

# **SG-23&30** Sound-proof Central Granulators



SG-2348

## Operation Instruction

Ver.A

2012-07-26



## Contents

1. General Description -----	1
2. Structure Characteristics and Working Principle -----	10
3. Installation and Debugging -----	76
4. Application and Operation -----	84
5. Trouble-shooting -----	88
6. Maintenance and Repair -----	89

## 1. General Description



To avoid personal injury and damage to the machine, you should read this manual carefully before using the machine.



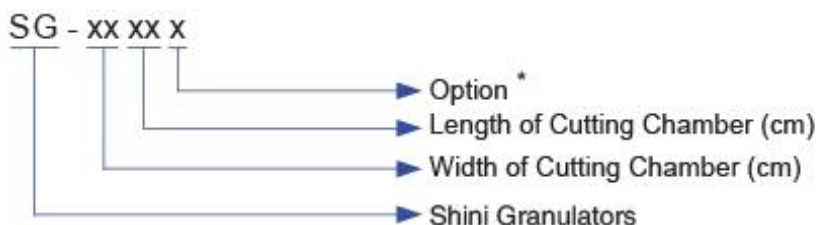
Note: Always take great care when the knives are within reach, they are very sharp and can cause personal injury.



Forbidden to process poison or flammable materials!

SG - 23 / 30 series sound - proof central granulators are suitable for centralized recycling of wastes or rejected parts from injection moulding, blow moulding or extrusion lines. The machines feature optimized structure, easy operation, and quick blade replacement. Staggered rotating blades can easily grab and cut through materials. This design makes the machine work more efficiently and can reduce waste of energy to the minimum. This granulator has various models with wide application range to meet different customer's demand.

### 1.1 Coding Principle



Note: \*

S=Smaller Motor Power    P=Paddle Blade(Except SG-23 Series)

H=Higher Motor Power    R=For Stainless Steel made Feed Port and Storage Tank

F=Fiber-added    FAD=Full-receiver Alarm Device    CE=CE Conformity

### 1.2 Main Features

Standard configuration

- 1) SG-23 series adopts staggered blades design, SG-30 series adopt paddle blades design.
- 2) Staggered blades design can decentralize working load when granulating to increase cutting efficiency, Blade retainer is designed for quick blade replacement without readjustment.

- 3) Paddle blades design allows increased efficiency and reduced energy consumption.
- 4) The blade material is imported steel to ensure high quality and high durability.
- 5) Full-closed design and sound-proofing ensure low noise level.
- 6) Equipped with electrical current relay, motor overload protector and other multiple safety devices.
- 7) Cyclone dust separator can effectively remove the air from regrind and facilitates the material collecting.
- 8) Dust collecting bag brings easiness for dust cleaning and reduce contamination.
- 9) Regrind conveying system as standard.

Accessory option

- 1) For granulating fibre-added material, increase fibre-added granulator model for choose. Adopt surface-hardening treatment on the material contacting components. SG-30P model blade material used V-4E joint with S50C.
- 2) Dust separator, full-receiver alarm device and special screens.

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:

Tel: (886) 2 2680 9119

Shini Plastics Technologies (Dongguan), Inc:

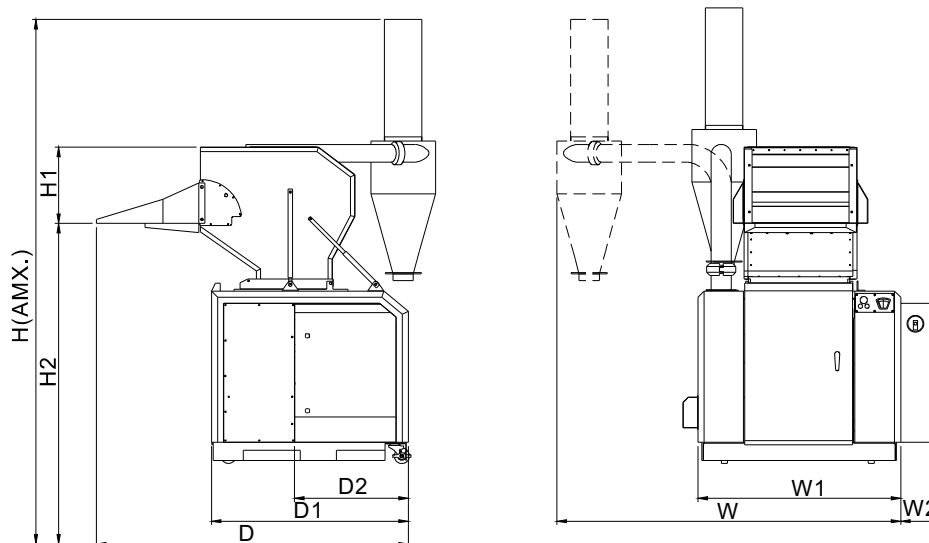
Tel: (86) 769 8111 6600

Shini Plastics Technologies India Pvt.Ltd.:

Tel: (91) 250 3021 166

### 1.3 Technical Specifications

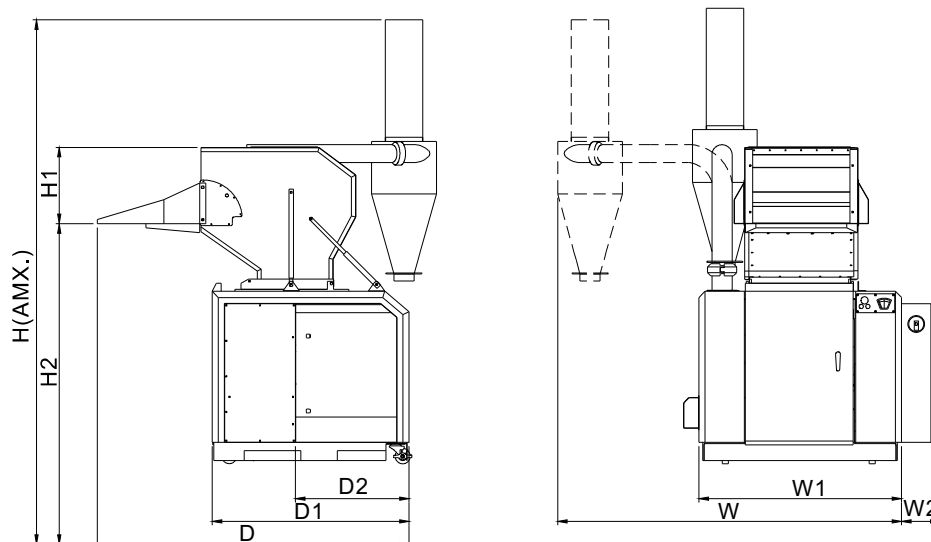
#### 1.3.1 Specification SG-23



Model	SG-2324 (S)	SG-2336 (S)	SG-2348 (S)
Motor Power (kW, 50 / 60Hz)	5.5 / 6.3 (4 / 4.6)	7.5 / 8.6 (5.5 / 6.3)	11 / 12.6 (7.5 / 8.6)
Conveying Blower (kW, 50 / 60Hz)	0.55 / 0.66	0.55 / 0.66	0.55 / 0.66
Rotor Speed (r.p.m 50 / 60Hz)	415 / 500	415 / 500	415 / 500
Number of Fixed Blades	2	2	2
Number of Rotating Blades	3 × 2	3 × 3	3 × 4
Cutting Chamber (mm)	230 × 240	230 × 360	230 × 480
Max. Throughput Capacity (kg/hr)(50 / 60Hz)	90 / 105	120 / 140	150 / 180
Noise Level dB (A)	90~95	90~95	90~95
Material of Blades (SKD11)	✓	✓	✓
Regrinds Conveying System	✓	✓	✓
Dia. of Screen Hole (8mm)	✓	✓	✓
Dia. of Screen Hole (mm)	○	○	○
Dust Separator (DS-30)	○	○	○
Feed Hopper with Magnet	○	○	○
Full-receiver Alarm Decice	○	○	○

- Note: 1) "✓" stands for standard, "○" stands for optional.  
 2) "S" stands for smaller motor power. "H" stands for higher motor power. "P" stands for paddle blades.  
 3) When granulating materials with fibers or similar to fibers (like CPVC etc.), it is suitable to select granulators with special quenching process in for cutting chamber and blades, and also add "F" behind the model.  
 4) Optional granulating speed: high rotating speed blade, only for staggered type, add "G" at model behind. Low rotating blade, only for staggered type, add "D" at model behind.  
 5) Modified into stainless steel made feed hopper cover plate and storage tank. add "R" at model behind.  
 6) SKD11 is material code number of Japanese JIS standard.  
 7) Max. capacity of the machine is subject to diameter of screen mesh and composition of material.  
 8) Noise level will vary with different materials and motor types.  
 9) For avoiding plastic to adhibit the blade, all materials should be crushed at normal temperature.  
 10) Power supply : 3Φ, 230 / 400 / 460 / 575VAC, 50 / 60Hz.

### 1.3.2 Specification of SG-30



Model	SG-3048P (H)	SG-3060P (H)
Motor Power (kW, 50 / 60Hz)	11 / 12.6 (15 / 17.3)	15 / 17.3 (18.5 / 21.3)
Conveying Blower (kW, 50 / 60Hz)	0.55 / 0.66	0.55 / 0.66
Rotor Speed (r.p.m 50 / 60Hz)	415 / 500	415 / 500
Type of Blades	Paddle	Paddle
Number of Fixed Blades	2	2
Number of Rotating Blades	3	3
Cutting Chamber (mm)	300 × 480	300 × 600
Max. Throughput Capacity (kg/hr)(50 / 60Hz)	185 / 220	220 / 260
Noise Level dB (A)	90~95	90~95
Material of Blades (SKD11)	✓	✓
Regrinds Conveying System	✓	✓
Dia. of Screen Hole (8mm)	✓	✓
Dia. of Screen Hole (mm)	○	○
Dust Separator (DS-30)	○	○
Feed Hopper with Magnet	○	○
Full-receiver Alarm Decice	○	○

- Note: 1) "✓" stands for standard, "○" stands for optional.  
 2) "S" stands for smaller motor power. "H" stands for higher motor power. "P" stands for paddle blades.  
 3) When granulating materials with fibers or similar to fibers (like CPVC etc.), it is suitable to select granulators with special quenching process in for cutting chamber and blades, and also add "F" behind the model.  
 4) Optional granulating speed: high rotating speed blade, only for staggered type, add "G" at model behind. Low rotating blade, only for staggered type, add "D" at model behind.  
 5) Modified into stainless steel made feed hopper cover plate and storage tank. add "R" at model behind.  
 6) SKD11 is material code number of Japanese JIS standard.  
 7) Max. capacity of the machine is subject to diameter of screen mesh and composition of material.  
 8) Noise level will vary with different materials and motor types.  
 9) For avoiding plastic to adhibit the blade, all materials should be crushed at normal temperature.  
 10) Power supply : 3Φ, 230 / 400 / 460 / 575VAC, 50 / 60Hz.

### 1.2.3 Dimension of SG-23 / 30

Dimensions	SG-2324 (S)	SG-2336 (S)	SG-2348 (S)
H (mm)	1980	1980	1980
H1 (mm)	300	300	300
H2 (mm)	1150	1150	1150
W (mm)	1520	1680	1800
W1 (mm)	760	880	1000
W2(mm)	190	190	190
D (mm)	1350	1350	1350
D1 (mm)	895	895	895
D2 (mm)	500	500	500
Weight (kg)	472 (467)	522 (517)	604 (584)

Dimensions	SG-3048 (H)	SG-3048P (H)	SG-3060 (H)	SG-3060P (H)
H (mm)	2210	2210	2210	2210
H1 (mm)	375	375	375	375
H2 (mm)	1245	1245	1245	1245
W (mm)	1830	1830	1950	1950
W1 (mm)	1000	1000	1120	1120
W2(mm)	190	190	190	190
D (mm)	1510	1510	1510	1510
D1 (mm)	975	975	975	975
D2 (mm)	560	560	560	560
Weight (kg)	683 (711)	683 (711)	713 (741)	713 (741)

### 1.4 Safety Regulations

Follow the instructions in this manual to avoid personal injury and damage to machine components.

The following safety measures shall be followed when operating the granulator.

#### 1.4.1 Safety Signs and Labels



Electrical installation must only be done by a competent electrician!



Before the granulator is opened for servicing and maintenance, always disconnect the power with both the main switch and the control switch on the granulator.



Never put any part of your body through the granulator openings, unless both the main switch and the control switch on the granulator are in "OFF" position.



**Danger! High voltage!**

This sign is on the door to the distribution box and the control box.



Be careful with the rotating knives ,they are very sharp and can cause personal injury!



If the rotor must be turned manually-do this with great care!



The granulator should not be able to start before the feed box and screen bracket are properly closed.



Attention please!

Ear protection device is used during granulating of plastic materials.



Make sure the power has been cut off before opening the feed box.



Loading blower is applicable to convey regrind and powder and it requires the temperature less than 80 °C .



Loading blower has great suction power and it is easy to have objects and clothes suctioned into and lead to personal injuries.





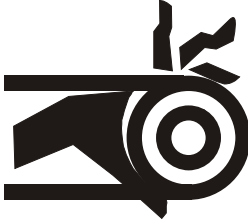





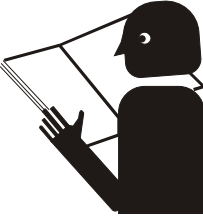

Concerning SG-30 the cutting chamber should be heat-processed and the blades must be changed before the granulators deal with fibre added material.



Attention !

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

When operate the granulator, please notice the following signs

	<p> <b>Hazard</b></p> <p>High voltage !              May lead to casualty or other serious danger.              Please cut off the power before repairing.              Circuit diagram should only be changed by professionals.              Grounding is necessary.</p>
	<p> <b>Warning</b></p> <p>Pinch risk when moving belt.              Take out or open protective cover is not allowed when it is running.</p>
	<p> <b>Warning</b></p> <p>There is a pinch risk for this protective cover              keep some distance away from that.</p>
	<p> <b>Warning</b></p> <p>The cutter are very sharp, can cause injury              take out or open protective cover is not allowed when it is running              keep some distance away from the cutters              For new machine, its cutter has red sticker on itself,              before operation, please tear it out.</p>
	<p> <b>Notice</b></p> <p>Read the instruction manual carefully before operating.              Before start, do the safety device test according to the instruction. It is not allowed to change the design of the machine unless it is approved from the manufacturer.</p>

## 1.4.2 Transportation and Storage of the Machine

### Transportation

- 1) SG-23/30 series of granulators are packed in crates or plywood cases with wooden pallet at the bottom, suitable for quick positioning by fork lift.
- 2) The machine bottom has remain space for forklift to transport freely after removing of package.
- 3) Do not rotate the machine and avoid collision with other objects during transportation to prevent improper functioning.
- 4) 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.
- 5) The machine and its attached parts can be kept at a temperature from - 25°C to + 55°C for long distance transportation and for a short distance, it can be transported with temperature under +70°C.

### Storage

- 1) SG-23 / 30 series of granulators 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:

Indoors in a dry environment with max. temperature +45°C and humidity no more than 80%.

- 1) This equipment works normally in the environment with altitude within 3000m.
- 2) At least a clearance of 1m surrounding the equipment is required during operation. Keep this equipment away from flammable sources at least two meters.
- 3) Avoid vibration, magnetic disturbance at the operation area.

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.

#### 1.4.3 Disposal of Rejected Parts

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, Co<sub>2</sub> dry powder fire extinguisher should be applied.



Flammable materials or materials which are contaminated by flammable substances/liquid may not be processed in the granulator. Serious risk of fire or explosion.



It is very important to tighten the screw as required torque.



When processing item is longer than hopper inlet, please cut long items into half until the length is shorter before processing.



Please don't put materials into the granulator if they are thinner than 2 mm and are soft and flexible, like rubber.

#### 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:

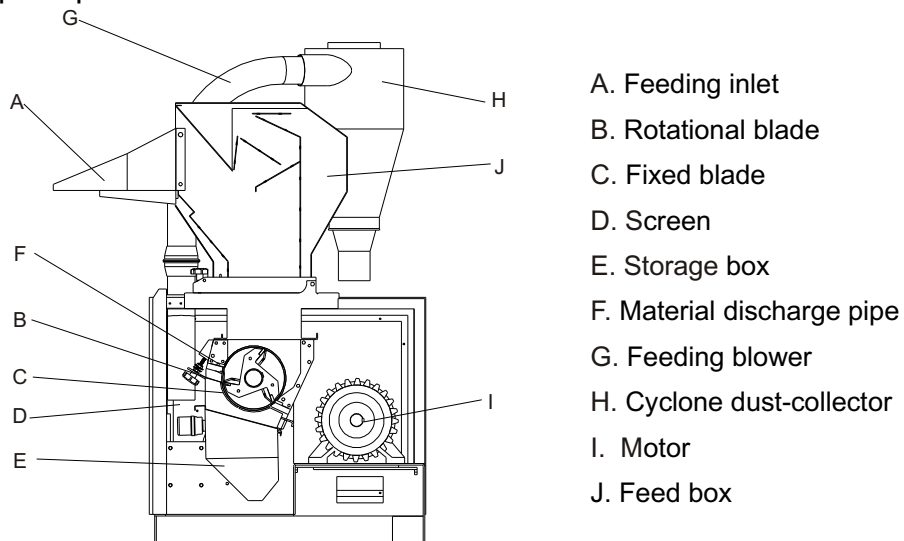
1. Any careless or man-made installations, operation and maintenances upon machines without referring to the Manual prior to machine using.
2. Any incidents beyond human reasonable controls, which include man-made vicious or deliberate damages or abnormal power, and machine faults caused by irresistible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

SG-23 / 30 granulator is suitable to granulate waste plastics for directly recycling use, and before granulating; the metal chips and extraneous substances should be removed. The magnet device is equipped at the feeding inlet to prevent blade from damage due to the entry of metal chips. The granulator is controlled by the switches of start/stop and emergency stop.

Operational principle



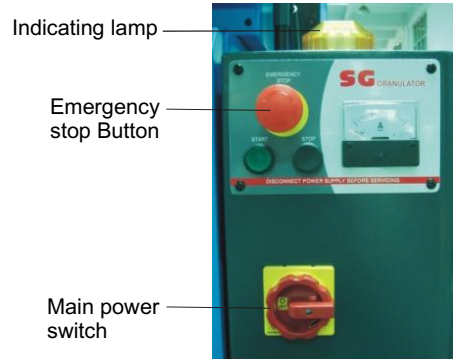
The materials fall into the cutting chamber from feeding inlet (A). There, rotating blade (B) and fixed blade (C) granulate materials, the size of granule is controlled by the mesh size, the screen is installed at the lower part of the cutting chamber, so it is convenient to change screen of various mesh diameter. The granulated materials fall into storage box through screen (E), and then, the materials pass through the discharge pipe (F), and by external blower, the materials are vacuumed into cyclone dust-collector (H) to separate air. After granulating plastics, the granules can be reused directly, or they can be conveyed to container for later use. The feed box of SG23 / 30 series granulators can be opened, so it is convenient for cleaning and maintenance.

### 2.2 Safety system

There are high - speed rotational blades within the cutting chamber, so the safety system is set to avoid accident and ensure personal safety. It is not allowed to change the safety system optionally, otherwise, the machine will be in dangerous state and accident may happen. All the maintenance for the safety system should be done by specialized technical personnel.

### Emergency Stop Button

After pressing down the red button located in the control panel of the machine, the power supply will be shut off immediately, and the machine also stops. Along the arrow direction in the button, rotate the button to reset the button (counter clockwise).



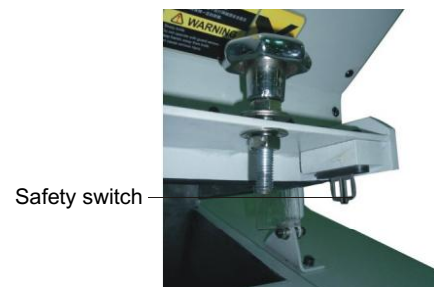
### Safety switch

The safety position switch with circuit breaker is equipped for granulator. If the safety position of machine is changed, or the circuit breaker is loosened, the power supply will be cut off to stop the machine. There are two safety switches on granulator, one is between feed box and cutting chamber, the other one is on the storage box.



### Star knob

The star knobs are important parts on safety operation of the granulator, they are on feed box and screen bracket. The rotation of blade stops upon loosening the star knob off, so the person injury will be avoided.



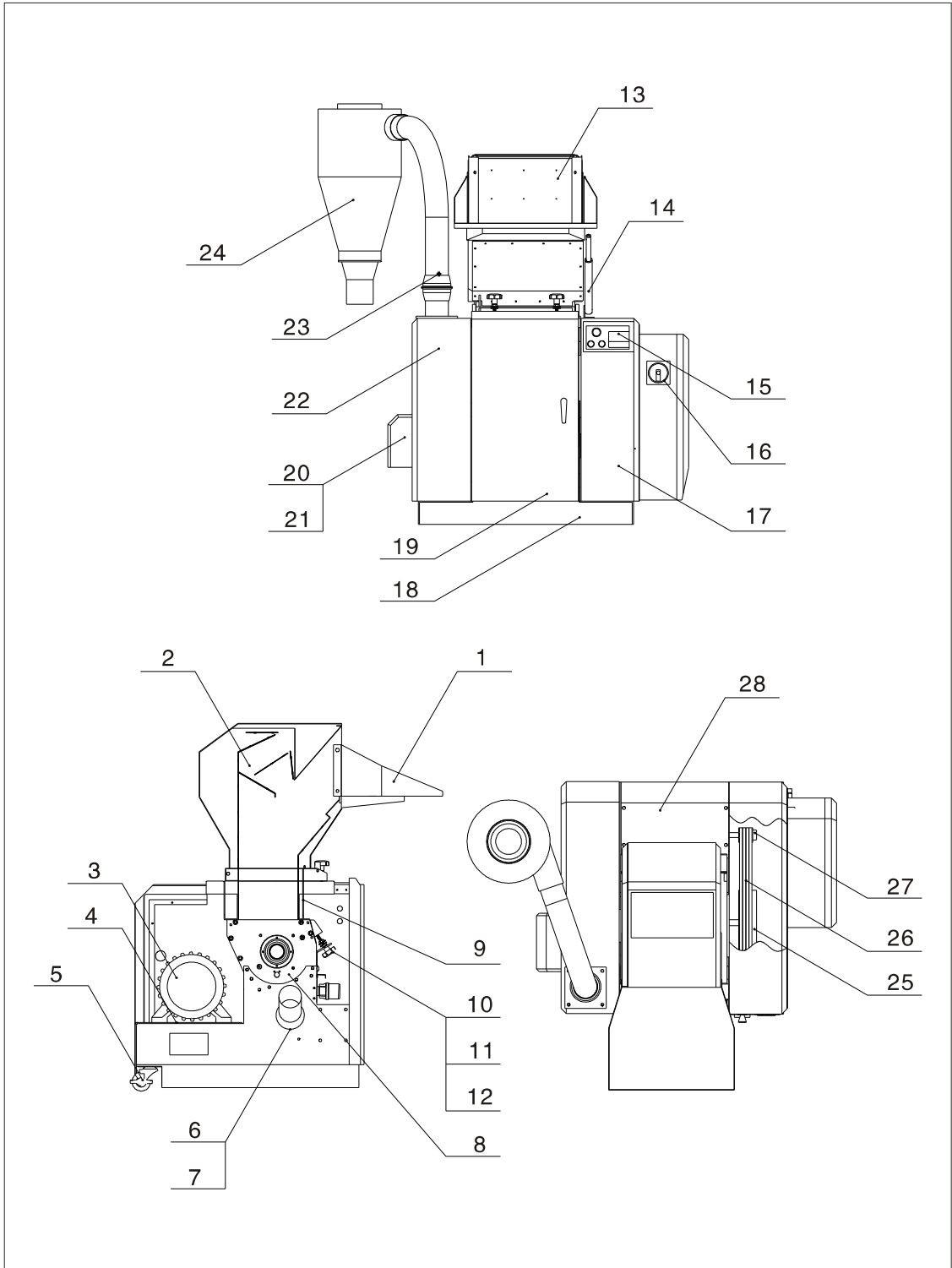
Caution! It is forbidden to change the length of the star knob!

It is forbidden to disassemble it!



Before start the machine, the star knobs on the feed box and screen bracket should be locked tightly, and the storage box should be assembled, and then close the door of machine and lock it tightly.

### 2.3 SG-23 Assembly Drawing

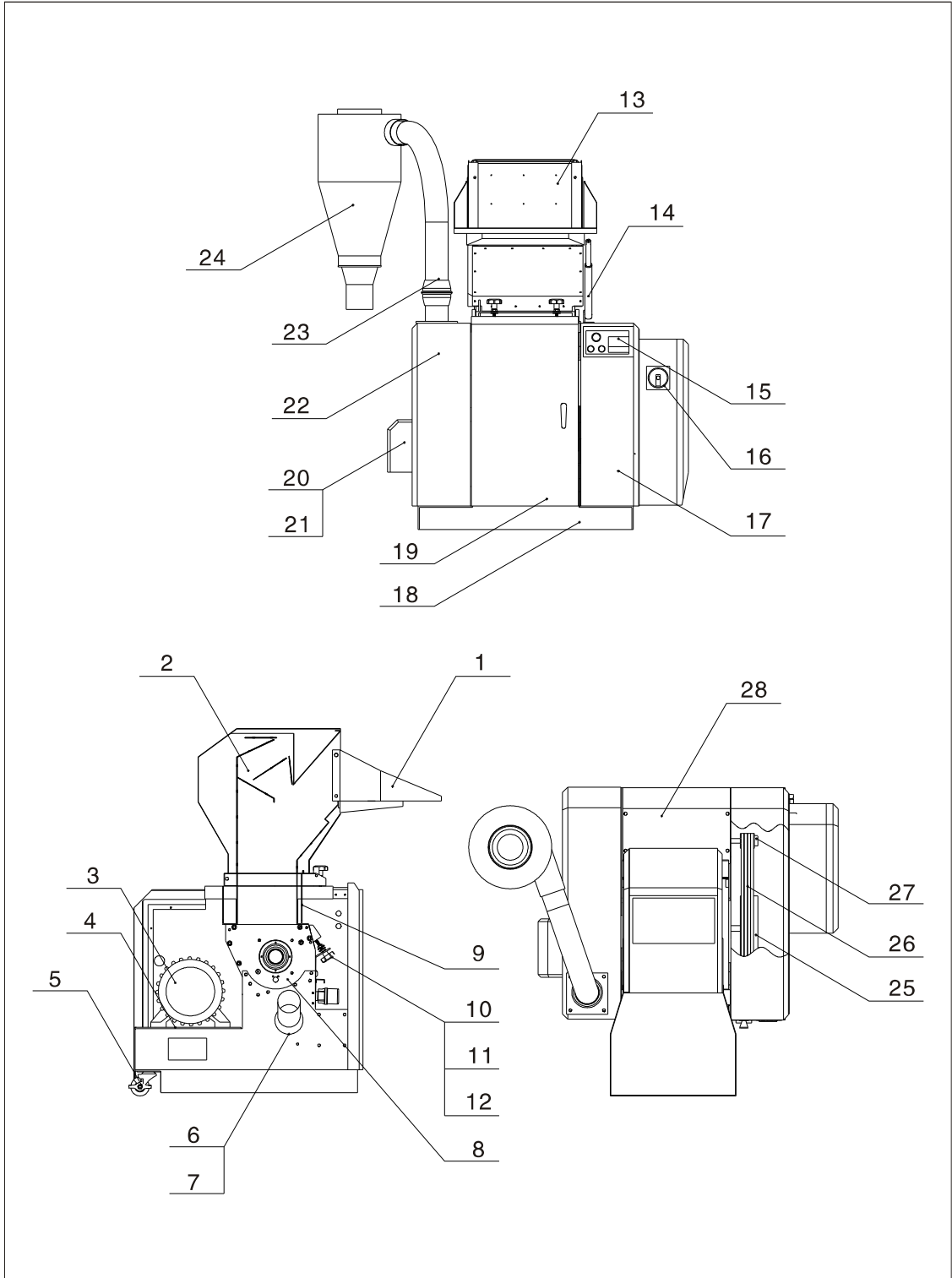


2.4 SG-23 Parts List

No.	Name	Parts Number		
		SG-2324 (S)	SG-2336 (S)	SG-2348 (S)
1	Feeding inlet	BL58232400020	BL58233600020	BL58234800020
2	Feed box	BI54232400020	BL54233600020	BL54234800020
3	Motor	YM10713000200 YM10711300200	YM10713300200 YM10713000200	YM10716300200 YM10713300200
4	Motor pedestal	-	-	-
5	Truckle	YW03000300500 YW03000300600	YW03000300500 YW03000300600	YW03000300500 YW03000300600
6	Air suction pipe	-	-	-
7	Fixing plate of air suction pipe	-	-	-
8	Cutting chamber	BH85232400010	BH85233600010	BH85234800010
9	Cutting box	-	-	-
10	Screen bracket	BL54232400220	BL54233600220	BL54234800220
11	Screen **	BL54042500020	BL54233600820	BL54234800820
12	Storage box	BL54232410020	BL54233610020	BL54234810020
13	Feeding inlet material baffle	BR90232400020	BR90233600020	BR90234800020
14	Pneumatic spring	YW01090000000	YW01090000000	YW01090000000
15	Control panel	BR01023000020	BR01023000020	BR01023000020
16	Switch of main power *	YE10220300000	YE10220300000	YE10220300000
17	Right shell	BL90900800020	BL90900800020	BL90900800020
18	Pedestal	BL54234800320	-	-
19	Door	BH10232400110	-	-
20	Blower *	BM30055000250	BM30055000250	BM30055000250
21	Left shell	-	-	-
22	Blower cover	BL90900800120	BL90900800120	BL90900800120
23	Feeding pipe	-	-	-
24	Cyclone dust collector	BY50002300150	BY50002300150	BY50002300150
25	Larger belt pulley	YW30002300100	YW30002300100	YW30002300100
26	V-belt *	YR00160000100	YR00160000100	YR00160000100
27	Smaller belt pulley	YW30230000000	YW30230000000	YW30230000000
28	Rear cover plate	-	-	-

\* means possible broken parts. \*\* means easy broken part. and spare backup is suggested.

### 2.5 SG-30 Assembly Drawing

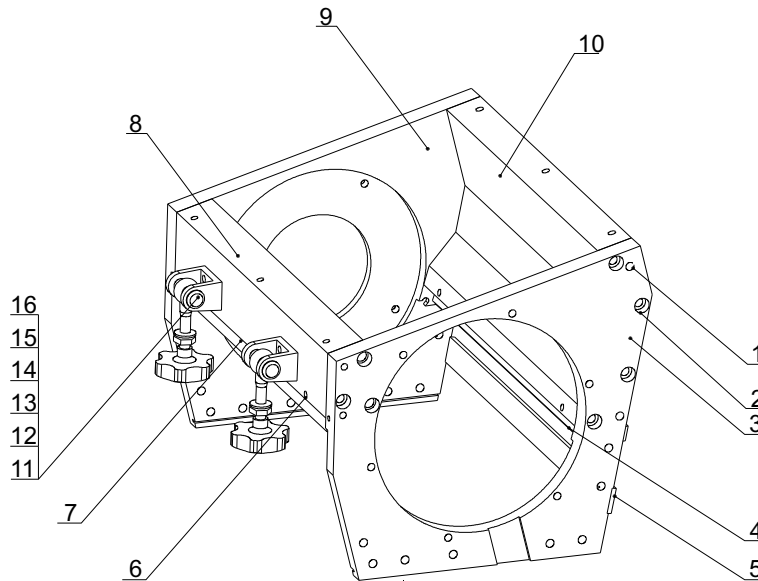


2.6 SG-30 Parts List

No.	Name	Parts Number	
		SG-3048	SG-3060
1	Feeding inlet	BL58304800020	BL58306000020
2	Feed box	BL54304800020	BL54306000020
3	Motor	YM10716300200 YM10716600100	YM10716600100 YM10185400000
4	Motor pedestal	-	-
5	Truckle	YW03000300500 YW03000300600	YW03000300500 YW03000300600
6	Air suction pipe	-	-
7	Fixing plate of air suction pipe	-	-
8	Cutting chamber	BH85304800010	BH85306000010
9	Cutting box	-	-
10	Screen bracket	BL54304800220	BL54306000220
11	Screen **	BL54304800820	BL54304800820
12	Storage box	BL54304801120	BL54306001120
13	Material baffle	YW45300000000	YW45300000000
14	Pneumatic spring	YW01090000000	YW01090000000
15	Control panel	BR01023000020	BR01023000020
16	Switch of main power *	YE10250400000	YE10250400000
17	Right shell	-	-
18	Pedestal	-	-
19	Door	BH10304801310	BH10306001310
20	Blower *	YM30055000000	YM30055000000
21	Left shell	-	-
22	Blower cover	-	-
23	Feeding pipe	-	-
24	Cyclone dust collector	-	-
25	Larger belt pulley	YW30002300100	YW30002300100
26	V-belt *	YR00170000000	YR00170000000
27	Smaller belt pulley	BW30300000010	BW30300000010
28	Rear cover plate	-	-

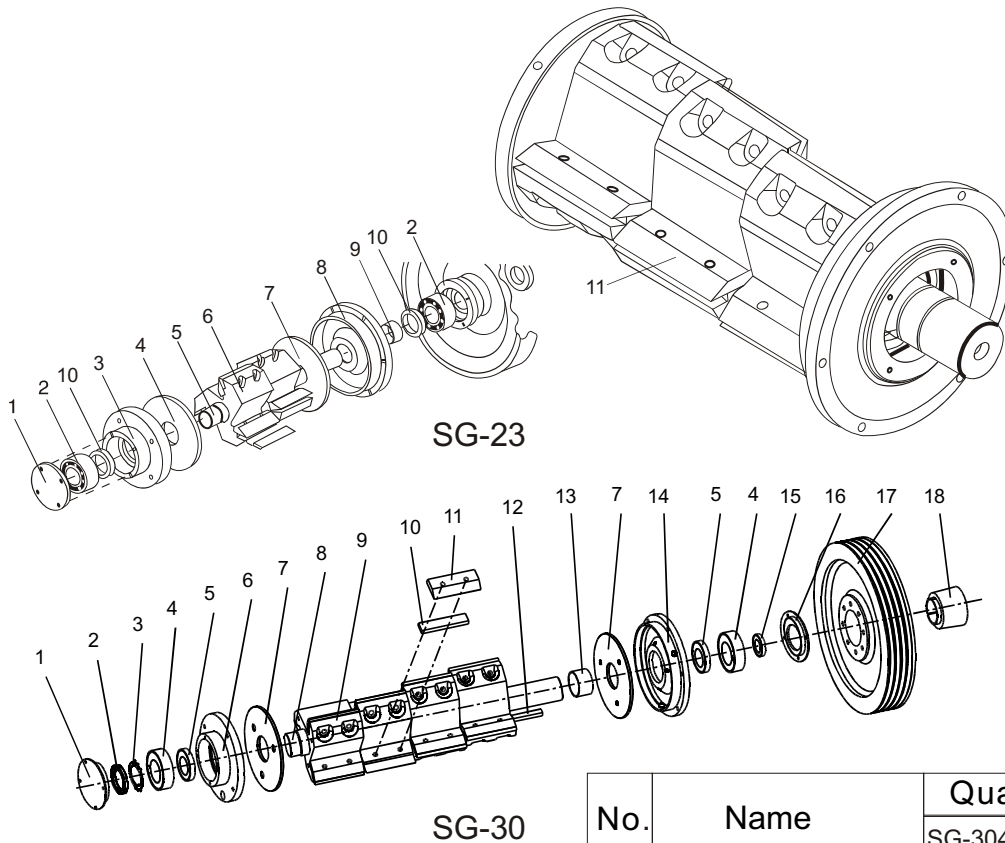
\* means possible broken parts. \*\* means easy broken part. and spare backup is suggested.

## 2.7 Cutting Chamber



No.	Name	Quantity	No.	Name	Quantity
1	Positioning pin	6	9	Left bearing holder	1
2	Screw	14	10	Rear block	1
3	Right bearing holder	1	11	Small base	2
4	Rear blade press block	1	12	Shaft pin	2
5	Supporting plate of screen bracket	1	13	Star screw	2
6	Blade-adjusting screw	1	14	Star nut	2
7	Front blade press block	1	15	Star screw	2
8	Front block	1	16	Flat gasket	2

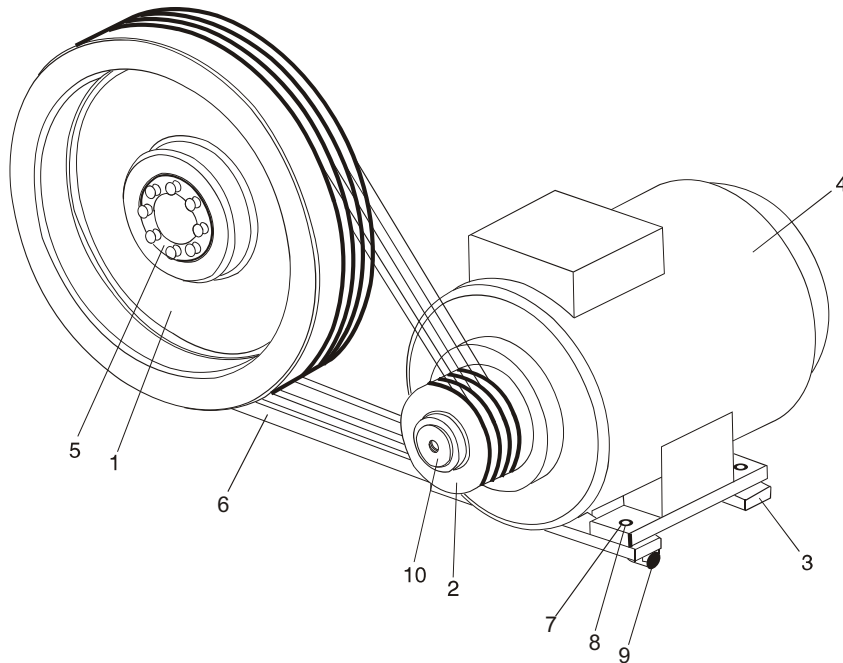
2.8 Blade Rest



No.	Name	Quantity		
		SG-2324	SG-2336	SG-2348
1	Left bearing cover	1	1	1
2	Bearing	2	2	2
3	Left bearing block	1	1	1
4	Left material baffle	1	1	1
5	Main shaft	1	1	1
6	Blade rest	2	3	4
7	Right material baffle	1	1	1
8	Right bearing block	1	1	1
9	Closing ring	1	1	1
10	Oil seal	2	2	2
11	Front blade press block	6	9	12

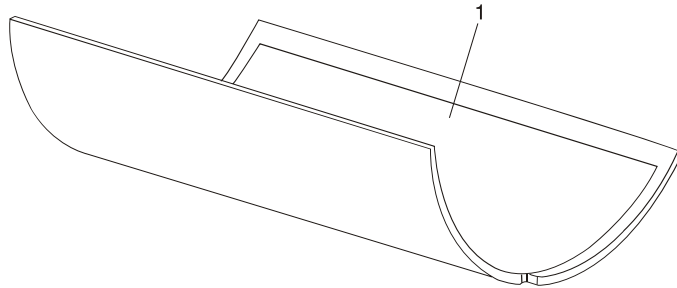
No.	Name	Quantity	
		SG-3048	SG-3060
1	Left bearing cover	1	1
2	Nut	1	1
3	Gasket	1	1
4	Bearing	2	2
5	Oil seal	2	2
6	Left bearing block	1	1
7	Material baffle	2	2
8	Main shaft	1	1
9	Blade rest	4	5
10	Rotating blade	12	15
11	Press block for rotating blade	12	15
12	Key	1	1
13	Sleeve	1	1
14	Right bearing block	1	1
15	Oil seal	1	1
16	Right bearing cover	1	1
17	Big belt pulley	1	1
18	Taper sleeve	1	1

### 2.9 Driving Parts



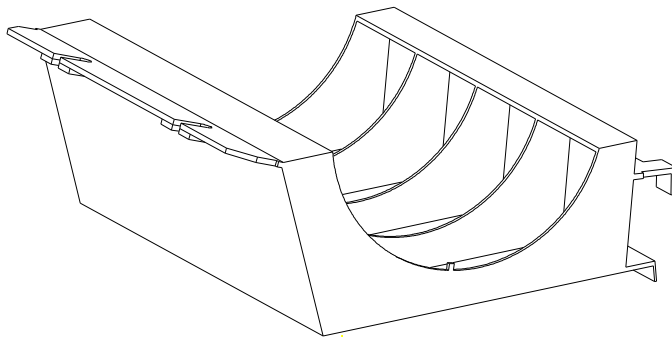
Number	Name	Quantity
1	Belt pulley of blade rest	1
2	Belt pulley of motor	1
3	Fixing bracket of motor	2
4	Motor	1
5	Tool belt wheel taper sleeve	1
6	V-belt	4
7	Screw	4
8	Plain washer	6
9	Screw	2
10	Motor pulleys tapersleeve	1

2.10 Screen



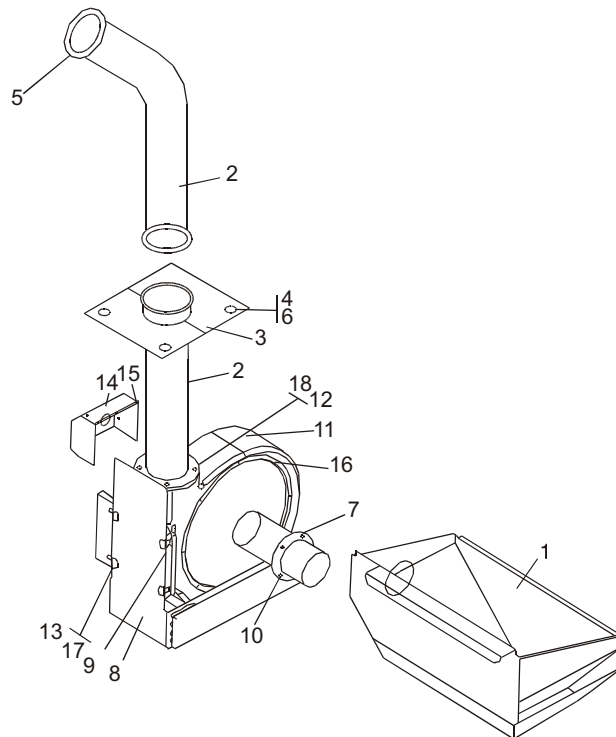
Number	Name	Quantity
1	screen	1

2.11 Screen Bracket



Number	Name	Quantity
1	Screen bracket	1

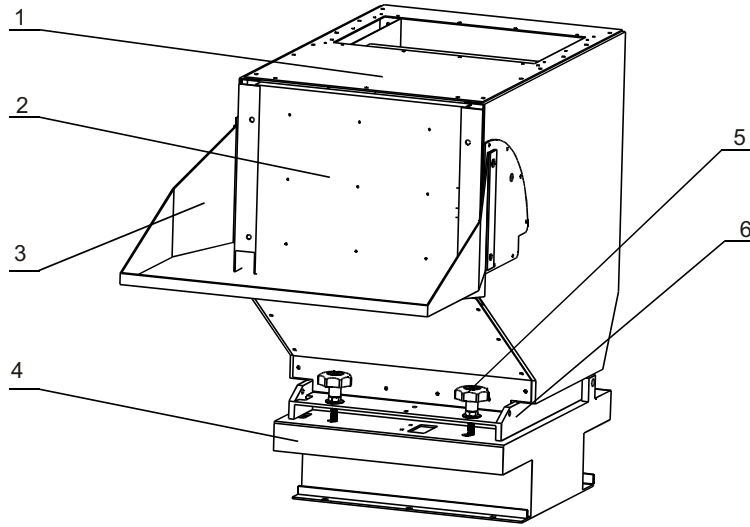
2.12 Motor Feeding, Storage Box



Number	Name	Quantity
1	Material storage tank	1
2	Feeding pipe	1
3	Fixing plate	1
4	Hexagon socket head cap screw	4
5	High-speed pipe bundle	4
6	Plain washer	4
7	Connecting flange	1
8	Motor bracket	1
9	Motor bracket	1

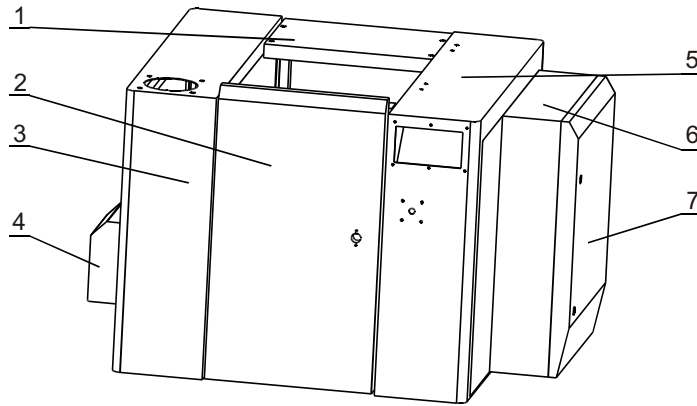
Number	Name	Quantity
11	Hexagon socket head cap screw	3
11	Blower	1
12	Fixing flange	1
13	Motor cover	1
14	Screw	4
15	Hexagon socket head cap screw	8
16	Nut	6
17	Plain washer	4

2.13 Feed box



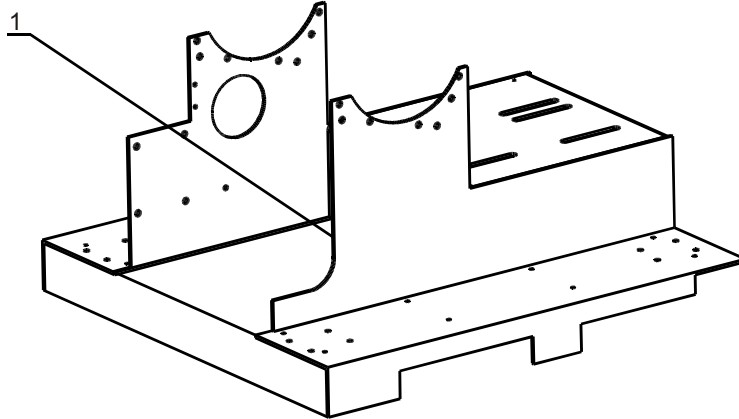
Number	Name	Quantity
1	Feed box	1
2	Machine board	1
3	Feed opening	1
4	Crushing box	1
5	The plum flower screw	1
6	Four square tube frame	1

### 2.14 Sound Insulation Box



Number	Name	Quantity
1	Guard board after	1
2	Door plank	1
3	Left cover	1
4	Blower cover	1
5	Right cover	1
6	Electrical control box out housing	1
7	Electrical control box door plank	1

2.15 Main Body



Number	Name	Quantity
1	Base	1

## 2.16 Electrical Circuit

Symbol Mode	a	b	c	d1	d2	e	f	g	h	i	l	k	l	m	n	o	p	q	r	s
SG-3060H	37.5	10	80	5	5	16-25	19	4.0	18.5	35	1.25-2	1.6	1.5	0.55	1.4	1-1.6	1.3	1.5	0.4	1.1
SG-3060	31.5	10	63	5	5	12-20	16	4.0	15	29	1.25-2	1.6	1.5	0.55	1.4	1-1.6	1.3	1.5	0.4	1.1
SG-3048H	31.5	10	63	5	5	12-20	16	4.0	15	29	1.25-2	1.6	1.5	0.55	1.4	1-1.6	1.3	1.5	0.4	1.1
SG-3048	25.5	6.0	50	5	5	10-16	12.5	2.5	11	23	1.25-2	1.6	1.5	0.55	1.4	1-1.6	1.3	1.5	0.4	1.1
SG-2348	25.5	6.0	50	5	5	10-16	12.5	2.5	11	23	1.25-2	1.6	1.5	0.55	1.4	1-1.6	1.3	1.5	0.4	1.1
SG-2348S	18.5	6.0	40	5	5	12-20	17.5	4.0	7.5	16	1.25-2	1.6	1.5	0.55	1.4	1-1.6	1.3	1.5	0.4	1.1
SG-2336	18.5	6.0	40	5	5	12-20	17.5	4.0	7.5	16	1.25-2	1.6	1.5	0.55	1.4	1-1.6	1.3	1.5	0.4	1.1
SG-2336S	14.5	4.0	40	5	5	10-16	13.5	2.5	5.5	12	1.25-2	1.6	1.5	0.55	1.4	1-1.6	1.3	1.5	0.4	1.1
SG-2324	14.5	4.0	40	5	5	10-16	13.5	2.5	5.5	12	1.25-2	1.6	1.5	0.55	1.4	1-1.6	1.3	1.5	0.4	1.1
SG-2324S	11.2	2.5	40	5	5	8-12.5	10.2	2.5	4.0	9.3	1.25-2	1.6	1.5	0.55	1.4	1-1.6	1.3	1.5	0.4	1.1

Ⓐ Main current

Ⓑ Main cable dia.

Ⓒ Main breaker rated current

Ⓓ1 Feeding motor breaker rated current

Ⓓ2 De-dusting breaker rated current

Ⓔ Granulating motor loader

Ⓕ Granulating motor loader setting

Ⓖ Granulating motor wire diameter

Ⓗ Granulating motor power

Ⓙ Granulating motor current

Ⓙ Feeding motor loader

Ⓚ Feeding motor loader setting

Ⓛ Feeding motor wire diameter

Ⓜ Feeding motor power

Ⓝ Feeding motor current

Ⓞ De-dusting motor loader

Ⓟ De-dusting loader setting

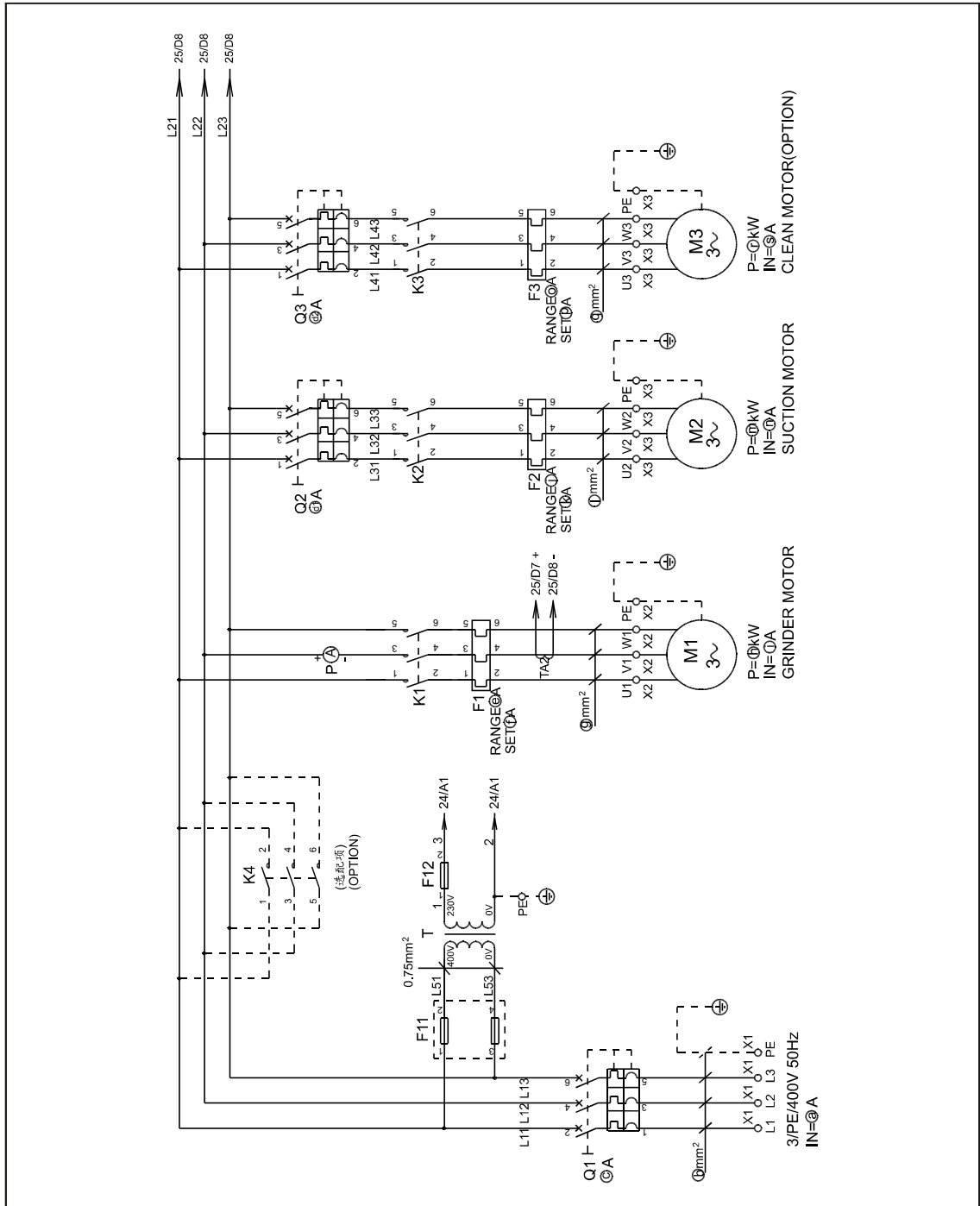
Ⓡ De-dusting motor wire diameter

Ⓢ De-dusting motor power

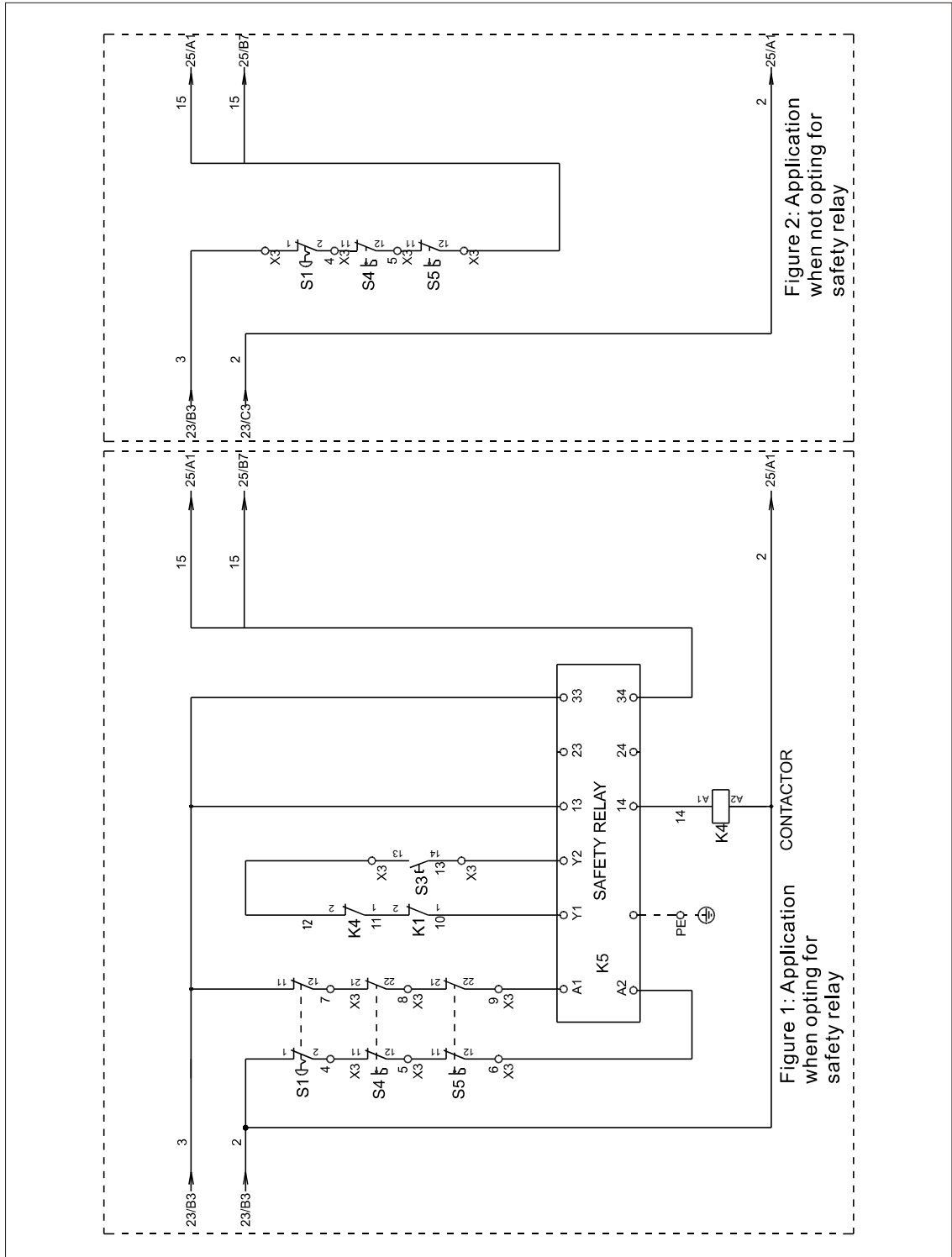
Ⓣ De-dusting motor current

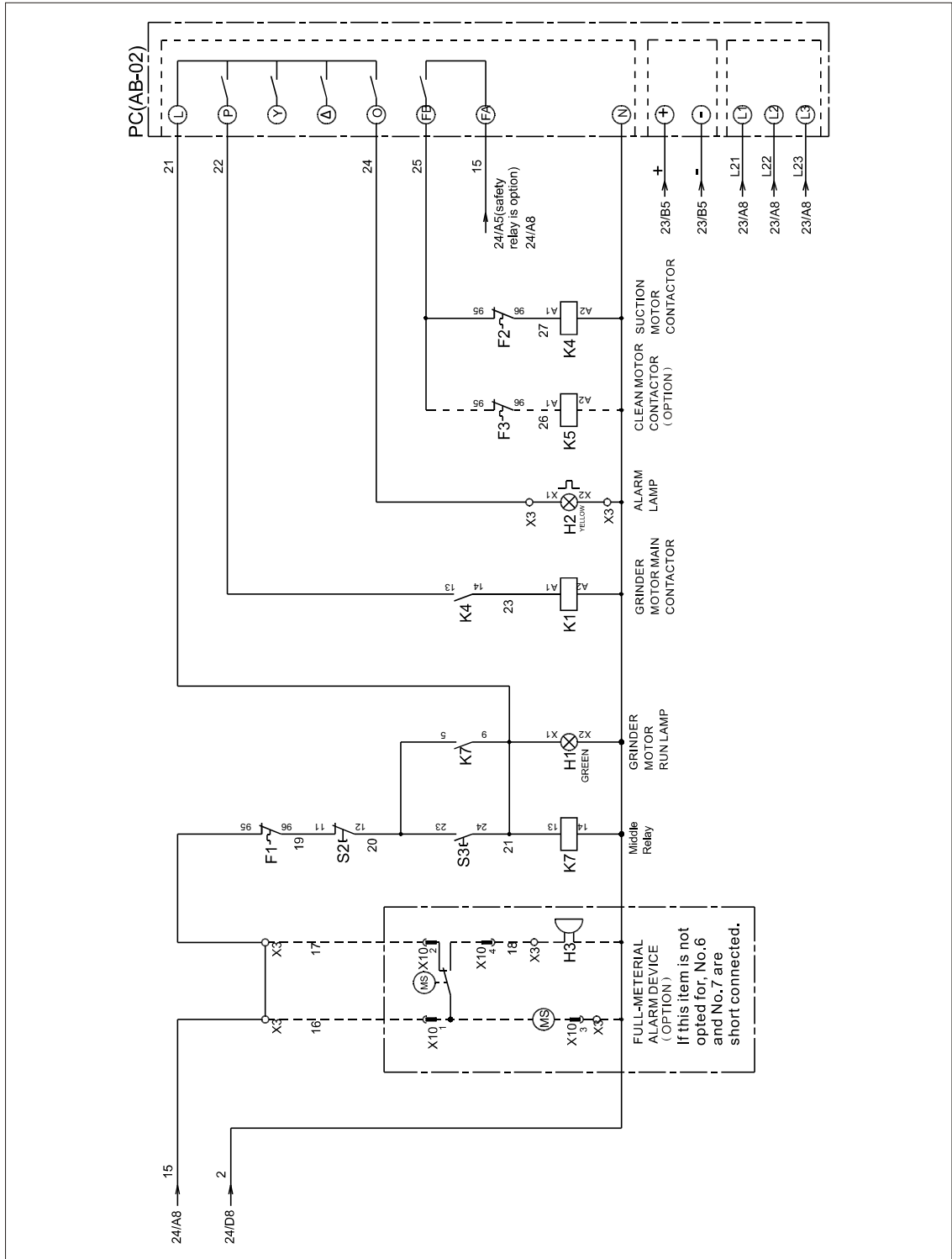
2.16.1 SG-23/30 400V

Main Electrical Circuit

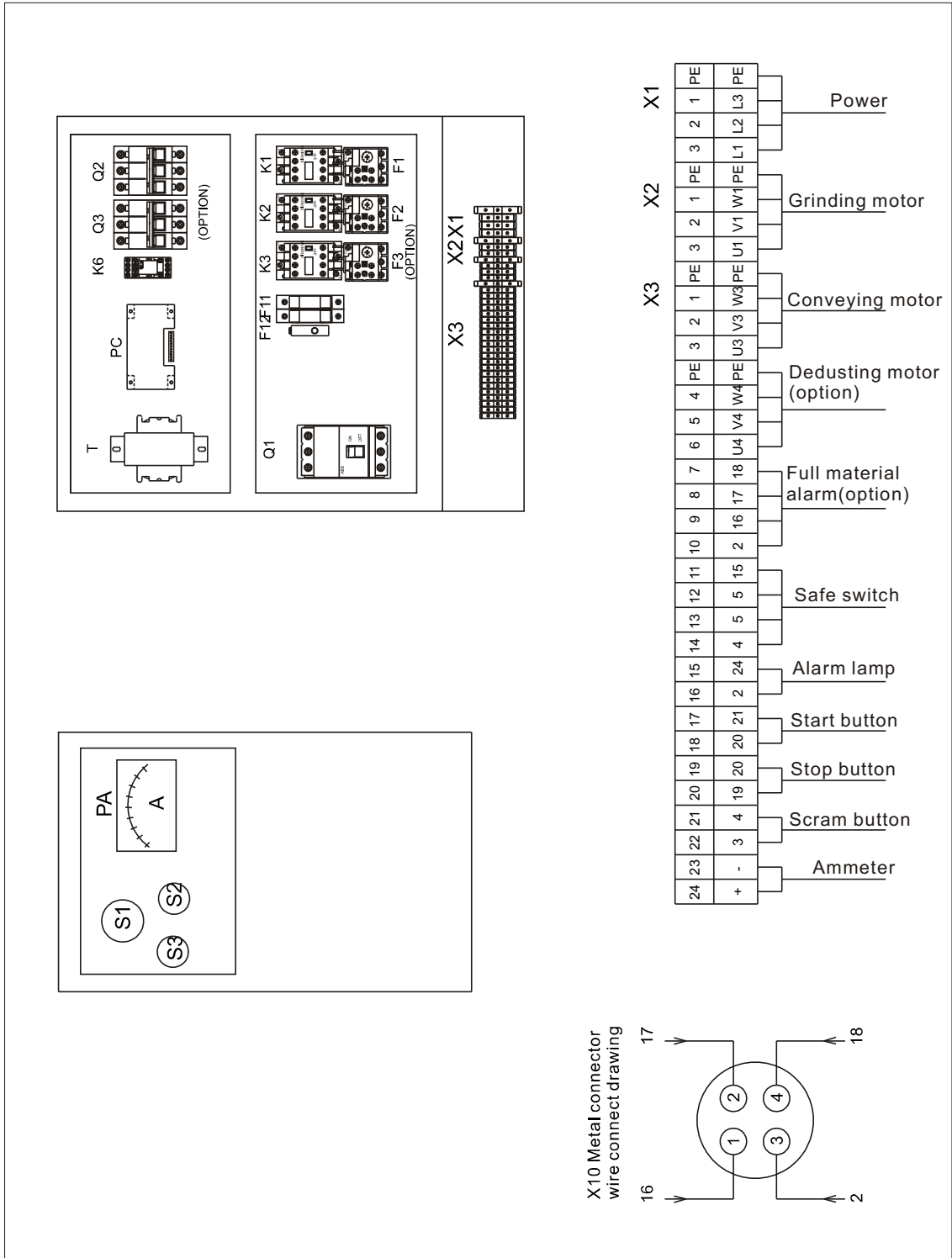


Control Circuit

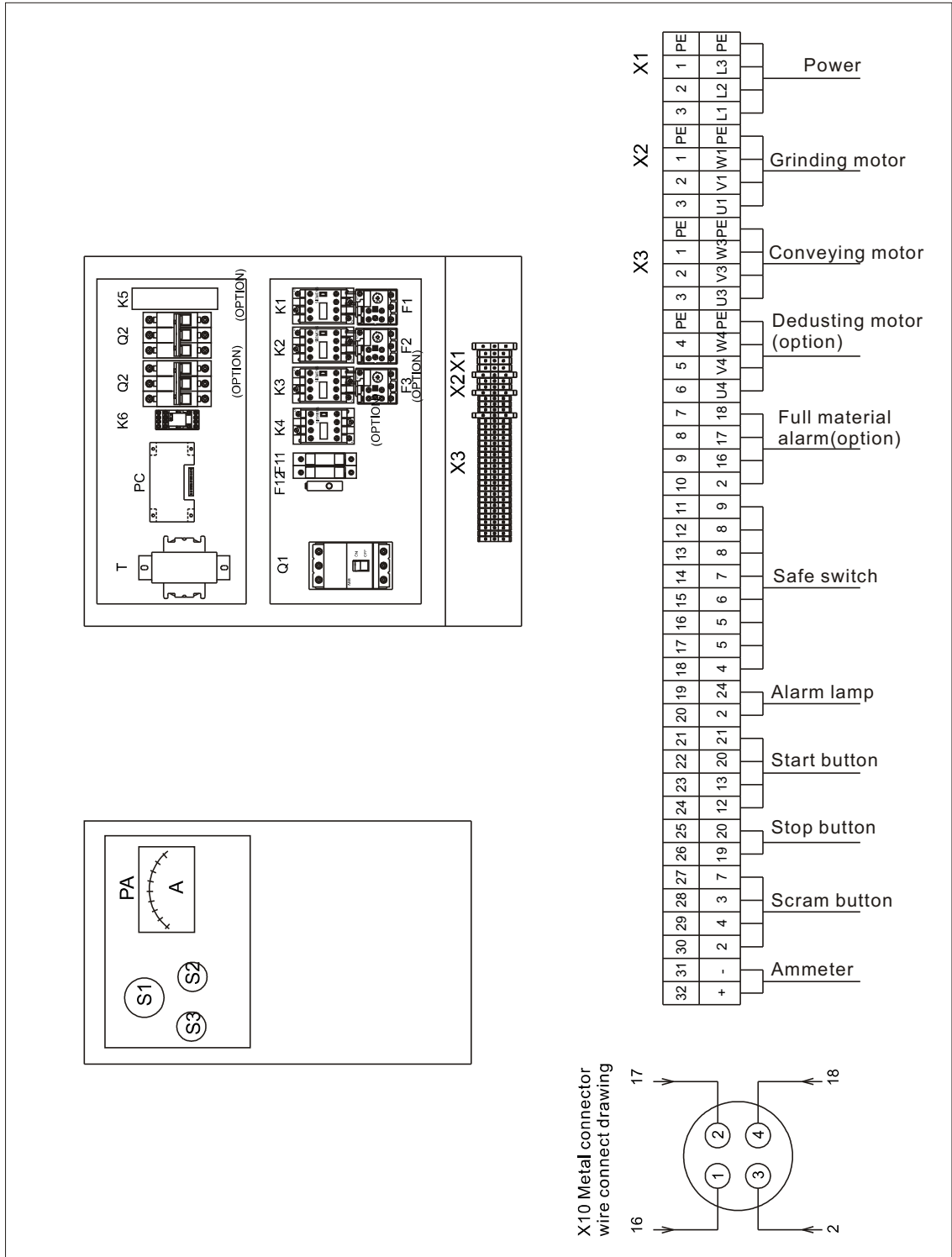




Electrical Components Layout (Not opt for safety relay)



Electrical Components Layout (Opt for safety relay)



Electrical Components List SG-2324S 400V

NO.	Symbol	Name	Specification	Material NO.
1	Q1	Gate circuit breaker	40A	YE41104000000
2	Q2	Circuit breaker	5A	YE40603000000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contactor*	220VAC 50/60Hz	YE00412200100
5	K2	Contactor*	220VAC 50/60Hz	YE00401000100
6	K3	Contactor*	220VAC 50/60Hz	YE00401000100
7	K4	Contactor*	220VAC 50/60Hz	YE00422200100
8	K5	Safety relay	220VAC	YE04372100000
9	K6	Middle relay*	220VAC	YE03270700000
10	TA2	Current mutual inductance	5~100A	-----
11	F1	Overload relay*	8~12.5A	YE01812500000
12	F2	Overload relay*	1.25~2A	YE01125200000
13	F3	Overload relay*	1~1.6A	YE01011600000
14	F11	Fuse**	32A	YE41032200000
15		Fuse core**	1A	YE46001000100
16	F12	Fuse**	2A	YE41001000000
17	T	Transformer*	350mA	YE70402300200
18	X1	Terminal	32A	YE61250040000
19		-		YE61253500000
20	X2	Terminal	32A	YE61250040000
21		-		YE61253500000
22	X3	Terminal	32A	YE61250040000
23		-	32A	YE61250040000
24		-		YE61253500000
25		-	32A	YE61250040000

NO.	Symbol	Name	Specification	Material NO.
26		-		YE61253500000
27		-	32A	YE61250040000
28	S1	Emergency stop button	400VAC	YE11320300000
29		Contact block	1NC	YE19340000100
30	S2	Stop button	400VAC	YE11375800000
31	S3 H1	Start button	400VAC	YE11325300000
32		Contact block	1NO	YE19340000000
33	S4 S5	Safety switch	AZ-15	YE16147600100
34	S4 S5	Safety switch	AZ-16	YE16147600000
35	H2	Alarm lamp	220VAC	YE83305100200
36	H3	Buzzer	220VAC	YE84222000000
37	MS	Feed position motor	220VAC	YE15000200100
38	PA	Galvanometry	30A	YE25673000000
39	X10	Meta tie in	4P	YE68025400000 YE68025400100
40	M1	Granulating motor	400V 50Hz	-----
41	M2	Solution blower*	400V 50Hz	-----
42	M3	Dust blower	400V 50Hz	-----
43	PC	PCB	220VAC	-----

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

Electrical Components List SG-2324/2336S 400V

NO.	Symbol	Name	Specification	Material NO.
1	Q1	Gate circuit breaker	40A	YE41104000000
2	Q2	Circuit breaker	5A	YE40603000000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contactor*	220VAC 50/60Hz	YE00422200100
5	K2	Contactor*	220VAC 50/60Hz	YE00401000100
6	K3	Contactor*	220VAC 50/60Hz	YE00401000100
7	K4	Contactor*	220VAC 50/60Hz	YE00422200100
8	K5	Safety relay	220VAC	YE04372100000
9	K6	Middle relay*	220VAC	YE03270700000
10	TA2	Current mutual inductance	5~100A	-----
11	F1	Overload relay*	10~16A	YE01101600100
12	F2	Overload relay*	1.25~2A	YE01125200000
13	F3	Overload relay*	1~1.6A	YE01011600000
14	F11	Fuse**	32A	YE41032200000
15		Fuse core**	1A	YE46001000100
16	F12	Fuse**	2A	YE41001000000
17	T	Transformer*	350mA	YE70402300200
18	X1	Terminal	41A	YE61040000000
19		-		YE61043500000
20	X2	Terminal	32A	YE61250040000
21		-		YE61253500000
22	X3	Terminal	32A	YE61250040000
23		-	32A	YE61250040000
24		-		YE61253500000
25		-	32A	YE61250040000

NO.	Symbol	Name	Specification	Material NO.
26		-		YE61253500000
27		-	32A	YE61250040000
28	S1	Emergency stop button	400VAC	YE11320300000
29		Contact block	1NC	YE19340000100
30	S2	Stop button	400VAC	YE11375800000
31	S3 H1	Start button	400VAC	YE11325300000
32		Contact block	1NO	YE19340000000
33	S4 S5	Safety switch	AZ-15	YE16147600100
34	S4 S5	Safety switch	AZ-16	YE16147600000
35	H2	Alarm lamp	220VAC	YE83305100200
36	H3	Buzzer	220VAC	YE84222000000
37	MS	Feed position motor	220VAC	YE15000200100
38	PA	Galvanometry	30A	YE25673000000
39	X10	Meta tie in	4P	YE68025400000 YE68025400100
40	M1	Granulating motor	400V 50Hz	-----
41	M2	Solution blower*	400V 50Hz	-----
42	M3	Dust blower	400V 50Hz	-----
43	PC	PCB	220VAC	-----

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

Electrical Components List SG-2336/2348S 400V

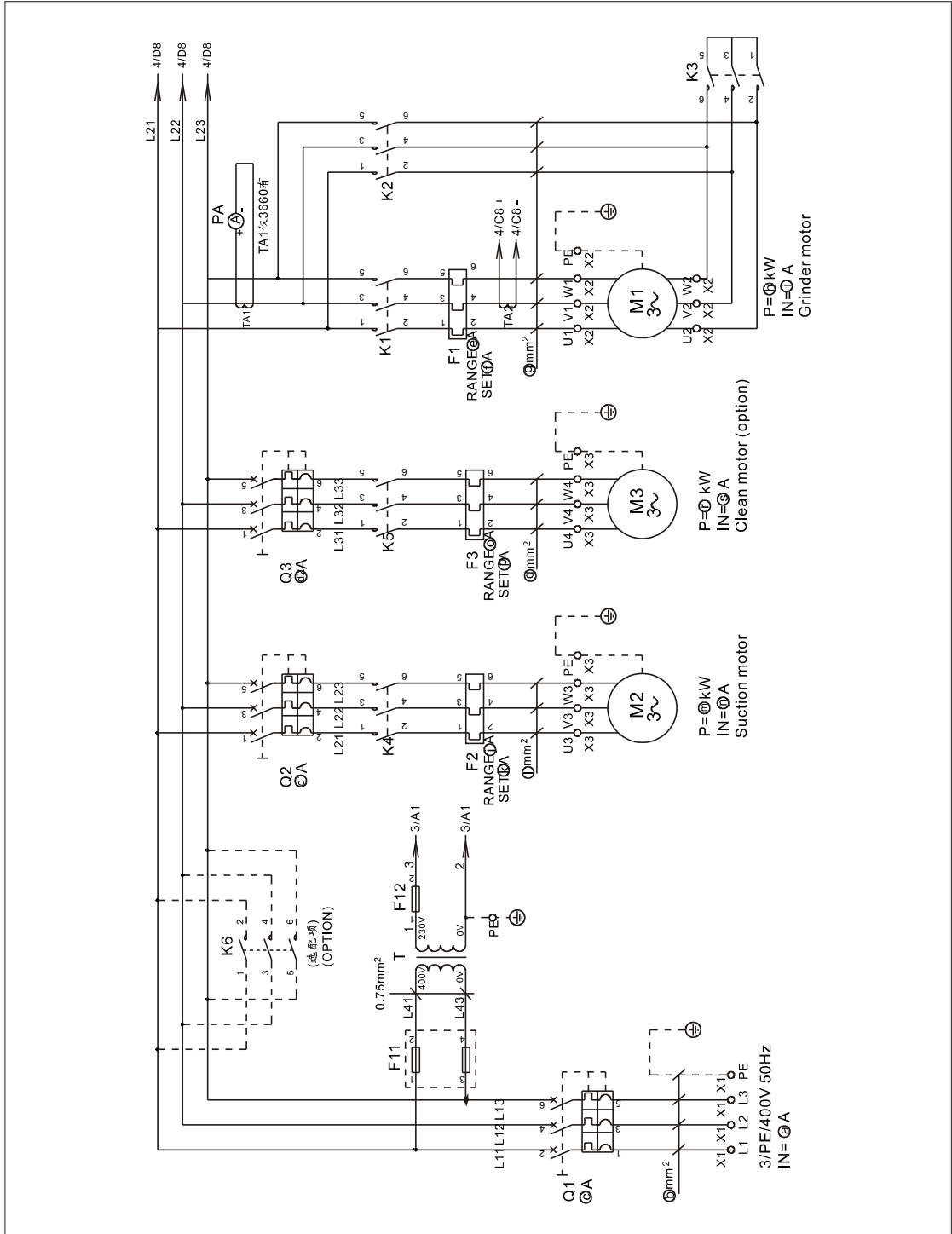
NO.	Symbol	Name	Specification	Material NO.
1	Q1	Gate circuit breaker	40A	YE41104000000
2	Q2	Circuit breaker	5A	YE40603000000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contactor*	220VAC 50/60Hz	YE00422200100
5	K2	Contactor*	220VAC 50/60Hz	YE00401000100
6	K3	Contactor*	220VAC 50/60Hz	YE00401000100
7	K4	Contactor*	220VAC 50/60Hz	YE00432200100
8	K5	Safety relay	220VAC	YE04372100000
9	K6	Middle relay*	220VAC	YE03270700000
10	TA2	Current mutual inductance	5~100A	-----
11	F1	Overload relay*	12.5~20A	YE01125200100
12	F2	Overload relay*	1.25~2A	YE01125200000
13	F3	Overload relay*	1~1.6A	YE01011600000
14	F11	Fuse**	32A	YE41032200000
15		Fuse core**	1A	YE46001000100
16	F12	Fuse**	2A	YE41001000000
17	T	Transformer*	350mA	YE70402300200
18	X1	Terminal	57A	YE61060000000
19		-		YE61063500000
20	X2	Terminal	41A	YE61040000000
21		-		YE61043500000
22	X3	Terminal	41A	YE61040000000
23		-	32A	YE61250040000
24		-		YE61253500000
25		-	32A	YE61250040000

NO.	Symbol	Name	Specification	Material NO.
26		-		YE61253500000
27		-	32A	YE61250040000
28	S1	Emergency stop button	400VAC	YE11320300000
29		Contact block	1NC	YE19340000100
30	S2	Stop button	400VAC	YE11375800000
31	S3 H1	Start button	400VAC	YE11325300000
32		Contact block	1NO	YE19340000000
33	S4 S5	Safety switch	AZ-15	YE16147600100
34	S4 S5	Safety switch	AZ-16	YE16147600000
35	H2	Alarm lamp	220VAC	YE83305100200
36	H3	Buzzer	220VAC	YE84222000000
37	MS	Feed position motor	220VAC	YE15000200100
38	PA	Galvanometry	30A	YE25673000000
39	X10	Meta tie in	4P	YE68025400000 YE68025400100
40	M1	Granulating motor	400V 50Hz	-----
41	M2	Solution blower*	400V 50Hz	-----
42	M3	Dust blower	400V 50Hz	-----
43	PC	PCB	220VAC	-----

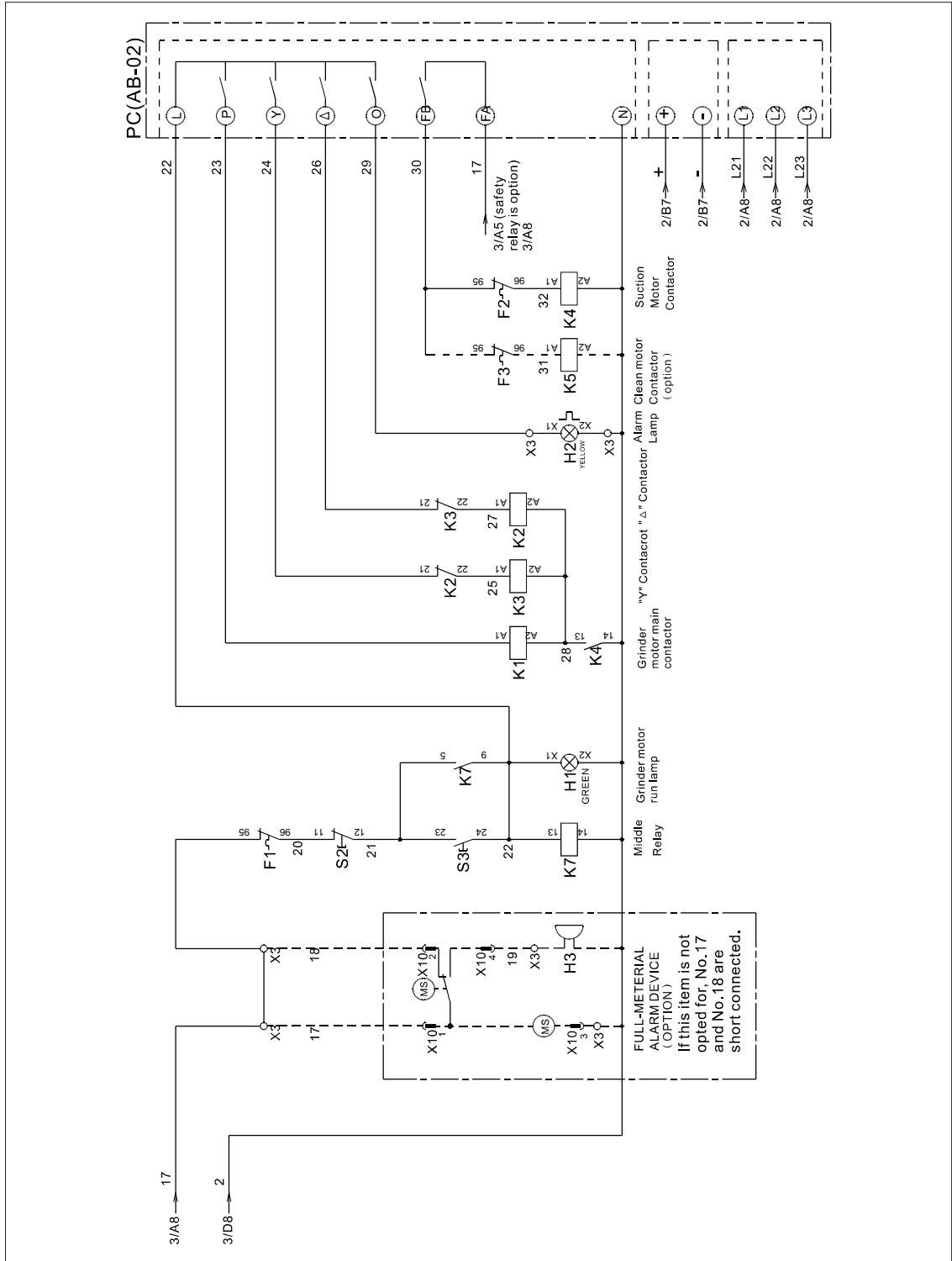
\*Indicates latent wearing parts; \*\*Indicates latent wearing parts and it's suggested to back them up.

2.16.2 SG-30 / SG-2348 400V

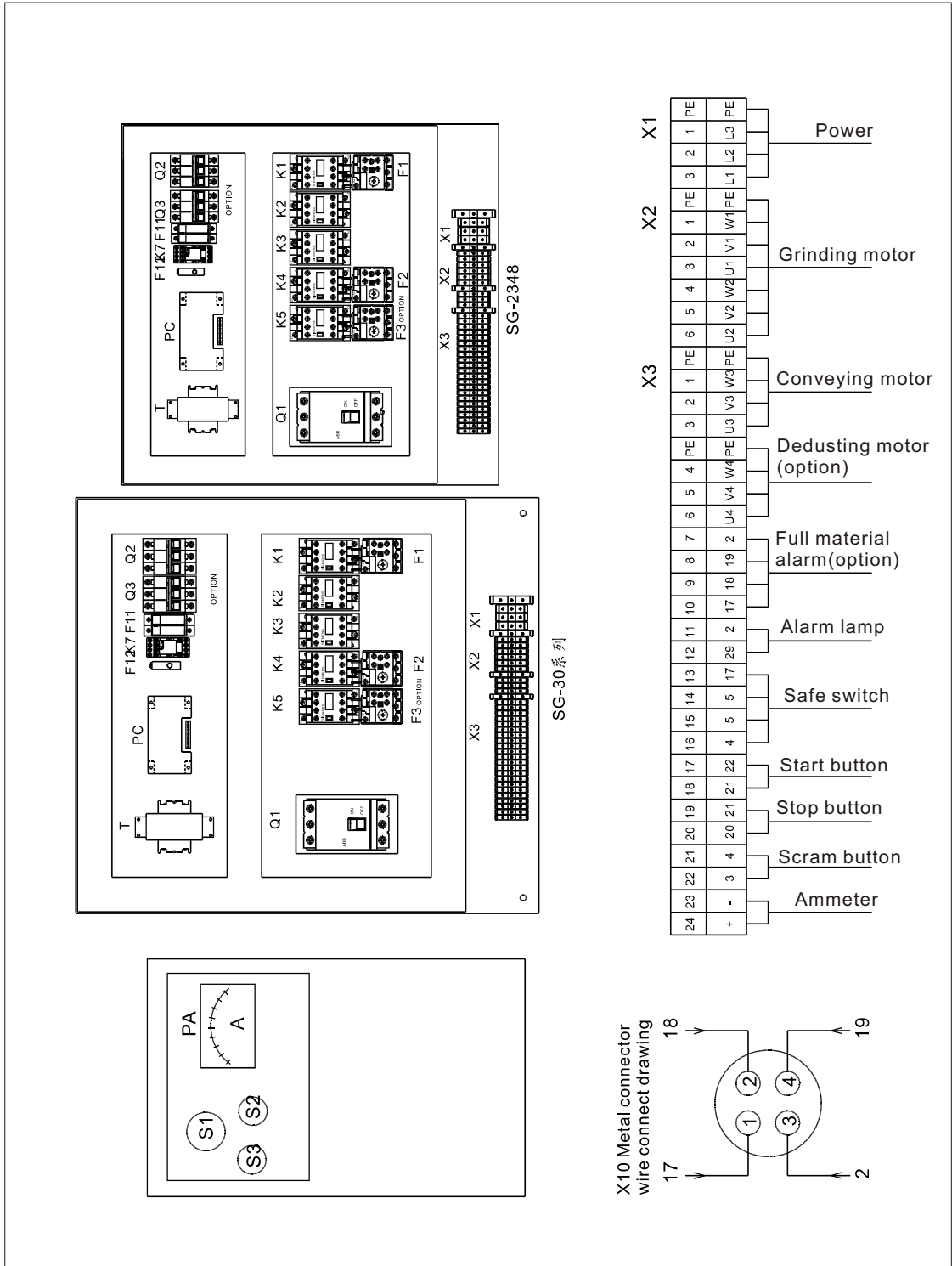
Main Electrical Circuit



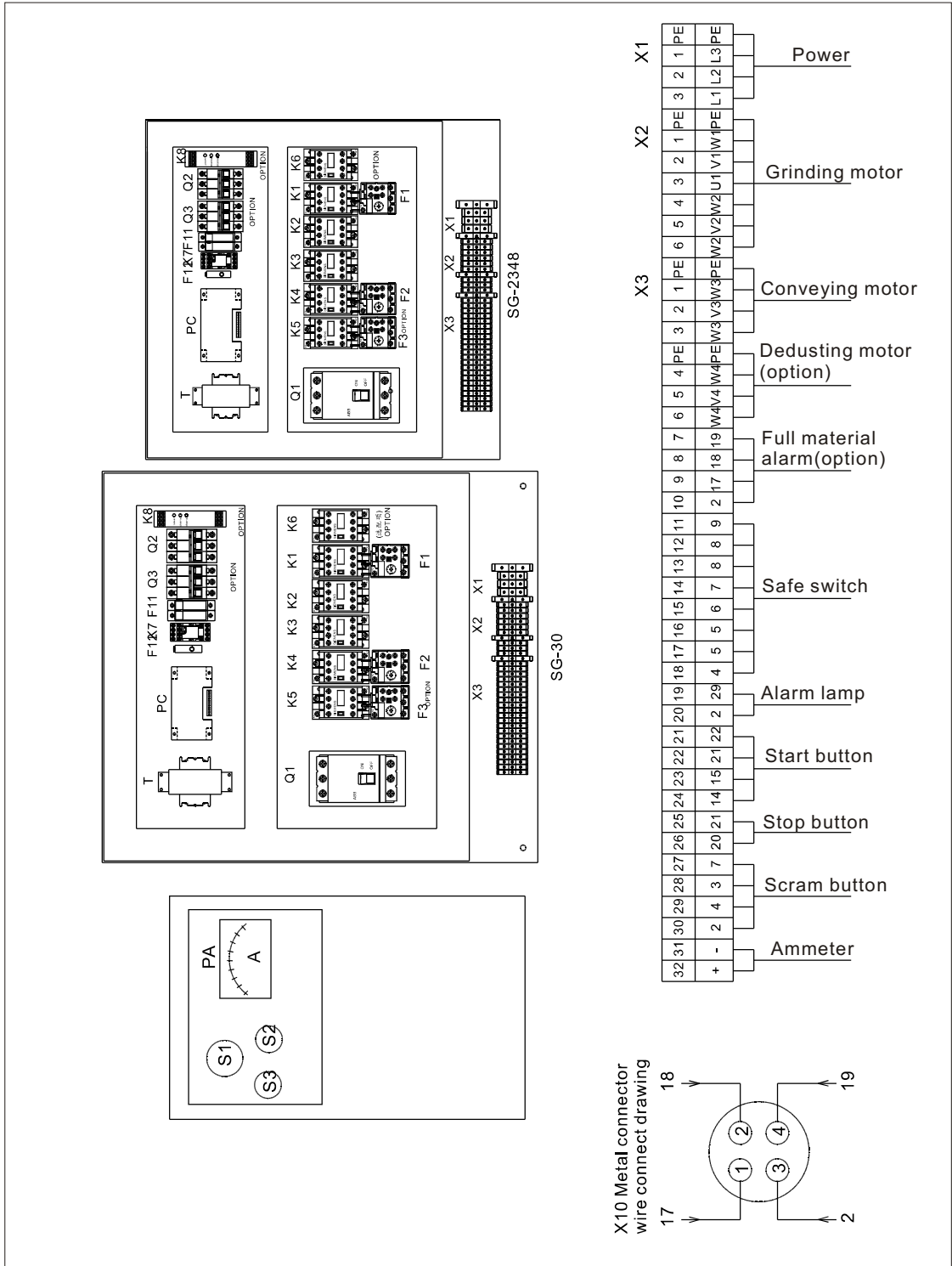




Electrical Components Layout (Not opt for safety relay)



Electrical Components Layout (Opt for safety relay)



SG-3048 / SG-2348 Electrical Components List

NO.	Symbol	Name	Specification	Material NO.
1	Q1	Gate circuit breaker	50A	YE41105000000
2	Q2	Circuit breaker	5A	YE40603000000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contact <sup>*</sup>	220VAC 50/60Hz	YE00422200100
5	K2	Contact <sup>*</sup>	220VAC 50/60Hz	YE00422200100
6	K3	Contact <sup>*</sup>	220VAC 50/60Hz	YE00412200100
7	K4	Contact <sup>*</sup>	220VAC 50/60Hz	YE00401000100
8	K5	Contact <sup>*</sup>	220VAC 50/60Hz	YE00401000100
9	K6	Contact <sup>*</sup>	220VAC 50/60Hz	YE00442200000
10	K7	Safety relay	220VAC	YE03270700000
11	K8	Middle relay <sup>*</sup>	220VAC	YE04372100000
12	F1	Overload relay <sup>*</sup>	10~16A	YE01101600100
13	F2	Overload relay <sup>*</sup>	1.25~2A	YE01125200000
14	F3	Overload relay <sup>*</sup>	1~1.6A	YE01011600000
15	F11	Fuse <sup>**</sup>	32A	YE41032200000
16		Fuse core <sup>**</sup>	1A	YE46001000100
17	F12	Fuse <sup>**</sup>	2A	YE41001000000
18	T	Transformer <sup>*</sup>	500mA	YE70402300800
19	X1	Terminal	57A	YE61060000000
20		-		YE61063500000
21	X2	Terminal	32A	YE61250040000
22		-		YE61253500000
23	X3	Terminal	41A	YE61040000000
24		-	32A	YE61250040000
25		-		YE61253500000

NO.	Symbol	Name	Specification	Material NO.
26		-	32A	YE61250040000
27		-		YE61253500000
28		-	32A	YE61250040000
29	S1	Emergency stop button	400VAC	YE11320300000
30	S2	Contact block	400VAC	YE11375800000
31		Stop button	1NC	YE19340000100
32	S3 H1	Start button	400VAC	YE11325300000
33		Contact block	1NO	YE19340000000
34	S4 S5	Safety switch	AZ-15	YE16147600100
35	S4 S5	Safety switch	AZ-16	YE16147600000
36	H2	Alarm lamp	220VAC	YE83305100200
37	H3	Buzzer	220VAC	YE84222000000
38	MS	Feed position motor	220VAC	YE15000200100
39	TA2	Current mutual inductance	5-100A	-----
40	PA	Galvanometry	50A	YE25675000000
41	X10	Meta tie in	4P	YE68025400000 YE68025400100
42	M1	Granulating motor	400V 50Hz	-----
43	M2	Solution blower*	400V 50Hz	-----
44	M3	Dust blower	400V 50Hz	-----
45	PC	PCB	220VAC	-----

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

SG-3060 / 3048H Electrical Components List

NO.	Symbol	Name	Specification	Material NO.
1	Q1	Gate circuit breaker	60A	YE41106000000
2	Q2	Circuit breaker	5A	YE40603000000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contact <sup>*</sup>	220VAC 50/60Hz	YE00422200100
5	K2	Contact <sup>*</sup>	220VAC 50/60Hz	YE00422200100
6	K3	Contact <sup>*</sup>	220VAC 50/60Hz	YE00412200100
7	K4	Contact <sup>*</sup>	220VAC 50/60Hz	YE00401000100
8	K5	Contact <sup>*</sup>	220VAC 50/60Hz	YE00401000100
9	K6	Contact <sup>*</sup>	220VAC 50/60Hz	YE00442200000
10	K7	Safety relay	220VAC	YE03270700000
11	K8	Middle relay <sup>*</sup>	220VAC	YE04372100000
12	F1	Overload relay <sup>*</sup>	12.5~20A	YE01125200100
13	F2	Overload relay <sup>*</sup>	1.25~2A	YE01125200000
14	F3	Overload relay <sup>*</sup>	1~1.6A	YE01011600000
15	F11	Fuse <sup>**</sup>	32A	YE41032200000
16		Fuse core <sup>**</sup>	1A	YE46001000100
17	F12	Fuse <sup>**</sup>	2A	YE41001000000
18	T	Transformer <sup>*</sup>	500mA	YE70402300800
19	X1	Terminal	76A	YE61100000000
20		-		YE61103500000
21	X2	Terminal	41A	YE61040000000
22		-		YE61043500000
23	X3	Terminal	57A	YE61060000000
24		-	32A	YE61250040000
25		-		YE61253500000

NO.	Symbol	Name	Specification	Material NO.
26		-	32A	YE61250040000
27		-		YE61253500000
28		-	32A	YE61250040000
29	S1	Emergency stop button	400VAC	YE11320300000
30	S2	Contact block	400VAC	YE11375800000
31		Stop button	1NC	YE19340000100
32	S3 H1	Start button	400VAC	YE11325300000
33		Contact block	1NO	YE19340000000
34	S4 S5	Safety switch	AZ-15	YE16147600100
35	S4 S5	Safety switch	AZ-16	YE16147600000
36	H2	Alarm lamp	220VAC	YE83305100200
37	H3	Buzzer	220VAC	YE84222000000
38	MS	Feed position motor	220VAC	YE15000200100
39	TA2	Current mutual inductance	5-100A	-----
40	PA	Galvanometry	50A	YE25675000000
41	X10	Meta tie in	4P	YE68025400000 YE68025400100
42	M1	Granulating motor	400V 50Hz	-----
43	M2	Solution blower*	400V 50Hz	-----
44	M3	Dust blower	400V 50Hz	-----
45	PC	PCB	220VAC	-----

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

SG-3060H Electrical Components List

NO.	Symbol	Name	Specification	Material NO.
1	Q1	Gate circuit breaker	90A	YE41109000000
2	Q2	Circuit breaker	5A	YE40603000000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contactor*	220VAC 50/60Hz	YE00432200100
5	K2	Contactor*	220VAC 50/60Hz	YE00432200100
6	K3	Contactor*	220VAC 50/60Hz	YE00422200100
7	K4	Contactor*	220VAC 50/60Hz	YE00401000100
8	K5	Contactor*	220VAC 50/60Hz	YE00401000100
9	K6	Contactor*	220VAC 50/60Hz	YE00351100100
10	K7	Safety relay	220VAC	YE03270700000
11	K8	Middle relay*	220VAC	YE04372100000
12	F1	Overload relay*	16~25A	YE01162500100
13	F2	Overload relay*	1.25~2A	YE01125200000
14	F3	Overload relay*	1~1.6A	YE01011600000
15	F11	Fuse**	32A	YE41032200000
16		Fuse core**	1A	YE46001000100
17	F12	Fuse**	2A	YE41001000000
18	T	Transformer*	500mA	YE70402300800
19	X1	Terminal	76A	YE61100000000
20		-		YE61001040300
21	X2	Terminal	41A	YE61040000000
22		-		YE61043500000
23	X3	Terminal	57A	YE61060000000
24		-	32A	YE61250040000
25		-		YE61253500000

NO.	Symbol	Name	Specification	Material NO.
26		-	32A	YE61250040000
27		-		YE61253500000
28		-	32A	YE61250040000
29	S1	Emergency stop button	400VAC	YE11320300000
30	S2	Contact block	400VAC	YE11375800000
31		Stop button	1NC	YE19340000100
32	S3 H1	Start button	400VAC	YE11325300000
33		Contact block	1NO	YE19340000000
34	S4 S5	Safety switch	AZ-15	YE16147600100
35	S4 S5	Safety switch	AZ-16	YE16147600000
36	H2	Alarm lamp	220VAC	YE83305100200
37	H3	Buzzer	220VAC	YE84222000000
38	MS	Feed position motor	220VAC	YE15000200100
39	TA2	Current mutual inductance	5-100A	-----
40	PA	Galvanometry	50A	YE25675000000
41	X10	Meta tie in	4P	YE68025400000 YE68025400100
42	M1	Granulating motor	400V 50Hz	-----
43	M2	Solution blower*	400V 50Hz	-----
44	M3	Dust blower	400V 50Hz	-----
45	PC	PCB	220VAC	-----

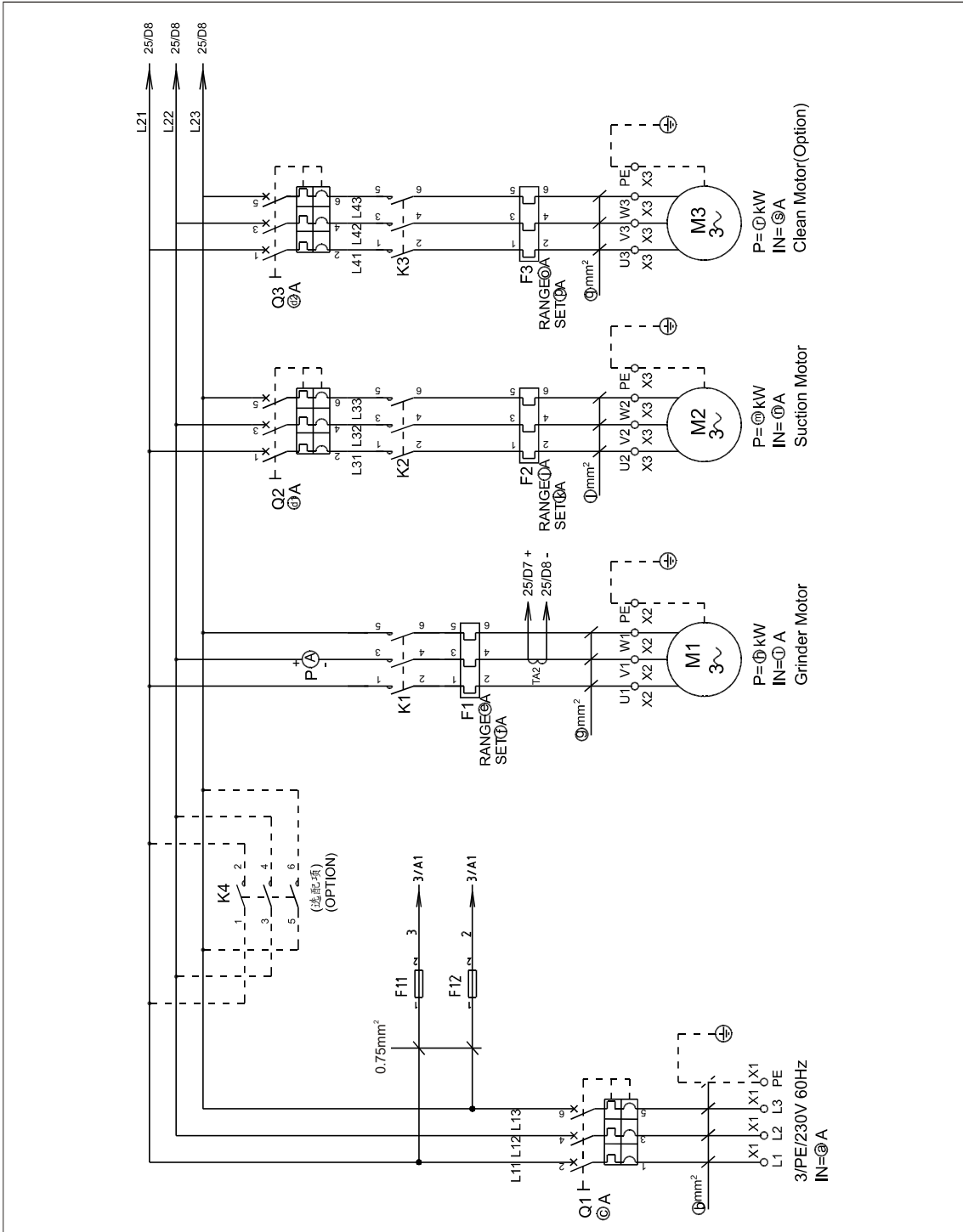
\*Indicates latent wearing parts; \*\*Indicates latent wearing parts and it's suggested to back them up.

2.17 SG-23 / 30 230V

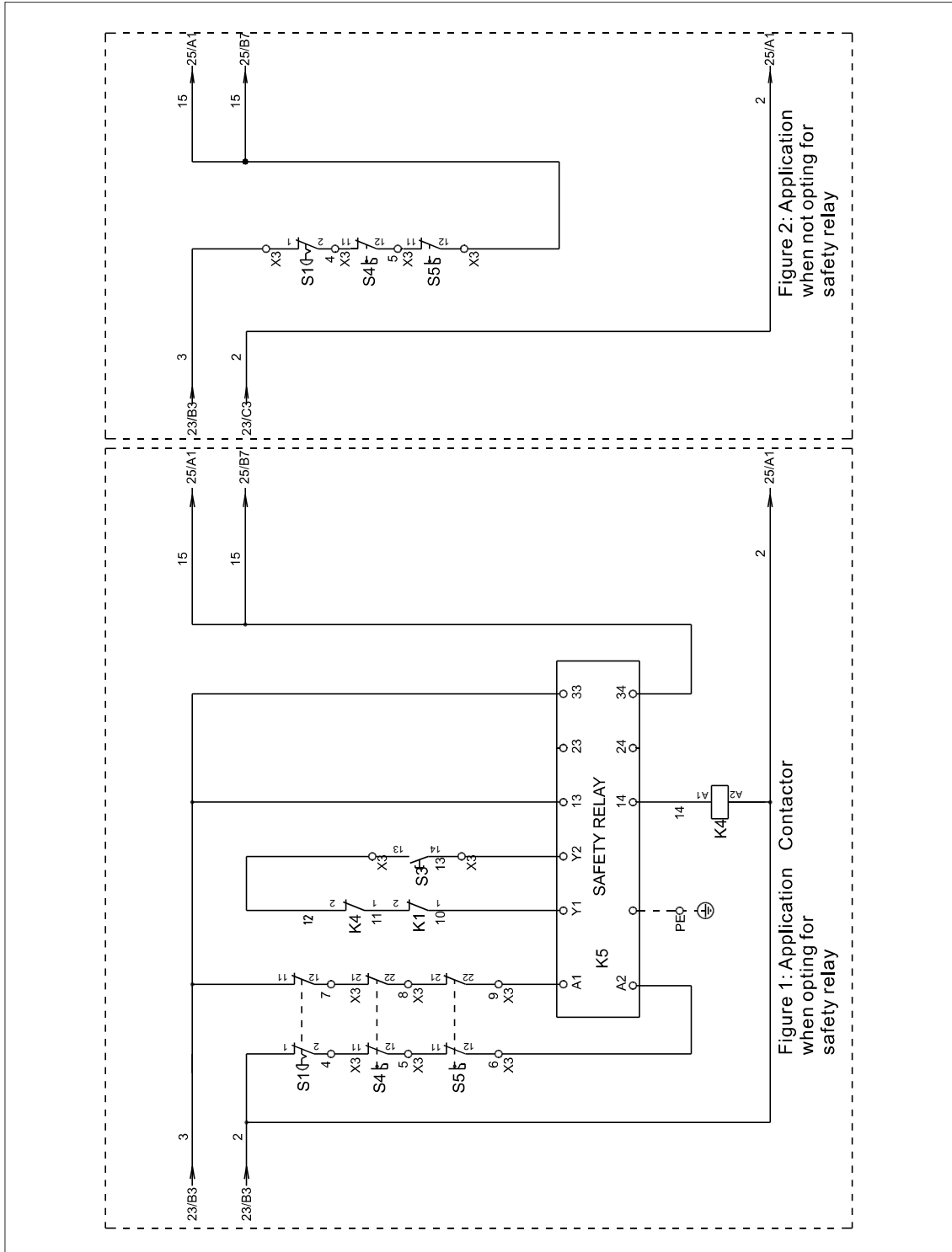
Mode \ Symbol	a	b	c	d1	d2	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s
SG-3060H	73.4	25	160	10	5	32-40	37	10.0	18.5	69	2-3.2	2.8	1.5	0.55	2.5	1.6-2.5	2.1	1.5	0.4	1.9
SG-3060	61.4	25	125	10	5	25-36	31	10.0	15	57	2-3.2	2.8	1.5	0.55	2.5	1.6-2.5	2.1	1.5	0.4	1.9
SG-3048H	61.4	25	125	10	5	25-36	31	10.0	15	57	2-3.2	2.8	1.5	0.55	2.5	1.6-2.5	2.1	1.5	0.4	1.9
SG-3048	47.4	16	100	10	5	16-25	23	6.0	11	43	2-3.2	2.8	1.5	0.55	2.5	1.6-2.5	2.1	1.5	0.4	1.9
SG-2348	47.4	16	100	10	5	16-25	23	6.0	11	43	2-3.2	2.8	1.5	0.55	2.5	1.6-2.5	2.1	1.5	0.4	1.9
SG-2348S	33.4	10	63	10	5	25-36	31	4.0	7.5	29	2-3.2	2.8	1.5	0.55	2.5	1.6-2.5	2.1	1.5	0.4	1.9
SG-2336	33.4	10	63	10	5	25-36	31	4.0	7.5	29	2-3.2	2.8	1.5	0.55	2.5	1.6-2.5	2.1	1.5	0.4	1.9
SG-2336S	26.4	6.0	50	10	5	16-25	24	2.5	5.5	22	2-3.2	2.8	1.5	0.55	2.5	1.6-2.5	2.1	1.5	0.4	1.9
SG-2324	26.4	6.0	50	10	5	16-25	24	2.5	5.5	22	2-3.2	2.8	1.5	0.55	2.5	1.6-2.5	2.1	1.5	0.4	1.9
SG-2324S	19.9	6.0	40	10	5	12-20	17.0	4.0	4.0	15.5	2-3.2	2.8	1.5	0.55	2.5	1.6-2.5	2.1	1.5	0.4	1.9

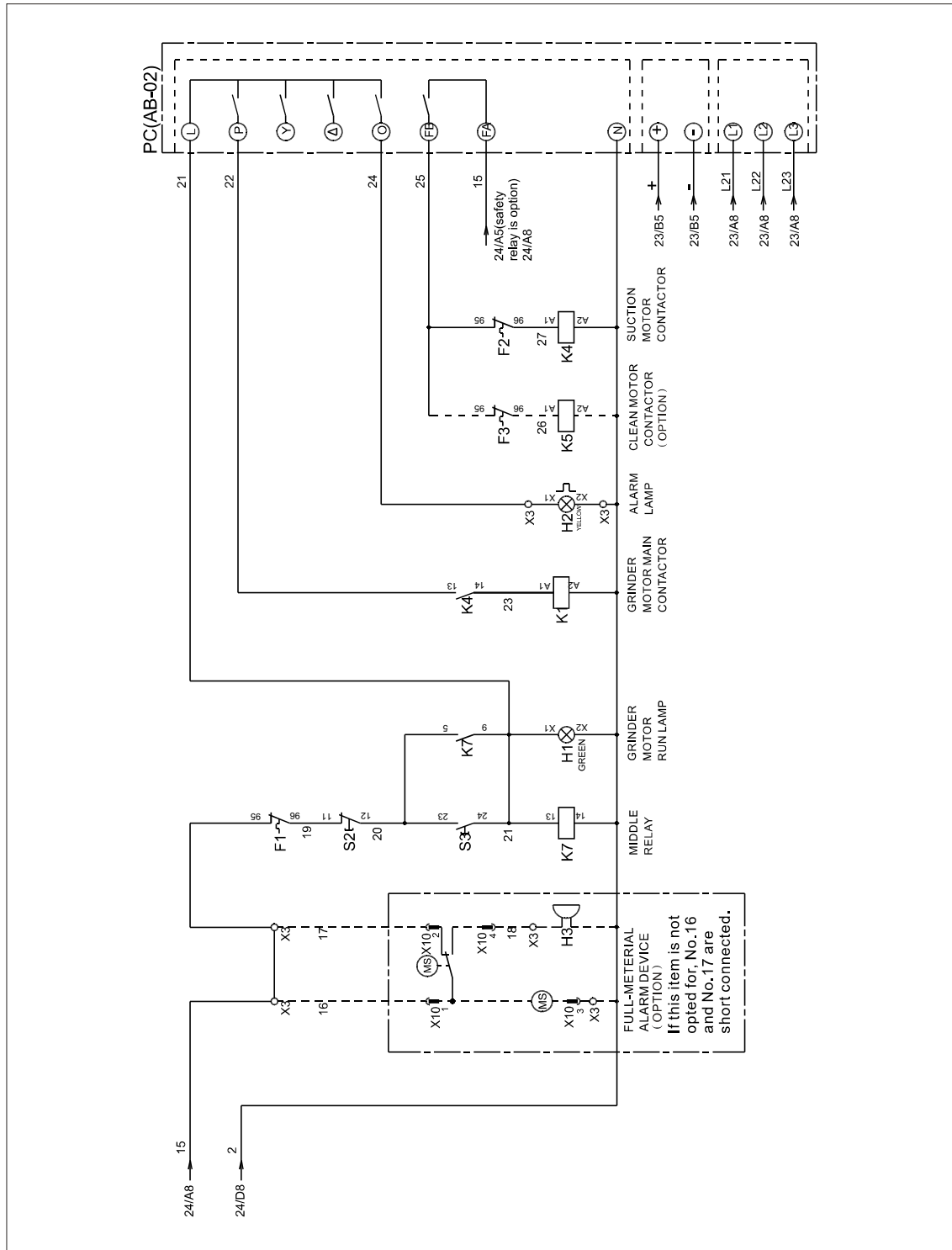
- Ⓐ Main current
- Ⓑ Main cable dia.
- Ⓒ Main breaker rated current
- Ⓓ1 Feeding motor breaker rated current
- Ⓓ2 De-dusting breaker rated current
- Ⓔ Granulating motor loader
- Ⓕ Granulating motor loader setting
- Ⓖ Granulating motor wire diameter
- Ⓗ Granulating motor power
- Ⓖ Granulating motor current
- Ⓙ Feeding motor loader
- Ⓚ Feeding motor loader setting
- Ⓛ Feeding motor wire diameter
- Ⓜ Feeding motor power
- Ⓝ Feeding motor current
- Ⓞ De-dusting motor loader
- Ⓟ De-dusting loader setting
- Ⓠ De-dusting motor wire diameter
- Ⓡ De-dusting motor power
- Ⓢ De-dusting motor current

Main Electrical Circuit



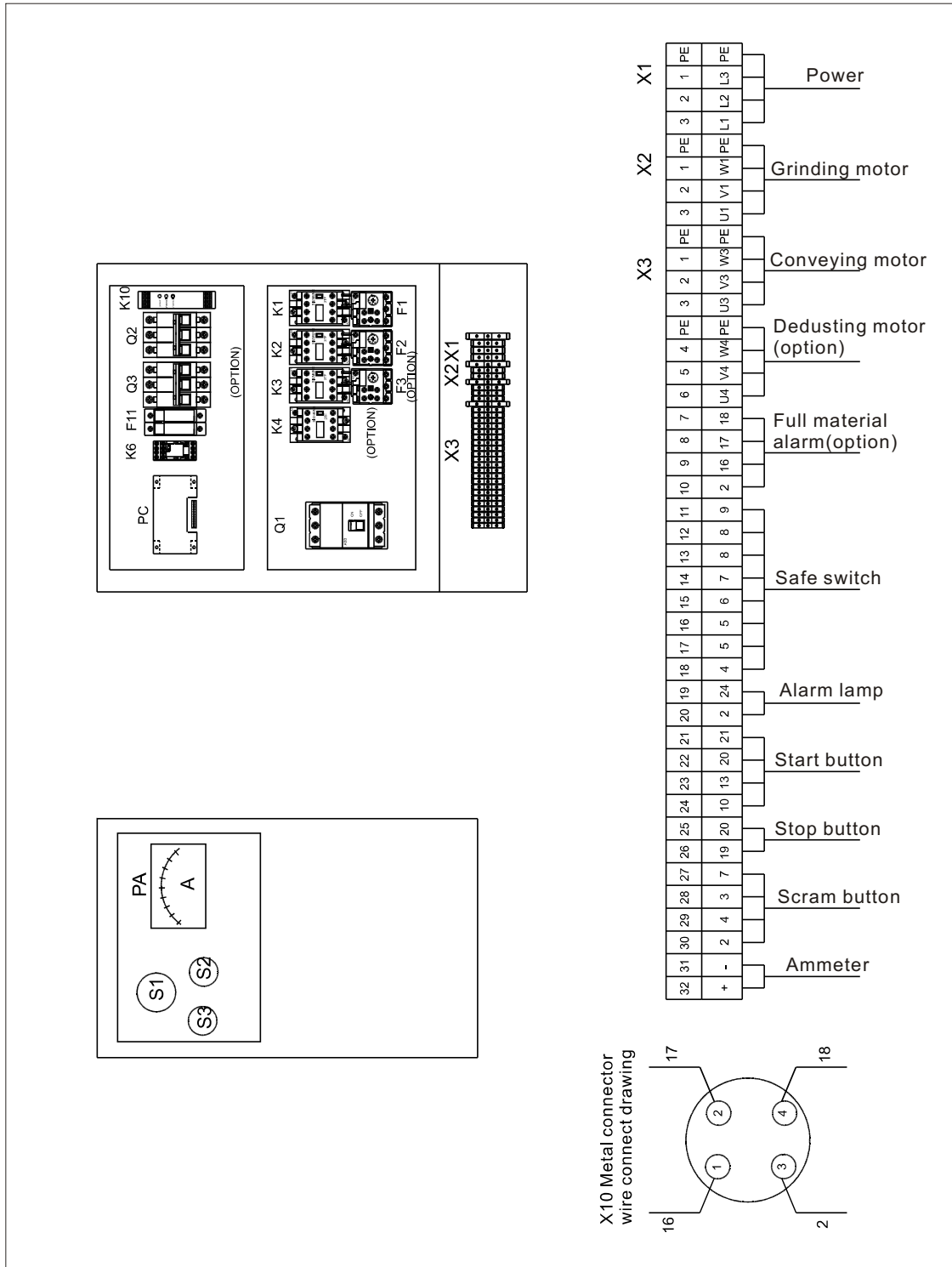
Control Circuit







Electrical Components Layout (Opt for safety relay)



SG-2324 / 2336S Electrical Components List 230V

NO.	Symbol	Name	Specification	Material NO.
1	Q1	Gate circuit breaker	40A	YE41104000000
2	Q2	Circuit breaker	10A	YE40600300000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contactor*	220VAC 50/60Hz	YE00422200100
5	K2	Contactor*	220VAC 50/60Hz	YE00401000100
6	K3	Contactor*	220VAC 50/60Hz	YE00401000100
7	K4	Contactor*	220VAC 50/60Hz	YE00432200100
8	K5	Safety relay	220VAC	YE04372100000
9	K6	Middle relay*	220VAC	YE03270700000
10	TA2	Current mutual inductance	5~100A	-----
11	F1	Overload relay*	12.5~20A	YE01125200100
12	F2	Overload relay*	2~3.2A	YE01023200000
13	F3	Overload relay*	1.6~2.5A	YE01162500000
14	F11	Fuse**	2P	YE41032200000
15		Fuse core**	2A	YE46002000100
16	X1	Terminal	57A	YE61060000000
17		-		YE61063500000
18	X2	Terminal	41A	YE61040000000
19		-		YE61043500000
20	X3	Terminal	41A	YE61040000000
21		-	32A	YE61250040000
22		-		YE61253500000
23		-	32A	YE61250040000
24		-		YE61253500000
25			32A	YE61250040000

NO.	Symbol	Name	Specification	Material NO.
26	S1	Emergency stop button	400VAC	YE11320300000
27		Contact block	1NC	YE19340000100
28	S2	Stop button	400VAC	YE11375800000
29	S3 H1	Start button	400VAC	YE11325300000
30		Contact block	1NO	YE19340000000
31	S4 S5	Safety switch	AZ-15	YE16147600100
32	S4 S5	Safety switch	AZ-16	YE16147600000
33	H2	Alarm lamp	220VAC	YE83305100200
34	H3	Buzzer	220VAC	YE84222000000
35	MS	Feed position motor	220VAC	YE15000200100
36	PA	Galvanometry	30A	YE25673000000
37	X10	Meta tie in	4P	YE68025400000 YE68025400100
38	M1	Granulating motor	400V 50Hz	-----
39	M2	Solution blower*	400V 50Hz	-----
40	M3	Dust blower	400V 50Hz	-----
41	PC	PCB	220VAC	-----

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

SG-2336S / 2324 Electrical Components List 230V

NO.	Symbol	Name	Specification	Material NO.
1	Q1	Gate circuit breaker	50A	YE41105000000
2	Q2	Circuit breaker	10A	YE40600300000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contactor*	220VAC 50/60Hz	YE00432200100
5	K2	Contactor*	220VAC 50/60Hz	YE00401000100
6	K3	Contactor*	220VAC 50/60Hz	YE00401000100
7	K4	Contactor*	220VAC 50/60Hz	YE00442200000
8	K5	Safety relay	220VAC	YE04372100000
9	K6	Middle relay*	220VAC	YE03270700000
10	TA2	Current mutual inductance	5~100A	-----
11	F1	Overload relay*	16~25A	YE01162500100
12	F2	Overload relay*	2~3.2A	YE01023200000
13	F3	Overload relay*	1.6~2.5A	YE01162500000
14	F11	Fuse**	2P	YE41032200000
15		Fuse core**	2A	YE46002000100
16	X1	Terminal	57A	YE61060000000
17		-		YE61063500000
18	X2	Terminal	57A	YE61060000000
19		-		YE61063500000
20	X3	Terminal	57A	YE61060000000
21		-	32A	YE61250040000
22		-		YE61253500000
23		-	32A	YE61250040000
24		-		YE61253500000
25			32A	YE61250040000

NO.	Symbol	Name	Specification	Material NO.
26	S1	Emergency stop button	400VAC	YE11320300000
27		Contact block	1NC	YE19340000100
28	S2	Stop button	400VAC	YE11375800000
29	S3 H1	Start button	400VAC	YE11325300000
30		Contact block	1NO	YE19340000000
31	S4 S5	Safety switch	AZ-15	YE16147600100
32	S4 S5	Safety switch	AZ-16	YE16147600000
33	H2	Alarm lamp	220VAC	YE83305100200
34	H3	Buzzer	220VAC	YE84222000000
35	MS	Feed position motor	220VAC	YE15000200100
36	PA	Galvanometry	30A	YE25673000000
37	X10	Meta tie in	4P	YE68025400000 YE68025400100
38	M1	Granulating motor	400V 50HZ	-----
39	M2	Solution blower*	400V 50HZ	-----
40	M3	Dust blower	400V 50HZ	-----
41	PC	PCB	220VAC	-----

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

SG-2348S / 2336 Electrical Components List 230V

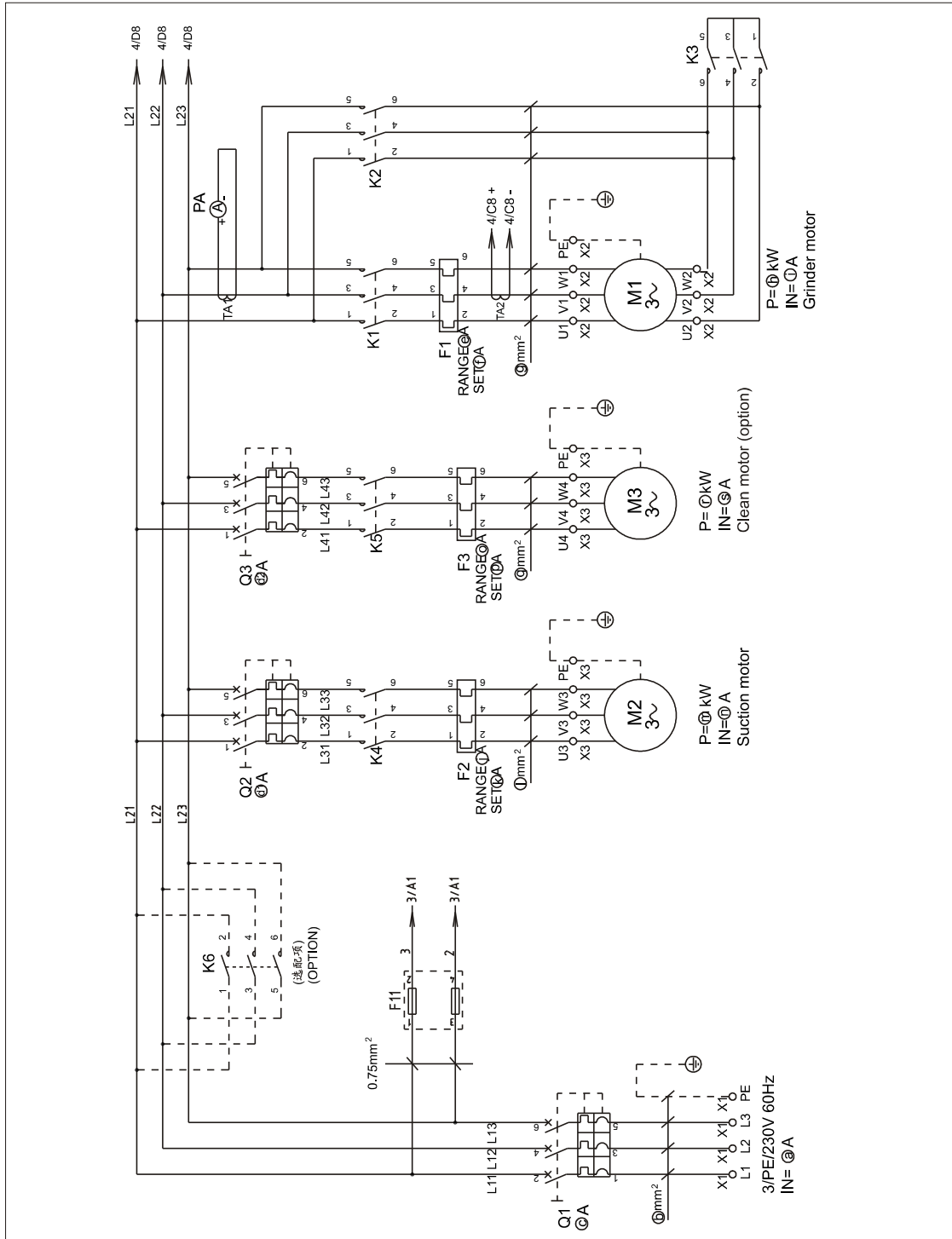
NO.	Symbol	Name	Specification	Material NO.
1	Q1	Gate circuit breaker	63A	YE41104000000
2	Q2	Circuit breaker	10A	YE40600300000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contactor*	220VAC 50/60Hz	YE00442200000
5	K2	Contactor*	220VAC 50/60Hz	YE00401000100
6	K3	Contactor*	220VAC 50/60Hz	YE00401000100
7	K4	Contactor*	220VAC 50/60Hz	YE00351100100
8	K5	Safety relay	220VAC	YE04372100000
9	K6	Middle relay*	220VAC	YE03270700000
10	TA2	Current mutual inductance	5~100A	-----
11	F1	Overload relay*	25~36A	YE01253600200
12	F2	Overload relay*	2~3.2A	YE01023200000
13	F3	Overload relay*	1.6~2.5A	YE01162500000
14	F11	Fuse**	2P	YE41032200000
15		Fuse core**	2A	YE46002000100
16	X1	Terminal	57A	YE61060000000
17		-		YE61063500000
18	X2	Terminal	57A	YE61060000000
19		-		YE61063500000
20	X3	Terminal	57A	YE61060000000
21		-	32A	YE61250040000
22		-		YE61253500000
23		-	32A	YE61250040000
24		-		YE61253500000
25			32A	YE61250040000

NO.	Symbol	Name	Specification	Material NO.
26	S1	Emergency stop button	400VAC	YE11320300000
27		Contact block	1NC	YE19340000100
28	S2	Stop button	400VAC	YE11375800000
29	S3 H1	Start button	400VAC	YE11325300000
30		Contact block	1NO	YE19340000000
31	S4 S5	Safety switch	AZ-15	YE16147600100
32	S4 S5	Safety switch	AZ-16	YE16147600000
33	H2	Alarm lamp	220VAC	YE83305100200
34	H3	Buzzer	220VAC	YE84222000000
35	MS	Feed position motor	220VAC	YE15000200100
36	PA	Galvanometry	30A	YE25673000000
37	X10	Meta tie in	4P	YE68025400000 YE68025400100
38	M1	Granulating motor	400V 50HZ	-----
39	M2	Solution blower*	400V 50HZ	-----
40	M3	Dust blower	400V 50HZ	-----
41	PC	PCB	220VAC	-----

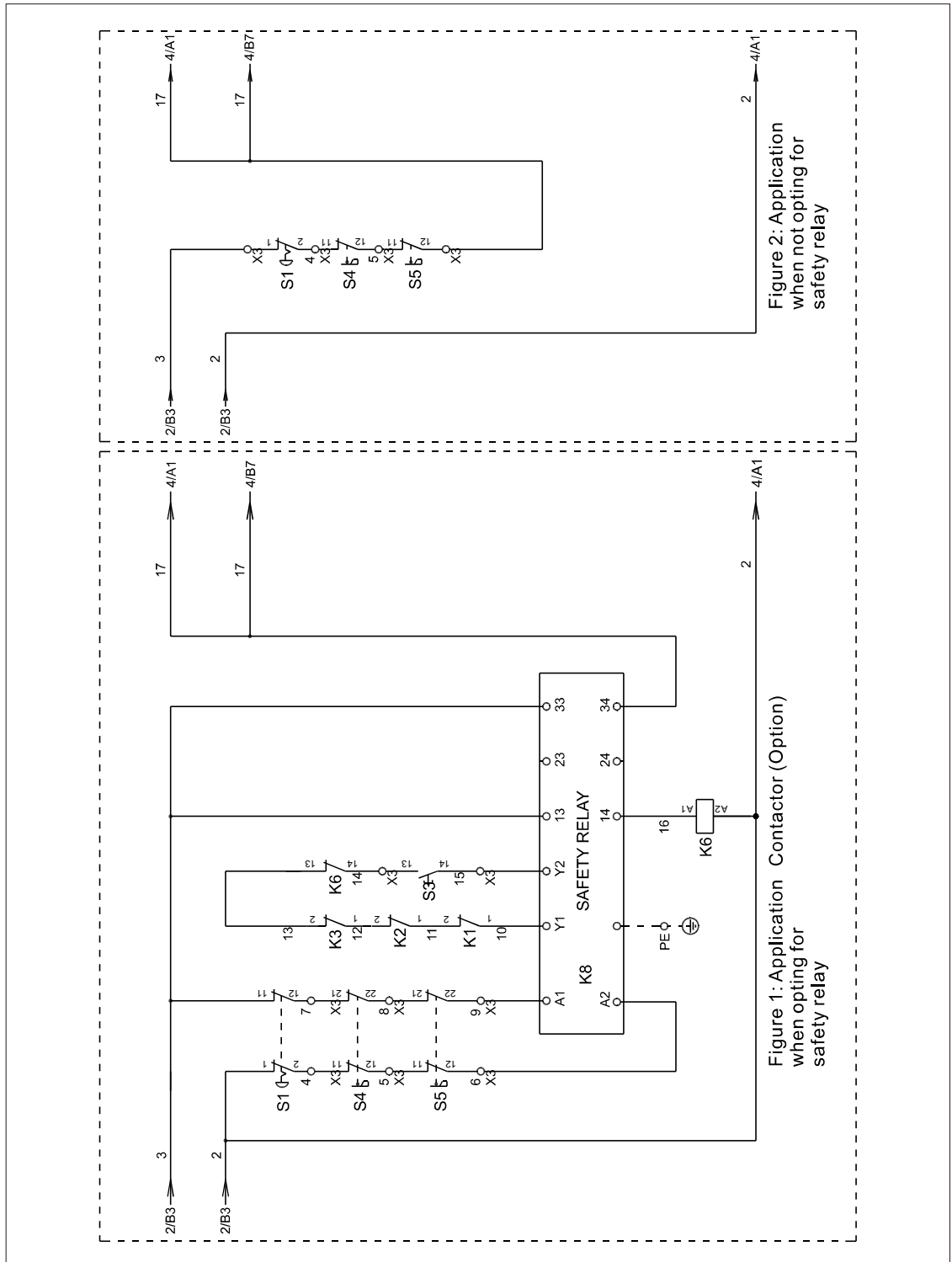
\*Indicates latent wearing parts; \*\*Indicates latent wearing parts and it's suggested to back them up.

2.18 SG-2348/30 230V

Main Electrical Circuit

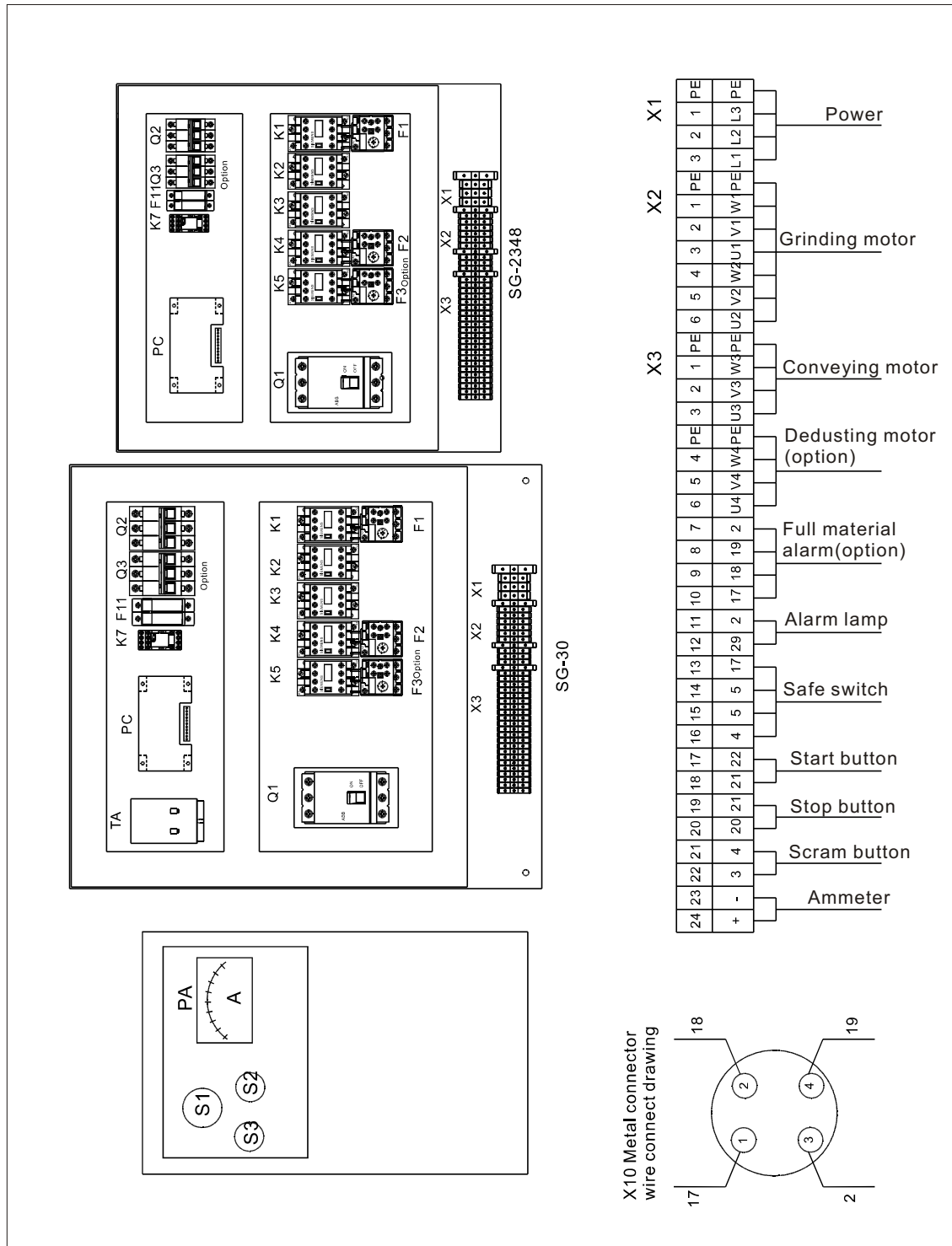


Control Circuit

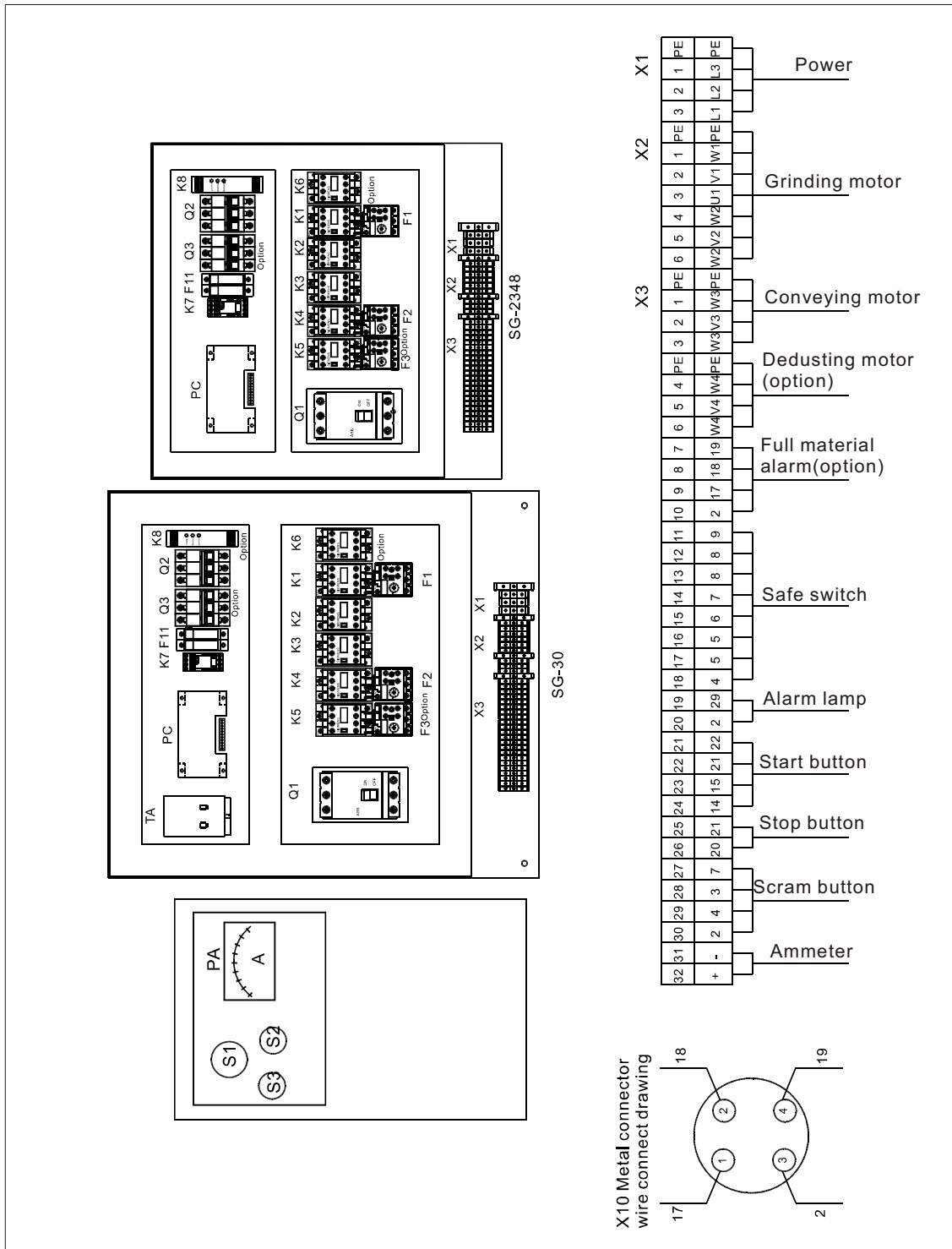




Electrical Components Layout (Not opt for safety relay)



Electrical Components Layout (Opt for safety relay)



SG-2348/3048 Electrical Components List 230V

NO.	Symbol	Name	Specification	Material NO.
1	Q1	Gate circuit breaker	100A	YE41110000000
2	Q2	Circuit breaker	10A	YE40600300000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contacto <sup>r</sup> *	220VAC 50/60Hz	YE00432200100
5	K2	Contacto <sup>r</sup> *	220VAC 50/60Hz	YE00432200100
6	K3	Contacto <sup>r</sup> *	220VAC 50/60Hz	YE00422200100
7	K4	Contacto <sup>r</sup> *	220VAC 50/60Hz	YE00401000100
8	K5	Contacto <sup>r</sup> *	220VAC 50/60Hz	YE00401000100
9	K6	Contacto <sup>r</sup> *	220VAC 50/60Hz	YE00462200200
10	K7	Safety relay	220VAC	YE03270700000
11	K8	Middle relay <sup>*</sup>	220VAC	YE04372100000
12	F1	Overload relay <sup>*</sup>	16~25A	YE01162500100
13	F2	Overload relay <sup>*</sup>	2~3.2A	YE01023200000
14	F3	Overload relay <sup>*</sup>	1.6~2.5A	YE01162500000
15	F11	Fuse <sup>**</sup>	2P	YE41032200000
16		Fuse core <sup>**</sup>	2A	YE46002000100
17	X1	Terminal	76A	YE61160000000
18		-		YE61163500000
19	X2	Terminal	57A	YE61060000000
20		-		YE61063500000
21	X3	Terminal	76A	YE61100000000
22		-	32A	YE61250040000
23		-		YE61253500000
24		-	32A	YE61250040000
25		-		YE61253500000

NO.	Symbol	Name	Specification	Material NO.
26		-	32A	YE61250040000
27	S1	Emergency stop button	400VAC	YE11320300000
28	S2	Contact block	400VAC	YE11375800000
29		Stop button	1NC	YE19340000100
30	S3 H1	Start button	400VAC	YE11325300000
31		Contact block	1NO	YE19340000000
32	S4 S5	Safety switch	AZ-15	YE16147600100
33	S4 S5	Safety switch	AZ-16	YE16147600000
34	H2	Alarm lamp	220VAC	YE83305100200
35	H3	Buzzer	220VAC	YE84222000000
36	MS	Feed position motor	220VAC	YE15000200100
37	TA2	Current mutual inductance	5~100A	-----
38	PA	Galvanometry	50A	YE25675000000
39	X10	Meta tie in	4P	YE68025400000 YE68025400100
40	M1	Granulating motor	400V 50Hz	-----
41	M2	Solution blower*	400V 50Hz	-----
42	M3	Dust blower	400V 50Hz	-----
43	PC	PCB	220VAC	-----

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

SG-3048H/3060 Electrical Components List 230V

NO.	Symbol	Name	Specification	Material NO.
1	Q1	Gate circuit breaker	125A	YE41161200000
2	Q2	Circuit breaker	10A	YE40600300000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contactor*	220VAC 50/60Hz	YE00442200000
5	K2	Contactor*	220VAC 50/60Hz	YE00442200000
6	K3	Contactor*	220VAC 50/60Hz	YE00432200100
7	K4	Contactor*	220VAC 50/60Hz	YE00401000100
8	K5	Contactor*	220VAC 50/60Hz	YE00401000100
9	K6	Contactor*	220VAC 50/60HZ	YE00472200100
10	K7	Safety relay	220VAC	YE03270700000
11	K8	Middle relay*	220VAC	YE04372100000
12	F1	Overload relay*	25~36A	YE01253600200
13	F2	Overload relay*	2~3.2A	YE01023200000
14	F3	Overload relay*	1.6~2.5A	YE01162500000
15	F11	Fuse**	2P	YE41032200000
16		Fuse core**	2A	YE46002000100
17	X1	Terminal	---	YE61350040000
18		-		YE61353500000
19	X2	Terminal	76A	YE61100000000
20		-		YE61103500000
21	X3	Terminal	32A	YE61250040000
22		-		YE61253500000
23		-	32A	YE61250040000
24		-		YE61253500000
25		-	32A	YE61250040000

NO.	Symbol	Name	Specification	Material NO.
26	S1	Emergency stop button	400VAC	YE11320300000
27	S2	Stop button	400VAC	YE11375800000
28		Contact block	1NC	YE19340000100
29	S3 H1	Start button	400VAC	YE11325300000
30		Contact block	1NO	YE19340000000
31	S4 S5	Safety switch	AZ-15	YE16147600100
32	S4 S5	Safety switch	AZ-16	YE16147600000
33	H2	Alarm lamp	220VAC	YE83305100200
34	H3	Buzzer	220VAC	YE84222000000
35	MS	Feed position motor	220VAC	YE15000200100
36	TA1	Current mutual inductance	75/5A	YE04750500000
37	TA2	Current mutual inductance	5-100A	-----
38	PA	Galvanometry	75/5A	YE04750500000
39	X10	Meta tie in	4P	YE68025400000 YE68025400100
40	M1	Granulating motor	400V 50Hz	-----
41	M2	Solution blower*	400V 50Hz	-----
42	M3	Dust blower	400V 50Hz	-----
43	PC	PCB	220VAC	-----

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

SG-3060H Electrical Components List 230V

NO.	Symbol	Name	Specification	Material NO.
1	Q1	Gate circuit breaker	160A	YE41161600000
2	Q2	Circuit breaker	10A	YE40600300000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contactor*	220VAC 50/60Hz	YE00351100100
5	K2	Contactor*	220VAC 50/60Hz	YE00351100100
6		Auxiliary contact terminal	1NC	YE00400100200
7	K3	Contactor*	220VAC 50/60Hz	YE00442200000
8	K4	Contactor*	220VAC 50/60Hz	YE00401000100
9	K5	Contactor*	220VAC 50/60Hz	YE00401000100
10	K6	Contactor*	220VAC 50/60Hz	YE00482200000
11	K7	Safety relay	220VAC	YE03270700000
12	K8	Middle relay*	220VAC	YE04372100000
13	F1	Overload relay*	32~40A	YE01324000100
14	F2	Overload relay*	2~3.2A	YE01023200000
15	F3	Overload relay*	1.6~2.5A	YE01162500000
16	F11	Fuse**	2P	YE41032200000
17		Fuse core**	2A	YE46002000100
18	X1	Terminal	---	YE61350040000
19		-		YE61353500000
20	X2	Terminal	76A	YE61100000000
21		-		YE61103500000
22	X3	Terminal	32A	YE61250040000
23		-		YE61253500000
24		-	32A	YE61250040000
25		-		YE61253500000

NO.	Symbol	Name	Specification	Material NO.
26		-	32A	YE61250040000
27	S1	Emergency stop button	400VAC	YE11320300000
28	S2	Stop button	400VAC	YE11375800000
29		Contact block	1NC	YE19340000100
30	S3 H1	Start button	400VAC	YE11325300000
31		Contact block	1NO	YE19340000000
32	S4 S5	Safety switch	AZ-15	YE16147600100
33	S4 S5	Safety switch	AZ-16	YE16147600000
34	H2	Alarm lamp	220VAC	YE83305100200
35	H3	Buzzer	220VAC	YE84222000000
36	MS	Feed position motor	220VAC	YE15000200100
37	TA1	Current mutual inductance	100/5A	YE04100500000
38	TA2	Current mutual inductance	5-100A	-----
39	PA	Galvanometry	100/5A	YE25671000000
40	X10	Meta tie in	4P	YE68025400000 YE68025400100
41	M1	Granulating motor	400V 50Hz	-----
42	M2	Solution blower*	400V 50Hz	-----
43	M3	Dust blower	400V 50Hz	-----
44	PC	PCB	220VAC	-----

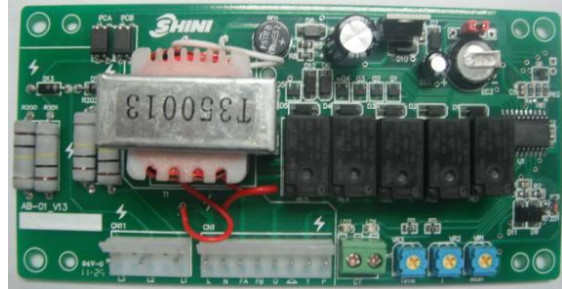
\*Indicates latent wearing parts: \*\*Indicates latent wearing parts and it's suggested to back them up.


## 2.19 Main Electrical Components List


### Processor control board

Function:

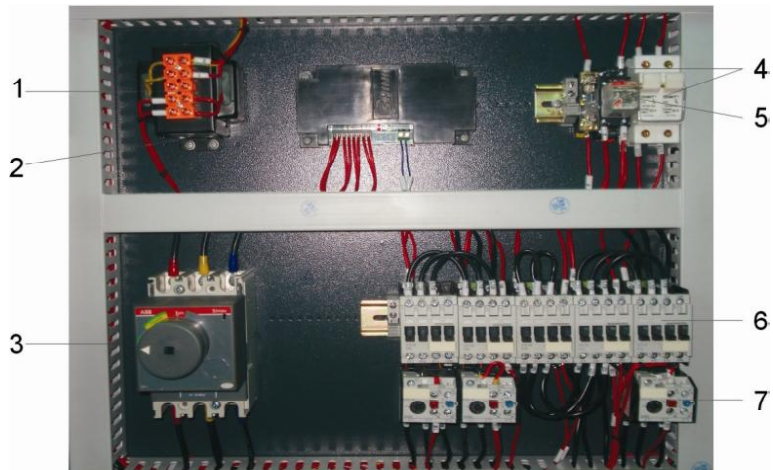
- 1) “Y” “ $\Delta$ ” reduction voltage and startup.
- 2) Detection of granulator overload and alarm.
- 3) Delay halt of feeding blower.
- 4) Phase sequence detection and alarm sounds then halt.



Variable resistance scale 	1	2	3	4	5	6	7	8	9
Fine tuning I(A):VR1	-4	-3	-2	-1	0	+1	+2	+3	+4
Set rated current (I): Vr3	5A	10A	20A	30A	40A	50A	60A	70A	80A

Variable resistance scale 	1	2	3	4	5	6	7	8	9
Y/ $\Delta$ Startup shift	3S	6S	9S	12S	15S	19S	22S	24S	30S

### Electric components of cabinet



1. Transformer provides a proper voltage for control circuit.
2. PCB circuit board controls machine start and stop.
3. Door lock breaker segregates and protects circuit.
4. Fuse has the overload and short-circuit protection in control circuit.
5. Intermediate relay acts as an intermediate contact and connection in control circuit.
6. Contactor is able to connect and disconnect main circuit remotely.
7. Thermal overload relay protects motor overload or loss of phase.

## 2.20 Optional Parts

The detail of air recycling fittings (standard configuration)



Fittings	Quantity	Note
Cyclone separator	1 piece	
Hop-pocket (two ends are opening)	1 piece	With cotton
Filtering hop-pocket	1 piece	
Stainless steel pipe (short)	1 piece	
Food connector 4"	2 piece	

SG23 / 30 Optional Parts

Dust separating system

Schematic drawing of installation for dust separating system



Fittings	Quantity	Note
Cyclone separator	1 piece	
Dust separator	1 piece	
Wind machine housing	1 piece	
Stainless steel pipe (long one)	1 piece	
Food connector 4"	2 piece	
Multi-thread plastic pipe 4"×2m	1 piece	
Pipe clip 5"	2 piece	
Locking fittings	1 piece	
Hop-pocket (two ends are opening)	1 piece	With cotton
Filtering hop-pocket	1 piece	
Dust collection hop-pocket	2 piece	With cotton
Loth bag bracket	1 piece	

External dimension of dust separating system

DS-23/30:

Dust separator ( $\Phi \times h$ )..... 320 x 750mm

Vacuum cleaner ( $l \times w \times h$ )..... 860 x 440 x 1700mm

Installation of dust separating system



Before operating dust separating system, please read chapter 5 carefully.

Connecting electrical circuit should be done by professional electrician.

**Before first start-up**

Before delivery, the machine is daubed with rust preventive oil. On the part which is not daubed with paint. Please remove the rust preventive oil before using the machine.

**Connection**

- 1) Mount separator under dust separator  $\Phi 150$ mm.
- 2) Connect conveying pipe (4").
- 3) Install vacuum cleaner, including air and dust collecting bag.
- 4) Place a container under separator to collect plastics material after dust removing.



Ensure the air is circulative in the bag if connecting separator with cloth bag.

Maintenance and operation of dust removing system

Daily inspection

Air bag and dust bag: inspect air bag and dust bag, confirm whether they are damaged, if so, please replace it at once.

Conveying pipe: inspect conveying pipe, if it is damaged, please replace it at once.

Inspect joint of pipe and sealing, confirm they should be in good conditions.

Inspect dust bag, if dust is full in it, please empty it entirely at once.

Collection box: Inspect collection box, it should be under the dust separator.

If it deviates from specified position, it should be adjusted.

Inspect collection box, if the material is full, please take away dusted plastics in time.

Weekly inspection

Check the connection of the cable and if it is damaged, please replace it with a new one

Clean of the cyclone dust separator



Clean it after each time of replacing plastic materials or operating for 300 hours. Before cleaning, please cut off power supply.

- 1) First to clean internal wall of equipment.
- 2) It is necessary to inspect and clean dust separator.
- 3) Remove separator, blow internal granules out with compressed air.
- 4) Empty collection box, and clean the inside of box.
- 5) Quiver air bag to drop dust down.
- 6) Assemble dissembled parts according to inverse order.

Mesh screen



P/N Nominal diameter (mm)	Model				
	SG-2324	SG-2336	SG-2348	SG-3048	SG-3060
Φ4	G3123244	G3123364	G3123484	G3130484	G3130604
Φ6	G3101105	G3101102	G3101101	G1230486	G1230606
Φ10	G3101104	G3101103	G3101100	A2230481	A2230601
Φ12	G1223249	G1223369	G1223489	G1230489	G1230609

Blade

Material	International code		
	China	USA	Japan
SKD11	Cr12MoV	D2	SKD11

### 3. Installation and Debugging



Please read this chapter carefully before installing equipment.



Strictly accord to the following sequence of installation to avoid machine damage and person injury!



The blades are very sharp. Be careful when operating machine to avoid injury by blade!



Power connection of the granulator must be done by professional electrician so to avoid electric shock!



Caution:

The cutting blade should be placed smoothly. When installing, the automatic rotation of blade should be prevented. When operating, keep the hands away from the blade to avoid personal injury.



Caution:

Do not install blades with the help from others, so as to avoid personal injury. Lock rotating blades in the cutting chamber with a thick wood block.



Caution: Wear protective gloves, the blade is very sharp. Be careful to avoid injury.



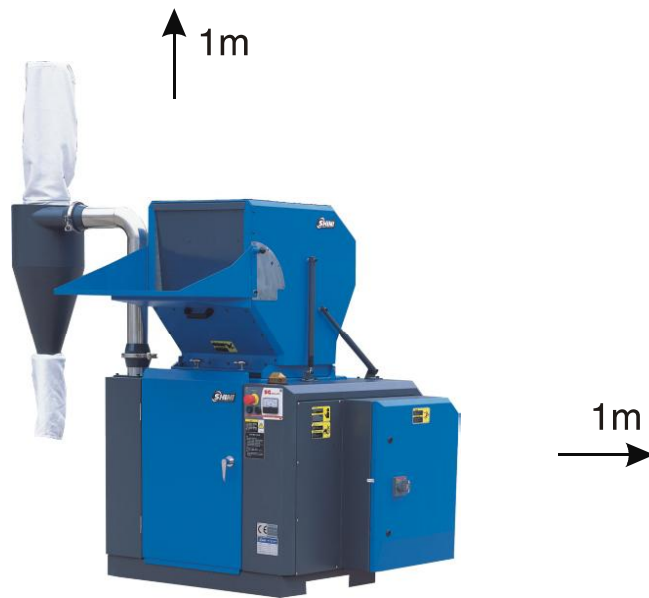
Caution: The new screws and washers must be used when installing blade.



Power connection of the granulator must be done by professional electrician so to avoid electric shock!

## 3.1 Installation Notice

- 1) The voltage and frequency of power supply must be the same as that on the machine nameplate.
- 2) Connecting cables and earth wire should comply with local rules and regulations.
- 3) Use independent cable and power supply. The diameter of electrical wire should not be smaller than that used in electrical control box.
- 4) The connection terminal of electric wire should be safe and firm.
- 5) Three phase and four wires are adopted for the power supply of this series machine. The power (L1, L2 and L3) is connected to live wire, and to earth wire (PE).
- 6) Power supply requirements :  
Main power voltage :  $\pm 10\%$   
Main power frequency:  $\pm 2\%$   
Make at least 1 meter clearance around the machine to facilitate repair and maintenance.



Attached list: Cutters and other fixing screw torque:

Threading Type	Threading Specification	Stretching Force FV (N)			Tightening Torque Ma (N.m)		
		Grade - 8.8	Grade - 10.9	Grade - 12.9	Grade - 8.8	Grade - 10.9	Grade - 12.9
Coarse Thread	M4	3900	5750	6700	3.0	4.4	5.1
	M5	6400	9400	11000	5.9	8.7	10
	M6	9000	1320	15500	10	16	18
	M8	16500	24300	28400	25	36	43
	M10	26300	38700	45200	49	72	84
	M12	38400	56500	66000	86	126	145
	M14	62500	77500	90500	135	200	236
	M16	72500	10700	12500	210	310	365
	M18	91000	129000	152000	300	430	600
	M20	117000	166000	195000	425	610	710
	M22	146000	208000	244000	580	820	960
	M24	168000	240000	281000	730	1050	1220
	M27	222000	316000	369000	1100	1550	1800
	M30	269000	384000	449000	1450	2100	2450
Fine Thread	M8*1	18100	26600	31200	27	39	46
	M10*1.25	28300	41600	48700	52	76	90
	M12*1.25	43300	63500	74600	93	135	160
	M12*1.5	40800	60000	70000	89	130	155
	M14*1.5	58600	86000	100000	145	215	255
	M16*1.5	79500	116000	136000	226	330	390
	M18*1.5	108000	152000	177000	340	485	570
	M20*1.5	134000	191000	224000	475	680	790
	M22*1.5	166000	236000	276000	630	900	1050
	M24*2	189000	270000	316000	800	1150	1350
	M27*2	246000	350000	409000	1150	1650	1950
	M30*2	309000	440000	515000	1650	2350	2750

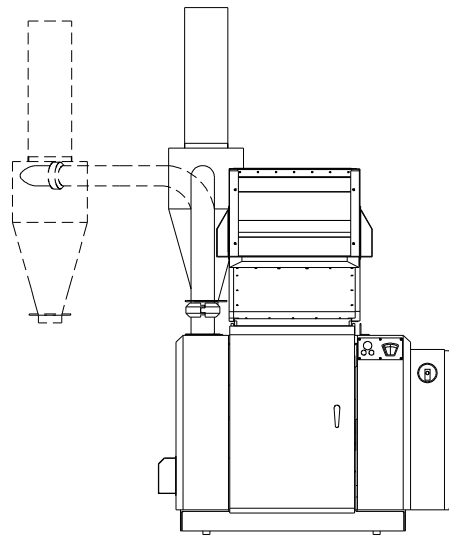
### 3.2 Installation Position



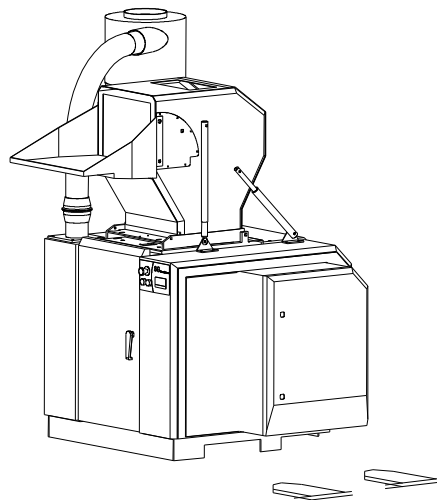
There should be enough installation space around the machine, so it will be convenient for maintenance and repair.

Check and make sure the installation ground is level, there is enough intensity when it is running.

Adjust the horizontal position of granulator with level bar.



SG-23 / 30 granulator is equipped with truckles and guide groove for conveying.



### 3.3 Installation of Blade Rest and Bearing

#### 1) Installation of blade rest shaft

The blade rest shaft is a combination by assembling blade rest and shaft. When assembling, firstly, clean blade rest and shaft, there should not be any dust and impurities on them. If there is, the blade rest and shaft will be failed for installation or even discard as useless. After cleaning, put the blade rest on the hydraulic machine, and then put the shaft into the blade rest. The vertical state of shaft should be kept. Finally, Daub lubricant on the shaft to help smoothly press in.



#### 2) Installation of material checking plate

First, stand blade holder vertically and evenly put the shaft sleeve on the blade rest shaft, put a sleeve with proper internal hole on the top, then press it in with hydraulic machine, or slightly hammer it in with copper rod. After installing shaft sleeve, put the material checking plate into shaft sleeve, the three counter holes of the plate should be aligned with three M8 holes on blade rest, the thread locking agent should be injected in the holes, and then put three hexagon socket head cap screws (M8×16) into it, then tighten them.



#### 3) Installation of bearing and bearing block

Clean internal holes of bearing block, there should be no iron filings and sundries. Turn bearing block up, then slightly hammer it into specified position properly and put lubricating grease into it. After finishing it, the bearing can be put into the bearing block smoothly, and finally, press it with hydraulic machine, or hammer it in with red-copper rod.



#### 4) Installation of bearing cover

Clean bearing roller with air pressure gun, and inject enough grease, then mount the bearing cover and tighten the bolts.



### 3.4 Installation of Bearing, Motor, Motor Belt and Belt Pulley

- 1) Install baffle at the right and left sides of blade shaft.
- 2) Daub lubricant on bearing and bearing block, then place the bearing in the bearing block.
- 3) Press the bearing in the mounting position on rotational shaft with the method of cold compacting by hydraulic machine.
- 4) After fixing the teeth cutter chamber and the base, put the blade shaft (which is mounted well) into the teeth cutter chamber from right to left, then use screw to lock the bearing plate.
- 5) Lock bearing block, and put the key into key groove.
- 6) Cover the large pulley to the shaft, and install the locking ring. After that, use dial gauge to correct the large pulley, then tighten the locking ring.
- 7) Place the motor and position-adjusting plate on the fixed plate of motor (do not tighten it).
- 8) Install the belt, and use level ruler to correct the level of large and small pulley, and lock it finally.



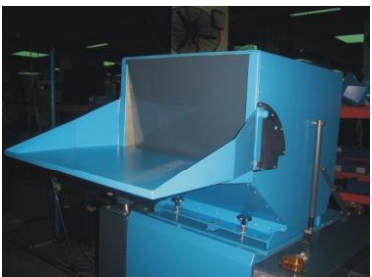
### 3.5 Installation of Screen, Screen Bracket and Storage Box

- 1) Put the screen into Screen bracket .
- 2) Lift the bracket, and mount the pothook (behind the bracket) on the fixed plate at two sides of tray.
- 3) lift the screen bracket to proper position matching with bearing block, and then lock the star knob tight.
- 4) Insert the storage box into the grooves at the two sides of tray.
- 5) Insert the safety switch.



### 3.6 Installation of Feed Box and Material Feeding Inlet

- 1) Lift the feed box to align with cutting chamber, then insert iron rod and fix it.
- 2) Mount the pneumatic connecting rod at the right side of feed box.
- 3) Paste rubber sheet to the base of feed box.
- 4) Lock feed box and cutting chamber with cruciform nuts.
- 5) Respectively install one stainless fixed plate at the two sides of feed box. The feeding inlet and its hole should calibrate to each other, then lock it with screw to mount the feeding inlet.

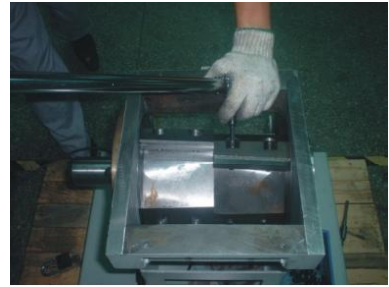


### 3.7 Installation of Blade



The blade is very sharp, please wear gloves before installing. Be careful when installing blade and avoid cutting finger!

- 1) First, clean front and rear chamber, the fixed blade will be installed on them.
- 2) Place the rotational blade into the groove, press it with blade-pressing block and tighten it with screws.
- 3) Put the front and rear press-block on front and rear chamber, and insert fixed blade at reserved clearance.
- 4) Put grub screw into adjusting hole of front and rear fixed blade, so as to easily adjust clearance of fixed blade by pushing it.
- 5) Insert clearance gauge into the space between fixed blade and rotational blade, and adjust the clearance to 0.20-0.30mm (the clearance should not be too small, so as to avoid damaging blade).
- 6) After adjusting the clearance, lock front and rear fixed blades tight.



Specifications of screws for fixed blade: hexagon socket head cap screw: Size: M10 × 30mm; Class: 12.9; Hardness: HRC41.



To avoid personal injury and machine damage, the fixing screws of blade must be tightened tight.



The clearance of blade should not be too small when adjusting, so as to avoid damaging blade.

## 4. Application and Operation



Please wear earplug when operating machine to avoid personal injury!



Please wear protective gloves when operating machine to avoid personal injury!



Please wear goggles when operating machine to avoid personal injury!



The blade and rotor may be loosened, so please check following items before operating machine:

- 1) Confirm whether the blade is damaged;
  - 2) Confirm whether the surface of rotor is loosened;
  - 3) Push or pull rotor and blade, and confirm whether they are loosened.
- If any item above is found at abnormal condition, please contact local sale agent or Shini company.

### 4.1 Pre-inspection for startup

Before delivery, the unpainted machine is daubed with antirust oil.

Please remove the antirust oil before using the machine.

a) Clean it with cloth first.

b) Then put some amylacetate on the cloth and wash it.

2) Inspect the clearance of blade (0.20-0.30mm), and confirm whether the lock screws of blade are tightened tight.

#### 4.1.1 After first startup for 2 hours

Re-inspect the clearance of blade, including fixed blade and rotational blade, and confirm the screws of blade should not be loosened.

### 4.2 Connection of Electrical Circuit

1) Connect the power supply of the granulator.

2) Turn on the switches of main power supply and circuit breaker.

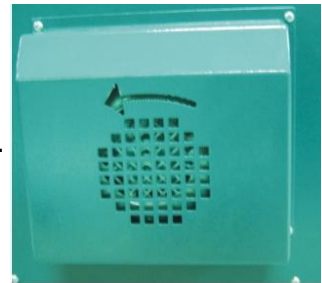
3) Inspect the emergency switch, and confirm whether it is turned on.

4) Inspect the feed box and star knob on screen bracket, and confirm whether it is locked and the safety switch is closed.

5) Startup.

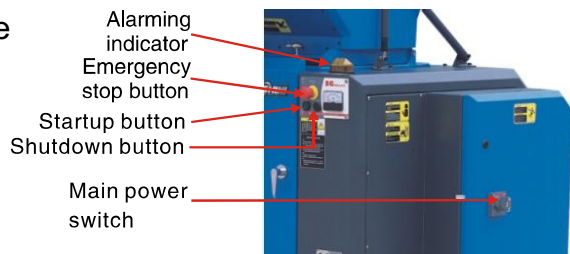
6) Inspect the rotational direction of motor, and it should be the same as the arrow indicated direction on cover.

- 7) Inspect the rotational direction of feeding blower, and it should be the same as the arrow indicated direction on cover.
- 8) If the rotational direction is not correct:
  - a) Shut down
  - b) Turn off the main switch.
  - c) Transpose any two wires of three main power wires.
  - d) Startup and re-inspection.



#### 4.3 Startup and Shutdown

The startup and shutdown of SG23 / 30 series granulators are controlled by the start switch and stop switch on control panel.



If there are materials (which are not granulated) in feed box and cutting chamber, the machine should not be stopped, otherwise, the rotor will be blocked by inside materials, and if start machine in this condition, the motor will be overloaded and cause tripping.

#### 4.4 Open Feed Box, Screen and Storage Box



Before open feed box, screen and storage box of SG23/30 series granulators, the main power supply switch must be turned off.



Caution! The blade is very sharp, it may cause personal injury.



Be careful! Close feed box, screen and storage box, and it may crushing injury if not careful! Clean internal surface before close feed box, screen and storage box.

#### 4.4.1 Open Feed Box

- 1) Inspect the box and confirm the material in it is discharged, and then close machine.
- 2) Loosen the star knob of feed box.
- 3) Loosen the insert-piece.
- 4) Open feed box backward.

Note: The feed box of SG-23 / 30 series granulator is supported by one-to-two pneumatic connecting rod, so the feed box will not fall when it folds backward.



Insert piece

#### 4.4.2 Open Screen Bracket

- 1) Open the chamber door of granulator.
- 2) Rotate knurling handle, and loosen the insert-piece of safety switch.
- 3) Take out the storage box.
- 4) Loosen the star knob of screen bracket.
- 5) Take out the screen bracket, the screen can be replaced or cleaned after taking it out.



Knurling handle



When loosening the star knob, the screen bracket should be supported, so as to avoid falling.

#### 4.5 Close Feed box, Screen and Storage Box



Note: Before close it, clean joint-plane.

Caution! Avoid crushing injury when closing it!



#### 4.5.1 Close screen Bracket and Mount Storage Box

- 1) Place the screen bracket in specified position and put screen on it.
- 2) Lift screen bracket to lock star knob tight.
- 3) Mount the collection box.
- 4) Rotate knurling handle, and lock the insert-piece of safety switch.
- 5) Close the chamber door of granulator.

#### 4.5.2 Close the Storage Box

- 1) Inspect and confirm there is no powder in the joint-plane or corner.
- 2) Close the feed box.
- 3) When closing feed box, the insert-plate should be aligned with insert-groove.
- 4) Screw up the star knob.

#### 4.6 Inspection



When maintenance, it should be ensured that there is no material in the granulator.

Note:

- 1) All maintenance should be done by professional, so as to avoid personal injury and machine damage.
- 2) It should be ensured that the switch of power supply is turned off.

## 5. Trouble-shooting

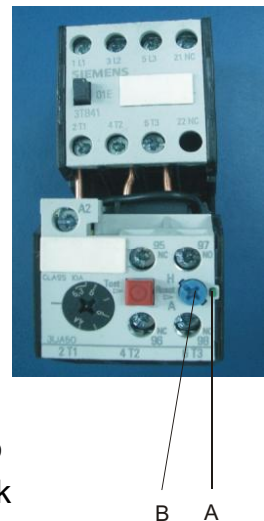
- 1) Check if the emergency stop has not been reset. If not, rotate the button anti-clockwise to reset it.
- 2) Check whether the feed box is closed. If not or the star knob hasn't been tightened, the machine could not be started.
- 3) Check if the storage box is installed. If not fully closed or the safety pin hasn't been inserted, the machine could not be started.

- 4) Check the motor's overload protector.

The overload protector F1 in the electrical Control box will work if the motor overloads. Under that situation, (A) (the green pole) will sprout. Press the Reset button (B) to reset it. Before startup again, check whether there is any powder in the granulator.

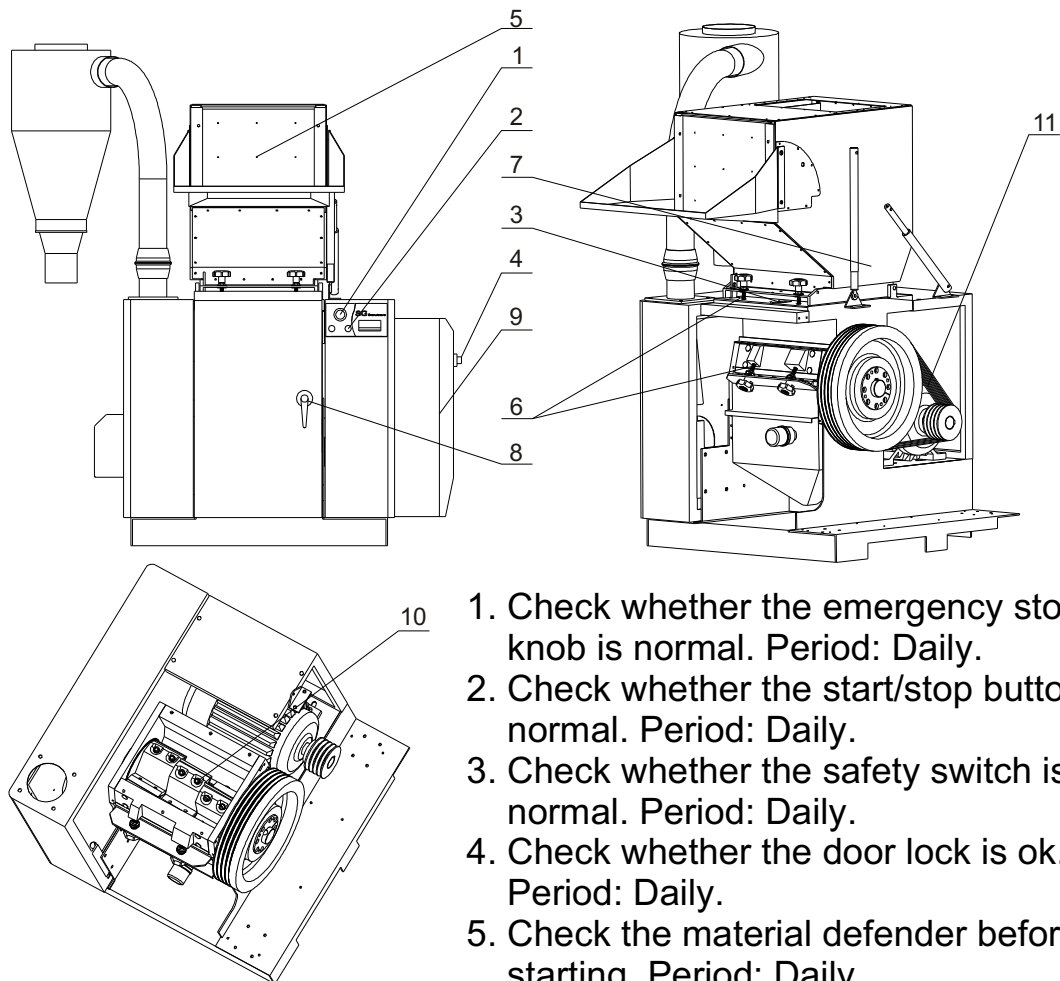
- 5) Check the overload protector of feeding blower's motor. If the feeding blower does not run, the granulator cannot run neither. Check the overload protector F2 in the electric control box. (A) (The green pole) will sprout. Press the Reset button (B) to reset it.

- 6) Check the space between blades A stop will happen or the motor overload protector will work if the blade is very blunt or the space between blades is not correct. Please check and replace or readjust the blades.
- 7) Upon starting up, warning sounds and machine unable to run indicate power reverse or default phase, please check power connection.



## 6. Maintenance and Repair

All maintenance should be done by professional, so as to avoid personal injury and machine damage.



1. Check whether the emergency stop knob is normal. Period: Daily.
2. Check whether the start/stop button is normal. Period: Daily.
3. Check whether the safety switch is normal. Period: Daily.
4. Check whether the door lock is ok. Period: Daily.
5. Check the material defender before starting. Period: Daily.
6. Check the screws on the feeding chamber and cutting chamber before starting. Period: Daily.
7. Check whether there is metal in the cutting chamber before starting. Period: Daily.
8. Check the door lock before starting. Period: Daily.
9. Check the electrical elements in the electrical cabinet. Period: Weekly.
10. Check the screws on both the fixed and the rotating blades. Period: Monthly.
11. Check the belt tension. Period: Semiyearly.

## 6.1 Replacement of blade



### Caution!

The blade is very sharp, wear gloves when holding blade.



When replacing blade each time, the fixing screws (hexagon socket head cap screw: 12.9, HRC41) of blade should be replaced with new screws.



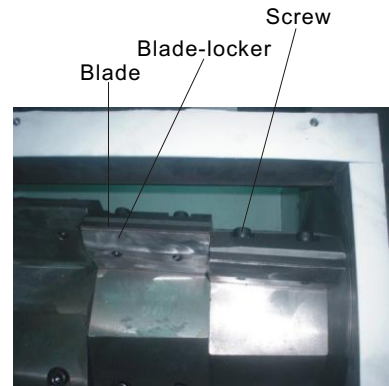
### Note:

Do not finish blade installation with help from others, so as to avoid personal injury. Lock rotating blade with thick wood block in cutting chamber.

- 1) Open chamber door and take out screen, and open feed box.
- 2) Loosen screws of blade press block and take out the fixed blade.
- 3) Loosen screws of blade-locker and take out the rotational blade.
- 4) After taking out blade, clean blade installing-groove.
- 5) Re-assemble prepared new blade in its position (see 5.7 for details).

When change the blade, check the holes of screen whether they have deformed. If the holes have become oval, the screen should be changed right now.

- 6) Check blade and the rotates blade rest to make sure all blades move smoothly.



## 6.2 Conveying

### 6.2.1 Daily Maintenance and Adjustment of V-belt

Granulator is driven by 4 V-belt. The specification of the V-belt is XPA.

#### 1) Inspect V-belt

After full-load operation for 20-30 hours, inspect the tension of V-belt and running state, then, inspect the abrasion of belts every month.

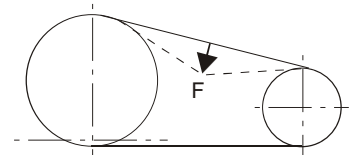
#### 2) Inspect the tension of V-belt every 6 months.

Take out upper cover plate on right side of granulator, rotate the V-belt, and inspect and confirm whether the belt is damaged and worn.



Do not put the hand between belt and pulley, otherwise, the hand may be trapped; inspect the tension of belt, and adjust it if necessary.

a) For 7.5kW motor, the force of 205 N should be exerted between belt pulley and belt, the excursion space after pressing belt should not exceed 5 mm.



b) For 11kW motor, the force of 297 N should be exerted between belt pulley and belt, the excursion space after pressing belt should not exceed 5 mm.

Motor:  
 > 7.5kW:  
 L=5mm, F=205N  
 > 11kW:  
 L=5mm, F=297N

### 6.2.2 Adjustment of V-belt

1) Disassemble the side plate of control box (the box is at the right side of granulator).



2) Take out the storage box, and loosen the adjusting-screw of motor to certain interval.

3) Adjust the space between motor and belt by adjusting the screw behind motor, adjust the tension of belt, and finally tighten the screw.



4) Then lock the screw tight.

5) After full-load operation for 20-30 hours, re-inspect the tension of belt.

### 6.3 Lubrication

6.3.1 Lubricating Oil (During Operation, the Following Brands of Lubricant Can be Selected:)

- Xinchanglong: FX-00  
FX-000
- Bp: BP Grease LGEP 2
- ESSO: Beacon Ep2, Beacon EP2
- Mobil: Mobilux EP2
- Shell: Shell Alvania EP2
- Texaco: Multifak Ep2, Novotex Grease EP2

#### 6.3.2 Lubricating Mode

Open bearing cover, and put in lubricating oil.



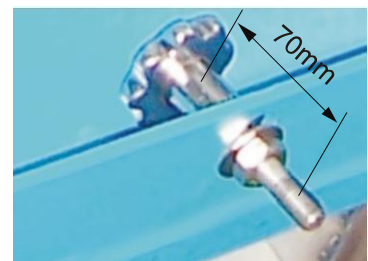
### 6.4 Maintenance

#### 6.4.1 Daily Maintenance

- 1) The rubber baffle is set in feed box. Inspect and confirm whether it is damaged, if so, replace it at once, and otherwise, the damaged part will fall to cutting chamber to damage blade, and also, if the baffle is damaged, the material may be ejected out from the feeding throat.
- 2) Inspect the performance of emergency - stop button and confirm whether it is in normal condition, then turn on the switch to emergency stop after start machine. Rotate the button according to the direction (counter-clockwise) of arrowhead to reset.

- 3) Inspect star knob, the safety screw is a part of granulator's safety system, the length of screw is pre - designed.

If the screw is loosened, the machine will be stopped, the length of safety screw is 70 mm, the damaged safety screw should be replaced with new one.



### 6.4.2 Weekly Inspection

- 1) Inspect the power supply wire of machine and confirm whether they are worn or damaged, if so, they should be replaced immediately.
- 2) Inspect the performance of safety switch.
- 3) Inspect the safety switches of feed box and storage box.  
Loosen the star knob of feed box and screen bracket, and try to start machine (the machine can not be operated if the door and screen bracket are not closed completely or the star knob is not tightened completely).



Note: When inspection, the storage box should be mounted and the door should be closed and locked tight.

### 6.4.3 Monthly Inspection

- 1) Inspect and confirm whether the belt is in good condition.
- 2) Inspect the tension of V-belt every 6 months; see chapter 6.2 "Conveying" for details.

## 6.5 Cleaning

### 6.5.1 Weekly



Caution:

Please confirm the main power switch is turned off before cleaning!



When opening feed box, you may touch blade. Be careful, the blade is very sharp and it may cause personal injury.

- 1) Before shutdown, inspect feed hopper, the materials in it should be discharged completely.
- 2) Clean external surface of feeding box and switch off the main power.
- 3) Loosen the star knob and insert-piece of feed box.
- 4) Open feed box backward.
- 5) Clean feeding inlet.
- 6) Pull rubber baffle out, and clean its two surfaces.
- 7) Open the door, turn on the plug-in safety switch, and then take storage box out.
- 8) Loosen the star knob of screen bracket, and take screen bracket down.



Cleaning hole

- 9) Loosen and clean screen, and at the same time, support the screen bracket to avoid falling.
- 10) Blow compressed air to material-cleaning hole at the two side-plate of granulator, and at the same time, rotate blade rest, the regrind in bearing block can be removed.
- 11) Clean storage box and screen bracket.
- 12) Clean inside and outside of cutting chamber.
- 13) Clean feeding pipe, feeding blower and cyclone dust collector.
- 14) Remove the transmit ion cover, clean the belt pulleys and transmit ion chamber.



Cover safety touch switch with protective mantle, so as to avoid blowing any foreign substance into it.

#### 6.5.2 Daily



**Caution:**

Cutting blades are very sharp, extreme caution must be used when working on an open cutting chamber.

- 1) Open the cutting chamber, remove the material collection box and open the screen frame.
- 2) Identify the two air blow inlets and the two de-dusting holes located in the side plates of the cutting chamber.
- 3) While rotating the main rotor by hand, blow compressed air into the two air inlets. Any dust collected in the dust chambers should come out of the two de-dusting holes.
- 4) It is unlikely that there will be no dust in the chamber. Should no dust come out of de-dusting hole, remove the de-dusting hole cover plate and ensure that there is no blockage in the chamber or through the air inlet holes.

## 6.6 Maintenance Schedule

### 6.6.1 About the Machine

Model: \_\_\_\_\_ SN: \_\_\_\_\_ Manufacturing date: \_\_\_\_\_

Voltage: \_\_\_  $\Phi$  \_\_\_\_\_ V Frequency: \_\_\_ Hz Total power: \_\_\_\_\_ kW

### 6.6.2 Check after Installation

- Check if pipe connections are firmly locked by clips.
- Check the gap between fixed blade and rotating blade. (0.20~0.30mm).
- Check the rotating balance of the belt wheel.

#### Electrical Installation

- Voltage: \_\_\_\_\_ V \_\_\_\_\_ Hz
- Fuse melting current: 1 Phase \_\_\_\_\_ A      3 Phase \_\_\_\_\_ A
- Check phase sequence of the power supply.
- Check the rotating direction of the conveying blower.

### 6.6.3 Daily Checking

- Check main power switch.
- Check emergency stop button.
- Check start / stop button.
- Check material check plate (strip) is perfect or not.
- Check whether emergency stop and safety switch works normally.
- Clean screen and feeding hooper.
- Check whether start, stop and power switches are normal.

### 6.6.4 Weekly Checking

- Check all the electrical cables.
- Check if there are loose connections of electrical components.
- Check blade condition.
- Check whether set screws in fixed and rotate blades are under looseness.
- Check if there is abnormal noise, vibration and heat in reduction gear.
- Check the cracking window.

### 6.6.5 Montly Checking

- Check the overload protection function of the motor.
- Check feeding motor's relay function.
- Check the tightness of the blades.
- Check the machine's peumatic support.
- Check whether clamp ring of pulley is fastened.
- Check belt tension.

### 6.6.6 Half-yearly Checking

- Check lubrication of bearing.
- Check coupling.
- Evaluation of the machine condition.

### 6.6.7 3 year Checking

- PC board renewal.
- No fuse breaker renewal.



## Main Product

- Drying & Dehumidifying
- Feeding & Conveying
- Dosing & Mixing
- Heating & Cooling
- Granulating & Recycling
- Automation System
- Hot Runner System
- System Solutions

---

### SHINI PLASTICS TECHNOLOGIES, INC.

#### Headquarters:

Shini Plastics Technologies, Inc.  
No.23 Minhe St., Shulin Dist., New  
Taipei City 23852, Taiwan

Tel: +886 2 2680 9119

Fax: +886 2 2680 9229

email: [shini@shini.com](mailto:shini@shini.com)

[shini.com](http://shini.com)

#### Factories:

- Taiwan
- Dongguan
- Pinghu
- Ningbo
- Mumbai