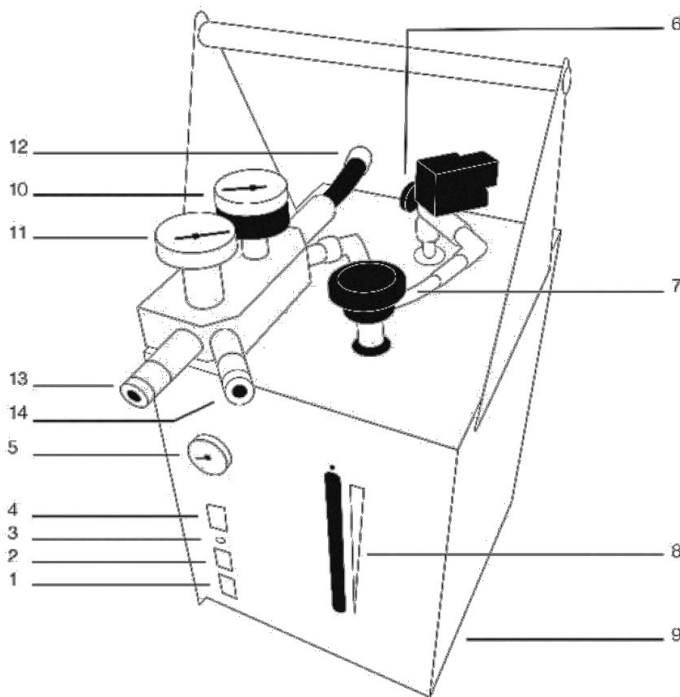


MAINTENANCE AND INSTRUCTION MANUAL

STEAM GENERATOR FOR ACCELERATING THE CURING PROCESS



1. Power On
2. Max Power (only 3.2kW)
3. Working Element Light
4. Steam Valve Switch
5. Pressure Gauge
6. Steam Valve
7. Safety Cap Valve
8. Water Level Glass
9. Exhaust Valve
10. Steam Pressure Gauge
11. Steam Temperature Gauge
12. Pressure Inlet
13. Steam/Pressure Outlet
14. Steam/Pressure Outlet (only 3.2kW)

Read this carefully manual before using the appliance.

The maintenance and instruction manual is an integral part of the appliance and must be kept in good condition in a protected place which allows easy reference in case of need.

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1. GENERAL DESCRIPTION

MODEL

STEAM-G-16-1,6KW

STEAM-G-32-3,2KW

MODEL INFORMATION

The appliances 1,6kW and 3,2kW are steam generators to be manually refilled with water. Given their manufacturing features they are particularly suitable for resin hardening in Cured-in-Place Pipe installations.

This manual must be available to the operators/maintenance personnel at all times.

2. TECHNICAL INFORMATION AND SPECIFICATIONS

Technical information and specifications are indicative.

We reserve the right to introduce all those changes deemed to be advisable.

	MODEL	1.6KW	3.2KW
Voltage	V	230	230
Frequency	Hz	50	50
Boiler Power	kW	1.6	1.6 + 1.6
Boiler Capacity	l (litre)	5	8
Water Capacity	l (litre)	4	7
Working Pressure	Bar	2.8	2.8
Weight	kg	9	12

3. SAFETY DEVICES

The appliance is equipped with the following safety devices:

1. Safety cap valve: it is made of a safety pressure valve, positioned on the boiler, which must be suitably calibrated, and which releases the exceeding over pressure if any trouble with the pressure control system occurs.
2. Heating element safety temperature control device: it is a device, sensitive to temperature, which stops the heating element working in case of low water level. However the water level must still be monitored and the unit turned off if it drops below the minimum water level.
3. Safety temperature control device (manual pace): it is a device, sensitive to temperature, which stops the appliance in case of a breakdown in the pressure control system and in the safety valve occurs, thus avoiding dangerous conditions.



WARNING!

if any intervention in the above described safety devices (see points 1 and 2), do not use any means the appliance without having previously asked a SKILLED OPERATOR to inspect the appliance.

4. INTENDED PURPOSE

FAST CURING steam generators have been designed to work using ordinary or purified water.

We advise not to use distilled water or water containing oil, perfumes, detergents. etc.

The appliance is not suitable to be used in places showing special conditions as, for instance, an explosive or corrosive atmosphere. Any other use is to be considered improper. The manufacturer shall not be held liable for damages wrongful or improper use of the appliance.

5. SAFETY WARNINGS

1. The use of this appliance requires attention and care. Do not give it to others without making sure under your direct responsibility, that this chance user has carefully read this manual and therefore knows the appliance.
2. Pay special attention to the content explained in paragraph 5.1 "inspection and connection to the electric line "
3. Before putting the appliance into operation, be careful a to put it a dry place, level and safe, as to prevent falling or tilting.
4. Do not use the appliance when:
 - The appliance, electric cables or other important components, as the steam feeding tube, are damaged; The appliance has fallen; The appliance is leaking;
 - if so, ask a SKILLED OPERATOR to inspect the appliance.
5. Keep electric cables and plugs perfectly dry. Do not touch them with wet hands. If electric cables are damaged, ask a SKILLED OPERATOR to replace them.
6. Do not put any reducer or adapter between the electric plug and the socket. Do not remove the plug from the socket by pulling the feeding cable.
7. Before putting the appliance into operation make sure that the safety cap (7) and the exhaust valve (9) is locked. Never unscrew the safety cap (7) or move the exhaust valve lever (9) when the generator is still hot.
8. During use, the appliance should be kept under control, Keep children away from the iron when in use.
9. Never put the appliance in the water.
10. While refilling water in the boiler wait that generator is completely cooled, loose the safety cap valve (7) a little bit and wait that pressure inside the boiler has gone down to 0 bar check pressure gauge (5), then refill water level. Remember that, if the boiler is still warm it is better to use warm water in order to avoid thermic shock that can damage the boiler. Make sure that water does not overflow.
11. Always bring switches (1), (2) in OFF position (switches not shining) and remove the plug from the socket. To be simpler, in this maintenance and instruction manual, we consider the appliance as always connected to the electric feeding system through a plug. If the appliance is connected to the electric feeding system in a fixed way, consider that: the switch disconnecting all poles in OFF position is equal to having the appliance unplugged from the socket; the switch disconnecting all poles in ON position is equal to having the appliance plugged to the socket:

Under no circumstance should you leave the appliance unattended while connected to a power source; After use.

12. Moreover, wait for the appliance to be completely cold:
 - before doing any cleaning or maintenance;
 - before adding water into the steam generator.
13. Always call a SKILLED OPERATOR for repairs; in this way, you will be sure that only original spare parts are used. Incomplete repairs involve a serious danger for users.

6. UNPACKING

While performing these operations wear safety gloves and glasses, in order to avoid damages to your hands or eyes. All the material used for packing it is the recyclable type. Packaging (plastic bags, nails, staples, etc.) must be stored out of reach of children as they are potentially dangerous.

For the disposal of packaging items follow local environmental protection regulations in force in the country where the appliance has been installed. In particular, do not leave plastic bags and plastic packaging in the environment since they are a damage to the environment.



ATTENTION!

After having unpacked the appliance, check that it is not damaged. If in doubt, do not use it but call your retailer who will ask a SKILLED OPERATOR to inspect it.

7. INSPECTIONS AND CONNECTION TO POWER

1. Ask a SKILLED OPERATOR to check that the feeding of your electric system is in accordance with the data shown on the identification plate of the appliance. In particular, voltage should not differ from what is indicated on the plate by +/- 10%.
2. The plug and socket which the appliance is connected to should be arranged by a SKILLED OPERATOR in accordance with law provisions in force in the country where the appliance is installed.

In particular, the socket should be equipped with a ground conductor, with a suitable fuse and should be protected with a magnetic thermal sensitivity differential switch not exceeding 30 mA.

3. If the appliance is to be connected in a fixed way to the electric feeding system, installation should be carried out by a SKILLED OPERATOR in accordance with law provisions in force in the country where the appliance has been installed, In particular, the following recommendations should be carefully followed:

grounding, protection through a suitable fuse and magnetic-thermal sensitivity differential switch not exceeding 30 mA, sectioning of the electric system of the appliance with switch disconnecting all poles.



ATTENTION!

If the feeding cable is too short, ask a SKILLED OPERATOR to replace it

8. OPERATING

1. Make sure that the lever of the exhaust valve (9) is closed and the switches (1), (2) are in OFF position (symbol "O")
2. Unscrew the safety cap (6) and add, by a funnel common or purified water. During this operation make sure that water does not exceed maximum level (position marked by the writing MAX in the water level glass (8). Screw the safety cap valve by gently tightening it.
3. Make sure that insert the feeling plug in the socket of the electric system and put the switches (1), (2) in ON position (symbol "I"). The working element light (3) will ignite After 30 minutes approx. the working element light switch off and the steam generator is ready to be used. During functioning of the steam generator, the light (3) will be alternatively switch ON or switch OFF.
4. The generator's range goes from 1 to 2 hours, depending on how much steam is used. Once the minimum water level has been reached (position marked by the writing MIN in the water level glass 8) follow the indications of "stopping" paragraph and repeat operations from point 1 to 9 before restarting.

9. STOPPING AND STORAGE

STOPPING

1. Put switches (1) - (2) and (4) in OFF position (marked by the symbol "O") and disconnect the feeding plug from the electric system plug.
2. Wait for the steam generator be completely cold. During this phase ensure that:
 - do not leave the appliance unattended
 - put the appliance in a safe position, where there is no falling risk
 - do not put the appliance near inflammable materials

STORAGE

Put the appliance in a dry/clean place paying attention as not to damage electric cables and the steam inlet tube.

10. CLEANING AND MAINTENANCE



WARNING!

Any intervention concerning: cleaning, routine maintenance, special maintenance, repairing should be carried out only after having performed the operations indicated in the above paragraph "stopping".

11. CLEANING

If you wish to clean your steam generator on the outside, use a damp cloth and, afterwards, run a dry cloth over.



ATTENTION!

Do not use inflammable or aggressive substances to clean the appliance.

12. ROUTINE MAINTENANCE

The following routine maintenance can be performed by the user. Carefully follow these instructions:

Intervention	Maintenance Intervals
Inspection of feeding cables, steam inlet tubes, connectors	Every time you use the appliance
Emptying the boiler from residual water	Every week, by carefully following the recommendations contained in the following paragraph 8.2.1 "emptying the boiler from residual water"

13. EMPTYING THE BOILER OF RESIDUAL WATER



WARNING!

We suggest emptying the boiler of the steam generator every week by following these steps: Perform the operations indicated in paragraph "stopping".

Put the exhaust valve lever (9) in vertical position and empty the boiler from all residual water. When boiler is empty put the exhaust valve lever back in its horizontal position.

Any other maintenance intervention should be carried by a SKILLED OPERATOR, as indicated in the following paragraph.

14. SPECIAL MAINTENANCE AND REPAIRS



WARNING!

Respect the time of maintenance. Special maintenance and repairing should be carried out by a SKILLED OPERATOR.

Intervention	Maintenance Intervals
Inspection of safety devices	Once a year
Water level glass replacing	Every 2 years (The glass is subject to wear, respect the time of maintenance)
Safety valve replacing	Every 3 years

15. SCRAPPING AND DISPOSAL

Scrapping the appliance is an operation which should be performed only by skilled workers especially trained for this activity and in compliance with the legislation in force in the country where the appliance has been installed.

Before scrapping the appliance make sure it cannot be used anymore, for instance by cutting the feeding cable. It must no longer be possible to operate the device prior to disposal.

16. TROUBLE SHOOTING WARNING!

Before performing any interventions carry out the operations indicate in paragraph 7.1 "Stopping"

Problem	Possible Cause	Remedial Measure
The switch (2) is brought in ON position but the appliance does not switch on	The plug of the feeling cable is not plugged in correctly	Unplug the plug from the socket and plug it again in the right way
	The fuse of the socket connected to the appliance has burnt out	Replace it with a suitable fuse. If the problem shows again, call a SKILLED OPERATOR
	The magnetothermal differential switch is protecting the socket to which the appliance is connected	Refit the switch. If the problem arises again, call a SKILLED OPERATOR
When the shining switch (2) is depressed, the generator does not warm up and from pressure gauge (4) you can read that there is no pressure	Breakdown in the pressure switch	Call a SKILLED OPERATOR
	Breakdown in the safety device against overheating	Call a SKILLED OPERATOR
	Breakdown in the boiler heating element	Call a SKILLED OPERATOR
Steam leaks out from the safety cap valve (5)	Breakdown in the safety cap valve	Call a SKILLED OPERATOR
	Breakdown in the pressure switch	Call a SKILLED OPERATOR