

SAL-U series

Self-contained Hopper Loaders

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1. General Description



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

Euro design with stainless steel hopper to avoid material from any pollutions, in addition, it has an attractive and polished appearance and a sound proofed motor cover to reduce noise level, and convenient to move. Remote operation becomes simple and convenient by using of a detachable control panel.



SAL-3U



SAL-6U-A



SAL-6U-3

Main Features:

- 1) SAL - 1.5U ~ SAL - 12U (-E) adopts carbon brush with fast rotating speed and large air quantity while maintain compact appearance, easy for transportation and installation.
- 2) Detachable and user - friendly control panel.
- 3) Motor start protector, carbon brush fault and running time indicator.
- 4) Wire connection point for SPV - U.
- 5) Round mounting flange makes itself suitable for various moulding machine feed port.
- 6) New additional pressure switch will realize the mesh blockade alarm function.
- 7) SAL - U has a reed switch, while SAL- U - E adopts photosensor switch with high sensitivity and stable quality.
- 8) All models equipped with hopper lid that are connected by hinge for easy mesh cleaning.
- 9) SAL - 3U and above model has a out dia. $\Phi 275$ mm base, which can work with all "Euro" hopper dryers except SHD - 20U and all "Econo" hopper dryers above SHD - 75.
- 10) SAL - 1.5U has a out dia. $\Phi 250$ mm base, which can work with SHD - 20U / 40U.
- 11) All SAL - U series machine has standard cloth mesh filter and auto - spraying dust cleaner. For SAL - 6U and above models, it is available to select air accumulator to enhance the purging and reduce manually clean time. In order to maintain good function, SAL - U - 3 series also has standard cloth mesh filter and motor reverse cleaning function without optionally select air accumulator and reverse cleaning kit.
- 12) Optionally provide multi - functional installation frame HMB - 900 with 900 mm largest dia.adjusting range for selection.
- 13) Provide both standard and optional heat - insulative Euro collective hopper SCH - 6U / 12U / 24U to mount directly on moulding machine feed port when magnetic proximity switch type hopper loader is used for material loading.
- 14) Upon request, it can be built to comply with worldwide electrical safety standards (For example : CE, UL, CSA, JIS etc.).

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 7, 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.

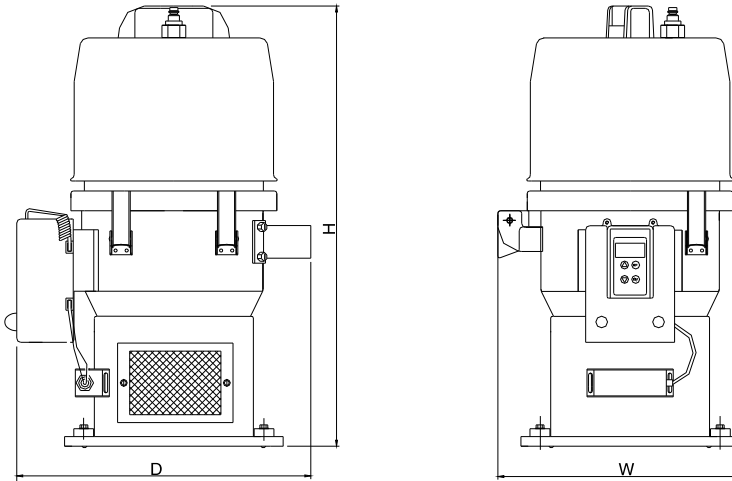
Headquarter and Taipei factory :
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Shini USA Service Information
Tel: 440-530-1000

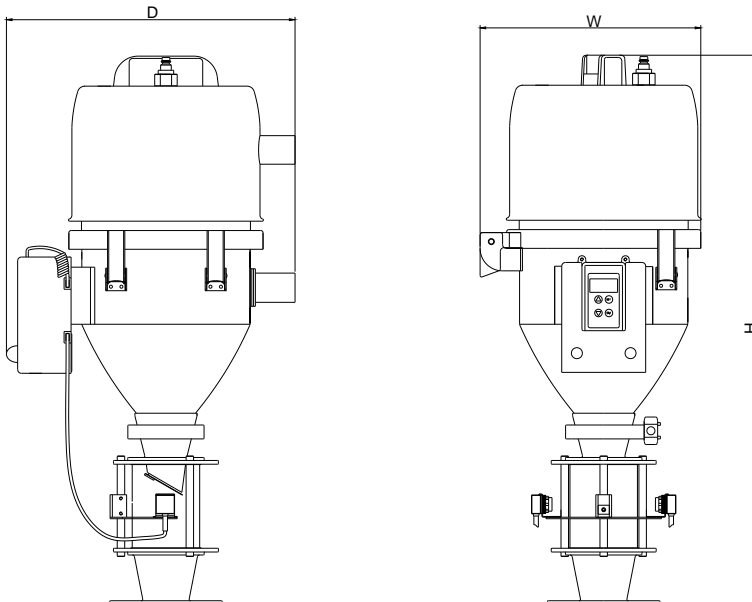
2. Technical Specifications

2.1 Outer Dimensions of SAL-U-E Series

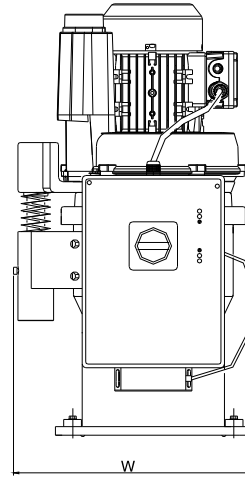
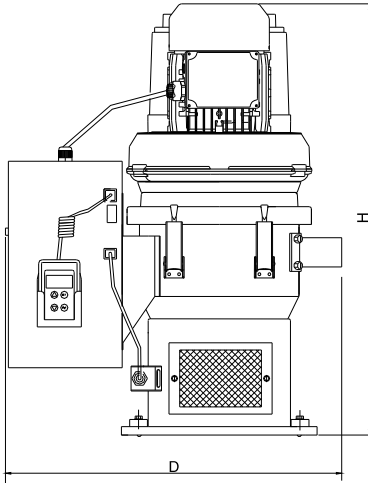
Outer Dimensions of SAL-U



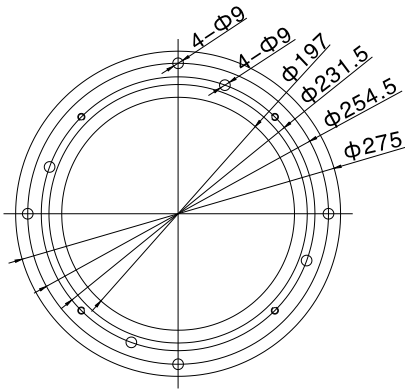
Outer Dimensions of SAL-U-E



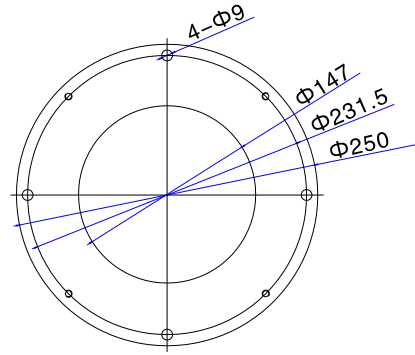
Outer Dimensions of SAL-3U / 6U-3



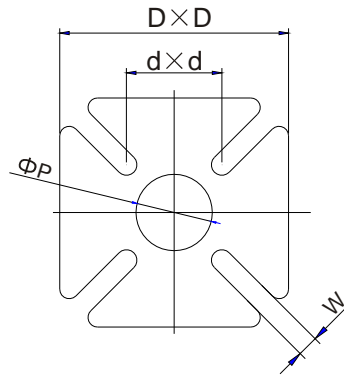
2.2 SAL-U-E Hopper Base Installation Size



SAL-3U And etc



SAL-1.5U



SAL-U-E(EA)

Model	$D \times D$	$d \times d$	W	P
SAL-1.5U-E	120×120	50×50	11	Φ40
SAL-3U-E	150×150	70×70	11	Φ55
SAL-6U-E	150×150	70×70	11	Φ55
SAL-6U-EA	150×150	70×70	11	Φ55
SAL-12U-E	180×180	80×80	11	Φ55
SAL-12U-EA	180×180	80×80	11	Φ55

2.3 Specification List of SAL-U-(E) Series

Model	SAL-1.5U	SAL-3U	SAL-6U	SAL-12U	SAL-3U-E	SAL-3U-E	SAL-6U-E	SAL-12U-E	SAL-3U-3	SAL-6U-3
Motor Type	Carbon brush								Inductive	
Motor Power (kW) (50/60Hz)	1.15 / 1.32	1.15 / 1.32	1.15 / 1.32	1.15 / 1.32	1.15 / 1.32	1.15 / 1.32	1.15 / 1.32	1.15 / 1.32	0.375 / 0.42	0.75 / 0.85
Conveying Pipe Internal Dia. (mm)	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"
Conveying Capacity (kg/hr)	150	200	300	400	150	200	300	400	200	300
Hopper Volume (L)	1.5	3	6	12	3	3	6	12	3	6
Power Supply (v)	1 Φ , 115/230V, 50/60Hz								3 Φ , 230/400/460/575V, 50/60Hz	
Auto-Cleaning Function	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Air Accumulator	None	None	Optional	Optional	None	None	Optional	Optional	None	None
Dimensions										
Height (mm)	525	555	645	745	670	740	800	935	605	675
Width (mm)	270	305	340	340	260	305	340	340	335	370
Depth (mm)	325	370	410	410	325	370	410	410	475	540
Weight (kg)	10	11	12	14	11	13	16	18	18	33

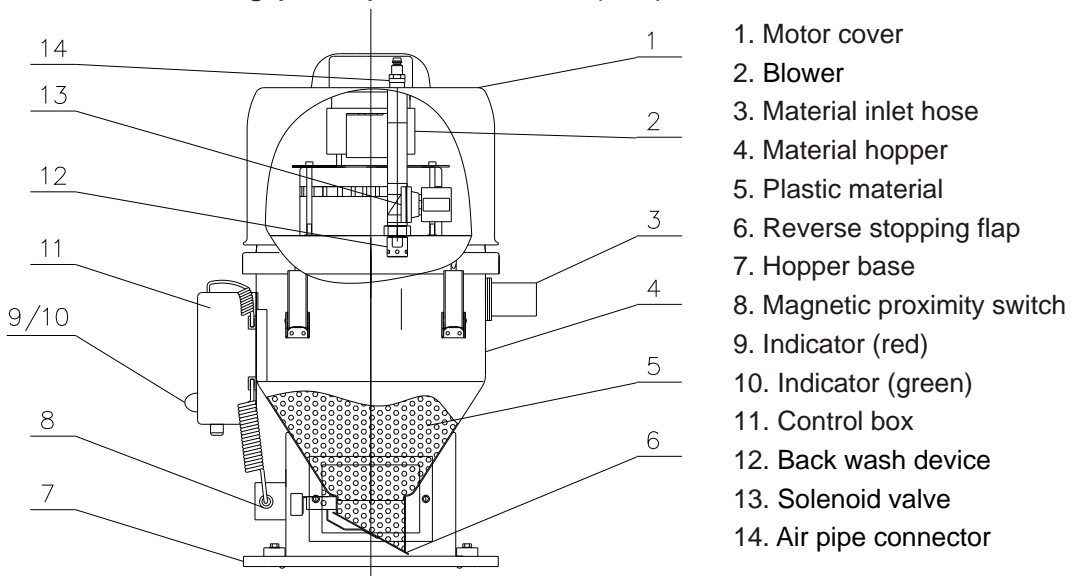
- Note: 1) For additional glass tube hopper with photosensor switch and non-return valve, plus "E" at model behind.
 2) For additional air accumulator, plus "A" at model behind. (such as : SAL - 6U - A...).
 3) For hopper inside polished ones, plus "P" at model behind.
 4) Test condition of conveying capacity: Plastic material of bulk density 0.65, dia. 3 – 5 mm, vertical conveying height: 4 m, horizontal conveying distance: 1 m.
 5) Compressed air supply: 4–6 kg/cm².

3. Function Description

3.1 Working Principle

SAL-U "Euro" Self-contained Hopper Loaders are suitable for conveying plastic granules. The blower vacuumizes material hopper by drawing the air out of it. Under high pressure, materials will be sent into material hopper.

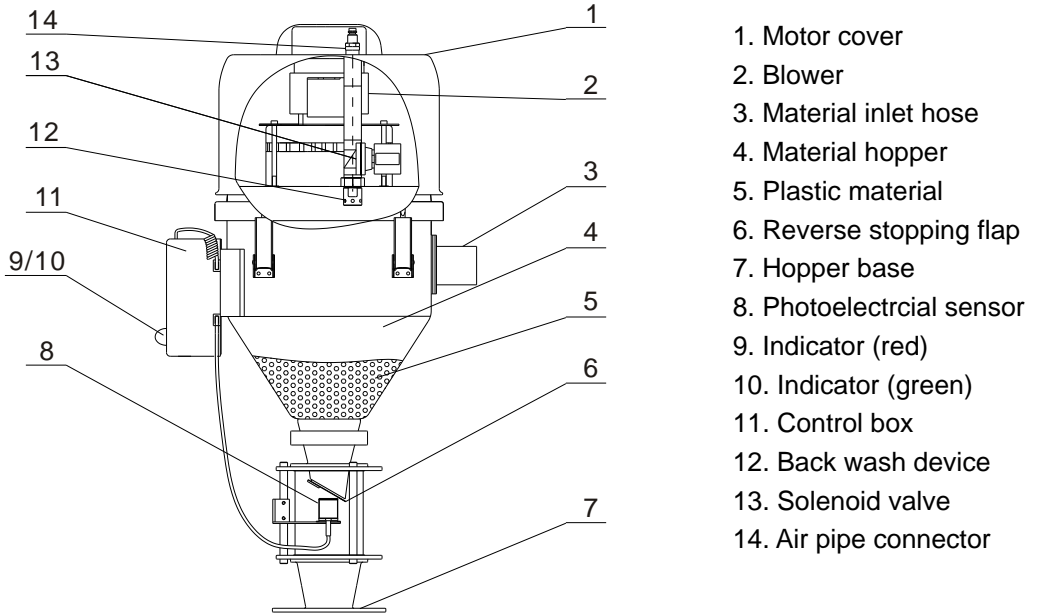
3.1.1 Working principle of SAL-U-(CA)



After starting the machine, blower (2) begins to vacuumize material hopper (4). At the same time, the reverse stopping flap (6) is closed. Materials in the storage bin will then be conveyed into material hopper (4) through material inlet hose (3) by pressure difference.

When material conveying is completed, motor stops working. The materials will then fall down under gravity. When magnetic proximity switch (8) detects that no materials left in the hopper, the motor is delayed, and the solenoid valve (13) is opened. The outer washing air flows into back wash device (12) from the air pipe connector (14) to wash the dust covered in the filter cloth and hopper inner wall. Then, the motor works again. When the materials are shortage, the alarm light (9) on the control box (11) will blink. The suction machine equipped with pressure storage tank can increase the storage capacity to reinforce the dust-remove efficiency of the back wash device.

3.1.2 Working principle of SAL-U-E (CA)

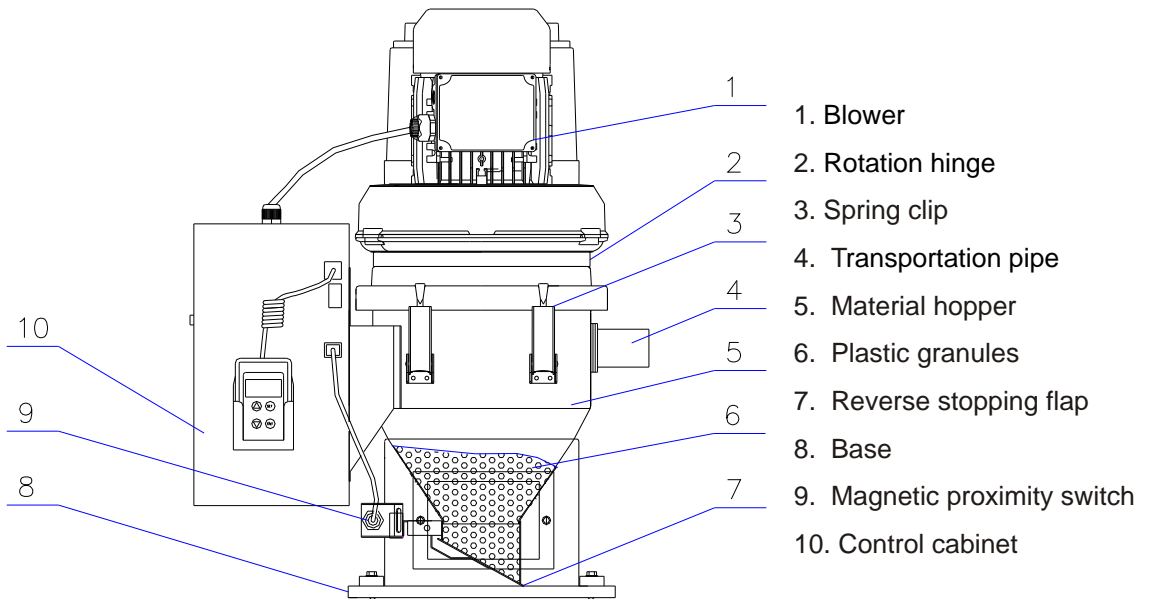


- 1. Motor cover
- 2. Blower
- 3. Material inlet hose
- 4. Material hopper
- 5. Plastic material
- 6. Reverse stopping flap
- 7. Hopper base
- 8. Photoelectric sensor
- 9. Indicator (red)
- 10. Indicator (green)
- 11. Control box
- 12. Back wash device
- 13. Solenoid valve
- 14. Air pipe connector

After starting the machine, blower (2) begins to vacuumize material hopper(4). At the same time, the reverse stopping flap (6) is closed. Materials in the storage bin will then be conveyed into material hopper (4) through material inlet hose (3) by pressure difference.

When material conveying is completed, motor stops working. The materials will then fall down under gravity. When magnetic proximity switch (8) detects that no materials left in the hopper, the motor is delayed, and the solenoid valve (13) is opened. The outer washing air flows into back wash device (12) from the air pipe connector (14) to wash the dust covered in the filter cloth and hopper inner wall. Then, the motor works again. When the materials are shortage, the alarm light (9) on the control box (11) will blink. The suction machine equipped with pressure storage tank can increase the storage capacity to reinforce the dust-remove efficiency of the back wash device.

3.1.3 Working principle of SAL-3U / 6U-3



After starting the machine, the blower (1) begins to vacuumize the hopper (5). Meanwhile, close the check valves (7), and the materials in the storage bucket will be conveyed through material conveying pipe (4) into the material hopper (5) under the function of minus pressure and the air flow. After finishing material suction, blower stops working and the materials will fall down by self-gravity. When magnetic proximity switch (7) detects that no materials remain in the hopper, close the check valve, the blower starts to work again. When the machine cannot suck materials from the storage bucket, the red alarm light in the control box (10) will be blinking to indicate that the materials are not enough.

User can set the machine into reverse rotation mode to remove the dust according the dust condition.

4. Safety Regulations

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



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 please!

Ear protection is used during all machine operation.



Attention !

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

Transportation and storage of the machine

Transportation

- 1) SAL-U series "Euro" hopper loaders are packed in paper cartons or plywood cases with/without wooden pallet at the bottom according to machine weight, suitable for quick positioning by hands or fork lift.
- 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) SAL-U series "Euro" hopper loaders 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.

5. Installation

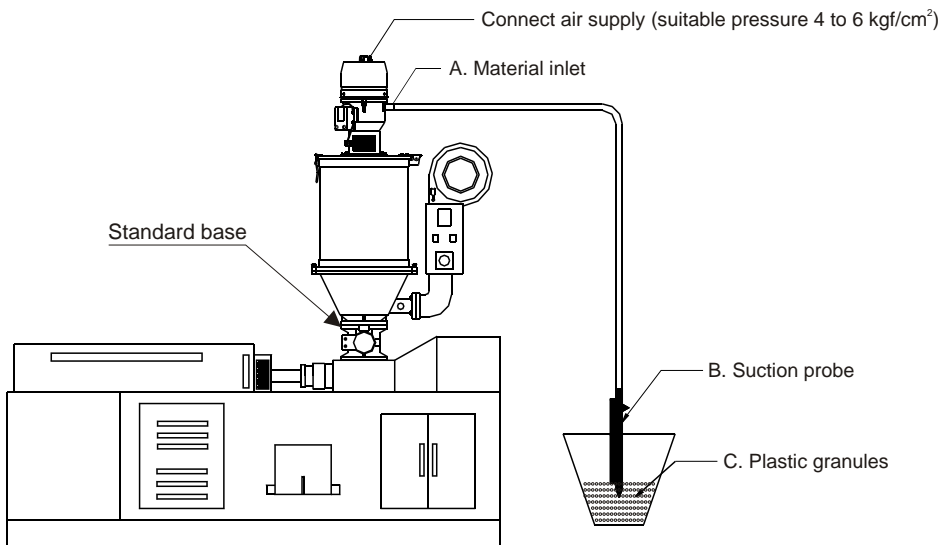


Read this chapter carefully before installation of the machine. Install the machine by following steps.

Power supply should be fixed by qualified technicians!

5.1 Install the Machine on the Dryers

5.1.1 Installation of SAL-U (-A)



Install the Hopper Loader (SAL-U) on a Hopper Dryer (refer to above drawing) by fastening the screws on the hopper base. Connect material inlet (A) with suction probe (B) by conveying hose. If optional filter cleaning pipe or air accumulator is fixed.

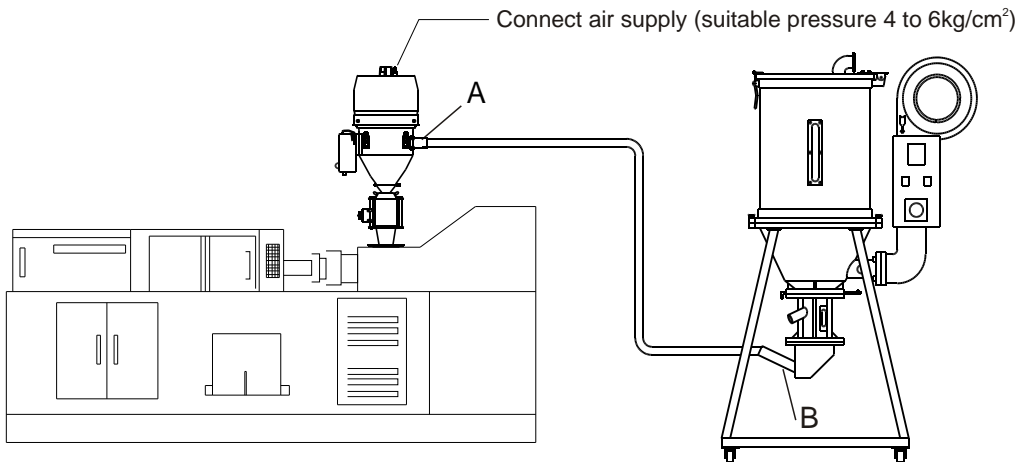
5.1.2 Power supply of SAL-U (-A)

Connect SAL-1.5U / 3U / 6U / 12U-(A) machine with Ac1 Φ 115 / 230V, 50 / 60Hz power supply and earth wire. Connect SAL-6U-3 with 3 Φ , 230/400/460/575V 50/60Hz power supply and earth wire.



Make sure that power supply is turned off before you fix electrical wires.

5.1.3 Installation of SAL-U-E (A)



Install the hopper loader (SAL-3U / 6U / 12U-E (A)) on the moulding machine (refer to above drawing) by fastening the screws on the hopper base.
 Connect materia inlet (A) with suction box (B) of the dryer.
 If optional filter cleaning pipe or air accumulator is fixed, please connect with high pressure air supply (suitable pressure 4~6 kg/cm²).

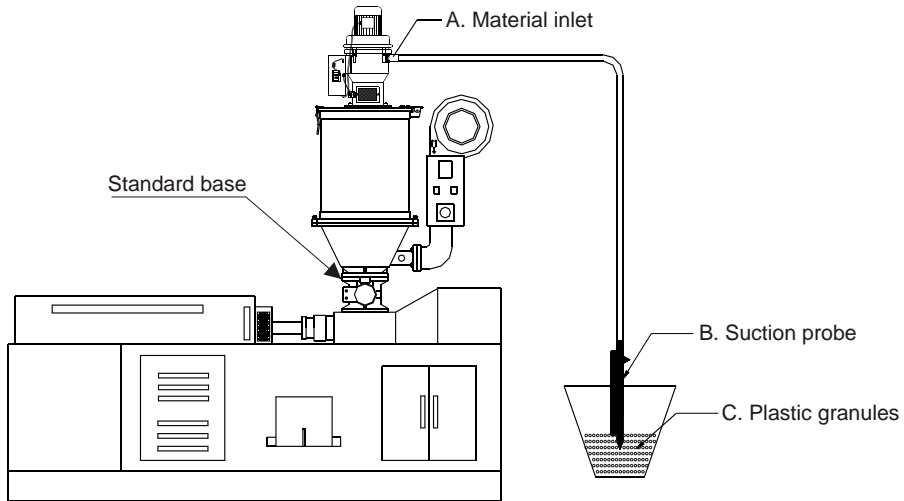
5.1.4 Power supply of SAL-U-E(A)

Connect SAL-U-E (A) series of machines with Ac1 Φ 115 / 230V, 50 / 60Hz power supply and earth wire.



Make sure that power supply is turned off before you fix electrical wires.

5.1.5 installation of SAL-3U / 6U-3



Install the hopper loader (SAL-3U / 6U-3) on a hopper dryer (refer to above drawing) by fastening the screws on the hopper base. Connect one end of the conveying hose with material inlet (A) and the other end with suction probe (B).

5.1.6 Power supply of SAL-6U-3

Connect SAL-6U-3 with 3 Φ , 400V 50Hz AC power supply.



Make sure that power supply is turned off before you fix electrical wires.

5.1.7 Installation space

During installation of the machine, keep at least 500mm 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.









6. Operation Guide

6.1 Start / Stop the Machine

The start and stop of SAL-U series of machines is controlled by alternative switch on the left side of the control cabinet, except that of SAL-6U-3 which is controlled by the main switch in front of the control box.





6.2 Keys on the Control Panel

-  Choose an item or cancel current input.
-  Choose an item and store current input value. It is also used to clear the alarm when alarm occurs.
-  Increase setting value.
-  Decrease setting value.
-  Stop the machine in 3 seconds. Press  to resume operation.

6.3 Parameter Setting

6.3.1 Enter basic setting mode

During normal operation, press  for about 1 sec. to enter [F.01] setting screen. [F.01] and its value show alternatively after 0.8 sec. If you want to set [F.04], the system will show [F.99]. [F.99] and its value will show alternatively after 0.8 sec. Input correct password to enter [F.01], then press  to switch to [F.04].

6.3.2 Modify a parameter

Press ▲ to increase parameter value. Keep on pressing ▲ to quickly increase it's value until the maximum of it. Press ▼ to decrease parameter value. Keep on pressing ▼ to reduce it's value until the minimum of it. Press ENT to confirm parameter setting to store its value into the microprocessor and enter next setting item. If you did not change anything, press ENT to enter into next setting item. Press SET to cancel parameter setting and return back to current setting screen. If you did not change anything, press SET to enter into next setting item.

6.3.3 Finish parameter setting

Keep on pressing SET for about 1 sec. to return to normal display mode. If you did not touch any keys for 20 seconds, the machine will return to normal display mode without storing any changes of the parameter.

6.3.4 Basic parameter list:

Para. code	Functions	Value		Note
		Default value	Range	
F.01	<p>Material conveying time</p> <p>Material conveying time can be controlled and set by two manners:</p> <p>1. [F.01] is defined as material conveying time (DIP8 is off). It is stored in the microprocessor. It's value could be seen when setting [F.01] and can be revised and re-stored in the microprocessor.</p> <p>2. Set conveying time by DIP switch (DIP8 is on) on the control box. DIP switch is working according to a binary system. Material conveying time set by DIP switch will not be stored in the microprocessor, but the machine will read the value each time you start the machine. You can check the value of [F.01] for conveying time set by DIP switch. It can be revised and stored into the microprocessor through control panel. The machine will read set value as material conveying time each time you start the machine.</p> <p>Action code: S.02</p>	10 seconds	5-127 seconds	
F.02	<p>Material mixing time</p> <p>This function will be started simultaneously with material conveying. It is set as a percentage of conveying time: it's value is calculated by following formula: conveying time × [F.02]%. Set it's value as 0 to disenable it.</p>	0% Not enabled	0-100 %	
F.03	<p>Material mixing frequency setting</p> <p>[F.02] means to start material mixing after a certain times of material conveying. Set [F.02] as 1, which means to start material mixing at every material conveying. Set it's value as 0 to cancel material mixing.</p>	1	1-9	
F.04	<p>First layer lockup</p> <p>When to enter first layer setting, if [F.01] is not set as 0, then the screen will switch to [F.99], and require you to input a password before setting [F.01]. If the password is incorrect, the screen will return to normal display mode. Set [F.04] as 0 to cancel the password.</p>	0	0-999	



At delivery, the machine was not coded. You can set a code for the machine. In case of losing the code, please contact our company.

6.4 Process Setting

6.4.1 Enter into process setting mode:

Start the machine, press **SET** for about 1 sec. To enter basic setting mode. Then press **SET** and **ENT** at the same time to enter parameter [F.05] setting. [F.05] and it's value show alternatively. If you have set [F.12], the system will switch to [F.98]. Enter correct password to enter [F.05], then press **SET** to switch to [F.12].

6.4.2 Modify a parameter:

Press **▲** to increase parameter value. Keep on pressing **▲** to quickly increase it's value until the maximum of it. Press **▼** to reduce parameter value. Keep on pressing **▼** to reduce it's value until the minimum of it. Press **ENT** to confirm parameter setting and store it's value into the micro-processor and to enter next setting item. If you did not change anything, press **SET** to enter into next setting item. Press **SET** to cancel parameter setting and return back to current setting screen. If you did not change anything, press **ENT** to enter into next setting item.

6.4.3 Finish parameter setting:

Keep on pressing **SET** for about 1 sec. to return to normal display mode. If you did not touch any keys for 20 secretary, the machine will return to normal display mode without storing any changes of the parameter.

6.4.4 Process parameter list

Para. code	Functions	Value		Note
		Default value	Range	
F.05	<p>Material conveying delayed time</p> <p>The delayed time between first material conveying and later conveying action. 0 stands for no delaying time. Action code: S.06</p>	0 sec.	0-999 seconds	
F.06	<p>Filter screen cleaning time before material conveying</p> <p>0 stands for no filter cleaning action. Action code: S.01</p>	3 seconds	0-99 seconds	
F.07	<p>Filter screen cleaning time after material conveying</p> <p>0 stands for no filter cleaning action. Action code: S.03</p>	3 seconds	0-99 seconds	
F.08	<p>Check material discharging time</p> <p>Check material discharging time after material conveying. If there are directive signals, then the machine gets into next procedure. If not, add 1 to material shortage counter. When this situation continues until material shortage times exceed the setting value of [F.09], the machine will raise the alarm. Action code: S.04</p>	10 seconds	0-99 seconds	
F.09	<p>Material shortage alarm</p> <p>If there are not any materials for discharging for several times, the machine would sound the alarm.</p> <ol style="list-style-type: none"> The alarm will be reset if the machine can get material again. Press ENT on the control panel to clear the alarm Restart the machine. <p>Action code: A.01</p>	3	1-9	
F.10	<p>Material shortage counting and stop of the machine</p> <p>If there are not any materials for discharging, the machine would stop and sound the alarm.</p> <ol style="list-style-type: none"> Press ENT to clear the alarm. Restart the machine. Set it's value as 99 to cancel this function. <p>Action code: A.04</p>	99	[F.09] - 99	
F.11	<p>Setting waiting time before or after loading</p> <p>Set screen clean as 0, for either before or after each loading. So it is waiting to be shut before loading. If set 0 for screen clean after loading, so it is waiting to be shut after loading. Set as 0, which indicates no waiting before or after loading.</p>	30	999	

F. 12	<p>Second layer lockup</p> <p>When to enter scnd layer setting, if [F.12] is not set as 0, then the screen will switch to [F.98], and require you to input a password before setting [F.05]. If the password is incorrect, the screen will return to normal display mode. Set [F.05] as 0 to cancel the password.</p>	0	999	
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At delivery, the machine was not coded. You can set a code for the machine. In case of losing the code, please contact our company.

6.5 Special Process Setting

6.5.1 Enter into special step setting mode:

Enter into setting mode according to the steps described in 6.4. Press to choose [F.11], then press for about 1 sec. to enter into the setting of [F.13]. [F.13] and it's value will show alternatively.

6.5.2 Modify a parameter

Press to increase parameter value. Keep on pressing to quickly increase it's value until the maximum of it. Press to decrease parameter value. Keep on pressing to reduce it's value until the minimum of it. Press to confirm parameter setting and store it's value into the microprocessor and to enter next setting item. If you did not change anything, press to enter into next setting item. Press to cancel parameter setting and return back to current setting screen. If you did not change anything, press to enter into next setting item

6.5.3 Finish parameter setting:

Keep on pressing for about 1 sec. to return to normal display mode. If you did not touch any keys for 20 seconds, the machine will return to normal display mode without storing any changes of the parameter.

6.5.4 Parameter list of special process setting:

Para. code	Functions	Value		Note
		Default value	Range	
F. 13	<p>Buzzer working mode</p> <p>Setup buzzer working mode</p> <p>0: uninterrupted sounding</p> <p>1: Slow, interrupted sounding</p> <p>2: quick, interrupted sounding</p>	1	0- 2	
F. 14	<p>Set buzzer sounding period</p> <p>Set buzzer sounding period:</p> <p>Set [F.13] as 999 to cancel buzzer sounding function.</p>	999	999	
F. 15	<p>First carbon brush alarm</p> <p>When carbon brush working hours [F.17] get to a certain point, [F.14] will raise the alarm. Please replace the carbon brushes. The alarm will last 5 minutes, and will repeat every 15 minutes until [F.17] set as 0. Set [F.14] as 0 to cancel this function.</p> <p>Action code: A.05</p>	80 Unit 10Hrs	0-999	
F. 16	<p>Second carbon brush alarm</p> <p>When carbon brush working hours [F.17] get to a certain point, [F.15] will raise the alarm. Please replace the carbon brushes. The alarm will last 5 minutes, and will repeat every 15 minutes until [F.17] set as 0. Set [F.15] as 0 to cancel this function.</p> <p>Action code: A.06</p>	100 Unit 10Hrs	[F.14]- 999	
F. 17	<p>Third carbon brush alarm</p> <p>When carbon brush working hours [F.17] get to a certain point, [F.16] will raise the alarm until [F.17] set as 0. Please replace the carbon brushes. Set [F.16] as 0 to cancel this function.</p> <p>Action code: A.07</p>	110 Unit 10Hrs	[F.15]- 999	
F. 18	<p>Carbon brush usage record</p> <p>Checking and clear the working hours of carbon brush. Clear carbon brush working hours: set its value as 0, press ENT to confirm.</p>	0	0- 999 Set its value as 0 to clear the record.	

F. 19	<p style="text-align: center;">Motor startup protective switch</p> <p>Set to on or off the motor startup protective switch 0: if it is on, which indicates slow speed protection of the start up loading motor 1: if it is off, which indicates full speed protection of the start up loading motor.</p>	0	0: soft start on 1: soft start off	
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6.6 Explanation of Operation Procedures

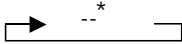
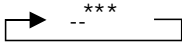
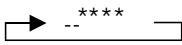
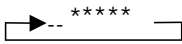
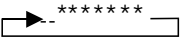
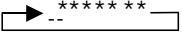
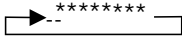
6.6.1 Operation procedures

The machine can work without control panel connected with it. The following is an explanation of operation procedures.

Indicators	Action code	Operation procedures	Relative parameter	Parameter description	
				Default	Range
Red light flickering	S. 01	Filter cleaning	F. 06	3 seconds	0-99 seconds
	S. 02	Material suction	F. 01	10 seconds	5-127 seconds
		Masterbatch suction	F. 02	0%	0- 100%
			F. 03	3	1-9 times
	S. 03	Filter cleaning and material falling into storage bin	F. 07	3 seconds	0-99 seconds
	S. 04	Wait until materials completely discharged	F. 08	10 seconds	0-99 seconds
	S. 05	Check alarm information (instantly completed, no display on control panel.)			
S. 06	Delayed time for material conveying.	F. 05	0 sec.	0-999 seconds	
Green light shines	---	Time for material conveying confirmation			

6.6.2 Alarms

Alarm information display and relative solutions.

Red alarm light	Code	Possible reasons	Solutions	Remarks
	[A.01]	Material shortage alarm [F.9] 1. Material loading time is too short. 2. Can not get any materials. 3. Conveying hose blocked, 4. Not enough suction power.	1. Add material. 2. Increase material conveying time. 3. Stop the machine and check the conveying hose. ◆ The alarm will be cleared when the machine can again load the material, or by pressing ENT on the control panel or by cutting off power supply.	
	[A.03]	Filter trouble alarm 1. Filter blocked	1. Stop the machine to clean filter screen or replace it. ◆ The alarm will be cleared by cutting off the power or press ENT on the control panel.	
	[A.04]	Non-operation alarm [F.10] 1. After a certain period time of material shortage, the machine will stop working.	Please refer to the solutions of [A.01] or modify the value of [F.10]. ◆ The alarm will be cleared by cutting off the power or press ENT on the control panel. ◆ Please fix the control panel onto the machine and modify its value.	
	[A.05]	First carbon brush alarm When carbon brush working hours [F.17] gets to a certain point(800 hrs), [F.14] will raise the alarm.	Please prepare the carbon brush for replacement. The alarm will last for 5 minutes. The machine will repeat the alarm every 15 minutes until you reset carbon brush working hour.	
	[A.06]	Second carbon brush alarm When carbon brush working hours [F.17] gets to a certain point(1000 hrs), [F.15] will raise the alarm.	Please replace the carbon brush and reset carbon brush working hour. The alarm will last for 5 minutes. The machine will repeat the alarm every 15 minutes until you reset carbon brush working hour.	
	[A.07]	Third carbon brush alarm When carbon brush working hours [F.17] gets to a certain point (1100 hrs), [F.16] will raise the alarm.	Please replace the carbon brush and reset carbon brush working hour. The machine won't stop the alarm until carbon brush working hour is reset.	
	[A.08]	Data can not be stored into EEPROM.	Please contact our company to replace the PCB.	

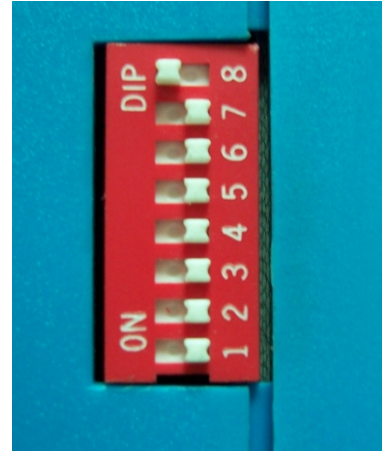
- Denotes the light is off, * Stands for flash of the light.

6.7 DIP Switch

DIP switch is installed on the right side of the machine. (See right) It can be used conveniently to set material conveying time.

Operation steps:

Turn DIP8 to on position. DIP switch is working according to a binary system. Its value is defined as material conveying time, which can not be stored in micro-processor, but the machine will read the value each time you start the machine. You can check the value of [F.01] set by DIP switch, revise and store its value into the microprocessor through control panel. The machine will read set value as material conveying time each time you start the machine.



DIP Switch

Example: In figure 1, DIP switch value is 0000001, which means material conveying time is one second. In figure 2, DIP switch value is 0000010, which means material conveying time is two seconds and similarly in figure 3, DIP switch value is 0000100, which means four seconds for material conveying and so on. If DIP switch value is 1111111, material conveying time equals to 127 seconds.



(Figure 1)



(Figure 2)



(Figure 3)

7. Service and Maintenance



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

7.1 The Useful of the Key Parts of the Product

Name of the parts	Useful life
Motor	Above 5 years
Circuit-Break	Above 100,000 act

7.2 Cloth Filter

For SAL-U series, cloth filter are fixed in the material hopper. Please clean the filter bag periodically or at the time you found conveying capacity of the machine reduced. Loose the screws or springs on the hopper lid, take down the lid, then take the filter bag out to make it clean. Always keep smooth air flow through the filter to keep good suction power of the blower.

Steps:

- 1) Loose the spring clips on the hopper lid and take it down, then take the filter bag out.
- 2) Re-fix the filter bag and hopper lid.

7.3 Material Hopper

After a period time of operation, materials will adhere to the inner surface of material hopper. Make material hopper clean to ensure proper working of the machine.

- 1) Loosen the hopper connection food connector, take out the hopper cloth filter.

- 2) Use high pressure air to remove the remains of material.
- 3) Re-fix cloth filter and hopper lid.

7.4 Glass Tube

When you find there are materials attached on the inner surface of the glass tube, please remove the materials to make the machine work properly.

- 1) Loosen the clip and fastening screws at the connection of material hopper and glass tube, take down the material hopper.
- 2) Loosen the flange at the top of the glass tube, take it out, and make it clean.



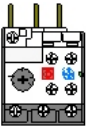

Note! Be careful not to break the glass tube during cleaning.

8. Trouble Shooting

8.1 Trouble Shooting of "Euro" Single Phase Self-contained Hopper loaders

Failures	Possible reasons	Solutions
Motor does not work long after material discharge.	Main power switch or control switch is off or poorly connected.	Turn on main switch or control switch and make sure they are well connected.
	Poor contact or broken of magnetic proximity switch/opposite-type photoelectric switch	Repair or replace.
	Signal wire is broken.	Reconnect signal wire.
Motor can not fully load material hopper, or machine sounds material shortage alarm.	No material left for conveying.	Add the material.
	Air pipe leakage.	Firmly lock the air pipe or replace.
	Filter is jammed.	Clean the filter.
Motor can not work.	Motor is burt out.	Repair or replace.
Fuse melts when turn on the machine.	short circuit or motor is burt out.	Check electrical circuit.
Motor keeps on working after material hopper is full-loaded.	PCB problems.	Repair or replace.

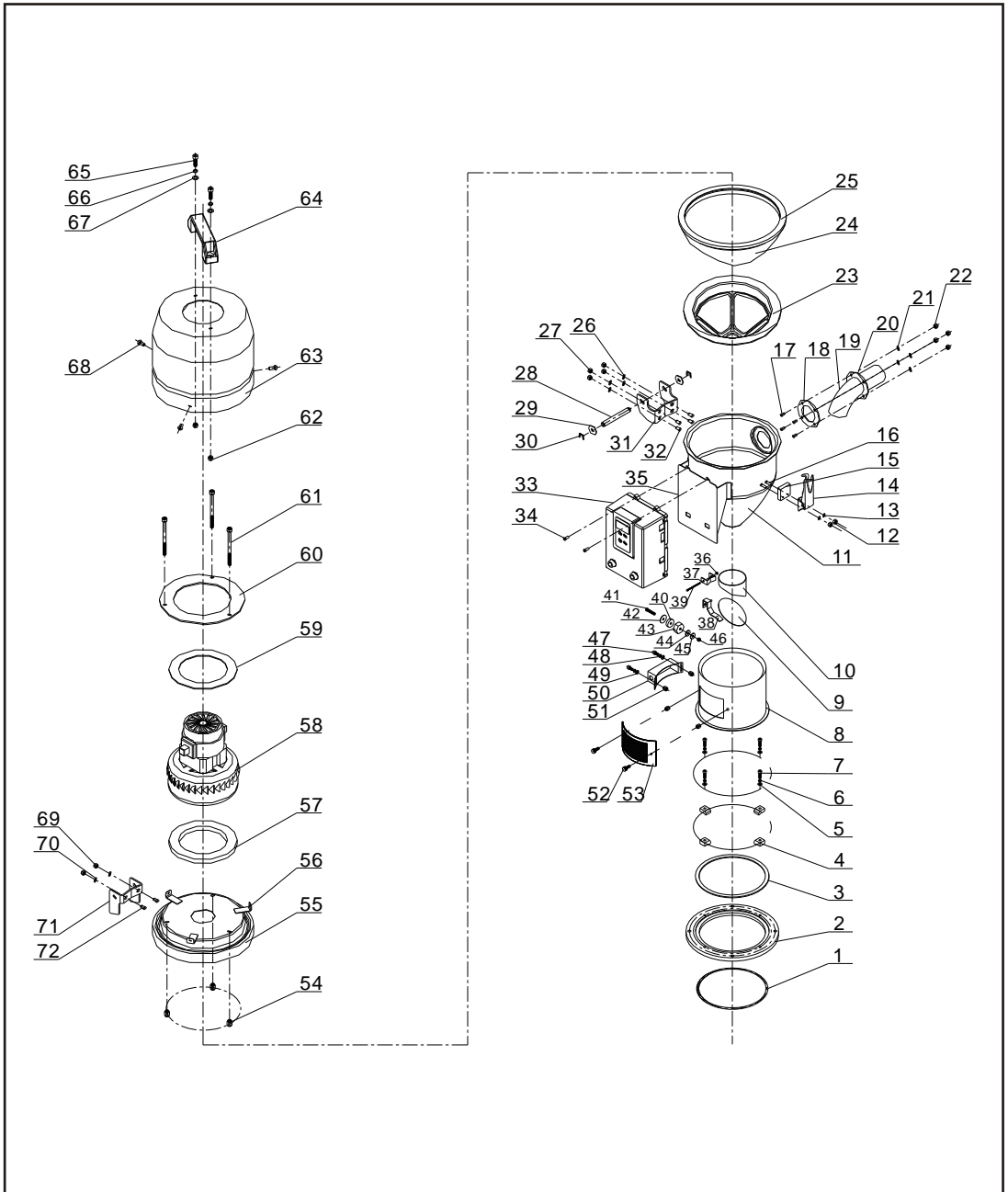
8.2 Trouble Shooting of "Euro" 3-phase Self-contained Hopper Loaders

Failures	Possible reasons	Solutions
Motor does not work long after material discharge.	Main power switch or control switch is off or poorly connected.	Turn on main switch and control switch and make sure they are well connected.
	Poor contact of magnetic proximity switch.	adjust or replace.
	signal wire is broken.	Reconnect
Motor keeps on working after material hopper is full-loaded.	Contactor malfunction.	Repair or replace contactor
Motor can not fully load material hopper, or machine sounds material shortage alarm.	No materials left for conveying.	Adding material.
	Air pipe breakage.	Firmly lock it or replace.
	Cloth filter is blocked.	Clean cloth filter.
Motor can not work.	Phase shortage or motor is burt out.	Check or replace.
Fuse melts each time you turn on the machine.	Short circuit or motor is burt out.	Check electrical circuit.
Motor overload alarm	Filter screen is blocked.	Clean the filter screen and press Reset on the overload relay. 
	Phase shortage	Check the electrical circuit and press Reset on the overload relay. 

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9.1 Assembly Drawing of SAL-1.5U



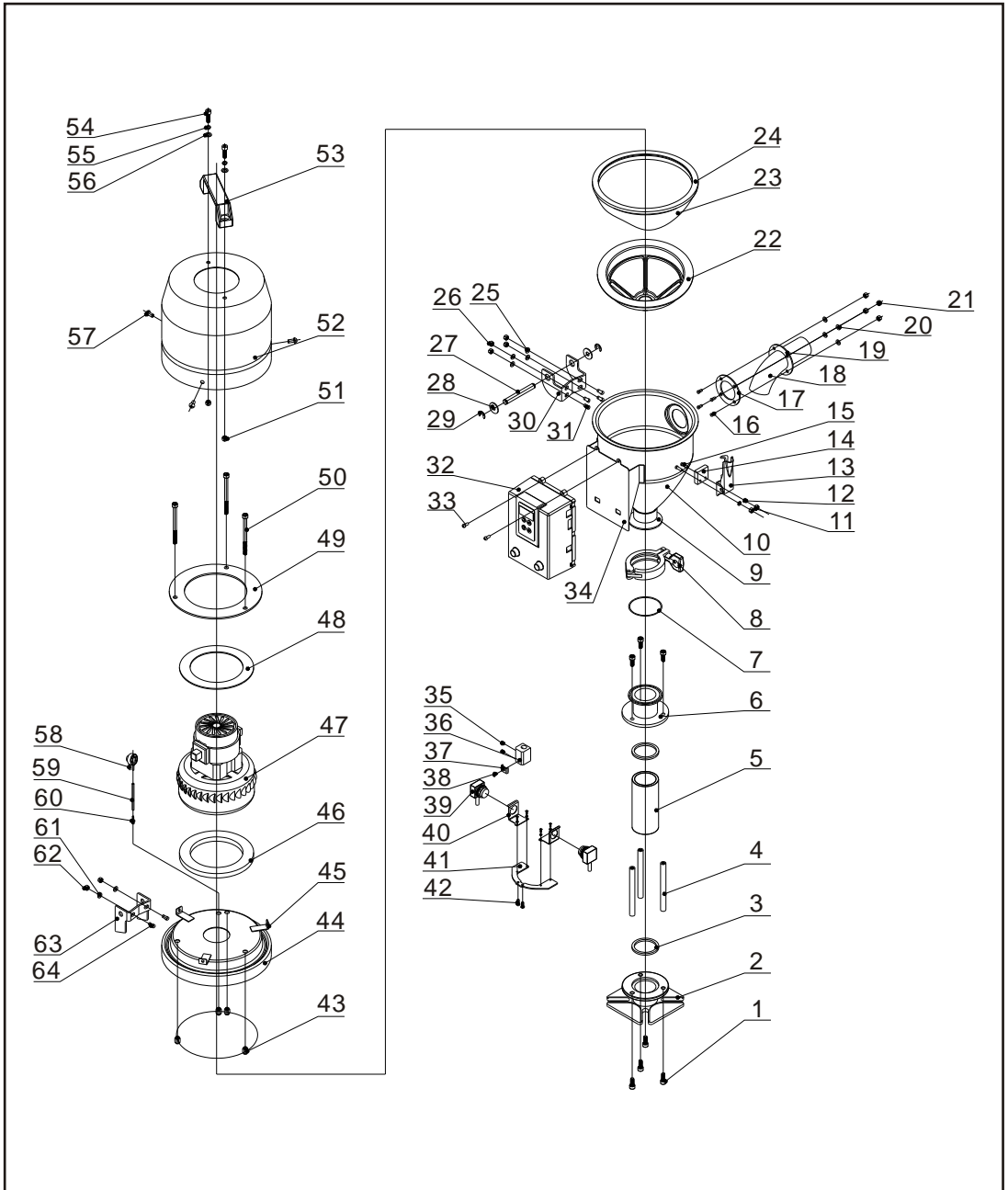
9.2 Parts List of SAL-1.5U

No.	Name	SN	No.	Name	SN
1	O-Type seal ring	A3155000	26	Loose-proof nut M5	F1907001
2	Base	A1106125	27	Flat washer $\Phi 5 \times 10$	F1705000
3	Base packing	-	28	Hinge pin	A1200608
4	Pressure block	A2203060	29	Fat washer $\Phi 8 \times 22$	F1711000
5	Flat washer $\Phi 6 \times 13$	F1707000	30	Spring washer	F1717000
6	Spring washer M6	F1804000	31	Low hinge	A1100604
7	Inner hexagon screw M6 \times 20	F1226000	32	Screw M5 \times 10	F7705100
8	Hopper fixed base	A1101110	33	Electric controlled box	M0800056
9	Baffle plate	A1200600	34	Thick-headed screw M4 \times 6	F1302000
10	Mouth of the baffle plate	A1200610	35	Electric controlled box base	A1200607
11	Material storage bucket	A1127002	36	Loose-proof nut M3	F1901000
12	Loose-proof nut M4 \times 0.7	F1904000	37	Baffle plate fixed base	A1200615
13	Flat washer $\Phi 4 \times 8$	F1703001	38	Baffle plate fixed base connection block*	A1200609
14	Snap hook **	A1200024	39	Thick-headed screw M3 \times 10	F1301005
15	Pressure block	A2200602	40	Permanent magnet	F9211000
16	Screw M4 \times 15	F1614002	41	Thick-headed screw M6 \times 20	F1331000
17	Screw M4 \times 10	F1604100	42	Magnet lid	A1200631
18	Material inputting pipe packing	A2203000	43	Magnet shield	A1200628
19	Material inputting pipe	A1200617	44	Flat washer $\Phi 8 \times 22$	F1711000
20	Material inputting pipe fixed piece	A1200616	45	Flat washer $\Phi 8 \times 22$	F1711000
21	Flat washer $\Phi 4 \times 8$	F1703001	46	Loose-proof nut M6	F1906003
22	Loose-proof nut M4 \times 0.7	F1904000	47	Inner hexagon screw M6 \times 10	F1206100
23	Filtering cloth split washer**	A1203004	48	Spring washer M6	F1804000
24	Hop-pocket**	G1100150	49	Flat washer $\Phi 6 \times 13$	F1707000
25	Hopper packing*	A2103004	50	Sensor shell	A2260003

No.	Name	SN	No.	Name	SN
51	Mini-countersunk blind rivet screw M6	F1905001	62	Loose-proof nut M6	F1906003
52	Inner hexagon screw M6×16	F1215000	63	Motor hood	A2200361
53	Ventilation window	E4100006	64	Handle	D2210001
54	Mini-flat head Monobolt M6	F1905001	65	Flat washer $\Phi 6 \times 13$	F1707000
55	Hopper lid	A1100613	66	Spring washer M6	F1804000
56	Motor hood fixed base	A1103310	67	Inner hexagon screw M6×15	F1215000
57	Motor packing (low)	A2113000	68	Lentil head screw M5×15	F1407000
58	Carbon brush motor*	A1304000	69	Loose-proof nut M4×0.7	F1904000
59	Motor packing (upper)	A2112000	70	Flat washer $\Phi 4 \times 8$	F1703001
60	Motor fixed board	A1106001	71	Upper hinger	A2262000
61	Inner hexagon screw M6×85	F1221020	72	Screw M5×10	F7705100

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

9.3 Assembly Drawing of SAL-1.5U-E



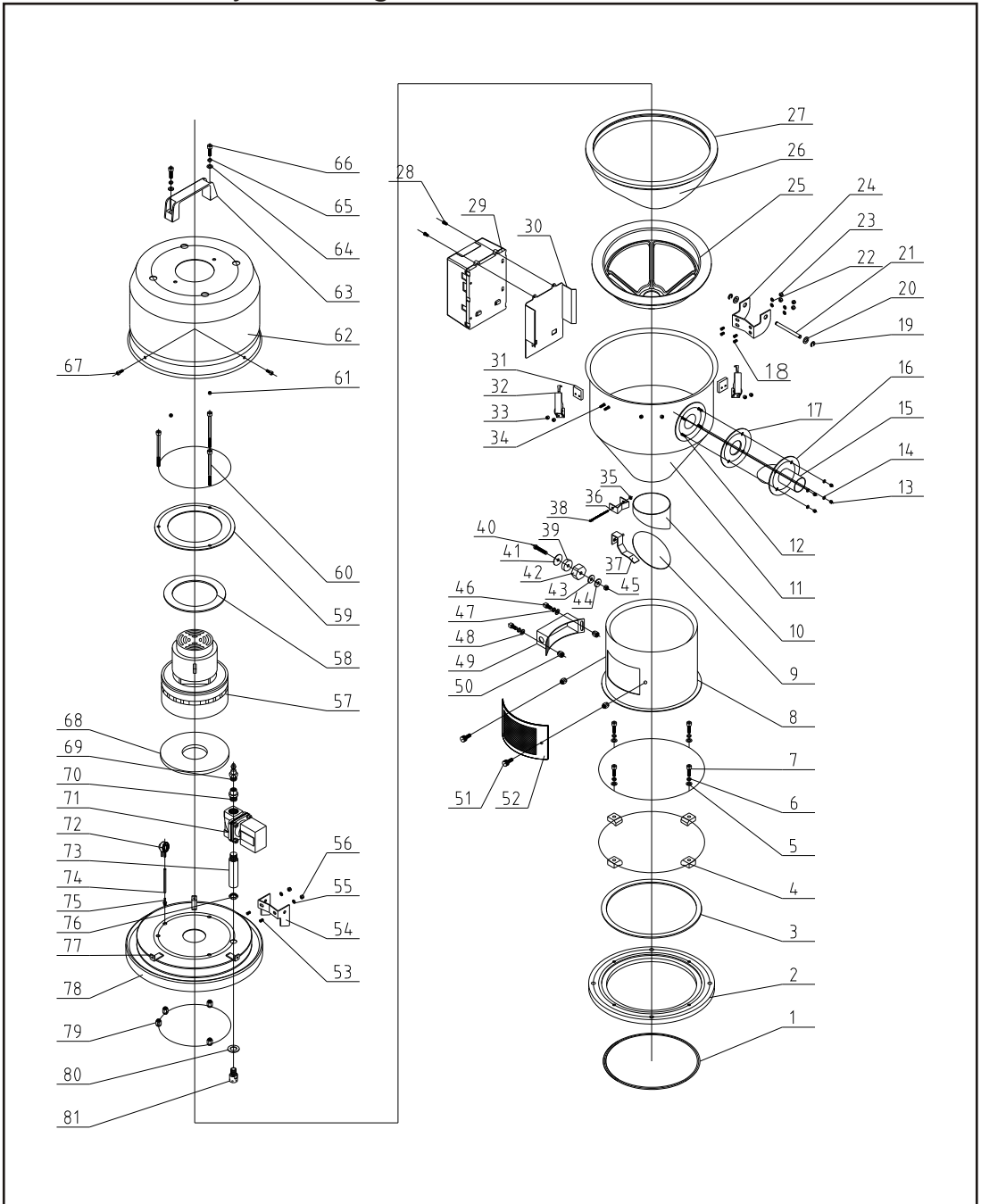
9.4 Parts List of SAL-1.5U-E

No.	Name	SN	No.	Name	SN
1	Inner hexagon screw M6×15	F1215000	26	Loose-proof nut	F1907001
2	Glass pipe lower flange	A1136001	27	Hinge pin	A1200608
3	Glass pipe packing	F1215000	28	Flat washer $\Phi 8 \times 22$	F1711000
4	Flange connection shaft	A2210110	29	Lentil head screw	F1319000
5	Glass pipe**	A3108001	30	Low hinge	A2262001
6	Glass pipe upper flange	M1605036	31	Screw M5×10	F1904000
7	Base packing	A2204002	32	Electric controlled box	A2206000
8	Stainless steel pipe clip	G3216002	33	Thick-headed screw M4×6	F1302000
9	Hopper flange	M1605035	34	Electric controlled box base	—
10	Material storage bucket	—	35	Stop screw	F1517003
11	Loose-proof nut M4×0.7	F1904000	36	Magic eye fixed piece	A1206004
12	Flat washer $\Phi 4 \times 8$	F1703001	37	Magic eye liner pressure block	—
13	Snap hook **	A1200024	38	Thick-headed screw M4×10	F1303000
14	Pressure block	A2200602	39	Magic eye*	—
15	Screw M4×15	F1614002	40	Magic eye liner pressure block	—
16	Screw M4×10	F1604100	41	Magic eye fixed piece	—
17	Material inputting pipe packing	—	42	Thick-headed screw	F1303000
18	Material inputting pipe	—	43	Mini-flat head Monobolt M6	F1905001
19	Material inputting pipe fixed piece	—	44	Hopper lid	—
20	Flat washer $\Phi 4 \times 8$	F1703001	45	Motor hood fixed base	A1106002
21	Loose-proof nut M4×0.7	F1904000	46	Motor packing (low)	A2109001
22	Filtering cloth split washer**	A1203004	47	arbon brush motor*	A1304000
23	Hop-pocket**	G1100150	48	Motor packing (upper)	A2112000
24	Hopper packing*	A2103004	49	Motor fixed board	—
25	Flat washer	F1705001	50	Inner hexagon screw M6×85	F1210012

No.	Name	SN	No.	Name	SN
51	Loose-proof nut	F1906003	58	Pressure switch	A2106002
52	Motor hood	–	59	Blue air pipe	A2106040
53	Handle	D2210001	60	Connection nut	–
54	Inner hexagon screw	F1226000	61	Loose-proof nut	F1907001
55	Flat washer M6	F1804001	62	Flat washer	F1703001
56	Flat washer	F1707000	63	Upper hinger	A2262000
57	Lentil head screw	F1407000	64	Screw M5 × 10	F7705100

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

9.5 Assembly Drawing of SAL-3U



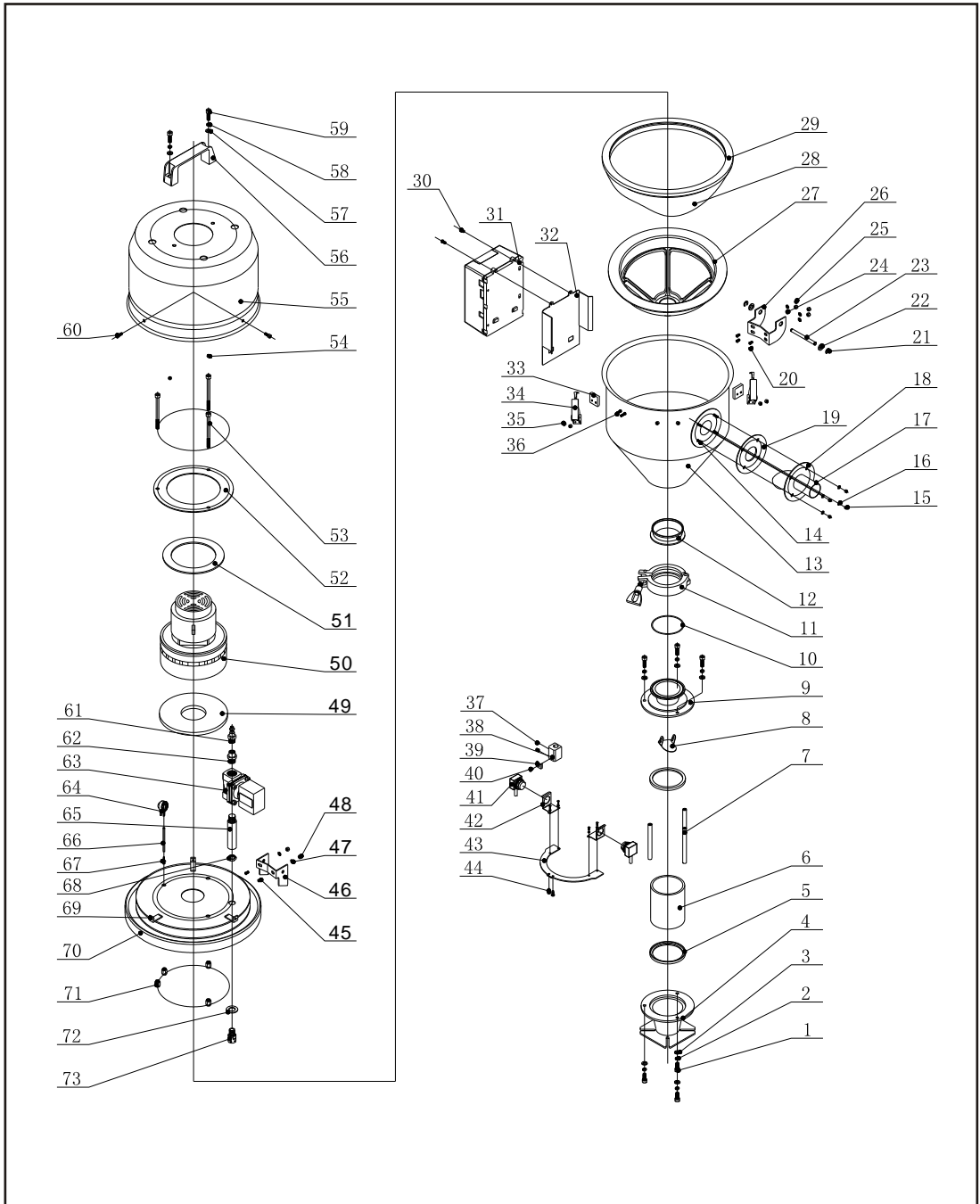
9.6 Parts List of SAL-3U

No.	Name	SN	No.	Name	SN
1	O-Type seal ring	A3155000	26	Hop-pocket **	G1100060
2	Base	A3154000	27	Hopper packing*	A3156000
3	Base packing	-	28	Screw M4×10	F1303000
4	Pressure block	A2203060	29	Snap hook pressure block	A2206000
5	Flat washer 6	F1707000	30	Snap hook **	-
6	Spring washer M6	F1804001	31	Loose-proof nut M4 × 0.7	A2200602
7	Inner hexagon screw M6 × 20	F1214000	32	Electric controlled box base	A1200024
8	Hopper fixed base	-	33	Electric controlled box M4 × 0.7	F1904000
9	Baffle plate	A1200600	34	Thick-headed screw M4×6	F1614002
10	Mouth of the baffle plate	A1200610	35	Loose-proof nut M3	F1901001
11	Material storage bucket	-	36	Baffle plate fixed base	A1200615
12	Screw M5 × 10	F7705100	37	Baffle plate fixed base connection block*	A1200609
13	Loose-proof nut M5	F1907001	38	Thick-headed screw M3 × 40	F1330005
14	Flat washer 5	F1705001	39	Permanent magnet	F9211000
15	Material inputting pipe	-	40	Thick-headed screw M6×20	F1331000
16	Material inputting pipe fixed piece	-	41	Magnet lid	A1200631
17	Material inputting pipe packing	-	42	Magnet shield	A1200628
18	Screw M5 × 10	F7705100	43	Flat washer Φ8×22	F1711000
19	E Type washer	F1717000	44	Flat washer Φ8×22	F1711000
20	Flat washer Φ8 × 22	F1711000	45	Loose-proof nut M6	F1906003
21	Hinge pin	A1200608	46	Inner hexagon screw M6×10	F1321000
22	Flat washer 5	F1705001	47	Spring washer 6	F1804001
23	Loose-proof nut M5	F1907001	48	Flat washer 6	F1707000
24	Low hinge	A2262001	49	Sensor shell	A2260003
25	Filtering cloth split washer**	A1203006	50	Mini-countersunk blind rivet screw M6	F1905001

No.	Name	SN	No.	Name	SN
51	Double offset ring spanner M6×15	A1200601	67	Flat washer	F1407000
52	Ventilation window	E4100006	68	Motor packing (lower)	A2113000
53	Screw M5×10	F7705100	69	Celerity connector	A2231400
54	Upper hinger	A2262000	70	Connector III	-
55	Flat washer 5	F1705001	71	Solenoid valve*	T3108000
56	Loose-proof nut M5	F1907001	72	Pressure switch	A2106002
57	Carbon brush motor*	A1304000	73	Connector II	-
58	Motor packing (upper)	A2112000	74	Blue air pipe	A2106040
59	Motor fixed board	-	75	Pressure switch	-
60	Inner hexagon screw M6×90	F1210012	76	Connection nut I	-
61	Loose-proof nut M6	F1906003	77	Motor outer hood fixed seat	A1206021
62	Motor hood	A2200361	78	Hopper lid	-
63	L120 Square aluminum handle	D2210001	79	Mini-countersunk blind rivet screw M6	F1905001
64	Loose-proof nut M6	F1707000	80	Gasket	H3206003
65	Spring washer M6	F1804001	81	high pressure air nozzle	-
66	Inner hexagon screw M6×20	F1214000			

*Indicates latent wearing parts: **Indicates latent wearing parts and it's suggested to back them up.

9.7 Assembly Drawing of SAL-3U-E



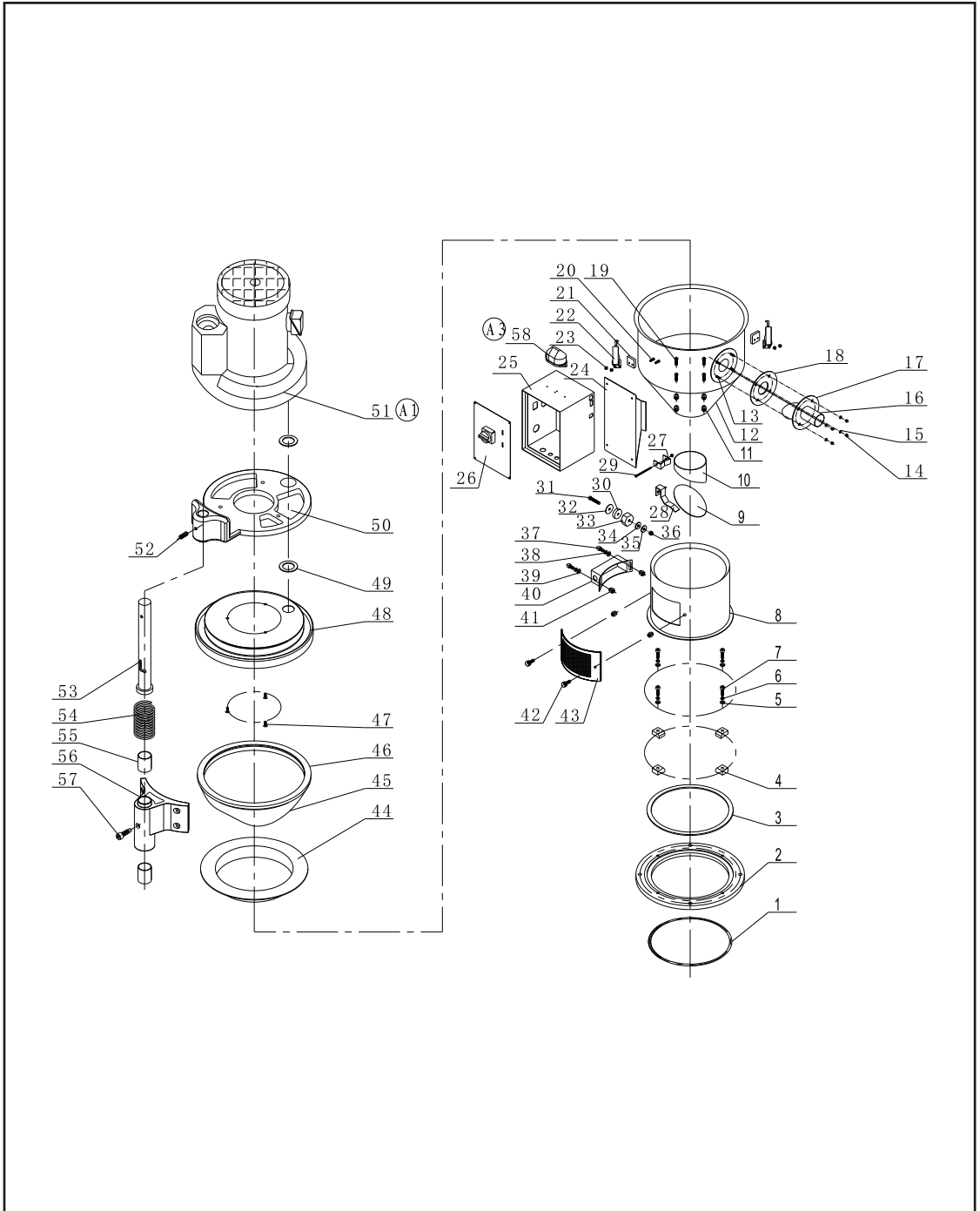
9.8 Parts List of SAL-3U-E

No.	Name	SN	No.	Name	SN
1	Inner hexagon screw M6×15	F1215000	26	Low hinge	A2262001
2	Spring washer	F1804001	27	Filtering cloth split washer**	A1203005
3	Flat washer Φ6×13	F1707000	28	Hop-pocket **	G1100030
4	Glass pipe lower flange	A1200008	29	Hopper packing*	A2103003
5	Glass pipe packing	A2106003	30	Screw	F1302000
6	Glass pipe**	L2298117	31	Snap hook pressure block	A2206000
7	Flange connection shaft	A2210110	32	Snap hook **	—
8	Non-return flap*	A1100610	33	Loose-proof nut	A2200602
9	Glass pipe upper flange	A1200009	34	Electric controlled box base	A1200024
10	O-type seal ring	A3146004	35	Electric controlled box	F1904000
11	Food connector	G3216003	36	Thick-headed screw	F1614002
12	Hopper flange	A1300601	37	Stop screw	F1517003
13	Material storage bucket	—	38	Magic eye fixed housing	A1206004
14	Screw	F1604100	39	Magic eye liner pressure block	—
15	Loose-proof nut	F1904000	40	Screw	F1303000
16	Flat washer Φ4 × 8	F1703001	41	Magic eye	—
17	Material inputting pipe	—	42	Magic eye fixed housing	—
18	Material inputting pipe fixed piece	—	43	Magic eye fixed piece	A1100615
19	Material inputting pipe packing	—	44	Screw	F1303000
20	Screw M5 × 10	F1904000	45	Screw	F1904000
21	E Type washer	F1319000	46	Upper hinger	A2262000
22	Flat washer Φ8×22	F1711000	47	Flat washer	F1703001
23	Hinge pin	A1200608	48	Loose-proof nut	F1907001
24	Flat washer Φ5 × 10	F1705001	49	Motor packing (upper)	A2109001
25	Loose-proof nut M5	F1907001	50	Carbon brush motor*	A1304000

No.	Name	SN	No.	Name	SN
51	Motor packing (low)	A2112000	63	Solenoid valve*	T3108000
52	Motor fixed board	–	64	Pressure switch	A2106002
53	Inner hexagon screw	F1210012	65	Connector II	–
54	Screw	F1906003	66	Blue air pipe	A2106040
55	Motor outer hood	A2200361	67	Pressure switch	–
56	L120 Square aluminum handle	D2210001	68	Connection nut I	–
57	Inner hexagon screw	F1226000	69	Motor outer hood fixed seat	A1106002
58	Spring washer	F1804001	70	Hopper lid	–
59	Flat washer	F1707000	71	Mini-countersunk blind rivet screw M6	F1905001
60	Lentil head screw	F1407000	72	Gasket	H3206003
61	Celerity connector	A2231400	73	High pressure air nozzle	–
62	Zipper III	–			

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

9.9 Assembly Drawing of SAL-3U-3



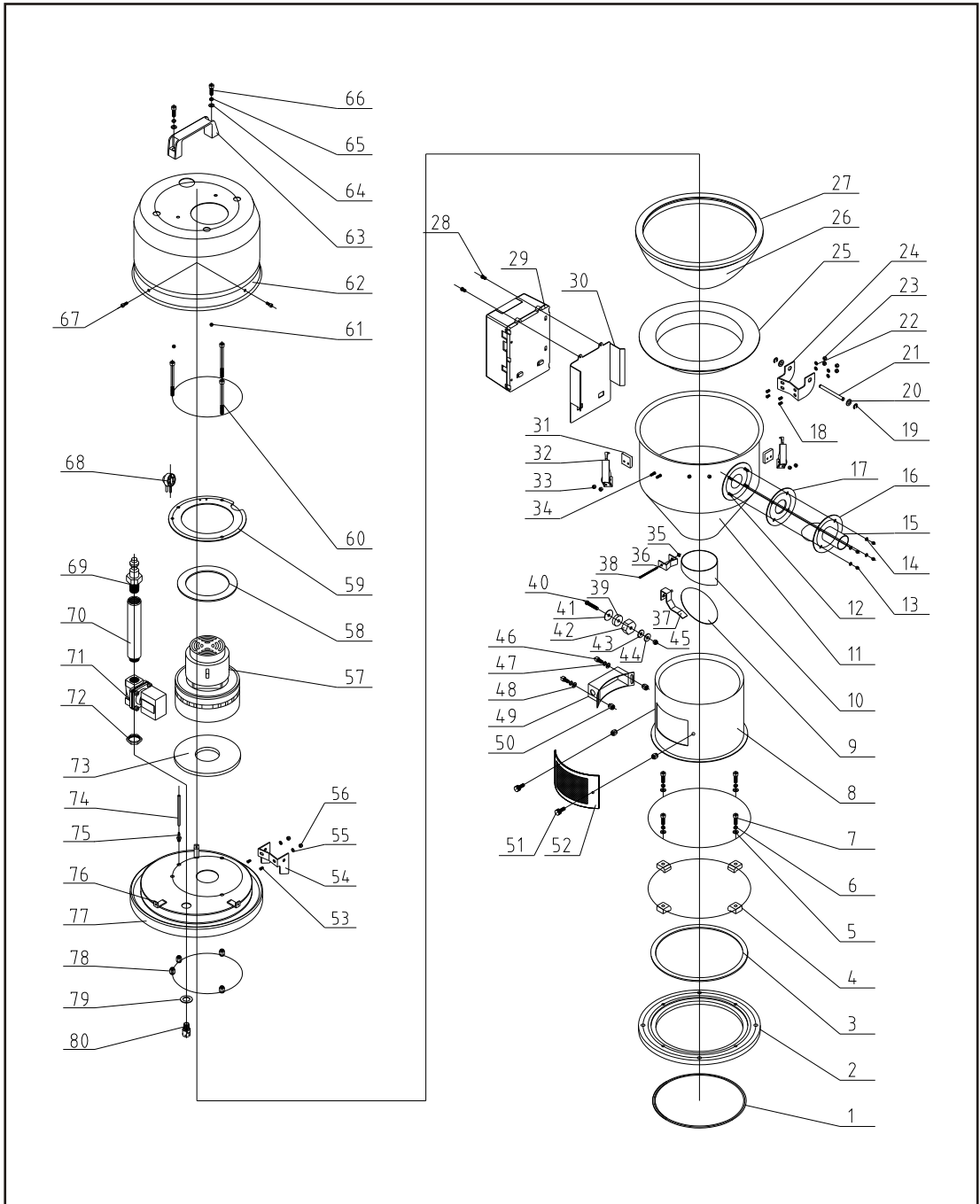
9.10 Parts List of SAL-3U-3

No.	Name	SN	No.	Name	SN
1	O-Type seal ring	A3155000	26	Electric controlled box lid	-
2	Base	F2230010	27	Baffle plate fixed base	A1200615
3	Base packing	-	28	Baffle plate fixed base connection block*	A1200609
4	Pressure block	A2203060	29	Thick-headed screw M3×40	F1330005
5	Flat washer $\Phi 6 \times 13$	F1707000	30	Permanent magnet	F9211000
6	Spring washer M6	F1804000	31	Thick-headed screw M6×20	F1331000
7	Inner hexagon screw M6×20	F1226000	32	Magnet lid	A1200631
8	Hopper fixed base	A1100601	33	Magnet shield	A1200628
9	Baffle plate	A1200600	34	Flat washer $\Phi 8 \times 22$	F1711000
10	Mouth of the baffle plate	A1200610	35	Flat washer $\Phi 8 \times 22$	F1711000
11	loose-proof nut M6	F1906003	36	Loose-proof nut M6	F1906003
12	Material storage bucket	A1127000	37	Inner hexagon screw M6×10	F1206100
13	Screw M4×10	F1604100	38	Spring washer M6	F1804000
14	Loose-proof nut	F1904000	39	Flat washer $\Phi 6 \times 13$	F1707000
15	Flat washer $\Phi 4 \times 8$	F1703001	40	Sensor shell	A2260003
16	Material inputting pipe	A1200617	41	Blind rivet nut	A1200314
17	Material inputting pipe fixed piece	A1200616	42	Double offset ring spanner	A1200601
18	Material inputting pipe packing	A3157000	43	Ventilation window	E4100006
19	Screw M6×25	-	44	Filtering cloth split washer**	A1203005
20	Screw M4×15	F1614002	45	Hop-pocket **	G1100030
21	Snap hook pressure block	A2200602	46	Hopper packing*	A2103003
22	Snap hook **	A1200024	47	Thick-headed screw M5×25	F1330003
23	Loose-proof nut M4×0.7	F1904000	48	Hopper lid	A1100300
24	Electric controlled box base	A1203003	49	Motor suction mouth packing	A2114000
25	Electric controlled box	-	50	Rotation flange	A1203030

No.	Name	SN	No.	Name	SN
51	Blower*	M0000065	55	Shaft sleeve	A1204002
52	Stop screw M6 × 15	-	56	Installation base	A1203030
53	Shaft	A1203032	57	Guide pin	-
54	Spring	A1204001	58	Alarm light	-

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

9.11 Assembly Drawing of SAL-6U



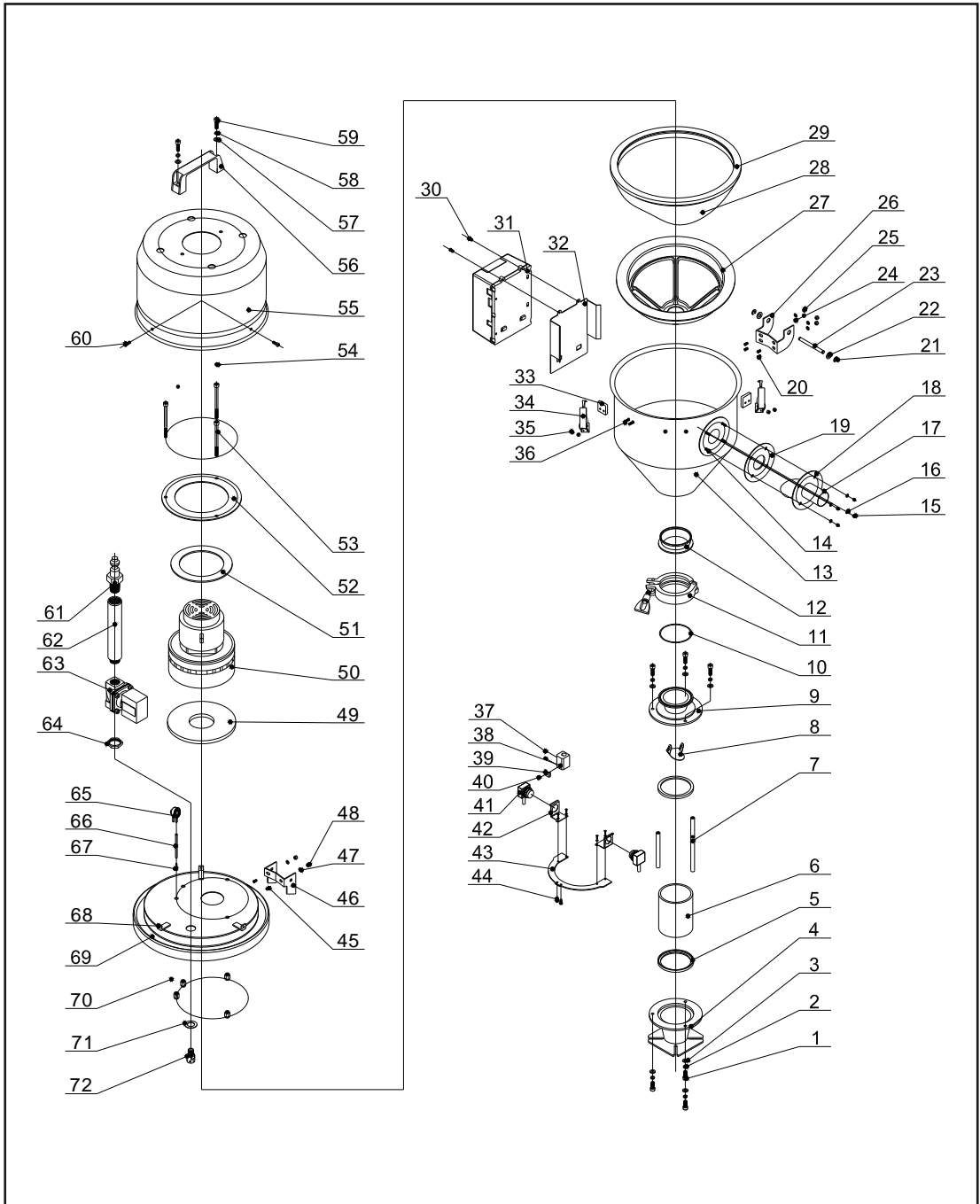
9.12 Parts List of SAL-6U

No.	Name	SN	No.	Name	SN
1	O-Type seal ring	A3155000	26	Hop-pocket **	G1100060
2	Base	A3154000	27	Hopper packing*	A3156000
3	Base packing	-	28	Screw M4×15	F1303000
4	Pressure block	A2203060	29	Snap hook pressure block	A2206000
5	Flat washer	F1707000	30	Snap hook **	A2206005
6	Spring washer	F1804000	31	Loose-proof nut M4 × 0.7	A2200602
7	Inner hexagon screw	F1214000	32	Electric controlled box base	A1200024
8	Hopper fixed base	A1100601	33	Electric controlled box	F1904000
9	Baffle plate	A1200600	34	Thick-headed screw M4×6	F1614002
10	Mouth of the baffle plate	A1200610	35	Loose-proof nut M3	F1901001
11	Material storage bucket	-	36	Baffle plate fixed base	A1200615
12	Screw	F7705100	37	Baffle plate fixed base connection block*	A1200609
13	Loose-proof nut	F1907001	38	Thick-headed screw M3×40	F1330005
14	Flat washer	F1705001	39	Permanent magnet	F9211000
15	Material inputting pipe	-	40	Thick-headed screw M6×20	F1331000
16	Material inputting pipe fixed piece	-	41	Magnet lid	A1200631
17	Material inputting pipe packing	-	42	Magnet shield	A1200628
18	Screw	F7705100	43	Flat washer Φ8×22	F1711000
19	E Type washer	F1717000	44	Flat washer Φ8×22	F1711000
20	Flat washer	F1711000	45	Loose-proof nut M6	F1906003
21	Hinge pin	A1200608	46	Inner hexagon screw M6×10	F1321000
22	Flat washer	F1705001	47	Spring washer	F1804001
23	Loose-proof nut	F1907001	48	Flat washer Φ6×13	F1707000
24	Low hinge	A2262001	49	Sensor shell	A2260003
25	Filtering cloth split washer**	A1203006	50	Mini-countersunk blind rivet screw M6	F1905001

No.	Name	SN	No.	Name	SN
51	Double offset ring spanner	A1200601	66	Inner hexagon screw M6×20	F1214000
52	Ventilation window	E4100006	67	Flat washer	F1407000
53	Screw M5×10	F7705100	68	Pressure switch	A2106002
54	Upper hinger	A2262000	69	Celerity connector	A2231400
55	Flat washer Φ8×22	F1705001	70	Connector II	-
56	Loose-proof nut M4×0.7	F1907001	71	Solenoid valve*	T3108000
57	Carbon brush motor*	A1304000	72	Pressure switch	A2106002
58	Motor packing (upper)	A2112000	73	Motor packing (lower)	A2111000
59	Motor fixed board	-	74	Blue air pipe	A2106040
60	Inner hexagon screw M6×85	F1210012	75	Pressure switch	-
61	Loose-proof nut M6	F1906003	76	Motor outer hood fixed seat	A1206021
62	Motor hood	A2200610	77	Hopper lid	-
63	L120 Square aluminum handle	D2210001	78	Mini-countersunk blind rivet screw M6	F1905001
64	Loose-proof nut M6×13	F1707000	79	Gasket	H3206003
65	Spring washer M6	F1804000	80	high pressure air nozzle	-

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

9.13 Assembly Drawing of SAL-6U-E



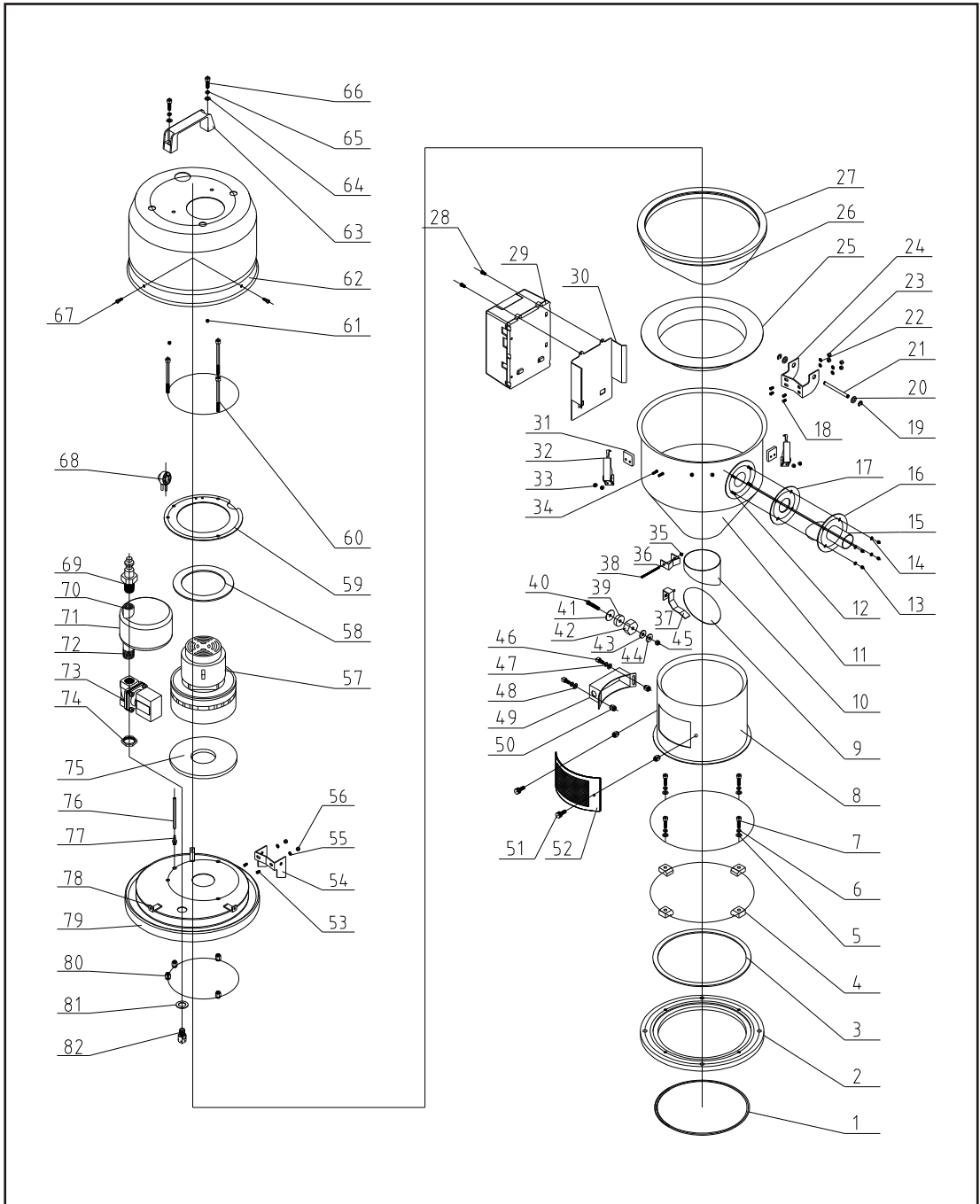
9.14 Parts List of SAL-6U-E

No.	Name	SN	No.	Name	SN
1	Inner hexagon screw M6×15	F1215000	26	Low hinge	A2262001
2	Spring washer	F1804001	27	Filtering cloth split washer**	A1203005
3	Flat washer Φ6×13	F1707000	28	Hop-pocket **	G1100030
4	Glass pipe lower flange	A1200008	29	Hopper packing*	A2103003
5	Glass pipe packing	A2106003	30	Screw	F1302000
6	Glass pipe**	L2298117	31	Snap hook pressure block	A2206000
7	Flange connection shaft	A2210110	32	Snap hook **	—
8	Non-return flap*	A1100610	33	Loose-proof nut	A2200602
9	Glass pipe upper flange	A1200009	34	Electric controlled box base	A1200024
10	O-type seal ring	A3146004	35	Electric controlled box	F1904000
11	Food connector	G3216003	36	Thick-headed screw	F1614002
12	Hopper flange	A1300601	37	Stop screw	F1517003
13	Material storage bucket	—	38	Magic eye fixed housing	A1206004
14	Screw	F1604100	39	Magic eye liner pressure block	—
15	Loose-proof nut	F1904000	40	Screw	F1303000
16	Flat washer Φ4 × 8	F1703001	41	Magic eye	—
17	Material inputting pipe	—	42	Magic eye fixed housing	—
18	Material inputting pipe fixed piece	—	43	Magic eye fixed piece	A1100615
19	Material inputting pipe packing	—	44	Screw	F1303000
20	Screw M5 × 10	F1904000	45	Screw	F1904000
21	E Type washer	F1319000	46	Upper hinger	A2262000
22	Flat washer Φ8×22	F1711000	47	Flat washer	F1703001
23	Hinge pin	A1200608	48	Loose-proof nut	F1907001
24	Flat washer Φ5 × 10	F1705001	49	Motor packing (upper)	A2109001
25	Loose-proof nut M5	F1907001	50	Carbon brush motor*	A1304000

No.	Name	SN	No.	Name	SN
51	Motor packing (low)	A2112000	63	Solenoid valve*	T3108000
52	Motor fixed board	–	64	Pressure switch	–
53	Inner hexagon screw	F1210012	65	Pressure switch	A2106002
54	Screw	F1906003	66	Blue air pipe	A2106040
55	Motor outer hood	A2200361	67	Connection nut I	–
56	L120 Square aluminum handle	D2210001	68	Motor outer hood fixed seat	A1106002
57	Inner hexagon screw	F1226000	69	Hopper lid	–
58	Spring washer	F1804001	70	Mini-countersunk blind rivet screw M6	F1905001
59	Flat washer	F1707000	71	Gasket	H3206003
60	Lentil head screw	F1407000	72	High pressure air nozzle	–
61	Celerity connector	A2231400			
62	Zipper II	–			

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

9.15 Assembly Drawing of SAL-6U-A



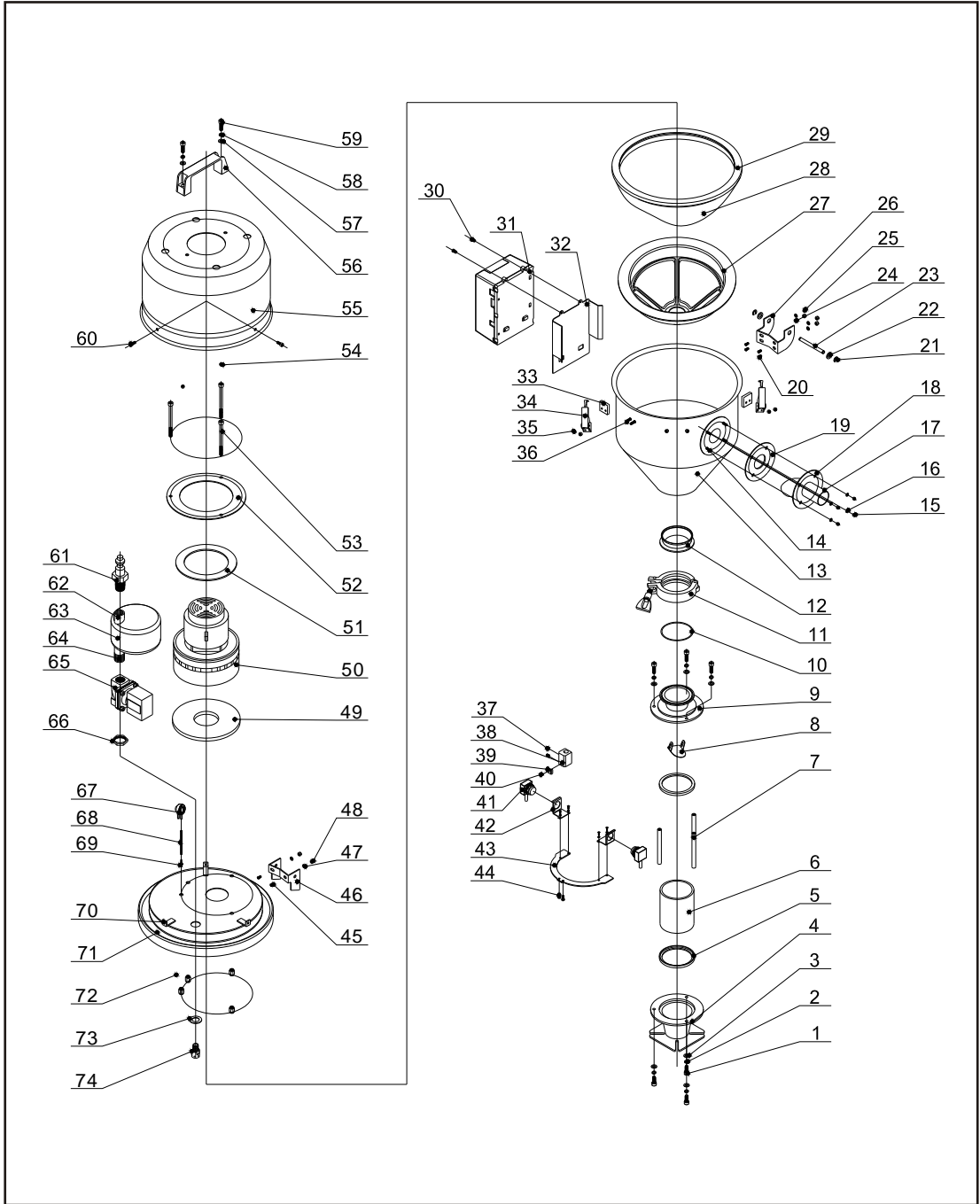
9.16 Parts List of SAL-6U-A

No.	Name	SN	No.	Name	SN
1	O-Type seal ring	A3155000	26	Hop-pocket **	G1100060
2	Base	A3154000	27	Hopper packing*	A3156000
3	Base packing	-	28	Screw M4×15	F1303000
4	Pressure block	A2203060	29	Snap hook pressure block	A2206000
5	Flat washer	F1707000	30	Snap hook **	-
6	Spring washer	F1804000	31	Loose-proof nut M4×0.7	A2200602
7	Inner hexagon screw	F1214000	32	Electric controlled box base	A1200024
8	Hopper fixed base	-	33	Electric controlled box	F1904000
9	Baffle plate	A1200600	34	Thick-headed screw M4×6	F1614002
10	Mouth of the baffle plate	A1200610	35	Loose-proof nut M3	F1901001
11	Material storage bucket	-	36	Baffle plate fixed base	A1200615
12	Screw	F7705100	37	Baffle plate fixed base connection block*	A1200609
13	Loose-proof nut	F1907001	38	Thick-headed screw M3×40	F1330005
14	Flat washer	F1705001	39	Permanent magnet	F9211000
15	Material inputting pipe	-	40	Thick-headed screw M6×20	F1331000
16	Material inputting pipe fixed piece	-	41	Magnet lid	A1200631
17	Material inputting pipe packing	-	42	Magnet shield	A1200628
18	Screw	F7705100	43	Flat washer Φ8×22	F1711000
19	E Type washer	F1717000	44	Flat washer Φ8×22	F1711000
20	Flat washer	F1711000	45	Loose-proof nut M6	F1906003
21	Hinge pin	A1200608	46	Inner hexagon screw M6×10	F1321000
22	Flat washer	F1705000	47	Spring washer	F1804001
23	Loose-proof nut	F1907001	48	Flat washer Φ6×13	F1707000
24	Low hinge	A2262001	49	Sensor shell	A2260003
25	Filtering cloth split washer**	A1203006	50	Mini-countersunk blind rivet screw M6	F1905001

No.	Name	SN	No.	Name	SN
51	Double offset ring spanner	A1200601	67	Flat washer	F1407000
52	Ventilation window	E4100006	68	Pressure switch	A2106002
53	Screw M5×10	F7705100	69	Celerity connector	A2231400
54	Upper hinger	A2262000	70	Pressure switch 2	-
55	Flat washer $\Phi 8 \times 22$	F1705001	71	Air accumulator	-
56	Loose-proof nut M4×0.7	F1907001	72	Pressure switch 1	-
57	Carbon brush motor*	A1304000	73	Solenoid valve*	T3108000
58	Motor packing (upper)	A2112000	74	Pressure switch	-
59	Motor fixed board	-	75	Motor packing (lower)	A2111000
60	Inner hexagon screw M6×85	F1210012	76	Blue air pipe	A2106040
61	Loose-proof nut M6	F1906003	77	Pressure switch	-
62	Motor hood	A2200361	78	Motor outer hood fixed seat	A1206021
63	L120 Square aluminum handle	D2210001	79	Hopper lid	-
64	Loose-proof nut M6×13	F1707000	80	Mini-countersunk blind rivet screw M6	F1905001
65	Spring washer M6	F1804000	81	Gasket	H3206003
66	Inner hexagon screw M6×20	F1214000	82	high pressure air nozzle	-

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

9.17 Assembly Drawing of SAL-6U-EA



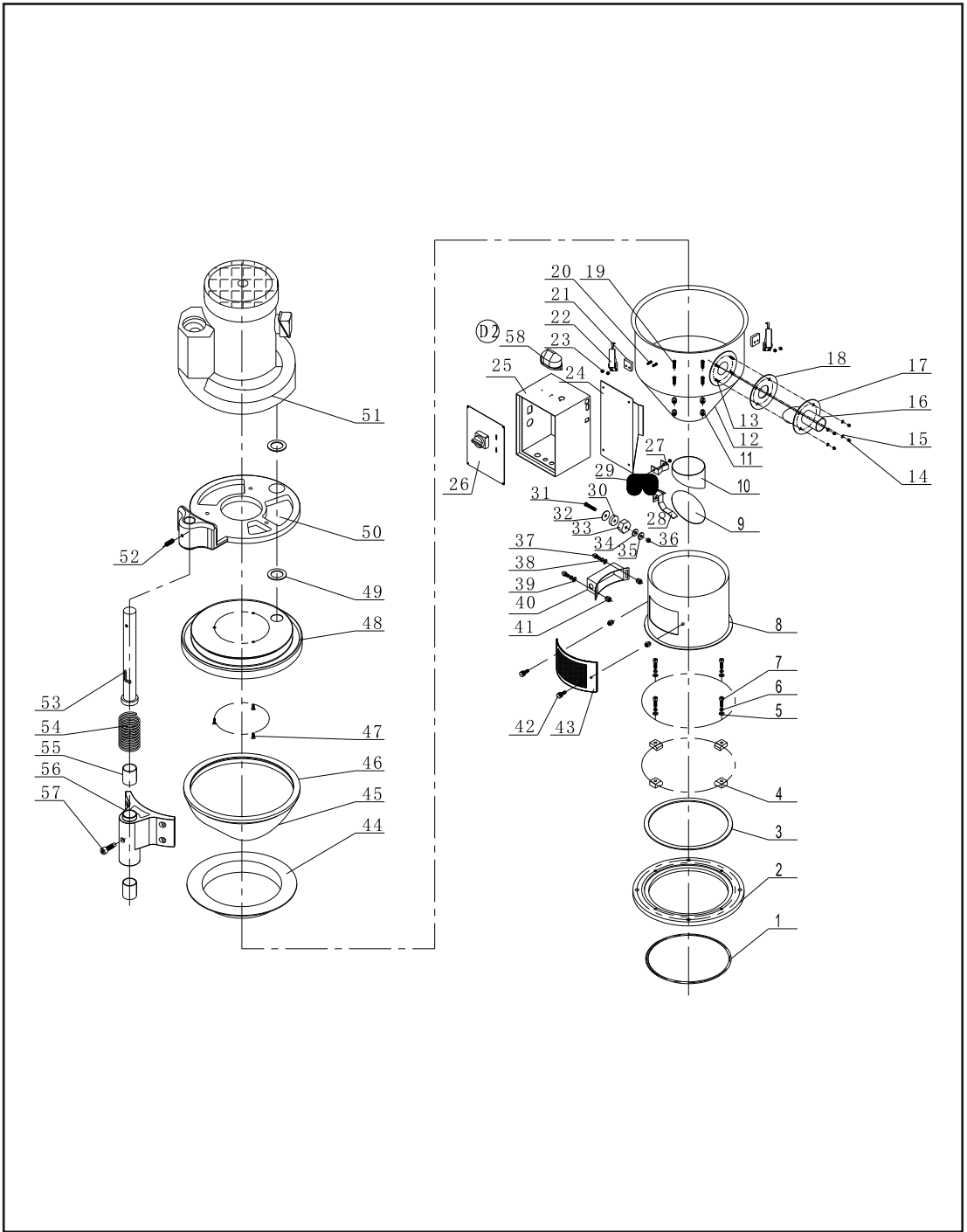
9.18 Parts List of SAL-6U-EA

No.	Name	SN	No.	Name	SN
1	Inner hexagon screw M6×15	F1215000	26	Low hinge	A2262001
2	Spring washer	F1804001	27	Filtering cloth split washer**	A1203005
3	Flat washer Φ6×13	F1707000	28	Hop-pocket **	G1100030
4	Glass pipe lower flange	A1200008	29	Hopper packing*	A2103003
5	Glass pipe packing	A2106003	30	Screw	F1302000
6	Glass pipe**	L2298117	31	Snap hook pressure block	A2206000
7	Flange connection shaft	A2210110	32	Snap hook **	—
8	Non-return flap*	A1100610	33	Loose-proof nut	A2200602
9	Glass pipe upper flange	A1200009	34	Electric controlled box base	A1200024
10	O-type seal ring	A3146004	35	Electric controlled box	F1904000
11	Food connector	G3216003	36	Thick-headed screw	F1614002
12	Hopper flange	A1300601	37	Stop screw	F1517003
13	Material storage bucket	—	38	Magic eye fixed housing	A1206004
14	Screw	F1604100	39	Magic eye liner pressure block	—
15	Loose-proof nut	F1904000	40	Screw	F1303000
16	Flat washer Φ4 × 8	F1703001	41	Magic eye	—
17	Material inputting pipe	—	42	Magic eye fixed housing	—
18	Material inputting pipe fixed piece	—	43	Magic eye fixed piece	A1100615
19	Material inputting pipe packing	—	44	Screw	F1303000
20	Screw M5 × 10	F1904000	45	Screw	F1904000
21	E Type washer	F1319000	46	Upper hinger	A2262000
22	Flat washer Φ8×22	F1711000	47	Flat washer	F1703001
23	Hinge pin	A1200608	48	Loose-proof nut	F1907001
24	Flat washer Φ5 × 10	F1705001	49	Motor packing (upper)	A2109001
25	Loose-proof nut M5	F1907001	50	Carbon brush motor*	A1304000

No.	Name	SN	No.	Name	SN
51	Motor packing (low)	A2112000	63	Air accumulator	–
52	Motor fixed board	–	64	Connection	–
53	Inner hexagon screw	F1210012	65	Solenoid valve*	T3108000
54	Screw	F1906003	66	Pressure switch	–
55	Motor outer hood	A2200361	67	Pressure switch	A2106002
56	L120 Square aluminum handle	D2210001	68	Blue air pipe	A2106040
57	Inner hexagon screw	F1226000	69	Connection nut I	–
58	Spring washer	F1804001	70	Motor outer hood fixed seat	A1106002
59	Flat washer	F1707000	71	Hopper lid	–
60	Lentil head screw	F1407000	72	Mini-countersunk blind rivet screw M6	F1905001
61	Celerity connector	A2231400	73	Gasket	H3206003
62	Zipper II	–	74	High pressure air nozzle	–

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

9.19 Assembly Drawing of SAL-6U-3



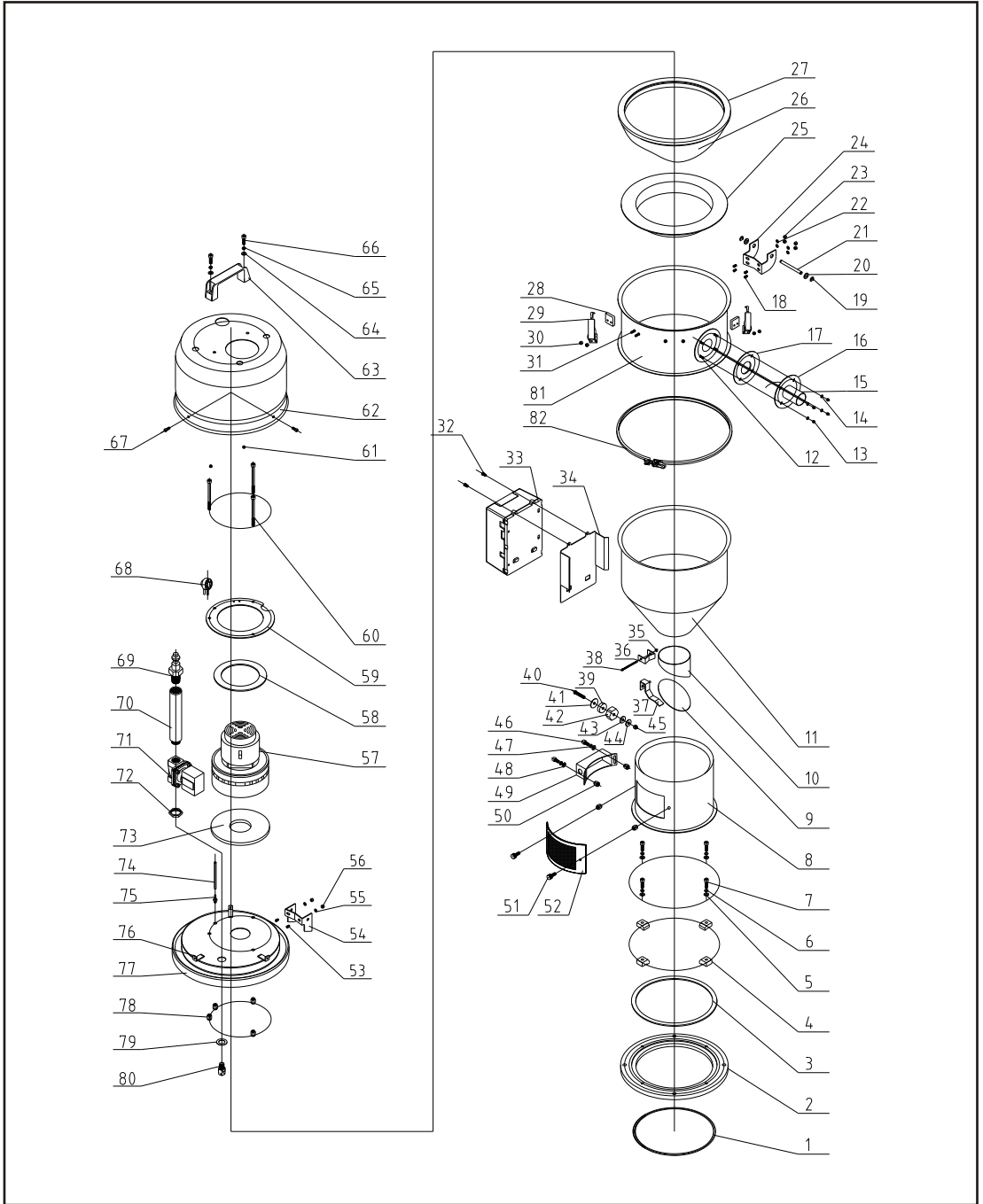
9.20 Parts List of SAL-6U-3

No.	Name	SN	No.	Name	SN
1	O-Type seal ring	A3155000	26	Electric controlled box	-
2	Base	A3154000	27	Baffle plate fixed base	A1200615
3	Base packing	-	28	Baffle plate fixed base connection block*	A1200609
4	Pressure block	A2203060	29	Thick-headed screw M3×40	F1330005
5	Flat washer Φ6×13	F1707000	30	Permanent magnet	F9211000
6	Spring washer	F1804000	31	Thick-headed screw M6×20	F1331000
7	Inner hexagon screw M6×20	F1226000	32	Magnet lid	A1200631
8	Hopper fixed base	A1100601	33	Magnet shield	A1200628
9	Baffle plate*	A1200600	34	Flat washer Φ8×22	F1711000
10	Mouth of the baffle plate	A1200610	35	Flat washer Φ8×22	F1711000
11	Loose-proof nut M6	F1901003	36	loose-proof nut M6	F1906003
12	Material storage bucket	A1127000	37	Inner hexagon screw M6×10	F1206100
13	Screw M4×10	F1604100	38	Spring washer	F1804000
14	Loose-proof nut M4×0.7	F1904000	39	Flat washer Φ6×13	F1707000
15	Flat washer Φ4×8	F1703001	40	Sensor shell	A2260003
16	Material inputting pipe	A1200617	41	Blind rivet nut 1	A1200314
17	Material inputting pipe fixed piece	A1200617	42	Double offset ring spanner	A1200601
18	Material inputting pipe packing	A3157000	43	Ventilation window	F4100006
19	Screw M6×25	-	44	Filtering cloth split washer**	A1203006
20	Screw M4×15	F1614002	45	Hop-pocket**	G1100060
21	Snap hook pressure block	A2200602	46	Hopper packing*	A3156000
22	Snap hook **	A1200024	47	Thick-headed screw M5×25	F1407000
23	Loose-proof nut M4×0.7	F1904000	48	Hopper lid	A1100602
24	Electric controlled box base	A1200607	49	Motor suction mouth packing	A2114000
25	Control box	-	50	Rotation flange	A1206003

No.	Name	SN	No.	Name	SN
51	Blower*	M0000066	55	Shaft sleeve	A1204002
52	Stop screw M6×15	-	56	Installation base	M2312039
53	Shaft	A1206030	57	Guide pin	-
54	Spring	A1204001	58	Alarm light	-

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

9.21 Assembly Drawing of SAL-12U



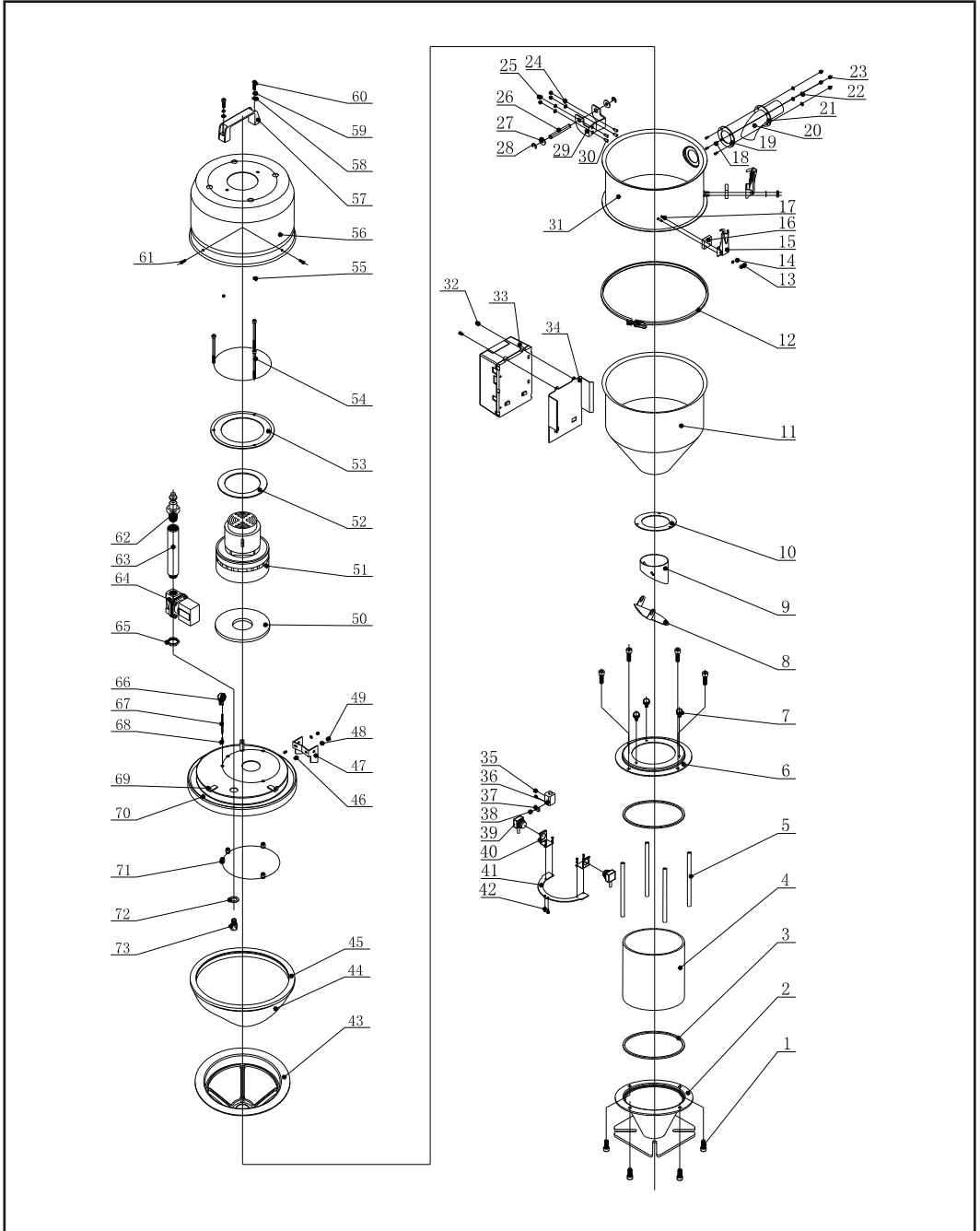
9.22 Parts List of SAL-12U

No.	Name	SN	No.	Name	SN
1	O-Type seal ring	A3155000	26	Hop-pocket **	G1100060
2	Base	A3154000	27	Hopper packing*	A3156000
3	Base packing	-	28	Screw M4×15	F1303000
4	Pressure block	A2203060	29	Snap hook pressure block	A2206000
5	Flat washer	F1707000	30	Snap hook **	-
6	Spring washer	F1804000	31	Loose-proof nut M4 × 0.7	A2200602
7	Inner hexagon screw	F1214000	32	Electric controlled box base	A1200024
8	Hopper fixed base	-	33	Electric controlled box	F1904000
9	Baffle plate	A1200600	34	Thick-headed screw M4×6	F1614002
10	Mouth of the baffle plate	A1200610	35	Loose-proof nut M3	F1901001
11	Material storage bucket	-	36	Baffle plate fixed base	A1200615
12	Screw	F7705100	37	Baffle plate fixed base connection block*	A1200609
13	Loose-proof nut	F1907001	38	Thick-headed screw M3×40	F1330005
14	Flat washer	F1705001	39	Permanent magnet	F9211000
15	Material inputting pipe	-	40	Thick-headed screw M6×20	F1331000
16	Material inputting pipe fixed piece	-	41	Magnet lid	A1200631
17	Material inputting pipe packing	-	42	Magnet shield	A1200628
18	Screw	F7705100	43	Flat washer Φ8×22	F1711000
19	E Type washer	F1717000	44	Flat washer Φ8×22	F1711000
20	Flat washer	F1711000	45	Loose-proof nut M6	F1906003
21	Hinge pin	A1200608	46	Inner hexagon screw M6×10	F1321000
22	Flat washer	F1705000	47	Spring washer	F1804001
23	Loose-proof nut	F1907001	48	Flat washer Φ6×13	F1707000
24	Low hinge	A2262001	49	Sensor shell	A2260003
25	Filtering cloth split washer**	A1203006	50	Mini-countersunk blind rivet screw M6	F1905001

No.	Name	SN	No.	Name	SN
51	Double offset ring spanner	A1200601	67	Flat washer	F1407000
52	Ventilation window	E4100006	68	Pressure switch	A2106002
53	Screw M5×10	F7705100	69	Celerity connector	A2231400
54	Upper hinger	A2262000	70	Pressure switch 2	-
55	Flat washer Φ8×22	F1705001	71	Air accumulator	T3108000
56	Loose-proof nut M4×0.7	F1907001	72	Pressure switch 1	-
57	Carbon brush motor*	A1304000	73	Solenoid valve*	A2111000
58	Motor packing (upper)	A2112000	74	Pressure switch	A2106040
59	Motor fixed board	-	75	Motor packing (lower)	-
60	Inner hexagon screw M6×85	F1210012	76	Blue air pipe	A1206021
61	Loose-proof nut M6	F1906003	77	Pressure switch	-
62	Motor hood	A2200610	78	Motor outer hood fixed seat	F1905001
63	L120 Square aluminum handle	D2210001	79	Hopper lid	H3206003
64	Loose-proof nut M6×13	F1707000	80	Mini-countersunk blind rivet screw M6	-
65	Spring washer M6	F1804000	81	Gasket	-
66	Inner hexagon screw M6×20	F1214000	82	high pressure air nozzle	-

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

9.23 Assembly Drawing of SAL-12U-E



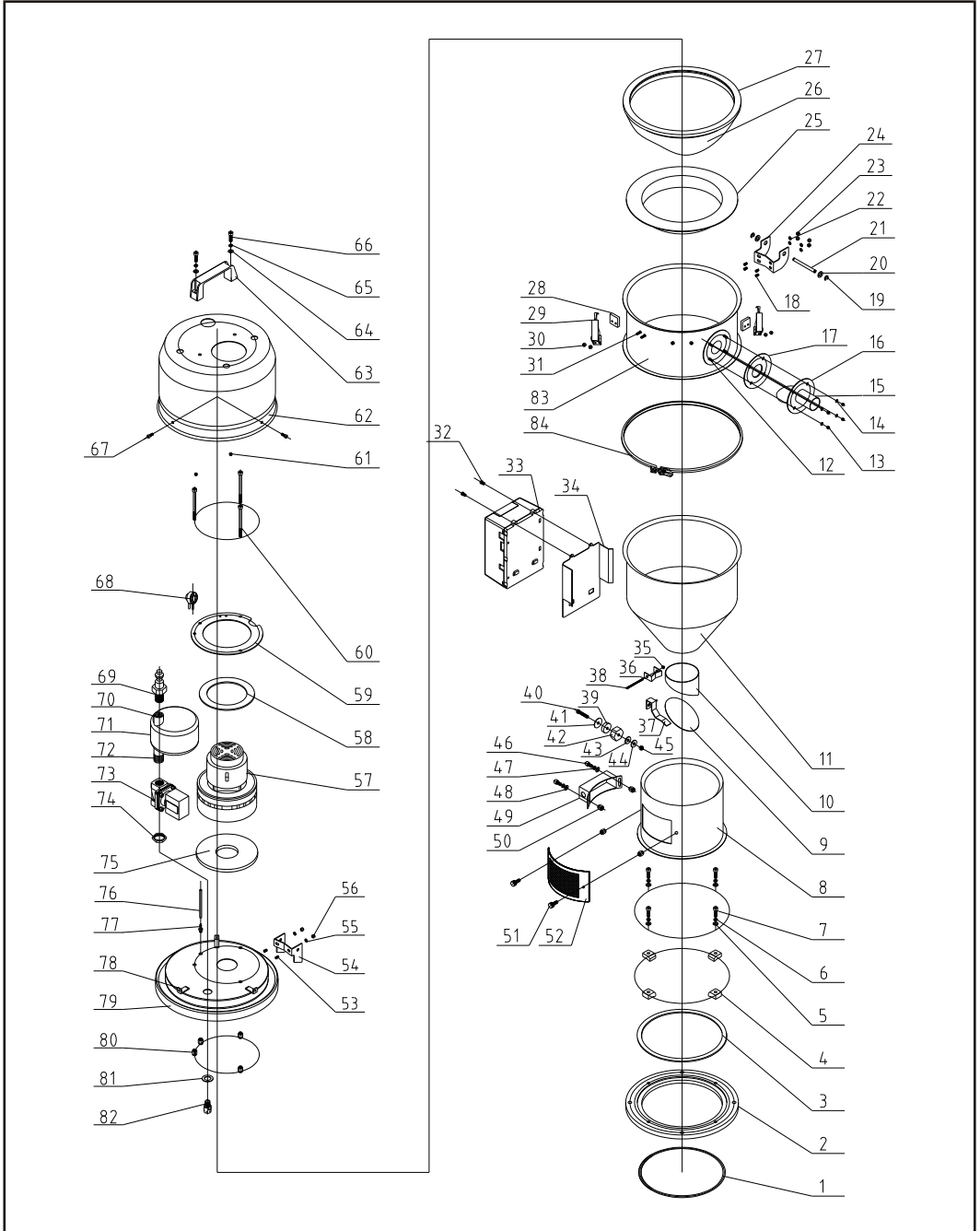
9.24 Parts List of SAL-12U-E

No.	Name	SN	No.	Name	SN
1	Inner hexagon screw	F1215000	26	Hinge pin	A1200608
2	Glass tube lower flange	A1200013	27	Flat washer	F1711000
3	Glass pipe packing	A2108001	28	E-rings	F1319000
4	Glass tube*	A3108002	29	Low hinge	A2262001
5	Flange connection shaft	A2210170	30	Loose-proof nut	F1904000
6	Glass pipe upper flange	A1200012	31	Enlarged material tank	—
7	Plastic head screw	G1106200	32	Cross socket head cap screw	F1302000
8	Non-return flap*	A1100610	33	Snap hook pressure block	A2206000
9	Mouth of the baffle plate	A1103306	34	Control box base	A2206005
10	Hopper flange	A1300601	35	Screw	F1517003
11	Material storage bucket	—	36	Photoelectrica switch fixed base	A1206004
12	Tube bundle	—	37	Photoelectrica switch fixed block	—
13	Loose-proof nut	F1904000	38	Cross socket head cap screw	F1303000
14	Flat washer $\Phi 4 \times 8$	F1703001	39	Photoelectrica switch	—
15	Snap hook	A1200024	40	Photoelectrica switch fixed base	—
16	Buffering pad	A2200602	41	Photoelectrica switch fixed block	—
17	Thick-headed screw	F1614002	42	Cross socket head cap screw	F1303000
18	Thick-headed screw	F1604100	43	Filtering cloth split washer**	A1203006
19	Material inputting pipe	—	44	Hop-pocket **	G1100060
20	Material inputting pipe fixed piece	—	45	Hopper packing*	A3156000
21	Material inputting pipe packing	—	46	Loose-proof nut	F1904000
22	Flat washer	F1703001	47	Upper hinger	A2262000
23	Loose-proof nut	F1904000	48	Flat washer	F1703001
24	Flat washer	F1705001	49	Screw	F1907001
25	Loose-proof nut	F1907001	50	Motor packing (lower)	A2109001

No.	Name	SN	No.	Name	SN
51	Carbon brush motor*	A1304000	63	Connector II	-
52	Motor packing (upper)	A2112000	64	Solenoid valve*	T3108000
53	Motor fixed board	-	65	Connection nut	-
54	Inner hexagon screw	F1210012	66	Pressure switch	A2106002
55	Sensor shell	F1906003	67	Blue air pipe	A2106040
56	Motor outer hood	A2200610	68	Pressure switch connector	-
57	L120 Square aluminum handle	D2210001	69	Motor outer hood fixed seat	A1106002
58	Inner hexagon screw	F1226000	70	Hopper lid	-
59	Spring washer	F1804001	71	Mini-countersunk blind rivet screw	F1905001
60	Flat washer	F1707000	72	Gasket	H3206003
61	Flat washer	F1407000	73	High pressure air nozzle	-
62	Celerity connector	A2231400			

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

9.25 Assembly Drawing of SAL-12U-A



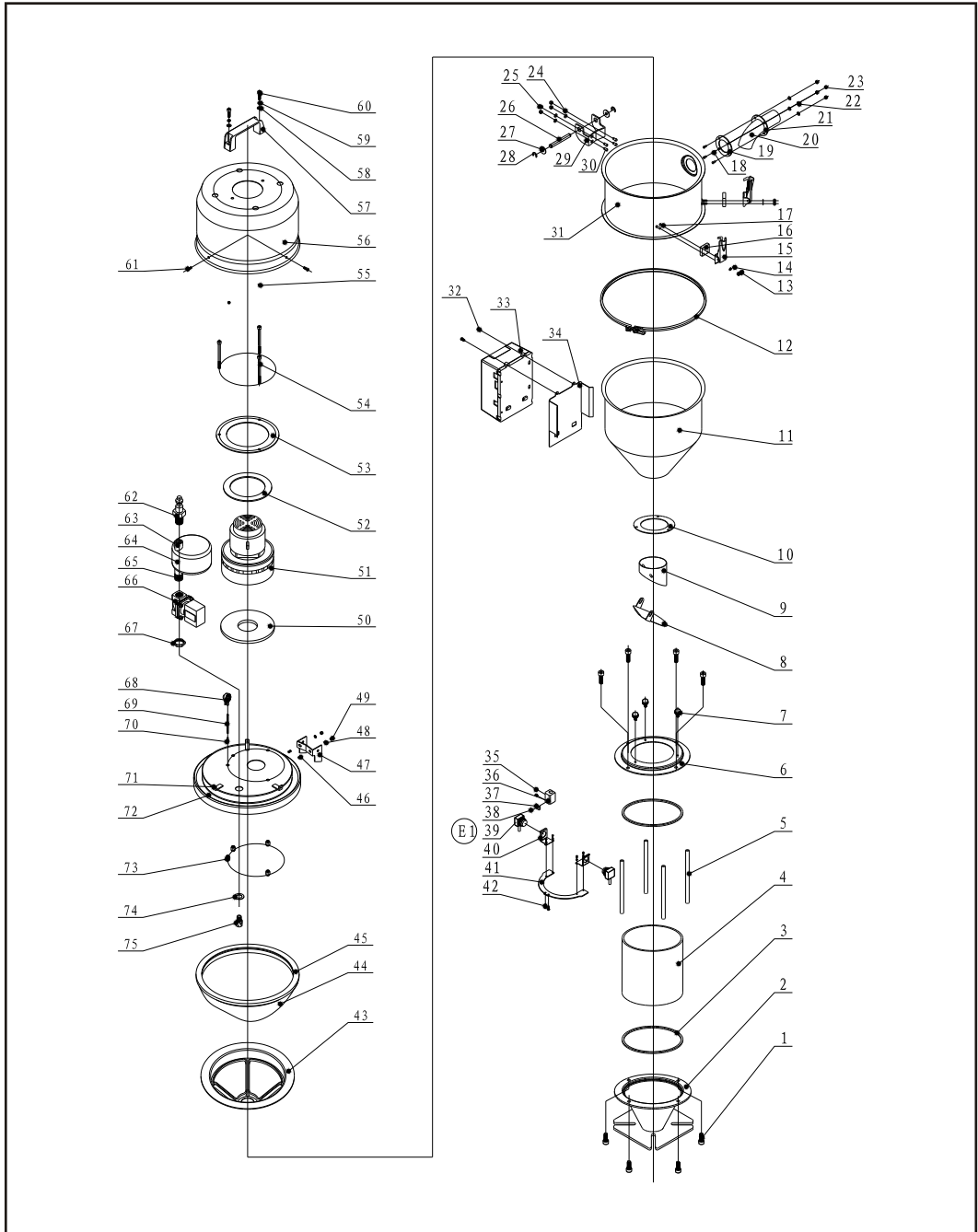
9.26 Parts List of SAL-12U-A

No.	Name	SN	No.	Name	SN
1	O-Type seal ring	A3155000	26	Hop-pocket **	G1100060
2	Base	A3154000	27	Hopper packing*	A3156000
3	Base packing	—	28	Screw M4×15	F1303000
4	Pressure block	A2203060	29	Snap hook pressure block	A2206000
5	Flat washer	F1707000	30	Snap hook **	—
6	Spring washer	F1804000	31	Loose-proof nut M4 × 0.7	A2200602
7	Inner hexagon screw	F1214000	32	Electric controlled box base	A1200024
8	Hopper fixed base	—	33	Electric controlled box	F1904000
9	Baffle plate	A1200600	34	Thick-headed screw M4×6	F1614002
10	Mouth of the baffle plate	A1200610	35	Loose-proof nut M3	F1901001
11	Material storage bucket	—	36	Baffle plate fixed base	A1200615
12	Screw	F7705100	37	Baffle plate fixed base connection block*	A1200609
13	Loose-proof nut	F1907001	38	Thick-headed screw M3×40	F1330005
14	Flat washer	F1705001	39	Permanent magnet	F9211000
15	Material inputting pipe	—	40	Thick-headed screw M6×20	F1331000
16	Material inputting pipe fixed piece	—	41	Magnet lid	A1200631
17	Material inputting pipe packing	—	42	Magnet shield	A1200628
18	Screw	F7705100	43	Flat washer Φ8×22	F1711000
19	E Type washer	F1717000	44	Flat washer Φ8×22	F1711000
20	Flat washer	F1711000	45	Loose-proof nut M6	F1906003
21	Hinge pin	A1200608	46	Inner hexagon screw M6×10	F1321000
22	Flat washer	F1705000	47	Spring washer	F1804001
23	Loose-proof nut	F1907001	48	Flat washer Φ6×13	F1707000
24	Low hinge	A2262001	49	Sensor shell	A2260003
25	Filtering cloth split washer**	A1203006	50	Mini-countersunk blind rivet screw M6	F1905001

No.	Name	SN	No.	Name	SN
51	Double offset ring spanner	A1200601	68	Pressure switch	A2106002
52	Ventilation window	E4100006	69	Celerity connector	A2231400
53	Screw M5×10	F7705100	70	Pressure switch 2	-
54	Upper hinger	A2262000	71	Air accumulator	-
55	Flat washer $\Phi 8 \times 22$	F1705001	72	Pressure switch 1	-
56	Loose-proof nut M4×0.7	F1907001	73	Air accumulator	T3108000
57	Carbon brush motor*	A1304000	74	Pressure switch 1	-
58	Motor packing (upper)	A2112000	75	Solenoid valve*	A2111000
59	Motor fixed board	-	76	Pressure switch	A2106040
60	Inner hexagon screw M6×85	F1210012	77	Motor packing (lower)	-
61	Loose-proof nut M6	F1906003	78	Blue air pipe	A1206021
62	Motor hood	A2200610	79	Pressure switch	-
63	L120 Square aluminum handle	D2210001	80	Motor outer hood fixed seat	F1905001
64	Loose-proof nut M6×13	F1707000	81	Hopper lid	H3206003
65	Spring washer M6	F1804000	82	Mini-countersunk blind rivet screw M6	-
66	Inner hexagon screw M6×20	F1214000	83	Gasket	-
67	Flat washer	F1407000	84	high pressure air nozzle	-

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

9.27 Assembly Drawing of SAL-12U-EA



9.28 Parts List of SAL-12U-EA

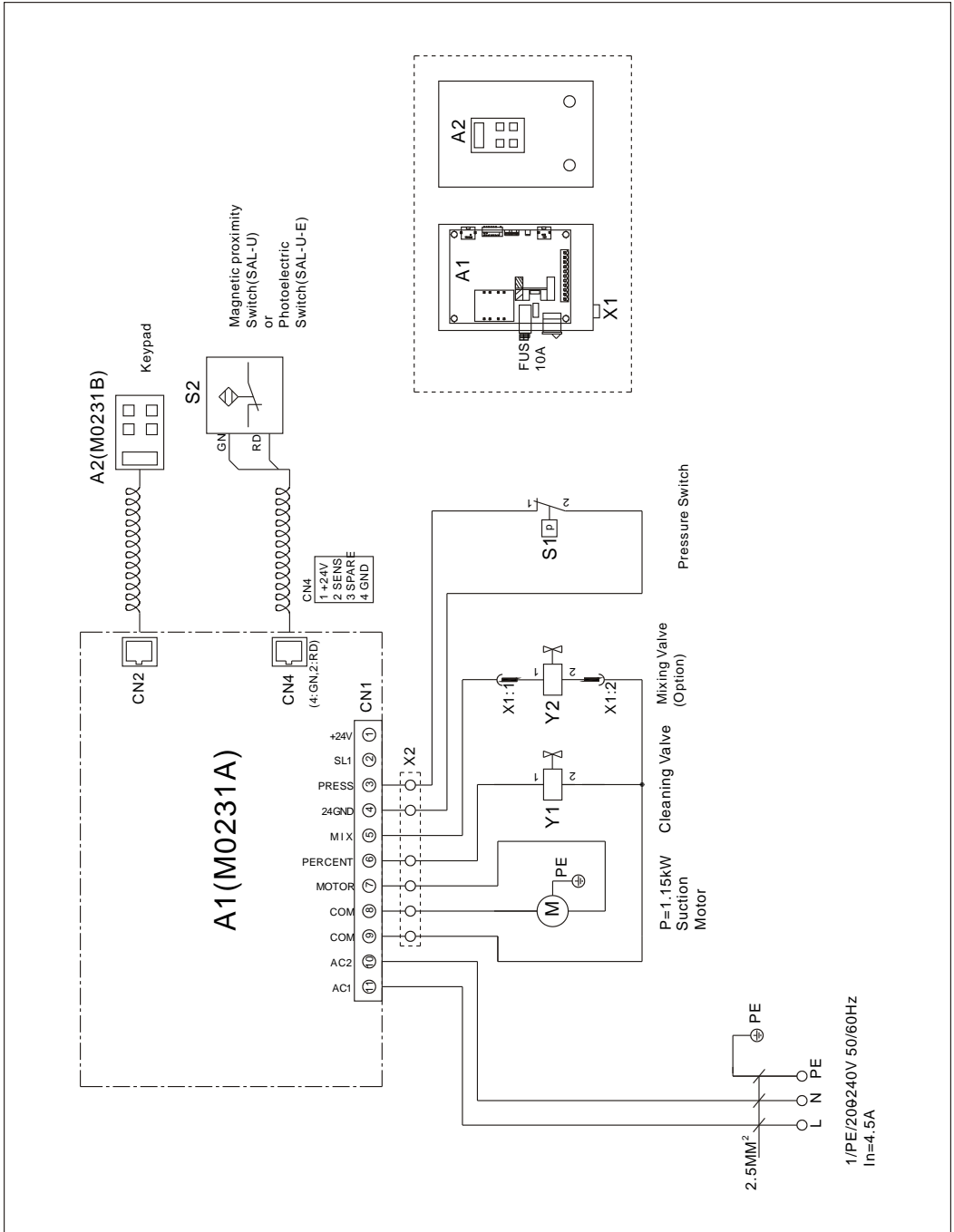
No.	Name	SN	No.	Name	SN
1	Inner hexagon screw	F1215000	26	Hinge pin	A1200608
2	Glass tube lower flange	A1200013	27	Flat washer	F1711000
3	Glass pipe packing	A2108001	28	E-rings	F1319000
4	Glass tube*	A3108002	29	Low hinge	A2262001
5	Flange connection shaft	A2210170	30	Loose-proof nut	F1904000
6	Glass pipe upper flange	A1200012	31	Enlarged material tank	–
7	Plastic head screw	G1106200	32	Cross socket head cap screw	F1302000
8	Non-return flap*	A1100610	33	Snap hook pressure block	A2206000
9	Mouth of the baffle plate	A1103306	34	Control box base	A2206005
10	Hopper flange	A1300601	35	Screw	F1517003
11	Material storage bucket	–	36	Photoelectrica switch fixed base	A1206004
12	Tube bundle	–	37	Photoelectrica switch fixed block	–
13	Loose-proof nut	F1904000	38	Cross socket head cap screw	F1303000
14	Flat washer $\Phi 4 \times 8$	F1703001	39	Photoelectrica switch	–
15	Snap hook	A1200024	40	Photoelectrica switch fixed base	–
16	Buffering pad	A2200602	41	Photoelectrica switch fixed block	–
17	Thick-headed screw	F1614002	42	Cross socket head cap screw	F1303000
18	Thick-headed screw	F1604100	43	Filtering cloth split washer**	A1203006
19	Material inputting pipe	–	44	Hop-pocket **	G1100060
20	Material inputting pipe fixed piece	–	45	Hopper packing*	A3156000
21	Material inputting pipe packing	–	46	Loose-proof nut	F1904000
22	Flat washer	F1703001	47	Upper hinger	A2262000
23	Loose-proof nut	F1904000	48	Flat washer	F1703001
24	Flat washer	F1705001	49	Screw	F1907001
25	Loose-proof nut	F1907001	50	Motor packing (lower)	A2109001

No.	Name	SN	No.	Name	SN
51	Carbon brush motor*	A1304000	64	Air accumulator	–
52	Motor packing (upper)	A2112000	65	Connector I	–
53	Motor fixed board	–	66	Solenoid valve*	T3108000
54	Inner hexagon screw	F1210012	67	Connection nut	–
55	Sensor shell	F1906003	68	Pressure switch	A2106002
56	Motor outer hood	A2200610	69	Blue air pipe	A2106040
57	L120 Square aluminum handle	D2210001	70	Pressure switch connector	–
58	Inner hexagon screw	F1226000	71	Motor outer hood fixed seat	A1106002
59	Spring washer	F1804001	72	Hopper lid	–
60	Flat washer	F1707000	73	Mini-countersunk blind rivet screw	F1905001
61	Flat washer	F1407000	74	Gasket	H3206003
62	Celerity connector	A2231400	75	High pressure air nozzle	–
63	Connector II				

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

10. Electrical Diagram

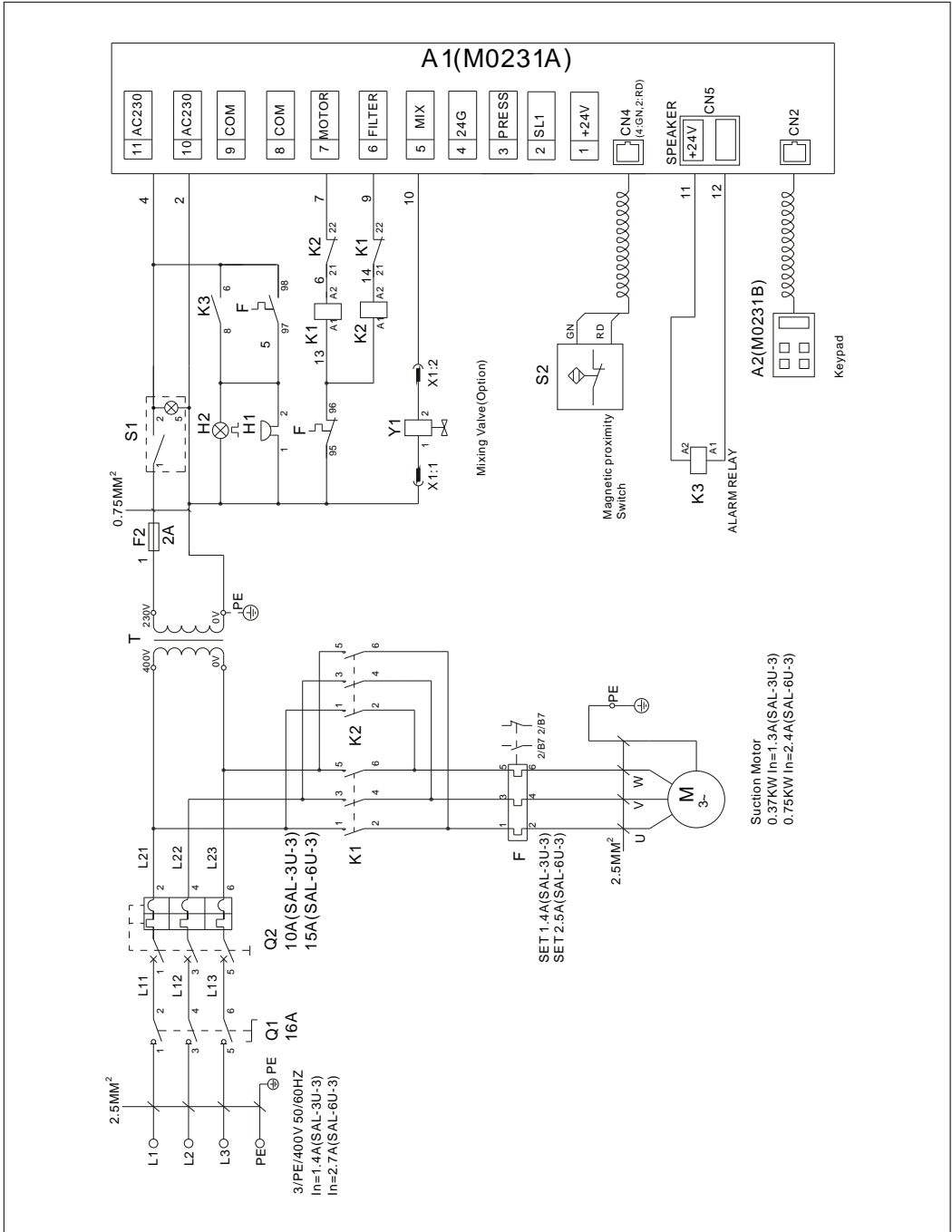
10.1 Electrical Diagram of SAL-U / A / E / EA



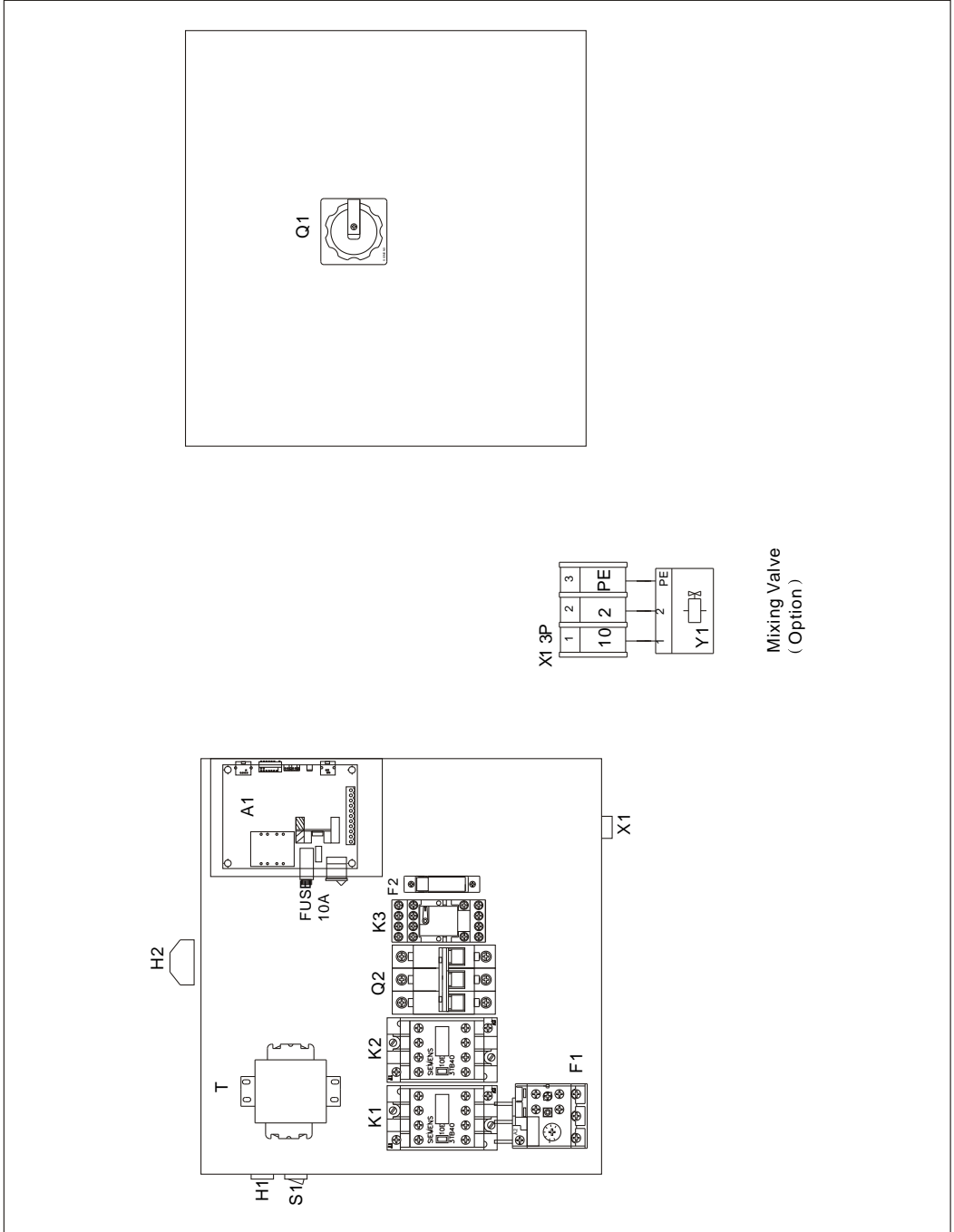
10.2 Electrical Components of SAL-U / A / E / EA

No.	Symbol	Name	Model	Materiel number
1	A1	Microcomputer mainboard	230VAC 50/60Hz	E2323100
2	A2	Keypad	-	E2323101
3	S1	Pressure switch	NO 250VAC	A2106002
4	S2	Magnetic proximity switch	24VDC	A3020002
5	-	Photoelectric switch	24VDC	A3107002
6	X1	Waterproof linker	AQF-16	E5208016
7	X2	Terminal board	10A	E5106001
8	M	Motor	1.15kW	A1304000
9	Y1	Solenoid vavle	230V 50/60Hz	T3108000
10	Y2	Solenoid vavle	230V 50/60Hz	D2105001

10.3 Electrical Diagram of SAL-3/6U-3



10. Electrical Diagram



10.4 Electrical Components of SAL-3/6U-3

No.	Symbol	Name	Model	Materiel number
1	Q1	Main Switch*	16A	E1416000
2	Q2	Circuit_Breakers*	10A	E3110300
3	K1,K2	AC Contactors	230V 50/60Hz	E1130002
4	F	Overload Relays	1-1.6A/2-3.2V	E1201160 E1202320
5	K3	MIDDLE RELAY	24VDC	E5202003
6	T	Transformer	350mA	E3304001
7	F2	Fuse**	2A Fuse	E3202007
8	S1	Control Switch	4P (WH)	E1304000
9	S2	Magnetic proximity Switch*	24VDC	A3020002
10	H1	Buzzer	230VAC 50/60Hz	E3205000
11	H2	LAMP	230VAC 50/60Hz	E5207004
12	A1	Microcomputer Mainboard*	230VAC 50/60Hz	E2323100
13	A2	Keypad		E2323101
14	X1	Waterproof linker	Sucket	E5208016
15	M	Motor	0.5HP/1HP	M0000065 M0000067
16	Y1	Solenoid Vavle**	230V 50/60Hz	D2105001

Note: (1) means that device is not installed in the electric controlled box

10.5 Description of Electrical Components

10.5.1 Opposite-type photoelectric switch

1) It is used on SAL-U-E series of machines for material conveying control and material shortage alarm.

2) A pair of electrical sensors is fixed on the fastening screw of glass tube.



10.5.2 Magnetic proximity switch

1) It is used on the SAL-U series of machines for material conveying control and material shortage alarm.

2) Magnetic proximity switch is fixed at the bottom of the hopper.

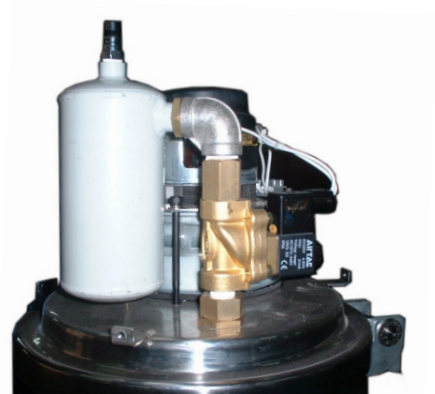


11. Optional Accessories

11.1 Air Accumulator

11.1.1 Function of air accumulator

Air accumulator is fixed on SAL-6U/12U-(CA) which can reinforce the spray washing



11.1.2 Specification of air accumulator

Air accumulator: HxD=170x76mm



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

12. Maintenance Schedule

12.1 General Machine Information

Model: _____ SN: _____ MFG. Date: _____

Voltage: _____ Φ _____ V Frequency: _____ Hz Rated Power: _____ kW

12.2 Installation & Inspection

- Check the pipes are correctly connected.
- Check all the connections are firmly fixed by clips.
- Check that the hopper base is firmly locked.

Electrical Installation

- Check the voltage: _____ V _____ Hz
- Check that the electric sensor is working properly.
- Check the rotating direction of conveying motor.

12.3 Daily Checking

<u> / / </u> <input type="checkbox"/> Check main power switch <input type="checkbox"/> Check filter bag <input type="checkbox"/> Check motor performance	<u> / / </u> <input type="checkbox"/> Check main power switch <input type="checkbox"/> Check filter bag <input type="checkbox"/> Check motor performance	<u> / / </u> <input type="checkbox"/> Check main power switch <input type="checkbox"/> Check filter bag <input type="checkbox"/> Check motor performance
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12. Maintenance Schedule



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12.4 Weekly Checking

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- Check if there are damaged electric wires
- Check all the electric connections
- Check flange screws at material inlet

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12. Maintenance Schedule



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- Check if there are damaged electric wires
- Check all the electric connections
- Check flange screws at material inlet

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- Check if there are damaged electric wires
- Check all the electric connections
- Check flange screws at material inlet

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- Check if there are damaged electric wires
- Check all the electric connections
- Check flange screws at material inlet

Local Warranty Statement

1. Local warranty applies to the country of purchase only. Once the product is transited out of the country of purchase, this warranty is invalidated.
2. The warranty is only applicable to the original purchaser and in the country of purchase.
3. The warranty covers parts and labour only; and excludes freight and on-site call-out charges.
4. Your SHINI product is guaranteed against manufacturing defects for a period of twelve (12) months from the date of purchase locally unless stated otherwise.
5. The warranty shall immediately cease and become void if the product is found to have been modified or repaired by an unauthorized person.
6. The warranty is subjected to the following limitations and exclusions:
 - (a) Malfunctions or damages resulting from not complying with the recommended manner as outlined in our operation manual in relation with the application, installation, operation and maintenance.
 - (b) Defects from using wrong electrical supply, misuse or damage by negligence and abuse.
 - (c) Malfunctions or damages resulting from natural disaster, fire, civil unrest and/or accidents.
 - (d) Wear parts and accessories.
7. If your SHINI product is not the same place of purchase, you can still send the product to your local SHINI's branch or distributor for servicing at your full costs according to the individual country service policy.
8. If there is no SHINI's branch or distributor in your country, although obviously there is no warranty covered by SHINI, you may direct contact SHINI requesting for the supply of replacement parts at your full costs.
9. All the electricity installation, connection and maintenance should be carried out by the specialists or contact , SHINI or its local agents.

10. The warranty is deemed valid only if the followings are completely filled in:

Purchaser's name and address: _____

Your supplier's name and address: _____

(company stamp)

Product model: _____ Serial number: _____

Invoice Number: _____ Date of purchase: _____

Please send all queries and comments to:

Shini Plastics Technologies, Inc.

Corporate Product & Marketing Center

1 Shini Road, Dalang, Dongguan, Guangdong, China

Tel: (0769) 8331 3588 Fax: (0769) 8331 3589

Corporate e-mail: shini@shini.com

Corporate internet: www.shini.com