



AN ISO 9001:2015 CERTIFIED COMPANY

## **USER MANUAL**

**Double-chamber Vacuum machine**

**QS500VVTWIN**



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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 the 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 |

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                            | 500VV Twin              |
| Machine's dimensions (LxWxH)(mm) | 1400 x 800 x 1100       |
| Chamber dimensions (LxWxH)(mm)   | 640 x 580 x 125         |
| Sealing dimensions (LxW)(mm)     | 500 x 10                |
| Voltage/frequency                | 240V/50Hz/1 Phase       |
| Power                            | 3.1KW                   |
| Pump capacity                    | 20m <sup>3</sup> /h x 2 |

#### 5. INSTALLATION

- ❖ Ensure that there is no inflammable & explosive gases around.
- ❖ Make sure the power meet the requirement.
- ❖ For heat dissipation, make sure that there is enough space for good ventilation, the minimum space should be 10cm.
- ❖ Then open the side cover & fill vacuum oil.
- ❖ Give single phase power, switch on the MCB & then press power button on the front panel.
- ❖ Set parameters (vacuum 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 side cover.
- b. Fill the vacuum pump with Sevol V/equivalent vacuum pump oil.
- 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                                |
|----|-------------------------------------|
| 1  | Control cabin                       |
|    | Display PCBA                        |
|    | Microcontroller PCBA                |
|    | Relay PCBA                          |
|    | MCB 16A 1pole                       |
| 2  | Vacuum chamber                      |
|    | Gasket                              |
| 3  | Flexible hose                       |
|    | Flexible corrugated conduit         |
| 4  | Power supply cabin                  |
|    | Power transformer 240V/36V          |
|    | Power transformer 240/17V,20V-0     |
|    | Transformer 240/24V                 |
|    | Contactora 9A                       |
|    | Vacuum pump                         |
|    | Solenoid valve NC for FA            |
|    | Solenoid valve NO for operating jaw |
| 5  | Castor wheel                        |
| 6  | Vertical post                       |

|   |                 |
|---|-----------------|
| 7 | Swing arm       |
| 8 | Vacuum lid      |
|   | Lid gasket      |
|   | Heating element |
|   | Element bed     |
| 9 | Lid handle      |

## 8. CONTROL PANEL

- ❖ LCD display
- ❖ Control buttons
- ❖ Power LED
- ❖ MCB 16A/1 pole

## 9. PROGRAM MODES

Sevana's micro-processor-based vacuum machine has 3 preset modes or programs. Each program can be set with different parameters. Variable parameters in each mode are

| PARAMETER    | Vacuum Mode   | Timer Mode    |
|--------------|---------------|---------------|
| Vacuum level | 0-100.0%      | 0-40 Sec      |
| Sealing time | 0.0 - 4.0 Sec | 0.0 - 4.0 Sec |
| Cooling time | 1 - 9 sec     | 1 - 9 sec     |
| Vacuum error | ON/OFF        | -             |

To change the modes, first press the Mode button. The display will show like below,

|                                  |
|----------------------------------|
| Vacuum Mode<br>To Change UP/DOWN |
|----------------------------------|

Next, use the Up or Down button to navigate and select the desired mode. Finally, press the Mode button again to save the selected mode. If no action is taken within 8 seconds, the display will return to its default condition

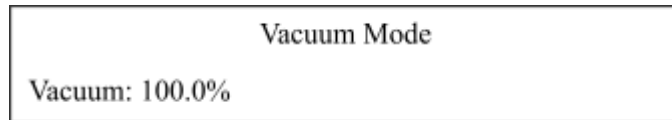
If only vacuum is required, select Vacuum mode.

|                      |
|----------------------|
| Vacuum Mode<br>Ready |
|----------------------|

If required Timer mode, select Timer mode.

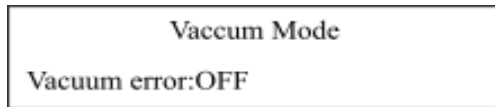
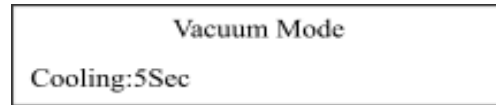
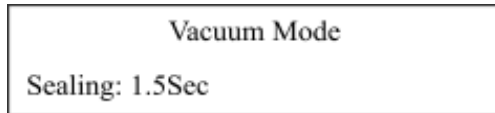
|                     |
|---------------------|
| Timer Mode<br>Ready |
|---------------------|

To set the parameters press the "SET" button.



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

To select the next parameter press SET again.



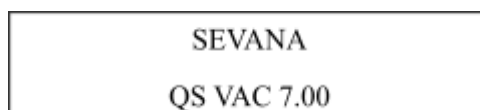
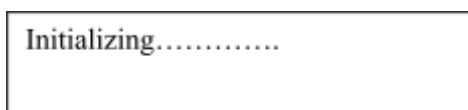
If again presses SET, the machine will go to READY. Vacuum Error ON/OFF option is given with vacuum mode for vacuuming the Frozen Products. If the vacuum error is OFF, the machine will proceed to the sealing process after 40 seconds if the vacuum level does not reach the set value.

## 10. STARTING THE MACHINE

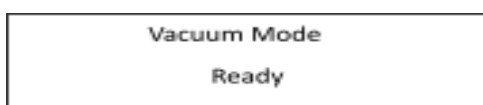
CONTROL BUTTONS:

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

A LCD check function is done first. A version of the software and the count is displayed.



The set 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, the vacuum increases up to the preset level.

|                                        |
|----------------------------------------|
| <p>Vacuum Mode</p> <p>Vacuum 95.0%</p> |
|----------------------------------------|

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

|                                      |
|--------------------------------------|
| <p>Vacuum Mode</p> <p>Sealing on</p> |
|--------------------------------------|

|                                      |
|--------------------------------------|
| <p>Vacuum Mode</p> <p>Cooling on</p> |
|--------------------------------------|

After that the lid opens automatically and the display changes to “ready”.

|                                     |
|-------------------------------------|
| <p>Vacuum Mode</p> <p>Fresh air</p> |
|-------------------------------------|

|                                 |
|---------------------------------|
| <p>Vacuum Mode</p> <p>Ready</p> |
|---------------------------------|

In Timer Mode, all parameters are configured in seconds. The pump activates based on the designated vacuum duration. Balance working is the same as vacuum mode.

|                                  |
|----------------------------------|
| <p>Timer Mode</p> <p>Pump On</p> |
|----------------------------------|

TO RESTART THE MACHINE:

Press the “STOP” button for 1 second.

|                          |
|--------------------------|
| <p>Initializing.....</p> |
|--------------------------|

|                                  |
|----------------------------------|
| <p>SEVANA</p> <p>QS VAC 7.00</p> |
|----------------------------------|

|                                  |
|----------------------------------|
| <p>SEVANA</p> <p>Count:00010</p> |
|----------------------------------|

|                                 |
|---------------------------------|
| <p>Vacuum Mode</p> <p>Ready</p> |
|---------------------------------|

### Service Mode:

Service mode is not intended for production purposes. It is primarily used to check for air leakage and to view and reset the count. In this mode, upon pressing the set button, the display will indicate the vacuum value. To activate the pump, press the UP button, and to deactivate it, press the down button.

|                                                     |
|-----------------------------------------------------|
| <p>Strt:UP</p> <p>Off:Down</p> <p>Vacuum:000.0%</p> |
|-----------------------------------------------------|

To check the air leakage, press the UP button and close the lid. The vacuum pump will turn on, and the vacuum value will increase. Once it reaches the maximum vacuum or after 40 seconds, press the down button to stop the vacuum pump. If there is air leakage in the machine, the vacuum value will decrease rapidly. You can identify the location of the air leakage by carefully listening to the sound of air sucking at this time.

After that press the set button to release the lid. Also, it shows the count of production

|                                      |
|--------------------------------------|
| Rst Pres Up&Down<br>Prod Count:00010 |
|--------------------------------------|

Pressing both the UP and DOWN buttons simultaneously will reset this count.

Again pressing the set button will show the Oil change count.

|                          |
|--------------------------|
| Oil Change<br>Count:0010 |
|--------------------------|

Every 5000 cycles the machine will give the notification for oil changing.

|                                  |
|----------------------------------|
| Check Oil Level<br>Press Up+Down |
|----------------------------------|

After showing this indication, please check or replace the vacuum oil and press the UP and Down buttons simultaneously.

## 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** : Remove mains cord before maintenance



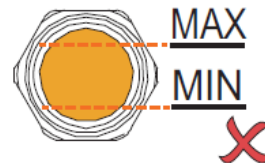
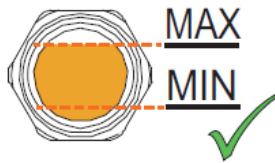
Clean the machine daily after usage.



Clean element & element bed to remove any adhesive deposited on it.



Check the Oil level every week.



Change oil every 5000-cycle count or every 2 months depending upon the production. if the product is moisture based. (Like Paneer, fish, meat etc.) replace oil every 1 month.

Note: Use vacuum pump grade oil. Common automotive lubricants must not be used. We recommend using SEVANA vacuum pump oil.

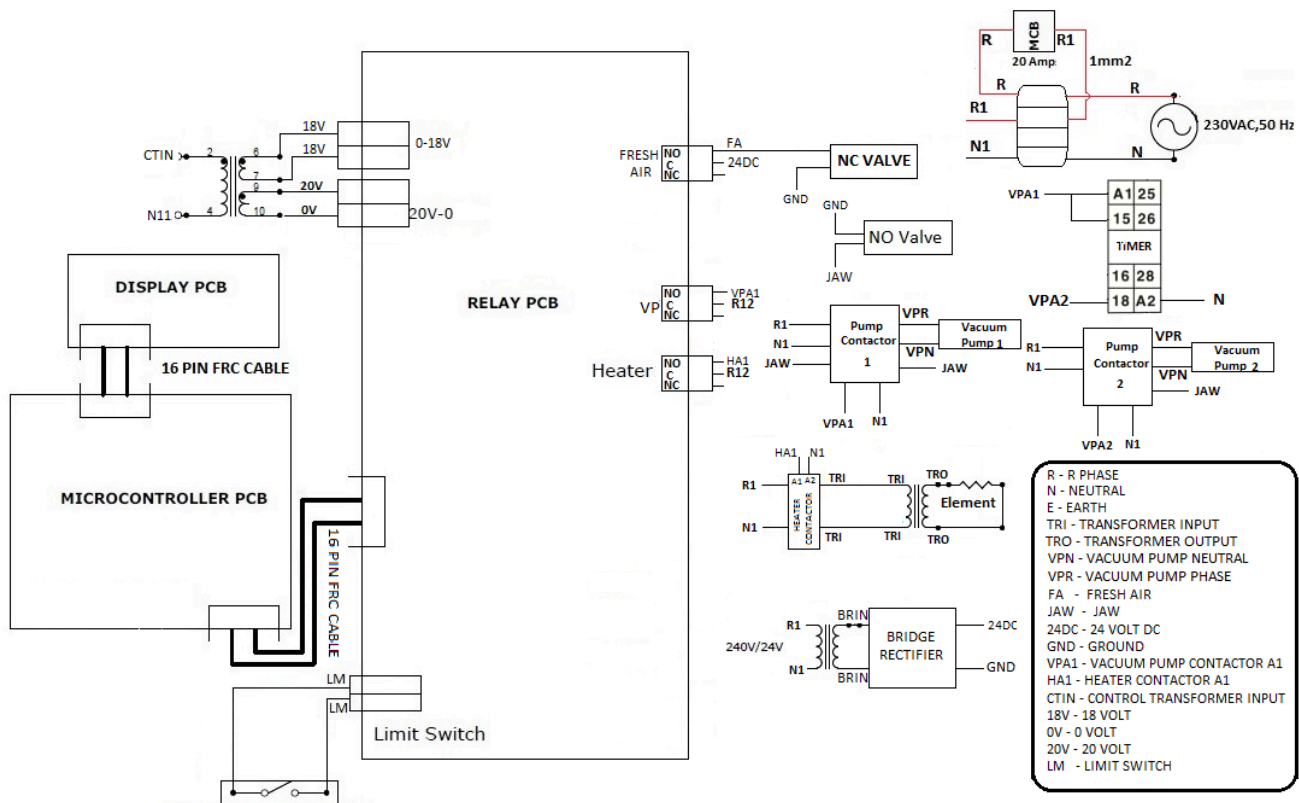


An “Oil change” message will be displayed upon the completion of every 5000 operation cycles. Drain out the existing oil and pour in new oil as per instructions. Then press the UP and DOWN buttons together to reset the Oil alarm.

Regularly inspect the gasket, teflon cloth and teflon tape. Replace these depending on the condition.



### 13. ELECTRICAL SCHEMATIC



### 14. TROUBLESHOOTING

| No. | Complaint                                                                         | Reasons                                                                                                                                                                                                                                                | Remedy                                                                                                                                                                                           |
|-----|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Machine does not work; power switch does not light up.                            | 1.No AC supply.<br>2.Mains cord failure.<br>3.MCB failure.<br>4.Power switch failure.                                                                                                                                                                  | 1.Restore AC supply.<br>2.Replace mains cord.<br>3.Replace the MCB.<br>4.Replace it.                                                                                                             |
| 2   | Vacuum pump does not work when lid is closed and vacuum level is always displayed | 1.Defective contactor<br>2.Defective Relay board.<br>3.Defective motor.                                                                                                                                                                                | 1.Replace the contactor.<br>2.Replace the relay board.<br>3.Replace or rectify the motor.                                                                                                        |
| 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.<br>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<br>2.Solenoid valve leaks: atmospheric air enters in to the chamber through the solenoid valve due to,<br>a)Defective solenoid valve.<br>b)Defective relay.<br>3.Low oil level in the vacuum pump.<br>4.Moister contaminated oil. | 1.Increase the vacuum setting.<br>2.<br><br>a)Replace the solenoid valve.<br>b)Replace relay board.<br>3.Keep the required oil qty in the vacuum pump.<br>4.Drain the oil completely and refill. |

|    |                                                                                           |                                                                                                                                                              |                                                                                                                                                                                           |
|----|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                                           | 5.Vacuum leaks through lid gasket/bolt holes on the lid/pipe joints/bushes at cable entry.<br>6.Wear and tear of vanes of vacuum pump.<br>7.Defective MCPCB. | 5.Identify the location of leakage and replace the defective components or rectify the problem by tightening the joints.<br>6.Overhaul /replace the pump.<br>7.Replace the defective.     |
| 5  | Sealing head operate but sealing does not takes place                                     | 1.Low sealing time setting.<br>2.heating element failure.<br>3.Defective sealing transformers.                                                               | 1.Increase sealing time.<br>2.Replace heating element.<br>3.Replace defective sealing transformers.                                                                                       |
| 6  | Machine halts after sealing                                                               | 1.Defective relay.<br>2.Defective air inlet solenoid valve.                                                                                                  | 1.Replace the relay board.<br>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.<br>2.Sealing head and pad holder not align properly.<br>3.Burnt Teflon fabric.                      | 1.Reduce the gap.<br><br>2.Align sealing head and pad holder.<br>3.Replace the Teflon fabric.                                                                                             |
| 9  | Machines works fine, but blank/garbage display                                            | 1.Defective display.<br>2.FRC cable of display or its connector defective.<br>3.EMI issue                                                                    | 1. Replace display board.<br>2.Replace cable and connector.<br><br>3.Give 103 disc capacitor between 1 <sup>st</sup> & 2 <sup>nd</sup> , 15 <sup>th</sup> & 16 <sup>th</sup> pins of LCD. |
| 10 | Setting is not possible. The Microcontroller does not responding to push button pressing. | 1.Defective switches.<br>2.Defective FRC Cable of Display PCB                                                                                                | 1.Replace display board.<br>2.Replace cable and connector.                                                                                                                                |
| 11 | Overheating of Heating element/Transformer                                                | 1.Short circuit with body of machine.<br>2.Defective Relay PCB                                                                                               | 1.Make proper wire connections.<br>2.Replace Relay PCB.                                                                                                                                   |
| 12 | Machine trips while pump starts working or abnormal sound of pump.                        | 1.Winding short with body.<br>2.Defective centrifugal switch.<br>3.Defective love jaw coupling bush.                                                         | 1.Rewind or replace the pump.<br><br>2.Replace the switch or pump.<br>3.Replace the bush or pump.                                                                                         |
| 13 | Lid doesn't open after completing the operation.                                          | 1.Defective relay in the relay board.<br>2.Solenoid coil burned out.                                                                                         | 1.Replace it.<br>2.Replace the coil.                                                                                                                                                      |
| 14 | Display shows fresh air always                                                            | 1.Misalignment of micro switch.<br>2.Defective micro switch.                                                                                                 | 1.Correct the position.<br>2.Replace the switch.                                                                                                                                          |
| 15 | Fuse blown out when machine is switched on                                                | 1.Short circuit of any part with machine body.                                                                                                               | 1.Check and correct it.                                                                                                                                                                   |
| 16 | 24V Transformer Fuse blown out.                                                           | 1. Solenoid coil burned out.                                                                                                                                 | 1.Replace it.                                                                                                                                                                             |

## 15. SERVICE LOG

[illegible]