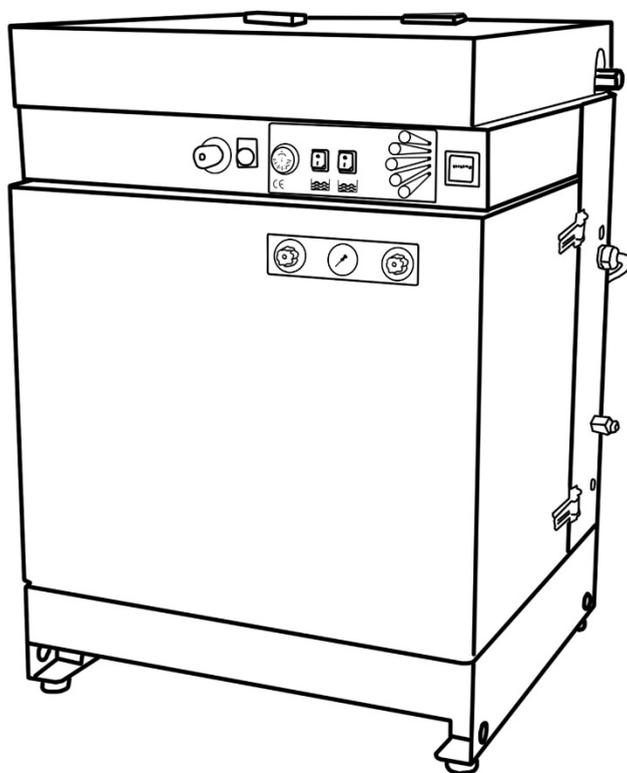


SIRMAC

cleaning solutions

STATIC HOT WATER HIGH PRESSURE WASHERS

Bull/1



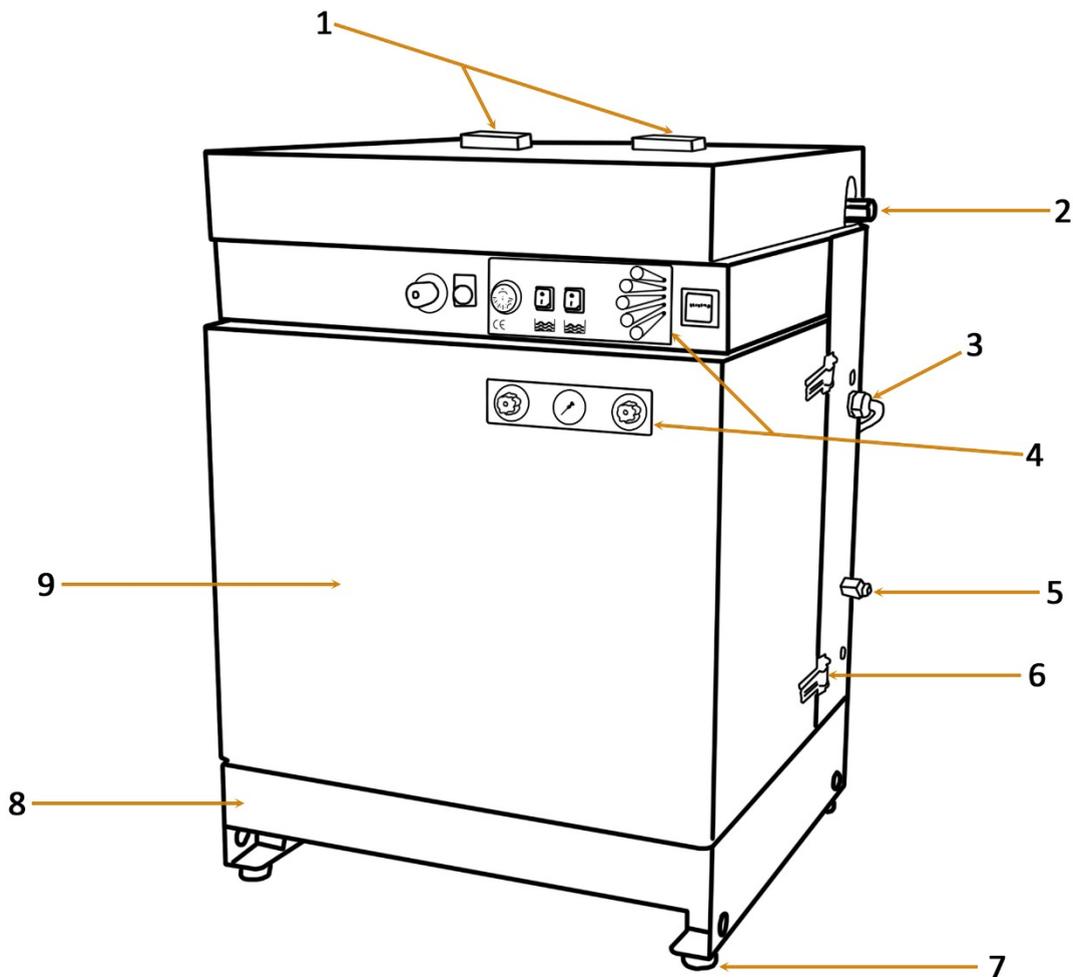
Use and maintenance manual

PLEASE CAREFULLY READ THIS MANUAL BEFORE INSTALLING AND USING THE HIGH-PRESSURE WASHER



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GENERAL DESCRIPTION OF THE HIGH PRESSURE WASHER



- | | | | |
|----|--------------------|----|--|
| 1. | Chimneys (2). | 6. | Hinges (4). |
| 2. | Water inlet. | 7. | Anti-vibrations cylindrical foot mounts (4). |
| 3. | Electric cable. | 8. | Painted steel base. |
| 4. | Control panel. | 9. | Stainless steel panels. |
| 5. | Water h.p. outlet. | | |

MODEL	PRESSURE	DELIVERY	MOTOR POWER	POWER SUPPLY	MOTOR-PUMP UNITS	TEMPERATURE
	BAR	L/min	HP – rpm	KW – PHASE	No.	MIN – MAX °C
BULL 30.200/1	200	30	15 – 1450	13,3 – 3PH	1	30 – 120
BULL 40.200/1	200	40	25 – 1450	21,9 – 3PH	1	30 – 100
BULL 30.500/1	500	30	40 – 1450	35,3 – 3PH	1	30 – 120

INSTRUCTIONS FOR THE SAFE USE OF THE HIGH PRESSURE WASHERS

For your own safety, please read this Manual carefully before installing and using the high-pressure washer.

The unauthorized transfer of all or any part of the contents of this Manual is not permitted.

The contents of this Manual are subject to change without notice. Every effort has been made to ensure that this Manual is correct. However, if you find any mistakes, please advise us.

The CE mark on the high-pressure washer guarantees that this product has been manufactured in compliance with the European Safety Standards.

The user must observe the conditions of use of the high-pressure washer prescribed by the Rules.

THE HIGH PRESSURE WASHER MUST NOT BE USED BY CHILDREN OR UNAUTHORIZED OPERATORS.

The high-pressure washer must be placed in a dry environment.

If placed outdoors, it must not be used in adverse weather conditions that may create moisture in its internal parts.

If placed indoors, the smoke generated by the combustion chamber must be vented outside.

The high-pressure washer should always be in sight of the operator.

As indicated in the chapter "SYMBOLS ON THE HIGH PRESSURE WASHER", it is prohibited to direct the jet against people, animals, sockets or the cleaner itself. The pressure washer cannot be washed with its own jet, but it has to be washed manually.

It should be noted that the components of the high-pressure washer are protected against water jets and splashes, but its covers have large air passages for adequate cooling. For this reason, the jet must not be directed against the high pressure cleaner nor the machine can be used in adverse weather conditions or if there is excessive moisture.

Moreover, the introduction of water through the chimney would jeopardize the proper functioning of the cleaner.

1. ELECTRICAL CONNECTION

For protection against electric shock, the high-pressure washer belongs to CLASS I.

The high-pressure washer is factory adjusted. It is therefore forbidden to alter the aforesaid adjustments as well as safety devices.

The high-pressure washer, while it is working, must always be placed on a firm and flat ground and it must not be moved while it is connected to the electric supply, but it has to be braked with the safety brake.

FAILURE TO OBSERVE THESE INSTRUCTIONS MAY CAUSE DANGER.

The high-pressure washer must not be used in a corrosive atmosphere or potentially explosive environments for the presence of gases, vapours and powders.

The connection to the electrical network must be carried out by qualified and competent technicians, working in observance of the governing Rules (for what concerns Italy, the Rule of reference is law 46/90) and the manufacturer's instructions.

The manufacturer cannot be considered responsible for damages to persons, property or animals caused by wrong electrical connection.

Before connecting the high-pressure washer, make sure that the electric supply data are compatible with those indicated on the machines identification plate.

It is prohibited use extensions leads to supply this high-pressure washer.

The electric safety rules in force are assured only when the high-pressure washer is properly connected to an efficient earth grounding system (for what concerns Italy, the Rule of reference is law 46/90).

It is important to check the grounding system. In case of doubt, ask for control by a qualified electrical engineer.

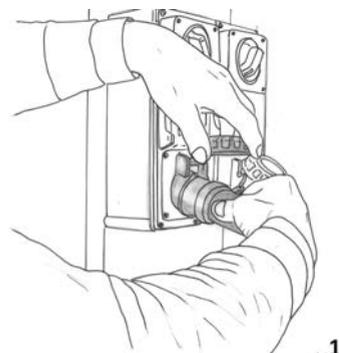
The manufacturer is not responsible for damages due to a non-perfect functioning of the earth banding.

The high-pressure washer must be connected to the electric supply by means of an omnipolar switch with a contact opening of at least 3 mm and electric features which are consistent with the appliance (PICTURE. 1).

The high-pressure washer is disconnected from the electric supply only after having pulled the plug out or having switched off the omnipolar switch.

As any electrical appliance, the high-pressure washer requires the respect of some basic rules:

- Do not use the appliance bare-footed
- Do not touch the appliance with wet or damp hands or feet.
- Do not disconnect the plug from the electric supply pulling the supply cable or the high-pressure washer.
- Wear suitable clothing



2. WATER CIRCUIT CONNECTION

Before connecting to the water supply, make sure that the pressure value of the incoming water supply is between 1,5 and 4 bar (21,7 and 58 PSI) and that the water temperature is not higher than 50° C (122° F).

The supply water must be clean, without sand or other impurities.
Do not connect the high-pressure pump directly to drinkable water tanks.

The machine must not suck in liquids containing inflammable or noxious contents such as solvents for paint, petrol, oil, trichloethylene, etc.

Periodically make sure that the high-pressure flexible hose that connects the lance to the high-pressure washer is undamaged. In case of damage, replace it immediately with an original Sirmac hose.

High-pressure hoses, connections and fittings must be periodically checked. Use only original spare parts recommended by the manufacturer.

Do not use the high-pressure washer when persons or animals are in its action field.

High-pressure jets must never be directed to the high-pressure washer itself, to electric appliances, to persons nor animals.

Always hold the spray gun and the lance firmly with both hands to compensate the reaction power on the lance created by the high-pressure water jet.

During use, the high-pressure water jet can throw up solid contaminated materials. It is important to protect oneself by wearing adequate clothing. Regulations and safety conditions must be followed according to the area where the cleaning operation is performed, in particular in food plants, pharmaceutical plants, etc.

Do not direct the water jet at your own or other people's body in order to clean clothes or shoes.

Do not lock the spray gun open. When the operator releases the washing gun, the jet has to stop immediately.

Use diesel oil for vehicles for water heating. The use of any other fuel is not permitted as it can cause serious dangers.

The safety devices must be checked at least once a year by a Sirmac qualified engineer from one of our service centres.

The hot water high-pressure washer must always be supervised while it is working.

No obstacle must obstruct the smoke extraction system or the ventilation openings to allow the ejection of heat produced by the high-pressure washer.

In case of damage or malfunctioning of the high-pressure washer, follow this procedure:

- Switch off the appliance.
- Disconnect the water supply flexible hose.
- Do not tamper with the appliance.
- CONTACT ONE OF OUR AUTHORIZED TECHNICAL SERVICE CENTRES

3. MAINTENANCE AND REPAIRING

The manufacturer is not liable in case of tampering, unauthorized changes, repairs and maintenances carried out on the machine by an unauthorized third party.

The user must keep all documents regarding the service schedules.

Have the safety devices and rated values checked at one of our technical service centres at least once a year, with particular attention to the values of exhaust gases.

The rating done by the manufacturer determines the following values:

- CO content of exhaust gas lower than 0,04%
- Smoke coming out of the smoke extraction system corresponding to a smoke point nr. 2 Shell-Bacharach

The machine is produced for outdoor use. For indoor use of the machine (not advisable) an efficient ventilation system as well as an excellent exhaust suction system must be available.

FAILURE TO OBSERVE THE ABOVE-MENTIONED RULES AND INSTRUCTIONS MAY ENDANGER THE SAFETY OF THE APPLIANCE.

Keep this manual for future consultations. The user of the high-pressure washer and anyone who is responsible for routine maintenance must be aware of its content.

4. DATA PLATE

The data plate bearing the main technical characteristics of the high-pressure washer is always visible.

SIRMAC s.r.l. Via Tamborlani 12 29027 Podenzano Pc - Italy	
MODEL	
SERIAL NUMBER	
DATE	
KW	
V	Hz
A	
IP	
BAR	BAR MAX
L/M	NOZZLE
°C	kW
MADE IN ITALY	 

5. SYMBOLS ON THE HIGH PRESSURE WASHER

DIESEL

REFUELING

WARNING : BURN HAZARD



WARNING: RISK OF ELECTRIC SHOCK

**DO NOT DIRECT THE JET AGAINST PEOPLE, ANIMALS,
POWER SOCKETS AND THE H.P. WASHER ITSELF.**



6. UNPACKING

Packaging (cardboard box- wood - plastic - nail, etc...) should be kept out of reach of children because it is potentially dangerous. It should be disposed of or retained in respect of national environmental legislation.

After unpacking ensure that the high-pressure washer is undamaged.

IN CASE OF DOUBT, DO NOT USE THE APPLIANCE.

Place the washer in the place chosen for the washing.

Connect Boiler 1 to diesel intake D and Boiler 2 to diesel intake A by means of suitable hoses.

Connect the return C from Boiler 1 and Boiler 2 to the diesel tank by means of a suitable hose.

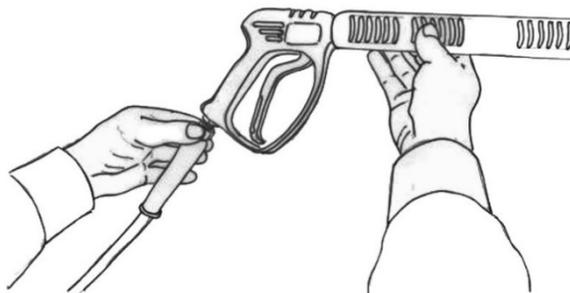
Connect the cable B to the level sensor on the diesel tank if available.



Fill the fuel tank with diesel oil for vehicles.

Connect the end of the high-pressure hose to the high pressure fitting.

Connect the end of the high-pressure hose to the gun.

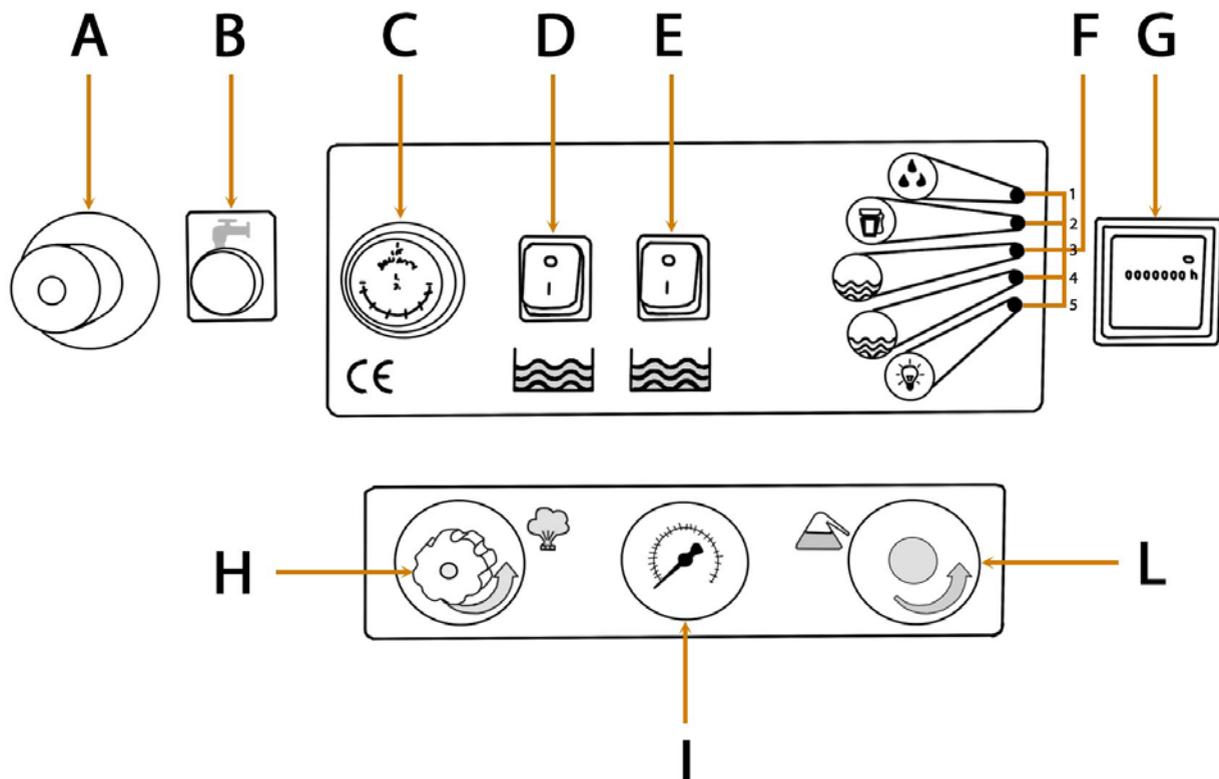


WARNING ! Do not connect the lance before having carried out the operations 1, 2, 3 and 4 as described in chapter "STARTING THE HIGH PRESSURE WASHER".

Connect the water supply hose to the low pressure fitting.

Connect the other end of the water supply hose to the mains.





- | | | | |
|----|---------------------------------------|----|--------------------------------|
| A. | Emergency stop. | F. | Warning lights |
| B. | Indicator of water lack in water tank | G. | Hour meter. |
| C. | Thermostat. | H. | Steam valve. |
| D. | Burner ON/OFF switch. | I. | Pressure gauge. |
| E. | Pump ON/OFF switch. | L. | Detergent valve (if available) |

WARNING LIGHTS F.

- ANTI-SCALE** led on for lack of anti-scale (the unit does not stop).
- FUEL** led on for lack of fuel (the burner stops).
- BURNER** led on for hot water delivery. **FLASHING LIGHT** indicates burner stop by means of flame control system.
- PUMP** led on for high pressure delivery. **QUICKLY FLASHING LIGHT** indicates stop for lack of pressure. **SLOWLY FLASHING LIGHT** indicates stop for micro-leaks or for 60 minutes operating in total stop.
- POWER ON** led



M. Chemical 1 ON/Off switch.

N. Burner ON/OFF switch.

O. Boiler 1 ON LED.

FLASHING LIGHT indicates burner stop by means of flame control system.

P. Boiler 2 ON LED.

FLASHING LIGHT indicates burner stop by means of flame control system.

Q. Pump ON LED.

QUICKLY FLASHING LIGHT indicates stop for lack of pressure.

SLOWLY FLASHING LIGHT indicates stop for micro-leaks or for 60 minutes operating in total stop.

R. Power ON LED.

S. Emergency stop.

T. Chemical 2 ON/Off switch.

U. Pump ON/OFF switch

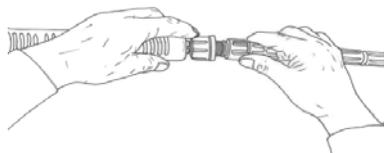
LED **R** AND LED **Q** BLINK ALTERNATIVELY : electric current is restored after a blackout. In order to use the cleaner reset the switch **E** on the control panel **4** and **U** on the remote control.

IMPORTANT

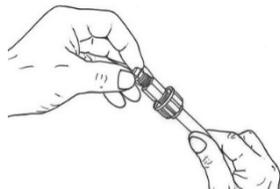
The remote control is enabled only when all functions on the control panel **4** are turned on. It will still be possible to control the unit by the switches of the control panel **4** even when the switches on the remote control are on position ON.

10. STARTING THE HIGH PRESSURE WASHER

1. Turn the water supply tap on.
2. Hold the gun before connecting the lance.
3. Press the switch **E**. The high-pressure washer will deliver low pressure water eliminating impurities and air in the circuit.
4. When the water flow coming out of the lance is clean and without any air, stop the pump by pressing the switch **E**.
5. Connect the lance to the gun.



6. Assemble the nozzle.



7. Press the switch **D** firmly gripping the gun and the lance with both hands. A high-pressure water jet will be delivered immediately.
8. Press the switch **E** to obtain hot water.
9. In order to set the temperature, turn the knob of the thermostat **C** to the needed temperature values.
10. In order to generate steam, replace the high-pressure nozzle with the special steam nozzle (optional) and turn the valve **H**.
11. In order to turn the burner off, rotate the thermostat knob **C** to position "0" and press the switch **E** to position "0" to stop the high pressure washer. Before interrupting the cleaning operations, it is recommended to keep the pump working until the total circuit has cooled down. The high-pressure washer can be considered turned off only when it is unplugged.
12. Discharge the pressure from the high-pressure hose by pressing the trigger on the gun.
13. When the high-pressure washer is not in use, close the safety device on the handle.



11. MAINTENANCE

For all maintenance operations regarding the boiler, the high-pressure pump, the hydraulic parts of the high-pressure circuit and all elements that are involved in the safety functions, the user must contact our approved technical center or dealer.

THE USER MUST NOT CARRY OUT THE ABOVE MENTIONED OPERATIONS.

Before undertaking any maintenance work, make sure you disconnect the high-pressure washer from the electric supply by turning the switch off and by unplugging the machine; disconnect the high-pressure washer from the water mains by closing the water supply tap.

12. PRECAUTIONS AGAINST FROST DAMAGE

The high-pressure washer must be protected from frost. During the cold season, if the high-pressure washer is exposed to frost, it is necessary to carry out the following operations:

- turn off the tap of the water supply
- disconnect the hose
- run the pump of the high pressure washer until the whole circuit is completely empty
- stop the pump
- pour antifreeze into the water tank
- start the pump again and let it run until antifreeze comes out of the lance.

When these operations are completed, turn off the high-pressure washer, disconnect the omnipolar switch and unplug the machine.

ANTIFREEZE IS A POLLUTING SUBSTANCE THEREFORE IT MUST BE DISPOSED RESPONSIBLY.

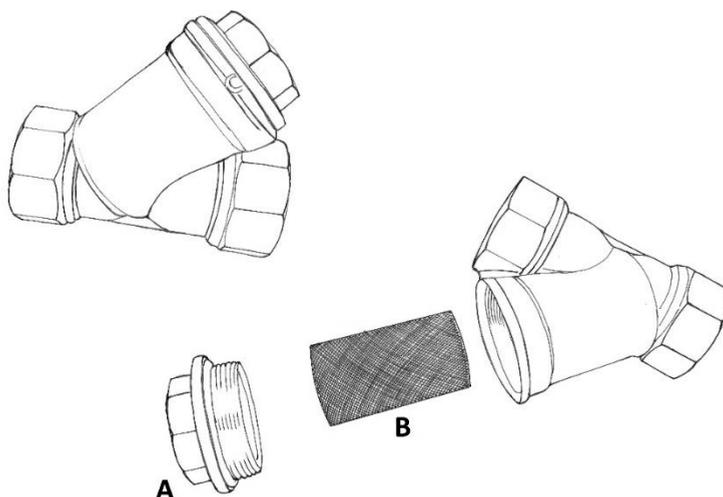
13. CLEANING THE FUEL FILTERS

Clean the fuel filters periodically and every time there are impurities. To clean the filter unscrew the cap and wash the filter.

14. CLEANING THE WATER FILTERS

WATER INLET FILTER

Periodically unscrew the cap **A** and clean the stainless steel filter **B**.



LIST OF ROUTINE MAINTENANCE TO BE PERFORMED BY THE USER

- CHECK GENERAL CONDITIONS: every time before using the high-pressure washer
- PUMP OIL CHANGE: first check after 50 hours – the subsequent ones every 500 hours
- FUEL FILTER CHANGE: every 300 hours or when it presents impurities
- FUEL TANK CLEANING: once a year
- WATER FILTER CLEANING: every 50-100 hours

LIST OF EXTRAORDINARY MAINTENANCE TO BE PERFORMED BY THE AUTHORIZED SIRMAC SERVICE CENTRES

- CHECK THE FUEL PUMP: every 200 hours
- CHECK AND POSSIBLE CHANGE OF THE FUEL NOZZLE: every 400 hours
- REGULATION AND POSSIBLE CHANGE OF ELECTRODES: every 400 hours
- CHECK THE SEALS ON HIGH PRESSURE PUMP AND POSSIBLE REPLACEMENT OF THE FITTINGS: every 500 hours
- CHECK WORKING PRESSURE AND POSSIBLE REPLACEMENT OF THE HIGH PRESSURE NOZZLE: every 200 hours
- CHECK AND CALIBRATE SAFETY DEVICES: once a year

TROUBLESHOOTING

FAULTS	POSSIBLE CAUSES	REMEDIES
<ul style="list-style-type: none"> PUSHING ON THE SWITCHES THE H. P. WASHER DOESN'T WORK. 		<ul style="list-style-type: none"> Contact our authorized service centre.
<ul style="list-style-type: none"> FEEBLE WATER DELIVERY OR NO DELIVERY AT ALL. 	<ul style="list-style-type: none"> Dirty or clogged water supply filter 	<ul style="list-style-type: none"> Clean the water filter
<ul style="list-style-type: none"> LEAKAGE FROM HIGH PRESSURE WATER CIRCUIT. 	<ul style="list-style-type: none"> Leakages in the high-pressure circuit. Leakages in the water supply circuit. Breakdown of the pump. 	<ul style="list-style-type: none"> Contact the authorized technical service centre.
<ul style="list-style-type: none"> THE PUMP IS RUNNING BUT DOESN'T REACH THE SET PRESSURE 	<ul style="list-style-type: none"> Clogged water supply filter. Faulty connection to the main water supply. Worn high-pressure nozzle. The steam valve is open. Dirty or worn valves. 	<ul style="list-style-type: none"> Clean the filter. Check and remedy Change the nozzle. Close the valve. Contact the authorized technical service centre.
<ul style="list-style-type: none"> AFTER TURNING THE THERMOSTAT KNOB C, THE BOILER DOESN'T START. 	<ul style="list-style-type: none"> There is no fuel. There's water in the fuel tank. 	<ul style="list-style-type: none"> Check the fuel level in the tank. Empty and clean the tank.
<ul style="list-style-type: none"> THE HIGH-PRESSURE WASHER DOES NOT REACH THE REQUIRED TEMPERATURE. 	<ul style="list-style-type: none"> Faulty position of the regulation knob C of the thermostat. Clogged fuel filter. Heating coil clogged with scale. 	<ul style="list-style-type: none"> Check the regulation knob. Change the filter. Address to the authorized technical service centre.
<ul style="list-style-type: none"> EXCESSIVE SMOKE COMING OUT OF THE CHIMNEY. 	<ul style="list-style-type: none"> Faulty combustion. Impurities or water in the fuel tank. 	<ul style="list-style-type: none"> Change the fuel filter. If the problem persists, apply to the technical service centre. Empty the tank and clean it. If the problem persists, contact the technical service centre.
<ul style="list-style-type: none"> WARNING LED 2 IS ON. 	<ul style="list-style-type: none"> Empty fuel tank. 	<ul style="list-style-type: none"> Fill the tank.
<ul style="list-style-type: none"> WATER LEAKAGE FROM THE MANIFOLD OF THE PUMP. OIL LEAKAGE FROM THE PUMP. 	<ul style="list-style-type: none"> Worn gaskets. 	<ul style="list-style-type: none"> Contact the authorized technical service centre.



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