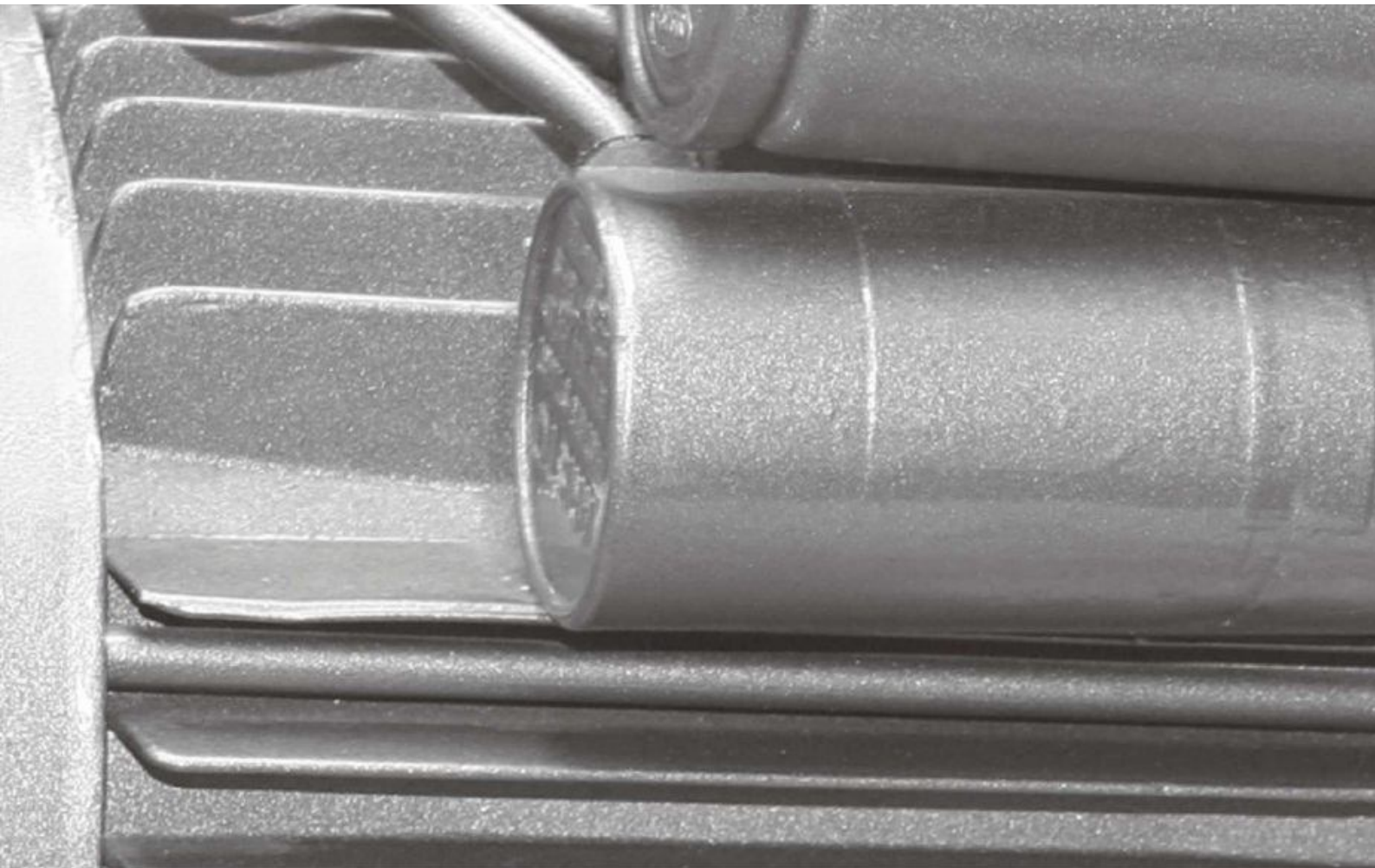




AN ISO 9001:2008 CERTIFIED COMPANY

USER MANUAL

Floor-top Vacuum machine

QS300/400/500 VM/VMG/VS/VSG



www.sevana.com

YOUR PACKAGING PARTNER

CONTENT

Sl no	Description	Page no
1.	Foreword	3
2.	How to use this manual	4
3.	Safety precautions	4
4.	Packing slip	5
5.	Unpacking	5
6.	Technical specifications	6
7.	List of parts	7
8.	Control panel	13
9.	Installation	14
10.	Filling vacuum pump with oil	14
11.	Program modes	14
12.	Starting the machine	16
13.	Operation	17
14.	Maintenance	17
15.	Electrical schematic	18
16.	Trouble shooting	18
17.	Service log	21

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.

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.

Sevana Electrical Appliances reserves the right to change any or all information contained herein without prior written notice. Revisions may be issued at the time of such changes and/or deletions.

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.

- ✧ Never try to vacuum pack explosives or corrosive gassing materials.
- ✧ Do not start the machine before filling oil in the vacuum pump. The machine is shipped after draining the vacuum pump. Use "Sevol V" vacuum pump oil to fill the vacuum pump. Do not overfill the vacuum pump.
- ✧ Do not plug the machine to any 2 pin socket or ungrounded 3pin socket.
- ✧ If the plug has to be changed, follow the colour code for single phase machine.

Red - Phase

Black - Neutral

Green/Gray - Earth

For 3 phase machines, use the colour code as

Red - Phase1

Yellow - Phase2

Blue - Phase3

Black - Neutral

Green/Gray - Earth

- ✧ Remove all the packaging from the chamber. Wipe with a dry cloth.
- ✧ Switch off the sealing head which is not in use. This will increase the life of Teflon fabric pasted on the heating element and the heating element itself.
- ✧ If the machine is used continuously; drain out and replace the oil in the pump once in a month with new Sevol V vacuum pump oil.
- ✧ Stuff the necessary buffer plates in the chamber such that evacuation volume is the least. This will enhance the efficiency of the machine.

❖ 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
 USE MODE-4 ONLY	For machines using only vacuum, use MODE 4 only

4. PACKING SLIP

Item	VM/VS	VMG/VSG
Heating element	6	6
User manual	1	1
Guarantee card	1	1
Vacuum pump oil	1 litre /pump	1 litre /pump
Poly urethane tube	-	2 meter
Connector	-	1

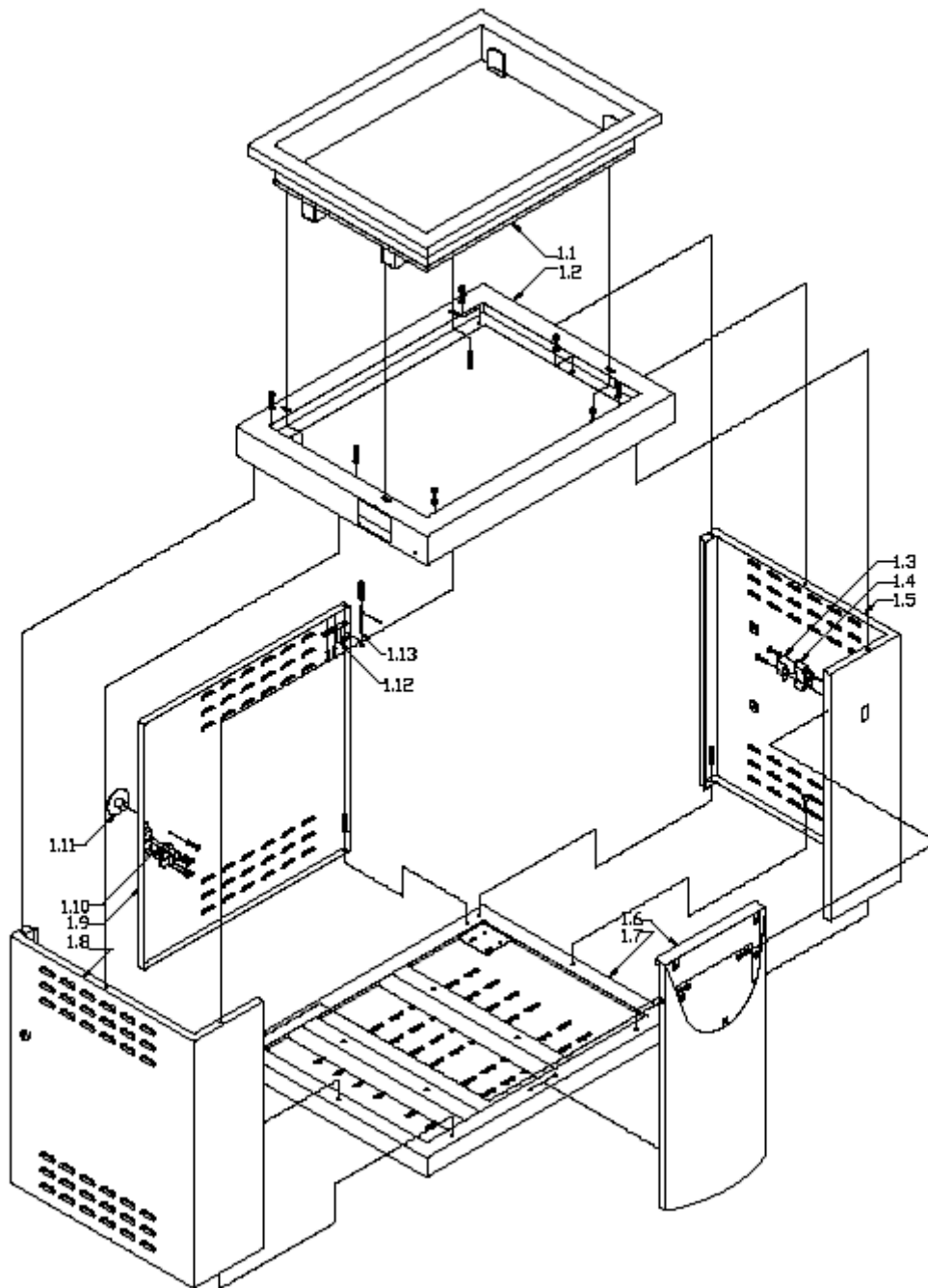
5. UNPACKING

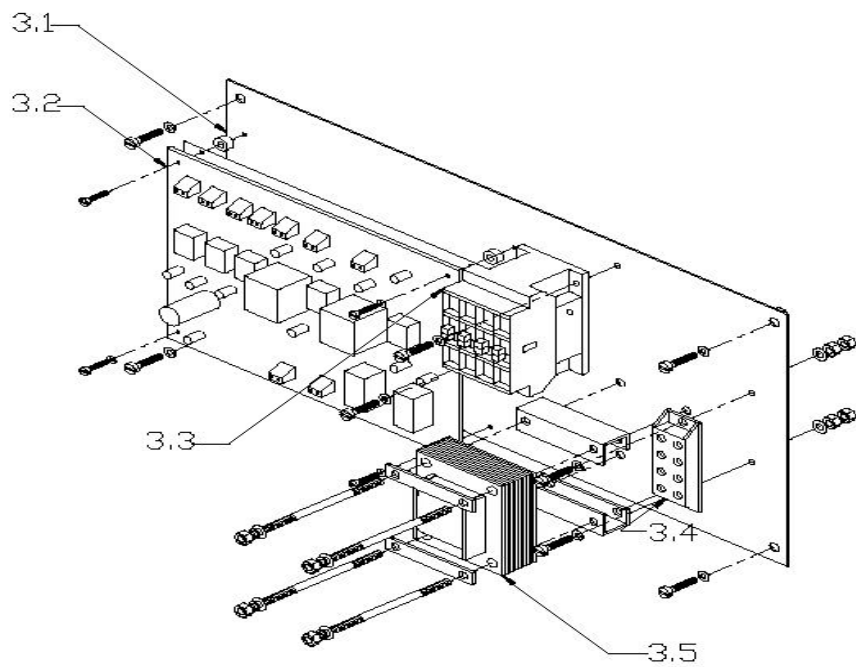
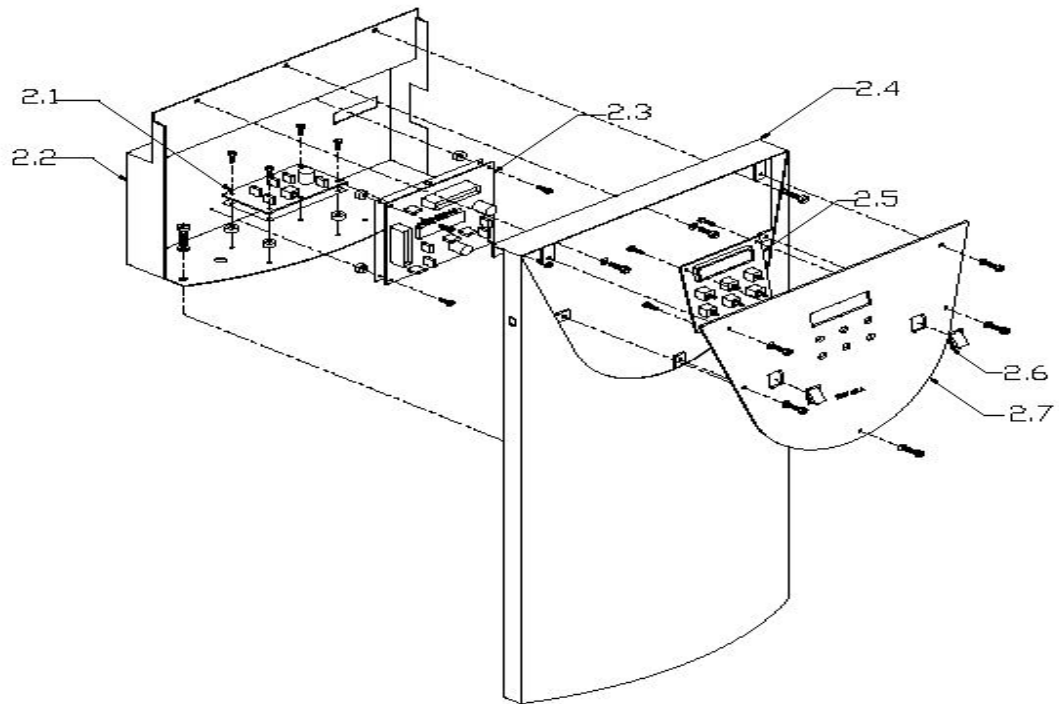
- ❖ The machine is shipped well packed in wooden box
- ❖ Place the packet with the “top” marked to the top
- ❖ Remove the 4 sides and the top cover
- ❖ The machine is bolted to the bottom plank of the case with 4 bolts. Remove the sides and top of the wooden case and the 4 bolts.
- ❖ The machine comes with 4 castor wheels; push the machine to the level of ground
- ❖ Remove the stretch wrapping film wrapped around the machine.
- ❖ Inspect for any transit damages. If any damages are found, notify the dealer or company immediately.

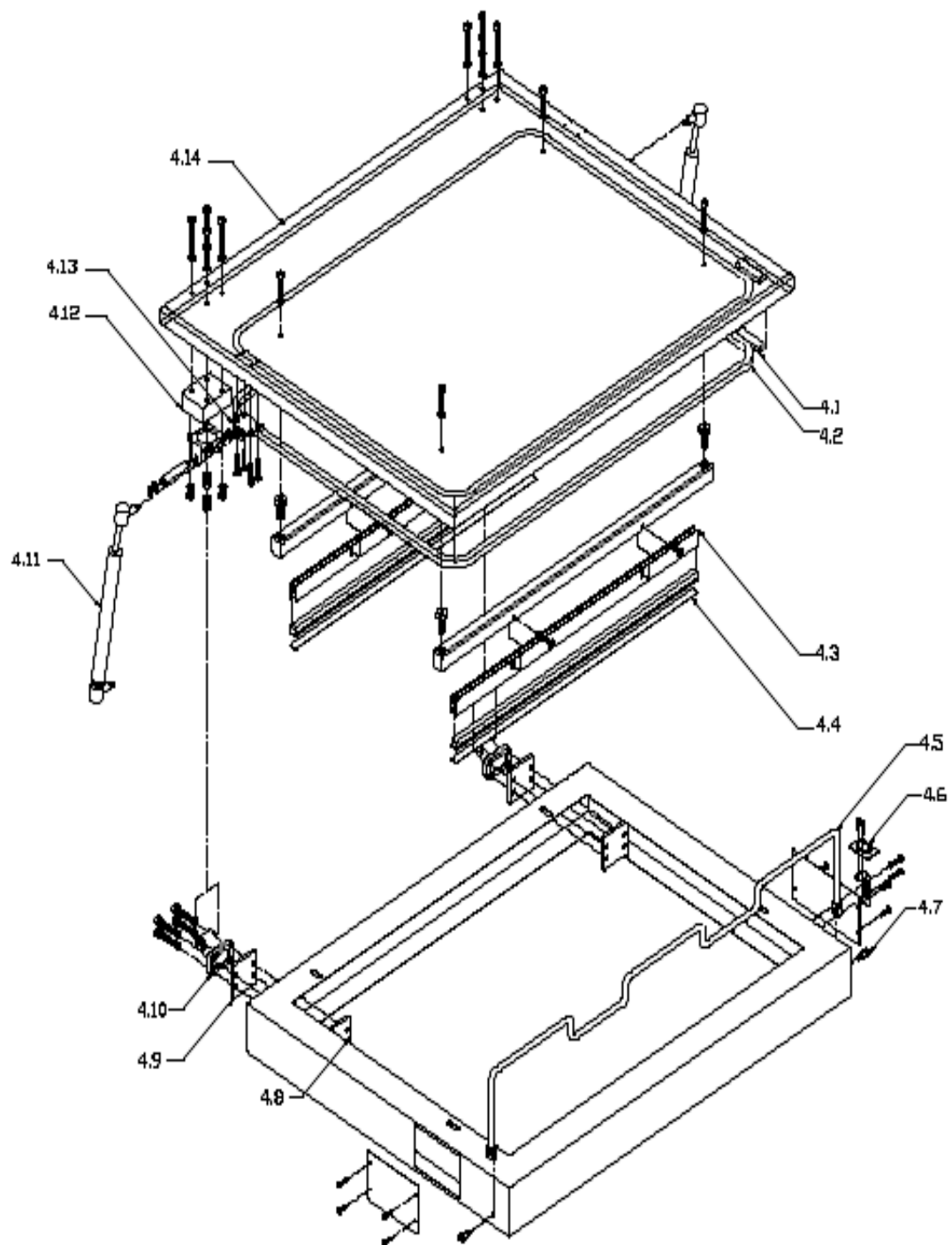
6. TECHNICAL SPECIFICATIONS

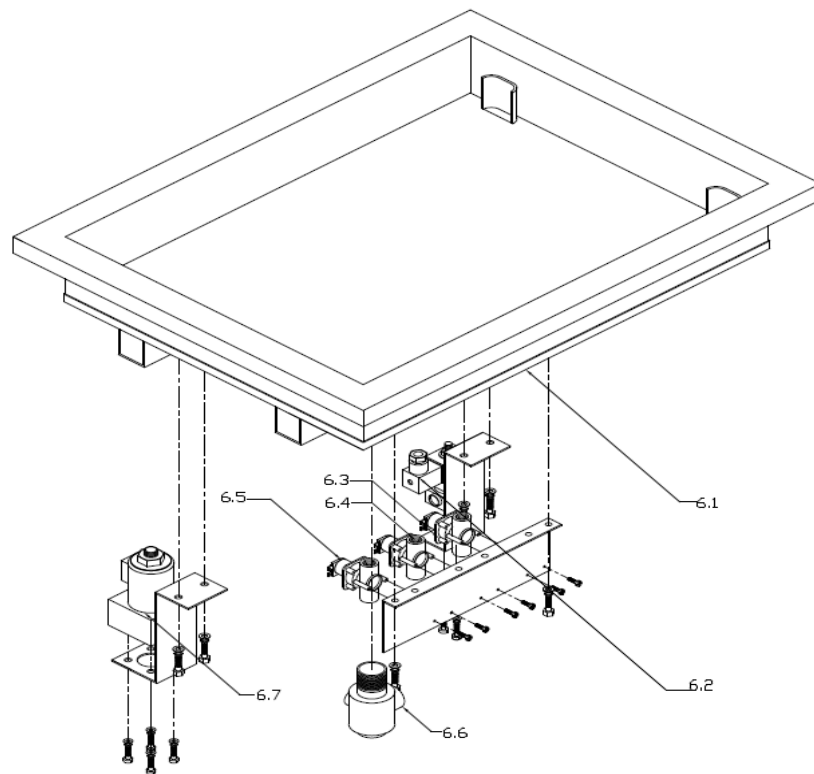
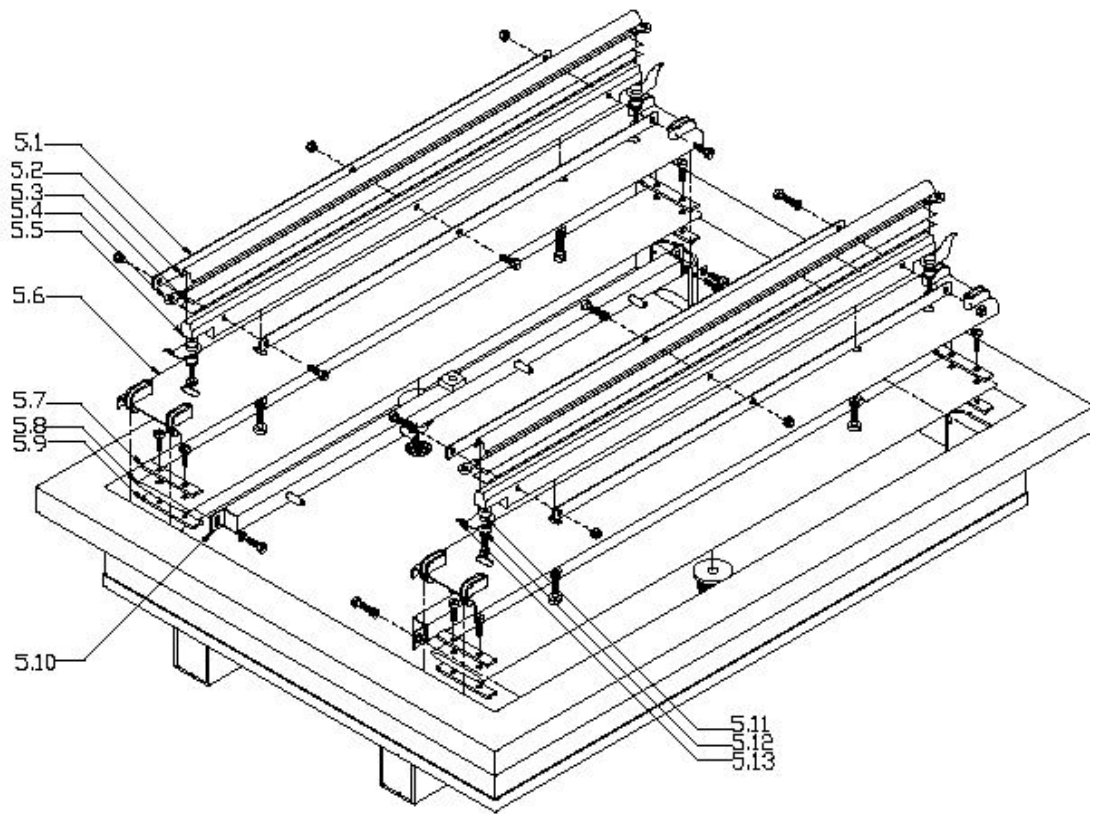
Model (VM/VMG/VS/VSG)	500	400	300
Chamber dimensions(LxWxH)(mm)	620x460x100	520x460x100	620x460x100
Seal dimensions(LxW)(mm)	500x3x0.2	400x3x0.2	300x3
Seal to seal distance	350	350	500
Machine dimensions(LxWxH)(mm)	740x660x950	840x660x950	740x660x950
Power supply(1P)	240V/50Hz	240V/50Hz	240V/50Hz
Power supply(3P)	415V/50Hz	415V/50Hz	415V/50Hz
Power 1P	1.8KW	1.6KW	1.4KW
3P	2.6KW	2.4KW	2.2KW

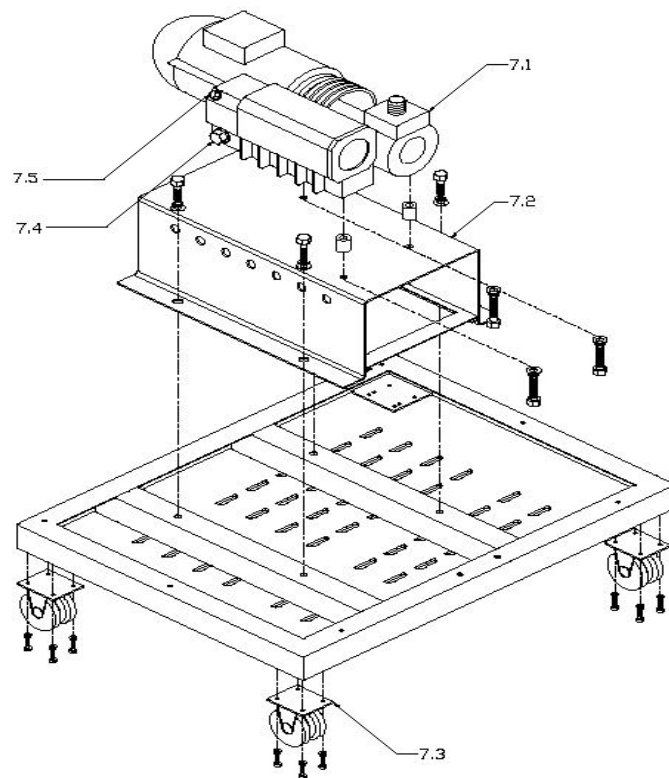
7. LIST OF PARTS









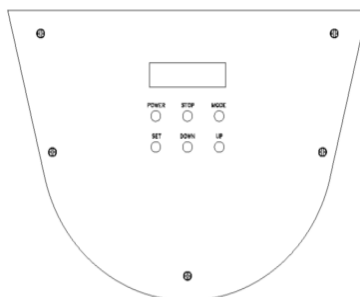


No.	Name	Code		
		300	400	500
1.1	Vacuum chamber	1046008	1046023	1046070
1.2	Chamber carrier	1014164	1014179	1014164
1.3	MCB mounting bracket	1012059	1012062	1033007
1.4	MCB 10A single pole(for single phase machine)	1022016	1022016	1022016
1.5	Side panel RH	1014762	1014764	1014762
1.6	Middle panel	1014555	1014555	1014555
1.7	Chassis	1014254	1014268	1014254
1.8	Side panel LH	1014729	1014734	1014729
1.9	Back panel	1014090	1014102	1014090
1.10	Panel lock	1049812	1049812	1049812
1.11	Mushroom knob	1051031	1051031	1051031

1.12	Door hinge adjuster (male)	1014437	1014437	1014437
1.13	Hinge pin	1039119	1039119	1039119
2.1	Transducer board	1033035	1033035	1033035
2.2	Microcontroller box	1014511	1014511	1014511
2.3	Micro controller board	1033007/9	1033007/9	1033007/9
2.4	Middle panel	1014555	1014555	1014555
2.5	Display board	1033034	1033034	1033034
2.6	Rocker switch 2 red	1023204	1023204	1023204
2.7	Panel board	1032010	1032010	1032010
3.1	Relay plate	1014675	1014675	1014675
3.2	Relay board	1033022/79	1033022/79	1033022/79
3.3	Contactor 9A/220V	1020008	1020008	1020008
3.4	Terminal block 30A 4 way	1022041	1022041	1022041
3.5	Control transformer	1043025	1043025	1043025
4.1	Magnet 20 x 12 x 6	1022010	1022010	1022010
4.2	Lid gasket	1026005	1026005	1026005
4.3	Pad holder	1039195	1039200	1039203
4.4	Teflon tape 15mm	1050127	1050127	1050127
4.5	Vacuum handle	1014482	1014873	1014482
4.6	Magnetic reed switch	1023103	1023103	1023103
4.7	Chamber carrier	1014164	1014179	1014164
4.8	Hinge adjuster male	1014437	1014437	1014437
4.9	Hinge adjuster female	1014434	1014434	1014434
4.10	Clevis foot bracket	1049181	1049181	1049181
4.11	Shock absorber	1019980	1049977	1050297
4.12	Hinge adapter block	1049483	1049483	1049483
4.13	Shock absorber mounting clamp top	1014699	1014699	1014699
4.14	Perspex lid	1034007	1034025	1034065
5.1	Side strip	1037036	1037038	1037040
5.2	Teflon tape 25mm	1050129	1050129	1050129
5.3	Teflon tape 15mm	1050127	1050127	1050127
5.4	Heating element	1028021	1028031	1028040
5.5	Element bed	1024017	1024021	1024028

5.6	Actuator	1014022	1014022	1014022
5.7	Tube clamp type1	1039285	1039285	1039285
5.8	Fire hose	1049392	1049392	1049392
5.9	Tube clamp type 2	1039286	1039286	1039286
5.10	Gas manifold	-	1014410	1014423
5.11	Insulator top	1051023	1051023	1051023
5.12	Insulator bottom	1051019	1051019	1051019
5.13	ET spring	1042009	1042009	1042009
6.1	Vacuum chamber	1046008	1046023	1046070
6.2	Solenoid valve Fluidtecq 3port NO	1050298	1050298	1050298
6.3	Solenoid valve NC imsubs1(gas flush machine)	1041014	1041014	1041014
6.4	Solenoid valve NC imsubs2(gas flush machine)	1041014	1041014	1041014
6.5	Solenoid valve NC imsubs3(gas flush machine)	1041014	1041014	1041014
6.6	Manifold	1049642	1049642	1049642
6.7	Solenoid valve Fluidtecq 2 port no	1050299	1050299	1050299
7.1	Vacuum pump	1047023	1047023	1047023
7.2	Motor mounting plate	1014584	1014584	1014584
7.3	Castor wheel	1049133	1049133	1049133
7.4	Oil out	-	-	-
7.5	Oil in	-	-	-

8. CONTROL PANEL



- ❖ LCD display
- ❖ Control buttons

9. INSTALLATION

- Open the back door & fill vacuum pump oil.
- Connect plug to a single phase power socket (If the machine is three phase, give three phase power).
- Switch on the MCB & then press power button on the front panel.
- Select MODE & set parameters (vacuum level, flushing level, sealing time & cooling time) as per product & pouch.
- For gas flushing machines,
 - Use 6mm PU tube to connect gas cylinder to gas inlet marked on the machine.
 - Use MODE1 / MODE2 / MODE3.
- The Vacuum level should be higher than the Flush1 value and the Flush1 value should be higher than the Flush2 value and so on.
00 mm-hg ---> Flush3 ----> Flush2 ---> Flush1 ---> 760 mm-hg
- Shutdown process: switch off the MCB.

10. 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.

- Open the back cover.
- Loose oil cap in which "oil in" is written.
- Fill the machine with Sevol V/equivalent vacuum pump oil(700ml).
- Make sure the oil level is between 1/2 and 3/4 of the oil level indicator.
- Wait for 3 minutes.
- 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.
- 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.

Note: for draining the oil loosens the cap in which "oil out" is written. The oil comes out through the tap and can be collect in a tray kept under the outlet.

11. 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
Flush(Gas2)	0-760mm Hg
Flush3(Gas3)	0-760mm Hg
Sealing time	0.0 - 6.0 sec(Depending up on the pouch material)
Cooling time	1 - 9 sec

- 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.
- Flush 2 represents level up to which second gas is flushed. If vacuum level is 720, flush 1 is 500 and flush 2 is 400(53% vacuum) chamber is vacuumized to level 720 and first gas is flushed to the chamber till vacuum level reaches 500, second gas is flushed to the chamber till vacuum level reaches 400.
- Flush 3 represents level up to which third gas is flushed. If vacuum level is 720, flush 1 is 500 and flush 2 is 400 and flush 3 is 300(40% vacuum) chamber is vacuumized to level 720, first gas is flushed to the chamber till vacuum level reaches 500, second gas is flushed to the chamber till vacuum level reaches 400, and third gas is flushed till vacuum level reaches 300.

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, flush 2 to 300, flush 3 to 300, so no gas is flushed after flush 1.

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 FLUSH2: 570mmHg
MODE: 1 FLUSH3: 720mmHg	MODE: 1 SEALING: 3SEC
MODE: 1 COOLING: 8SEC	MODE: 4 VACUUM ERROR: OFF

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

Vacuum Error ON/OFF option is given with Mode4 for vacuuming the Frozen Products.

12. 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.

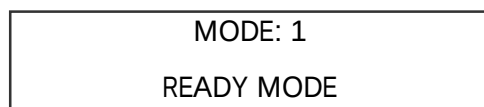


The machine has four (4) modes/program presets. Each mode preset parameters are

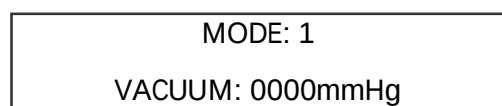
- ❖ VACUUM LEVEL
- ❖ FLUSHING(1,2,3)
- ❖ SEALING TIME
- ❖ COOLING TIME

These parameters can be modified by the operator if required.

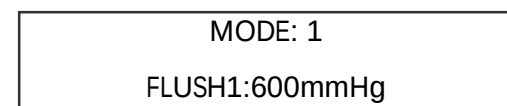
The machine will automatically go to the previously used mode after initializing.



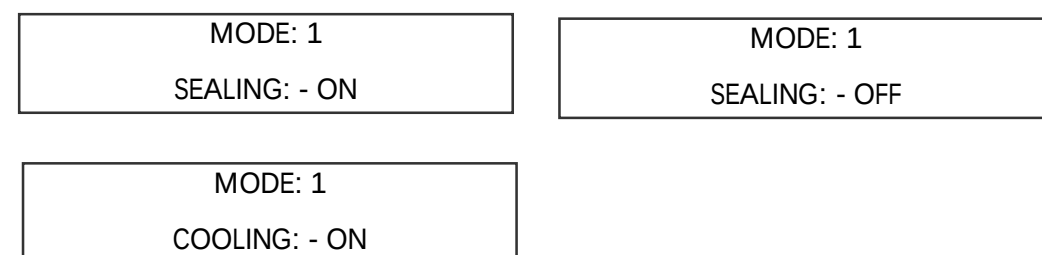
Now the lid is closed, then vacuum increases up to the preset level.



When the vacuum is built up to the preset level the message will change to an indication given below.



When the preset level pressure value reached, sealing will be ON. After sealing 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 4.00

MODE: 1 READY MODE

13. OPERATION

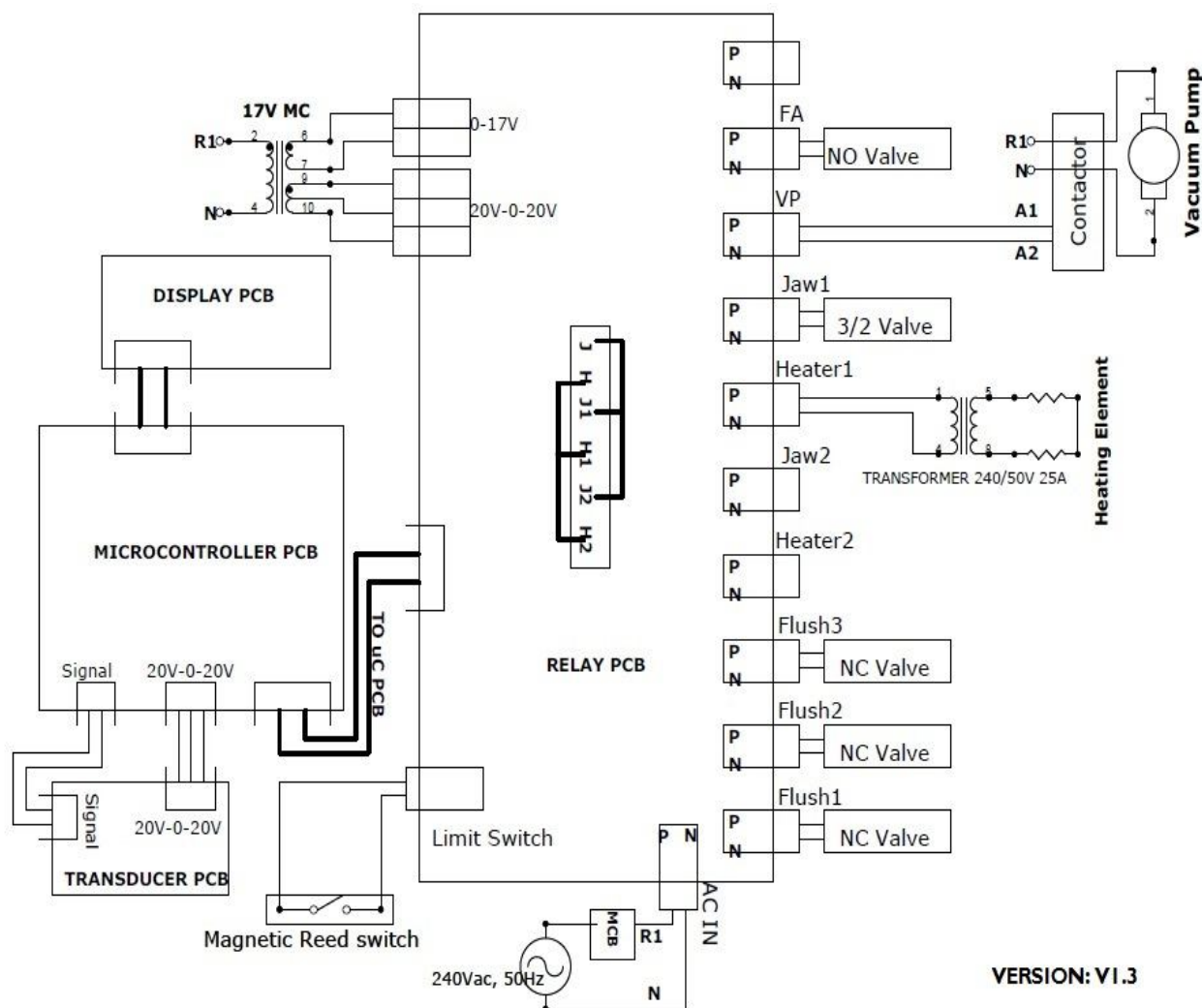
- ❖ Switch on the supply
- ❖ Adjust the vacuum and other parameters
- ❖ Select the required mode
- ❖ Keep the product having filled in a barrier/high barrier film pouch, in such a way that the mouth part of the pouch is on the sealing head, leaving sufficient margin. (High barrier film does not allow entry of air or exit of aroma from the pouch once sealed).
- ❖ Close the acrylic lid and press gently, the vacuum pump starts automatically evacuating the whole chamber till the set pressure is reached
- ❖ The sealing jaw is actuated and seals the pouch
- ❖ After sealing operation fresh air is let to the chamber, and when the inside and outside pressures are equal, lid opens automatically. All operations will be displayed on the display when they take place.
- ❖ During the air intake in to the chamber, one could see, the pouch getting shrunk, due to higher atmospheric pressure outside and inside the pouch. In wet products this shrinking will be seen initially but will disappear later due to evaporation of liquid inside the pouch.
- ❖ Now the machine is ready for next cycle.

14. 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
- ❖ “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.

15. ELECTRICAL SCHEMATIC



16. TROUBLESHOOTING

No.	Complaint	Reasons	Remedy
1	Machine does not work; power switch does not light up at switch on position. phase sequence LED does not light up (in three phase machine only)	1.No AC supply. 2.HRC Fuse blown/MCB tripped. 3.Mains cord failure. 4.Power switch failure. 5.Phases are not in sequence.	1.Restore AC supply. 2.Check for any short circuit or replace the fuse/reset the MCB. 3.Replace mains cord. 4.Replace power switch. 5.Inter change any two phase lines.
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.	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.
3	The lid does not remain closed even	1.Lid gasket does not touch the chamber face	a.Press the lid with both the hands at the corner of lid.

	after vacuum pump starts	uniformly.	b.Check the gasket for any damage and replace if necessary. c.Check the height of lid hinge. If the hinge height is optimum, the lid can be closed easily and the gasket touches 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	No flushing operation. Sealing operation starts after vacuum time.	1.Flush pressure settings are not proper.	1.Set flush pressure properly. Set Flush level as 00 -> flush3 -> flush2 -> flush1 -> 760
6	No flushing operation. Machine halts after evacuation. Display shows gas flush.	1.Defective solenoid valve. 2.Very low pressure in gas cylinder. 3.Gas cylinder valve closed. 4.Defective Relay.	1.Replace solenoid valve. 2.Replace/refill the gas cylinder. 3.Open the gas cylinder valve. 4.Replace the relay board/Relay.
7	Machine skips flushing and sealing operation does not takes place.	1.Flush pressure setting is high.	1.Set flush pressure properly. Flushing pressure should be lower than the vacuum pressure setting.
8	Sealing head operate but sealing does not takes place	1.Low sealing time setting. 2.heating element failure. 3.Defective sealing transformer. 4.Flush setting is high.	1.Increase sealing time. 2.Replace heating element. 3.Replace defective sealing transformer. 4.Use compressor for operating jaw for flush setting above 300.
9	Machine halts after sealing	1.Defective relay. 2.Defective air inlet solenoid valve.	1.Replace the relay board. 2.Replace solenoid valve.
10	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.

11	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.
12	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.
13	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.
14	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.
15	Display does not change from fresh air to ready	1.Misalignment of reed switch.	1.Correct the position of reed switch.
16	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.
17	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.
18	Display shows fresh air always	1.Misalignment of magnetic reed switch. 2.Magnetic reed switch shorted.	1.Correct the position. 2.Replace the switch.
19	Improper sealing	1.Misalignment of sealing bed.	1.Correct the position.
20	Lid doesn't open after completing the operation.	1.Defective relay in the relay board. 2.Defective solenoid valve.	1.Replace it. 2.Replace it.
21	Fuse blown out when machine is switched on	1.Short circuit of any part with machine body.	1.Check and correct it.

17. SERVICE LOG

[illegible]

[illegible]