

Instructions for Use and Installation **HNS – M / HLS**

STEAM GENERATOR -- CONTROL CENTRE

HLS -- Roma 1 / Roma 2 /
Pneumatic push button

HNS – M -- Midi / On Off push button

For home and professional use



HNS – M



HLS

Specifications

Operating voltage	230V 1N~ / 2~, 230V 3~, 400V 3N~	(3.4 kW – 7.7 kW) (3.4 kW – 14 kW) (3.4 kW – 14 kW)
Also available	240V 1N~ / 2~, / 415V 3N~	
Output options	3.4 / 4.7 / 6.0 / 7.7 / 9.5 / 12.0 / 14.0 kW	
Parallel coupling	HLS HNS – M	max. 3 steamers (42 kW) max. 1 steamer (14 kW)
Enclosure class	IP 20	
Installation	Floor / wall	
Water tank material	Aisi 304, stainless steel	
Steamer dimensions	520 x 380 x 160 mm	
Weight when empty	about 11 kg	

Easy to use

Floor or wall installation

Digital control panel or On/Off push button HNS – M
Analogue control panel HLS

Control centre installation in steam room allowed HNS - M
Control centre installation outside the steam room HLS

Easy maintenance

Replaceable heating elements (3 pcs), of which 1 is fitted with a heat fuse.
Fill cap for deliming agent (citric acid) on the lid of the steam generator. (HNS – M)
(Optional HSL, Descale Kit)
Components easily replaceable, circuit board, heating elements, surface sensor.

Accessories

- Scent pump, (Essence kit 0038130)
- Scent pump canister 20 l (0038132)
- Automatic flush and rinse cycle. (Auto clean valve 4310130) HNS – M
- Automatic flushing. (Auto clean kit 3819497) HLS
- Descale Kit HLS

Use and installation

HNS-M and HLS steam generators are only intended for use in heating spa facilities. Using steam generators in other areas than steam rooms can damage the building's structure.

The manufacturer is not responsible for damages caused if the unit has been used incorrectly or in a manner for which the unit was not designed for.

Water and steam pipe connections must be made prior to connecting the unit into the mains. Due care and attention must be taken when making the connections. Proper sealing must be ensured for all extensions. A good extension must have at least taped over twist connections, but it is recommended that connections are soldered.

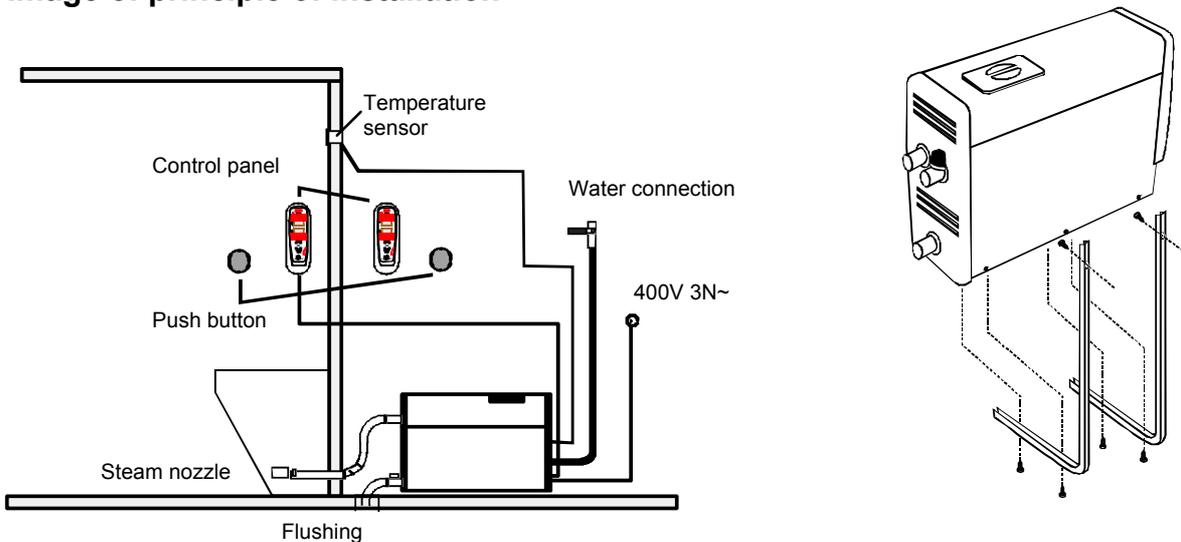
The steam generator must be placed away from water and moisture (dry room). The room must be airy as the unit also produces heat. The maximum recommended ambient temperature is 25°C. The minimum recommended free space to the sides and above the steamer is 30cm. Adequate space for maintenance should also be planned for in the placement of the unit.

There should be a drain nearby for draining the tank.

The steam generator can be installed freestanding on the floor or on the wall using wall fittings. When using wall fittings, ensure you use appropriate fittings and screws for the type of construction material of your walls. The steam generator weighs about 17 kg when filled with water.

When the automatic drain valve is used, it is recommended you use wall installation so an adequate angle can be ensured for draining of water.

Image of principle of installation



Locating the control panel

Steamer wall mounting

The control panel may also be installed in the steam room, model HNS – M.

HSX-L Roma centre is only to be installed outside the steam room.

NOTE: The RA 17 control panel has a built-in thermostat. If an external thermostat is used, the cable is connected to steamer circuit board in model HNS – M. In other models, the thermostat cable is connected to the control centre, model HLS (Roma I and Roma II)

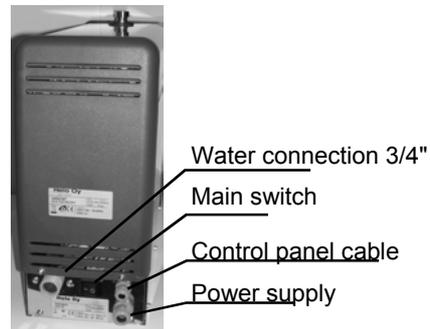
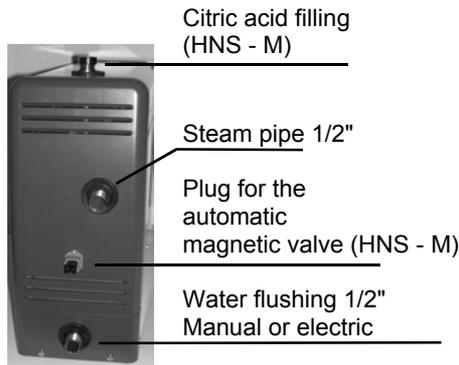
The cable can be extended with a similar cable, also for control panel, max. 10m.

Steam nozzle / nozzles are fitted approximately 200 – 400mm from the floor underneath a bench or a seat, or onto the wall so that the hot steam cannot burn anyone's feet. The steam nozzles are aimed towards the floor. When the nozzles are installed, you must ensure to place them somewhere where nobody can accidentally touch them. **The steam temperature is +100 °C** and it can cause injuries on contact.

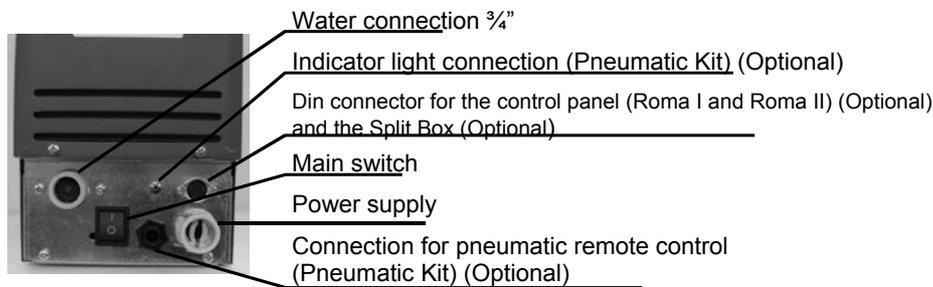
The thermostat is installed at about 1700mm height, preferably on the wall opposite the door. It is recommended to seal the thermostat installation hole with appropriate sealing material, so that moisture cannot enter the structures.

Steamer connections

HNS-M



HLS



Water and steam connection

Connect the flexible 3/4" water connection tube in the packaging to the water connection in the installation panel of the unit and to the cold water piping of the building. The water pressure must be between 0.2 and 10 bars. The water supply pipe must have a manual stop valve for stopping water supply to the unit, if the unit is not used for a prolonged time.

Installation must follow the local regulations

It is recommended to use at least 18x16mm (steamer size 3.4 kW-9.5 kW) and 22x20mm (steamer size 12.0 kW- 14 kW) copper pipe or a silicone tube of similar size when connecting the steam pipe. The steam pipe diameter must be the same for the whole length.

The steam pipe must be tilted upwards or downwards from the steam generator to the steam room, there **MUST NOT** be any water seals or water pockets. The condensation water forming in the steam pipe must be allowed to drain freely to the steam room or back to the steamer. If a scent pump is connected to the steam generator, the pipe must **ALWAYS** drain away from the steamer, so that the chemicals cannot get into the tank.

Recommended maximum length for the steam pipe is 5m.

It is recommended to always use additional insulation for the steam pipe, for both safety reasons and to prevent water condensation in the pipe.

WARNING: Hot steam can cause burn injuries.

The magnetic valve for draining the steamer's tank is fitted into the draining pipe. Alternatively you may use a manual draining valve.

The steamer's tank should be drained after each use. This will extend the unit's life and reduces chalk build-up

Electrical connections

The sauna heater must be connected to the mains by a qualified electrician and in compliance with current regulations. Steam generator is connected with a semi-permanent connection. Use H07RN-F (60245 IEC 66) cables or a corresponding type.

Output kW	Heater connection cable H07RN-F / 60245 IEC 66 mm ² 400-415V 3N~	Fuse A	Heater connection cable H07RN-F / 60245 IEC 66 mm ² 230V 3~	Fuse A	Heater connection cable H07RN-F / 60245 IEC 66 mm ² 230-240V 1N~/2~	Fuse A	Room size m ³ *)
3,4	5 x 1.5	3 x 10	4 x 1.5	3 x 10	3 x 2.5	16	1,5 – 2,5
4,7	5 x 1.5	3 x 10	4 x 2.5	3 x 16	3 x 4.0	20	2,5 – 5
6,0	5 x 1.5	3 x 10	4 x 2.5	3 x 16	3 x 6.0	35	5 – 7
7,7	5 x 2.5	3 x 16	4 x 4.0	3 x 20	3 x 6.0	35	7 – 10
9,5	5 x 2.5	3 x 16	4 x 6	3 x 25	----	----	10 – 12
12,0	5 x 6	3 x 25	4 x 6	3 x 35	----	----	12 – 15
14,0	5 x 6	3 x 25	4 x 10	3 x 50	----	----	15 - 18

*) Heavy built walls, such as concrete, brick or stone require more power output to heat up. Ventilation also adds to the required power output.

You can estimate the power requirement using the formula below.

$$\text{Volume (m3)} \times K1 \times K2 = \text{Power requirement (kw)}$$

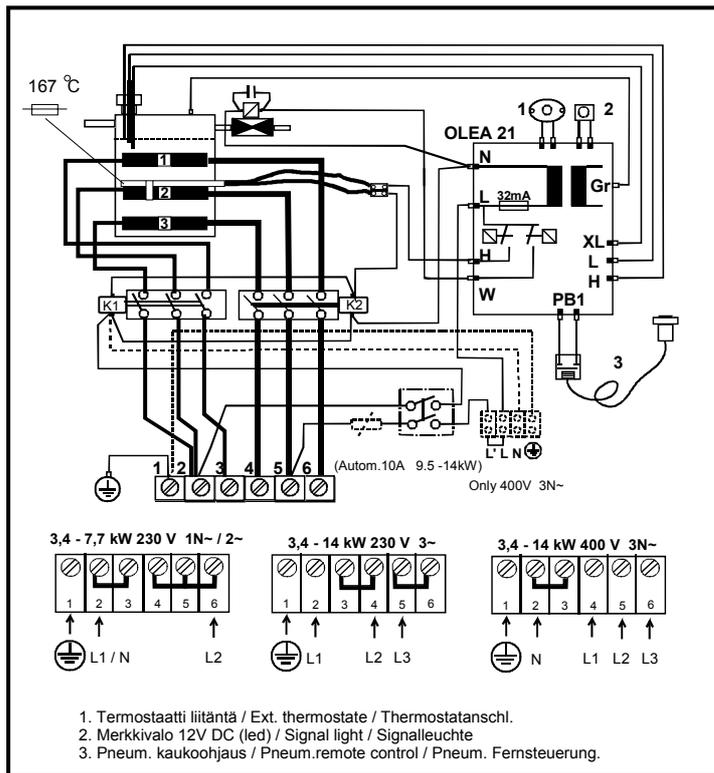
Air conditioning	K1 = 0.75
No A/C	K1 = 0.52
Acrylic wall	K2 = 1.00
Light wall: board + tile	K2 = 1.25
Heavy wall: stone, concrete + tile	K2 = 1.50
Very heavy wall: stone, concrete	K2 = 2.00

In heavy built steam rooms, it is recommended to use e.g. electric heating cable for warming the seats, walls and floors.

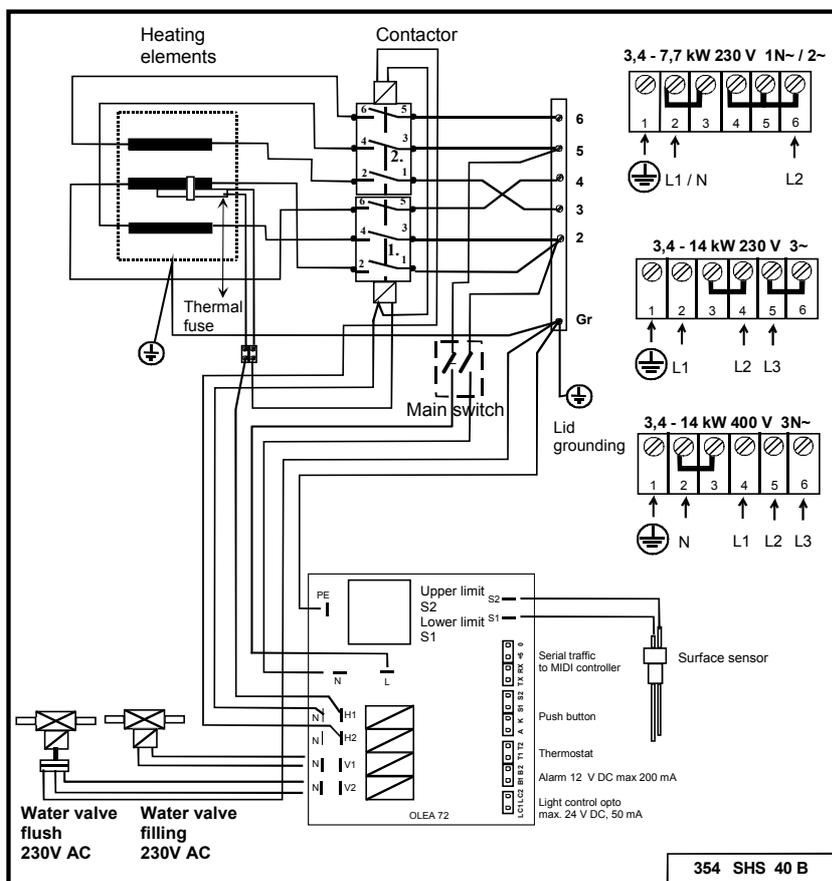
Heating elements

Teho Power Leistung kW	Vastus / Element / Heizstäbe 230V / 240V		
3,0	1000W / SEPD 131	1000W / SEPD 130	1000W / SEPD 131
3,4	1150W / SEPD 97	1150W / SEPD 111	1150W / SEPD 97
4,7	1567W / SEPD 98	1567W / SEPD 112	1567W / SEPD 98
6	2000W / SEPD 99	2000W / SEPD 113	2000W / SEPD 99
7,7	2567W / SEPD 100	2567W / SEPD 114	2567W / SEPD 100
9,5	5250W / SEPD 116	3500W / SEPD 115	5250W / SEPD 116
12	4250W / SEPD 119	3500W / SEPD 115	4250W / SEPD 119
14	5250W / SEPD 116	3500W / SEPD 115	5250W / SEPD 116

Connection diagrams



HLS 3.4 – 7.7 kW 230V – 240V 1N~/ 2~, 230V 3~, 400V – 415V 3N~
 HLS 9.5 – 14.0 kW 230V 3~, 400V – 415V 3N~



HNS – M 3.4 – 7.7 kW 230V – 240V 1N~/ 2~, 230V 3~, 400V - 415V 3N~
 HNS – M 9.5 – 14.0 kW 230V 3~, 400V - 415V 3N~

Steam generator maintenance procedures

Flushing and rinsing

HNS – M steamer has an option for an automatic flush and rinse cycle (Optional).

15 minutes after the bathing programme has finished or the programme has been manually aborted, the electronic flush valve will open. After the flush the steamer will fill its tank again with cold water and flush it again (rinse). By emptying the steamer's tank straight after use, the product will gain a long life cycle even in areas where water quality leaves room for improvement. Flushing the tank is not a substitute for a regular decalcification procedure. After the flush and rinse cycle, the unit will shut down to stand-by mode until the next bathing programme is initiated. HLS has an option for a flush valve (Auto clean kit), which flushes the steamer water tank 4 hours after the programme has finished.



Testing the water quality and decalcification for HELO HNS-M and HLS steamers.

The test packet that comes with the steamer includes test slips, which can be used for testing the water hardness number as follows: dip the test slip in water for about 1 second, take it out and shake off the excess water. After a minute, compare the colour code appearing on the test slip with the code key in the packet.

- Test result:
- < 3° dH, Very soft water, Decalcification after every 500 hours of use.
 - > 4° dH, Soft water, Decalcification after every 100 hours of use.
 - > 7° dH, Medium-hard water, Decalcification after every 50 hours of use. Installing the decalcification device recommended
 - > 14° dH, Hard water, Decalcification after every 30 hours of use. Install decalcification device and retest the water hardness.
 - > 21°dH, Very hard water, Install decalcification device and retest the water hardness.

These service intervals are recommended by the manufacturer. Decalcification may be performed more often, if necessary.

**The product's warranty will be void if the steam generator has been incorrectly installed or it has been used in a manner other than described in the user manual.
The warranty also expressly excludes operational faults if they are caused by hard water i.e. water with high levels of chalk, or otherwise impure water.
The steam generator must be maintained as described in the user manual.**

Decalcification instructions

Decalcification procedure for the HNS-M steamer is very easy. By using the citric acid recommended by Helo, the procedure is safe.

HNS-M steamer's lid is equipped with a filling tube for deliming agent, which makes it easy to add the agent into the tank.

HLS steamer must be equipped with a separate Descale Kit to get the agent into the tank. Descale Kit is installed on the steam pipe before the relief valve.



How to decalcify

- Add 50g citric acid (one bag) to 1 litre water and mix, let the agent dissolve into the water.
- Lift the plastic cover off the steamer and open the filling pipe cap.
- Pour the solution into the tank (use a funnel, if necessary) and close the cap.
- Start the steamer as usual and let the water boil for about 10 minutes. After the water has boiled enough, stop the steamer and follow these instructions:
 - **Automatic flush valve:** The steamer flushes and rinses itself 15 minutes after it has been stopped. After the first flushing the steamer is restarted and the tank is allowed to fill up with water, after which the steamer is stopped again and allowed to flush and rinse again after 15 minutes.
This can be repeated about 3 to 5 times.
If HSX – L is equipped with an automatic flush valve, install the manual flush valve found in the original packaging temporarily in the unit and rinse the unit according to the manual flushing instructions.
 - **Manual flush valve:** After boiling, let the citric acid solution act in the tank for 15 minutes and flush the tank after that by opening the flush valve. Close the valve after the first flushing and restart the steamer and allow the tank to fill up with water. Stop and flush the steamer again, and repeat this about 3 to 5 times.

The steamer is ready to be used right after the calcification treatment. If there is a lemon scent in the steam room after the treatment, rinse the steamer again. Use of citric acid is not hazardous to health.

Steam generator in professional use

In addition to decalcification treatment, it is recommended to make a service plan for steam generators in daily use (6 hours or more). Service is recommended to be done 6 times a year and it is to include visual inspection of the heating elements and the surface sensor, inspection and cleaning (lime accumulation) of the inner surface of the tank, and replacing components, if necessary. Tank cleaning is done through the heating element mounting holes.

Steamer use HNS – M

Control panel Midi (RA17)

Lighting controls

Temperature display

Time display

Temperature adjustment 25 – 50°C

Time adjustment 0 – 4 hours

Temperature sensor

Steamer on/off



Digital control centre

Lighting control button, (opto switch max. 24V DC, 50 mA, normal open)

OK button

Bathing temperature selection button (temperature display flashes)

Bathing time selection button (time display flashes)

plus button (+) for increasing time and temperature values

minus button (-) for decreasing time and temperature values

ON / OFF push button for starting and stopping the steam function

Control panel functions

The steamer is started by pressing the ON-OFF button in the control centre. After that, the temperature display starts to flash. The temperature may be set with the + and – buttons in one degree steps between 25°C – 50°C. If the temperature on the display is correct, you can move to time display by pressing the OK button. When the display flashes, you can adjust the time with the + and – buttons in one minute steps up to 90 minutes, after which the display changes to the hour display, max. 4 hours.

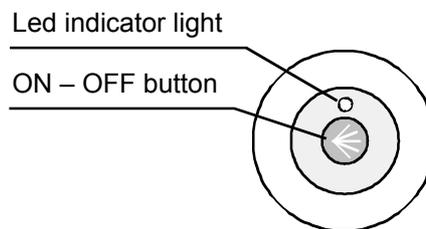
When there is 90 minutes left, the display changes to minute display. Before that, only full hours remaining are shown.

The last set temperature and time are stored in memory.

Lighting controls

Lights can also be controlled with the control centre button, which lights the led indicator lights by the push button. The connectors LC1 and LC2 on the circuit board are for lighting control. External voltage is brought to the circuit board 24 V DC max. 50 mA, connected to connector LC1. When the light button is pressed, the opto switch on the circuit board transfers the voltage to connector LC2, which controls the actual lighting control unit. (Light adapter 0043214)

Push button



Button function

When the steamer is started with the push button, it runs for 30 minutes. The led indicator light above the push button lights. Steamer time cannot be adjusted, it stops automatically. Steamer can be stopped by pressing the push button even before the time has run out, in which case the light turns off. Steamer can also be restarted, if desired.

A separate limiter thermostat can be used with the steamer, if push the button controls are used. (Thermostat 0043210) The thermostat prevents the temperature in the steam room from raising above +50 °C. See thermostat installation on the next page.

Alarms

Midi (RA 17) Control centre

E1 Water tap is closed when the steamer is started or running, or some other reason prevents water from running into the steamer. Open the tap. If the malfunction is in the steamer, it may require service.

E2 Error message comes when serial traffic between the control centre and the circuit board is not working. Troubleshooting requires service.

The steamer stop after the error message. Fix the cause of the malfunction or call service. Malfunction can be confirmed with the ON – OFF button.

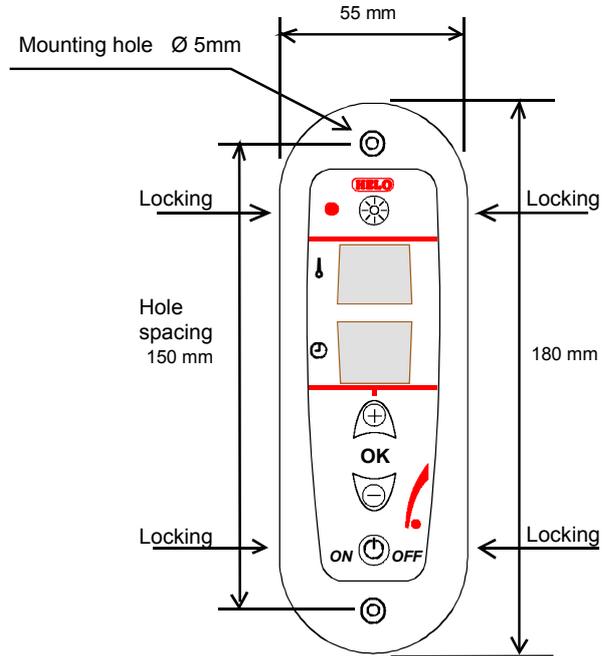
Push button led indicator light flashes rapidly in a steamer equipped with a push button, if there is a malfunction in the steamer; steamer has been started with the water tap closed, or some other reason has prevented water from running into the steamer. This notification appears when the steamer is running, if water intake is cut off. The error message can be confirmed with the push button. Fix the malfunction or have it fixed.

The circuit board has an output for alarm 24 V DC max 50 mA. The output is activated when E1 or E2 error message appears on the display or when the led on the push button flashes rapidly. The alarm is confirmed with the ON - OFF push button.

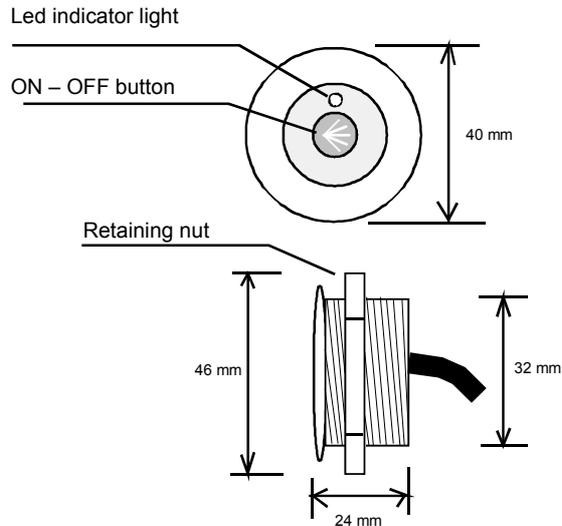
Installing control panel, push button and thermostat

The control panel is filled with sealant, therefore is moisture resistant. The control panel may be installed directly on a wall. Pipe hole in the steam room should be sealed, so that moisture does not travel along the pipe. This way the cable is hidden behind the control panel. Alternatively the cable can come out of the bottom of the control panel, from a pre-marked hole.

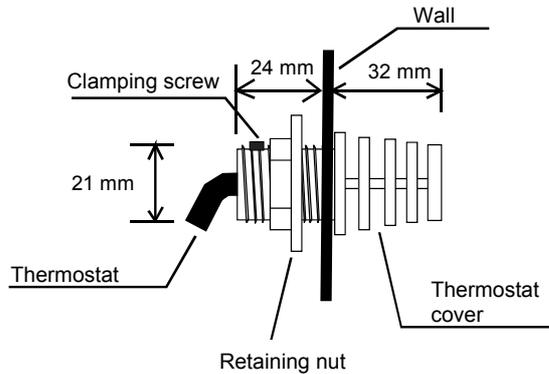
Control panel frame is pressed directly on it. Detaching is done with tool that comes with the unit. The frame has small holes on the edges. (4 holes) Push the locking pin lightly with the tool through the hole, one at the time and pull the frame outwards at the same time.



The push button is filled with sealant, therefore it may be installed in the steam room. The push button may be installed through a wall (acrylic walls) or by making a suitable hole, where the push button can be embedded and sealed with appropriate sealant. Surface installation boxes may also be used, if necessary, they do not need to be tight, because the actual push button is moisture resistant.

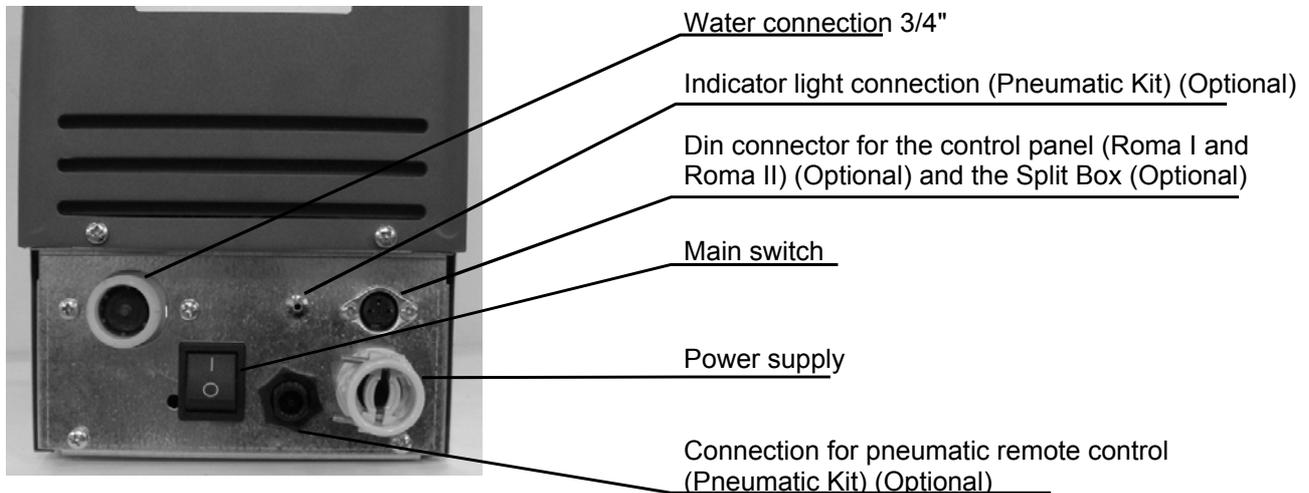


The thermostat is installed at 170cm height from the floor, preferably on the wall opposite the door. Retaining nut may be used, if necessary on plexiglass walls. On thicker walls, you can make a hole and seal it with appropriate sealant to prevent moisture from entering the structures. The thermostat is pushed into the cover, which is then tightened with a clamping screw.



Steamer use HLS

Steamer connections and implementation



Connecting the remote control button (Optional, Pneumatic Kit)

The remote control button functions pneumatically (on air pressure). Connect the black air tube found in the accessory packet as shown in the figure. The tube must be straight.

Cut the tube to suitable length. The push button may be installed either inside or outside the steam room. Clear silicone can be used for mounting. Push button is not needed, if the unit is controlled with a control centre (Roma I or Roma II). Be sure to leave the switch on ON position, if the remote control button is not used (removed).

Connecting the control centre or split box (Optional)

The available control centres, ROMA I and ROMA II, are connected to the DIN connector as shown in the figure. Connection does not require a professional electrician, users can do it themselves. Split Box is required when other devices are connected to the steamer in addition to the control centre, e.g. automatic flush valve (Auto clean Kit) or if the control centre controls more than one steamers (max. 3 steamers).

The steam generator may also be used without the control centre, in which case the user must take care that the steam room temperature does not rise above 50°C. A separate timer circuit (OLEA 82) can be installed on the steam generator's circuit board (OLEA 21), which stops the steam generator automatically after 25 minutes. (Optional, Timer Circuit)

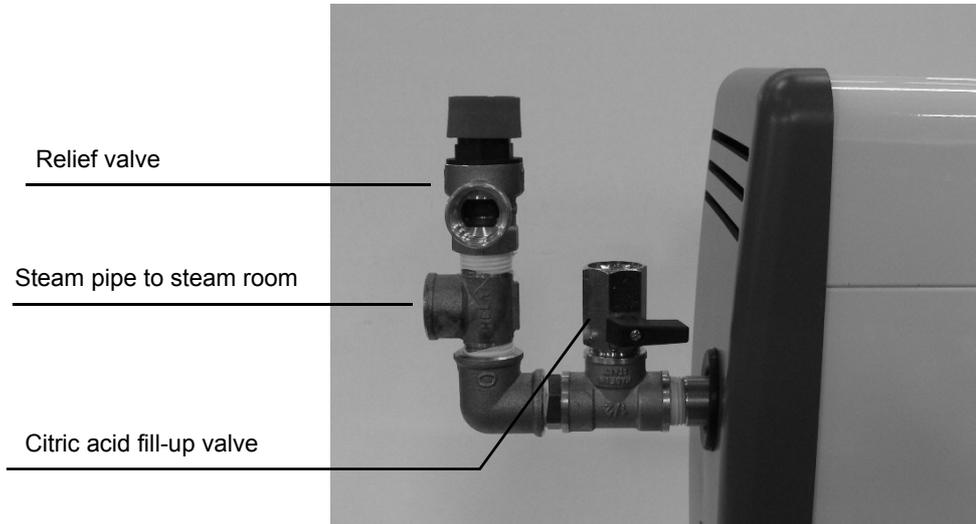
Indicator light (Optional, Pneumatic Kit)

Drill a hole in the wall and install the indicator light in the hole. Seal the hole with silicone, if necessary. Plug connector is connected to the connector in the steamer. The indicator light functions on 12V DC direct voltage, therefore it is safe also in moist steam rooms.

Steam generator implementation

- 1) Open the manual water tap of the steamer.
- 2) Press the main switch to position 1.
- 3) Give the control input with the pneumatic push button or with the control centre (Roma I or Roma II).
When there is enough water in the tank, the electronics will switch the heating on and close the water intake valve.
- 4) Heating the water takes about 5 to 10 minutes, depending on the power output, after which steam generation starts.
- 5) Steamer is stopped by pressing the pneumatic push button again, or if a timer is used, after the time has run out (Timer circuit 25 min or Roma II), or by pressing the control centre switch to 0 position (Roma I).

Installing the Descale Kit to HLS steamer



Installed on the steam pipe as shown in the figure

ROHS

Ympäristönsuojeluun liittyviä ohjeita

Tämän tuotteen käyttöiän päätyttyä sitä ei saa hävittää normaalin talousjätteen mukana, vaan se on toimitettava sähkö- ja elektroniikkalaitteiden kierrätykseen tarkoitettuun keräyspisteeseen.

Symboli tuotteessa, käyttöohjeessa tai pakkauksessa tarkoittaa sitä.



Valmistusaineet ovat kierrätettävissä merkintänsä mukaan. Käytettyjen laitteiden uudelleenkäytöllä, materiaalien hyödyntämisellä tai muulla uudelleenkäytöllä teet arvokkaan teon ympäristömme hyväksi.

Tuote palautetaan ilman kiuaskiviä ja verhoukiviä kierrätyskeskukseen.

Tietoa kierrätyspaikoista saat kuntasi palvelupisteestä.

Anvisningar för miljöskydd

Denna produkt får inte kastas med vanliga hushållssopor när den inte längre används. Istället ska den levereras till en återvinningsplats för elektriska och elektroniska apparater.

Symbolen på produkten, handboken eller förpackningen refererar till detta.



De olika materialen kan återvinnas enligt märkningen på dem. Genom att återanvända, nyttja materialen eller på annat sätt återanvända utsliten utrustning, bidrar du till att skydda vår miljö.

Produkten returneras till återvinningscentralen utan bastusten och eventuell täljstensmantel.

Vänligen kontakta de kommunala myndigheterna för att ta reda på var du hittar närmaste återvinningsplats.

Instructions for environmental protection

This product must not be disposed with normal household waste at the end of its life cycle. Instead, it should be delivered to a collecting place for the recycling of electrical and electronic devices.

The symbol on the product, the instruction manual or the package refers to this.



The materials can be recycled according to the markings on them. By reusing, utilising the materials or by otherwise reusing old equipment, you make an important contribution for the protection of our environment. Please note that the product is returned to the recycling centre without any sauna rocks and soapstone cover.

Please contact the municipal administration with enquiries concerning the recycling place.

Hinweise zum Umweltschutz

Dieses Produkt darf am Ende seiner Lebensdauer nicht über den normalen Haushaltsabfall entsorgt werden, sondern muss an einem Sammelpunkt für das Recycling von elektrischen und elektronischen Geräten abgegeben werden.

Das Symbol auf dem produkt, der Gebrauchsanleitung oder der Verpackung weist darauf hin.



Die Werkstoffe sind gemäß ihrer Kennzeichnung wiederverwertbar. Mit der Wiederverwendung, der stofflichen Verwertung oder anderen Formen der Verwertung von Altgeräten leisten Sie einen wichtigen Beitrag zum Schutze unserer Umwelt. Dieses Produkt soll ohne Steine und Specksteinmantel an dem Sammelpunkt für Recycling zurückgebracht werden.

Bitte erfragen Sie bei der Gemeindeverwaltung die zuständige Entsorgungsstelle.