the NTC is intact. Resistance measurement should show approx. 10kΩ at 25˚C and approx. 677Ω at 100˚C. Also check the water quality and that automatic emptying is activated, so that the level electrodes are not misleading the system due to foam in the tank so that they believe that sufficient water is available.
		At off	Cannot be triggered when the system is off.	
10	Contact with the add-on board has been lost.	During operation	Operation interrupted. In a Tylarium emptying of the steam secondary is taking place 1 hour after the fault occurred.	Try restarting the system. Check by removing and refitting the RJ10 connector. Check that one of the pins in the female RJ10 connector on the circuit board may have become misaligned or displaced, so that contact with the connected RJ10 cable has been lost. Check the screw terminal connections on the sensor circuit board. Alternatively change the temperature/humidity sensor that is connected to the RS485 input.
		At off	Only the error code is shown. In a Tylarium emptying of the steam secondary is not taking place.	
11	There is a fault in the emptying of water from the steam tank. Switch off the power and perform servicing.	During operation	Fault detected during the actual emptying sequence of the system. Error code clearing, Automatic emptying, Voltage connection to the system and water in the tank and emptying after session completed.	Water level in the tank has been at least mid-level when checking the tank is empty, carried out at all emptying cycles. It must always be at its low level. Check, is the water tank drain blocked? Is the emptying valve operating and opening? Is the relay on the relay board that controls the emptying valve closing? The fault may also be caused by the high electrode pin sensing the value as water at the same time as the mid not sensing water, the same as the error code (level electrodes not working, mid failure) thereby sending unknown water level.
		At off	Fault detected during the actual emptying sequence of the system. Error code clearing, Automatic emptying, Voltage connection to the system and water in the tank and emptying after session completed.	
12	Steam tank level electrodes are not working, mid failure.	During operation	Operation is interrupted and error code clearing takes place immediately.	Requires a continuous failure of the mid electrode pin for 5 seconds at the same time as the high electrode pin having a value equivalent to water, before error code will be triggered. Check the connections between the relay board and the mid electrode. Check if the mid electrode pins are coated with grease. The level high electrode pins may perhaps be in contact with GND although not a complete short-circuit but just enough so that the value is misinterpreted as water?
		At off	Error code clearing takes place immediately.	

15	Contact lost with the heater network relay board node.	During operation	Operation is interrupted and rebooting takes place. For steam production, emptying takes place immediately after rebooting is completed in case there is water in the tank.	Shown when the primary has lost contact with the connected secondary unit, system cures itself. Check, does the secondary unit have voltage? Test by removing and refitting the RJ10 synchronization cable again. Check that one of the pins in the female RJ10 connector on the circuit board may have become misaligned or displaced, so that there is no contact with the connected synchronization cable. After rectifying the fault, restart the power to both the primary and secondary.
		At off	Reboot. For steam production, emptying takes place immediately after rebooting is completed in case there is water in the tank.	
18	Too many secondary units connected.	During operation	Error code appears immediately after voltage is applied to the system, resulting in the system constantly rebooting.	Maximum number of units in the system: 1 primary + 2 secondary for Multisteam. 1 primary + 1 secondary for Tylarium. The error code is first seen on the display after rectification and system restarting.
		At off	Error code appears immediately after voltage is applied to the system, resulting in the system constantly rebooting.	
19	Door has been open for longer than the permitted time. Current session ends	During operation	Operation interrupted. Emptying of the steam production source takes place 1 hour after the error occurred. Error code triggered at standby/operation on of the sauna/Tylarium at steam only at operation on.	Weekly calendar entries rescheduled to the following week. Date calendar entries deleted. If it is known that the door was closed all the time, test by disconnecting and reconnecting the RJ10 connector. Check, is the distance between the switch and the magnet set correctly? Check that one of the pins in the female RJ10 connector on the circuit board may have become misaligned or displaced, so that contact with the connected RJ10 cable has been lost. Pins 3-4 must be NC (Normally Closed) when the door is closed.
		At off	Cannot be triggered when the system is off.	
20	Door switch has been open for longer than 60 seconds since the previous session.	During operation	Error code is only triggered at off. Arrange it so that the steam room cannot be started via calendar entries and external control. Error code first triggered hidden with the system off, and first shown at the start attempt, and at later starts at the Pure control panel.	Check that the door switch is working by: 1. Restart the system with the door open, then inspect the configuration menu status, the door switch will not now be shown as connected. 2. Close the door and now the door switch will be shown as closed. If its shown as not closed, is the switch or cable faulty are incorrectly installed? Check by removing and refitting the RJ10 connector. Check, is the distance between the switch and the magnet set correctly? Check that one of the pins in the female RJ10 connector on the circuit board may have become misaligned or displaced, so that contact with the connected RJ10 cable has been lost. Pins 3-4 must be NC (Normally Closed) when the door is closed.
		At off	Error code is only triggered at off. Arrange it so that the steam room cannot be started via calendar entries and external control.	

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ROHS (RESTRICTION OF HAZARDOUS SUBSTANCES)