

PRIMULA[®] S.A.

IRONING PRESSING MACHINERIES - FUSING PRESSES

Instruction Manual
Vapormat



CE

Table of contents

<u>1.ATTENTION!!!</u>	3
<u>2.Technical Details</u>	4
2.1 Identification Data.....	4
2.2 Use of the instruction Manual.....	4
2.3 Technical Description	5
2.4 Technical Characteristics.....	5
<u>3. General rules and Warnings</u>	6
3.1 General rules of using the steam generator.....	6
3.2 Warning marks placed on the steam generator.....	6
<u>4. Instrutions for installation</u>	7
4.1. Installation.....	7
4.2. Electrical Connection.....	7
<u>5. Operating Instructions</u>	7
5.1 Activation Instructions.....	8
5.2 Instructions for turning off the steam generator.....	9
<u>6.Maintenance-Testing</u>	9
6.1 Maintenance.....	9
6.2 Test the good operation of the machine.....	9
<u>7. Troubleshooting</u>	10
7.1 The pump does not run.....	10
7.2 The water is not heated while the steam lamp lights on.....	10
7.3 The boiler is overheated. The overheating lamp (No 54) is on.....	10
7.4 The steam iron is not heated while the iron green lamp (on the keyboard) lights on.....	10
7.5 The boiler is overfilled and the iron blows steam & water	10
7.6 The pump is ordered to feed water in very short periods & steam draining is appeared in the feeder vessel No 41.....	11
7.7 Safety Valve.....	11
<u>8 Control keyboard indications</u>	12
<u>Images of the spare parts</u>	13
<u>List of spare parts</u>	14
<u>Wiring Diagram</u>	16
<u>List of spare parts of wiring diagram</u>	17
<u>TECHNICAL ASSISTANT</u>	18

1. ATTENTION!!!

Please read this instruction manual very carefully before you start using your Steam Generator.

The customer by purchasing this product declares that he is fully aware, and accepts everything mentioned in this operating manual.

Primula SA assumes neither responsibility for any errors herein, nor for incidental nor for resulting damage in connection with the performance or use of this operating manual.

You may not copy, reproduce, or translate this operating manual, or parts of it, to another language without prior written consent of Primula SA.

Any information in this manual may be subject to change without any prior notice.

CAUTION! PLEASE READ CAREFULLY THE INSTRUCTION MANUAL BEFORE INSTALLING THE STEAM GENERATOR!!!

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2. Technical Details

2.1 Identification Data

The steam generator "VAPORMAT" is a machine of high advanced technology with many advantages, unique in its kind. It is manufactured according to International and European safety standards by a company with experience ,since 1969, in this sector. Congratulations for your choice!



Regarding its characteristics, the steam Generator includes a serial number plate (see below) where all its specifications are displayed. Every warning and symbol that is placed on the steam generator is in accordance with the guideline 97/23/EC of the European Union.

The serial number plate has been placed in a visible place on the steam generator and is made from fadeless material.

Amongst others, the Serial Number plate displays the following:

Amongst others, the Serial Number plate displays the following:

- Company Logo
- Manufacturer information
- Model
- Serial Number
- Rated Voltage of Use
- Rated Frequency of Use
- Capacity
- Test Pressure
- Working Pressure
- Year of manufacturing
- Accumulated Installed Wattage
- Amperage
- Power of Water Pump
- Steam Output
- Water Volume
- Weight

			
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		Made in EUROPE	
Model	VAPORMAT	Year	
Serial No.		Power	KW
Voltage	V	Amps	A
Frequency	Hz	Pump	HP
Capacity	l	Steam output	inch
Test Pres.	bar	Water level	l
Work. Pres.	bar	Weight	kg

Picture 1: Serial Number Sign

2.2 Use of the instruction Manual

The correct assembly and adjustment of the machine is vital to the safety of the user and the machine's life span. For this reason, the installation, alteration, replacement or extension of the ironing table should only be performed by qualified personnel.

Under no circumstances is interventions allowed in the machine, unless it's for the planned maintenance by an unauthorized engineer.

If you remain uncertain regarding the correct assembly of the machine even after reading the instructions, contact the manufacturer or an authorized representative before starting the operation of the machine.

2.3 Technical Description

Industrial electric steam generator for continuous operation Available in 6 models depending on the power from 2.5KW up to 6KW. Different connection for one, two or three steam irons.

It is equipped with fault detection program and electronic keyboard with touch buttons. All functions are electronically controlled through an electronic plate. Suitable for garment industry, dry cleaning shop, tailors shops and ateliers.

Special Features:

- Electronic water level control system through 3 electrodes
- Fault detection program and electronic keyboard with touch buttons
- Cylinder steel Boiler 8.5 L / thickness 7.1mm. (The water drops glide down to the bottom of the boiler)
- Outside and inside welding of boiler to avoid oxidation
- Double steam outlet for 2 Irons which keeps the steam dry
- Water inlet through a copper tube Ø12mm
- External Safety valve
- 20L external water tank
- Wheels for easy transport and service

2.4 Technical Characteristics

Model	Vapormat/1-2,5	Vapormat/1-4	Vapormat/2-4	Vapormat/2-6	Vapormat/3-6
Heating capacity	2,5KW	4KW	4KW	6KW	6KW
Steam outlets	1	1	2	2	3
Steam capacity	3,25kg/h	5,2kg/h	5,2kg/h	7,8kg/h	7,8kg/h
Power supply	230V-1ph-50Hz/60Hz	230V-1ph-50Hz/60Hz or 400V-3ph-50Hz/60Hz	230V-1ph-50Hz/60Hz or 400V-3ph-50Hz/60Hz	400V-3ph-50Hz/60Hz	400V-3ph-50Hz/60Hz
Steam pressure	3,5 bar	3,5 bar	3,5bar	3,5bar	3,5bar
Packing Dim.	54X59X99cm.	54X59X99cm	54X59X99cm	54X59X99cm	54X59X99cm
Net Weight	53kg	53kg	53kg	53kg	53kg
Gross Weight	58kg	58kg	58kg	58kg	58kg

For all 5 models

Normal working pressure	3,5 bar
Admissible design pressure	6,2 bar
Steam temperature/3,2-3,5bars	149 °C
Electric connections	Neutral wire and earth wire separate according to VDE Regulations
Boiler capacity	8,5lt
Max. boiler's water capacity	4lt
Min. boiler's water capacity	3,5lt

Wiring according to European Specifications	Blue-Neutral wire Green/yellow-earth wire Brown – black – Grey -phase
Feeding-water tank	20lt
Condensate tank	10lt
Heating-up time	Ca 15-20 minutes

3. General rules and Warning

3.1 General rules of using the steam generator

For the safe usage of your Steam Generator, please read the following operating instructions carefully, as listed below:

- Install, use and maintain the Steam Generator according to the instructions in this manual. Otherwise, the manufacturer has no responsibility for the possible failed operation or safety.
- Before connecting the power supply, check that the voltage corresponds to the voltage indicated on the technical specifications label.
- Connect the machine only to a power supply that meets the minimum required frequency and is properly grounded. Do not leave the steam generator while it is operating or is on power without supervision.
- Use the Steam Generator **ONLY** for the intended purpose in accordance with the current instruction manual and only with the accessories that are provided or that are intended for this specific Steam Generator. The manufacturer is not liable for any damages resulting from misuse or wrong use of the Steam Generator.
- **DO NOT** touch the power supply with wet hands.
- Do not clean the Steam Generator with corrosive or other damaging materials/chemicals.
- Never use the Steam Generator to support any other machine or structure.
- **It is strictly prohibited to do any kind of welding or alterations on the Steam Generator or its parts.**
- **It is strictly prohibited to remove any protective device/guards.**
- **It is strictly prohibited to intervene in the control units/circuit boards of the Steam Generator.**
- **It is strictly forbidden to proceed any modification to the technical specifications (according to CE directives) of the machine (electrical or mechanical). Primula has not the responsibility in case of any intervention against the initial function of the machine.**
- Please contact your dealer or the manufacturer for any malfunction or further information.

3.2 Warning marks placed on the steam generator

The following attention marks are placed on each steam generator:



The operator of the system has the obligation to inform himself regarding the dangers which may occur during usage, so that he/she can avoid them or minimize their occurrence as best as he/she is able to.

4. Instructions for installation

4.1 Installation

The machine is ready to work. Just place it to the requested position and connect it to the power.

The good operation of the machine is depended of the feedwater formation.

Feedwater requirements:

Hardness	less than 100mg/las CaCO or less than 6 German degrees
PH	7-8
CO	No free CO allowed.
TDS	less than 200mg/l.
Fe	None
Suspended solids	Water should be clear and free from suspended solids, colloids, alcal, ect

In case that the hardness of the water is more than the above requirements, it is recommended to use ANTISCAL. The lime contained in the water may be placed in the boiler and on the heating elements will cause faults. The use of ANTISCAL prevents deposits of lime.

4.2 Electrical Connection

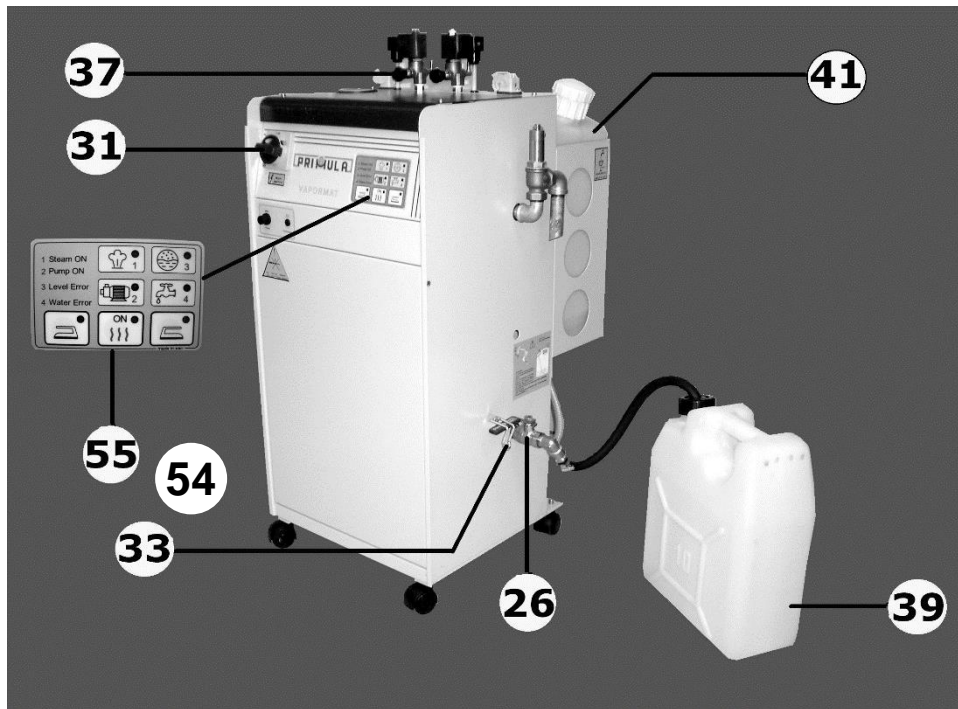
For the electrical connection and all for the power supply, please follow carefully the instructions of the wiring diagram (enclosed) as well the WARNING symbols, attached to the machine. Connect the machine to the power supply through the plug **No 47 (see images of the spare parts on page 13)** . If power supply is 230Volt/1phase, the connection must be done ,in a 3-poles socket plug (1 phase, 1 neutral, 1 ground). The power must be insured by a 2-poles (25 Amber) fuse.

CAUTION! For your own safety, pay attention to all the warning labels (yellow coloured) that are placed on the machine. The manufacturer bears no liability for any damages or accidents due to faulty supplying network or to not specified personnel.

5. Operating Instructions

For the instructions mentioned in the current section please see the below **picture 2**.

5.1. Activation Instructions



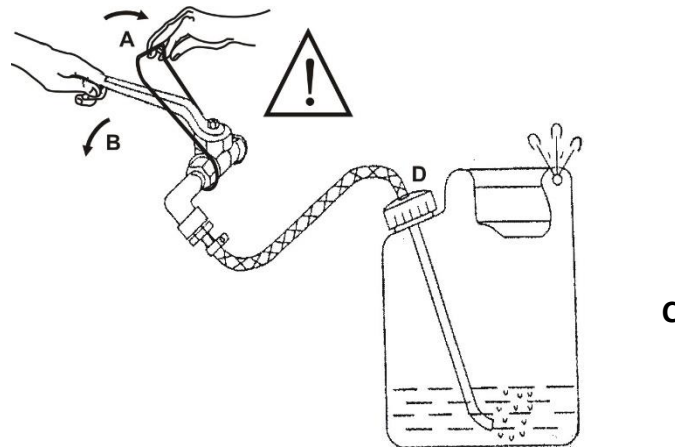
Picture 2: Steam Generator “Vapormat”

- Fill with clean water the feedwater vessel 25lts(**No 41**).
- Turn on the water inlet valve(Ball valve ½, **No 26**) in order to permit the water circulation in the machine.
- Turn on the main switch (**No 31**) and press the button ON on the keyboard.
The water pump starts to feed water the boiler. The green light No 2 (PUMP ON) of the control keyboard (**No 54**) should be on. After a while, the green light **No 1** (STEAM ON) on the control keyboard, should be on. The boiler starts heating the water in order to supply steam in about 15-20 min. (In case you have a model carrying a 6KW the heating element the requested time for steam preparation is 9-11 min). The manometer should reach 3,5 bars. The machine is ready to work.
- Press the iron’s buttons on the control keyboard. Press only one button if the requested produced steam is for 1 steam iron, or both buttons if the requested produced steam is for 2 steam irons.
- Adjust the temperature of the iron, by the thermostat knob, according to the fabric requirements.
- Adjust the steam consumption by the adjustor knob **No 37**, according to the fabric requirements. You can start ironing!

In case of purchasing the Vapormat/3-6, turn on the switch of AD/5 cell for supplying steam to the third iron.

WARNING ! To avoid burning accidents ,follow carefully the instructions below:

Fill the condensate vessel C (sketched below) with water,at a level of 5 cm.approximately. Screw tightly cap D.Unlock safety blocker A.Turn on slowly the outlet valve B in order to remove any water condensates from the boiler. After finishing, turn off the outlet valve B and lock again safety blocker A.



CAUTION !

- The first time you press the iron's microswitch to flow steam you may have a steam liqui- dation,due to the cold condition of the iron's steam hose.So please press 2-3 times the micro -switch away from the working surface until only clean dry steam flows out.
- Before on start working, make sure that the water-feeding vessel of the machine, is filled.
- In case the pump will be running unusual noisily for quite long period of time, the feedwater tank may be empty or the filling hose may be clogged.

5.2. Instructions for turning off the steam generator

- Switch off the iron's buttons and press the button ON on the control keyboard **No 55**.
- Turn off the main switch **No 31**.
- Turn off the water inlet valve **No 53**.
- Turn on the outlet valve **No 26** to remove the water deposited in the boiler.

6.Maintenance-Testing

For the instructions mentioned in the current section please see the **images of spare parts on page 13**.

6.1 Maintenance

- Keep the machine as clean as possible.
- Clean the inside of the machine by compressed air,at least 2 times per year. (Depending on the quality of the water).
- Clean periodically the electrode **No 12** from deposited salts ,and pay attention on its replacement. (See the correct position on the enclosed wiring diagram).
- Check periodically if the links of the water and steam pipes have leaks.
- Take the chance to clean the salts of the inside of the steam boiler **No 1** , by using a pointed instrument, when the heating element **No 23** has to be replaced
- Leave the steam boiler **No 1** filled with water to avoid boiler's inside oxidation When you keep the machine out of operation for a long period of time.

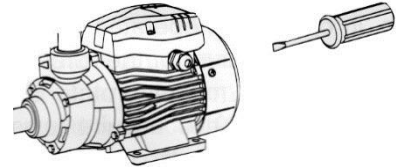
6.2 Test the good operation of the machine

Remove a small quantity of water (0,5lit.approx.) of the boiler, by turning on slowly the outlet valve No 26.The pump is activated automatically in order to feed the boiler with the lost quantity of water. When the pump stops, turn off the outlet valve No 26.Wait for a few minutes .When the manometer No 7 reaches 3,5 bars, the machine is ready to work.This procedure must be periodically repeated.

7. Troubleshooting

7.1 The pump does not run:

- Check the red lamp (LED) responding to the pump, on the PC card typ.1098 or 0599, which is next to the black micro relay of 30A. If the red lamp is on check the fuse 6 Amber responding to the pump on the PC card typ 1098 or 0599.
- Check if the voltage of the power supplied to the pump is 230V.
- Check if the pump is stuck off due to corrosion or salts. This usually happens when the pump is out of work for a long period of time.
Shooting : Turn the Pivot of the pump by putting a screwdriver through the hole of the backside of the machine which leads to the pump.
- Check if the pump is blown-off. Replace it.



7.2 The water is not heated while the green lamp 1(steam) lights on.

- Check the red lamp (LED) which is used for the heating micro relay on the PC card typ.1098 or 0599 No 36.
- If it is on, check the fuse 1 Amber which is used for the heating micro relay on the PC card typ.1098 or 0599 **No 36**
- Check the micro relay 2x10 Amber which is used for the heating on the PC card typ.1098 or 0599 No 36.
- If the red lamp (LED) responding to the heating micro relay is off check the pressostat No 14 (symbol PS on the wiring diagram)
- Check the heating relay 3 x 25A , R1 (symbol on the wiring diagram)
- Check the overheating system.

7.3 The boiler is overheated. The overheating lamp (No 54) is on.

- Wait for a while, until the steam generator brings the temperature down.
- Unscrew the black knob towards left(**No24**).
- Inside, there is a small black button.(RESET)Press it. The overheating lamp is off.

The steam generator is then ready to refunction. In case that even after the RESET procedure the steam generator does not function, please ask immediately for technical assistance.

Shooting:Clean up the steam generator and the electrodes from salts and replace the electrodes if necessary.Check the water's level control system.Do the test for the good operation of the machine.

7.4 The steam iron is not heated while the iron green lamp (on the keyboard) lights on.

- Check the red lamp (LED) responding to the iron on the PC card typ 1098 or 0599. If it is on check the fuse 6 Amber responding to the iron on the PC card typ 1098 or 0599
- Check the micro relay 2x10 Amber responding to the iron on the PC card 1098 or 0599
- Check the socket (PF1 or PF2 on the wiring diagram) where the iron is plugged.
- Check the iron itself.

If the iron is heated normally but it does not blow steam check coil No 31 (12W/230V) of the solenoid steam valves (V1, V2 on the wiring diagram)

7.5 The boiler is overfilled and the iron blows steam & water

- Check the electrodes **No 46,47,48** :clean or replace them.
- Check the solenoid water valve **No18** : clean or replace it.
- Check if the water's level control system on the PC card typ.1098 is running normally.

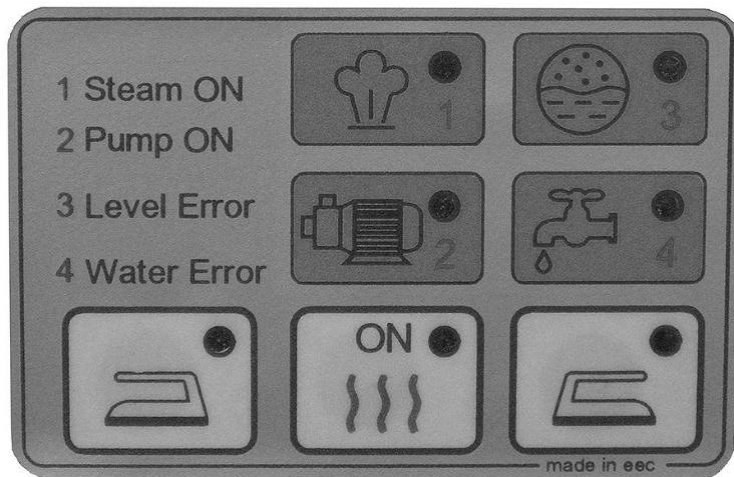
7.6 The pump is ordered to feed water in very short periods & steam draining is appeared in the feeder vessel No 41

- Check the one-way valve No 16: Clean or replace it, paying attention on putting it back correctly.

7.7 Safety valve

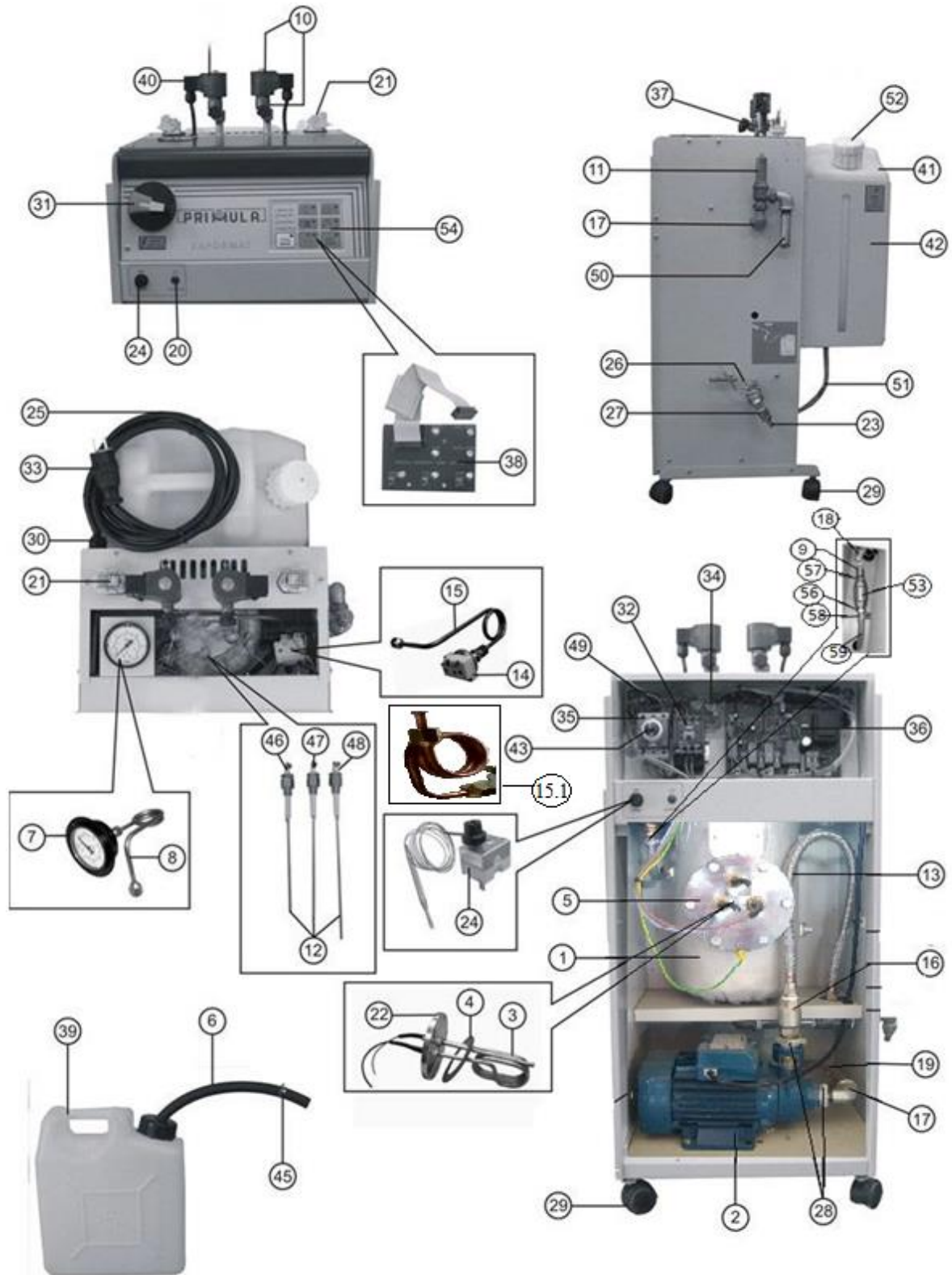
- Check the pressostat No 14. Adjust it at max. 3,5bar. If it remains open –the manometer No 7 shows over 3,5bar.

8. Control keyboard indications



Symbol	Indication	Message	What to do
1-"steam ON"	The green light is on.	The procedure of water heating starts. When the green light is off (in 15-18' from 10 °C) steam is ready.	-
2-"pump ON"	The green light is on.	The pump feeds water to the boiler normally.	-
3-"Level Error"	The red light is on.	Problem at the water level control system. Automatic interruption of the machine operation.	-Clean or replace electrodes No 46,47,48 . -Check if the electrodes wiring has been cut off. -Replace the PC board
4-"Water Error"	The red light is on 35sec after the starting.	Problem at the water feeding or its circulation in the machine. Automatic interruption of the machine operation.	-Check the pump No 2 is faulty or stuck. -Check if the pump's pressure is low. -Clean pipes No 9 & 20 from salts & rubbish - Replace the solenoid water valve No 18 . - Check if feedvessel No 41 is empty of water.
Button "ON"	The green light is on. The green light is off.	Machine is on function. Machine is out of function.	-
Iron's buttons	1.The green light is on, to the left or the right button. 2.The green light is on, at both buttons.	1.The machine supplies steam to 1 iron. 2.The machine supplies steam to 2 irons.	-

Images of spare parts

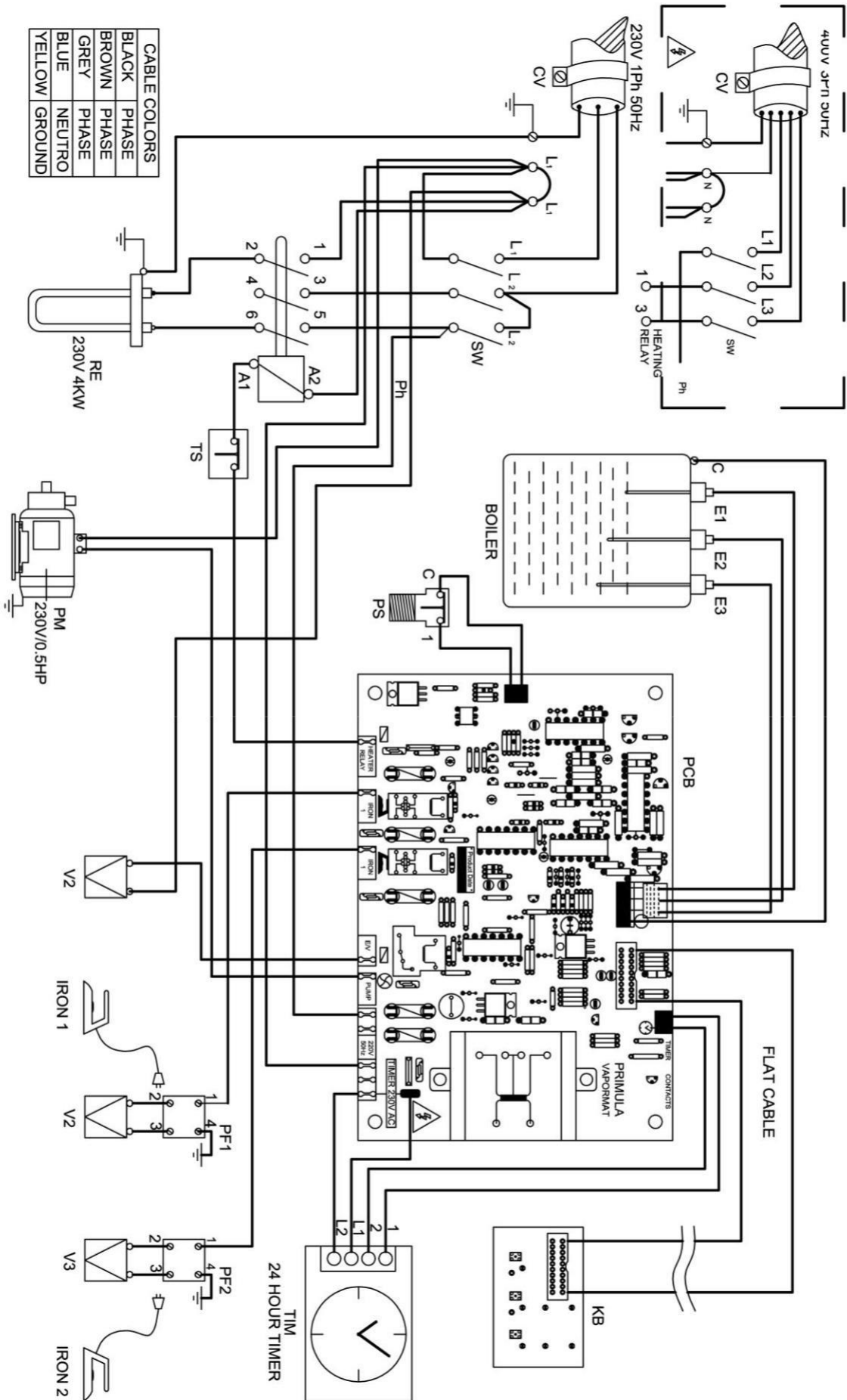


List of spare parts

Pos.	Articel nr.	Designation
1	193-03-001	Boiler
2	303-06-002-4	Water pump 0,5HP Apm37
	303-06-002	Water pump 0,5HP Pedrolo
3	303-03-003-4	Heating element 2500W/VR 230V
	303-03-003-1	Heating element 4000W/VR 230V
	303-03-003-2	Heating element 4000W/VR 400V
	303-03-003-3	Heating element 6000W/VR 400V
4	193-03-004	Seal heating flange
5	303-06-025	Heating element's screw
6	303-03-056	Outlet hose
7	303-03-007	Manometer
8	193-03-008	Manometer's coil
9	303-06-058	T 1/4"-1/4"-1/4"(F-F-F)
10	303-03-010	Solenoid steam valve 9934
11	303-03-011-6	Safety valve 1/2" BETA
12	193-03-012	Set of electrodes
13	303-06-027-1	Teflon pipe 1/2"
14	303-03-014	Pressostat
15	193-03-015	Pressostat's coil
15.1	193-06-012	Pressostat's coil new model since 2019
16	303-03-016	One-way valve 1/2"
17	303-03-017	Corner 1/2" (Male-Female)
18	303-06-059	Corner 1/4" (Male-female)
19	303-03-019	Condensate's pipe
20	306-11-051	Control lamp
21	303-03-021	Female plug 4-poles ILME
22	193-03-022	Metallic flange of heating element
23	303-03-023	Tail 1/2" x 12mm
24	303-03-024	Safety thermostat TS 235°C
25	303-03-025	Power feeding cable 3x2,5 with Shuko plug
	303-03-025-1	Power feeding cabel 5x2,5
26	303-03-026	Ball valve 1/2"
27	303-03-027	Bronze corner 1/2" (Male-Female)
28	300-00-119	Contraction 1" x 1/2" (Male-Female)
29	303-03-029	Double wheel
30	303-06-048	Gland
31	303-03-031	Cover of main switch
32	303-03-032	Relay of heating element
33	300-00-040	Shuko plug
34	303-03-034	Neutral terminal block
35	302-03-038	Main switch 3x25A
36	303-03-036	Electronic PC board
37	308-00-005	Adjusting knob of steam valve
38	303-03-038	Electronic keyboard card
39	303-03-039	Blow-down tank 5lt

40	308-00-003	Valve's plug
41	303-03-041-4	Feedwater tank 20lt new model
	303-03-041	Feedwater tank 25lt
42	193-03-042-1	Metal. seath of Water feed tank's 20lt VR/ECO
43	303-03-043	Axel of main switch 3X25
44	303-06-013	T 1/4" X 1/4" X 1/4"
45	303-03-045	Clamp 10-16
46	193-03-046	Electrode No 1
47	193-03-047	Electrode No 2
48	193-03-048	Electrode No 3
49	303-03-049	Grounded terminal block 6-poles
50	193-06-042	Pipe of safety valve ½
51	303-03-051	Water inlet hose
52	303-06-018	Feedwater tank's lid
53	303-06-030	Vacuum breaker 3/8"
54	303-03-055	Keyboard's sticker
55	308-00-002	Coil of solenoid steam valve-out of production
56	303-10-051	Nipple 3/8" x 9mm
57	303-06-057	Nipple 1/4"-3/8"
58	303-06-055	Clamp 12-18
59	303-06-054	Daerator hose

Wiring diagram



List of spare parts of wiring diagram

Symbol	Description
<i>SW</i>	<i>Main switch</i>
<i>R1</i>	<i>Relay for heating</i>
<i>R2</i>	<i>Relay for pump</i>
<i>RE</i>	<i>Heating element 4KW</i>
<i>PS</i>	<i>Pressostat</i>
<i>PF1</i>	<i>Socket plug for iron No 1</i>
<i>PF2</i>	<i>Socket plug for iron No 2</i>
<i>E/V</i>	<i>Solenoid water valve</i>
<i>V2</i>	<i>Solenoid steam valve No 1</i>
<i>V3</i>	<i>Solenoid steam valve No 2</i>
<i>PM</i>	<i>Water pump 0,5HP/ Water pump 0,7HP</i>
<i>E1</i>	<i>Water level electrode (max)</i>
<i>E2</i>	<i>Water level electrode (min)</i>
<i>E3</i>	<i>Heating protection electrode</i>
<i>PCB</i>	<i>Electronic circuit card -all functions control ,typ.VAPORMAT 1098</i>
<i>KB</i>	<i>Keyboard electronic card.</i>
<i>TS</i>	<i>Heat stop thermostat</i>
<i>TIM</i>	<i>Timer (0-24 hours) for the work beginning time adjustment</i>
<i>CV</i>	<i>Cabel of power supply 3x2.5mm²/5x3.5mm²</i>

TECHNICAL ASSISTANCE

For any advice about the operation of the machine or the spare parts, please contact the dealer you have purchased the machine from or us directly at:



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E-mail : info@primula.gr

All specifications have been made to the best of our knowledge.

Primula S.A preserves the right to make changes to the system and its parts without prior notice.