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ST4000 VAPOR Stream cleaning machine



Use and maintenance manual

TECHNICAL FEATURES

Steam cleaning machine model ST4000

Steam Pressure	9.50 – 10.50 Bar
Boiler Steam Temperature	180° C
Output Steam Temperature	150° C
Steam production	42 kg/h
Boiler Capacity	14 lt
Power Boiler Supply	Gas Oil (Diesel)
Gas Oil Consumption	3,3 lt/h
Gas Oil Tank Capacity	45 lt
Electrical Power Supply	220V 50 Hz
Electrical Consumption	150 Watt
Detergent Tank Capacity	10lt
Anti-limescale Tank Capacity	1 lt
Net Weight (empty machine)	120 kg

ST4000 VAPOR Stream cleaning machine

Congratulations,
you have chosen to use our steam cleaner, an easy to handle, user-friendly machine. ST4000 offers an efficient answer to all your cleaning needs, both domestic and professional use.
The wide range of accessories adapts perfectly to every kind of use.

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GENERAL INFORMATION I

NOTICE

Carefully read the operating instructions.

The manufacturer shall not be held liable for any damage to property or persons due to improper use of the machine or failure to observe the safety and maintenance regulations.

This manual is an integral part of the machine and must always be at the disposal of the user and/or maintenance man.

The instructions given in this manual do not substitute the safety provisions and technical data, for installation and operation, affixed directly on the machine. The user must keep to the safety standards in force in the country of installation.

Never use the appliance if wear or damage which may reduce its original level of safety is noticed; the installer, user and maintenance man must notify the manufacturer of any irregularities.

The machine is made for specific applications.

It must not be modified and/or used for applications other than those envisaged in the field of use.

This machine should be used by an adult person trained to use it.

in case of doubt concerning the comprehension of there instructions, please contact the seller or the manufacturer before using the machine.

Packing - shipping

Shipping and transport is in on pallets. The packing material is particularly sensitive to rain, fog, direct sunshine, etc.

If the machine has to be transported and the original packing material is not available,

Demolition of the machine

Once decided to scrap the water washer, we recommend you make it inoperative by:

- cutting the external supply cable;
- cutting the motor supply cable.

Do not forget to empty all internal tanks.

Ecological information

The environment must be respected when you want to get rid of packing materials, the various liquids, spare parts, or the whole machine. The current laws must be followed, in order not to poison earth, water and air.

Instructions for proper treatment of waste

- Ferrous materials, aluminium, copper: these metals can be recycled and given to a special authorized collecting center.
- Plastic materials: they must be taken to a dump, an incinerator, or a special recycling center.
- Used oils: they must be taken to a special authorized collecting center.

SAFETY RULES



Do not use the machine in closed rooms, nor where the ventilation is inadequate



WARNING:
The electricity supply to this appliance must include a differential safety breaker which will cut off the power supply if the ground leakage current exceeds 30 mA for 30 ms.



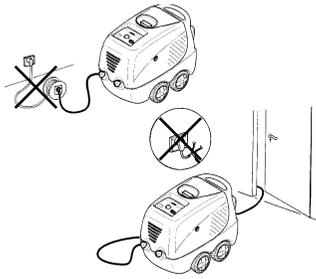
Before doing any work on the appliance it is necessary to take the plug out of the power socket.
All technical operations must be carried out at an authorised service centre.



WARNING:
Never handle the power socket with wet hands



WARNING :
The earth connection is compulsory



It is forbidden to make precarious repairs to the electric cable.

It is forbidden to use extension sockets and precarious plugs or ones not in conformity with the standards.



It is forbidden to direct the water jet onto the pump and, anyway, onto any other object under electric tension.

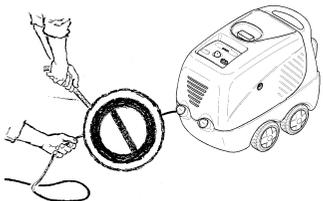
This can cause electrical damage and danger for the user.



Please, protect the machine from atmospheric agents. Avoid using the machine under the rain or thunderstorms, and in all situations when water or other liquids can reach the electrical parts.



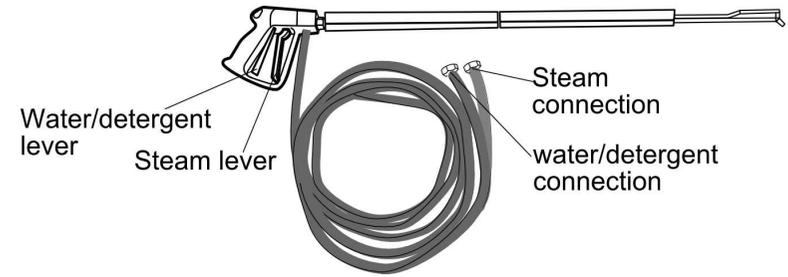
WARNING:
Never use the appliance close to anyone not wearing protective clothing



Never use the supply cable or the connecting pipes to move the machine. Never use the power plug for switching on or off.

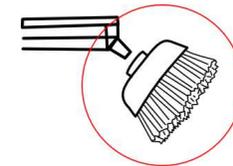
Never use the appliance if the power supply cable or other important parts are damaged (e.g. safety devices, high pressure hoses, spray gun and electric wiring).

- **130 cms steam gun: 2 exits, steam & detergent, with a high-pressure hose, 7 mts long**

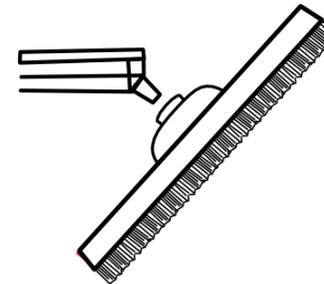


At request steam & detergent gun high-pressure hoses up to 20 mts

- **Brush d.60 mms f/ steam & detergent gun with pvc bristles**
- **Brush d.60 mms f/ steam & detergent gun with natural bristles**
- **Brush d.60 mms f/ steam & detergent gun with metal bristles**
- **Brush d.60 mms f/ steam & detergent gun with brass bristles**



- **Rectangular brush 150x25 f/steam & detergent gun with metal bristles**
- **Rectangular brush 150x25 f/steam & detergent gun with brass bristles**



STANDARD ACCESSORIES

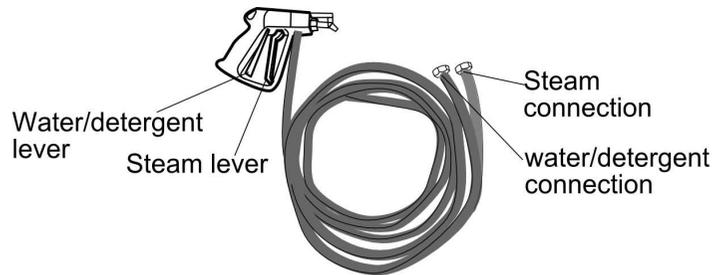
Standard accessories include:

- **Steam gun with 7 mts long high-pressure hose**
- **Totalstop (TST):** This device makes it possible to avoid overheating the machine if use is suspended for an extended period. The models fitted with the Totalstop device have an additional safety device that consists of shutting down the machine after spraying (gun closed with trigger not pressed). In this case the machine stops completely and to start using it again it is sufficient to press the trigger of the spray gun.

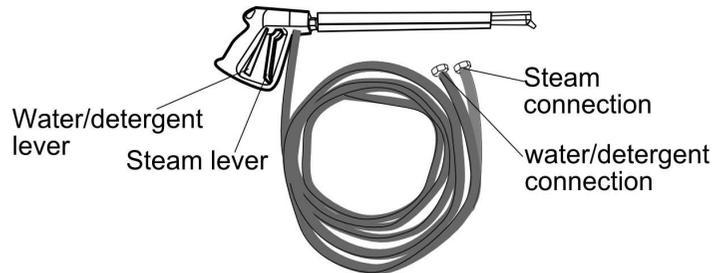
OPTIONAL ACCESSORIES

Le ST4000 cleaners can be equipped with additional accessories according to your cleaning requirements:

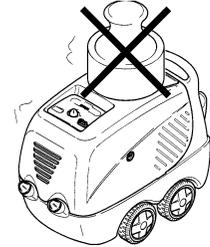
- **Hose wrapper:** support to be fastened on the machine to wrap the hose
- **Inverter - input 10-15V - output 600-1000W**
- **20 cms steam gun: 2 exits, steam & detergent, with a high-pressure hose, 7 mts long**



- **P50 cms steam gun: 2 exits, steam & detergent, with a high-pressure hose, 7 mts long**



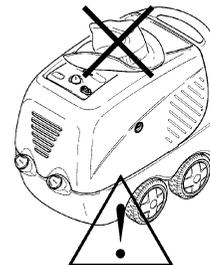
WARNING:
The high pressure hoses, accessories and unions are important for the appliance's safety.
USE ONLY ORIGINAL ACCESSORIES OR SPARE PARTS.



Do not put any objects on the casing: they could damage it.



Make sure the water pipe is not squashed anywhere.



Do not obstruct the far end of the boiler's flue.



WARNING :
Do not use unsuitable fuels as they can create hazardous situations.
Use only Diesel fuel.

WARNING :
This appliance must be supervised all the time it is working.



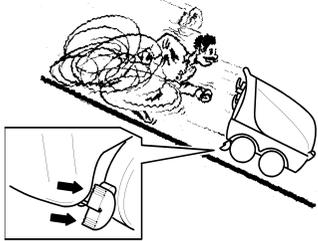
Install a device for discharging combustion gases into the atmosphere. Discharging combustion gases inside closed premises is highly dangerous!



WARNING :
 High pressure water jet. The water jet may be dangerous if improperly used; never point it at people or animals. **NOT BE USED BY CHILDREN.**



WARNING : Use only anaerobic detergents (which do not solidify in air). If in doubt, consult your specialist retailer.



Park the machine on a flat surface. Utilize the parking brake to lock every unwanted movement.

- The dealer must put his stamp and signature in the space provided on the last page of the handbook.

The manufacturer reserves the right to make modifications to this manual and to the technical specifications of the appliances produced without any previous notice.

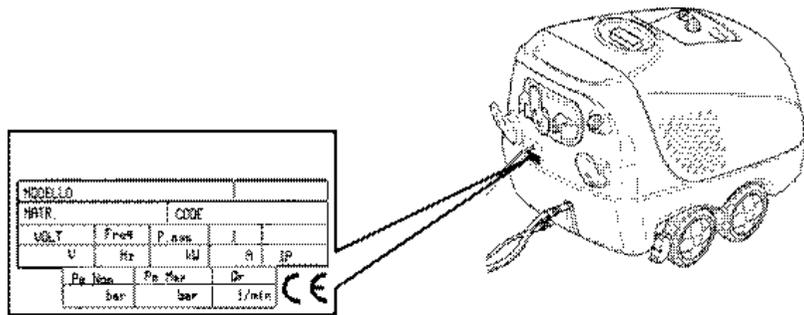
• OWNERSHIP RIGHTS:

The goods remain the exclusive property of the selling party until the agreed price has been paid in full as foreseen by art. 1523 of the Civil Code.

• DISPUTES:

Any dispute whatsoever falls under the legal jurisdiction of the law court of Pesaro (Italy).

MARKING AND IDENTIFICATION



GUARANTEE REGULATIONS

The general warranty laws applied refer to rule 1999/44 CE “about some aspects of warranty and sale of goods”.

In particular:

1. Manufacturer’s responsibility:

Our products are covered by a 12-month guarantee period for manufacturing defects. Warranty does not cover parts subject to normal wear and tear when the machine is being used, in particular: pistons, grommets, seals, pipes, nozzles and valves.

Warranty is limited to defects that can be proved and attributed to manufacturing and/or to the material used. Cases and/or defects deriving from normal wear, incorrect and/or improper use, erroneous electrical and/or water connection of the appliance are not covered by warranty.

The manufacturer will not be responsible for any costs or claims due to the machine in non operational, resulting from repair or servicing.

2. Technical interventions:

Any technical intervention carried out by non-authorized personnel nullifies warranty, excluding any further responsibility on part of the manufacturer, especially for damages to things or third parties. The replacement or repair of any faulty parts is subject to the manufacturer’s unquestionable decision.

Each time something is done to the appliance and/or its system without the explicit authorization of the assistance centre, all guarantee rights will become void.

Only the assistance service and specialised dealers can receive spare parts, therefore these spare parts will be supplied on the basis of this warranty.

3. Authorized Assistance Centres:

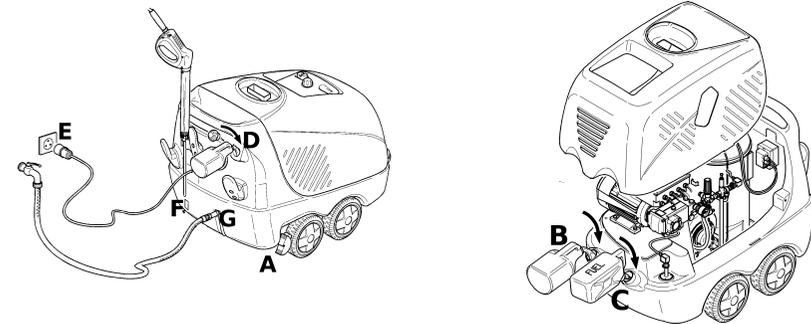
The authorized assistance service substitutes the manufacturer insofar as the obligations and rights of the conditions of this warranty are concerned. However, the Authorized Assistance Centre can lay no claims and neither has it any right, being irrelevant as far as this warranty is concerned.

4. Other aspects:

- Warranty becomes effective on purchase.
- In any case, the buyer is responsible for costs and risks of transport of the product.
- Warranty does not cover periodical checks, calibrations and any further maintenance and/or editing operation.
- It is compulsory to show either the receipt or invoice to have the right to use this warranty.
- Any right to warranty becomes void if the identification label stuck on machine (indicating the test technical data and the SERIAL NUMBER, see paragraph “LABELLING AND IDENTIFICATION”) is removed, tampered or made illegible.

INSTALLATION

- 1) Carry the ST4000 to the utilization place and lock every movement using the parking brake (A).
- 2) Fill the diesel fuel into the appropriate tank from the mouth (B), the detergent from the mouth (C) and the antilimestone from the mouth (D).
- 3) If the mains voltage corresponds (Volt/Hz) to the indications on the label fixed on the motor, you can plug the unit in (E). It is prohibited to use extensions or loose plugs not to standards. The electrical system the appliance is connected to must be made in conformity with the laws in force in the country of installation.
- 4) It is recommended to have a differential thermomagnetic switch, with sensitivity equal to 30 mA, upstream from the power socket.
- 5) Check to be sure that the boiler draining tap (F) is closed.
- 6) Connect the water supply pipe (diameter not lower than 14 mm) to the pump inlet connection (G). Make sure that the suction filter of the suction hose connection is always clean. The dirty filter causes a bad water supply and consequently a bad pump operation with the inevitable risk of rapid wearing out and breakage of internal mechanisms.



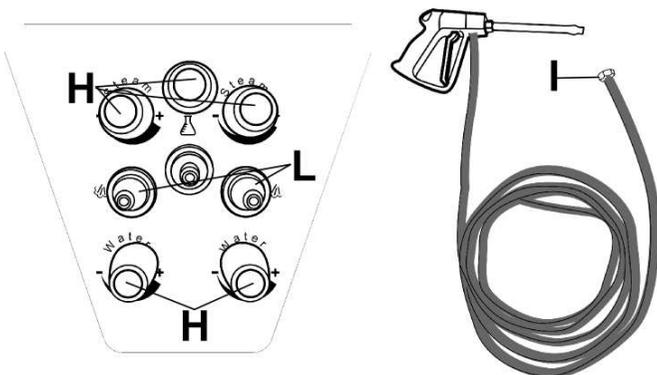
WARNING :
The earth connection is compulsory.

WARNING :
Diesel oil for vehicles only.



WARNING :

Preliminary operations before starting to use the machine: connect the machine to the water tap and the electrical socket, then open the water tap and let the water flush out from the high pressure hose for a few minutes to eliminate water impurities which could block the nozzle. Close water tap, connect gun and lance and start to work.



- 7) Turn right off all the adjustable knobs (H). Connect the provided steam gun fitting (I) to one of the two steam outputs (L) tightening the metal ring.



WARNING:

Before plugging or unplugging the gun from the steam and or detergent output, turn right the correspondant adjustable knob on the machine

TROUBLESHOOTING



WARNING :

before operating any kind of intervention on the machine, disconnect it from the electric current

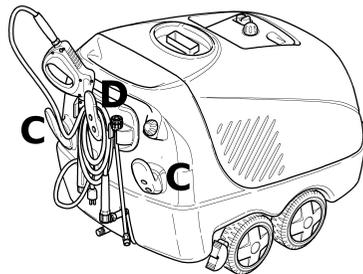
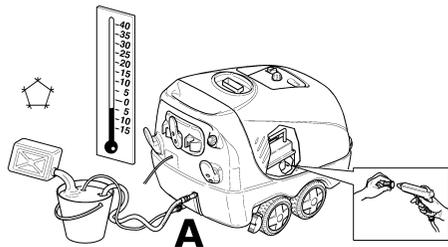
TROUBLE	CAUSES	REMEDIES
The pump works but it does not reach the boiler level	The pump draws in air	Check suction pipe and seals
	Suction/delivery valves worn or dirty or jammed	Clean or replace
	Inadequate or worn nozzle	Replace
	Worn gaskets	Replace
	Suction filter clogged	Clean or replace
The burner stops suddenly	Adjustment valve needle worn or jammed	Clean or replace
	There is no fuel	Put fuel in the tank
	The electrodes are dirty	Clean the electrodes
	The nozzle is clogged and there is no water pressure	Clean the nozzle, if the pump is not pressurised the burner will not start
	The electrodes high voltage cable has either earthed or burnt	Change the high voltage cable
The burner is making a lot of smoke	The fuel filter is clogged	Change it
	The fuel pressure is too high	Turn the fuel pressure regulation screws counter-clockwise
When the gun closes the burner remains on	the boiler is very dirty	Open the cover and clean the boiler
	The pressure switch's microswitch is out of order	Change it

For all the above jobs contact the manufacturer or an assistance centre

ROUTINE MAINTENANCE

The following operations must be done in order to avoid damage to the mechanical components subjected to bigger amount of work, and so as to keep your washer performance efficient.

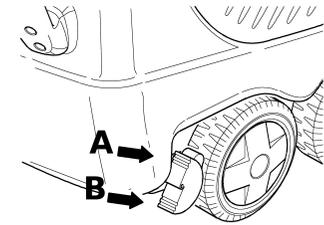
- 1) Important: when the machine is new, the pump/motor assembly must be run in for a short period. This running in period entails not using the machine for more than an hour and then waiting for an hour for it to cool. Repeat this procedure 4 or 5 times.
- 2) Do not leave the machine exposed to very low temperatures. Ice can damage the pump and seriously compromise other circuits. Empty the circuits if the machine is parked for a long time where the temperature is below freezing point. Make the pump run for a few minutes putting an antifreeze liquid through the water suction pipe (A). Vice versa, if the temperature is too high the motor will overheat when the machine is working.
- 4) Do not suck corrosive liquids (paint, acid, solvent, oil or very dense liquids) as these can permanently damage the pump. After you use detergents or other similar liquids, always suck clean water to rinse the machine out thoroughly and prevent the formation of scale.
- 5) At least once a month, check and clean the water filter of the pressure cleaner (B).
- 6) At the end of utilization put the attachments on the attachment holder (C) and the electric cable with the gun tube on the hook (D).



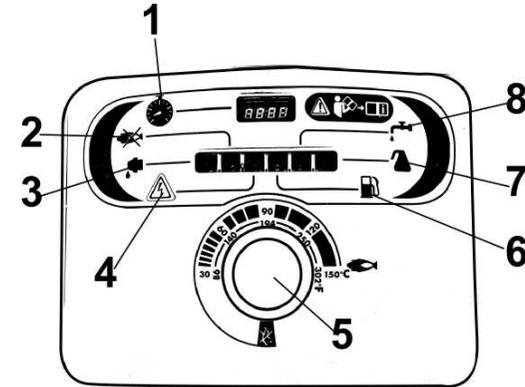
NORME DI UTILIZZO

Brake insertion

1. Lock machine (A)
2. Free machine (B)

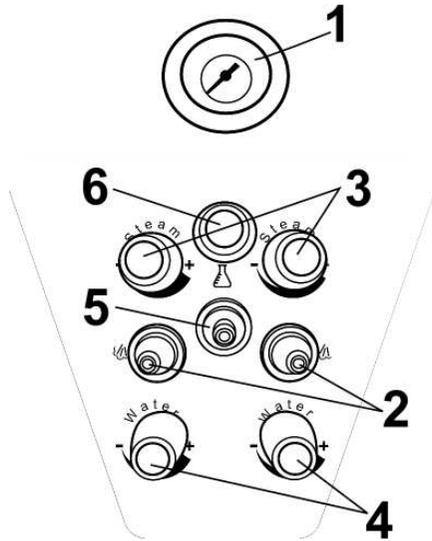


Electric panel description



1. Display: showing hours while the machine is in total stop.
2. Alarm flame control: report this failure to light the flame boiler and lock the boiler.
3. DSS alarm: report the presence of a loss in the circuit of the machine and lock the pump.
4. Constant/continuous green light: indicates that the electrical connection is active (presence of voltage in the electrical cable).
5. ON/OFF knob.
6. Fuel reserve warning: with red light on the boiler does not work.
7. Alarm lack detergent: stops the evacuation of the product (optional).
8. Alarm lack water: stops the machine if there is no water in the tank (optional).

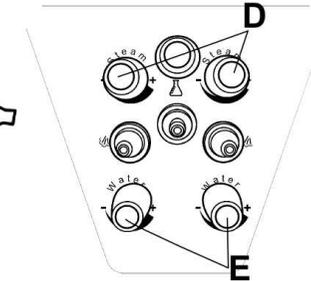
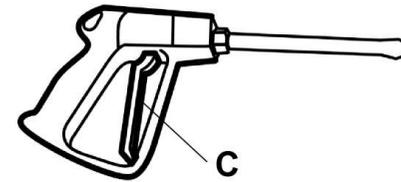
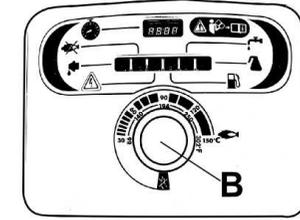
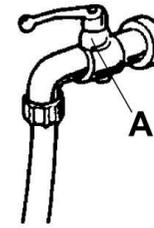
Control board description



1. Water pressure gauge
2. Steam output
3. Adjustable steam flow knob
4. Adjustable water flow knob
5. Detergent output
6. Adjustable detergent flow knob

Starting up procedure and use

1. Open the water supply tap (A)
2. Turn on the starting up knob (B)
3. Press the steam gun lever to get steam
4. Adjust the steam and water knobs to get the desired flow (**turn the knobs corresponding to the gun connection on the machine**)



Stopping procedure

1. Close the water supply tap (A)
2. Turn off the starting up knob (B)
3. Press once more the steam gun lever (C) so that all the left water and steam come out of all the tubes
4. Turn right the adjustable knobs (D and E) to close the steam and detergent outputs.



WARNING:

A new machine needs a short period for running in the motor/pump set. Running in consists of operating the machine for no more than 1 hour and waiting for 1 hour for it to cool down; this should be done for 4 or 5 times.