

VL

Venturi Loader

Date: Jun., 2022

Version: Ver.C (English)



Contents

1. General Description	3
1.1 Coding Principle.....	4
1.2 Feature	4
1.3 Safety Regulations.....	6
1.3.1 Transportation and Storage of the Machine	6
1.4 Exemption Clause.....	7
2. Structure Characteristics and Working Principle.....	8
2.1 Main Functions.....	8
3. Installation and Debugging	9
3.1 Installation Space.....	9
3.2 Power Connection.....	10
4. Trouble-shooting.....	11
5. Maintenance and Repair	12
5.1 Filter Clean or Maintenance.....	12
5.2 Maintenance of the Filtering and Pressure Adjusting Valve.....	12

Picture Index

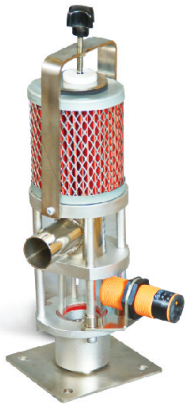
Picture 2-1: Working Principle Illustration	8
Picture 3-1: Installation Space	9

1. General Description



Please read this manual carefully before installation and using of the machine to prevent damage or personal injuries.

This series of model mainly uses the accelerated flow of compressed air to generate negative pressure to convey the materials, which is applicable to convey all kinds of plastic particles and it is a reliable feeding system. The high air pressure is 6~8kgf/cm².



Model: VL-50

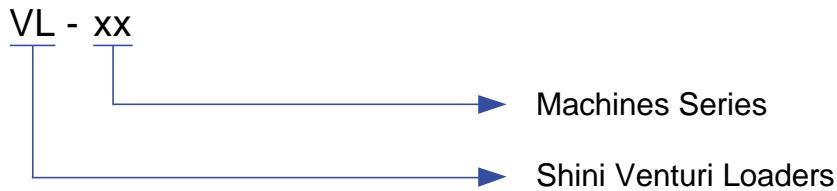


Model: VL-100



Model: VL-120

1.1 Coding Principle



1.2 Feature

- European Type appearance, compact in size and light-weighted.
- Filtered air exhaust does not pollute environment.
- Silent operation, it uses high-pressure air to convey materials.
- Capacitive sensor mounted onto the glass-tube for accurate level sensing.
- Filter assembly can filtrate the moisture in the air to ensure stable air pressure;
- Quick installation and easy operation with surface polished.
- Easy access to material hopper for convenient cleaning.
- Hopper and base mount positions adjustable.

All service work should be carried out by a person with technical training or corresponding professional experience. The manual contains instructions for both handling and servicing. Chapter 6, which contains service instructions intended for service engineers. Other chapters contain instructions for the daily operator.

Any modifications of the machine must be approved by SHINI in order to avoid personal injury and damage to machine. We shall not be liable for any damage caused by unauthorized change of the machine.

Our company provides excellent after-sales service. Should you have any problem during using the machine, please contact the company or the local vendor.

Shini Hotline Service:

Headquarter and Taipei factory:

Tel: + 886 (0)2 2680 9119

Shini Plastics Technologies (Dongguan), Inc.:

Tel: +86 (0)769 8331 3588

Shini Plastics Technologies (Pinghu), Inc.:

Tel: +86 (0)573 8522 5288

Shinden Precision Machinery (Chongqing), Inc.:

+86 (0)23 6431 0898

1.3 Safety Regulations

1.3.1 Transportation and Storage of the Machine

Transportation

- 1) VL series are packed cardboard box.
- 2) Do not rotate the machine and avoid collision with other objects during transportation to prevent improper functioning.
- 3) The structure of the machine is well-balanced, although it should also be handled with care when lifting the machine for fear of falling down.
- 4) The machine and its attached parts can be kept at a temperature from -25°C to $+55^{\circ}\text{C}$ for long distance transportation and for a short distance, it can be transported with temperature under $+70^{\circ}\text{C}$.

Storage

- 1) VL series should be stored indoors with temperature kept from 5°C to 40°C and humidity below 80%.
- 2) Disconnect all power supply and turn off main switch and control switch.
- 3) Keep the whole machine, especially the electrical components away from water to avoid potential troubles caused by the water.
- 4) Plastic film should be used to protect the machine from dust and rains.

Working environment

The machine should be operated:

- 1) Indoors in a dry environment with max. temperature $+45^{\circ}\text{C}$ and humidity no more than 80%.

Do not use the machine:

- 1) If it is with a damaged cord.
- 2) On a wet floor or when it is exposed to rain to avoid electrical shock.
- 3) If it has been dropped or damaged until it is checked or fixed by a qualified serviceman.
- 4) This equipment works normally in the environment with altitude within 3000m.
- 5) At least a clearance of 1m surrounding the equipment is required during Operation. Keep this equipment away from flammable sources at least two meters.

6) Avoid vibration, magnetic disturbance at the operation area.

Rejected parts disposal

When the equipment has run out its life time and can not be used any more, unplug the power supply and dispose of it properly according to local code.

Fire hazard



In case of fire, CO₂ dry powder fire extinguisher should be applied.



Attention!

No need for regular inspection because all the electrical parts in the control unit are fixed tightly!

1.4 Exemption Clause

The following statements clarify the responsibilities and regulations born by any buyer or user who purchases products and accessories from Shini (including employees and agents).

Shini is exempted from liability for any costs, fees, claims and losses caused by reasons below:

- 1) Any careless or man-made installations, operation and maintenances upon machines without referring to the Manual prior to machine using.
- 2) Any incidents beyond human reasonable controls, which include man-made vicious or deliberate damages or abnormal power, and machine faults caused by irresistible natural disasters including fire, flood, storm and earthquake.
- 3) Any operational actions that are not authorized by Shini upon machine, including adding or replacing accessories, dismantling, delivering or repairing.
- 4) Employing consumables or oil media that are not appointed by Shini.

2. Structure Characteristics and Working Principle

2.1 Main Functions

Venturi loader use fast flowing pressurized air to create a vacuum that is used to convey various plastic granules. Air pressure is around 6~8 kgf / cm².



Picture 2-1: Working Principle Illustration

3. Installation and Debugging

This series of model can only be used in working plant with good ventilation.

The feeding hopper can be directly installed on the injection molding machine and connected with the suction pipe and high-pressure air pipe. Connect the suction pipe with the dryer or storage hopper's suction box, and then connect the other end of the suction pipe to the hopper. It must use the steel wire pipe, and seal the joining points tightly, and finally connect the power supply.

3.1 Installation Space

During installation of the machine, keep at least 150mm installation space around the machine as shown by the picture.

Do not install the machine in a position crowded with other objects. This would cause inconvenience to operation, maintenance and repair.

Do not sit on the machine.

Keep away flammable and explosive goods.



Picture 3-1: Installation Space

3.2 Power Connection

- 1) Make sure the voltage and frequency of the power source comply with those indicated on the manufacturer nameplate that attached to the machine.
- 2) Power cable and earth connection should conform to your local regulations.
- 3) Use independent electrical wires and power switch. Diameter of electrical wire should not be less than those used in the control box.
- 4) The power cable connection terminals should be tightened securely.
- 5) The machine requires 3-phase 4-wire power source, connect the power lead (L1, L2, L3) to the live wires, and the earth (PE) to the ground.
- 6) Power supply requirements:
Main power voltage: +/- 5%
Main power frequency: +/- 2%
- 7) ***Please refer to electrical drawing of each model to get the detailed power supply specifications***

4. Trouble-shooting

Failures	Possible Reasons and Solutions
It can't work for a long time.	1. The main switch and control switch don't open or the above two don't connect well.
	2. The sensor has detected an object and it identifies that the hopper is full.
	3. The sensor signal wire is broken.
After multiple suction, the hopper is still lack of materials.	1. The storage tank is empty.
	2. The compressed air pipe has low gas flow.
Poor material liquidity in the pipe	Over or lack of air quantity. Adjust air inlet location of the suction box. Avoid small bending of the elbow.

5. Maintenance and Repair

5.1 Filter Clean or Maintenance

The filter is located in the material hopper. Clean the filter periodically or when it's feeding capacity decreases

Clean steps:

Unscrew the star knob, remove the filter. Clean the dust on the filter, make sure to get smooth conveying.

5.2 Maintenance of the Filtering and Pressure Adjusting Valve

In order to avoid air-blocking and to get smooth conveying, please periodically clean the dust on the filter (about once every week).