



AN ISO 9001:2015 CERTIFIED COMPANY

USER MANUAL

Double-chamber Vacuum machine

500VS/VSG Twin

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1. FOREWORD

Thank you for choosing Sevana. You now belong to the Sevana family of over one million satisfied customers across the world. We are confident that you will have many years of complete satisfaction from this Sevana product.

We want you to derive maximum value from Sevana's reliable service and support infrastructure in India. We maintain Sevana's service mission of working continuously to provide customers with highest level of service, thereby ensuring mutually successful long term business association.

Vapo-sense.

Vapo-sense stands for vapor sensing. As per Boyle's law, at low pressure, boiling point of the water will decrease. when vacuum process reaches a specific value, which depends on atmospheric temperature, water content will go to become vapor. This water content sucks the vacuum pump and this will affect on vacuum pump life. Although, the vacuum process will slow down. To rectify this problem, we introduce our **patent** technology Vaposense on this machine.

You can contact us through

Email	:	support@sevana.com	
Phone	:	+91-484-2680780	Monday to Saturday
Mobile	:	+91-9388180781	8.30 am – 5.00pm IST
Fax	:	+91-484-2680680	

We value your partnership

Yours sincerely

For Sevana Electrical Appliances Pvt. Ltd.

Manager in charge, Customer support

While contacting the support centre kindly provide the following information for a speedier support and service.

- i. Model
- ii. Serial no.
- iii. The nature of problem

2. HOW TO USE THIS MANUAL

- ❖ Please read this manual carefully before installing and commissioning the machine.
- ❖ Please keep a copy of this manual for reference near the machine.

The information in this document is believed to be accurate and reliable. However, Sevana Electrical Appliances Pvt Ltd, cannot accept any financial or other responsibilities that may result from the use of this information. No warranties are granted or extended by this document.

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3. SAFETY PRECAUTIONS

❖ Introduction

Machines of Sevana have been designed to provide extremely safe and dependable operation when properly used. Safety precautions must be observed during normal operation and when servicing the machines of Sevana.

❖ Warning

A warning describes safety hazards or unsafe practices which could result in personal injury or loss of life. A warning message is accompanied by a symbol as described in the following paragraphs and is also surrounded by a box to attract your attention.



Open the back cover of the machine only after isolating the power supply



Check oil level of vacuum pump regularly

4. TECHNICAL SPECIFICATIONS

Model	500VS TwinB
Machine's dimensions (LxWxH)(mm)	1250 x 680 x 915
Chamber dimensions (LxWxH)(mm)	570 x550 x 40
Sealing dimensions (LxW)(mm)	500 x 10
Seal to seal distance(mm)	430mm
Voltage/frequency	415V/50Hz/3P
Power	3KW
Pump capacity	63m ³ /h

5. INSTALLATION

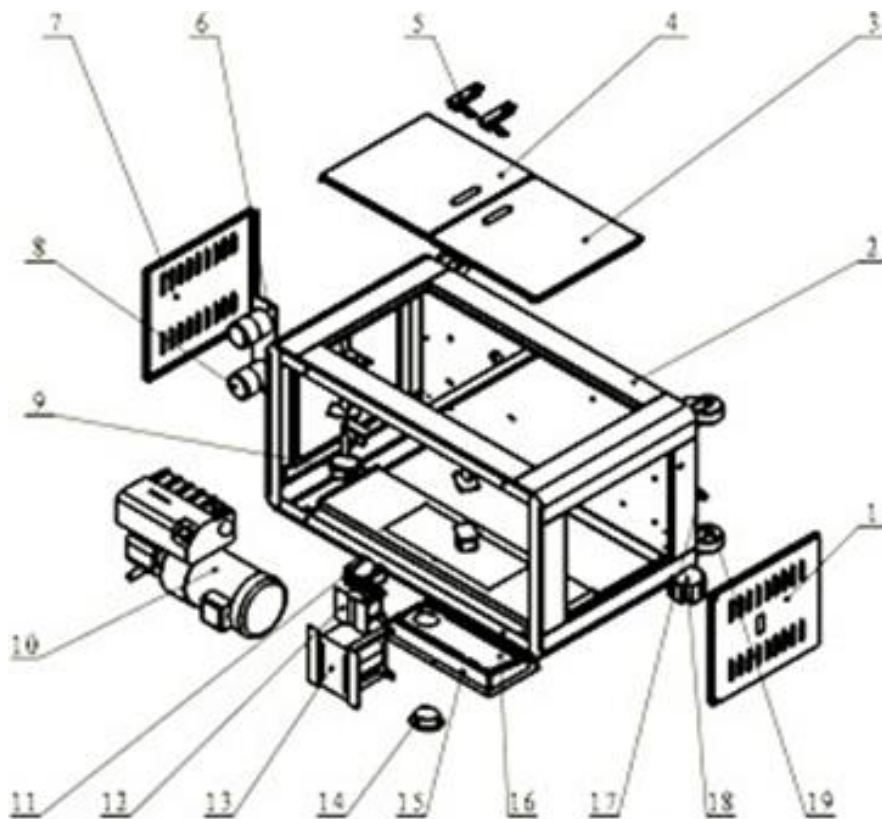
- ❖ Open the back door & fill vacuum oil.
- ❖ Give three phase power & check phase sequence indicator.
- ❖ Switch on the MCB & then press power button on the front panel.
- ❖ Set parameters (vacuum level, flushing level, sealing time & cooling time) as per product & pouch.
- ❖ Shutdown process: switch off the MCB.

6. FILLING VACUUM PUMP WITH OIL

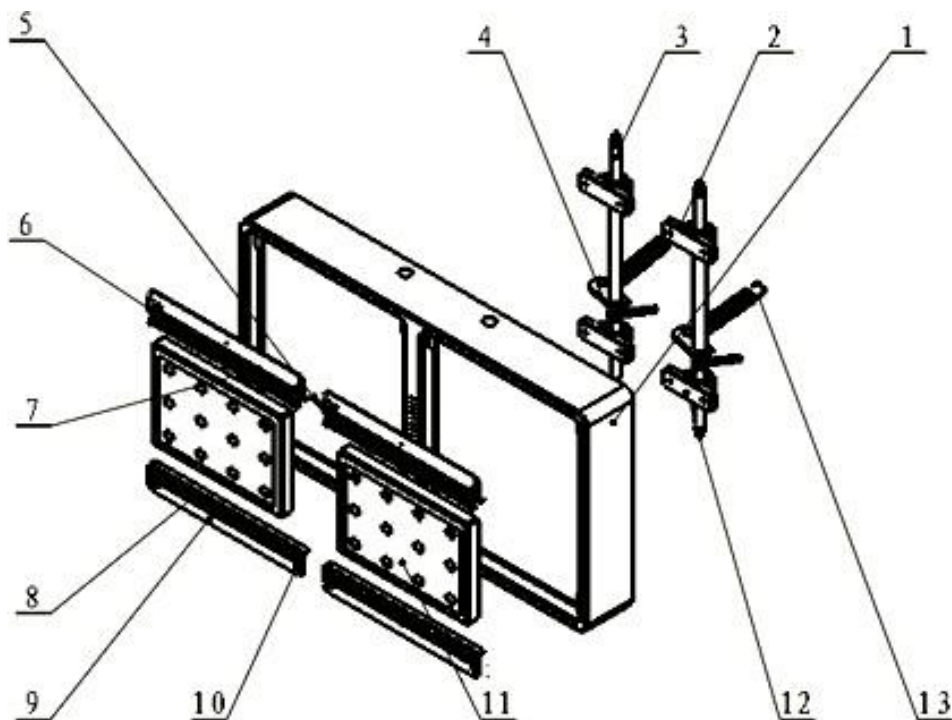
There is no vacuum pump oil in the newly delivered machine. If the vacuum pump works without oil it will damage the pump, even in a short time. Please make sure that the vacuum pump has been filled with the oil up to the mark before the start-up.

- a. Open the back cover.
- b. Fill the vacuum pump with Sevol V/equivalent vacuum pump oil.(2L)
- c. Make sure the oil level is between 1/2 and 3/4 of the oil level indicator.
- d. Wait for 3 minutes.
- e. Check the oil level is between 1/2 and 3/4 of the oil level indicator. If it is less than 1/2, please add more.
- f. If the oil level is between 1/2 and 3/4 of the oil level indicator then close the cap and fix the back door.

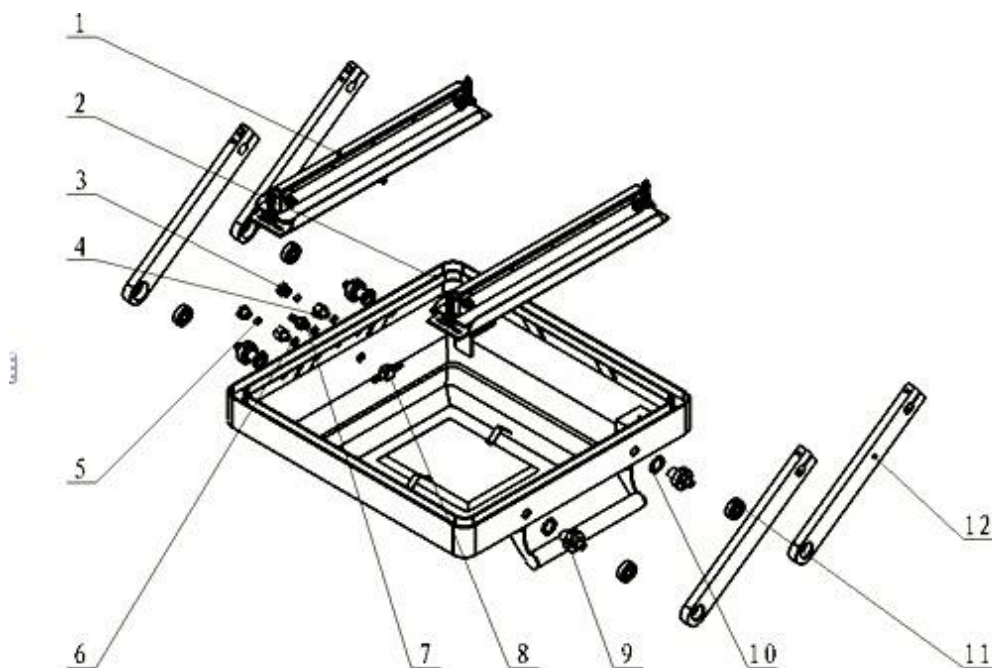
7. LIST OF PARTS



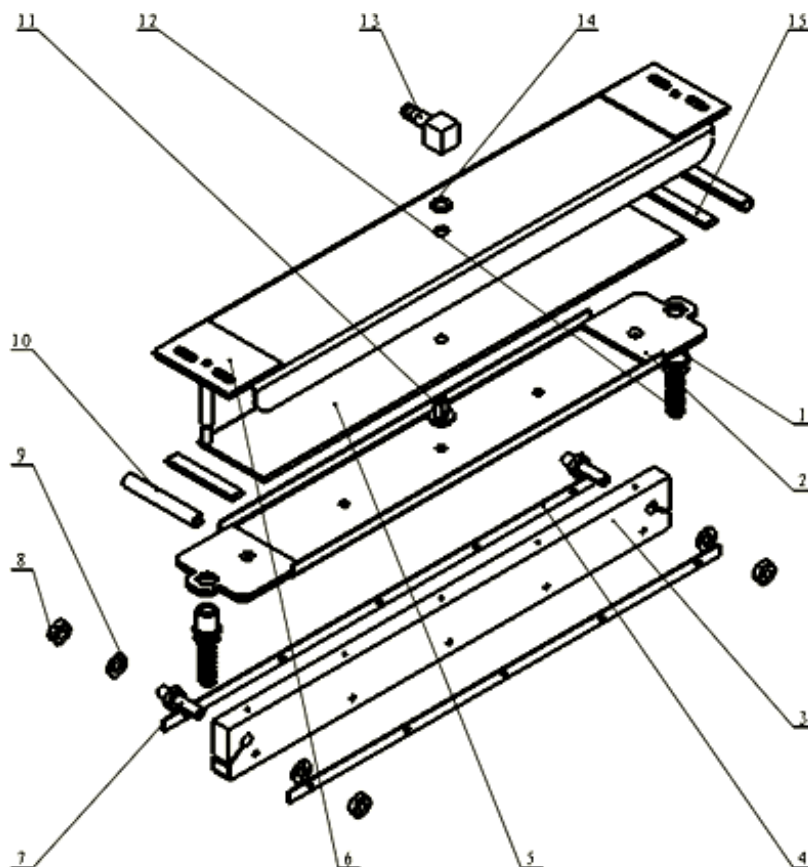
No	Item Name	Quantity
1	Left side door	1
2	Vacuum machine frame	1
3	Right back door	1
4	Left back door	1
5	door lock	2
6	Vacuum valve mounting plate	1
7	Right side door	1
8	Vacuum solenoid	2
9	Travel switch	2
10	Vacuum pump	1
11	A.C. contactor	1
12	Small transformer	1
13	Big transformer	1
14	vacuum gauge	1
15	Panel installation block	1
16	Control Panel Plastic plate	1
17	installation dead plate	2
18	breaker	1
19	castor(75×32)	4



No	Item Name	Quantity
1	vacuum chamber casing	1
2	mounted bearings	4
3	oscillating axle	2
4	switch pressing plate	2
5	left side fixed base plate	2
6	silicone seal rubber	4
7	silicone seal rubber seat	4
8	sealing pressing layer	4
9	Right side fixed base plate	2
10	press layer coupling head	8
11	tray	2
12	bearing base plate	4
13	tension spring	2



No	Item Name	Quantity
1	sealing component	2
2	Working Chamber cover	1
3	Guide wire locknut	2
4	cover guide wire locking seat	2
5	guide wire seal ring	2
6	O type seal ring	4
7	Cover outside gas-type fitting	1
8	cover inside gas-type fitting	1
9	coupling screw	4
10	O type seal ring	4
11	1201 self-aligning ball bearing	4
12	oscillating bar	4



No	Item Name	Quantity
1	lining	2
2	Bakelite bar base plate	1
3	seal Bakelite bar	1
4	Sealing cloth press layer	2
5	inflated bag	1
6	inflated bag base plate component	1
7	blade contact	2
8	M8 Nut	4
9	gasket	6
10	seal chuck	2
11	air bag nut seat	1
12	pressure spring	2
13	inflated bag coupling	1
14	O type rubber seal ring	1
15	Base plate	2

8. CONTROL PANEL



- ❖ LCD display
- ❖ Control buttons
- ❖ Power LED
- ❖ Phase indicator

9. PROGRAM MODES

Sevana's micro-processor based vacuum machine has 4 preset modes or programs. Each program can be set with different parameters. Variable parameters in each mode are

PARAMETER	RANGE
Vacuum level	0-760mm Hg(Vacuum level in the chamber)
Flush1(Gas1)	0-760mm Hg
Sealing time	0.0 - 8.0 sec(Depending up on the pouch material)
Cooling time	1 - 20 sec
Vaposense	On/Off

- Vacuum levels represents in millimeter mercury up to vacuum has to be achieved (-760mmHg absolute vacuum, 0 is normal atmospheric pressure).
- Flush 1 represents level up to which first gas is flushed. If vacuum level is 720 and flush 1 is 500, chamber is vacuumized to level 720mmHg (95%vacuum) and first gas is flushed to the chamber till vacuum level reaches 500.

TO FLUSH SINGLE GAS:

Set the levels to desired value. Set Flush1 to the level to which gas has to be flushed.(Eg: If the required vacuum is 720mmHg, gas has to be flushed up to 300 mmHg, set vacuum to 720, flush 1 to 300.

USING ONLY VACUUM:

If only vacuum is required, select MODE 4 by pressing the "MODE" button.

MODE: 4
VACUUM: 760mmHg

TO PRESET PROGRAM MODES:

Select the mode by pressing “MODE” button. To set the parameters press “SET” button.

MODE: 1 VACUUM: 760mmHg

To change the vacuum press the “UP” or “DOWN” button continuously till the required value is displayed.

To select the next parameter and save the preset value press SET again

MODE: 1 FLUSH1: 600mmHg	MODE: 1 SEALING: 3SEC
MODE: 1 COOLING: 8SEC	MODE: 1 VAPOSENSE: ON

MODE: 4 VACUUM ERROR: OFF

If again presses SET, machine will go to READY MODE.

Vapo-sense.

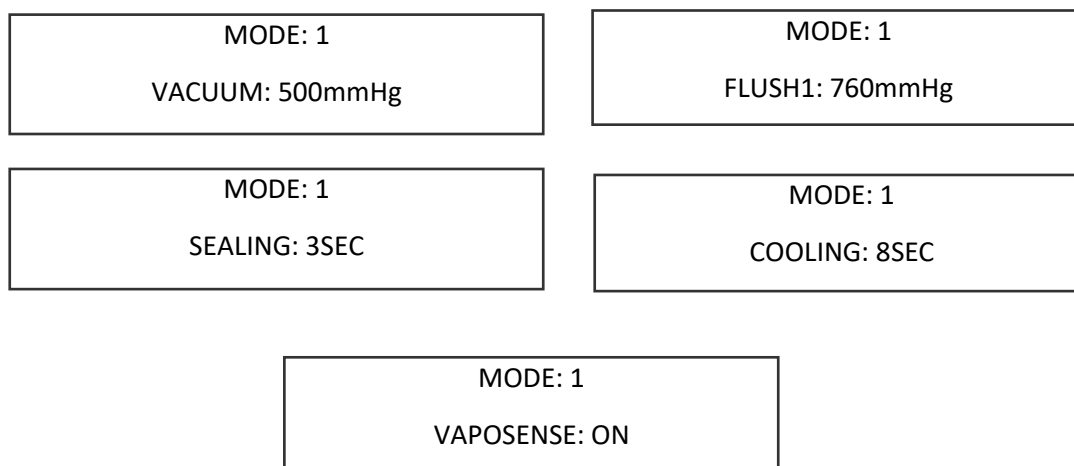
If the product containing water content, the vapo sense feature is active, then machine will be going to sealing process when water gets starts boil. This feature is available only the set vacuum level is greater than 700 mmhg. This unique feature is available in all modes.

MODE: 1 VAPOSENSE: - ON	MODE: 1 VAPOSENSE: - OFF
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Vacuum Error

If the product containing water content, the vacuuming process will not attain the value 760.so the sealing could not be done. Vacuum error used only on Mode 4. If vacuum error is OFF, sealing will be done when the vacuuming process do not complete within 40 seconds. Otherwise (Vacuum error ON) sealing will done only after the completion of vacuuming process.

MODE: 4 VACUUMERROR: - ON	MODE: 4 VACUUMERROR: - OFF
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How to use MODE 1,2&3 for vacuum process only?

For vacuum process only, set Flush 1 must be 760 mmhg in mode 1,2 & 3.

10. STARTING THE MACHINE**CONTROL BUTTONS:**

- | | |
|---------|--------------|
| ❖ Power | ❖ Stop/Reset |
| ❖ Mode | ❖ Set |
| ❖ Up | ❖ Down |

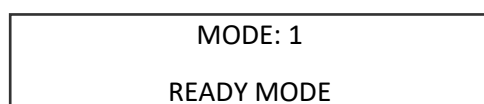
A LCD check function is done first. Version of the software is displayed.



The machine has four (4) modes/program presets. Each mode preset parameters are

- ❖ VACUUM LEVEL
- ❖ FLUSHING (Mode 1,2,3)
- ❖ SEALING TIME
- ❖ COOLING TIME
- ❖ VAPOSENSE
- ❖ VACUUM ERROR (Mode 4)

These parameters can be modified by the operator if required. The machine will automatically go to the previously used mode after initializing.



Now the lid is closed, then vacuum increases up to the preset level.

MODE: 1 VACUUM: 0000mmHg
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When the vacuum is built up to the preset level the message will change to an indication given below.

MODE: 1 FLUSH1:600mmHg

When the preset level pressure value reached, sealing will be ON. After sealing cooling ON

MODE: 1 SEALING: - ON

MODE: 1 SEALING: - OFF

MODE: 1 COOLING: - ON

After that the lid open automatically and the display changes to “ready mode”

MODE: 1 READY MODE

TO RESTART THE MACHINE:

Press the “STOP” button for 1 second.

INITIALIZING.....

SEVANA QS VAC 6.00

MODE: 1 READY MODE

11. OPERATION

- ❖ Switch on the supply
- ❖ Adjust the vacuum and other parameters
- ❖ Select the required mode
- ❖ Insert the product into the film pouch and then place it in the vacuum chamber in such a way that the open end of the pouch is in between sealing element and jaw.
- ❖ Close the lid.
- ❖ After the operation cycle, lift the lid and inspect the product.
- ❖ Machine is now ready for next operation.

12. MAINTENANCE

Caution: Isolate electric power supply before doing the maintenance.

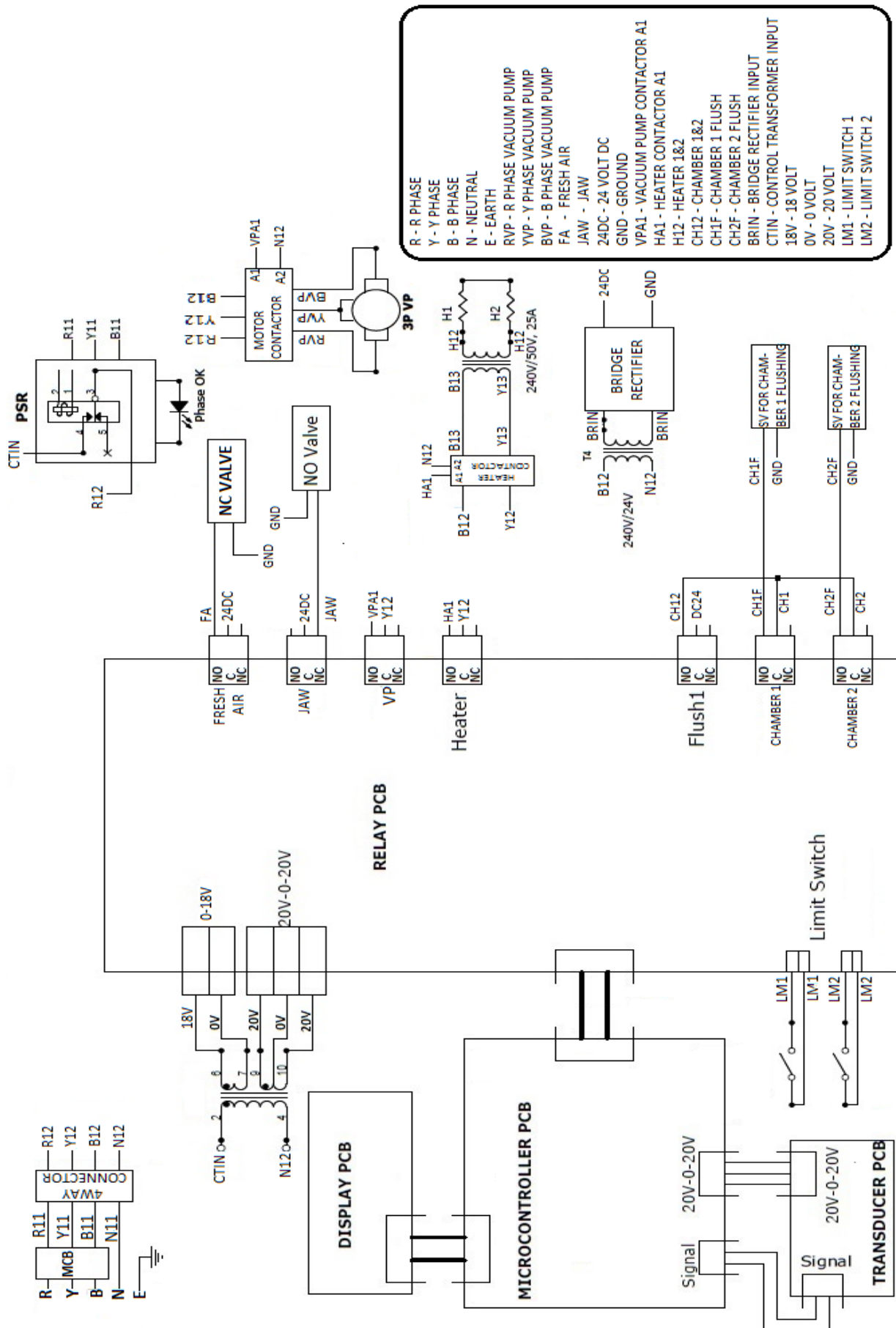
- ❖ Blow off the dust and film debris using a blower or compressed air.
- ❖ Check the oil level regularly
- ❖ “Oil change/ Top Up” message will be displayed on the completion of every 5000 operation cycles. Change the Oil & fill as per instructions, then press SET and MODE buttons together to reset the Oil alarm.

12.1 VACUUM PUMP MAINTENANCE

The maintenance intervals depend very much on the individual operating conditions. The intervals given below are desired to be considered as starting values which should be shortened or extended as appropriate. Particularly heavy-duty operation, such as high dust loads in the environment or in the process gas, other contamination or ingress of process material, can make it necessary to shorten the maintenance intervals significantly.

Interval	Maintenance work
Weekly	• Check the oil level • Check the pump for oil leaks – in case of leaks have the pump repaired (contact SEVANA)
Every 5000 cycle, at the latest after one month	• Change the oil
Every 6 months	• Change the oil filter and the exhaust filters

13. ELECTRICAL SCHEMATIC



14. TROUBLESHOOTING

No.	Complaint	Reasons	Remedy
1	Machine does not work; power switch does not light up. Phase sequence LED does not light up (in three phase machine only)	1.No AC supply. 2.MCB tripped. 3.Mains cord failure. 4.MCB failure. 5.Phases are not in sequence. 6.Power switch failure.	1.Restore AC supply. 2.Check for any short circuit and reset the MCB. 3.Replace mains cord. 4.Replace the MCB. 5.Inter change any two phase lines. 6.Replace it.
2	Vacuum pump does not work when lid is closed and vacuum level is always displayed	1.Micro switch does not operate. 2.Defective micro switch. 3.Defective contactor (coil open or contact burned out). 4.Defective relay. 5.Defective motor. 6.Defective PSR.	1. Adjust switch operating lever screw suitably to operate the switch when lid is closed. 2.Replace the micro switch. 3.Replace the contactor. 4.Replace the relay board. 5.Replace or rectify the motor. 6.Replace the PSR.
3	The lid does not remain closed even after vacuum pump starts	1.Lid gasket does not touch the chamber face uniformly.	a.Press the lid. b.Check the height of swing arm. If the height is optimum, the gasket will touche the chamber uniformly.
4	Insufficient Vacuum Reading	1.Low vacuum setting 2.Solenoid valve leaks: atmospheric air enters in to the chamber through the solenoid valve due to, a)Defective solenoid valve. b)Defective relay. 3.Low oil level in the vacuum pump. 4.Moister contaminated oil. 5.Vacuum leaks through lid gasket/bolt holes on the lid/pipe joints/bushes at cable entry. 6.Wear and tear of vanes of vacuum pump. 7.Defective transducer Board or twisted cable to transducer board.	1.Increase the vacuum setting. 2. a)Replace the solenoid valve. b)Replace relay board. 3.Keep the required oil qty in the vacuum pump. 4.Drain the oil completely and refill. 5.Identify the location of leakage and replace the defective components or rectify the problem by tightening the joints. 6.Overhaul /replace the pump. 7.Replace the defective.
5	Sealing head operate but sealing does not takes place	1.Low sealing time setting. 2.heating element failure. 3.Defective sealing transformers.	1.Increase sealing time. 2.Replace heating element. 3.Replace defective sealing transformers.
6	Machine halts after sealing	1.Defective relay. 2.Defective air inlet solenoid valve.	1.Replace the relay board. 2.Replace solenoid valve.
7	Pouch expands during vacuum time	1.Low gap between sealing head and pad holder assembly.	1.Increase the gap by adjusting the pad holder assembly.

8	Nonuniform sealing	1.High gap between sealing head and pad holder assembly. 2.Sealing head and pad holder not align properly. 3.Burnt Teflon fabric.	1.Reduce the gap. 2.Align sealing head and pad holder. 3.Replace the Teflon fabric.
9	Machines works fine, but blank/garbage display	1.Defective display. 2.FRC cable of display or its connector defective. 3.EMI issue	1. Replace display board. 2.Replace cable and connector. 3.Give 103 disc capacitor between 1 st & 2 nd , 15 th & 16 th pins of LCD.
10	Setting is not possible. The Microcontroller does not responding to push button pressing.	1.Defective switches. 2.Defective FRC Cable of Display PCB	1.Replace display board. 2.Replace cable and connector.
11	System hangs during operation	1.Temporary bug in program due to noise. 2.Defective micro controller board.	1.Switch off and restart the machine. 2.Replace Microcontroller board.
12	Overheating of Heating element/Transformer	1.Short circuit with body of machine. 2.Defective Relay/IRF 540 of heater in Relay PCB	1.Make proper wire connections. 2.Replace Relay PCB.
13	Machine trips while pump starts working or abnormal sound of pump.	1.Winding short with body. 2.Defective centrifugal switch. 3.Defective love jaw coupling bush.	1.Rewind or replace the pump. 2.Replace the switch or pump. 3.Replace the bush or pump.
14	Lid doesn't open after completing the operation.	1.Defective relay in the relay board. 2.Solenoid coil burned out.	1.Replace it. 2.Replace the coil.
15	Display shows fresh air always	1.Misalignment of micro switch. 2.Defective micro switch.	1.Correct the position. 2.Replace the switch.
16	24V Transformer Fuse blown out.	1. Solenoid coil burned out.	1.Replace it.

15. SERVICE LOG

[illegible]

[illegible]