



AN ISO 9001:2015 CERTIFIED COMPANY

USER MANUAL

Shrink Tunnel

QS4020iSTV/iSTVT



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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.

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.

- Model
- Serial No
- 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 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.

i.		This is a warning symbol indicating a hot surface.
ii.		This is a warning symbol indicating moving parts.

- ❖ The machine has to be grounded properly before using.
- ❖ Never try to shrink wrap explosive or inflammable material.
- ❖ Do not insert hand in the chamber when machine is in operation.
- ❖ Do not allow any liquid to go in to the machine.
- ❖ Do not keep shrinkable film on the machine.

4. MACHINE DIMENSIONS

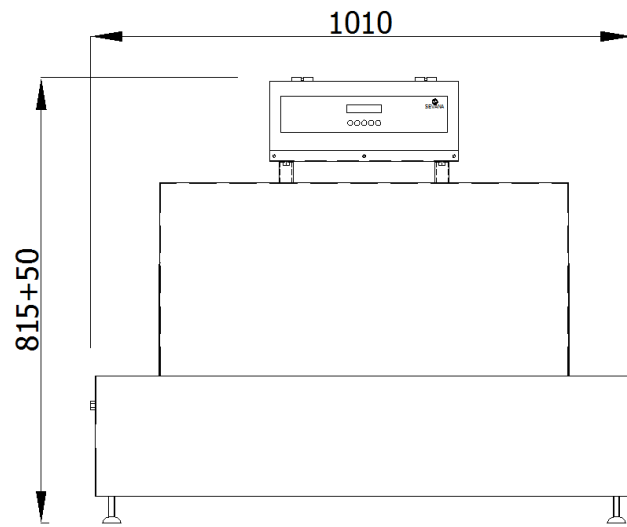
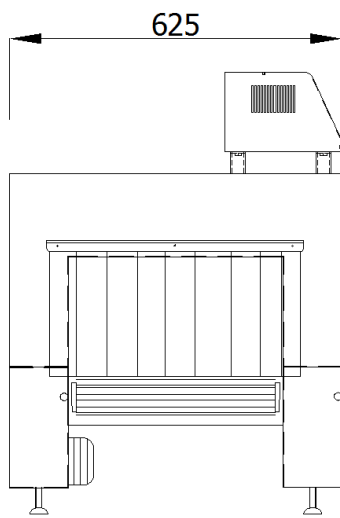
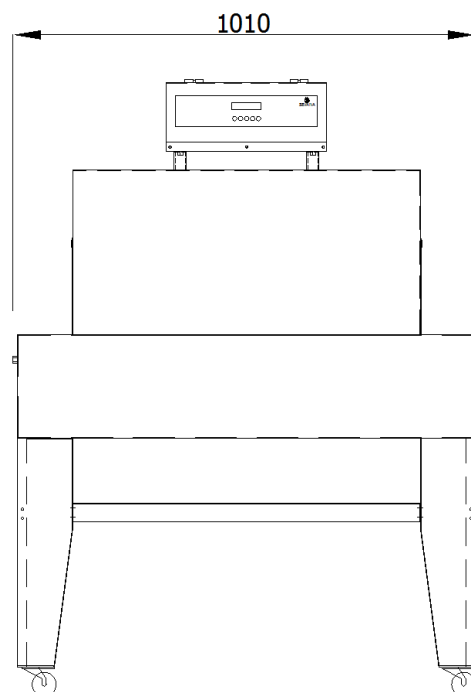
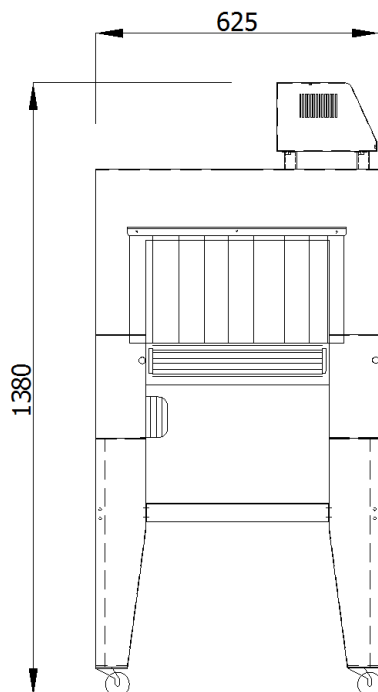


Table Top



Floor Top

5. PACKING SLIP

Item	Quantity
Machine	1
User manual	1
FOC KIT	1

6. TECHNICAL SPECIFICATIONS

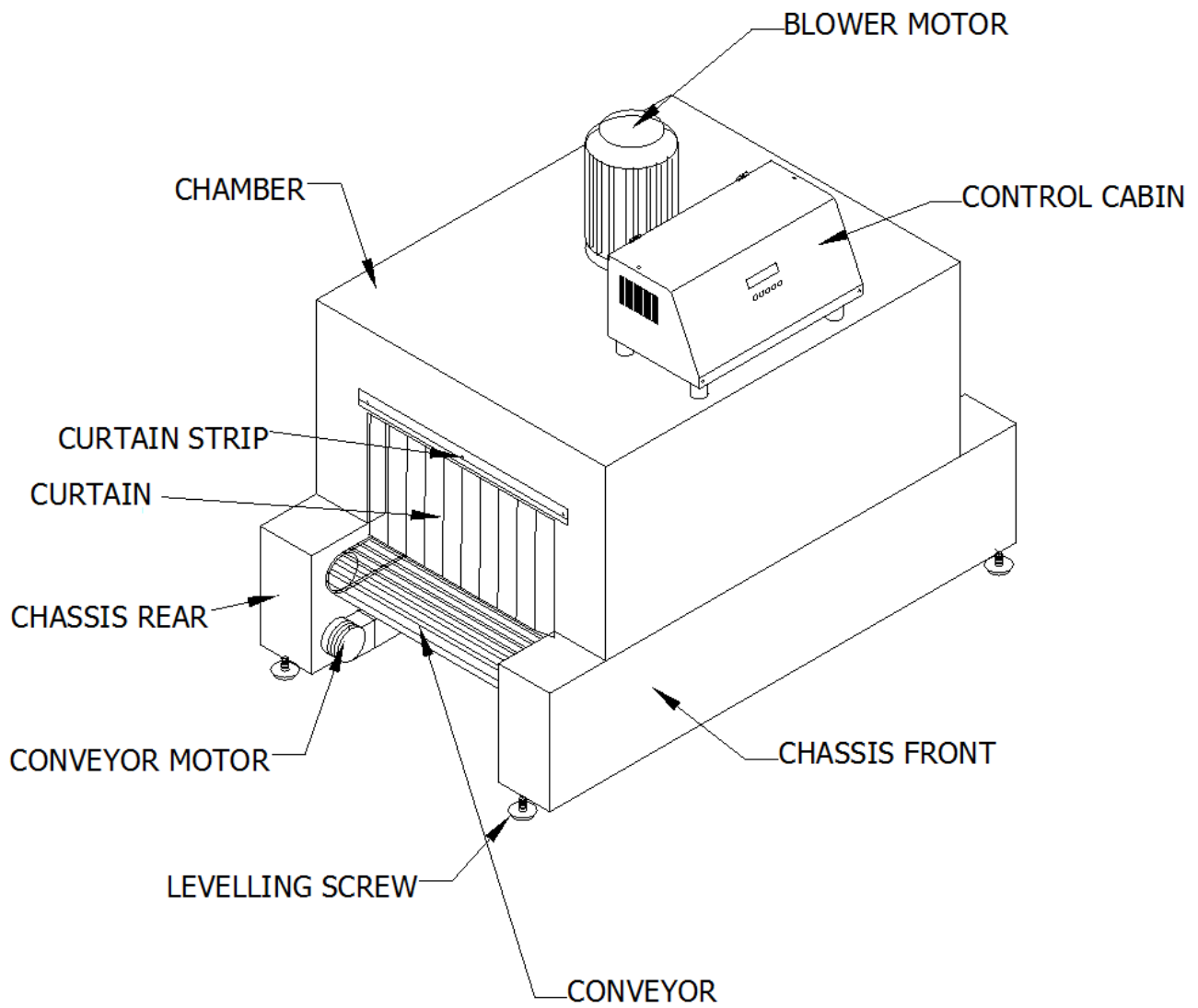
Model		QS4020iSTV	QS4020iSTVT
Conveyor speed(m/min)		0-5	0-5
Travel time(s)		Variable	Variable
Window size(mm)	B	400	400
	H	200	200
Max. object size	B	330	330
	H	180	180
Power(KW)		3.1	3.1
Voltage(V)		415	415
Phase		3	3
Chamber length(mm)		760	760
Conveyor height(mm)		780	250+50
Dimension (mm)	L	1010	1010
	B	625	625
	H	1380	815+50

7. UNPACKING

Note: Please verify the items with the packing slip.

- ❖ Inspect for any transit damages. If there are any, notify your dealer/transporter/insurance company or us immediately.
- ❖ The machine is shipped well packed in a carton box.
- ❖ Place the carton box with the “TOP” marked to the top.
- ❖ Remove the top panel of the box.
- ❖ Take out the machine from carton box
- ❖ The legs are separately packed and kept inside the box. Assemble the leg frame
- ❖ Place the machine on the top of the leg assembly and fasten the screws.
- ❖ Remove all packing materials.
- ❖ The conveyor chain is tied to arrest movements during transportation. Remove the tie.

Tools required to unpack
• Snap off cutter

8. LIST OF PARTS

9. INSTALLATION

- a. Fix the horizontal channel to the vertical legs with nuts and bolts provided along with the machine.
- b. Keep the leg assembly thus made on level ground.
- c. Place the chassis on the vertical leg assembly gently. Please ensure the corners are approximately aligned for ease of assembly.
- d. Bolt vertical legs to the chassis with the bolts provided.
- e. The leveling screws can be adjusted for leveling the machine and to adjust the height of machine slightly (Table top)
- f. Before starting the machine please ensure that,
 - The chain is aligned with and rests on the chains rails the links of the chain properly engaged with the teeth of all the sprocket wheels.
 - The conveyor tubes are perpendicular to the chains. If otherwise, move the lagging chain slightly forward to align the conveyor rods perpendicular to both the chains.

10. POWER CONNECTION

Machine is provided with five core cable. The connection to be made as follows: Red to Phase1, Yellow to Phase2, Blue to Phase3, Black to Neutral and Gray/Green to Earth. Then switch on the MCB

11. CONTROL PANEL

MCB
Heater Switch
Temperature Controller
Speed Controller

12. STARTING THE MACHINE

To start the machine, connect the machine to appropriate power supply and switch on the MCB. The MCB is located at the right side of the machine. Then switch ON the heater switch. The conveyor speed is adjusted using the knob present on the panel board. The temperature required can be set on the temperature controller by pressing set and up/down button simultaneously. When the required temperature is reached, the red indication LED on temperature controller turns off. Now the machine is ready for use.

13. SHUT DOWN/ SWITCHING OFF THE MACHINE

- Turn the Heater switch to OFF position.
- Keep the blower and conveyor running.
- Leave the machine in the above state for 15 minutes for cooling down.
- Now the power supply to the machine can be switched OFF.

14. SHRINKING OPERATION

- a. Special plastic films which shrink on application of heat are used for shrink wrapping. The temperature required for shrinking each film varies and this information can be obtained from the film manufactures. Shrink films commonly available are,
 - Poly Vinyl Chloride (PVC)
 - Poly Olefin (POF)
- b. Insert the article in a preformed sleeve or tube of shrinkable film of suitable size. Seal the open ends & make a few holes on the film by pricking it with a pin. The corners of the film may also be sealed cut off for better appearance. If open ends are desired, the ends of the tube need not be sealed. An L – Sealer can be used to make this easier and for better productivity.
- c. Place the wrapped article on the conveyor at the inlet. The article will come out of the outlet properly shrunk. Inspect the article.
- d. If the shrinking is not sufficient increase the temperature setting or reduce the conveyor speed. If over shrunk, reduce the temperature setting or increase the conveyor speed. By manipulating the temperature and conveyor speed one could get the best result and productivity. Make final adjustment of speed and temperature after the temperature has reasonably stabilized.
- e. If POF or PVC film used, to avoid the conveyor rod marks on the product then adjust the conveyor rod support so that conveyor rod support will fret conveyor rods and the rod will rotate.

Shrink film	Thickness(Microns)	Conveyor speed	Temperature(°C)
POF	8	1 - 6	140 - 160
PVC	40	1 - 6	120 - 140

15. MAINTENANCE

Caution: Isolate electric power supply before doing the maintenance.

A) Daily Maintenance

1. Blow off the dust and film debris using a blower or compressed air.
2. Remove any plastic leftover on the conveyor rods or sleeves

B) Weekly maintenance.

1. Apply graphite grease on the chains
2. Check the conveyor chain tension. Adjust if required
3. Apply lubricant to other moving parts.

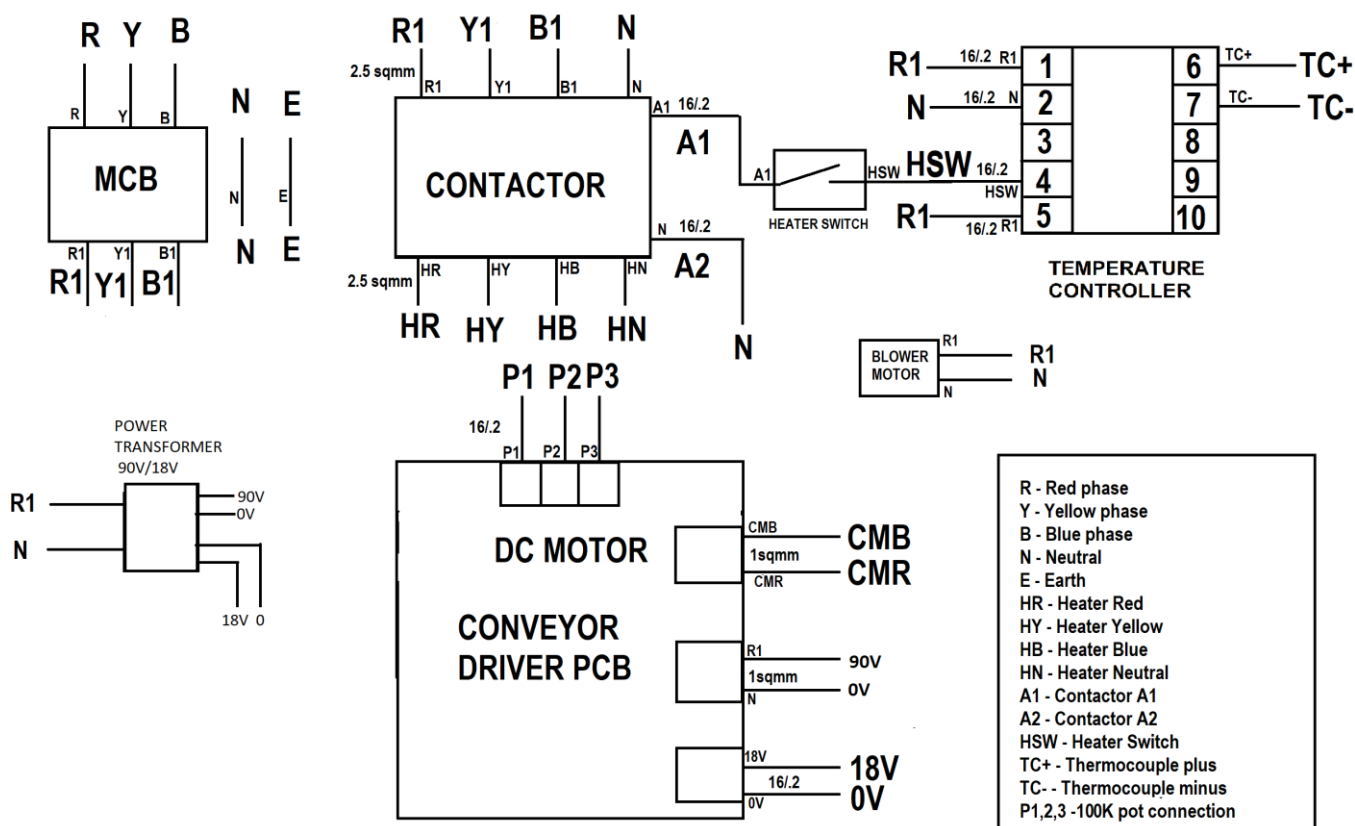
C) Monthly maintenance.

1. Inspect window curtains for damage.

D) Annual maintenance.

1. Inspect the conveyor chains. If they are elongated beyond Adjustable limits remove two links from either side.

16. ELECTRICAL SCHEMATIC



17. TROUBLE SHOOTING CHART

No.	Complaint	Reasons	Remedy
1	Machine does not work.	1.No AC supply. 2.MCB tripped.	1.Restore AC supply. 2.Check the wiring for any short circuit. If satisfactory, reset the MCB or replace the MCB.
2	Conveyor is not moving.	1.Conveyor speed changing knob in low position. 2.Conveyor motor stalling. 3.Defective conveyor motor. 4.Conveyor chain disengaged from the sprockets. 5. Conveyor chain breakage. 6.Defective conveyor driver sprocket. 7.Defective board for conveyor drive. 8.Fuse blown. 9.Defective driver PCB.	1.Increase the conveyor speed. 2.Reduce the load on the conveyor. Tilt the machine with a slope towards the direction of conveyor movement to increase the load carrying capacity of the conveyor. 3.Rectify/replace the conveyor motor. 4.Engage the conveyor chain with the sprockets. 5.Replace both chain together to avoid the mismatching of chains. 6.Replace the conveyor driver sprocket. 7.Replace the board for conveyor drive. 8.Replace the blown fuse 9.Replace the defective PCB.
3	Conveyor chain slips from the guides.	1.Low conveyor tension. 2.Misalignment of sprockets and chain rails.	1.Increase tension by adjusting the conveyor tension adjusters. 2.Align the sprockets and chain rails.
4	Air blower is not working.	1.No voltage supply at motor terminals. 2.Defective blower motor.	1.Restore voltage supply at the motor terminals. 2.Replace defective blower motor.
5.	Blower motor works, but the air turbulence fan does not rotate freely.	1.Shaft fitting Allen screw loose.	(a) Check the fan shaft assembly. (b) Ensure free rotation of the shaft and a little axial play. (c) Refit the fan assembly mounting plate.
6.	Insufficient shrinking.	1.Heater switch is off. 2.Low temperature setting. 3.Temperature is not building up.	1.Switch on the heater. 2.Increase the temperature setting. 3.Refer to complaint no. 7.

7.	Temperature is not building up.	1.Loose connection of heaters. 2.Heater failure. 3.Low temperature setting. 4.Defective contactor to heaters. 5.Defective thermocouple. 6. Defective temperature controller.	1.Make proper connections. 2.Replace the defective heater. 3.Increase temperature setting. 4.Replace the contactor. 5.Replace the thermocouple. 6.Replace the temperature controller.
8	Excessive shrinking.	1.High temperature setting. 2.Low conveyor speed. 3.Defective thermocouple. 4.Defective heater contactor due to contact welding.	1.Reduce the temperature setting. 2.Increase the conveyor speed. 3.Replace the thermocouple. 4.Replace the contactor.
9.	Shrinking is not uniform.	1.Air turbulence fan is not working. 2.Air turbulence fan is rotating in the wrong direction. 3.Some heaters are not working.	1.Refer to complaint no. 4. 2. Exchange connections to any two power supply phases. 3.Identify and replace the defective heaters.
10.	Abnormal sound and vibration.	1.Air turbulence fan loose. 2.Fan motor bearing failure. 3.Machine is not installed on a level surface.	1.Tighten the nut with which the air turbulence fan is attached to the blower drive shaft. 2.Replace the defective bearing. 3.Ensure that the machine is installed on a level surface.
11.	Display shows fluctuating temperature values.	1.Defective temperature sensor. 2.Defective temperature controller.	a)Replace the temperature sensor. b)Replace the temperature controller.

18. SERVICE LOG

[illegible]