FORTADOR™
powered by Lamborghini

FORTADOR
Volt Elektra

INDUSTRIAL STEAM CLEANER
OPERATING MANUAL



NOTE

Before starting, read this operating manual carefully in order to avoid improper use or situations that may be dangerous for people, animals or objects. The manufacturer shall bear no responsibility and shall exclude the possibility to apply guarantee terms in the following cases: any misuse or use in improper conditions, any damage resulting from normal wear-out or aging, inappropriate application, neglect, improper operation or storage, exposure to moisture, arbitrary modification or repair, improper installation, using wrong power supply source, operator errors, failure to obey this operating manual, or any other events for which the manufacturer cannot be blamed, including any loss or damage in transport.



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INTRODUCTION

Thank you for purchasing FORTADOR VOLT ELECTRA industrial steam cleaner.

The FORTADOR brand is an effect of our long-standing experience, and a response to our Customers' needs.

The technology confined in the state-of-the-art housing provides for higher capacity and performance as well as lower failure rate than ever before.

The solutions used, which only occur in FORTADOR steam cleaner, make it possible to make the machine operation easier and faster. The 7-inch touch display keeps the user inform on the status of fluids (water, detergents) inside the machine, and on the running pressure of the boiler.

The highest quality of the components and low energy consumption provide for even faster return on investment.

The advantage of this machine consists in a very small size while featuring the maximum power. In a combination with the ECO PRO® system our boiler constitutes a guarantee the highest power at the level of 12 bars and reliability. The Fortador VOLT ELECTRA is powered from a regular electric socket and features the proprietary ECO PRO® system of reducing energy consumption. The VOLT ELECTRA model is a MULTI TASK device, which enables to perform many tasks. It possesses an integrated professional dry / wet extractor manufactured by the renowned Ghibli & Wirbel company. Fortador VOLT ELECTRA does not generate any water or chemical sewages.



Producent i Serwisant

www.fortador.com

TECHNICAL SPECIFICATION AND DESCRIPTION OF THE MACHINE

Technical data

Power supply	230 V / 400 V / 50-60 Hz
Power	3,4 kW / 5,5 kW
Protection class	IPX 4
Working pressure	8 – 10 bar
Maximum pressure	12 bar
Steam temperature	140 °C
Boiler temperature	190° C
Boiler capacity	4 litres
Water tank capacity	5
Detergent tank capacity	5
Noise level	71 dB
Dimensions (W x L x H)	43 x 67 x 88 cm
Weight	45 kg (without fluids and accessories)

Technical data are placed at the rating plate at the rear wall of the cover in the area marked with the red frame. When contacting our Service Dept., please always refer to your machine's serial no. from the rating plate.

Manufacturer:	Fortador Europe
Model:	Fortador Volt Elektra
Voltage:	400V/50-60Hz
Power:	5,5kW IPX4
Rated pressure:	1 Mpa
Max. pressure:	1,2 Mpa
Max. rated temperature:	190 °C
Empty weight:	45 kg
S/N:	D010004
Manufacturing year:	2020

FORTADOR™ powered by Lamborghini

CE

Before use read the instruction carefully! Made in European Union

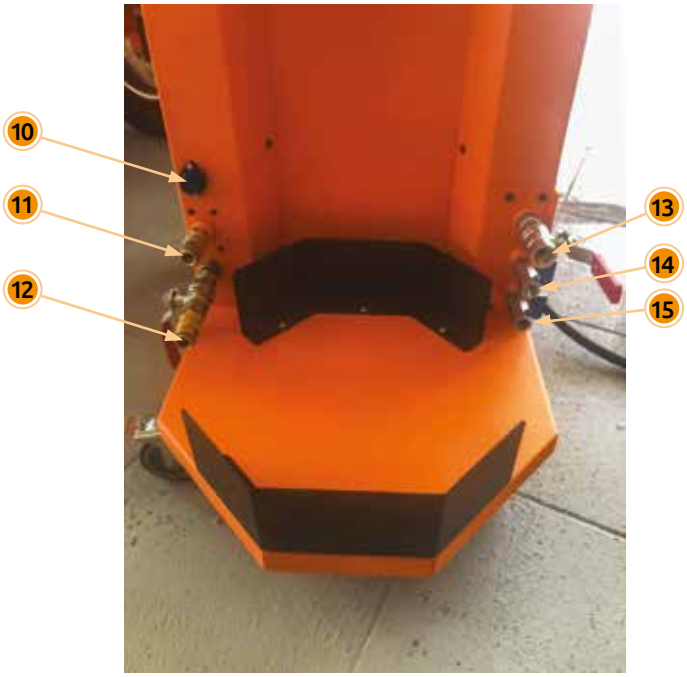


DESCRIPTION OF THE MACHINE

1. Water tank
2. Detergent tank
3. Boiler
4. Pressure sensor (presostat)
5. Heater
6. Water and detergent pumps
7. Water filter
8. Touch screen 7”
9. Emergency stop



10. Washing hose electric socket
11. Washing hose connection – quick connector
12. Washing hose connection – quick connector
13. Boiler steam drain - valve
14. Detergent drain - valve
15. Water drain - valve



SAFETY REQUIREMENTS

The FORTADOR steam cleaner is an industrial machine that must not be operated by persons who are not aware of hazards associated therewith.

Guidelines and recommendations contained in this Manual must be properly understood and obeyed if the condition of the machine proper and safe operation of is to be fulfilled.

Just as in case of most mechanical machines, all relative safety precautions must be observed while operating and servicing the machine. Failure to observe this Operating Manual and recommendations contained in it may lead to injury or damage to the machine or other objects situated nearby. At the same time, it must be borne in mind that it is not possible to present any exhaustive guidelines or recommendations, which would make it possible to completely eliminate risks during its operation or maintenance, and while handling or using chemical products that this machine has been designed to process. In case of special applications and working conditions, some additional safety precautions can turn out to be necessary, which are not discussed in this document. In such non-discussed cases, the user should obey generally adopted safety rules.

Before starting and operating the machine, please read this Operating Manual thoroughly.

This Operating Manual should be stored for later use or for the successive owner.









IMPORTANT:

This machine heats up to high temperatures! Protective gloves and protective goggles must be worn while operating the machine.

During operation, hearing protectors must be worn!

Never use the machine without wearing protective boots.

- Operating pressure can be dangerous for people and animals.
- Operators should be sober, adult, and trained in machine operation and maintenance.
- Spare parts cannot be different than those recommended and manufactured by the manufacturer.
- In case power supply cable is damaged, it must be replaced by an authorised service-provider under pain of loss of guarantee.
- Water tank must be filled with tap water only. Do not add any detergents, chemicals, or descaling agents to the water tank.
- **Do not use distilled water!**
- Before starting the machine, check if its operational openings are free from dirt.
- It is only allowed to use original hoses and guns.
- Do not start the machine if its electrical cable or any other part is damaged.
- Do not operate the machine in the rain or when it is wet.
- Never tilt or topple the machine when switched on.
- Always switch off the machine before cleaning.
- Children are absolutely not allowed to contact the machine.
- Be careful while working near children or animals.
- Do not use the machine when damaged or when its power supply cable shows any signs of damage. In case the machine fails to work the way it should, if it fell or got damaged or was left outdoors or flooded, contact our service dept.: help@fortador.com
- Do not try to pull or lift the machine by its power supply cable or hose.
- Watch for hoses, guns, filters, and seals. As consumables, they are covered by limited guarantee only.
- Never direct steam towards people or animals.
- Keep the machine away from naked flame, radiators, ovens or any other heat sources.



- Do not use the machine in any confined, insufficiently ventilated areas. Its fumes may pose a threat to your health.
- Do not operate the machine in an environment with very high humidity of the air and/ or highly dusted areas.
- When in operation, the machine should not be moved.
- **The machine should be connected to electrical installation that is provided with reliable earthing. It is forbidden to operate the machine connected to electrical installation no earthing, as it may pose a threat of electric shock!**



- **Prior to each start-up, check residual-current circuit-breaker for proper operation in line with the procedure as described in the "before each start-up" chapter. It is forbidden to operate the machine with faulty residual-current circuit-breaker, as it may pose a threat of electric shock!**



- Do not submerge the machine or any of its components in water or any other fluids.
- It is strictly forbidden to use the machine in explosive areas.
- Never use the machine close to toxic / hazardous substances.
- Never install the machine on temperature-sensitive foundations.
- Do not leave the machine in places exposed to the forces of nature.
- Do not operate machine buttons / valves using excessive force.
- The machine should be installed on stable level ground. Make sure that its front wheels are secured during operation.
- Never block the gun's trigger.
- Never leave the machine working unattended.
- Do not direct steam jet towards electronic devices.
- While washing your car, make sure that the nozzle is more than 10 cm away from the surface.
- When not in use, the machine should be switched off and drained.
- Use only good quality fuel diesel. Use of any fuel other than diesel, or any fuel that is contaminated or diluted, may result in damage to the burner and loss of guarantee.
- Remember that the hose bending radius can never be lower than 10 cm. Bending the hose to a tighter radius results in teflon breaking, and, in consequence, in hose damage.

UNPACKING

1. Carefully remove the machine from its packaging.
2. Check if the machine has not been damaged while being shipped.
3. Check if its standard equipment is complete. We recommend to keep the packaging.

Packaging dimensions



STANDARD ACCESSORIES



Vacuum cleaner with accessories, 1 set (in Volt Pro version only)



Cleaning hose, 1 pcs



Dual washing hose, 1 pcs



Repair kit

BEFORE EACH START-UP

In order to provide for the machine's proper and safe operation, this procedure should be conducted before it is started.

1. Check if your hoses have been properly connected.
2. Make sure that your valves work properly.
3. Re-fill the water tank.
4. Make sure that your hoses and guns are not damaged.
5. Do not put any heavy objects on hoses, and do not drive your car on them.
6. Make sure that your steam supply valves are closed if you do not use your gun for a longer time (10 minutes).
7. Check residual-current circuit-breaker operation by pressing the Test button marked with a red square (the machine should switch OFF). Operating the machine with faulty residual-current circuit-breaker is strictly prohibited.
8. Before starting the machine the operator should always check cleanness and tight the cover of water filter.



HOW TO INSTALL AND USE THE MACHINE FOR THE FIRST TIME

FORTADOR VOLT ELECTRA machine starting procedure.



1 Re-fill the WATER and DETERGENT tank. Use only pure tap water or water with Lamborghini softener (to extend the lifetime of your boiler and all hydraulic assemblies).

Important: Make sure not to start the machine before you pour the water in.



2 Connect washing hose adapters

Make sure that the steam hose is properly connected (see the picture) – when connecting you should hear characteristic click sound.



3 Connect the machine to a 400 V, 230 V socket (depending on version of the machine), and turn the emergency stop ring clockwise.



4 Touch the button on the display to start the machine. The machine will begin to automatically fill the boiler with water, and the heater will be activated as soon as the minimum water level is reached.



5 After 7-10 minutes, the pressure will reach 12 bar. Such message will be displayed on the screen.

6 Hold the gun trigger pressed until steam starts to come out. Pressure will drop for a moment. When the 12 bar pressure is reached, the machine is ready to work.

WASHING



1 Re-fill the DETERGENT tank with the washing agent diluted in water in proportions as described on the detergent label.

It is not recommended to use high-foam and acid pH reaction formulations.



2 Remove the cloth filter from the vacuum cleaner.



3 Depending on the version, connect the vacuum cleaner to the socket on the machine (400V version) or to an external power source (version 230V).



4 Connect 4 washing hose adapters:
- vacuum cleaner suction tube;
- electric plug to socket number 10;
- steam hose to socket number 11
- steam hose to socket number 12.



5 Test your gun functions. Gun button functions:

- Trigger used to eject steam or steam with detergent (if the detergent-disposing button is pressed).
- Monostable button used to start detergent feeding
- Gun trigger lock



6 Start washing, making sure to move your washing gun only from top to bottom (for a vertical surface) or towards you (for a horizontal surface), dispensing the detergent all the time to provide for best washing effects.



7 While washing, your vacuum cleaner should be kept switched on all the time, so that it can draw in the condensed steam from the surface being washed.

8 Upon completion of washing, empty your vacuum cleaner container, disconnect the hose from the machine, and proceed as in the “Switch-Off Procedure” Section.

CLEANING



1 Holding the gun in both hands, press the trigger. Note: high pressure results in gun recoil when its trigger is pressed. Be careful! **Work using both hands. Pull the hose, do not pull the gun! Do not pull the gun by the hose!**



2 While moving from one area to another, never pull the gun, as this may lead to the connection of the hose with the gun or the gun itself getting damaged.

3 Direct the steam jet towards the surface being cleaned, making sure to keep a safe distance of 10 cm between the gun nozzle and the surface being cleaned.



4 In case of heavy soiling, use the “wet steam” function that is activated using the orange arrow marked button. Steam being fed using the cleaning gun will additionally contain water mist.



Open valve



Close valve

5 After finishing work, close the inlet valves steam for hoses, remove any steam remaining inside hoses by pressing the gun trigger, then disconnect hoses from the machine and follow the instructions under „Shutdown Procedure”.

CONTROL PANEL FUNCTIONS

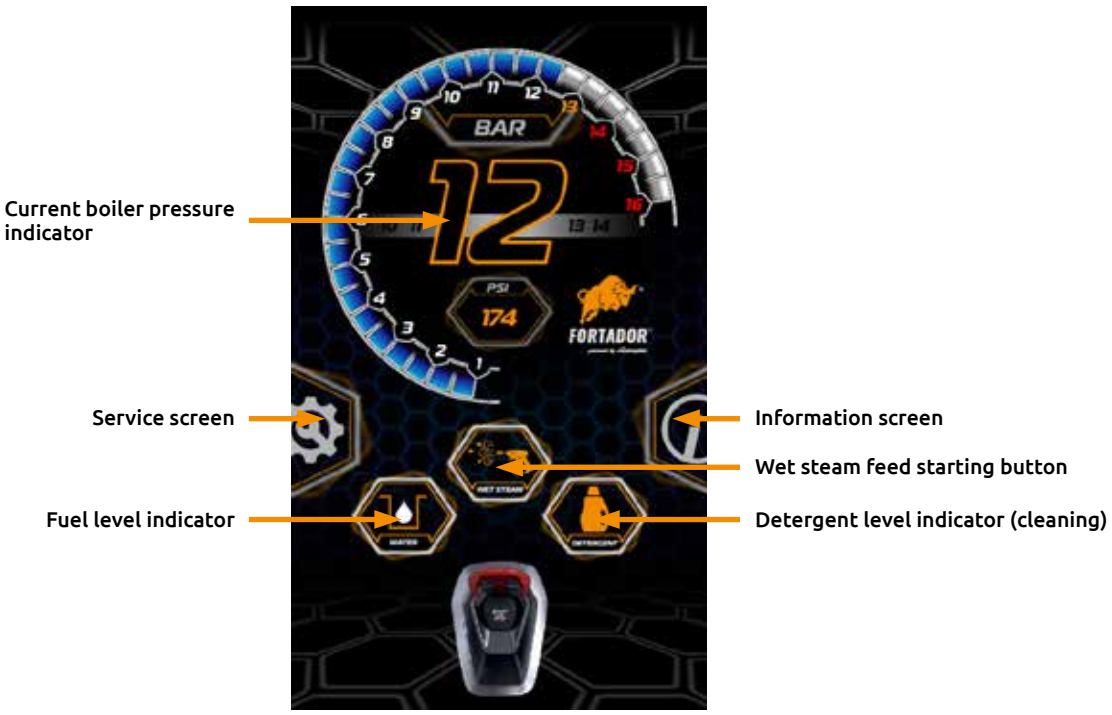
Main screen



Orange and white background of indicators means that the fluid level is sufficient.



When indicators are shown with a red background, it means that fluids are missing and that they should be re-filled to continue operation.



Serial display screen

Boiler water level indicator shows the current water level (L – Low, M – Medium, H – High) by backlighting the relative indication in yellow.



Boiler water level indicator (L-low, M-medium, H-high)

Return to Main Screen

Heaters operation indicator

Water pomp maintenance mode

Detergent maintenance mode

Information screen

Water pump ON indicator

Wet steam maintenance mode

Machine STOP button

Information screen



Boiler water level indicator (L-low, M-medium, H-high)

Heaters operation indicator

Machine stop button

Information screen

Water pump ON indicator

Information screen



Main screen

Machine stop button

Serial number

Moto hour counter

Information screen

SWITCH-OFF PROCEDURE

In order to prolong your FORTADOR machine lifetime, take due care of your machine and obey the Switch-Off Procedure as presented herein.



1 Switch off the machine using the button on the touch screen, and then disconnect it from its power supply. **NOTE: Failure to observe this sequence may result in damage to the machine's controller.**

2 Press the gun's trigger to release any steam that still remains inside hoses.

3 Disconnect the hoses, clean them and roll them up, being careful not to exceed the allowable bending radius (min. 10 cm); **NOTE: Bending the hose to any radius that is tighter than allowed will result in its damage!**

4 Place the machine so that the boiler draining valve outlet no. 13 is directed into the open space. Carefully open valve no. 13, paying special attention to the steam that is coming from the outlet. High-pressure steam jet may lead to serious burns!

5 Drain the boiler completely, leaving valve no. 13 in its open position. This valve can only be closed just before you start your work.

6 Clean the machine if dirty. By cleaning the machine each time after you finish your work, you will keep it in very good technical condition for a long time.

7 Leave the machine in dry, warm area that is free from dust.



8 If the machine is to be stored in temperatures below 0°C (32 F), it must be drained from all fluids (water, detergent) using valves no. 14, 15. Then, all the water must be pumped out from the water system, by entering the maintenance mode by pressing the Maintenance mode button that occurs for several seconds in the upper part of the display when the machine is started.

Service screen

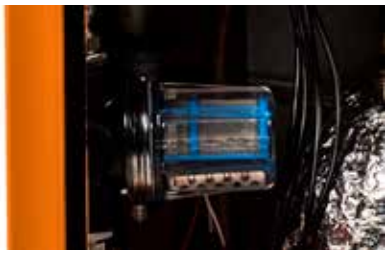


9 Afterwards, by pressing the button marked with orange arrow, the water pump will be run for 5 seconds pumping out any remaining water from the water system into the boiler. Repeat this procedure several times, watching if any water is still present in the tube that supplies water into the water filter, and in the filter itself. If you cannot see any water coming out, do not start water pump any more to avoid dry running.

Button used to start water pump in maintenance mode

Button used to start wet steam pomp in maintenance mode

Button used to start detergent pump in maintenance mode



10 The last step is to remove the water from the water filter by unscrewing its plastic dome and draining the rest of water. When dry, re-install the dome on the water filter.

MAINTENANCE PLAN

The FORTADOR steam cleaner is made of best materials. In order to keep it in its perfect condition, it requires scheduled maintenance in line with the below maintenance plan.

MAINTENANCE OPERATIONS	TIME INTERVAL (WORK HOURS COUNT)
Clean the water and detergent filter	100
Check (water, detergent) sensors	150
Descaling	50 – 200 (depending on water hardness)
Replace the vacuum cleaner motor	500 - 1000

Within the guarantee period, scheduled maintenance must be performed by the guarantee-issuing party or the authorised dealer. Failure to observe this condition will result in loss of guarantee.

Service screen



Descaling device required



Control of water, detergent and fuel sensors required



Water and fuel detergent filter cleaning required



Technical inspection required



Vacuum cleaner engine check required

FAQ

1 problem

Freezing tubes in the boiler supply line in winter time, bubbles in the water line tubes, broken water filter, faulty water pump.

Diagnosis

This indicates that the machine has been left in freezing conditions at temperature below 0°C without having emptied the boiler and the water flow line.

Prevention

Stop the machine using the red button. Empty the boiler by opening the water drain valve and draining the steam and rest of water. Open the water tank's water drain valve in order to empty the water tank according to procedure described in section "Switch-off procedure" points 8-10.

Solution

Replace water filter, replace water pump.

2 problem

Damaged detergent tanks, damaged water tank.

Diagnosis

This indicates that the machine has been left in freezing conditions at temperature below 0°C without having emptied water and detergent tanks.

Prevention

Open the water drain valves and detergent tanks. Empty the tanks from water and detergent at temperatures below 0° C.

Solution

Replace tanks and level probes in fluid tanks.

3 problem

No pressure in the boiler, or to the contrary: the display shows pressure, while there is little steam at hose outlets; boiler heats up insufficiently and too long.

Diagnosis

Scaled boiler, scaled steam outlet system and / or cleaning / washing hoses.

Prevention and solution

Perform the boiler descaling procedure using the Limascale remover preparation. Switch off the machine, connect washing hose to quick connector properly. Empty the boiler and the water tank by opening drain valves. Pour approx. 1-2 litres of Limascale remover into the water tank. Start the machine, wait till the water pump sucks the entire Limascale remover in from the water tank. As soon as the machine stops and begins to squeal, add water into the tank. Pour the water in until the machine starts both the burner and the boiler. When the boiler is heated up (8 bar), leave the machine for approx. 5 - 30 minutes, depending on the system's scaling degree, in order to completely dissolve the scale. When the scale dissolving process is completed, flow the steam several times by pressing the trigger at the hose in order to flush the silicon/ Teflon steam line and connectors from any remaining scale. Empty the boiler using the drain valve completely.



Start the machine 2-3 times by filling the boiler, and heating and draining it through the individual washing hose. The machine is descaled now.

4 problem

Steam rising from the quick connectors area.

Diagnosis

Cleaning hose connector improperly installed in safety quick connector.

Solution

Replace silicon O-rings in quick connectors. When replaced, slightly moisten O-ring and quick connector areas with silicon spray grease.

5 problem

From time to time, you can hear a humming noise coming from the machine, the vacuum cleaner refuses to work or switches on all by itself every now and then, or there is a problem with wet steam or detergent presence.

Diagnosis

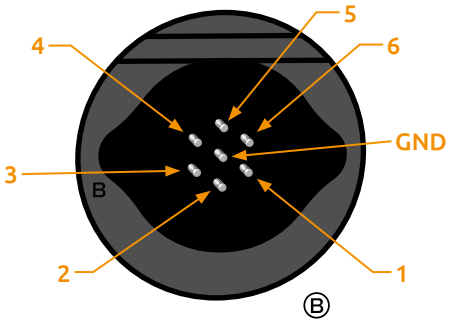
One or several washing gun switches are damaged, or silicon electrical cables in the washing hose are damaged (broken, short-circuited, etc.). In the expected steam / detergent / vacuum cleaner presence mode, disconnect the washing hose control cable, and perform a test at the control socket at the rear panel of the machine by connecting pins as per the diagram below. If the pin connecting test is successful, it means that damage has occurred inside the washing hose.

Prevention

Do not extend the washing hose, and do not pull the machine by the hose, as this may damage the control connector/ plug or control cables inside the washing hose.

Solution

Replace control switches or cables inside the washing hose pipe. If the washing hose is old / worn out, replace it. If any part of the vacuum cleaner hose is perforated, the hose cannot be used anymore: it must be replaced with a new one.



View of the electrical connection socket for the washing hose

Pin 1 = free
Pin 2 = free
Pin 3 = free
Pin 4 = free
Pin 5 + GND = steam ON
Pin 6 + GND = detergent ON

6 problem

The machine refuses to start after the Start command, does not fill with water up to the boiler L level that is necessary to start the heater.

Diagnosis

Worn out EP5 water pump (or non-return valve that is part of the pump, or pipe sealants inside the pump), or air bubbles in the water line from the water tank to the boiler.

Prevention

Regularly descale and protect the FORTADOR cleaner water line against freezing. Do not allow the water pump to be run dry.

Solution

Fill them water tank to the full, so that the water level in the tank is above the water filter height. Loosen the water filter cup, so that the filter can be freely filled with water, remove the transparent tube from water pump inlet and let this tube fill up too, and then slide it fast back to its original location. Now the water pump should easily suck the water in. While starting the machine, open the valve no. 14 (steam drain valve) for a while, till such time as the water pump overcomes boiler pressure and the water pump non-return valve opens (change in the water pump's operating noise from clattering to regular, muffled noise).

NOTE: Long-term "dry" operation of the water pump results in permanent damage to the pump unit!!!

7 problem

Touching the machine or the hose results in a soft tingling feeling.

Diagnosis

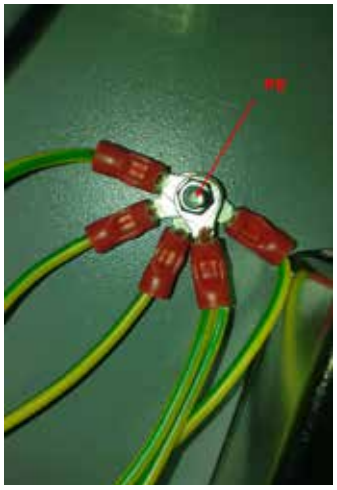
- Electrostatic charge build-up on the surface of the machine (gas or liquid flow in plastic or Teflon hoses).
- High humidity of the air in the machine operation location, especially in Asian countries or weakly ventilated rooms.
- Possible washing gun breakdown as a result of excessive moisture in the installation / switches of the washing gun.
- Possible breakdown as a result of damaged control cables in the washing hose (silicon cable insulation damaged).

Prevention

Provide for good, sufficient ventilation where the machine is operated. Do not pull the washing hose exerting excessive force (as this may result in damage to the rope that limits washing hose length and in failure / rupture of the control cable insulation in the washing hose). Regularly inspect electrical installation for the condition of insulation and earthing (especially the earth wire). From time to time, check the temporary electrical installation, i.e. all sorts of extension cords or adapters. It is not allowed to use any double-wire or garden extension cords. Use only extension cords in double rubber insulation designed for outdoor use.

Solution

Use additional grounding for the machine in the form of low-resistance earthing rod driven into the earth and connected to the body of the machine with a copper rope minimum 4mm2 in order to dissipate electrostatic charge build-up. Earth wire connection locations in the machine: as in Figures on the right.











Residual-current circuit-breaker with overcurrent protection protects the user against touch voltage and leakance. It is absolutely necessary to test it for proper activation according to the procedure described in section “Before each start-up” by pressing the Test button in normal operation mode. When the Test button is pressed, this safety device should be activated to disconnect power. In various machines’ residual-current circuit-breakers, the Test button is located as below:









One of conditions of proper protection against electric shock is that the machine’s electrical installations must be periodically inspected by entities authorised thereto to. Pay special attention while you repair or adjust your machine, as most of its elements are very hot, and you can get serious burns if you touch them directly. Since this is a pressure machine, be careful when you operate or adjust it. In the event its pressure system is unsealed when in operation, you can undergo severe burns from high-temperature steam. Persons who perform maintenance/ adjustments at this machine should hold relative permits and logbooks that allow them to carry out maintenance/ adjustments on thermal pressure equipment (Group G2 energy licence) and electrical equipment (Group G1 energy licence).

CE ATTESTATION OF CONFORMITY

Applicant:	FORTADOR K.A. Traczyńscy Sp.J. Aleja Krakowska 108, 05-090 Sękocin Stary, Poland
Manufacturer:	FORTADOR K.A. Traczyńscy Sp.J. Aleja Krakowska 108, 05-090 Sękocin Stary, Poland
Equipment Under Test:	Steam cleaner
Trade Name:	Fortador
Model Name:	Volt Elektra
EUT Powered during test:	AC230 V / 50 Hz
Technical condition	EN 55014-1 EN 55014-2 EN 60335-1 EN 60335-2-79 EN 61000-3-2 EN 61000-3-3
Date of test	11-14.07.2017

This EC-Attestation of Conformity is issued according to the Directive 89/336/EEC relating to electromagnetic compatibility on a voluntary basis. If confirms that the listed equipment complies with the principal protection requirements of the EMC directive and applies only to the sample and its technical documentation submitted to TÜV SÜD Product Service GmbH for testing and certification.

CE After preparation of the necessary technical documentation as well as the conformity directives have to be observed.

TRANSPORT

The machine can be transported by any means of transport, provided that it is properly fastened (e.g. using straps) and secured against damage in its original box delivered together with the machine.

Make sure that the machine's front wheels are correctly secured, and that straps are properly tensioned to avoid the machine moving.

During transport, the machine cannot be filled with steam, and it must be drained from all fluids. In case it is planned to be transported in temperatures below zero, its water system must be drained as described in Section "Switch-Off Procedure" Points 8-10.

FINAL REMARKS

When properly operated and maintained, this FORTADOR steam cleaner can provide long years of reliable operation. Problems that may occur when using the machine should be solved before it is started. While operating any machine, it is necessary to know its normal operation in order to be able to identify its improper operation. Obey all generally adopted precautions while operating any electrical or hydraulic equipment. This Operating Manual has been written in order to thoroughly explain the operations that can be performed using this machine. Its operators must read and understand this Operating Manual before they can begin solving any problems. Any repairs performed by the user on his own within the guarantee period are prohibited, and shall result in loss of guarantee. Therefore, in case of any problem or doubt, please contact our Service Dept.

e-mail: help@fortador.com
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FORTADOR™

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