

Installation- and Operating Instructions



Deluxe Model



remote control
in the wall
(optional)



remote control
on the wall
(optional)

Technical data:

nominal voltage	3/N/PE/ 400V/50Hz
output	see chart page 2
temperature range of adjustment	+30°C to +50°C
type of protection	IP 40
water feed	2 to 5 bar
external control panel	5V
computer interface	RS 232
temperature sensor	semiconductor
light	230V and 12V
exhaust air ventilator	230V
supply air ventilator	230V
discharge pipe	Ø 32mm (outside)
housing dimensions	abt. 580 x 435 x 240
steam outlet	Ø 35mm (outside)
water connection	R ¾ " thread
filler inlet for decalcifier	½ "

LIST OF SILVER-STEAM MODELS

↓	Model	Output	Light transformer	Dosing pump	Art.-No.:
	L-3,0	3,0kW			3198000030
	L-3,0+light	3,0kW	✓		3198100030
	L-3,0+pump	3,0kW		✓	3198000130
	L-3,0+light/pump	3,0kW	✓	✓	3198100130
	L-4,5	4,5kW			3198000045
	L-4,5+light	4,5kW	✓		3198100045
	L-4,5+pump	4,5kW		✓	3198000145
	L-4,5+light/pump	4,5kW	✓	✓	3198100145
	L-6,0	6,0kW			3198000060
	L-6,0+light	6,0kW	✓		3198100060
	L-6,0+pump	6,0kW		✓	3198000160
	L-6,0+light/pump	6,0kW	✓	✓	3198100160
	L-9,0	9,0kW			3198000090
	L-9,0+light	9,0kW	✓		3198100090
	L-9,0+pump	9,0kW		✓	3198000190
	L-9,0+light/pump	9,0kW	✓	✓	3198100190

Functioning:

This high-quality, fully-automatic steam generator produces water steam for steam cabins. All necessary regulating and control functions may be set at the control panel of the steam generator or at the external remote control panel for remote installation (optional). By means of the computer interface which is provided for in the standard version it is possible to monitor and control the steam generator by a computer and by the **tsf** „SILVER-STEAM“ software.

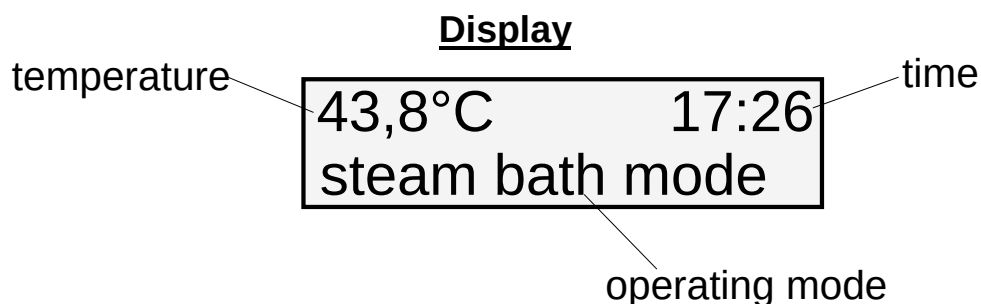
The comfortable **tsf** - microprocessor control effects all necessary regulating- and control functions.

- Filling of the steam tank with water.
- Automatic refilling of the used water.
- Regeneration of the water to improve water quality.
- Monitoring and control of the temperature in the steam cabin.
- Emptying of the steam tank.
- Cleaning of the steam tank and the level sensors.
- Automatic control of the air extraction fan.
- Automatic control of the supply air fan.
- Aromatics dosage (optional).
- Availability of the safety extra-low voltage for illumination (optional).

Operating elements:

	Switch „ <i>Steam</i> “ The steam generator is switched on and off by activation of this switch.
	Switch „ <i>Light</i> “ The cabin illumination is switched on and off by activation of this switch.
	Switch „ <i>air extraction</i> “ The exhaust air ventilator is switched on and off out of the operating period by activation of this switch.
	Switch „ <i>Aromatics</i> “ The aromatics dosage is switched on and off by activation of this switch.
	Switch „ <i>Aux.1</i> “ Auxiliary instruments, such as e.g. anteroom illumination, anteroom ventilation, musical equipment etc. can be switched on and off by activation of this switch.

	Switch „Aux.2 “ Auxiliary instruments, such as e.g. anteroom illumination, anteroom ventilation, musical equipment etc. can be switched on and off by activation of this switch.
	Switch „Temperature “ The operating <i>temperature</i> and the <i>set temperature</i> are shown in the display after activation of this switch which can be changed by activation of the keys <i>Plus</i> or <i>Minus</i>.
	Switch „Clock “ The <i>time</i> is shown in the display after activation of this switch. The time may now be changed by activation of the keys <i>Plus</i> or <i>Minus</i>.
	Switch „Automatic Switch “ The <i>timer ON</i> is shown in the display after activation of this switch. By activating the keys <i>Plus</i> or <i>Minus</i> it is possible to change the switch-on time. After new activation of this switch, the character <i>timer OFF</i> is shown in the display which again may be changed.
	Switch „Odour Intensity “ The <i>odour impulse</i> is shown in the display after activation of this switch. The impulse time may now be changed by activating the keys <i>Plus</i> or <i>Minus</i>. After new activation of this switch, the <i>odour stop</i> is shown in the display which may be changed again.
	Switch „Plus “ Activation of this switch increases the value during programming (e.g. time)
	Switch „Minus “ Activation of this switch decreases the value during programming (e.g. time).



Operation of the steam generator

If the steam generator is switched off, the display shows the time and the cabin temperature.

20,6°C	17:26
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Time-setting

By activating the switch „Clock“, the character „time“ is shown in the display. By activating the keys „Plus“ or „Minus“, the displayed time may be changed. **The time shown in the display is**

36,4°C	17:26
time	

stored automatically. After programming of the time has been completed, the switch „Clock “ may again be activated to reset the display to „base mode“. Otherwise, the microprocessor control resets the display 10 seconds after the last activation of the keys „Plus“, „Minus“ or „Clock“ automatically into base mode.

Steam production

Steam production is switched on by the switch „Steam “. Apart from the time and the cabin temperature, the character „steam bath mode“ is shown in the display. After connection, the small quantities of existing residual water are pumped off automatically,

46,4°C	17:26
steam bath mode	

the fresh water supply line opens and the steam tank is filled with water. Water supply is automatically stopped as soon as the necessary water level is obtained and the water is heated. Depending on the capacity of the steam generator, some minutes pass during heating until the actual steam production starts. The water which is used during operation is automatically refilled. The **MSI** - microprocessor control monitors continuously the steam production and ensures smooth functioning. Depending on the heating capacity, the steam production, the water consumption and other factors, a small quantity of water is replaced by fresh water from time to time. If required, the microprocessor control autonomously switches on and off the exhaust air ventilator (if available) to influence the room climate. After operation of the unit, the steam generator is switched off at the above-mentioned switch „Steam“ and thus the washing program is activated automatically.

Temperature setting

When activating the switch „Temperature “, the displayed temperature switches to the set value display (required temperature) and the character „temperature“ is shown in the display. The displayed temperature (required temperature) may now be individually changed by activating the keys „Plus“ or „Minus“. The setting range reaches from 30°C to 50°C. **The temperature which is shown in the display is stored automatically.** After completion of the temperature programming, the switch „Temperature “ may again be activated to reset the display to „base mode“. Otherwise, the microprocessor control resets the display 10 seconds after the last activation of the keys „Plus“, „Minus“ or „Temperature“ automatically to base mode.

38,1°C	17:26
temperature	

Automatic switch

By using of this switch, the steam generator can be automatically switched on and off. When activating the switch „Automatic Switch “, the character „timer ON “ is shown in the display. By activating the keys „Plus “ or „Minus “, the displayed switch-on time may be changed. **The time shown in the display is automatically stored.**

	10:00
timer ON	

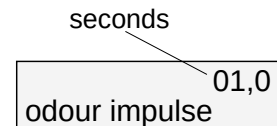
After that, the key „Automatic Switch “ is activated again and the character „timer OFF “ is shown in the display. By activating the keys „Plus“ or „Minus“ the displayed switch-off time may be changed. **The time shown in the display is automatically stored.** After completion of programming of the automatic switch, the switch

	20:30
timer OFF	

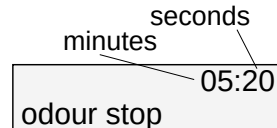
„Automatic Switch “ may again be activated to reset the display into „base mode“. Otherwise, the intelligent microprocessor control resets the display 10 seconds after the last activation of the keys „Plus“, „Minus“ or „Automatic Switch“ automatically into base mode. **If the steam generator is not required to be automatically switched on and off, the same times have to be indicated for the switch-on and switch-off time** e.g.: ON-response-time 16:00, OFF-response-time also 16:00.

Odour intensity

By means of this switch, the intensity of the aromatics can be programmed. When activating the switch „*Odour Intensity*“, the character „*odour impulse*“ is shown in the display. By activation of the keys „*Plus*“ or „*Minus*“, the displayed impulse length can be prolonged. An increase of the impulse length involves a longer running time of the aromatics dosage pump and therefore an increase of odour intensity. **The value which is shown in the display is stored automatically.**



After that, the key „*Odour Intensity*“ is again activated and the character „*odour stop*“ is shown in the display. By activating the keys „*Plus*“ or „*Minus*“, the displayed stop length can be changed. An increase of the stop length involves a longer stop between the aromatics injections and therefore a decrease of odour intensity. **The time which is shown in the display is automatically stored.** After completion of programming of the odour intensity, the



switch „*Odour Intensity*“ may again be activated to reset the display to „base mode“. Otherwise, the microprocessor control resets the display 10 seconds after the last activation of the keys „*Plus*“, „*Minus*“ or „*Odour Intensity*“ automatically to base mode.

Power reserve

The digital clock has a power reserve of approximately 200 hours. The programmed data of the set temperature, the automatic switch and the aromatics interval control remain stored even after termination of the power reserve.

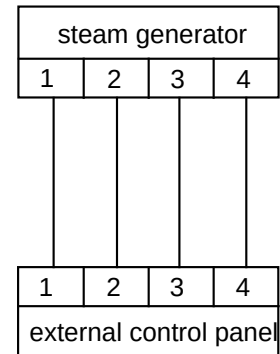
Remote control panel (optional)

Ext. Control panel



The **OSI** SILVER-STEAM deluxe steam generator can be operated by an **remote control panel** (for wall installation). This control panel has the same functions as the integrated control panel. At the remote control panel, all necessary switching and programming functions can be carried out. Also the display shows the time, temperature, operating conditions and service notes. Therefore, the steam room unit may be operated and controlled by means of a remote control without problems. A four-wire shielded cable which can be purchased from **OSI** is needed for the electrical connection. This connection line shall have a length of a max. of 50 metres. Installation of this line near supply mains has to be avoided to exclude possible disturbing influences.

Connection plan



Washing program

As standard equipment, the **ISI** steam generator „SILVER-STEAM“ comprises an autonomously working washing program. This washing program removes deposits from important components of the steam generator, it cleans the complete heating system and the safety devices. By means of this system, the service life of the entire unit is considerably increased and maintenance reduced to a minimum. This washing program is essential for a trouble-free and reliable operation of the steam generator and must never not be stopped.

Programme sequence

After having switched off the steam generator by means of the *on/off* switch, the character „*washing program*“ is shown in the display. At the same time, a waiting period of one minute is activated. If the steam generator is switched on again during this minute, this means a continuation of steam production ⇒ **The washing program is not started** and display is reset to base mode.

48,1°C	19:20
washing program	

After this one-minute *waiting period*, cleaning of the unit starts. The system is emptied, after that cleaned with fresh water twice and again emptied subsequently. At the end of the washing program, the steam generator is automatically switched off and then ready for further operation.

During the entire program flow, water supply and current shall not be interrupted.

If the above-mentioned switch „*Steam*“ is switched on during the program sequence, this does **not interrupt the washing program**. Only after a complete sequence of the washing program, the steam tank is again filled with water and steam production starts anew.

Permanent operation of the steam generator

If the steam generator is not switched off at the corresponding switch, the washing program will consequently not be started. In this case, the **ISI** microprocessor control autonomously starts the washing program. The point in time the washing program is switched on is dependent on the heating capacity of the steam generator, the size of the cabin, the water consumption, the cabin temperature and other factors. Due to this unavoidable cleaning of the system, a temporary interruption of steam production is inevitable.

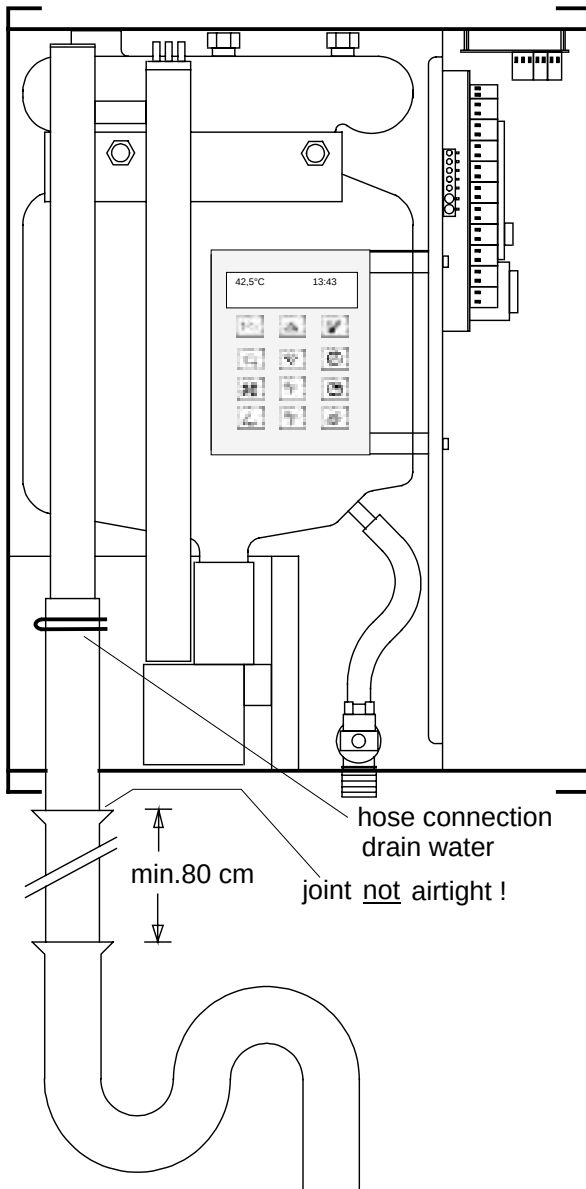
Exhaust air ventilator

With the steam generator being connected, the air extraction air ventilator can be automatically switched on and off by the microprocessor control and cannot be influenced from outside. Out of the operating time of the steam generator, the exhaust air ventilator can be manually regulated by means of the switch „*Ventilator*“ in the control panel.

Supply air ventilator

The supply air ventilator is automatically switched on when connecting the steam generator. It is automatically disconnected a few minutes after the steam generator is switched off.

Connection to the discharge pipe.



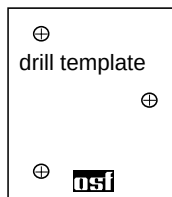
The connection for the drain water is ensured by means of a flexible hose at the left pipe end (see drawing). The hose has to be permanently temperature-resistant at 100° with an inside diameter of 32mm. The joint is fixed by means of a screwless spring band clamp. If required, this discharge hose and the clamp may be obtained from **OSI**. This flexible hose ensures the connection to the discharge pipe which is permanently installed in place.

The joint between the flexible hose and the permanently installed DN 50 pipe shall not be made gastight so that the necessary pressure compensation can take place at any time.

The discharge pipe provided for in place has to be installed in such a way that the water can flow off the steam generator trouble-free and without back draught. For the installation, pipe material with a diameter (DN 50) of a minimum of 50mm and an odour seal of adequate dimensions are to be used. If necessary, the odour seal can be made from DN 50 preformed parts.

The DN 50 pipe connection between the steam generator and the odour seal has to be vertically running with a minimum length of 80 cm.

Installation:

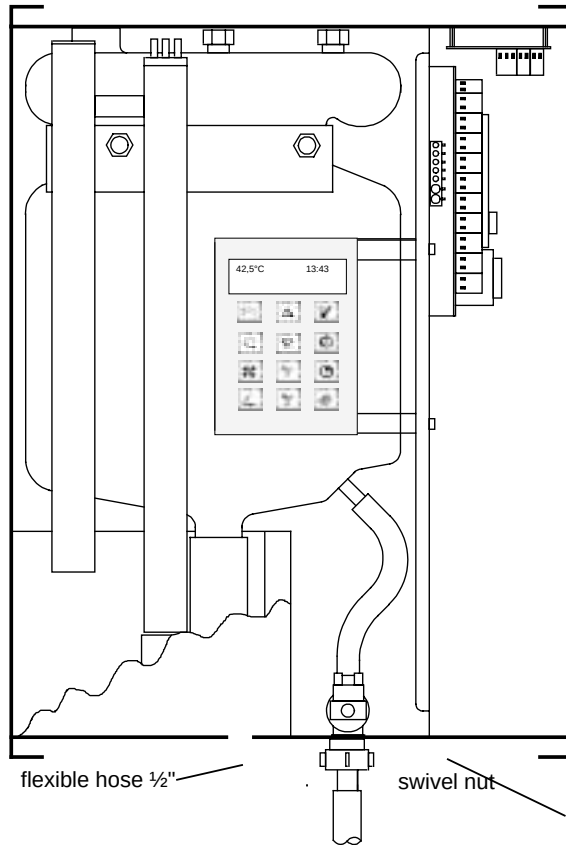


For wall installation, please use the drill template which is contained in the delivery extent. The steam generator shall only be fixed on an underground with sufficient carrying capacity. For installation, the SILVER-STEAM steam generator has to be protected against humidity according to its type of protection.



Electric supply / Safety instructions:

Current supply of the unit has to be effected by an all-pole main switch with a contact gap width of a minimum of 3mm and a fault current safety switch of $I_{FN} \leq 30\text{mA}$. **Before opening the housing, the unit has to be switched free of electrical tension. The electric supply, alignment- and service works shall only be carried out by a qualified electrician! The enclosed cable arrangement and the corresponding safety instructions in force shall be observed.**



Connection to the water main.

For the water connection, a pressure-resistant $\frac{1}{2}$ " washing machine- connection hose with a 90° angle connection and a $R\frac{3}{4}$ " thread is to be used. This hose is fixed watertight to the thread connection of the solenoid valve by means of the swivel nut attached to it.

The water pressure shall not be below 2 bar and above 5 bar. If necessary, a pressure reducer is to be integrated in the installation in place. The water temperature should not be above 50°C .

For the water connection, the regulations of the local water supply company have to be observed by all means.

For the connection with the water pipe, a fitting is integrated which prevents the water in the steam generator from being fed backward into the water pipe.

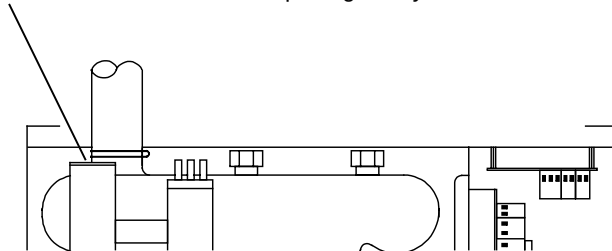


Service note:

A strainer is installed in the solenoid valve inlet. This strainer has to the task to filter possible dirt particles in the water pipe to prevent functional disturbances of the unit. If the water supply of the steam tank is impeded by a soiled and clogged strainer, this results in an activation of the safety circuit and an interruption of steam production. This strainer has to be cleaned at regular intervals, in particular after installation works at the water main.

Ventilation:

don't close the ventilation opening in any case!



The sealing cap of the left special steel pipe (see drawing) contains an opening which is absolutely necessary for the ventilation of the system. This opening shall by no means be closed. Closing of this opening would inevitably cause functional disturbances in the unit. If water leaks out of this opening during operation of the unit, the discharge pipe is possibly not adequately dimensioned or clogged.

The steam line.

Connection to the steam line.

Functioning of the steam bath unit depends, among others, also on the correct steam distribution. The steam has to reach the cabin homogeneously, without drops and unnecessary condensate. The place where the steam enters the cabin has to be chosen in such a way that the moist flow air never directly affects persons, illumination bodies, temperature sensors or other heat-sensitive surfaces until it has been completely absorbed by the ambient air.

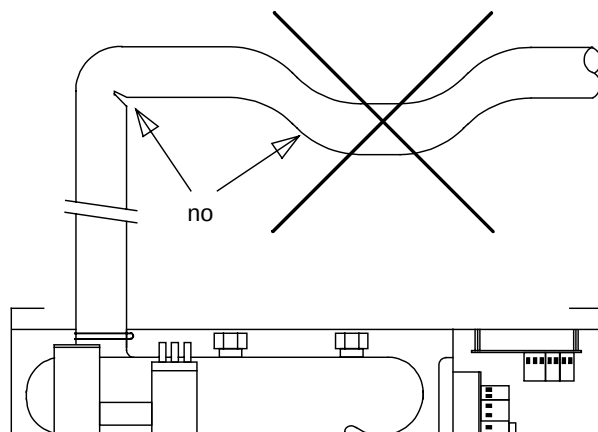
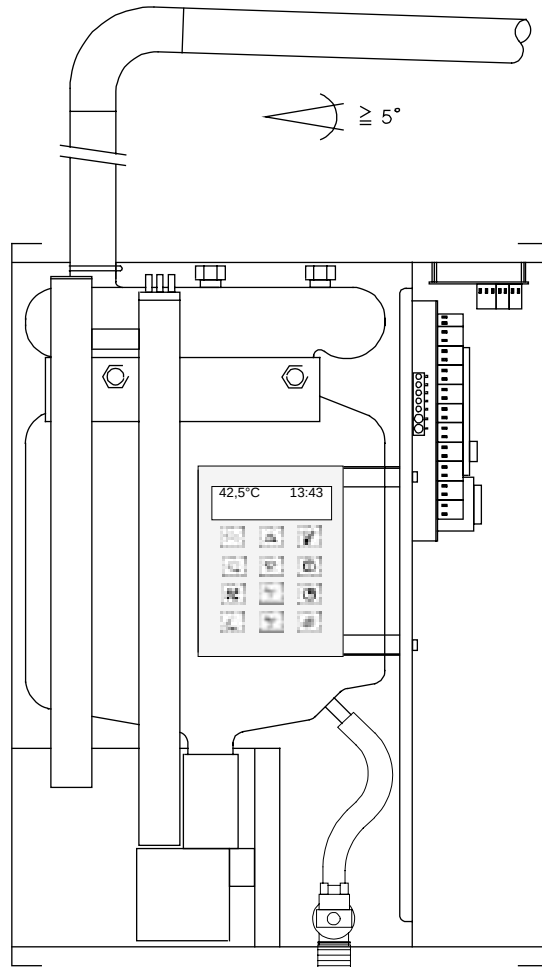
For the connection to the steam generator it is absolutely necessary to use the steam hose comprised in the delivery extent. This hose is fixed to the left connecting piece of the steam tank by means of the enclosed spring band clamp (see drawing). This steam hose shall by no means be bent, dented or damaged. It is mounted vertically upwards and connects the steam tank with the permanently installed copper pipe.

Installation of the steam line.

Permanent installation is carried out by means of a 35mm copper pipe. This copper pipe must have a gradient of at least 5° in direction of the steam bath cabin. The condensate which is formed in the pipe system must, according to the force of gravity, flow smoothly into the cabin and from there into the discharge pipe. The discharge pipe in the cabin has to be arranged beneath the steam nozzle in such a way that the hot condensate is unable to cause damage.

The entire steam line has to be as short as possible and installed carefully, thus avoiding contractions and dents (observe bending radius). Also a condensate pocket (water pocket) in the steam line absolutely has to be avoided, for this would inevitably lead to functional disturbances and present an unnecessary safety risk.

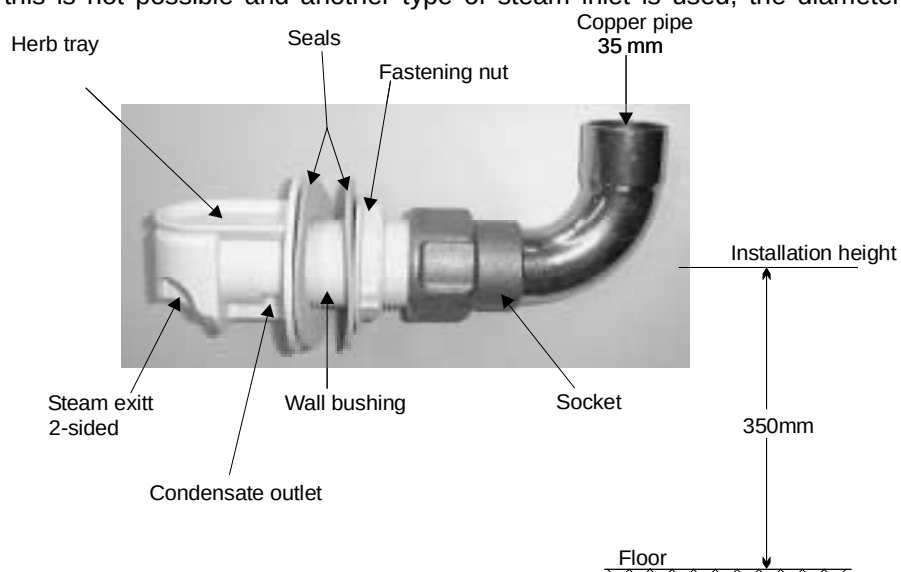
On its entire length, the steam line is provided with an appropriate heat insulation. This insulation shortens heating times of the steam bath cabin, reduces condensate formation and contributes considerably in saving energy.



During the first commissioning of the steam generator, the steam hose delivered with the unit may have an inherent smell. To reduce this smell development as well as possible, the steam hose is subjected to a pre-ageing process at the works before. Due to this pre-ageing process, traces of wear can be made visible at the steam hose concerned which are not always avoidable. Safe functioning and reliability are not impaired by these traces of wear.

The steam nozzle

An **ISI** special steam nozzle (set) with the article number 2260401100 should be used for steam inlet into the cubicle. If this is not possible and another type of steam inlet is used, the diameter of the



opening may not be smaller than 35 mm! A steam nozzle with numerous small openings may not be used. The steam nozzle is to be firmly installed at a height of about 35 cm above the floor. Care must be taken during installation to ensure that the exiting steam or condensation water cannot cause any damage.

Herb tray

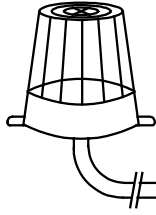
The top of the **ISI** special steam nozzle is equipped with a tray for solid aromas (herbs). The herbs in the tray are heated during steam operation and their aroma spreads around the cubicle. **Liquid aromas may not be used in the tray as they will cause damage to the steam nozzle. Only herbs certified to be safe from a health point of view may be used.**

Cover for **ISI** steam nozzle

A transparent cover (article number 1260401120) must be mounted to protect against direct contact with the steam nozzle. This cover is made of transparent plastic. It is pushed over the 1¼" thread of the steam nozzle and clamped tight between the steam nozzle and cubicle wall.



Installation of the temperature sensor

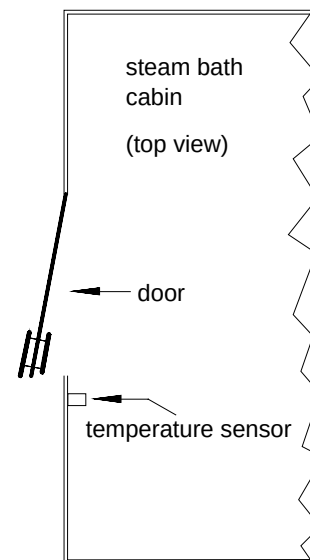
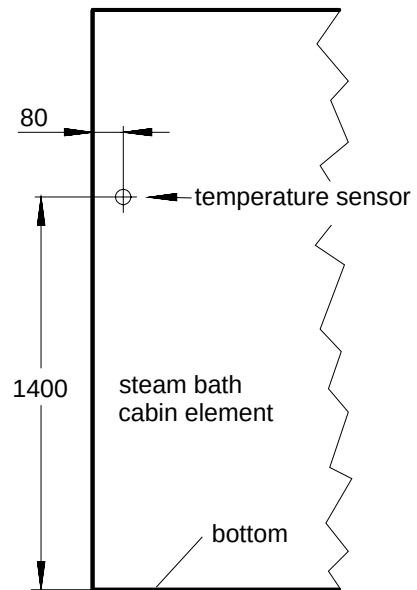


Installation:

The temperature sensor is installed in the steam bath cabin next to the door in a height of 1.5m. Please note the installation arrangement from the opposite illustrations.

Procedure:

- Drill a hole with a diameter of 8mm for the sensor line.
- Insert the sensor line from the cabin interior into the hole.
- Fix the temperature sensor in front of the boring in such a way that the drill hole is covered.
- Use corrosion-proof screws (e.g. V4A) for the installation.
- Seal the boring (e.g. by silicone)
- Guide the sensor line to the steam generator to fix it there at the connecting terminals 9 & 10. Polarity of the two wires is not essential.
- In the standard version, the temperature sensor is delivered with a line length of 3m. If required, this can be prolonged up to a maximum of 10m (cross-section minimum of 0.5mm²). The sensor line shall not be installed near supply mains to exclude possible disturbing influences.



For the functioning of the steam generator it is essential that the two wires of the temperature sensor are connected with the corresponding connecting terminals of the steam generator. A defective, non-connected or short-out temperature sensor leads to an immediate activation of the safety circuit and thereby an interruption of steam production. For a possible check of the temperature sensor, please use the opposite chart.

Temperature sensor	
temperature	resistance
10°C	887Ω
20°C	961Ω
30°C	1039Ω
40°C	1120Ω



Cabin illumination

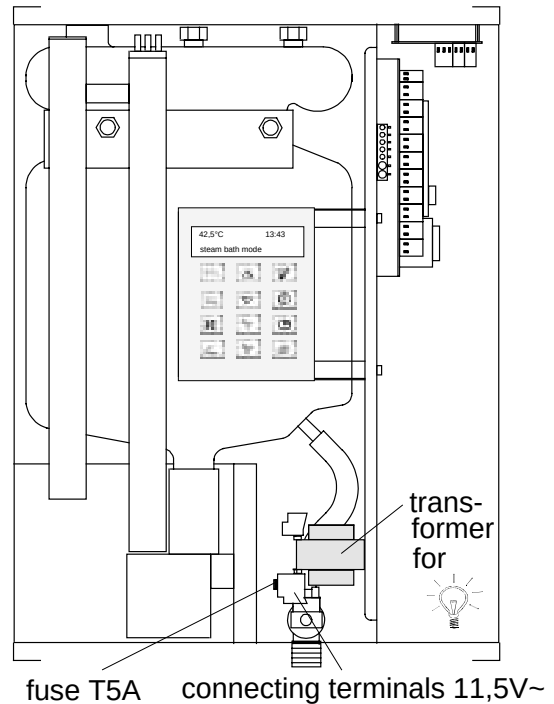
The **osf** „SILVER-STEAM“ steam generator is equipped with a transformer (optionally) which supplies voltage to the steam bath cabin illumination. This transformer is VDE approved and supplies a safety extra-low voltage of 11,5V. The illumination is switched on and off by means of the switch „*Light*“ in the control panel of the steam generator (see also page 2).

Electric supply

Installation is carried out by a light-plastic sheathed cable and a conductor cross-section of a minimum of 0.75mm². The cable is directly connected to the connecting terminals of the transformer (see opposite drawing). The output of the light shall not exceed 60W at 11,5V.

Fuse

Fuse protection is done by a 5A time-lag fuse (5x20). This fuse is installed in the connecting terminals of the transformer.



External transformer

For steam generators without built-in transformer (standard equipment), there is the possibility to install a suitable transformer in place. The latter is fixed to the connecting terminals U9 and N (attention: 230V) of the big plate bar. The illumination is also switched off and on by means of the switch „*Light*“ in the control panel of the steam generator (also see page 2).



Operation in winter

A steam generator always contains a small quantity of residual water, even if it is switched off and emptied by the washing program. The steam generator has to be stored frost-protected by all means so that this water is unable to cause frost damage.

Decalcification

To achieve a long lifetime and troublefree steam generator function, the steam tank must be decalcified regularly. If decalcification is not carried out, the lime deposits can lead to malfunctions after a time. The time intervals between decalcification depend, among other factors, on the hardness of the water and the operating time of the steam generator. The duration of decalcification depends, among other factors, on the preparation used, the temperature and the intensity of the lime deposits. The values given here are therefore guide values without any general validity.

Procedure:

Before beginning decalcification disconnect the steam generator from the mains by switching off the main switch.

- Remove the hexagonal brass screw plug visible from the top with a 23 mm socket spanner.
- Dissolve the contents of a **nsf** bag of anti-liming agent in 7 litres warm water (approx. 50°C).
- Pour the anti-liming solution into the steam tank using a funnel.
- After filling the steam tank screw the hexagonal brass screw plug back in again.
- => ⚠ Warning: Do not lose the internal gasket!
- Allow the anti-liming agent to work. A working time of one night is often appropriate.



Ending decalcification:

1. Make sure the steam tank is closed with the hexagonal brass screw plug!
2. Switch on the main switch again.
3. Switch on the steam generator with the upper rotary switch on the control panel, thereby starting the rinsing program. => The steam tank is then emptied, cleaned twice with tap water and then filled.
4. When the steam tank has been filled with water and the heater switched on automatically, switch off the steam generator with the upper rotary switch on the control panel, thereby starting the rinsing program again.
5. The rinsing program must be started again at least two more times to rid the steam generator of all residues.

In the case of hard water decalcification must be carried out after about 100 hours of operation.

Safety information on **nsf** anti-liming agent:

General:

After inhalation:

After skin contact:

After eye contact:

After swallowing:

Remove soiled clothing.

Fresh air, consult a doctor.

Wash off with plenty of water.

Rinse eye with open lid.

Rinse mouth and drink plenty of water.

A safety data sheet for the **nsf** anti-liming agent can be obtained from the supplier of the steam generator.

Dosage of aromatics

The comfortable **OSI** „SILVER-STEAM“ steam generator with integrated aromatics pump (optionally) regulates aromatization of the steam bath cabin fully-automatically and thus ensures an agreeable and pleasant climate ⇒ the special flair for your steam bath.

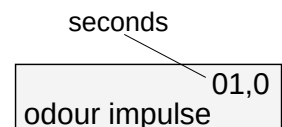
Addition of the aromatics is switched on by the switch „Aromatics“ at the front panel of the steam generator.

The intelligent **OSI** microprocessor control activates the dosage of aromatics in relation to the temperature inside the steam bath cabin. Dosage of aromatics is only started, if the steam production is switched on and the steam bath cabin is heated up to at least 5°C below the prescribed temperature.

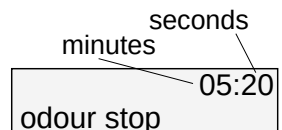
Please only choose those odorous essences which are not detrimental to health.

Odour intensity

By means of this function, the intensity of the aromatics can be programmed. When activating the switch „Odour Intensity“, the character „odour impulse“ is shown in the display. By activation of the keys „Plus“ or „Minus“, the displayed impulse length can be prolonged. An increase of the impulse length involves a longer running time of the aromatics dosage pump and therefore an increase of odour intensity. **The value which is shown in the display is stored automatically.**



After that, the key „Odour Intensity“ is again activated and the character „odour stop“ is shown in the display. By activating the keys „Plus“ or „Minus“, the displayed stop length can be changed. An increase of the stop length involves a longer stop between the aromatics injections and therefore a decrease of odour intensity. **The time which is shown in the display is automatically stored.** After completion of programming of the odour intensity, the switch „Odour Intensity“ may again be activated to reset the display to „base mode“. Otherwise, the intelligent microprocessor control resets the display 10 seconds after the last activation of the keys „Plus“, „Minus“ or „Odour Intensity“ automatically to base mode.



Venting the scent tube

After the steam generator has started up it takes some time before the scent tube is completely filled with scent. There is no injection of scent before the scent tube is completely filled with scent.

The steam generator allows the scent pump to be manually controlled to vent the scent tube. The three buttons shown below must be pressed simultaneously and pressed until the tube is completely filled with scent.



Installation of the aromatics unit

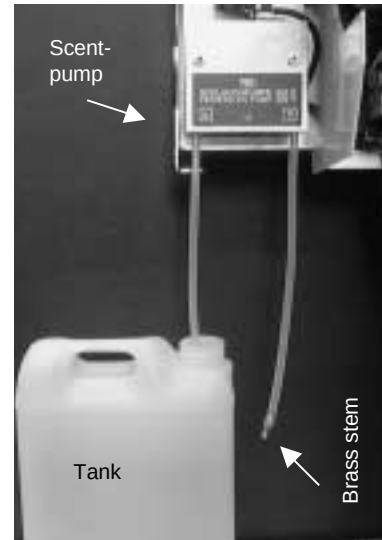
Connection of the aromatics unit

The tank for the scent essence must be mounted directly underneath the steam generator with the hose connection being kept as short as possible. The suction hose of the scent pump (left hose) is inserted into the tank in such a way that the end of the hose lies horizontally on the bottom of the tank. The tank must have a vent hole.

The scent essence is injected directly into the steam line near the steam nozzle. The enclosed brass hose stem is inserted into a hole in the copper pipe from above and soldered into position. The pressure line is laid kink-free from the steam generator (hose pump, right hose) to the steam line and connected to the brass hose stem.



Brass hose stem



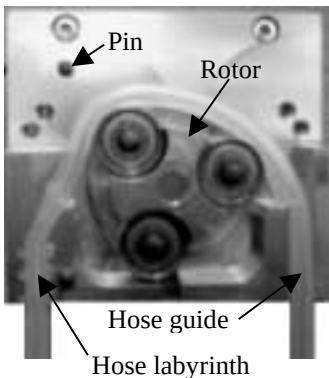
Warning:

Under no circumstances may the scent essence be injected into the vertical part of the steam line above the steam generator or into the steam tank!

The scent essence may not flow through the steam hose into the steam tank.

The hoses are led into the steam generator from below.

Maintenance of the scent dosing pump



The hose built into the scent dosing pump is subject to wear. If damaged, it should be replaced with an original spare hose. **Since the steam generator has to be opened for this, this service work may only be carried out by an authorised electrician.**

Procedure:

1. Remove the cover of the hose pump.
2. Dismount the old hose.
3. Insert a new hose into the hose labyrinth.
4. Place the hose around the rotor.
5. Press the hose into the hose guide and pull down lightly.
6. Put on the cover in such a way that the pins of the pump catch in the oblong holes of the cover.
7. Push the cover down to the end and screw tight with both screws.

Original spare parts can be obtained from **tsf** when required.



Check list for trouble-shooting in case of functional disturbances



Attention: Trouble-shooting shall only be carried out by an authorized specialist electrician!

The **ISI** SILVER-STEAM steam generator is equipped with an intelligent microprocessor control which recognizes various functional disturbances and indicates corresponding error messages in the display.

Error message	Possible cause	Elimination
Power failure	Previous interruption of the power supply	Activate „Steam“ switch
Low water level	Interruption of the water supply	Clean strainer in the water inlet solenoid valve or turn on tap in the feed line (see operating instructions)
Sensor defective	Temperature sensor defective or incorrectly connected	Replace temperature sensor or check connection
Level error	Level sensor system soiled, calcified or incorrectly connected	Clean or decalcify level sensor system. Check connection
Pump defective	Discharge pump defective, calcified or mechanically blocked or pump inflow clogged	Remove calcification or clogging, replace pump, if necessary

Error check list

Problem	Possible cause	Elimination
Cabin temperature is obtained, however no steam production.	Insufficient ventilation.	Exhaust air ventilator is defective or turning direction incorrect.
	Exhaust air pipe clogged.	Remove „water pocket“.
	The air which entered the steam cabin is too hot.	Lower temperature in the anteroom.
Cabin temperature does not correspond to To the indicated temperature.	Temperature sensor incorrectly positioned.	Position the temperature sensor according to the installation instructions.
	Reference thermometer incorrectly positioned.	Position the reference thermometer directly next to the temperature sensor.
Heating takes unusually long.	Insufficient output of the steam generator.	Use a more efficient steam generator.
	Excessive ventilation.	Exhaust air ventilator may not run during the heating period.
	Fuse protection in place defective or switched off.	Replace or switch on fuse protection.
	Heating element defective	Replace heating element.
	Voltage loss.	Switch on fuse protections and

Not heating and steam Does not enter the cabin.		safety switch in place.
	Low water level. Also see chart above.	Clean strainer in the water inlet solenoid valve or turn on water tap in the feed line (see operating instructions)
	Low water level. Also see chart above.	Clean or decalcify level electrodes.
	Fuse on the plate bar defective.	Replace fuse by a specialist electrician.
	Temperature sensor defective.	See operating instructions page 8.
	Steam line clogged.	See operating instructions page 7.
	Calcareous deposits in the steam tank.	Decalcify steam tank.
Steam tank is not emptied.	Evacuation pump is humming but does not convey water (pump is blocked by calcareous deposits).	Clean or decalcify pump.
Water is continuously flowing out of the discharge pipe of the Steam generator.	Solenoid valve for water feed is blocked.	Clean or replace solenoid valve.
	Steam line is clogged.	Remove clogging.
Hot water is jerkily flowing out of the steam nozzle.	Small water pocket in the steam line.	Remove water pocket.
Water is leaking out of the ventilation openings of the left special-steel pipe (top).	Discharge pipe not properly installed in place.	Install discharge pipe according to the operating instructions (page 5)
Cabin illumination is not working.	Fuse protection defective.	Replace fuse by a specialist electrician (also see page 9).



*We wish you much joy and recreation in your steam bath
Our „SILVER-STEAM“ supplies you with the proper steam*