SAL-UG122 Series

"One-to-Two" Separate Hopper Loader

Date: Jun, 2018

Version: Ver.C (English)

SHINI

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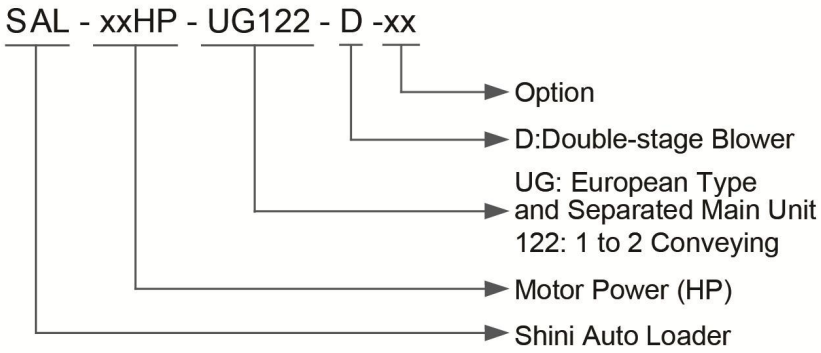
1. General Description

Read this manual carefully before operation to prevent damage of the machine or personal injuries.

"One-to-Two" Separate hopper loader are designed and developed on the basis of original European separate-vacuum hopper Loader. They feature more functions, easy to operate, and convenient to install. This model, equipped with a high pressure blower and two SHR-U-S type European central vacuum hoppers, is applicable to two dehumidifying and drying machines (dehumidifying dryer "SDD") or one gravimetric blender "SGB" to process plastic materials. Besides that , it can also realize the "One-to-Two" way of conveying materials to different moulding machines or hoppers to greatly lower the cost.

Model: SAL-5HP-UG122 Main Unit + SHR-12U-S Hopper

1.1 Coding Principle



1.2 Feature

- "One-to-Two" hopper loader can greatly lower the cost.
- The dust collective chamber features a cyclone separator and a dust collective bin to effectively reduce the load of the filter.
- Separate hopper receivers are designed in European style.
- Separate dust collector is convenient for dust cleaning.
- Main unit equips with faults and motor overload indicators to show faults fast.
- The main body of SAL-2HP~5HP equips with vacuum-breaking valve and SAL-10HP main body equips with vaccum valve to protect the blower.
- Standardly equipped with warning lamp as the alarm device.
- CE safety plug ensures safe and reliable operation.

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.

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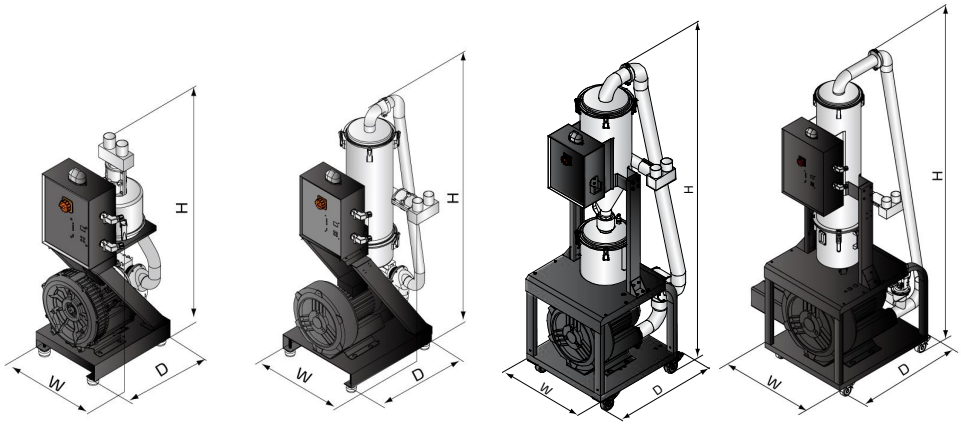
1.3 Technical Specifications

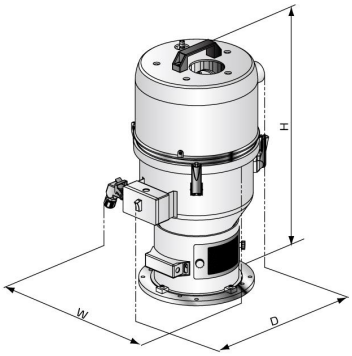
1.3.1 Technical Specifications (Main Unit)



1HP~3HP 5HP 10HP 20HP-D

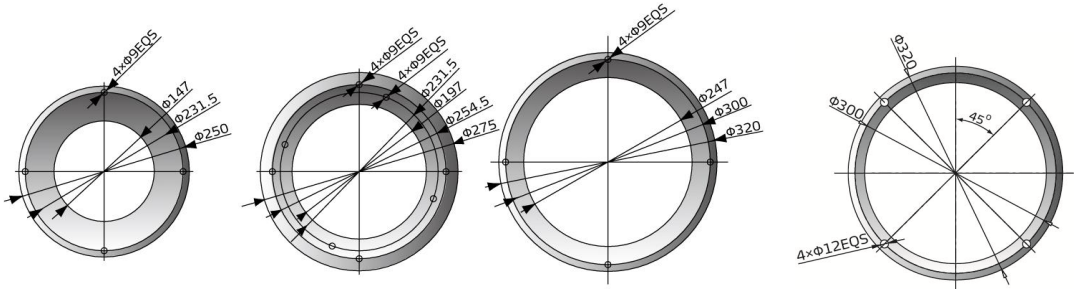
Picture 1-1: Main Unit of Technical Specifications

1.3.2 Hopper



Picture 1-2: Hopper SHR-U-S Technical Specifications

1.3.3 SHR-U-S Hopper Base Installation Size



SHR-3U-S SHR-6U~36U-S SHR-96U-S SHR-48U-S

Picture 1-3: Hopper Base Installation Size

1.3.4 Specifications

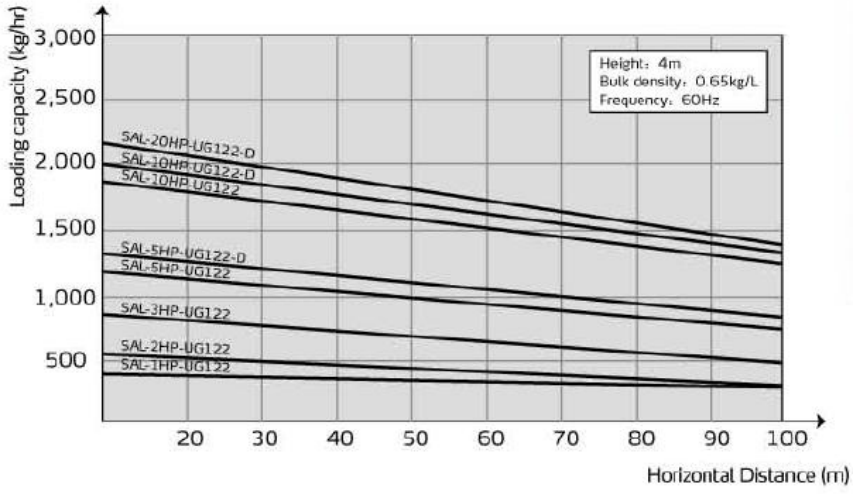
Table 1-1: Specifications

Main Unit					Hopper Receivers				Loading Pipe Dia. (Inch))	Air Suction Pope Dia.(Inch)	Loading Capacity (kg / hr)
Model(SAL)	Ver.	Motor Power (kW) (50 / 60Hz)	Dimensions (mm) H×W×D	Weight (kg)	Applicable Model	Capacity (L)	Dimensions (mm) H×W×D	Weight (kg)			
1HP-UG122	B	0.75 / 0.85	1000×400×500	52	2×SHR-3U-S	3	600×270×340	4.5	1.5	2	400
2HP-UG122	B	1.5 / 1.8	1000×400×500	56	2×SHR-6U-S	6	600×270×340	7.5	1.5	2	550
3HP-UG122	A	1.85 / 2.0	1000×400×500	60	2×SHR-12U-S	12	616×335×405	9	1.5	2	800
5HP-UG122	C	3.75 / 4.2	1380×540×600	175	2×SHR-12U-S	12	616×335×405	9	1.5	2	1200
5HP-UG122-D	C	3.75 / 4.2	1380×670×600	180	2×SHR-12U-S	12	616×335×405	9	1.5	2	1350
10HP-UG122	B	7.5 / 8.6	1988×674×790	185	2×SHR-36U-S	36	1035×335×405	12	2	2.5	1800
10HP-UG122-D	B	7.5 / 8.6	1988×840×787	192	2×SHR-36U-S	36	1035×335×405	12	2	2.5	2000
20HP-UG122-D	A	13 /15	2200x745x1000	246	2×SHR-48U-S	48	1160x400x480	20	2.5	3	2200

Note: 1) Test condition of conveying capacity: Plastic material of bulk density 0.65kg/L(5.5lb/gal).dia. 3~5 mm/0.12~0.2inch, vertical conveying height: 4m/13.1feet, horizontal conveying distance: 5m/16.4feet..

2) Power supply: 3Φ, 230/400/460/575V, 50/60Hz.

1.3.5 Loading Capacity



Picture 1-4: Loading Capacity

1.4 Safety Regulations

Strictly abide by the following safety regulations to prevent damage of the machine or personal injuries.

1.4.1 Safety Signs and Labels

All the electrical components should be installed by professional technicians.

Turn off the main switch and control switch during maintenance or repair.

Warning! High voltage!

This sign is attached on the cover of control box!

Warning! Be careful!

Be more careful at the place where this sign appears!

Attention!

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

1.4.2 Signs and Labels

	1. Please clean the suction filter regularly to avoid clogging and ensure proper loading capacity and long life span. 2. The one year warranty does not cover the suction filter, please clean the filter carefully.

1.5 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:

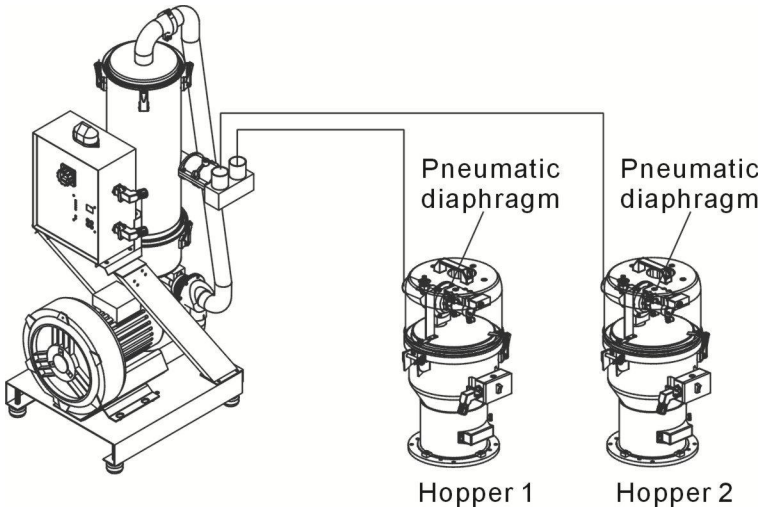
1. Any careless or man-made installations, operation and maintenances upon machines without referring to the Manual prior to machine using.
2. Any incidents beyond human reasonable controls, which include man-made vicious or deliberate damages or abnormal power, and machine faults caused by irresistible 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

SAL-UG "Euro" separate-vacuum hopper loader are applicable to convey plastic granule. Its principle is to make use of motor generated vacuum to form a pressure gap and to convey plastic material by this way.

2.1.1 Working Principle



Picture 2-1: Working Principle

Turn on the switch of the feed station to start the wind blower and open the relevant diaphragm valve of the hopper. A high pressure vacuum is generated in the hopper and the non-return flap is thus closed. The crew material is thereafter suctioned into the hopper due to differential pressure. After finishing the suctioning action, stop the motor and the vacuum breaking valve is opened. The crew material is dropped by gravity. When the magnetic proximity switch detect that there is no material, the motor starts up again. When in continuously 3 times failed to load material, the red alarming light for relevant feeding station on electrical control box starts to sound the alarm. When all the suction switches are turned on, the system will work from feeding station1 to 2 circularly.

2.2 Optional Accessories

2.2.1 Air Accumulator

2.2.1.1 Function of air Accumulator

Picture 2-2: Air Accumulator

In the case of much impurity or recycled materials included in raw materials, main unit can be equipped with air accumulator auto washing unit as options, and add "A" at the end of model code. (Suitable for SAL-5HP-UG and models above)

2.2.1.2 Specification of air Accumulator

Air accumulator: HxD=170x76mm

Note: Please fix the air supply correctly. Air pressure not less than 4 bar.

2.2.2 Buzzer

Picture 2-3: Buzzer

Buzzer is available as an option.

3. Installation and Debugging

Read this chapter carefully before installation of the machine. Install the machine by following steps.

Power supply should be fixed by qualified technicians!

3.1 Installation Space

When install this machine, make sure to have enough space for installation (there should be 1m remain space around the machine), like show in the figure. It is not convenient for checking and maintenance of the machine if it is installed in a narrow space.

Picture 3-1: Installation Space

3.2 Power Connection

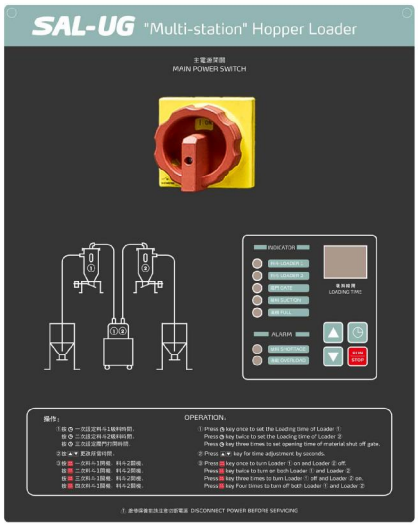
Make sure the power supply is complied with the required specification before connection.

The power specification of the machine is preset as 3Φ400V usually and can be also made on customer's specific requirements.

Note: Before connecting to power supply, make sure the power switch is in shut off position.

4. Application and Operation

4.1 Control Panel



Picture 4-1: Control Panel

4.2 Operation

1) Press "◷" key once to set the Loading time of Loader 1.
   Press "◷" key twice to set the Loading time of Loader 2.
   Press "◷" key three times to set opening time of material shut off gate.
2) Press "▲▼" key for time adjustment by seconds.
3) Press RUN/STOP key once to turn Loader 1 on and Loader 2 off.
   Press RUN/STOP key twice to turn on both Loader 1 and Loader 2.
   Press RUN/STOP key three times to turn Loader 1 off and Loader 2 on.
   Press RUN/STOP key four times to turn off both Loader 1 and Loader 2.

4.3 Notes

1) When running out of material, or the motor is overload, the operation will auto-stop and sound the alarm. Press RUN/STOP button for closing the alarm sound and stoppage.
2) After refilling the material, Press the RUN/STOP button to start the operation.
3) Check suction filter periodically and clean filter screen if necessary.

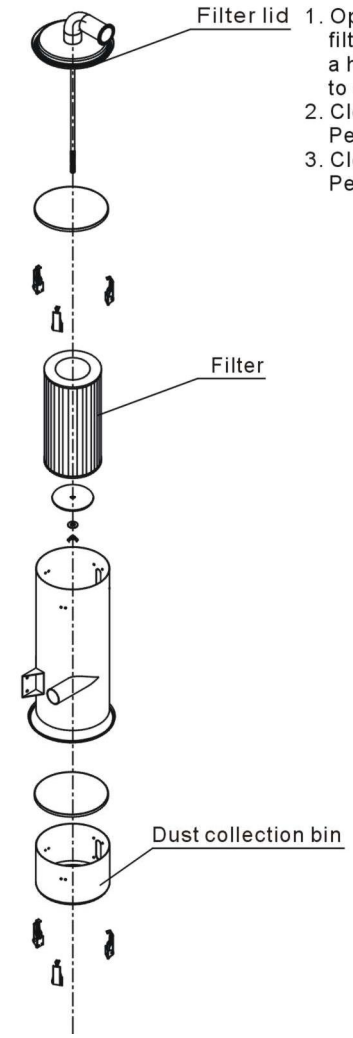
5. Trouble-shooting

Failures	Possible reasons	Solutions
When shortage lasts long, but suction blower don't run.	1. The main switch and control switch don't open or the above two don't connect well.	1. Close the main switch and control switch and check their connecting.
	2. The microswitch on hopper don't connect well.	2. Adjust or replace.
	3. The signal wire is break.	3. Re-connect.
The suction blower still run, if the hopper is full.	The touch point is conglutinated.	Repair or replace.
After several times of loading the material hopper still empty or the material shortage alarm occur.	1. The storage tank is empty.	1. Add the material.
	2. The pipe is air leak.	2. Lock tightly and replace the vacuuming pipe.
	3. The filter is block.	3. Clean the filter.
The motor can't run.	Short-phase or motor was burnt out.	Check and replace.
The fuse always was burn out after start-up.	Short circuit or connect the ground.	Check the circuit.
Motor overload alarm occur	1. The filter is block.	Clean the filter and reset the overload relay.
	2. One of three phase is lacking.	Check the circuit and reset the overload relay.
Poor material liquidityin the pipe	Over or lack of air quantity	Adjust air inlet location of the suction box. Avoid small bending of the elbow.

6. Maintenance and Repair

Note: All the repairs work should be done by professionals in order to prevent personal injuries and damage of the machine.

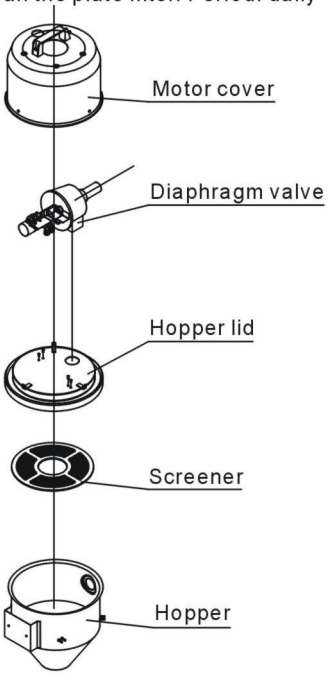
Main body, Filter Inspection and Storage Hopper Cleanup



1. Open the filter lid and remove the filter, blow away the dust on it with a high pressure air gun from inside to outside.
2. Clean the filter.
   Period: daily
3. Clean the dust collection bin.
   Period: daily

Hopper, Screener

1. Loosen the snap hook of the tank, remove the filtering barrel lid, take out the plate filter and eliminate the dust on it.
2. Clean the plate filter. Period: daily



6.1 Material Hopper

Clean material hopper periodically or when you find conveying capacity reduced. Please loose the spring clips, take down the hopper lid, and take out filter screen. Remove all the dusts and fines on filter screen and inside of material hopper.

6.2 Main Body

Take out the air filter to make it clean periodically or when you find conveying capacity reduced. Always keep smooth air flow through air filter to maintain good conveying capacity.

Cleaning steps:

1) Loosen spring clips of filter cover and butterfly screws, and take out the filter.
2) Remove the dusts adhering to the filter to keep good suction power.

6.3 Reed Switch, Photoelectric Switch

Reed switch

When the indicator of the reed switch doesn't work, check the switch contact and replace with a new one if it doesn't work well.

1) Unscrew the outer box of the sensor.
2) Adjust the depth or move position the sensor inserted into the box, the indicator lamp lights means that magnetism has been detected and the swith is well worked.
3) If magnetism cannot be detected by magnets, please check whether the switch is bad contacted or damaged.

Photoelectric Switch

When the indicator of the photoelectric switch doesn't work, check the switch contact and replace with a new one if it doesn't work well.

1) Check whether the wires are bad contacted.
2) Please replace with a new one if the switch is damaged.

6.4 Weekly Checking

1) Check if there are broken electrical wires or not. Replace the broken wires immediately.
2) Check the function of the keys on the control panel.
3) Check if conveying hose connections at material inlet are loose or not, and if the seal ring is sealed up.

Note: Cut off power supply when you check electrical wires.

6.5 Monthly Checking

1) Check if the clips of hopper lid is loose or not.
2) Check if the stopping flap is out of shape. If it is, please replace it.
3) Check the performance of magnetic proximity switch or photo sensor. If there is poor contact, adjust or replace it.
4) Check the working condition of the suction motor.

6.6 Maintenance Schedule

6.6.1 About the Machine

Model _____ SN _____ Manufacture date _____

Voltage_____Φ_____V Frequency _____ Hz Power _____ kW

6.6.2 Installation & Inspection

☐Check if the takeover pipe has been correctly connected.

☐Check if that pipe is locked up by clips.

☐Check if mounting base is locked tightly.

Electrical Installation

☐Voltage: _____V _____Hz

☐Fuse melting current: One-phase: A_____ Three-phase: _____ A

☐Check phase sequence of power supply.

6.6.3 Daily Checking

☐Check main power switch.

☐Check filter mesh.

☐Check working status of the motor.

6.6.4 Weekly Checking

☐Check all the electrical cables.

☐Check if there are loose connections of electrical components.

☐Check the screw of the feed-in pipe's flange is loosed or not.

☐Check the air filter.

6.6.5 Monthly Checking

☐Check the spring lock on the hopper cover is loosed or not.

☐Check the reversal stop piece is deformed or not.

☐Check the function of the magnetic proximity switch.