

SG-23/30

Sound-proof Central Granulator

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1. General Description



Please read this manual carefully before using this machine in order to operate correctly against any damage caused due to improper operation.



Note!

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



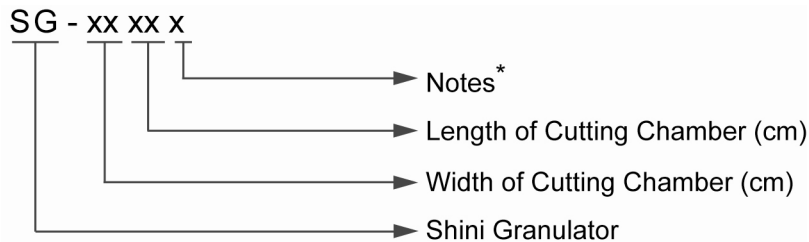
Forbidden to process flammable or toxic material!

SG-23/30 series sound-proof central granulator are suitable for granulating all kinds of plastic materials, including rejected parts from injection molding, blow molding or recycling of wastes. The machines feature optimized structure, easy operation, and quick blade replacement. Staggered rotating blades can easily grab and cut materials. This design can reduce energy consumption to the minimum. This granulator has various models with wide application to meet different customers' demand.



Model: SG-3060

1.1 Coding Principle



Note: *

CE=CE Conformity

F=Fiber Reinforced Plastics

R=For Stainless Steel made Feed Port and Storage Tank

FAD=Full-receiver Alarm Device

1.2 Feature

1) Standard configuration

- SG-23 series adopts staggered blades, SG-30 series adopts paddle blades .
- Staggered blades design can decentralize working load when granulating to increase cutting efficiency, Blade retainer is designed for quick blade replacement without readjustment.
- Paddle blades design allows increased efficiency and reduced energy consumption.
- Blades adopt imported steel to ensure high quality and high durability.
- Full-closed design and sound-proofing ensure low noise level.
- Equipped with electrical current relay, motor overload protector and multiple safety devices.
- Cyclone dust separator can effectively remove the air from regrind and facilitates the material collecting.
- Dust collecting bag brings easiness for dust cleaning and reduce contamination.
- Regrind conveying system as standard.
- For SG-30, cooling water device at the rear plate of the cutting chamber can effectively cool down the cutting chamber and prevent materials from melting-up.

2) Accessory option

- For granulating fiber reinforced material, increase fiber reinforced granulator model for choose. Adopt surface-hardening treatment on the material contacting components. SG-30 fiber reinforced model blade material used V-4E joint with S50C.
- 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 6 contains service instructions intended for service engineers. Other chapters contain instructions for the daily operator.

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

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

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1.3 Machine Specifications

1.3.1 Machine Specifications table SG-23/30

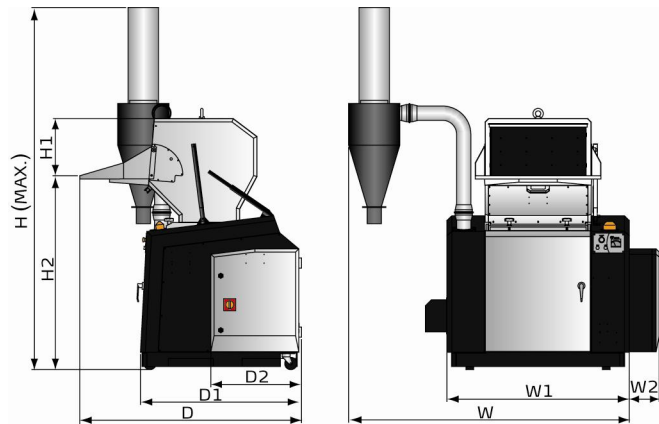
Chart 1-1: Machine Specifications

Model	SG-2324	SG-2336	SG-2348	SG-3048	SG-3060
Motor Power (kW, 50/60Hz)	5.5/6.3	7.5/8.6	11/12.6	11/12.6	15/17.3
Rotating Speed (rpm, 50/60Hz)	415/500	415/500	415/500	415/500	415/500
Conveying Blower (kW, 50/60Hz)	0.55/0.66	0.55/0.66	0.55/0.66	0.55/0.66	0.55/0.66
Material of Blades	SKD11	SKD11	SKD11	SKD11	SKD11
Blade Type	Staggered	Staggered	Staggered	Paddle	Paddle
Quantity of Fixed Blade	2	2	2	2	2
Quantity of Rotating Blade	3 × 2	3 × 3	3 × 4	3	3
Cutting Chamber (mm)	230 × 240	230 × 360	230 × 480	300 × 480	300 × 600
Max. Output (kg/kr)	90	120	150	185	220
Noise Level dB(A)	90~95	90~95	90~95	90~95	90~95
Regrind Conveyor	✓	✓	✓	✓	✓
Cooling Water Device	-	-	-	✓	✓
Screen (Φ8mm)	✓	✓	✓	✓	✓
Presetting Knife Jig	-	-	-	✓	✓
Full-receiver Alarm Device	○	○	○	○	○
Feed Hopper with Magnet	○	○	○	○	○
Dust Separator (DS-23)	○	○	○	○	○
Screen (Φ4,6,10,12mm)	○	○	○	○	○
Dimensions					
H (mm)	2210	2210	2210	2210	2210
H1 (mm)	265	265	265	360	360
H2 (mm)	1175	1175	1175	1210	1210
W (mm)	1335	1455	1575	1580	1700
W1 (mm)	780	900	1020	1020	1140
W2 (mm)	190	190	190	190	190
D (mm)	1245	1245	1245	1390	1390
D1 (mm)	915	915	915	1010	1010
D2 (mm)	520	520	520	570	570
Weight (kg)	470	515	615	700	780

Notes: 1) "✓" stands for standard, "○" stands for optional.

- 2) When granulating fibers reinforced plastics or materials alike (e.g. CPVC), it is suitable to select granulators with special quenching process in for cutting chamber and blades, and also add "F" at end of the model code.
- 3) 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.
- 4) For stainless steel made feed hopper cover plate and storage tank. Add "R" at end of the model code.
- 5) SKD11 is steel grade of Japanese JIS standard.
- 6) Max. capacity of the machine is subject to diameter of screen mesh and composition of material.
- 7) Noise level varies with different materials and motor types.
- 8) To avoid plastic from sticking to the blades, all materials should be crushed at normal temperature.
- 9) Power supply: 3Φ, 230/400/460/575VAC, 50/60Hz.

1.3.2 Dimensions of SG-23/30



Picture 1-1: Dimensions of SG-23/30

1.4 Safety Regulations

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

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, turn off 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.



High voltage! Danger!

This sign is attached on the control box and the wiring 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 started before the feed box and storage box are properly closed.



Ear protection should be used during granulating of plastic materials.



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



Feeding blower which requires that the temperature of regrind and dust should not be higher than 80°C is applicable to convey regrind and dust.



The feeding blower has great suction power and it is easy to get goods or clothes sucked into, which will cause personal injury!



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



Attention!

No need of regular inspection because all the electrical parts in the electric components box are fixed tight!



Warning!

When this light is on, it means overload working and growing flow. Please stop feeding until the light is off.



Attention!

1. After the first 1-2 days of operating, it's necessary to loose the four screws on motor fixing base and then tighten this screw up for tightening belt.
2. Whenever belt slip occurs, please tighten up this screw.



Air inlet

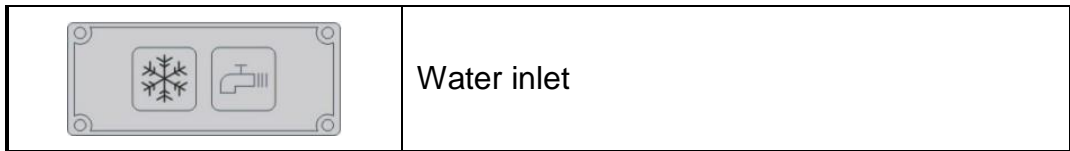
Clean dust.



Please add butter lubricant regularly.

When operate the granulator, please notice the following signs:

	<p style="text-align: center;"> Dangers</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 before turning on power.</p>
	<p style="text-align: center;"> Warning</p> <p>Pinch risk when moving belt. It's not allowed to take out or open protective cover when it is running.</p>
	<p style="text-align: center;"> Warning</p> <p>There is a pinch risk for this protective cover. Keep some distance away from that.</p>
	<p style="text-align: center;"> Warning</p> <p>The cutter are very sharp and may cause injury It's not allowed to take out or open protective cover when it is running. Keep some distance away from the cutter.</p>
	<p style="text-align: center;"> Notice</p> <p>Read the instruction manual carefully before operating it. Before starting up, do the safety device test according to the instruction. It is not allowed to change the design of the machine unless it is approved by the manufacture.</p>
	<p>Water outlet</p>



1.4.2 Transportation and Storage of the Machine

Transportation

- 1) SG-23/30 series of granulator are packed in crates or plywood cases with wooden pallet at the bottom, which is suitable for quick positioning by fork lift.
- 2) Equipped with castors for ease of movement after being unpacked.
- 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 and possess good handling devices, however, it also should be handled with care when lifting the machine to prevent falling down.
- 5) The machine and its attached parts can be kept with a temperature from -25°C to $+55^{\circ}\text{C}$ for long distance transportation while for a short distance, it can be transported with temperature under $+70^{\circ}\text{C}$.

Storage

- 1) SG-23/30 series should be stored indoors with temperature kept from 5°C to 40°C and humidity lower than 80%.
- 2) Cut off all power supply and turn off main power switch.
- 3) Keep the whole machine, especially the electrical components away from water to avoid potential troubles caused by the water.
- 4) Use plastic film to cover the machine tightly to prevent the machine from dust and rainwater.

Working environment

Indoors with a dry environment of maximum 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 electric shock.

- 3) If it has been dropped or damaged until it is checked or fixed by a qualified serviceman.

1.4.3 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 alarm!

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



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



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



If material is longer than feed port, please cut it off until it is shorter than the feed port before processing.



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

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 wrong installations, operation and maintenances upon machine 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.

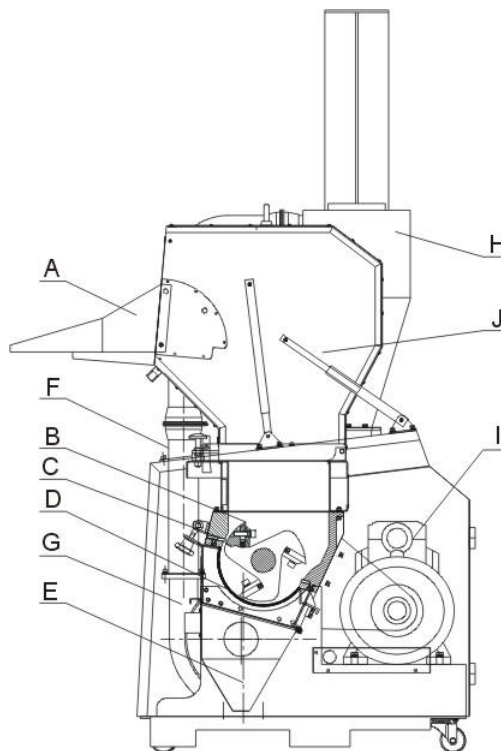
3. Any operational actions that are not authorized by Shini upon machine, including adding or replacing accessories, dismantling, delivering or repairing.
4. Employ consumables or oil media that are not appointed by Shini.

2. Structural Features and Working Principle

2.1 General Description

SG-23/30 series are suitable for granulating waste plastics for directly recycling use. Before granulating, it's necessary to clear metal scraps and contaminations. Mount magnet at the material inlet to prevent metal scraps from getting into cutting chamber and bringing damage to the blades. The granulator is controlled through "Start/Stop" button and "Emergency stop" button.

2.1.1 Working Principle



Parts name:

A. Material inlet B. Rotary blade C. Fixed blade D. Screen E. Storage bin

F. Discharging pipe G. Feeding blower H. Cyclone dust collector I. Motor

J. Feed box

Picture 2-1: Working Principle

The waste materials enter the cutting chamber via material inlet (A). The rotary blade (B) and fixed blade (C) granulate the materials. The particle size is controlled by the size of screen (D). The screen (D) is located at the bottom of cutting chamber. Thus it is convenient to replace screen to other different sizes. The granulated materials are dropped into the storage box (E) via the screen and be conveyed via discharging pipe (F). Use feeding blower to absorb the granulated materials into cyclone dust collector to separate the air and dust. The particles can be reused directly or sent to somewhere for storage after being granulated.

The feed box is foldable, thus it is very convenient for cleaning.

2.2 Safety System

The fast-rotating blade in the granulator is prone to result in an accident. Therefore, the granulator is equipped with a highly-secure safety system to avoid accident during the operation.

2.2.1 Emergency Stop

Emergency stop is a red button on the control panel. Once press it, the power will be cut off and then the machine will stop working. It can be reset by turning the button as the arrow direction (anticlockwise).



Picture 2-2: Emergency Stop

2.2.2 Safety Switch

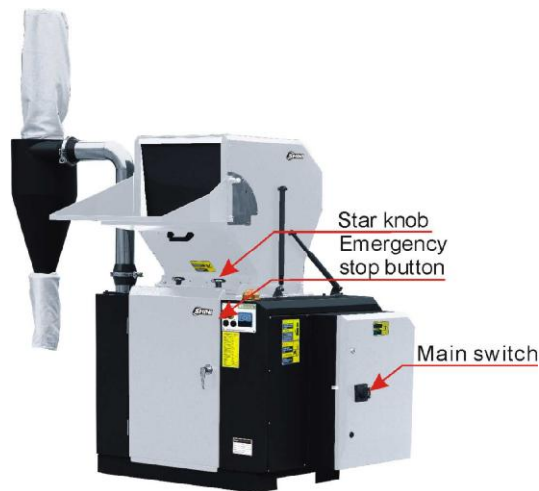
There are safe position switches in the granulator. If it's on or loose, it will cut off the power and stop the machine. Two safety switches may be involved. One is located between the feed box and the cutting chamber and the other is on the storage box.



Picture 2-3: Safety Switch

2.2.3 Star Screw

Star screws on feed box and screen bracket are very important parts of safety operation system of the granulator. When unscrewing those star screws, blades will stop running to avoid personal injury.



Picture 2-4: Star Screw

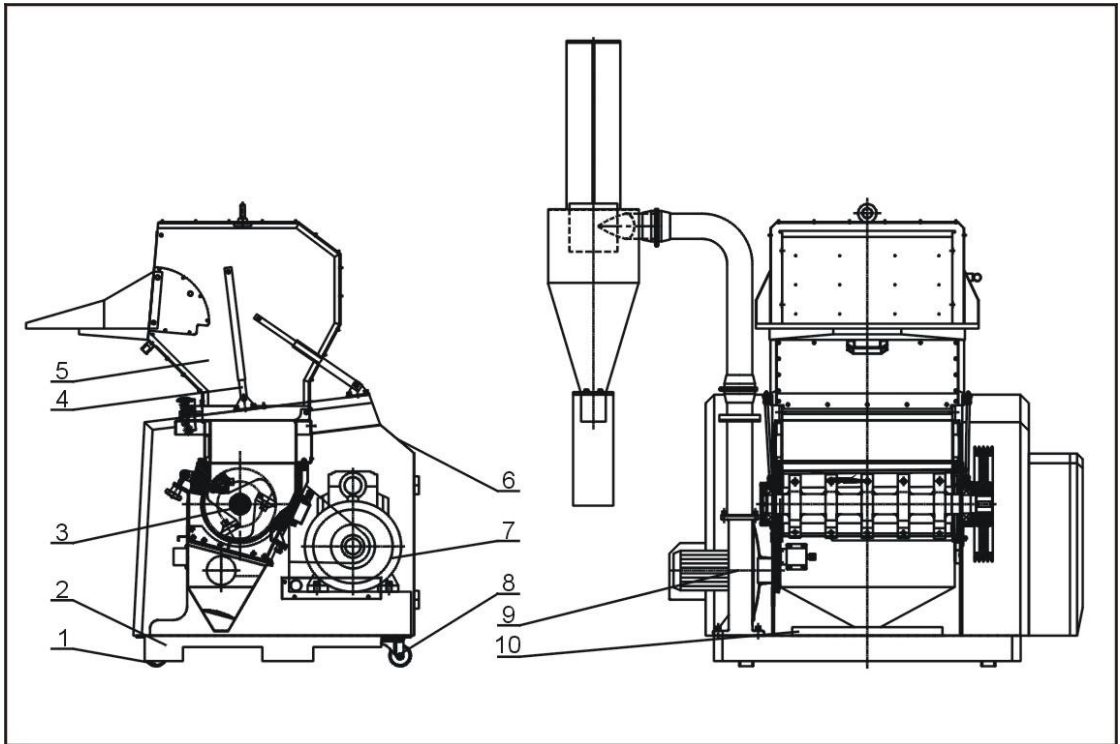


Caution!

The star screws can't be loosened unless the machine is not working. Before starting the machine, the star screws on feed box and screen bracket should be tightened up and a storage box should be assembled. Then close the front door of granulator and lock it tightly.

2.3 Assembly Drawing

2.3.1 Assembly Drawing (SG-23/30)



Note: Please refer to 2.3.2 material list about the parts code.

Picture 2-5: Assembly Drawing (SG-23/30)

2.3.2 Parts List (SG-23/30)

Chart 2-1: Parts List (SG-23)

No.	Name	SG-2324		SG-2336		SG-2348	
		Part No.	Quantity	Part No.	Quantity	Part No.	Quantity
1	Fixed castor 3"	YW03000300500	2	YW03000300500	2	YW03000300500	2
2	Machine rack	-	1	-	1	-	1
3	Cutting chamber	-	1	BH85433600010	1	BH85234800610	1
4	Elastic gasket	YW01050000100	1	YW01060000100	1	YW01060000100	1
5	Feed box	-	1	-	1	-	1
6	Shield parts	-	1	-	1	-	1
7	Main gear	-	1	-	1	-	1
8	Movable castor 3"	YW03000300600	2	YW03000300600	2	YW03000300600	2
9	Automatic feed	-	1	-	1	-	1
10	Presetting knife jig	-	-	-	-	-	-

* means possible broken parts;

** means easy broken part, and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

Chart 2-2: Parts List (SG-30)

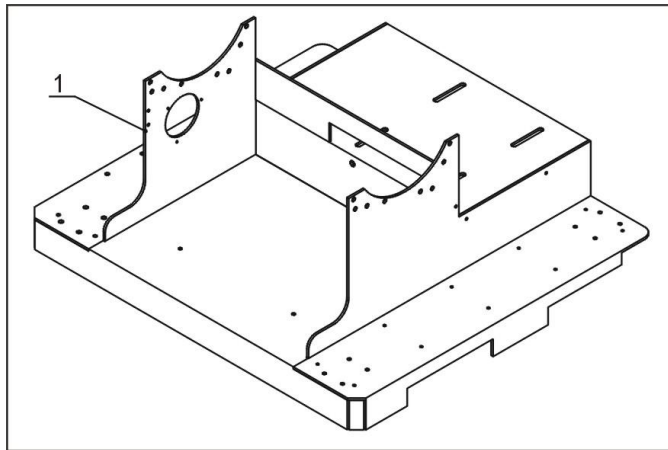
No.	Name	SG-3048		SG-3060	
		Part No.	Quantity	Part No.	Quantity
1	Fixed castor 3"	YW03000300500	2	YW03000300500	2
2	Machine rack	-	1	-	1
3	Cutting chamber	BH85304800810	1	BH85306000610	1
4	Elastic gasket 900N	YW01090000000	1	YW01090000000	1
5	Feed box	-	1	-	1
6	Shield parts	-	1	-	1
7	Main gear	-	1	-	1
8	Movable castor 3"	YW03000300600	2	YW03000300600	2
9	Automatic feed	-	1	-	1
10	Presetting knife jig	BH11304800410	1	BH10300100110	1

* means possible broken parts.

** means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

2.3.3 Machine Rack



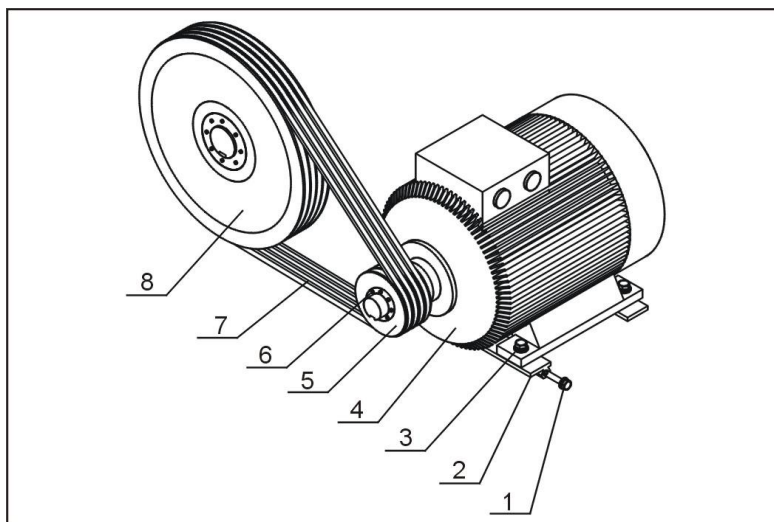
Picture 2-6: Machine Rack

2.3.4 Parts List of Machine Rack

Chart 2-3: Parts List of Machine Rack

No.	Name	SG-23/30	
		Part No.	Quantity
1	Machine Rack	-	1

2.3.5 Main gear



Picture 2-7: Main gear

2.3.5.1 Parts List of Main Gear

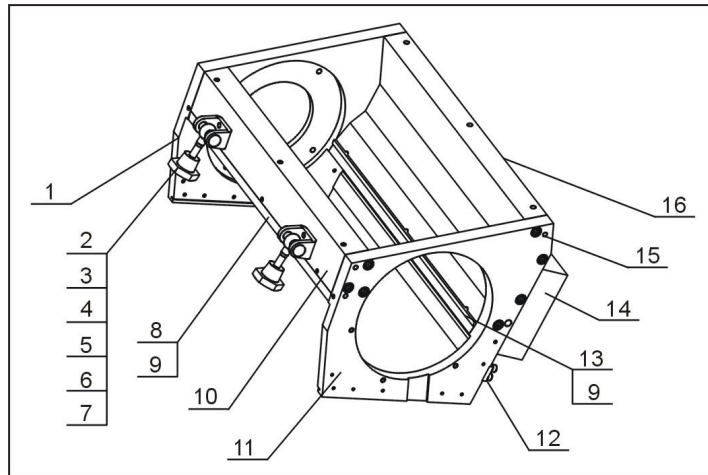
Chart 2-4: Parts List of Main Gear

No.	Name	SG-2324		SG-2336		SG-2348	
		Part No.	Quantity	Part No.	Quantity	Part No.	Quantity
1	Hexagon head screw M10×80	YW60108000000	2	YW60108000000	2	YW60108000000	2
2	Motor control board	BH10236100010	2	BH10236100010	2	BH10306500110	2
3	Hexagon head screw	YW60104000100	4	YW60104000100	4	YW60124500000	4
4	Motor	YM10713000500	1	YM10137500000	1	YM10716300300	1
5	Motor belt pulley	YW30118400000	1	YW30118400000	1	YW30118400000	1
6	Belt pulley taper sleeve	YW30204200500	1	YW30204200500	1	YW30204200500	1
7	Triangle belt	YR00160000100	4	YR00160000100	4	YR00160000100	4
8	Big Belt pulley taper sleeve	YW30400400000	1	YW30400400000	1	YW30400400000	1

Chart 2-5: Parts List of Main Gear

No.	Name	SG-3048		SG-3060	
		Part No.	Quantity	Part No.	Quantity
1	Hexagon head screw M10×80	YW60108000000	2	YW60108000000	2
2	Motor control board	BH10306500110	2	BH10306500110	2
3	Hexagon head screw M12×45	YW60124500000	4	YW60124500000	4
4	Motor	YM10716300300	1	YM10716600300	1
5	Motor belt pulley	YW30118400000	1	YW30118400000	1
6	Belt pulley taper sleeve	YW30204200500	1	YW30204200500	1
7	Triangle belt	YR00170040000	4	YR00170040000	4
8	Big Belt pulley taper sleeve	YW30400400100	1	YW30400400100	1

2.3.6 Cutting Chamber



Picture 2-8: Cutting Chamber

2.3.7 Parts List of Cutting Chamber

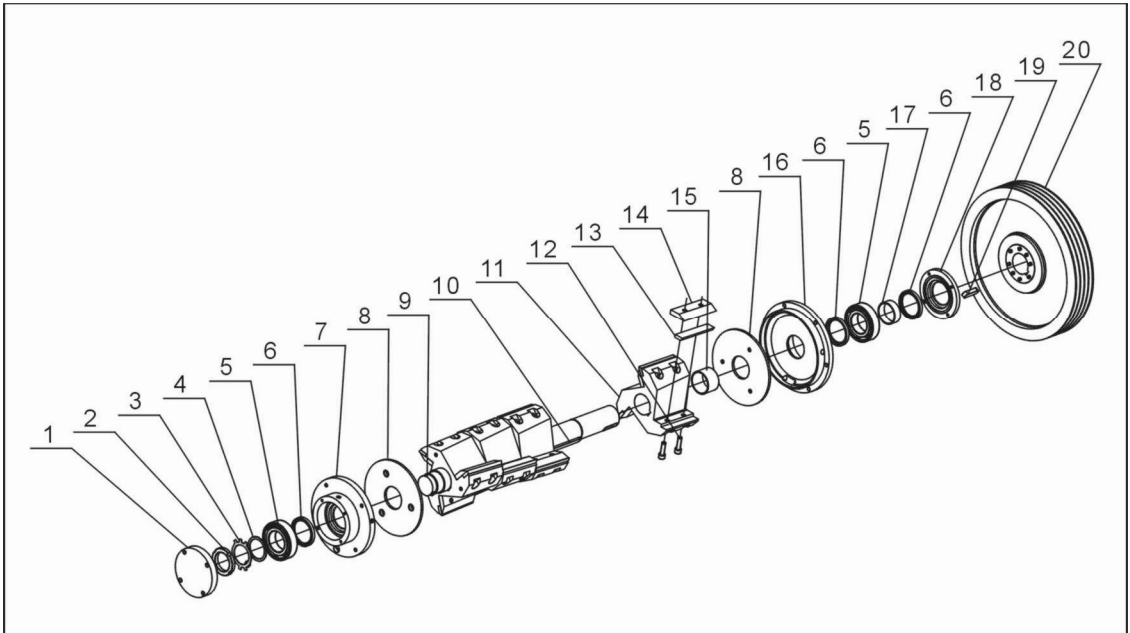
Chart 2-6: Parts List of Cutting Chamber One

No.	Name	SG-2324		SG-2336		SG-2348	
		Part No.	Quantity	Part No.	Quantity	Part No.	Quantity
1	Left side plate	BH10232500010	1	BH10232500010	1	BH10232500010	1
2	Hinge base	-	1	-	2	-	2
3	Shaft pin	YW09301400000	1	YW09301400000	2	YW09301400000	2
4	A type circlip for shaft 16	YW69001600000	1	YW69001600000	2	YW69001600000	2
5	Star screw	YW09003010500	1	YW09003010500	2	YW09003010500	2
6	Flat gasket	YW66123200100	1	YW66123200100	2	YW66123200100	2
7	Star nut (M12)	YW09001200500	1	YW09001200500	2	YW09001200500	2
8	Front pressing block	BW30232400110	1	BW30233600110	1	BW30234800110	1
9	Fixed blades	BW40232400040	1	YW42233600100	2	YW42234800100	2
10	Front block	-	1	BW30233600010	1	BW30234800010	1
11	Right side plate	BH10231100010	1	BH10231100010	1	BH10231100010	1
12	Screen bracket fixing plate	-	1	-	1	-	1
13	Back pressing block	BW30232400410	1	BW30233600410	1	BW30234800410	1
14	Water tank	-	-	-	-	-	-
15	Elastic fixing pin 8×35	YW69083500000	8	YW69083500000	8	YW69083500000	8
16	Rear box block		1	BH10236500010	1	BH10230800010	1

Chart 2-7: Parts List of Cutting Chamber One

No.	Name	SG-3048		SG-3060	
		Part No.	Quantity	Part No.	Quantity
1	Left side plate	BH10306501110	1	BH10306501110	1
2	Hinge base	-	2	-	2
3	Shaft pin	YW09301400000	2	YW09301400000	2
4	A type circlip for shaft 16	YW69001600000	2	YW69001600000	2
5	Star screw	YW09003010500	2	YW09003010500	2
6	Flat gasket	YW66123200100	2	YW66123200100	2
7	Star nut (M12)	YW09001200500	2	YW09001200500	2
8	Front pressing block	BW30304801310	1	BW30306101310	1
9	Fixed blades	YW42234800100	2	YW42325800000	2
10	Front block	BW30304800510	1	BW30306500010	1
11	Right side plate	BH10306101210	1	BH10306101210	1
12	Screen bracket fixing plate	-	1	-	1
13	Back pressing block	BW30304800910	1	BW30306901310	1
14	Water tank	-	1	-	1
15	Elastic fixing pin 8×40	YW69084000000	8	YW69084000000	8
16	Back block	BW30304800810	1	BW30306800310	1

2.3.8 Cutting Chamber Two

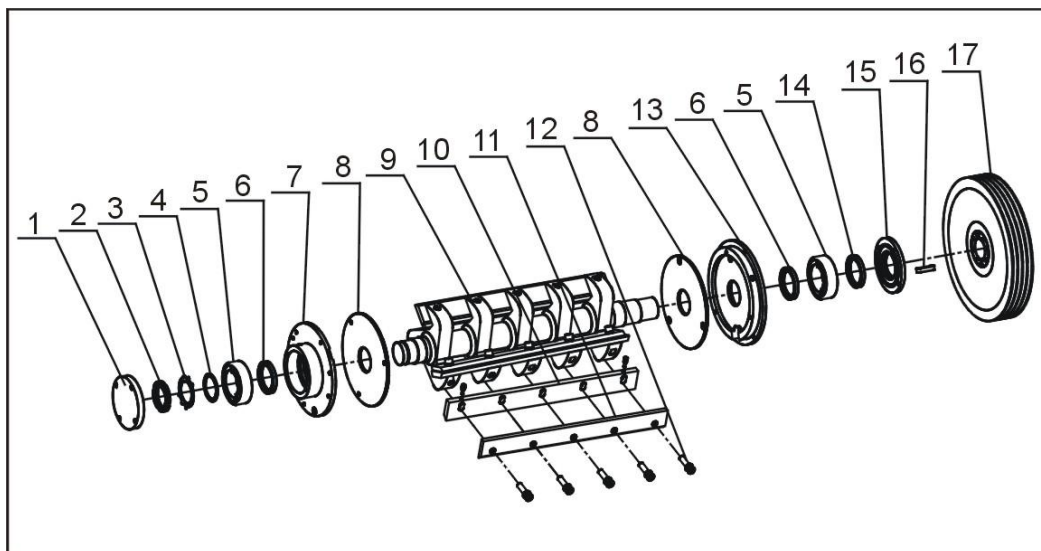


Picture 2-9: Cutting Chamber Two (SG-23)

2.3.9 Parts List of Cutting Chamber Two (SG-23)

Chart 2-8: Parts List of Cutting Chamber Two (SG-23)

No.	Name	SG-2324		SG-2336		SG-2348	
		Part No.	Quantity	Part No.	Quantity	Part No.	Quantity
1	Left bearing block cover plate	BH10232700010	1	BH10232700010	1	BH10232700010	1
2	Round nut M52×1.5	YW65215000000	1	YW65215000000	1	YW65215000000	1
3	Lock gasket 52	YW09521600000	1	YW09521600000	1	YW09521600000	1
4	Bearing gasket	-	1	-	1	-	1
5	Self-aligning roller bearing 22211C	YW11222100600	2	YW11222100600	2	YW11222100600	2
6	Oil seal 75×60×8	YR80756000000	3	YR80756000000	3	YR80756000000	3
7	Left bearing block	BH10232600010	1	BH10232600010	1	BH10232600010	1
8	Material fender	YW45230000000	2	YW45230000000	2	YW45230000000	2
9	Shaft	-	1	BH10236600010	1	BH11236200010	1
10	Flat key 16×10×L	BH10232410010	1	BH10233610010	1	BH10234810010	1
11	Blade rest	-	2	-	3	-	4
12	Inner hexagon cylindrical screw M10×40	YW61104000200	12	YW61104000200	18	YW61104000200	24
13	Rotary blades	YW42023001000	6	YW42023001000	9	YW42023001000	12
14	Rotary blades pressing plate	BH10125000010	6	BH10125000010	9	BH10125000010	12
15	Shaft sleeve 1	BH10231900010	1	BH10231900010	1	BH10231900010	1
16	Right bearing block	BH10231200010	1	BH10231200010	1	BH10231200010	1
17	Shaft sleeve 2	BH10231400010	1	BH10231400010	1	BH10231400010	1
18	Right bearing block cover plate	BH10232300010	1	BH10232300010	1	BH10232300010	1
19	Flat key 16×10×50	BH10231500010	1	BH10231500010	1	BH10231500010	1
20	Big belt pulley SPA400-4-3020-55 with taper sleeve	YW30400400000	1	YW30400400000	1	YW30400400000	1



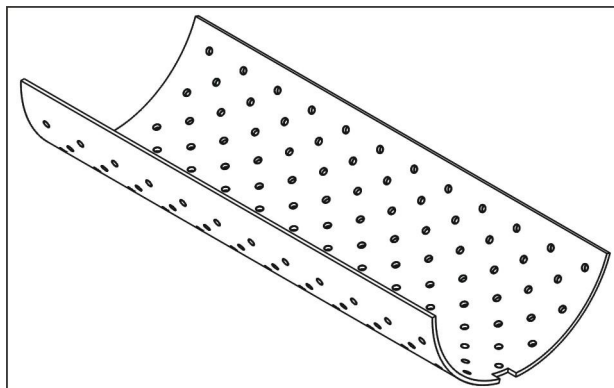
Picture 2-10: Cutting Chamber Two (SG-30)

2.3.10 Parts List of Cutting Chamber Two (SG-30)

Chart 2-9: Parts List of Cutting Chamber Two (SG-30)

No.	Name	SG-3048		SG-3060	
		Part No.	Quantity	Part No.	Quantity
1	Left bearing block cover plate	BW30301300010	1	BW30301300010	1
2	Round nut M64×2	YW64642000000	1	YW64642000000	1
3	Lock gasket 64	YW09640000000	1	YW09640000000	1
4	Bearing gasket	BL54301110020	1	BL54301110020	1
5	Self-aligning roller bearing 22213	YW11222100300	2	YW11222100300	2
6	Oil seal 90×70×10	YR80971000000	2	YR80971000000	2
7	Left bearing block	BW30301200010	1	BW30301200010	1
8	Material fender	BH11300820010	2	BH11300820010	2
9	Blade shaft	BH11306006110	1	BH11306006110	1
10	Rotary blades	BW30301300010	3	BW30301300010	3
11	Rotary blades pressing plate	BH11304803810	3	BH10306000910	3
12	Inner hexagon cylindrical screw	YW61145000000	15	YW61145000000	15
13	Right bearing block	BW30300202110	1	BW30300202110	1
14	Oil seal 80×65×8	YR80806500000	1	YR80806500000	1
15	Oil seal 80×65×8	YR80806500000	1	YR80806500000	1
16	Flat key 18×11×55	BH10301300310	1	BH10301300310	1
17	Big belt pulley with taper sleeve	YW30400400100	1	YW30400400100	1

2.3.11 Screen



Picture 2-11: Screen

2.3.12 Parts List of Screen

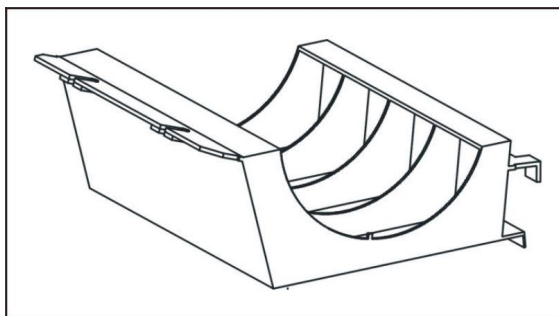
Chart 2-10: Parts List of Screen

No.	Name	SG-2324		SG-2336		SG-2348	
		Part No.	Quantity	Part No.	Quantity	Part No.	Quantity
1	Screen 8mm	BL54232400820	1	BL54233600820	1	BL54234800820	1

Chart 2-11: Parts List of Screen

No.	Name	SG-3048		SG-3060	
		Part No.	Quantity	Part No.	Quantity
1	Screen 8mm	BL54304806020	1	BL54306006020	1

2.3.13 Screen Bracket



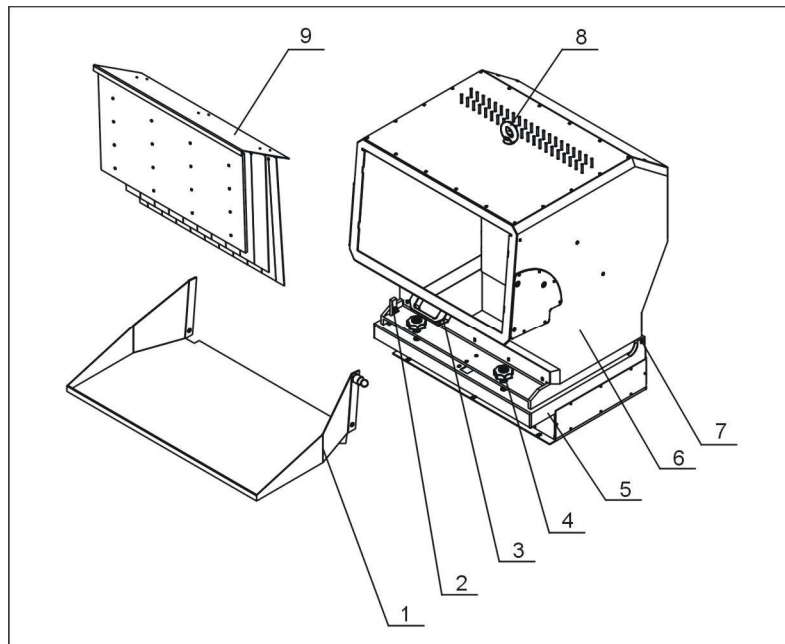
Picture 2-12: Screen Bracket

2.3.14 Parts List of Screen Bracket

Chart 2-12: Parts List of Screen Bracket

No.	Name	SG-23/30	
		Part No.	Quantity
1	Screen Bracket	-	1

2.3.15 Feed Box



Picture 2-13: Feed Box

2.3.16 Parts List of Feed Box

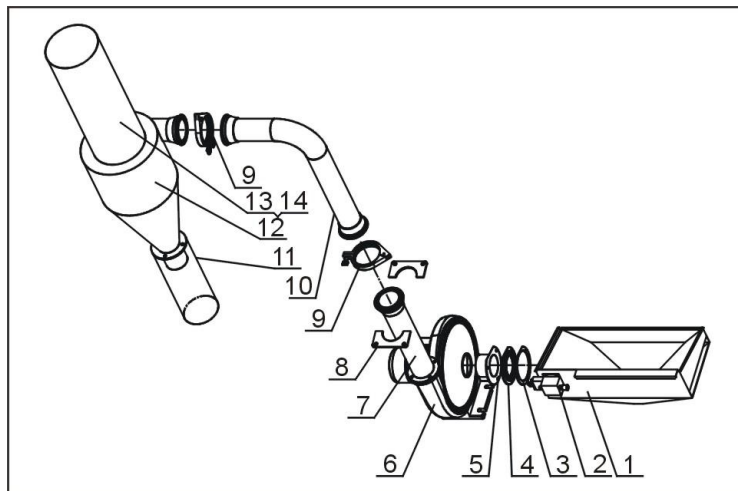
Chart 2-13: Parts List of Feed Box

No.	Name	SG-2324		SG-2336		SG-2348	
		Part No.	Quantity	Part No.	Quantity	Part No.	Quantity
1	Feed port	-	1	-	1	-	1
2	Pothook	-	1	-	1	-	1
3	Aluminum square handle L120	BW20012000140	2	BW20012000140	2	BW20012000140	2
4	Star screw combination	BH11300200010	2	BH11300200010	2	BH11300200010	2
5	Cutting chamber	-	1	-	1	-	1
6	Feed box	-	1	-	1	-	1
7	Feed box shaft	-	2	-	2	-	2
8	Lifting screw M16	YW09001600000	1	YW09001600000	1	YW09001600000	1
9	Material fender assembly	-	1	-	1	-	1

Chart 2-14: Parts List of Feed box

No.	Name	SG-3048		SG-3060	
		Part No.	Quantity	Part No.	Quantity
1	Feed port	-	1	-	1
2	Pothook	-	1	-	1
3	Aluminum square handle L120	BW20012000140	2	BW20012000140	2
4	Star screw combination	BH11300200010	2	BH11300200010	2
5	Cutting chamber	-	1	-	1
6	Feed box	-	1	-	1
7	Feed box shaft	BH10304801810	1	BH10306181310	1
8	Lifting screw M16	YW09001600000	1	YW09001600000	1
9	Material fender assembly	BR90304800020	1	BR90306000020	1

2.3.17 Automatic feeding assembly



Picture 2-14: Automatic feeding assembly

2.3.18 Parts List of Automatic feeding assembly

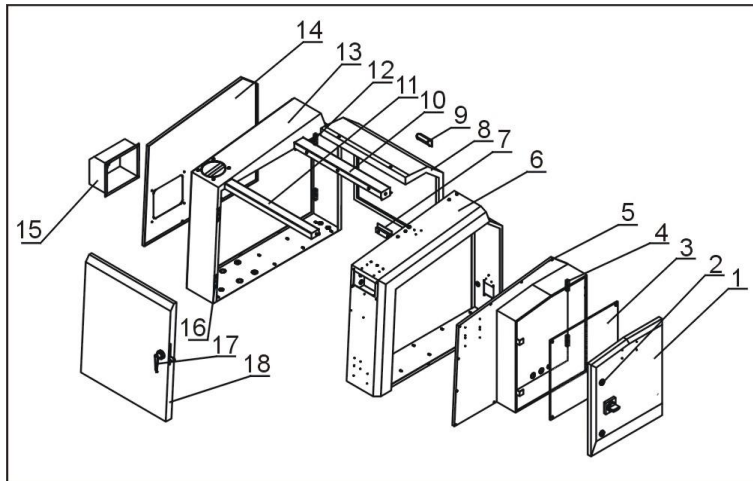
Chart 2-15: Parts List of Automatic feeding assembly

No.	Name	SG-2324		SG-2336		SG-2348	
		Part No.	Quantity	Part No.	Quantity	Part No.	Quantity
1	Storage box	-	1	-	1	-	1
2	Spiral switch	-	1	-	1	-	1
3	Pressing plate	-	1	-	1	-	1
4	Material inlet fastener	YR10002300000	1	YR10002300000	1	YR10002300000	1
5	Blower suction port connecting pipe	-	1	-	1	-	1
6	Feeding blower (0.55kW)	BM30055000250	1	BM30055000250	1	BM30055000250	1
7	Material outlet pipe	-	1	-	1	-	1
8	Material outlet pipe fixing flange	-	2	-	2	-	2
9	Stainless steel pipe clamp 4"	YW07000400000	2	YW07000400000	2	YW07000400000	2
10	Material outlet pipe bending	-	1	-	1	-	1
11	Filter cloth bag 2	BP82181800044	1	BP82181800044	1	BP82181800044	1
12	Cyclone separator	BY50002300150	1	BY50002300150	1	BY50002300150	1
13	Filter cloth bag 1	BP82321900144	1	BP82321900144	1	BP82321900144	1
14	Dust collecting cloth bag stand	BL59230001521	1	BL59230001521	1	BL59230001521	1

Chart 2-16: Parts List of Automatic feeding assembly

No.	Name	SG-3048		SG-3060	
		Part No.	Quantity	Part No.	Quantity
1	Storage box	-	1	-	1
2	Spiral switch	-	1	-	1
3	Pressing plate	-	1	-	1
4	Material inlet fastener	YR10002300000	1	YR10002300000	1
5	Blower suction port connecting pipe	-	1	-	1
6	Feeding blower (0.55kW)	BM30055000250	1	BM30055000250	1
7	Material outlet pipe	-	1	-	1
8	Material outlet pipe fixing flange	-	2	-	2
9	Stainless steel pipe clamp 4"	YW07000400000	2	YW07000400000	2
10	Material outlet pipe bending	-	1	-	1
11	Filter cloth bag 2	BP82181800044	1	BP82181800044	1
12	Cyclone separator	BY50002300150	1	BY50002300150	1
13	Filter cloth bag 1	BP82321900144	1	BP82321900144	1
14	Dust collecting cloth bag stand	BL59230001521	1	BL59230001521	1

2.3.19 Shield Parts



Picture 2-15: Shield Parts

2.3.20 Parts List of Shield Parts

Chart 2-17: Parts List of Shield Parts

No.	Name	SG-2324		SG-2336		SG-2348	
		Part No.	Quantity	Part No.	Quantity	Part No.	Quantity
1	Electric components box door plate	-	1	-	1	-	1
2	Long gear lock	YW00000000100	2	YW00000000100	2	YW00000000100	2
3	Wiring board	-	1	-	1	-	1
4	Big hinge CL203-1 (right)	YW06203100200	2	YW06203100200	2	YW06203100200	2
5	Electric components box base plate	-	1	-	1	-	1
6	Right outshell	-	1	-	1	-	1
7	Motor cover plate	-	1	-	1	-	1
8	Motor cover	-	1	-	1	-	1
9	Plastic ladder type handle 91*40	YR40914040000	1	YR40914040000	1	YR40914040000	1
10	Rear top cover	-	1	-	1	-	1
11	Front top cover	-	1	-	1	-	1
12	Big hinge CL203-1 (left)	YW06203100400	2	YW06203100400	2	YW06203100400	2
13	Left outshell	-	1	-	1	-	1
14	Left outshell cover	-	1	-	1	-	1
15	Blower motor cover shell	-	1	-	1	-	1
16	Hinge CL253-2	YW06253200000	2	YW06253200000	2	YW06253200000	2
17	Door lock M-45-B	YW00004500000	1	YW00004500000	1	YW00004500000	1
18	Front door	-	1	-	1	-	1

Chart 2-18: Parts List of Shield Parts

No.	Name	SG-3048		SG-3060	
		Part No.	Quantity	Part No.	Quantity
1	Electric components box door plate	-	1	-	1
2	Long gear lock	YW00000000100	2	YW00000000100	2
3	Wiring board	-	1	-	1
4	Big hinge CL203-1 (right)	YW06203100200	2	YW06203100200	2
5	Electric components box base plate	-	1	-	1
6	Right outshell	-	1	-	1
7	Motor cover plate	-	1	-	1
8	Motor cover	-	1	-	1
9	Plastic ladder type handle 91×40	YR40914040000	1	YR40914040000	1
10	Rear top cover	-	1	-	1
11	Front top cover	-	1	-	1
12	Big hinge CL203-1(left)	YW06203100400	2	YW06203100400	2
13	Left outshell	-	1	-	1
14	Left outshell cover	-	1	-	1
15	Blower motor cover shell	-	1	-	1
16	Stainless steel hinge 3"	YW06000300000	2	YW06000300000	2
17	Door lock M-45-B	YW00004500000	1	YW00004500000	1
18	Front door	-	1	-	1

2.4 Circuit Diagram

2.4.1 Parameter Table (400V)

Mode	Symbol	(a)	(b)	(c)	(d1)	(d2)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
SG-3060		31.5	10	60	5	5	14-20	18	4.0	15	29	1.4-2	1.6	1.5	0.55	1.4	1.1-1.6	1.3	1.5	0.4	1.1
SG-3048		24.5	6.0	50	5	5	11-16	13.5	2.5	11	22	1.4-2	1.6	1.5	0.55	1.4	1.1-1.6	1.3	1.5	0.4	1.1
SG-2348		24.5	6.0	50	5	5	11-16	13.5	2.5	11	22	1.4-2	1.6	1.5	0.55	1.4	1.1-1.6	1.3	1.5	0.4	1.1
SG-2336		18.5	6.0	40	5	5	14-20	17.5	4.0	7.5	16	1.4-2	1.6	1.5	0.55	1.4	1.1-1.6	1.3	1.5	0.4	1.1
SG-2324		14.5	4.0	40	5	5	11-16	13.5	2.5	5.5	12	1.4-2	1.6	1.5	0.55	1.4	1.1-1.6	1.3	1.5	0.4	1.1

(a) Main current

(b) Main cable dia.

(c) Main breaker rated current

(d1) Feeding motor breaker rated current

(d2) De-dusting breaker rated current

(e) Granulating motor loader

(f) Granulating motor loader setting

(g) Granulating motor wire diameter

(h) Granulating motor power

(i) Granulating motor current

(j) Feeding motor loader

(k) Feeding motor loader setting

(l) Feeding motor wire diameter

(m) Feeding motor power

(n) Feeding motor current

(o) De-dusting motor loader

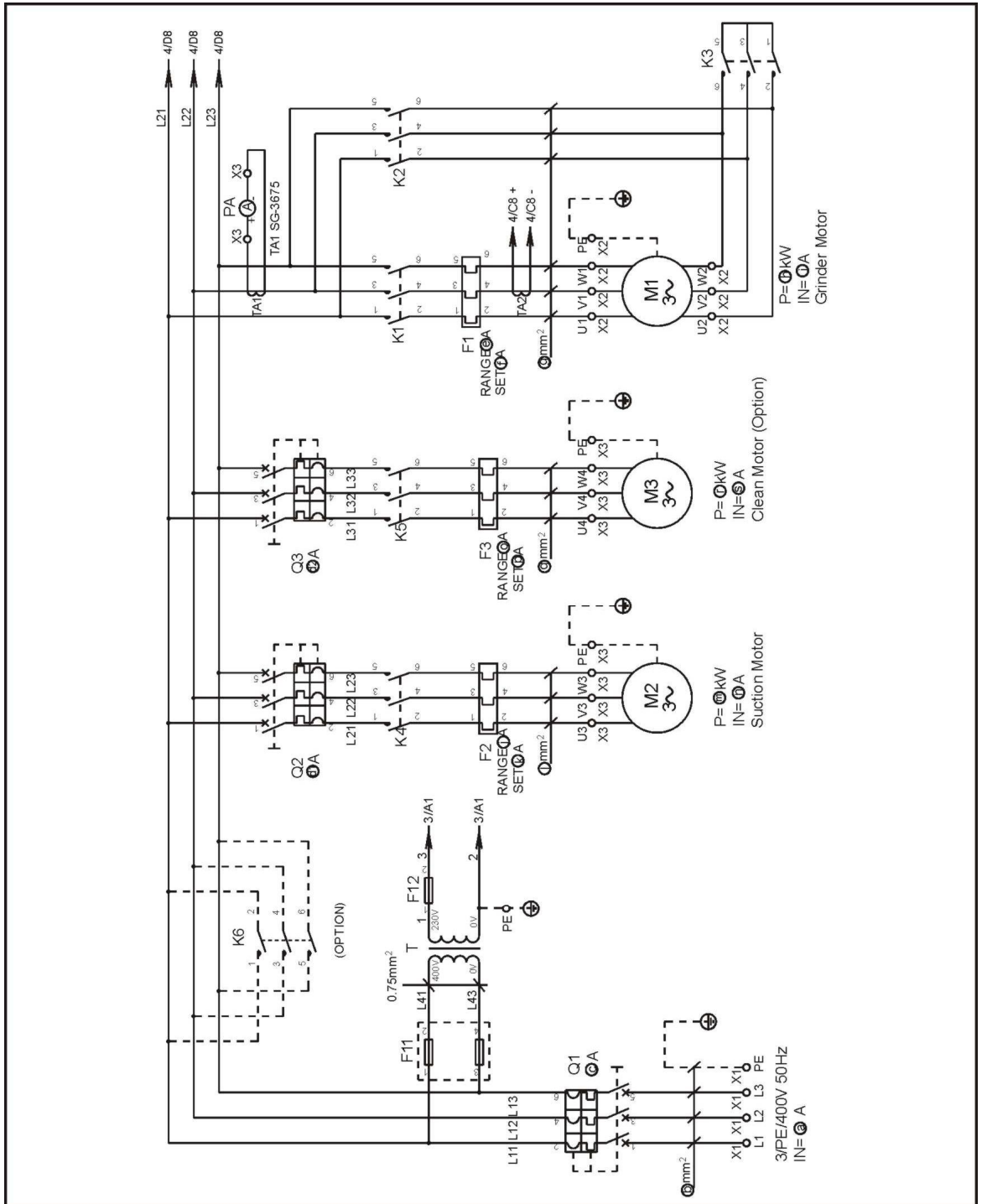
(p) De-dusting loader setting

(q) De-dusting motor wire diameter

(r) De-dusting motor power

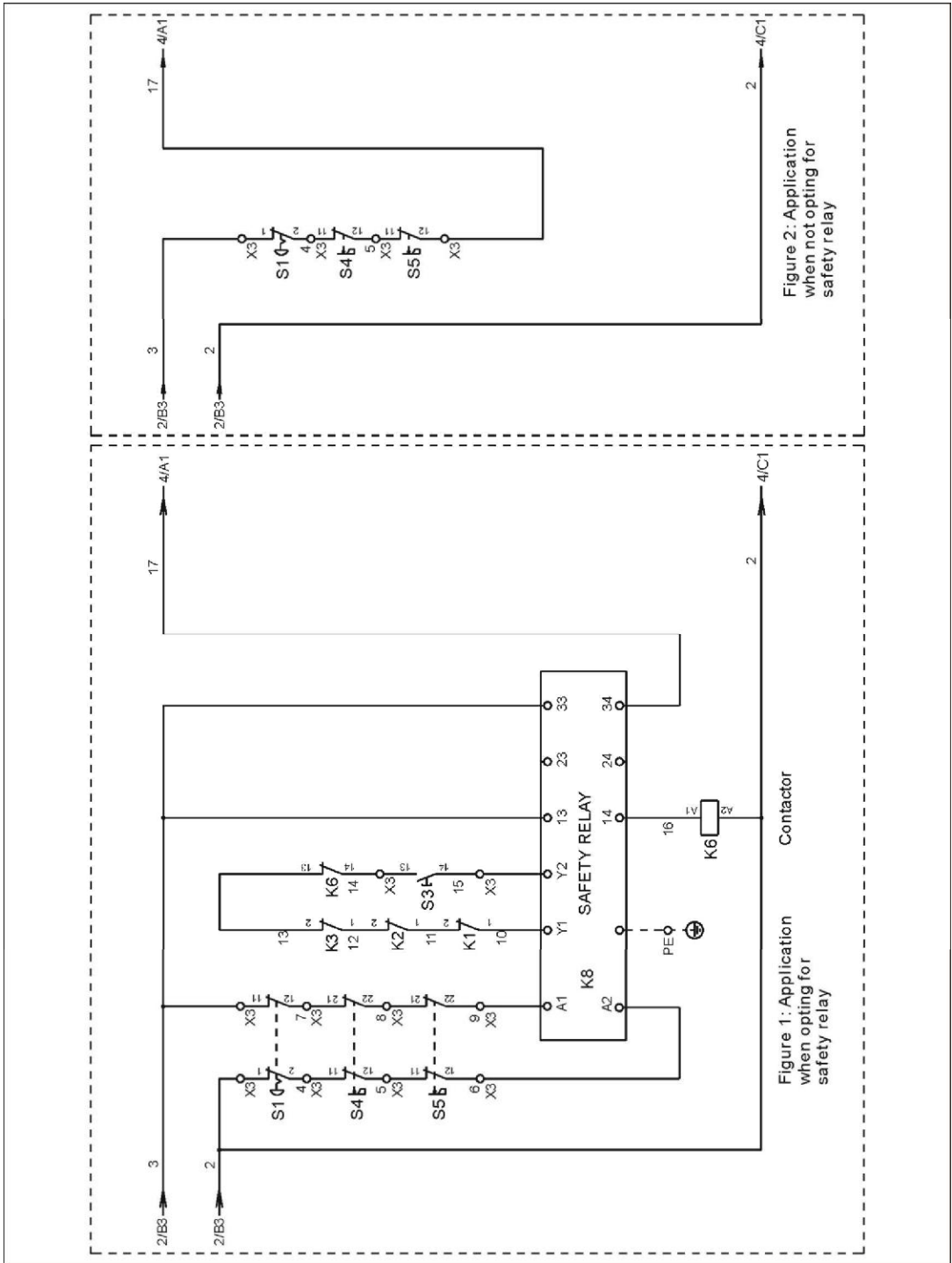
(s) De-dusting motor current

2.4.2 Main Circuit (SG-2348/30 400V)

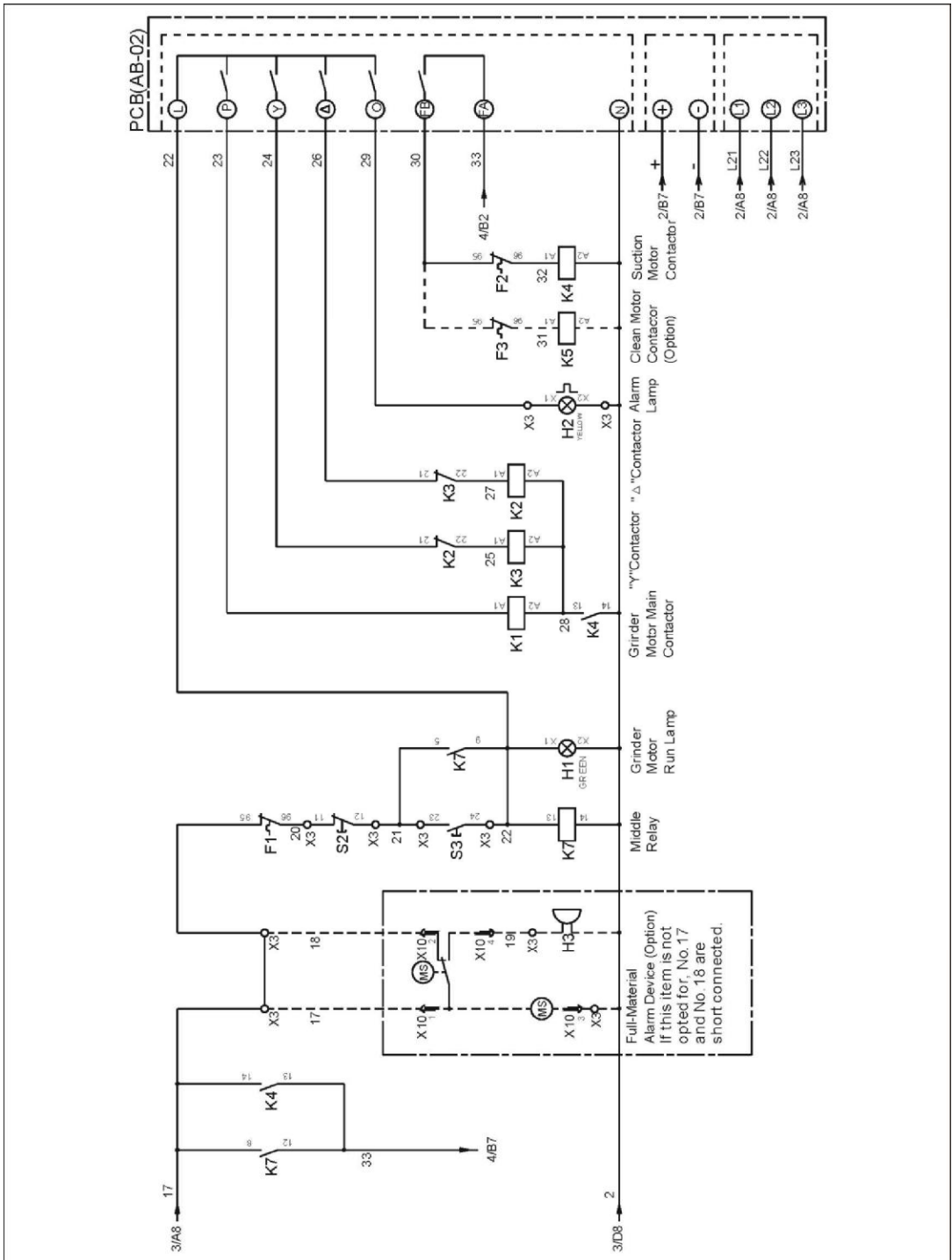


Picture 2-16: Main Circuit (SG-2348/30 400V)

2.4.3 Control Wiring Diagram (SG-2348/30 400V)

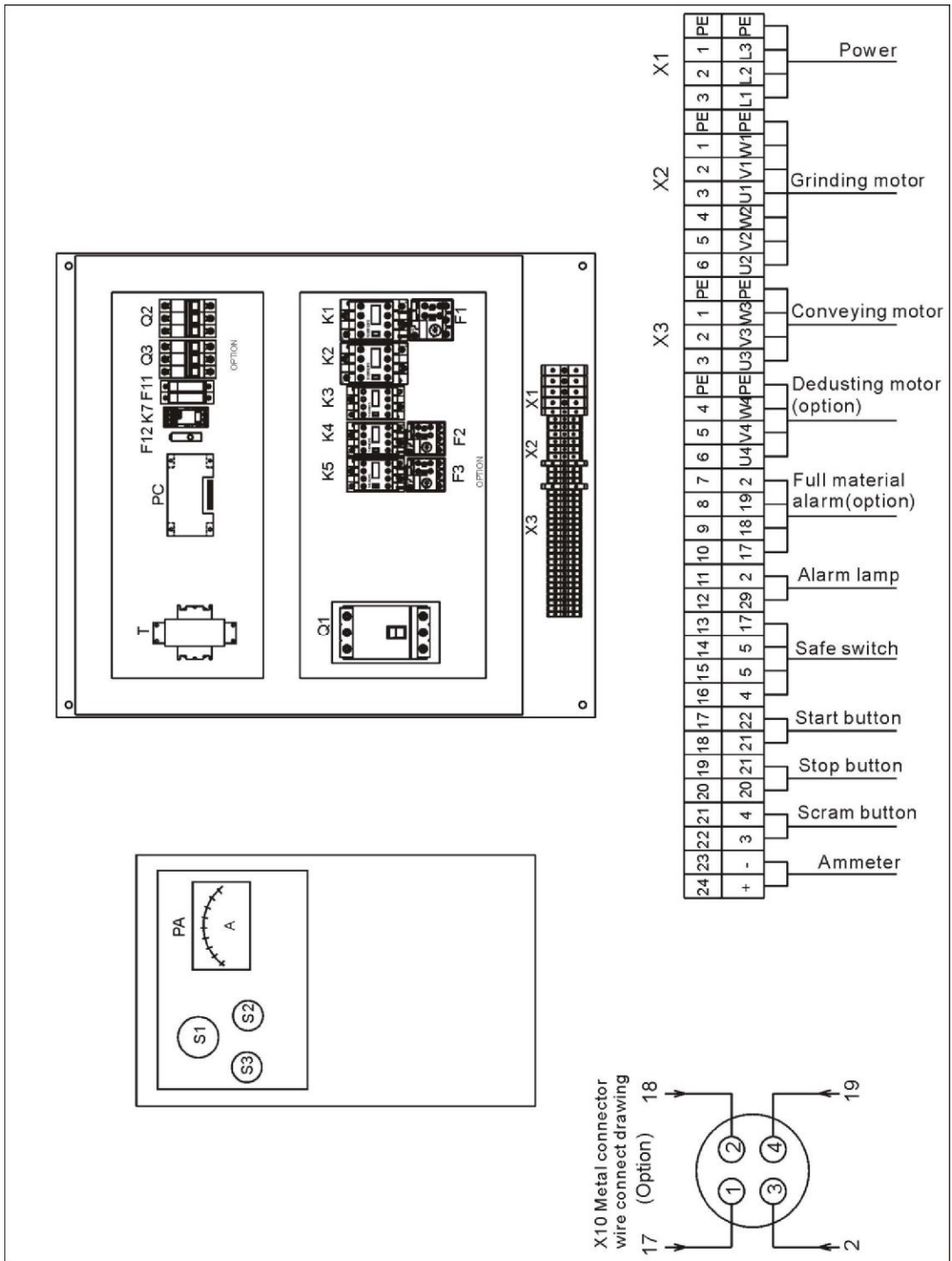


Picture 2-17: Control Wiring Diagram 1 (SG-2348/30 400V)

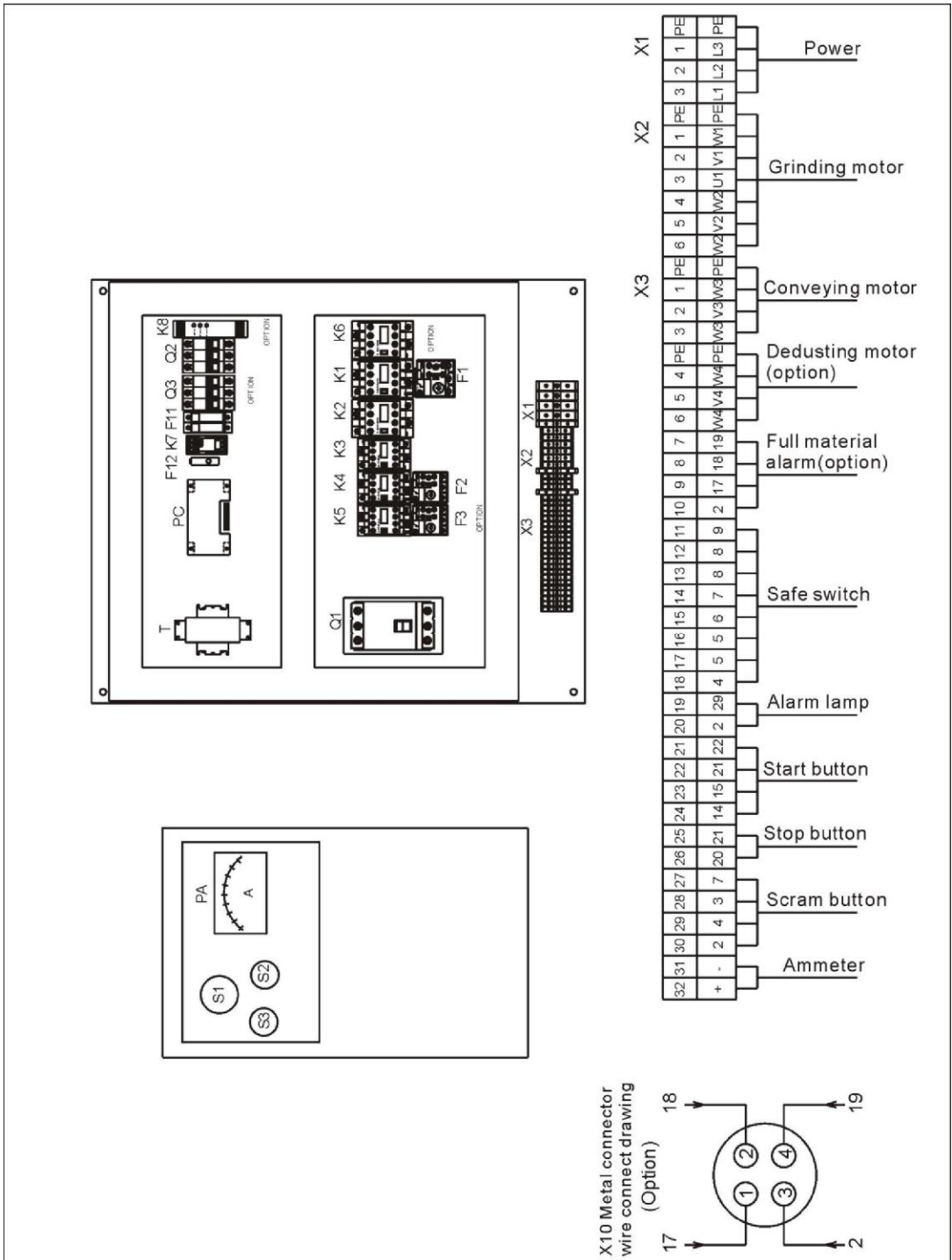


Picture 2-18: Control Wiring Diagram 2 (SG-2348/30 400V)

2.4.4 Electrical Components Layout (SG-2348/30 400V)



Picture 2-19: Electrical Components (No Safety Relay)(SG-2348/30 400V)



Picture 2-20: Electrical Components (Safety Relay is Optional)(SG-2348/30 400V)

2.4.5 Parts List of Electrical Components (SG-2348/3048 400V)

Chart 2-19: Parts List of Electrical Components (SG-2348/3048 400V)

NO.	Symbol	Name	Specification	Part NO.
1	Q1	Gate circuit breaker	50A	YE41105000000
2	Q2	Circuit breaker	5A	YE40603000000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contactator *	220V 50/60Hz	YE00602522000
5	K2	Contactator *	220V 50/60Hz	YE00602522000
6	-	Auxiliary contactor	1NO+1NC	YE00691100100
7	K3	Contactator *	220V 50/60Hz	YE00602422000
8	-	Auxiliary contactor	1NO+1NC	YE00691100100
9	K4	Contactator *	220V 50/60Hz	YE00601521000
10	-	Auxiliary contactor	1NO	YE00691110000
11	K5	Contactator *	220V 50/60Hz	YE00601521000
12	K6	Contactator *	220V 50/60Hz	YE00602722000
13	K7	Intermediate relay *	220VAC	YE03270700000
14	K8	Safety relay *	220VAC	YE04372100000
15	F1	Thermal overload relay *	11~16A	YE01260110000
16	F2	Thermal overload relay *	1.4~2A	YE01160140000
17	F3	Thermal overload relay *	1.1~1.6A	YE01160110000
18	F11	Fuse **	32A	YE41032200000
19	-	Fuse core **	1A	YE46001000100
20	F12	Fuse **	2A	YE41001000000
21	T	Transformer *	500mA	YE70402300800
22	X1	Terminal	6mm ²	YE61060000000
23	-	-	6mm ² PE	YE61063500000
24	X2	Terminal	2.5mm ²	YE61250040000
25	-	-	2.5mm ² PE	YE61253500000
26	X3	Terminal	4mm ²	YE61040000000
27	-	-	2.5mm ²	YE61040000000
28	-	-	2.5mm ² PE	YE61250040000

NO.	Symbol	Name	Specification	Part NO.
29	-	-	2.5mm ²	YE61040000000
30	-	-	2.5mm ² PE	YE61250040000
31	-	-	2.5mm ²	YE61040000000
32	-	-	2.5mm ²	YE61040000000
33	X10	Metal connector	4P	YE68025400000
34	-	-	4P	YE68025400100
35	PCB	Micro computer plate	220VAC	YE80022200100
36	S1	Emergency stop button	400VAC	YE11411000000
37	-	Touch piece	1NC	YE19001000100
38	S2	Stop button	400VAC	YE11113100000
39	S3 H1	Start button	400VAC	YE11100100000
40	S3 H1	Start button	400VAC	YE11142100000
41	S4 S5	Safety switch	AZ-15	YE16147600100
42	S4 S5	Safety switch	AZ-16	YE16147600000
43	H2	Alarm lamp	220VAC	YE83305100200
44	H3	Buzzer	220VAC	YE84222000000
45	MS	Material level switch	220VAC	YE15000200100
46	TA2	Current transformer	5-100A	-
47	PA	Ammeter	50A	YE25675000000
48	M1	Cutting machine	400V 50Hz 11kW	-
49	M2	Material suction blower*	400V 50Hz 0.55kW	-
50	M3	Dust-remving blower	400V 50Hz 0.4kW	-

* means possible broken parts.

** means easy broken part and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

Chart 2-20: Parts List (SG-3060 400V)

NO.	Symbol	Name	Specification	Part NO.
1	Q1	Gate circuit breaker	60A	YE41106000000
2	Q2	Circuit breaker	5A	YE40603000000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contact ^o r *	220V 50/60Hz	YE00602622000
5	K2	Contact ^o r *	220V 50/60Hz	YE00602622000
6	-	Auxiliary contact ^o r	1NO+1NC	YE00691100100
7	K3	Contact ^o r *	220V 50/60Hz	YE00602522000
8	-	Auxiliary contact ^o r	1NO+1NC	YE00691100100
9	K4	Contact ^o r *	220V 50/60Hz	YE00601521000
10	-	Auxiliary contact ^o r	1NO	YE00691110000
11	K5	Contact ^o r *	220V 50/60Hz	YE00601521000
12	K6	Contact ^o r *	220V 50/60Hz	YE00602822000
13	K7	Intermediate relay *	220VAC	YE03270700000
14	K8	Safety relay *	220VAC	YE04372100000
15	F1	Thermal overload relay *	14~20A	YE01160140000
16	F2	Thermal overload relay *	1.4~2A	YE01160140000
17	F3	Thermal overload relay *	1.1~1.6A	YE01160110000
18	F11	Fuse **	32A	YE41032200000
19	-	Fuse core **	1A	YE46001000100
20	F12	Fuse **	2A	YE41001000000
21	T	Transformer *	500mA	YE70402300800
22	X1	Terminal	10mm ²	YE61100000000
23	-	-	10mm ² PE	YE61103500000
24	X2	Terminal	4mm ²	YE61040000000
25	-	-	4mm ² PE	YE61043500000
26	X3	Terminal	6mm ²	YE61060000000
27	-	-	2.5mm ²	YE61040000000
28	-	-	2.5mm ² PE	YE61250040000
29	-	-	2.5mm ²	YE61040000000

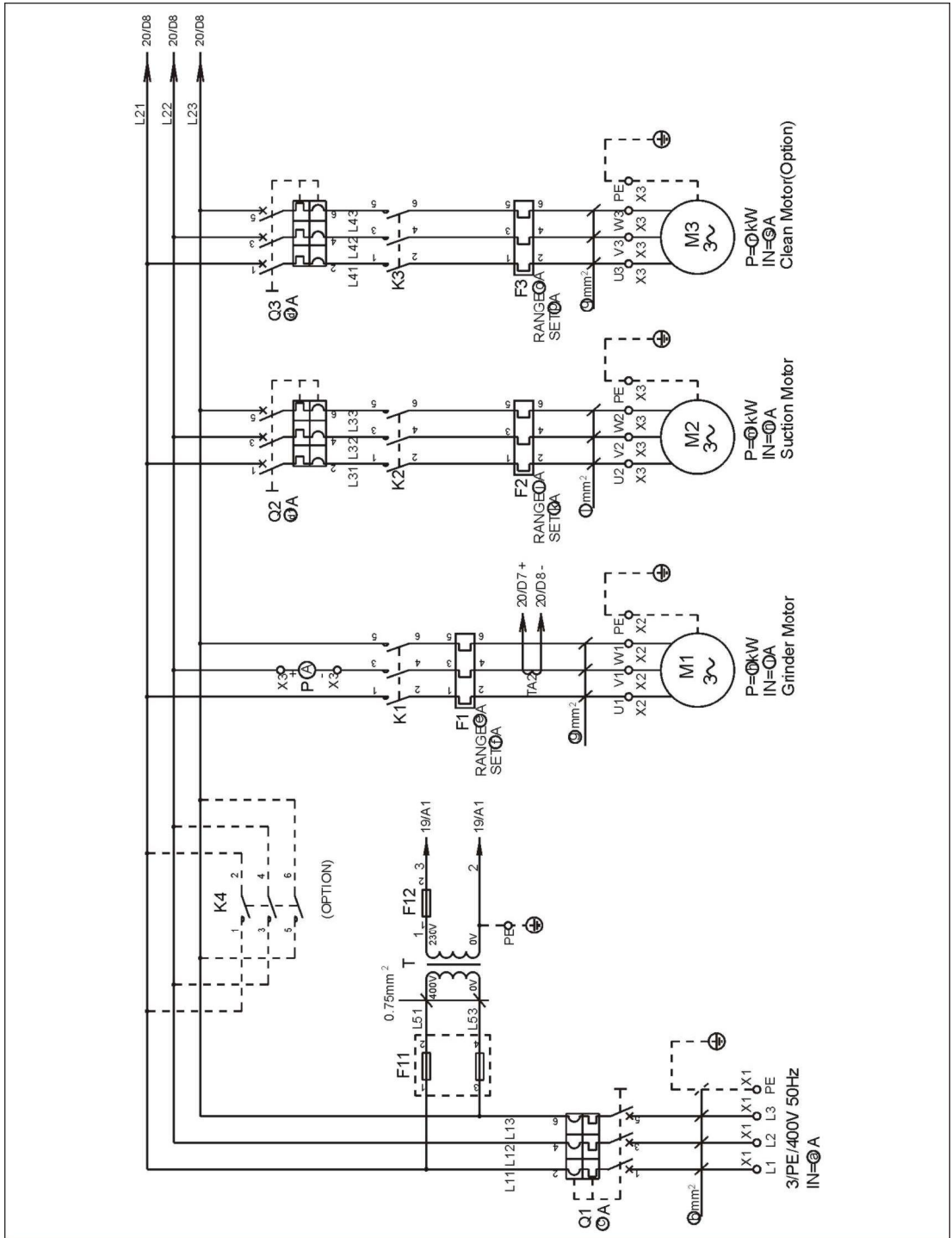
NO.	Symbol	Name	Specification	Part NO.
30	-	-	2.5mm ² PE	YE61250040000
31	-	-	2.5mm ²	YE61040000000
32	-	-	2.5mm ²	YE61040000000
33	X10	Metal connector	4P	YE68025400000 YE68025400100
34	PCB	Micro computer plate	220VAC	YE80022200100
35	S1	Emergency stop button	400VAC	YE11411000000
36	-	Touch piece	1NC	YE19001000100
37	S2	Stop button	400VAC	YE11113100000
38	S3 H1	Start button	400VAC	YE11100100000
39	S3 H1	Start button	400VAC	YE11142100000
40	S4 S5	Safety switch	AZ-15	YE16147600100
41	S4 S5	Safety switch	AZ-16	YE16147600000
42	H2	Alarm lamp	220VAC	YE83305100200
43	H3	Buzzer	220VAC	YE84222000000
44	MS	Material level switch	220VAC	YE15000200100
45	TA2	Current transformer	5-100A	-
46	PA	Ammeter	50A	YE25675000000
47	M1	Cutting machine	400V 50Hz 15kW	-
48	M2	Material suction blower *	400V 50Hz 0.55kW	-
49	M3	Dust-remving blower	400V 50Hz 0.4kW	-

* means possible broken parts.

** means easy broken part and spare backup is suggested.

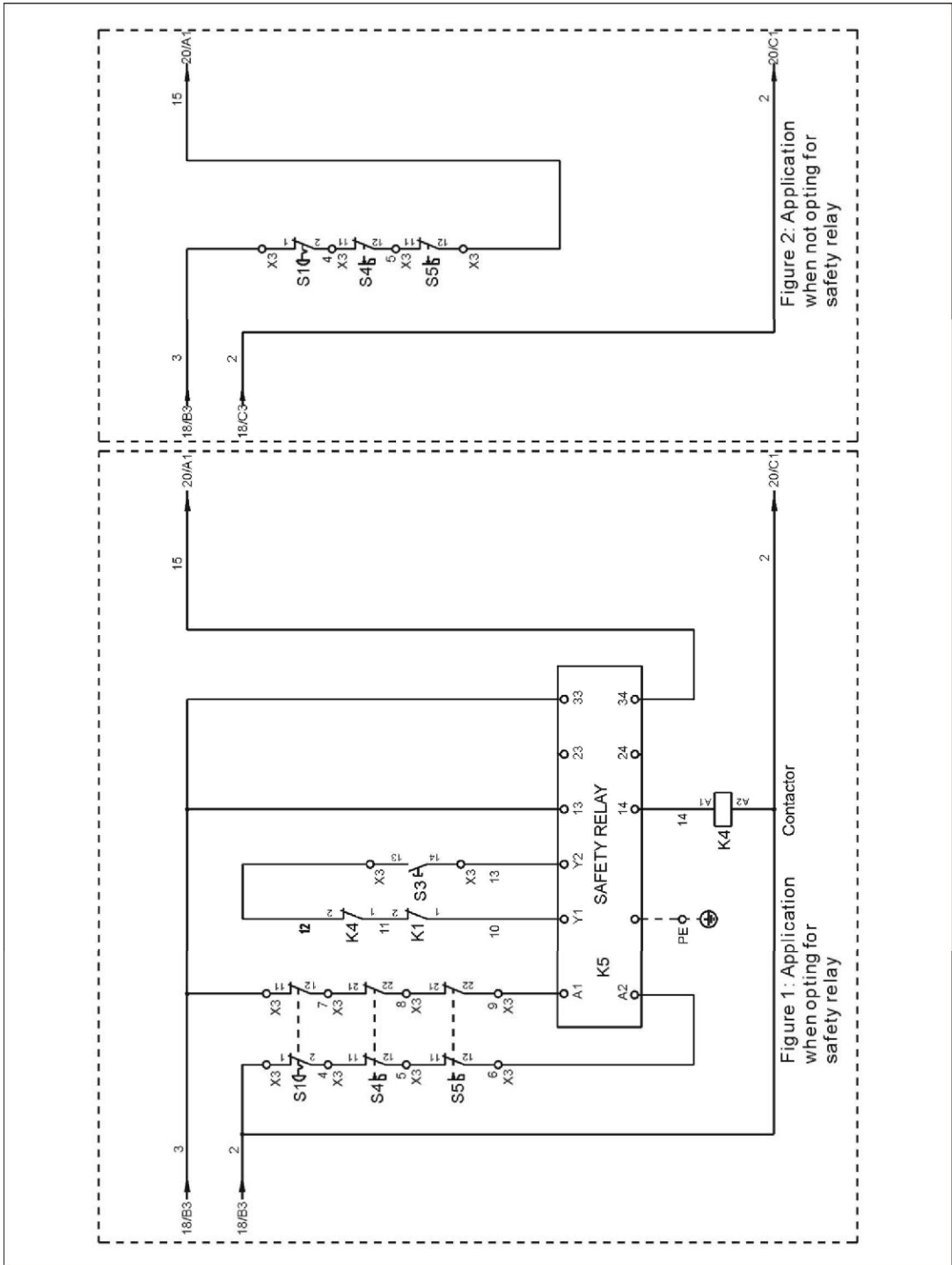
Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

2.4.6 Main Circuit (SG-23 400V)

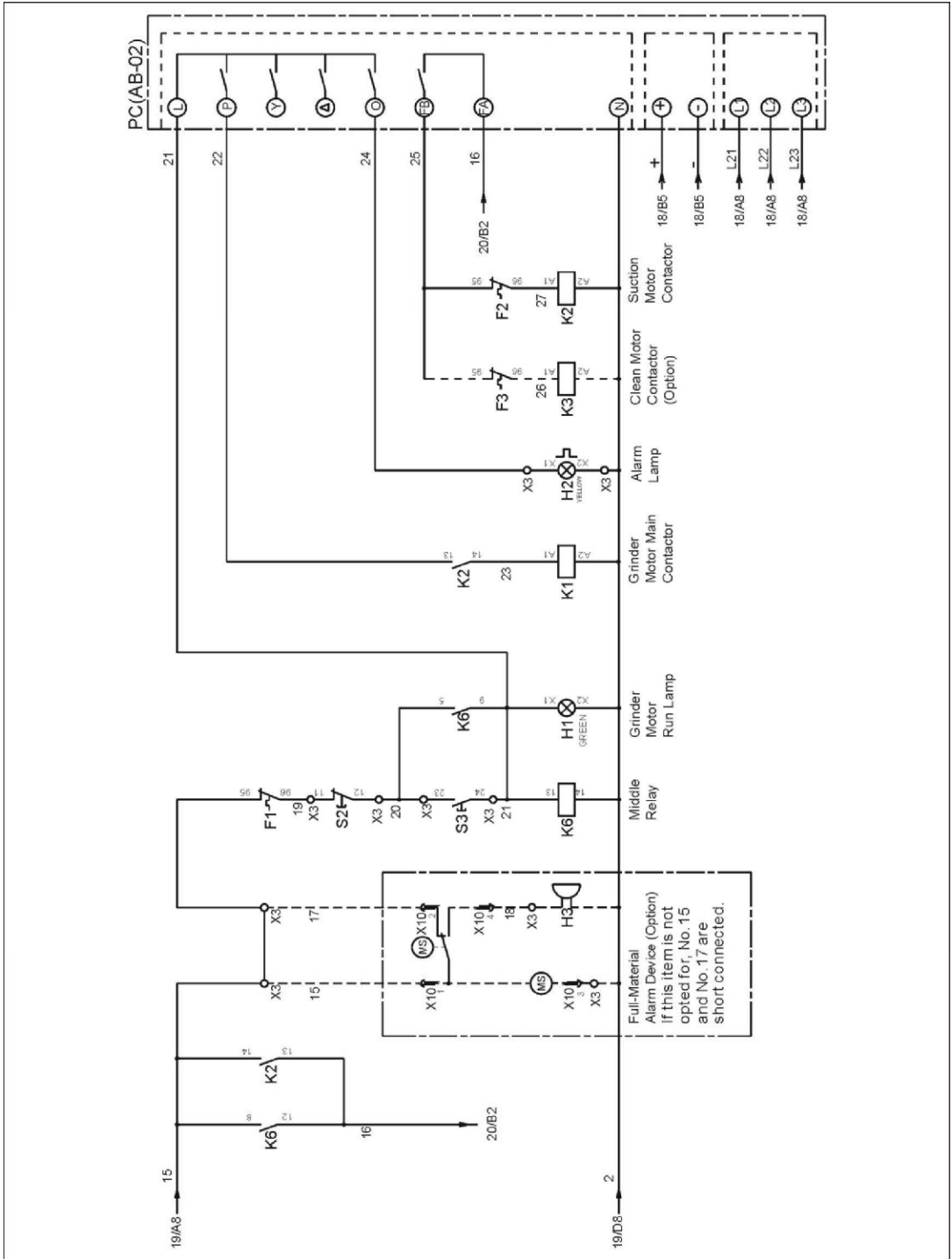


Picture 2-21: Main Circuit (SG-23 400V)

2.4.7 Control Wiring Diagram (SG-23 400V)

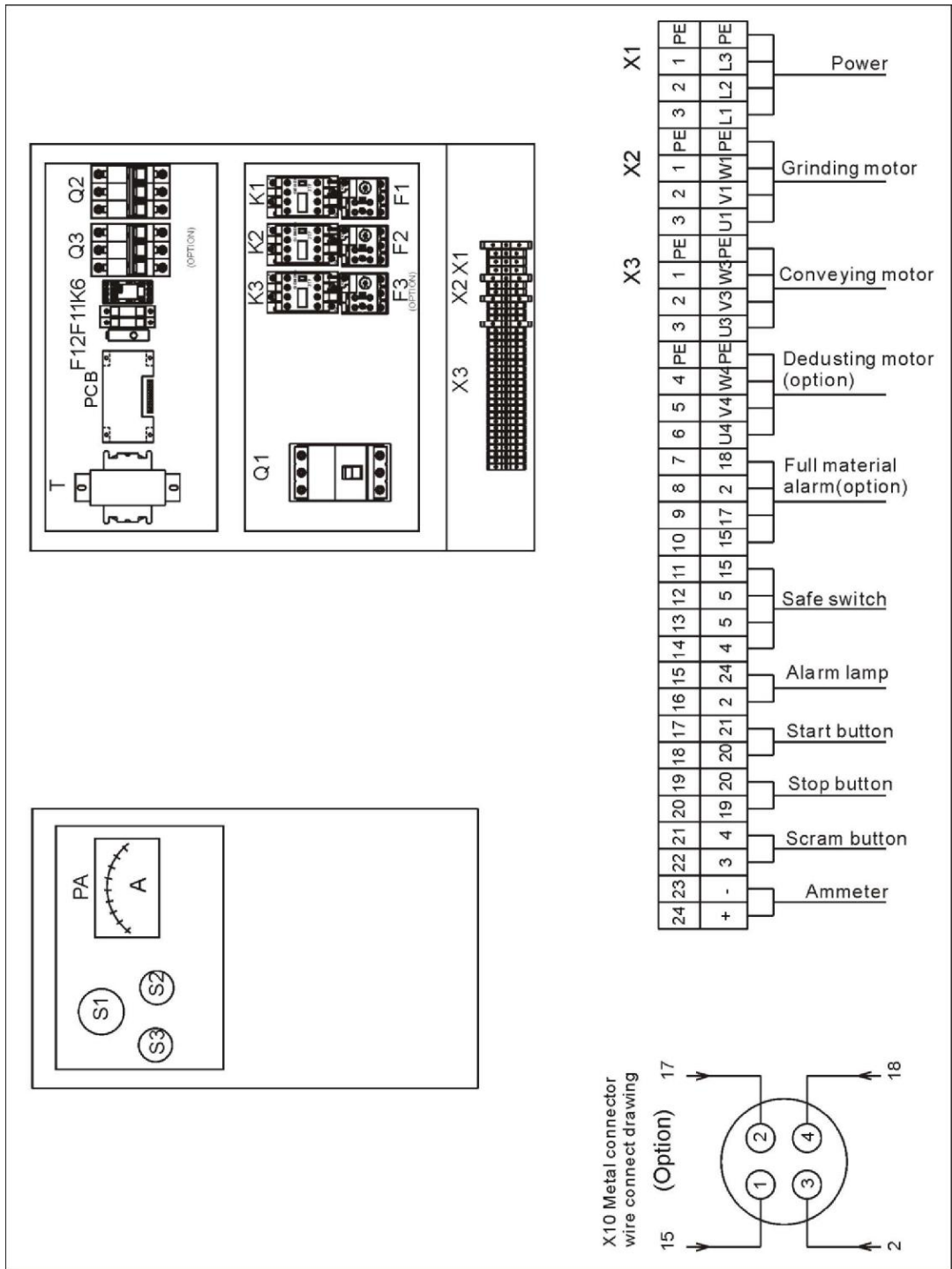


Picture 2-22: Control Wiring Diagram 1 (SG-23 400V)

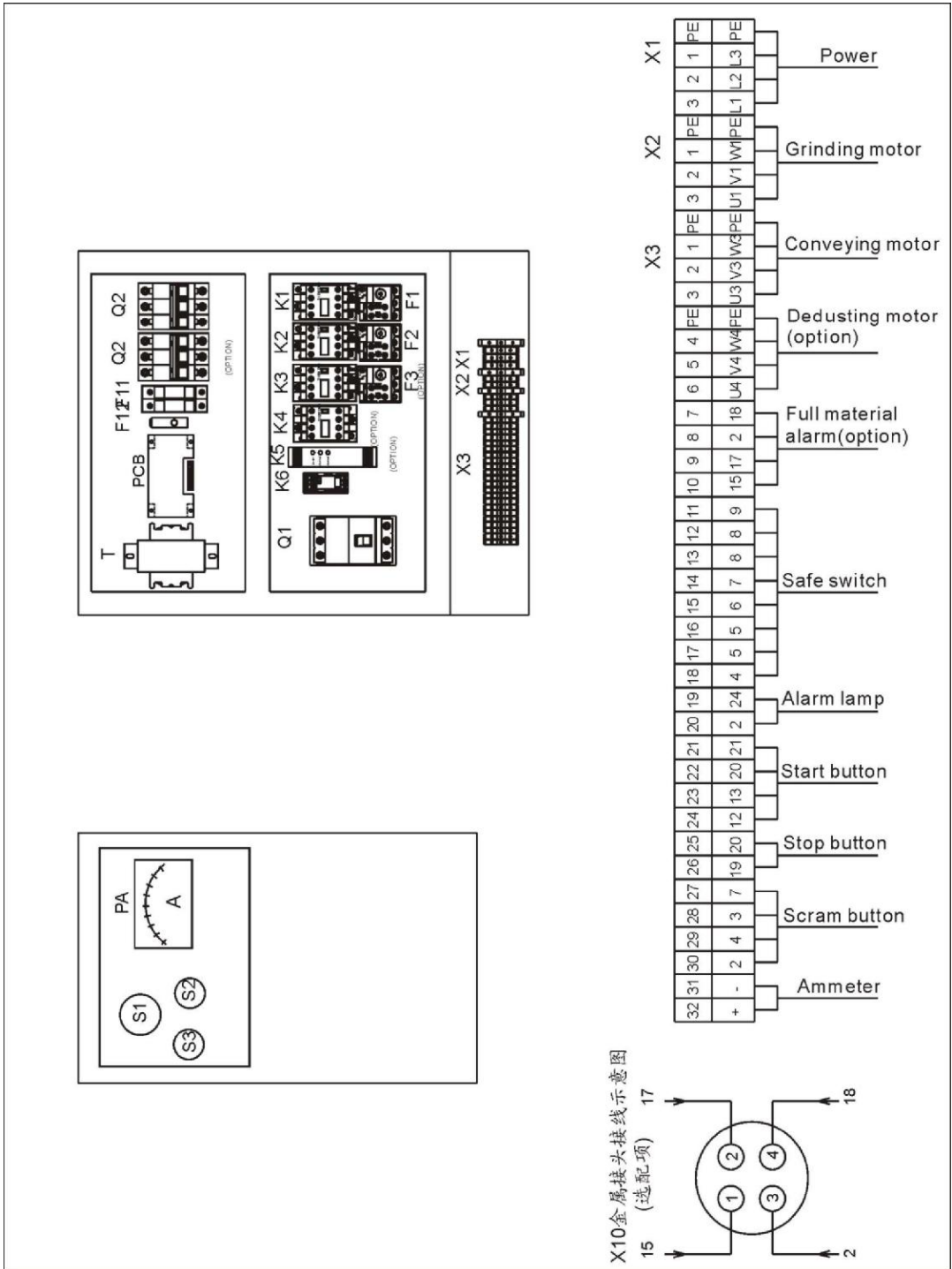


Picture 2-23: Control Wiring Diagram 2 (SG-23 400V)

2.4.8 Electrical Components Layout (SG-23 400V)



Picture 2-24: Electrical Components (No Safety Relay) (SG-23 400V)



Picture 2-25: Electrical Components (Safety Relay is Optional) (SG-23 400V)

2.4.9 Electrical Components List (SG-23 400V)

Chart 2-21: Parts List of Electrical Components (SG-2324 400V)

NO.	Symbol	Name	Specification	Part NO.
1	Q1	Gate circuit breaker	40A	YE41104000000
2	Q2	Circuit breaker	5A	YE40603000000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contact [*]	220V 50/60Hz	-
5	K2	Contact [*]	220V 50/60Hz	YE00601521000
6	-	Auxiliary contact [*]	1NO+1NC	YE00691110000
7	K3	Contact [*]	220V 50/60Hz	YE00601521000
8	K4	Contact [*]	220V 50/60Hz	-
9	K7	Intermediate relay [*]	220VAC	YE03270700000
10	K8	Safety relay [*]	220VAC	YE04372100000
11	F1	Thermal overload relay [*]	11~16A	YE01611640000
12	F2	Thermal overload relay [*]	1.4~2A	YE01160140000
13	F3	Thermal overload relay [*]	1.1~1.6A	YE01160110000
14	F11	Fuse ^{**}	32A	YE41032200000
15	-	Fuse core ^{**}	1A	YE46001000100
16	F12	Fuse ^{**}	2A	YE41001000000
17	T	Transformer [*]	350mA	YE70402300800
18	X1	Terminal	4mm ²	YE61040000000
19	-	-	4mm ² PE	YE61043500000
20	X2	Terminal	2.5mm ²	YE61250040000
21	-	-	2.5mm ² PE	YE61253500000
22	X3	Terminal	2.5mm ²	YE61250040000
23	-	-	2.5mm ² PE	YE61253500000
24	-	-	2.5mm ²	YE61250040000
25	-	-	2.5mm ² PE	YE61253500000
26	-	-	2.5mm ²	YE61250040000
27	-	-	2.5mm ²	YE61250040000
28	X10	Metal connector	4P	YE68025400000

NO.	Symbol	Name	Specification	Part NO.
29	-	-	4P	YE68025400100
30	PCB	Micro computer plate	220VAC	YE80022200100
31	S1	Emergency stop button	400VAC	YE11411000000
32	-	Touch piece	1NC	YE19001000100
33	S2	Stop button	400VAC	YE11113100000
34	S3 H1	Start button	400VAC	YE11100100000
35	S3 H1	Start button	400VAC	YE11142100000
36	S4 S5	Safety switch	AZ-15	YE16147600100
37	S4 S5	Safety switch	AZ-16	YE16147600000
38	H2	Alarm lamp	220VAC	YE83305100200
39	H3	Buzzer	220VAC	YE84222000000
40	MS	Material level switch	220VAC	YE15000200100
41	TA2	Current transformer	5-100A	-
42	PA	Ammeter	30A	YE25673000000
43	M1	Cutting machine	400V 50Hz 5.5kW	-
44	M2	Material suction blower *	400V 50Hz 0.55kW	-
45	M3	Dust-remving blower	400V 50Hz 0.4kW	-

* means possible broken parts; ** means easy broken part and spare backup is suggested. Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

Chart 2-22: Parts List of Electrical Components (SG-2336 400V)

NO.	Symbol	Name	Specification	Part NO.
1	Q1	Gate circuit breaker	40A	YE41104000000
2	Q2	Circuit breaker	5A	YE40603000000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contact ^o r *	220V 50/60Hz	YE00602622000
5	K2	Contact ^o r *	220V 50/60Hz	YE00691110000
6	-	Auxiliary contact ^o r	1NO+1NC	YE00601521000
7	K3	Contact ^o r *	220V 50/60Hz	YE00601521000
8	K4	Contact ^o r *	220V 50/60Hz	YE00602622000
9	K7	Intermediate relay *	220VAC	YE03270700000
10	K8	Safety relay *	220VAC	YE04372100000
11	F1	Thermal overload relay *	14~20A	YE01260140000
12	F2	Thermal overload relay *	1.4~2A	YE01160140000
13	F3	Thermal overload relay *	1.1~1.6A	YE01160110000
14	F11	Fuse **	32A	YE41032200000
15	-	Fuse core **	1A	YE46001000100
16	F12	Fuse **	2A	YE41001000000
17	T	Transformer *	350mA	YE70402300800
18	X1	Terminal	6mm ²	YE61060000000
19	-	-	6mm ² PE	YE61063500000
20	X2	Terminal	4mm ²	YE61040000000
21	-	-	4mm ² PE	YE61043500000
22	X3	Terminal	4mm ²	YE61040000000
23	-	-	2.5mm ²	YE61250040000
24	-	-	2.5mm ² PE	YE61253500000
25	-	-	2.5mm ²	YE61250040000
26	-	-	2.5mm ² PE	YE61253500000
27	-	-	2.5mm ²	YE61250040000
28	-	-	2.5mm ²	YE61250040000
29	X10	Metal connector	4P	YE68025400000

NO.	Symbol	Name	Specification	Part NO.
30	-	-	4P	YE68025400100
31	PCB	Micro computer plate	220VAC	YE80022200100
32	S1	Emergency stop button	400VAC	YE11411000000
33	-	Touch piece	1NC	YE19001000100
34	S2	Stop button	400VAC	YE11113100000
35	S3 H1	Start button	400VAC	YE11100100000
36	S3 H1	Start button	400VAC	YE11142100000
37	S4 S5	Safety switch	AZ-15	YE16147600100
38	S4 S5	Safety switch	AZ-16	YE16147600000
39	H2	Alarm lamp	220VAC	YE83305100200
40	H3	Buzzer	220VAC	YE84222000000
41	MS	Material level switch	220VAC	YE15000200100
42	TA2	Current transformer	5-100A	-
43	PA	Ammeter	30A	YE25673000000
44	M1	Cutting machine	400V 50Hz 4kW	-
45	M2	Material suction blower *	400V 50Hz 0.55kW	-
46	M3	Dust-remving blower	400V 50Hz 0.4kW	-

* means possible broken parts; ** means easy broken part and spare backup is suggested. Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

2.4.10 Parameter Table (SG-2348/30 230V)

Mode \ Symbol	(a)	(b)	(c)	(d1)	(d2)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
SG-3060	61.4	25	125	10	5	28-40	31	10.0	15	57	2.2-3.2	2.8	1.5	0.55	2.5	1.8-2.5	2.1	1.5	0.4	1.9
SG-3048	47.4	16	100	10	5	20-25	23	6.0	11	43	2.2-3.2	2.8	1.5	0.55	2.5	1.8-2.5	2.1	1.5	0.4	1.9
SG-2348	47.4	16	100	10	5	20-25	23	6.0	11	43	2.2-3.2	2.8	1.5	0.55	2.5	1.8-2.5	2.1	1.5	0.4	1.9
SG-2336	33.4	6.0	63	10	5	30-36	31	6.0	7.5	29	2.2-3.2	2.8	1.5	0.55	2.5	1.8-2.5	2.1	1.5	0.4	1.9
SG-2324	26.4	6.0	50	10	5	20-25	24	6.0	5.5	22	2.2-3.2	2.8	1.5	0.55	2.5	1.8-2.5	2.1	1.5	0.4	1.9

(a) Main current

(b) Main cable dia.

(c) Main breaker rated current

(d1) Feeding motor breaker rated current

(d2) De-dusting breaker rated current

(e) Granulating motor loader

(f) Granulating motor loader setting

(g) Granulating motor wire diameter

(h) Granulating motor power

(i) Granulating motor current

(j) Feeding motor loader

(k) Feeding motor loader setting

(l) Feeding motor wire diameter

(m) Feeding motor power

(n) Feeding motor current

(o) De-dusting motor loader

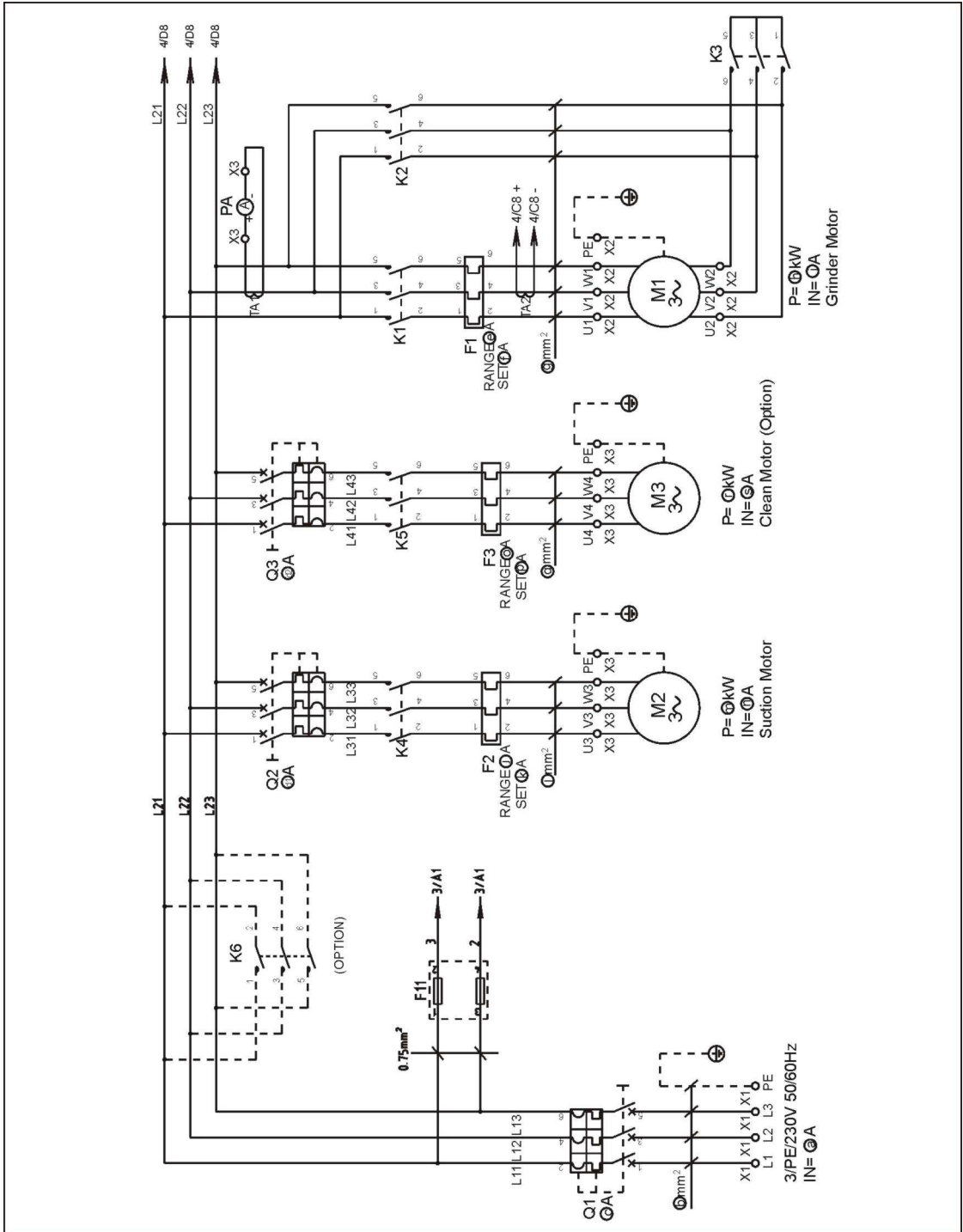
(p) De-dusting loader setting

(q) De-dusting motor wire diameter

(r) De-dusting motor power

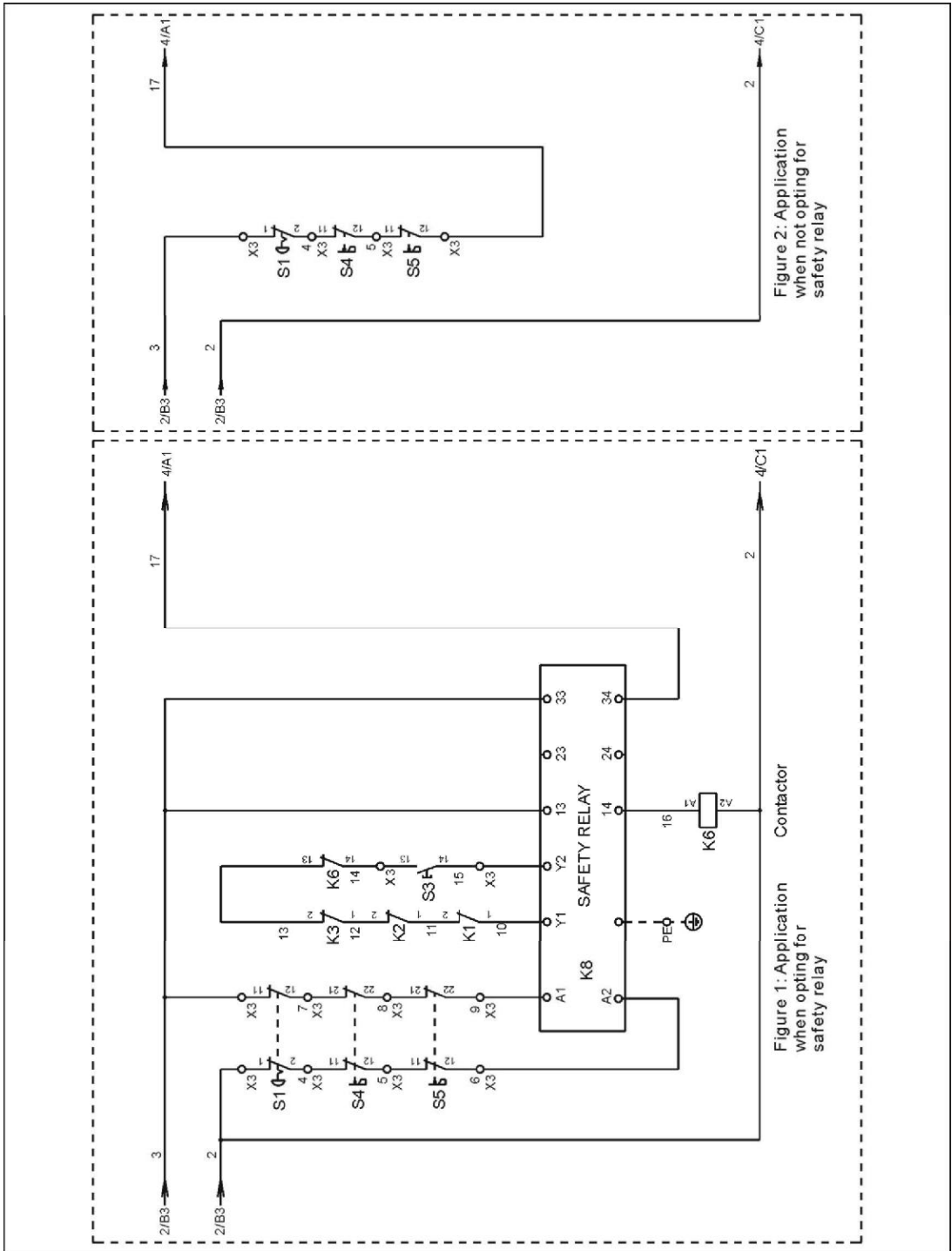
(s) De-dusting motor current

2.4.11 Main Circuit (SG-2348/30 230V)

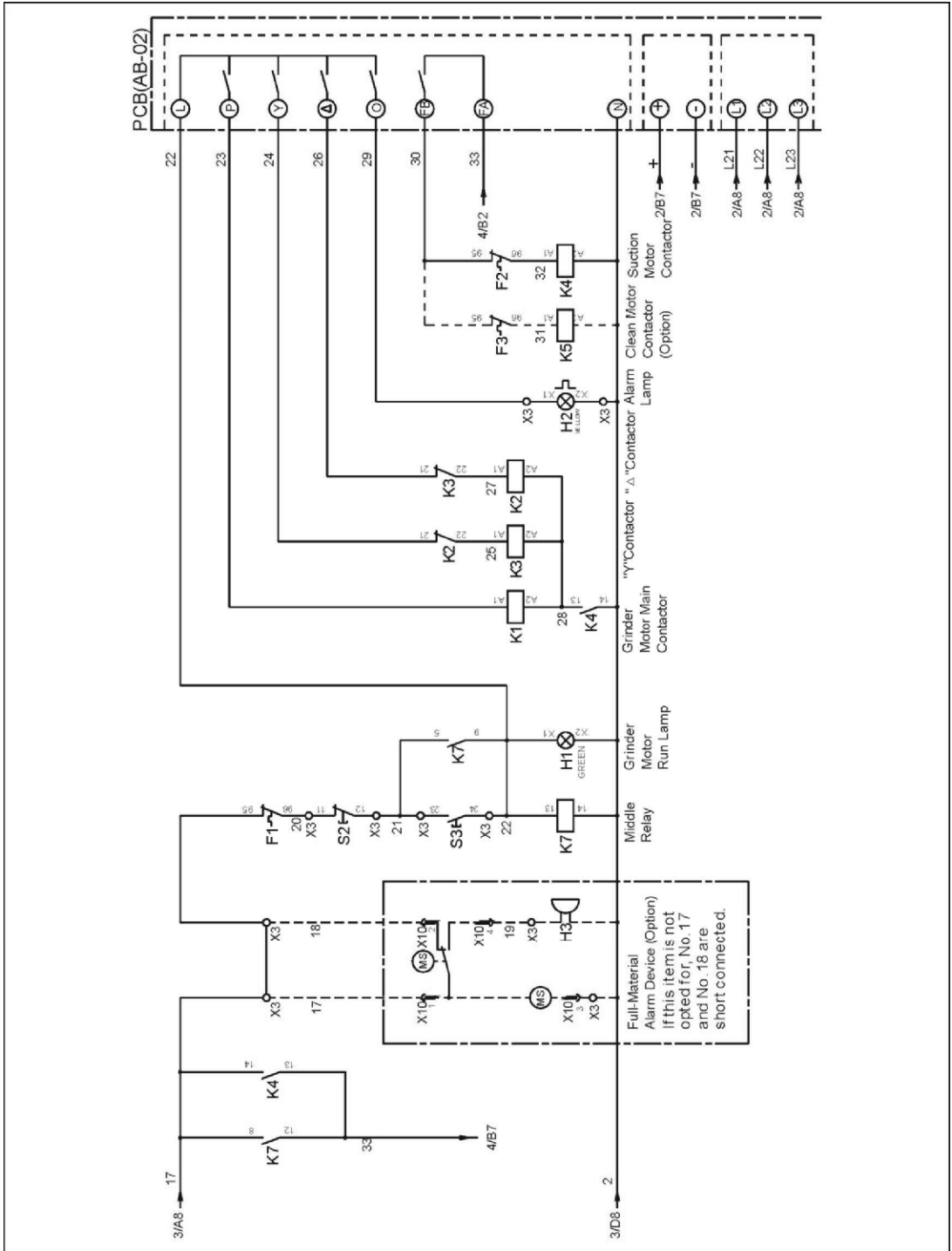


Picture 2-26: Main Circuit (SG-2348/30 230V)

2.4.12 Control Wiring Diagram (SG-2348/30 230V)

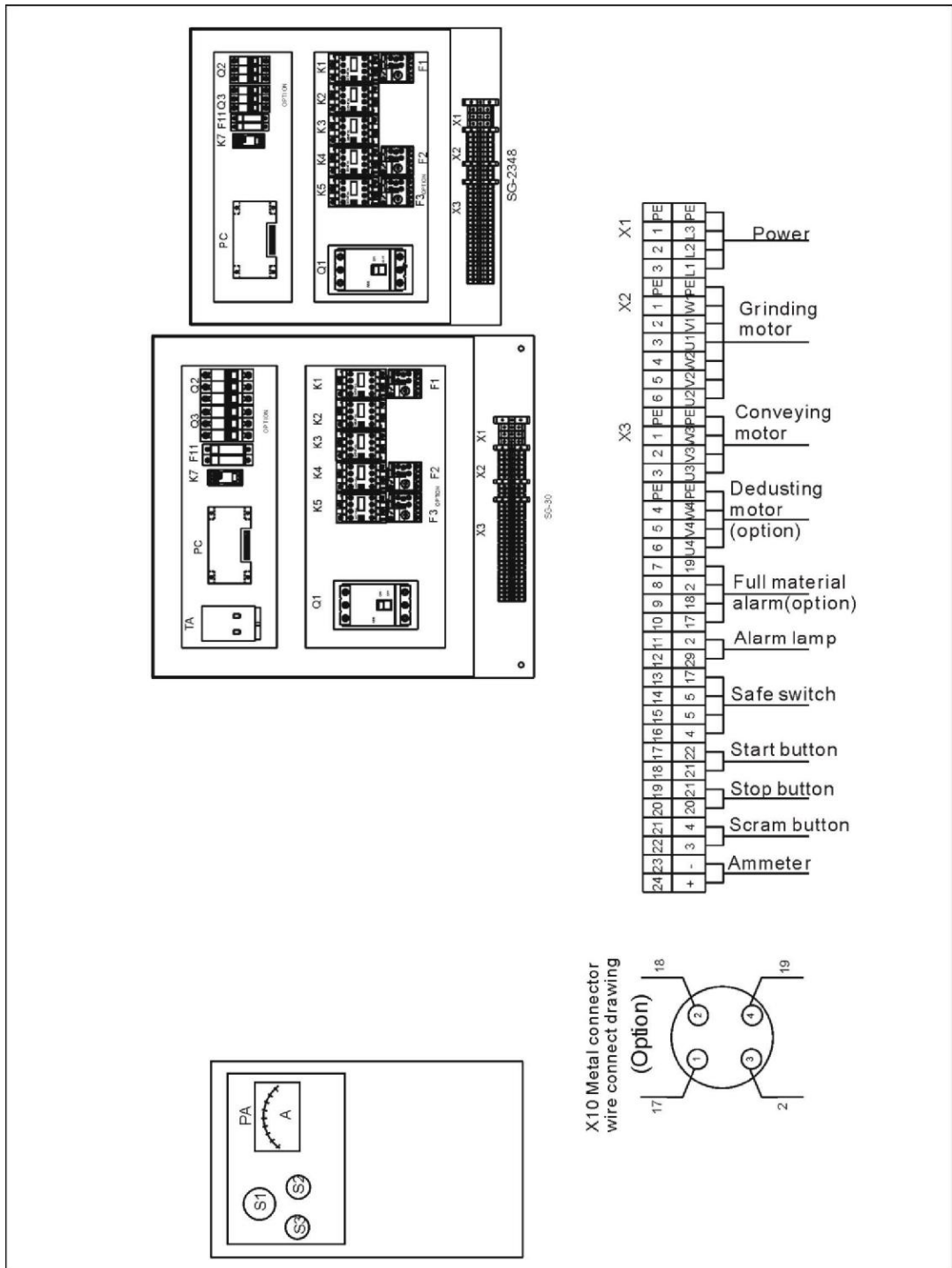


Picture 2-27: Control Wiring Diagram 1 (SG-2348/30 230V)

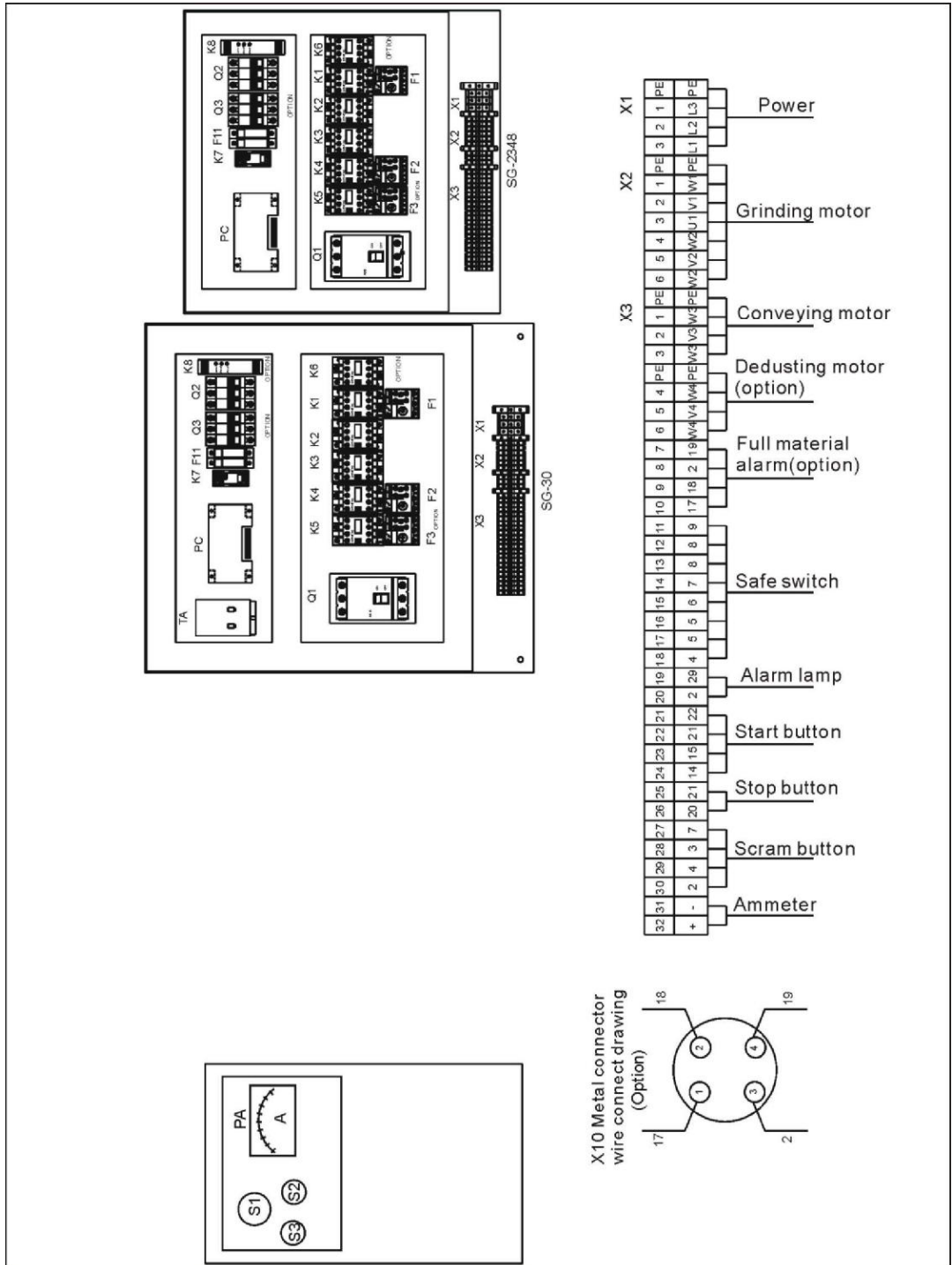


Picture 2-28: Control Wiring Diagram 2 (SG-2348/30 230V)

2.4.13 Electrical Components Layout (SG-2348/30 230V)



Picture 2-29: Electrical Components Layout (No Safety Relay)(SG-2348/30 230V)



Picture 2-30: Electrical Components Layout (Safety Relay is optional)(SG-2348/30 230V)

2.4.14 Parts List of Electrical Components (SG-2348/3048 230V)

Chart 2-23: Parts List of Electrical Components (SG-2348/3048 230V)

NO.	Symbol	Name	Specification	Part NO.
1	Q1	Gate circuit breaker	100A	YE4111000000
2	Q2	Circuit breaker	10A	YE40600300000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Circuit breaker *	220V 50/60Hz	YE00602722000
5	K2	Circuit breaker *	220V 50/60Hz	YE00602722000
6	-	Auxiliary contactor	1NO+1NC	YE00691100100
7	K3	Contactor *	220V 50/60Hz	YE00602622000
8	-	Auxiliary contactor	1NO+1NC	YE00691100100
9	K4	Contactor *	220V 50/60Hz	YE00601521000
10	-	Auxiliary contactor	1NO	YE00691110000
11	K5	Contactor *	220V 50/60Hz	YE00601521000
12	K6	Contactor *	220V 50/60Hz	YE00503600000
13	-	Auxiliary contactor	1NO	YE00592110100
14	K7	Intermediate relay *	220VAC	YE03270700000
15	K8	Safety relay *	220VAC	YE04372100000
16	F1	Thermal overload relay *	20~25A	YE01260200000
17	F2	Thermal overload relay *	2.2~3.2A	YE01160220000
18	F3	Thermal overload relay *	1.8~2.5A	YE01160180000
19	F11	Fuse **	2P	YE41032200000
20	-	Fuse core **	2A	YE46002000100
21	X1	Terminal	16mm ²	YE61160000000
22	-	-	16mm ² PE	YE61163500000
23	X2	Terminal	6mm ²	YE61060000000
24	-	-	6mm ² PE	YE61063500000
25	X3	Terminal	10mm ²	YE61100000000
27	-	-	2.5mm ²	YE61040000000
28	-	-	2.5mm ² PE	YE61250040000
29	-	-	2.5mm ² PE	YE61250040000

NO.	Symbol	Name	Specification	Part NO.
30	-	-	2.5mm ²	YE61040000000
31	-	-	2.5mm ²	YE61040000000
32	S1	Emergency stop button	400VAC	YE11411000000
33	-	Touch piece	1NC	YE19001000100
34	S2	Stop button	400VAC	YE11113100000
35	S3 H1	Start button	400VAC	YE11100100000
36	S3 H1	Start button	400VAC	YE11142100000
37	S4 S5	Safety switch	AZ-15	YE16147600100
38	S4 S5	Safety switch	AZ-16	YE16147600000
39	H2	Alarm lamp	220VAC	YE83305100200
40	H3	Buzzer	220VAC	YE84222000000
41	MS	Material level switch	220VAC	YE15000200100
42	TA2	Current transformer	5-100A	-
43	PA	Ammeter	50A	YE25675000000
44	X10	Metal connector	4P	YE68025400000 YE68025400100
45	M1	Granulating motor	400V 50Hz 11kW	-
46	M2	Material suction blower *	400V 50Hz 0.55kW	-
47	M3	Dust-remving blower	400V 50Hz 0.4kW	-
48	PCB	Micro computer plate	220VAC	YE80022200100

* means possible broken parts; ** means easy broken part and spare backup is suggested. Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

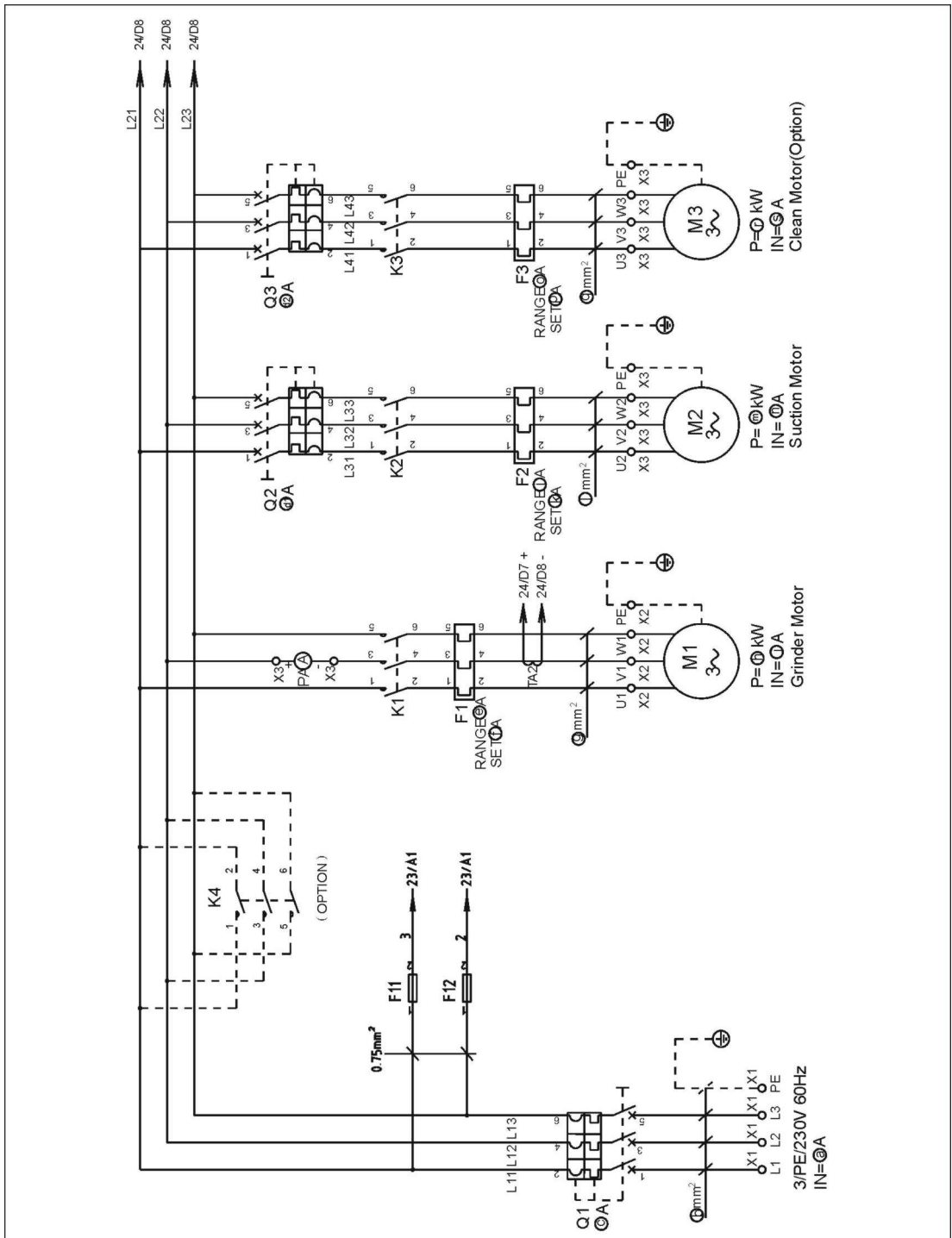
Chart 2-24: Parts List of Electrical Components (SG-3060 230V)

NO.	Symbol	Name	Specification	Part NO.
1	Q1	Gate circuit breaker	125A	YE41161200000
2	Q2	Circuit breaker	10A	YE40600300000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contact [*]	220V 50/60Hz	YE00503500000
5	-	Auxiliary contact [*]	1NC	YE00592110100
6	K2	Contact [*]	220V 50/60Hz	YE00503500000
7	-	Auxiliary contact [*]	1NC	YE00592110100
8	-	Auxiliary contact [*]	1NC	YE00592110100
9	K3	Contact [*]	220V 50/60Hz	YE00503400000
10	-	Auxiliary contact [*]	1NC	YE00592110100
11	-	Auxiliary contact [*]	1NC	YE00592110100
12	K4	Contact [*]	220V 50/60Hz	YE00601521000
13	-	Auxiliary contact [*]	1NO	YE00691110000
14	K5	Contact [*]	220V 50/60Hz	YE00601521000
15	K6	Contact [*]	220V 50/60Hz	YE00504400000
16	-	Auxiliary contact [*]	1NC	YE00592110100
17	K7	Intermediate relay [*]	220VAC	YE03270700000
18	K8	Safety relay [*]	220VAC	YE04372100000
19	F1	Thermal overload relay [*]	20~25A	YE01513600100
20	F2	Thermal overload relay [*]	2.2~3.2A	YE01160220000
21	F3	Thermal overload relay [*]	1.8~2.5A	YE01160180000
22	F11	Fuse ^{**}	2P	YE41032200000
23	-	Fuse core ^{**}	2A	YE46002000100
24	X1	Terminal	35mm ²	YE61350040000
25	-	-	35mm ² PE	YE61353500000
26	X2	Terminal	10mm ²	YE61100000000
27	-	-	10mm ² PE	YE61103500000
28	X3	Terminal	2.5mm ²	YE61250040000
29	-	-	2.5mm ² PE	YE61253500000

NO.	Symbol	Name	Specification	Part NO.
30	-	-	2.5mm ²	YE61250040000
31	-	-	2.5mm ² PE	YE61253500000
32	-	-	2.5mm ²	YE61040000000
33	-	-	2.5mm ²	YE61040000000
34	S1	Emergency stop button	400VAC	YE11411000000
35	-	Touch piece	1NC	YE19001000100
36	S2	Stop button	400VAC	YE11113100000
37	S3 H1	Start button	400VAC	YE11100100000
38	S3 H1	Start button	400VAC	YE11142100000
39	S4 S5	Safety switch	AZ-15	YE16147600100
40	S4 S5	Safety switch	AZ-16	YE16147600000
41	H2	Alarm lamp	220VAC	YE83305100200
42	H3	Buzzer	220VAC	YE84222000000
43	MS	Material level switch	220VAC	YE15000200100
44	TA1	Current transformer	75/5A	YE04750500000
45	TA2	Current transformer	5-100A	-
46	PA	Ammeter	75/5A	YE04750500000
47	X10	Metal connector	4P	YE68025400000
48	-	-	4P	YE68025400100
49	PCB	Micro computer plate	220VAC	YE80022200100
50	M1	Granulating motor	400V 50Hz 15kW	-
51	M2	Material suction blower *	400V 50Hz 0.55kW	-
52	M3	Dust-remving blower	400V 50Hz 0.4kW	-

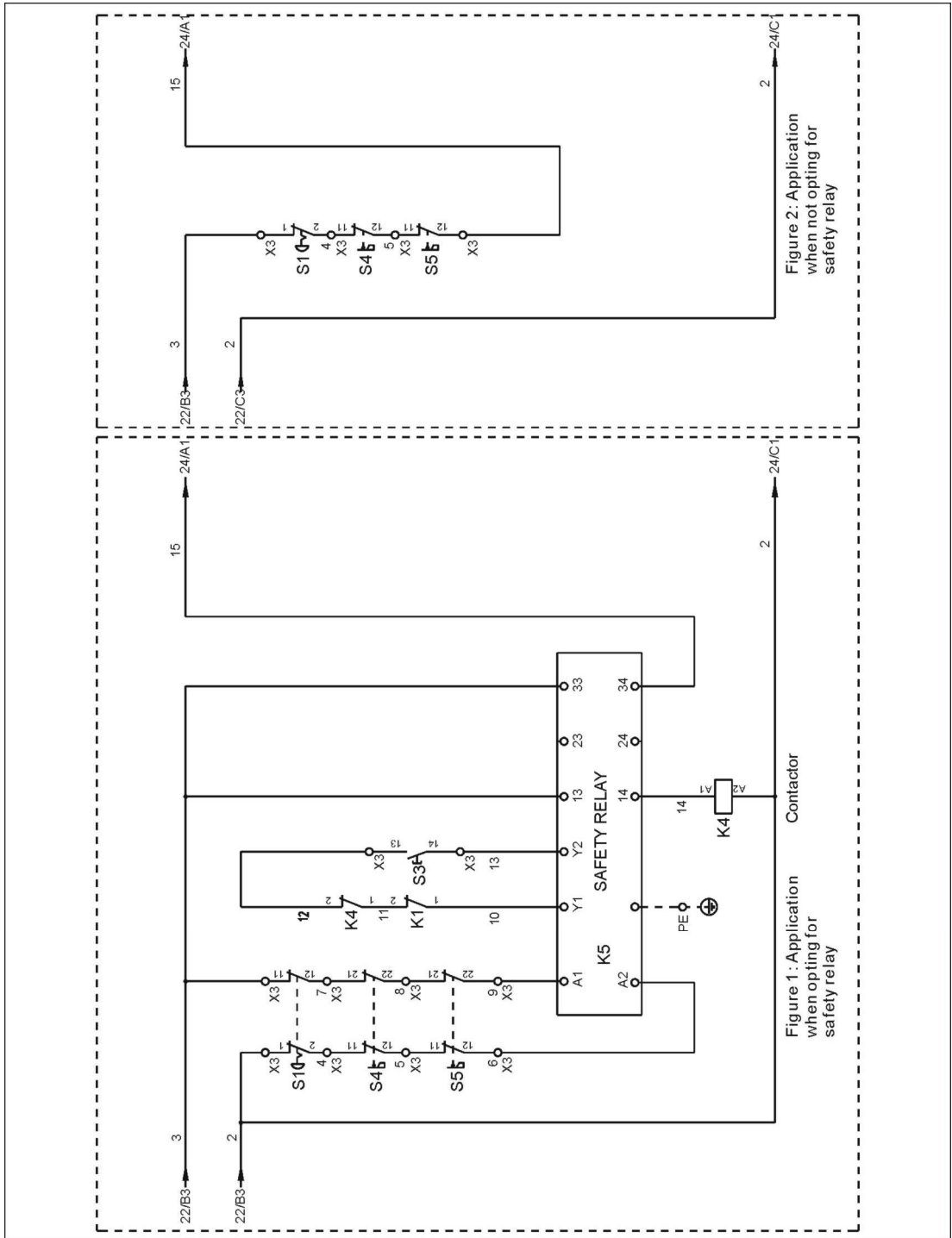
* means possible broken parts; ** means easy broken part and spare backup is suggested. Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

2.4.15 Main Circuit (SG-23 230V)

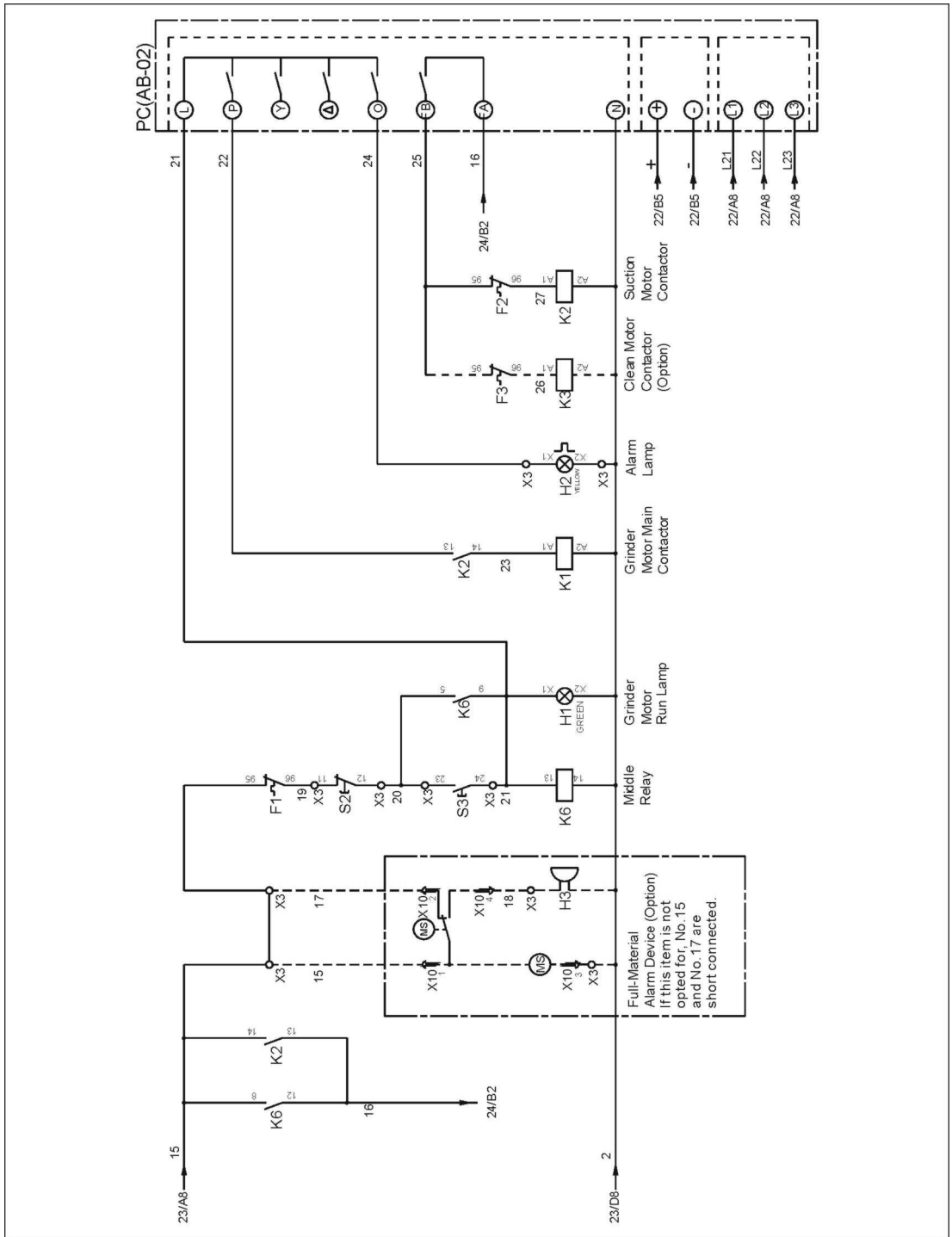


Picture 2-31: Main Circuit (SG-23 230V)

2.4.16 Control Wiring Diagram (SG-23 230V)

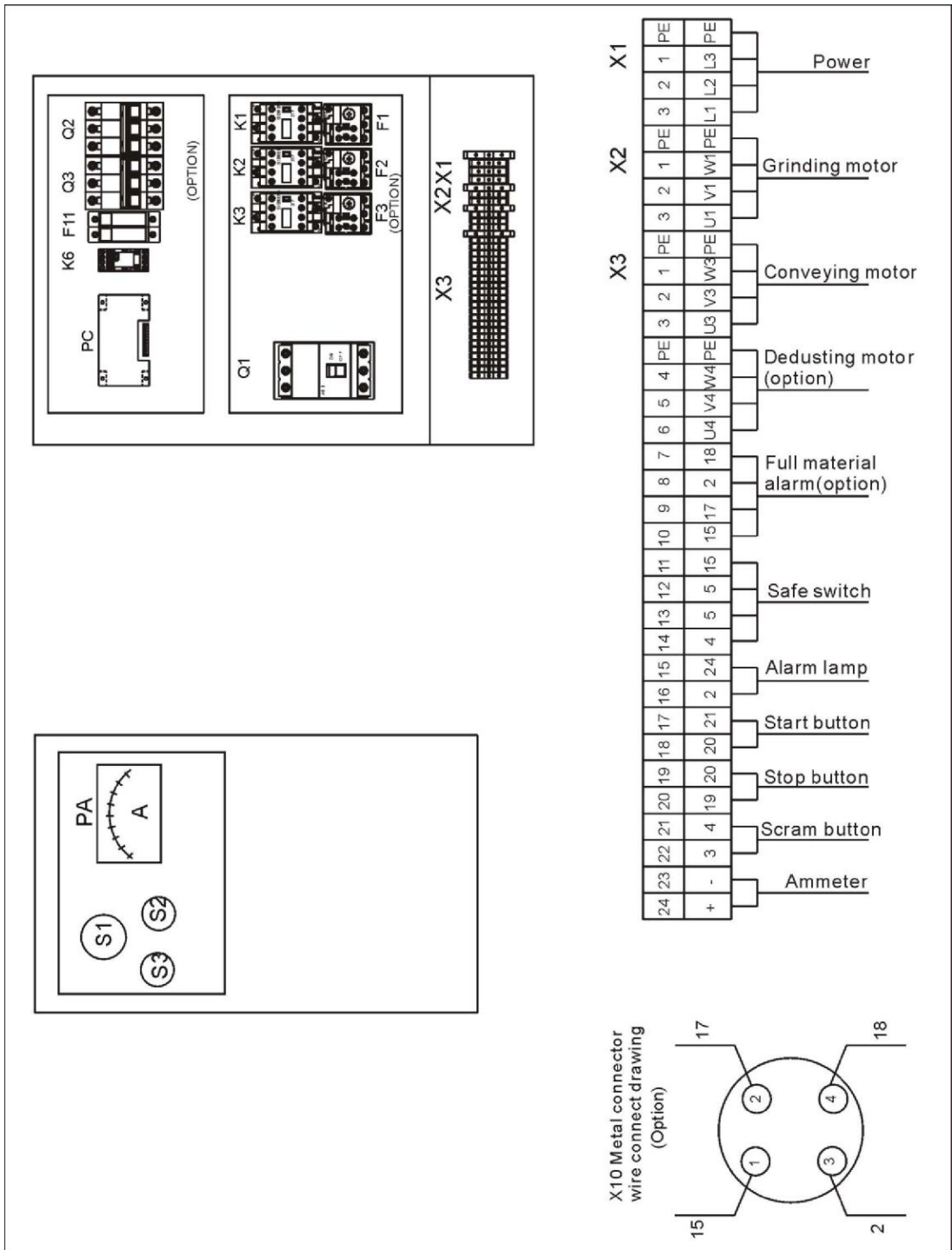


Picture 2-32: Control Wiring Diagram 1 (SG-23 230V)

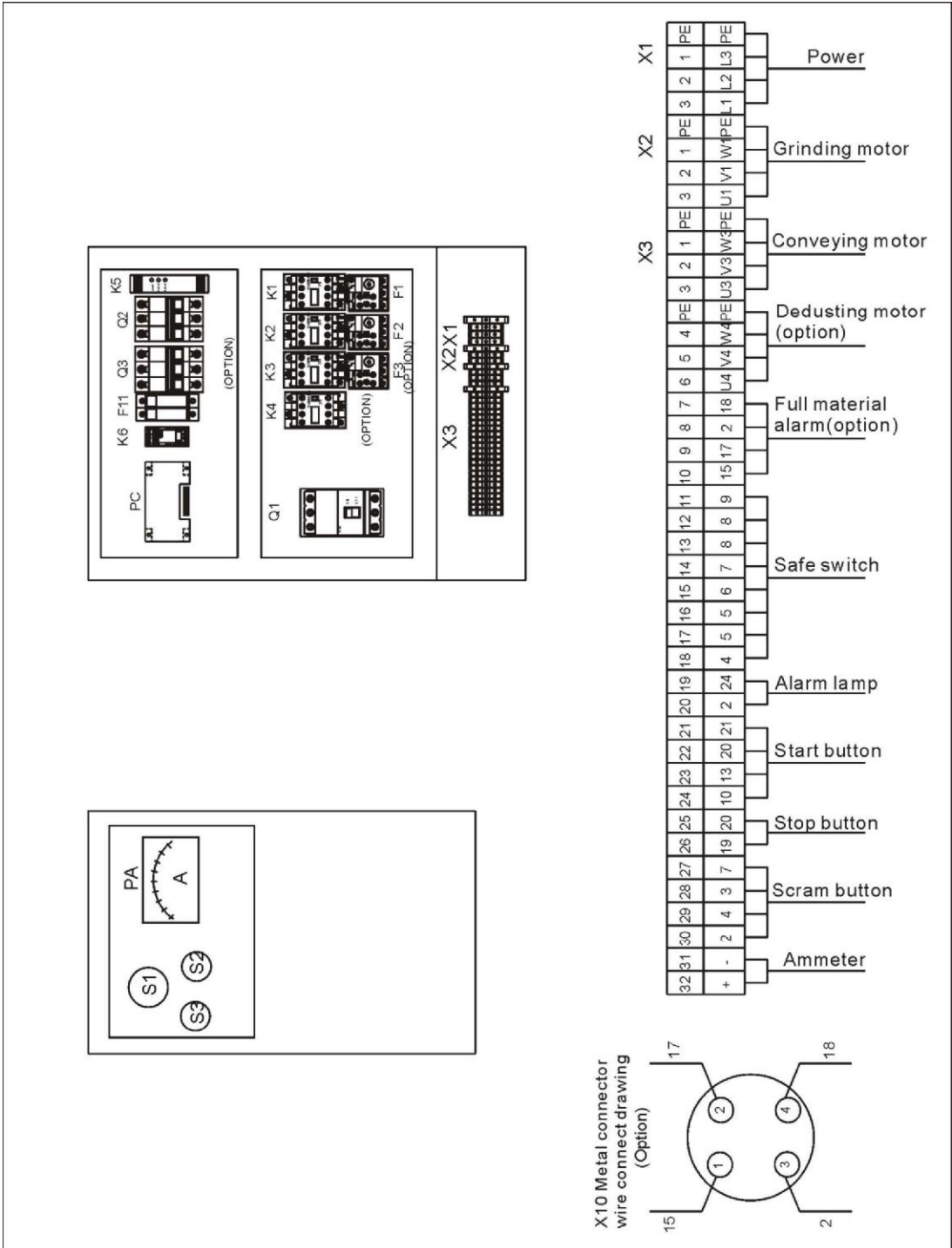


Picture 2-33: Control Wiring Diagram 2 (SG-23 230V)

2.4.17 Electrical Components Layout (SG-23 230V)



Picture 2-34: Electrical Components Layout (No Safety Relay)(SG-23 230V)



Picture 2-35: Electrical Components Layout (Safety Relay is Optional)(SG-23 230V)

2.4.18 Parts List of Electrical Components (SG-23 230V)

Chart 2-25: Parts List of Electrical Components (SG-2324 230V)

NO.	Symbol	Name	Specification	Part NO.
1	Q1	Gate circuit breaker	50A	YE40605000000
2	Q2	Circuit breaker	10A	YE40600300000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contactator *	220V 50/60Hz	YE00602622000
5	K2	Contactator *	220V 50/60Hz	YE00601521000
6	-	Auxiliary contactor	1NO+1NC	YE00691110000
7	K3	Contactator *	220V 50/60Hz	YE00601521000
8	K4	Contactator *	220V 50/60Hz	YE00602722000
9	K5	Safety relay *	220VAC	YE04372100000
10	K6	Intermediate relay *	220VAC	YE03270700000
11	F1	Thermal overload relay *	20~25A	YE01260200000
12	F2	Thermal overload relay *	2.2~3.2A	YE01160220000
13	F3	Thermal overload relay *	1.8~2.5A	YE01160180000
14	F11	Fuse **	32A	YE41032200000
15	-	Fuse core **	1A	YE46001000100
16	X1	Terminal	6mm ²	YE61060000000
17	-	-	6mm ² PE	YE61063500000
18	X2	Terminal	6mm ²	YE61060000000
19	-	-	6mm ² PE	YE61063500000
20	X3	Terminal	6mm ²	YE61060000000
21	-	-	2.5mm ²	YE61250040000
22	-	-	2.5mm ² PE	YE61253500000
23	-	-	2.5mm ²	YE61250040000
24	-	-	2.5mm ² PE	YE61253500000
25	-	-	2.5mm ²	YE61250040000
26	-	-	2.5mm ²	YE61250040000
27	S1	Emergency stop button	400VAC	YE11411000000
28	-	Touch piece	1NC	YE19001000100

NO.	Symbol	Name	Specification	Part NO.
29	S2	Stop button	400VAC	YE11113100000
30	S3 H1	Start button	400VAC	YE11100100000
31	S3 H1	Start button	400VAC	YE11142100000
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	Material level switch	220VAC	YE15000200100
37	TA2	Current transformer	5-100A	-
38	PA	Ammeter	30A	YE25673000000
39	X10	Metal connector	4P	YE68025400000 YE68025400100
40	M1	Granulating motor	400V 50Hz 5.5kW	-
41	M2	Material suction blower *	400V 50Hz 0.55kW	-
42	M3	Dust-remving blower	400V 50Hz 0.4kW	-
43	PCB	Micro computer plate	220VAC	YE80022200100

* means possible broken parts; ** means easy broken part and spare backup is suggested. Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

Chart 2-26: Parts List of Electrical Components (SG-2336 230V)

NO.	Symbol	Name	Specification	Part NO.
1	Q1	Gate circuit breaker	63A	YE41104000000
2	Q2	Circuit breaker	10A	YE40600300000
3	Q3	Circuit breaker	5A	YE40603000000
4	K1	Contacto ^r *	220V 50/60Hz	YE00602722000
5	K2	Contacto ^r *	220V 50/60Hz	YE00601521000
6	-	Auxiliary contacto ^r	1NO+1NC	YE00691110000
7	K3	Contacto ^r *	220V 50/60Hz	YE00601521000
8	K4	Contacto ^r *	220V 50/60Hz	YE00602822000
9	K5	Contacto ^r *	220VAC	YE04372100000
10	K6	Intermediate relay *	220VAC	YE03270700000
11	F1	Thermal overload relay *	30~36A	YE01612630000
12	F2	Thermal overload relay *	2.2~3.2A	YE01160220000
13	F3	Thermal overload relay *	1.8~2.5A	YE01160180000
14	F11	Fuse **	32A	YE41032200000
15	-	Fuse core **	1A	YE46001000100
16	X1	Terminal	6mm ²	YE61060000000
17	-	-	6mm ² PE	YE61063500000
18	X2	Terminal	6mm ²	YE61060000000
19	-	-	6mm ² PE	YE61063500000
20	X3	Terminal	6mm ²	YE61060000000
21	-	-	2.5mm ²	YE61250040000
22	-	-	2.5mm ² PE	YE61253500000
23	-	-	2.5mm ²	YE61250040000
24	-	-	2.5mm ² PE	YE61253500000
25	-	-	2.5mm ²	YE61250040000
26	-	-	2.5mm ²	YE61250040000
27	S1	Emergency stop button	400VAC	YE11411000000
28	-	Touch piece	1NC	YE19001000100
29	S2	Emergency stop button	400VAC	YE11113100000

NO.	Symbol	Name	Specification	Part NO.
30	S3 H1	Start button	400VAC	YE11100100000
31	S3 H1	Start button	400VAC	YE11142100000
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	Material level switch	220VAC	YE15000200100
37	TA2	Current transformer	5-100A	-
38	PA	Ammeter	30A	YE25673000000
39	X10	Metal connector	4P	YE68025400000 YE68025400100
40	M1	Granulating motor	400V 50Hz 7.5kW	-
41	M2	Material suction blower *	400V 50Hz 0.55kW	-
42	M3	Dust-remving blower	400V 50Hz 0.4kW	-
43	PCB	Micro computer plate	220VAC	YE80022200100

* means possible broken parts; ** means easy broken part and spare backup is suggested. Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.


2.5 Electrical Components Instruction


2.5.1 Microprocessor Board (PCB)

- Function:
- 1) Star-delta starting.
 - 2) Granulating motor overload detection and alarm.
 - 3) Material conveying blower postpones machine stop.
 - 4) phase sequence dection, warning and machine halt.



Picture 2-36: PCB Circuit board

Scale of Variable Resistor 	1	2	3	4	5	6	7	8	9
Fine Adjustment I(A):VR1	-4	-3	-2	-1	0	+1	+2	+3	+4
Rate Current setting (I) : VR3	5A	10A	20A	30A	40A	50A	60A	70A	80A

Scale of Variable Resistor 	1	2	3	4	5	6	7	8	9
Y/△Start Switching	3S	6S	9S	12S	15S	19S	22S	24S	30S

2.5.2 Electrical Components in Electrical Components box



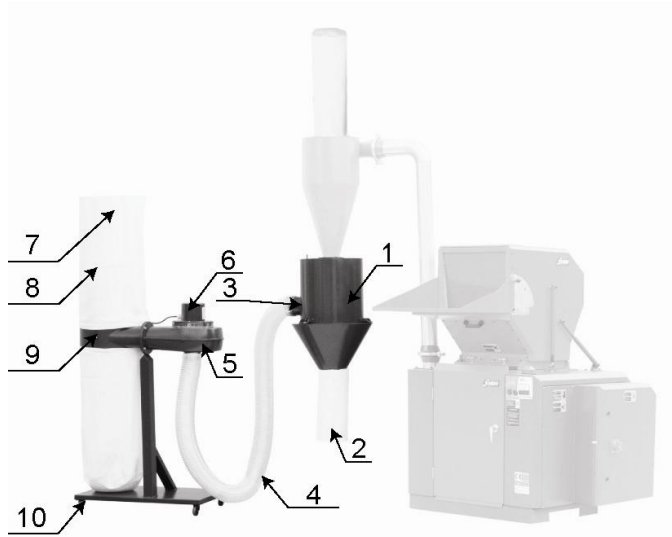
Picture 2-37: Main Electrical Components

1. Transformer, which supplies proper voltage for control circuit.
2. PCB which controls the start and stop of the machine.
3. Gate circuit breaker, which can perform the function of circuit isolation and protection.
4. Fuse, which performs the function of overloading protection and short circuit protection in control circuit.
5. Intermediate relay, which performs the function of switch and connection of contact point in control circuit.
6. Contactor, which can switch on and switch off the main circuit from a long distance.
7. Thermo overload relay, which can protect the motor when overloading or open phase.

2.6 Optional Accessories

2.6.1 Dust separating System

Installation Instruction of Dust separating System



NO.	Name	Specification	Quantity
1	Dust separator tank 1	BL59230400021	1
2	Filter cloth bag 2	BP82181800044	1
3	Stainless steel restrain 5"	YW02000500000	2
4	Steel wire plastic pipe 4"x3m	YR60000400100	1
5	Blower 5"	BM10502500010	1
6	Blower flange	-	1
7	Cloth bag stand	-	1
8	Filter cloth bag 3	BP82424700044	2
9	(5")Blower and cloth bag stand	-	1
10	Black rubber wheel 2"	YW03000200000	4

2.6.1.1 Dimensions of Dust separating System

DS-23/30:

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

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

2.6.1.2 Installation of Dust Separating System



Read chapter 2 carefully before operating dust separating system.

The circuit connection of the system should be done by professional electrician.

Before first startup

The unpainted parts of the machine are protected with oil prior to sending out. Clean the granulator from rust protection agent before it is used.

Connection

- 1) Place a separator under cyclone device, the diameter is $\Phi 150\text{mm}$.
- 2) Connect to conveying pipe, the diameter is 4".
- 3) Mount dust collection device including air and dust collection bags.
- 4) Place a container under the separator to help collecting plastic material after dust removing.



If use cloth bag to connect the separator, please make sure a good ventilation within the cloth bag.

2.6.1.3 Operation and maintenance

Daily Check

Air and dust bags: Check if these bags are damaged. If there is any damage, please replace them.

Conveying pipe: Check if the conveying pipe is damaged. If it is, please replace it.

Check if the connecting joint is connected well and sealed.

Check if the dust collection bag is full. If it is, please empty it.

Storage box: Check if the storage box is placed right under the dust separator. If it's not, please adjust it.

Check the storage box. If it is full, take out in time the plastics which has been dust removed.

Weekly check

Check if the wire has any damage and the connecting situation.

If it has any damage, please fix it.

2.6.1.4 Cleaning of Dust Separating System



Clean the machine when the processing material is changed or after every 300-hour running time. Before cleaning, please cut off the power.

- 1) First, clean the inner side of the device.
- 2) It is necessary to check and clean dust separator.
- 3) Move away separator and use high pressure air to blow away its interior granules.
- 4) Clean out the storage hopper and clean its interior.
- 5) Shake the air bag to drop the dust down.
- 6) Assemble the disassembled parts according to the reverse order.

2.6.2 Screen



Picture 2-38: Screen

Hole dia. (mm)	Part NO.				
	SG-2324	SG-2336	SG-2348	SG-3048	SG-3060
Φ4	BL54232400420	BL54233600420	BL54234800420	BL54304806120	BL54306006120
Φ6	BL54232400620	BL54233600620	BL54234800620	BL54304806220	BL54306006220
Φ10	BL54232401020	BL54233601020	BL54234801020	BL54304806320	BL54306006320
Φ12	BL54232401220	BL54233601220	BL54234801220	BL54304806420	BL54306006420

2.6.3 Blades

Material	International code		
	China	USA	Japan
SKD11	Cr12MoV	D2	SKD11

3. Installation and Debugging



Read through this chapter before installation.



Install as following orders to avoid any accident!



Be careful! Not to be cut by the sharp blade.



Power connection must be done by the professional electrician to avoid electrical shock.



Caution!

Blades should be placed stably; prevent the blades from self-rotating when installing it.

When operating it, don't put your hands near to the blades to avoid personal injury.



Caution!

Do not install the blades by working together, since it may bring personal injury. Use a thick wood block to lock the rotary blades. .



Caution!

Use protective gloves to avoid being cut, since the blades are very sharp.



Notice!

Please use new screws and gaskets when installing blades.

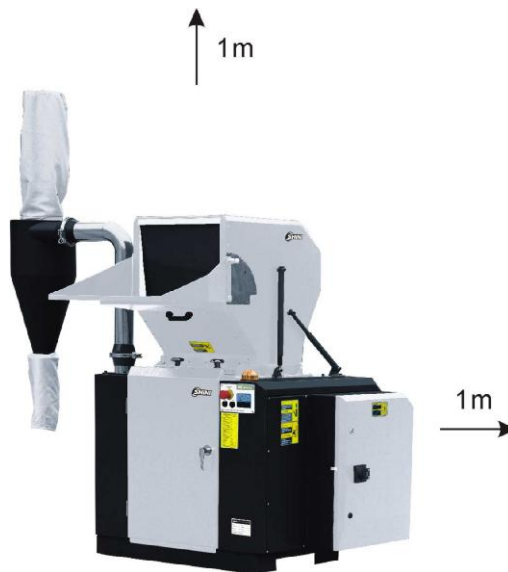


The power connection of the granulator should be carried out by professional electrician to avoid electrical shock!

3.1 Installation Notice

- 1) Make sure voltage and frequency of the power source comply with those indicated on the nameplate, which is attached to the machine by the manufacturer.
- 2) Power cable and earth connections should comply with local regulations.
- 3) Use independent power cable and power switch. The cable's dia. should not be smaller than those applied in the control box.
- 4) The power cable connection terminals should be tightened securely.
- 5) This series adopts three-phase and four-wirepower: L1, L2, L3 are connected to the fire wire while the PE line connected to the ground wire.
- 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.



Picture 3-1: Installation Space

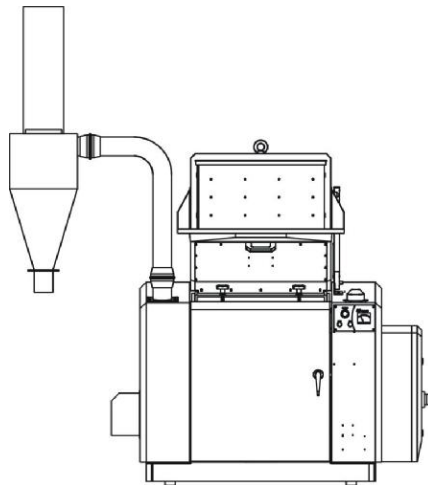
Chart 3-1: Blades and Other Fixing Screw Torque

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 Space

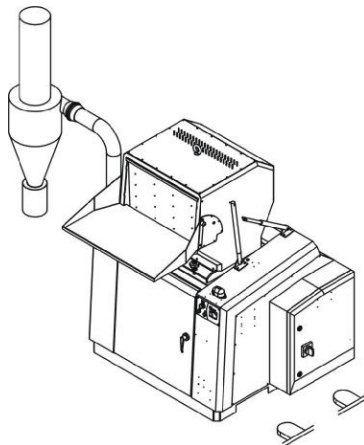


Make sure there is enough installation space to facilitate the repair and maintenance. Check if the installation ground is level and if there is enough intensity for running. Use levelling instrument to adjust the granulator to the level position.



Picture 3-2: Installation 1

SG-23/30 is equipped with castors and rabbets for fork lift to convey the machine.



Picture 3-3: Installation 2

3.3 Installation of Blade Rest and Bearing

3.3.1 Installation of Blade Rest Shaft

The blade rest shaft consists of blade rest and shaft. When installing, it's necessary to clean up the blade rest and shaft first. There should not be any dust or sundries with the blade rest shaft. Otherwise, the blade rest and shaft might not fit with each other or even turn into scrap. After cleaning, put the blades on oil press. Then put the shaft into blade rest holes and keep the shaft vertical. Spread some lubricant on the shaft to smooth pressing it into the blade rest shaft when installing.



This Installation illustration is only suitable for SG-23

Picture 3-4: Installation of Blade Rest

3.3.2 Installation of material fender

Put the blades stand vertically first as well as lay the shaft sleeve level on the blade rest shaft. Next, put a sleeve which fits the inner hole over the shaft sleeve and then pressing the shaft sleeve in by using the oil press or slightly beating it into by using copper bar. After installing the shaft sleeve, put the material fender onto the shaft sleeve: 3 holes on the material fender should be aimed to the 3 M8 holes on blade rest; the 3 M8 holes should be filled with screw locking agent. At last, tighten the two parts up with 3 countersunk hexagon screws M8x16.



This Installation illustration is only suitable for SG-23

Picture 3-5: Installation of material fender

3.3.3 Installation of Bearing Block and Bearing

Clean up the internal holes of bearing block. There should not be any scrap iron or sundries. Turn the bearing block over to make its back side upward and then slightly beat the oil seal in and spread lubricating grease onto it. After finishing that, the bearing can be put into the bearing block smoothly by using the oil seal to press it in or using the copper bar to beat it in.



This Installation illustration is only suitable for SG-23

Picture 3-6: Installation of Bearing Block and Bearing

3.3.4 Installation of Bearing Cover Plate

Use blower gun to clean up the bearing roller and spread plenty of lubricating grease on them. And then put on the bearing cover plate and tighten it up with

screws.



Picture 3-7: Installation of Bearing Cover Plate

3.4 Installation of Bearing, Motor, Belt Pulley and Belt

- 1) Install baffles at both of the right and left sides of blade rest.
- 2) Spread lubricating grease on bearing and bearing block and then put the bearing into bearing block.
- 3) Use oil press to press the bearing to the bearing installation position on rotation shaft.
- 4) After fixing the cutting chamber and base, put the blade rest into the cutting chamber in the order from the left to the right and then tighten the bearing block up with screws.
- 5) Lock the bearing cover well and put bolts into key grooves.
- 6) Set the big belt pulley on the shaft and install the locking ring. And then tighten the locking ring after using dial gauge to adjust the big belt pulley.
- 7) Install the motor and position-adjusting plate on motor fixing plate (don't tighten them up)
- 8) Use level ruler to adjust the level of large and small pulley and then lock it tightly.



Picture 3-8: Installation of Bearing, Motor, Belt Pulley and Belt

3.5 Installation of Screen, Screen Bracket and Storage box.

- 1) Put the screen into screen bracket.
- 2) Hold up the screen bracket and hang its back pothook to the two side fixing plates of the end plate.
- 3) Hold up the screen bracket to a proper position which match with the bearing block. Then, tighten up the star screws.
- 4) Insert the storage box into the grooves at the two sides of end plate.
- 5) Install the safety switch.



Picture 3-9: Installation of Screen, Screen Bracket and Storage box

3.6 Installation of Feed Box and Feed Port

- 1) Lift up the feed box to level with the cutting chamber and then fix it with an iron bar.
- 2) Mount the pneumatic connecting bar at the right side of feed box.
- 3) Lock the feed box and the cutting chamber with star knobs.
- 4) Respectively install one fixing plate at the two sides of feed box and use rivets to fix them. Then install the feed port.



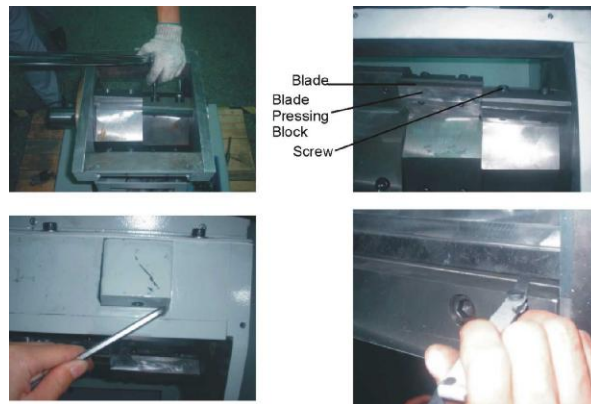
Picture 3-10: Installation of Rotary Blade and Fixed Plate (3)

3.7 Installation of Blades



The blades are very sharp; please wear gloves before installing and be careful during operating to avoid cut!

- 1) First, clean the front and rear box blocks as well as the press plate of rotary blade.
- 2) Place the rotary blade into the groove; cover it with press plate and lock them by screws.
- 3) Install the front and rear press plates of fixed blade respectively on front and rear box block; reserve some clearance for fixed blades.
- 4) Put set screws into front and rear adjusting holes of fixed blade to easily drive the fixed blade to adjust the clearance.
- 5) Place the clearance gauge between the fixed blade and rotary blade as well as set the clearance to be 0.20~0.30mm (the clearance should not be too small in case it damages the blades.)
- 6) After adjusting the clearance, lock the front and rear fixed blades tight.



Picture 3-11: Installation of Rotary Blade and Fixed Plate (4)



Note!

Srew specifications for fixed blades: inner hexagon M10 x 40 for SG-23 while M14 x 50 for SG-30; intensity: 12.9.



Note!

The fixing screws of blades must be tightened tight to avoid personal injury and machine damage.



Note!

The clearance between blades should not be too small in case it damages the blades.

4. Operation Guide



Wear earplugs when operating to avoid personal injury!



Wear gloves when operating to avoid personal injury!



Wear goggles when operating to avoid personal injury!



Since the blades and blade shaft may be loosen, check the following items before operating:

- 1) If the blades have any damage;
- 2) If the surface of blade shaft is loosen;
- 3) Push or pull the rotary blade rest and blades to see if there is any loose.

If any of the above situations occurs, please contact the local representative or SHINI Company.

4.1 Startup Pretest

1. Unpainted part of the machine has been spread with anti-rust oil. Before use, clear the anti-rust oil carefully.
 - 1) Clean it with a rag first.
 - 2) Then wet the rag with thinner to clean it.
2. Check the clearance of blades (0.20~0.30mm) and see if the screws of blades are locked tightly.

4.1.1 After 2 Hours of First Startup

Check the clearance of blades again, including fixed blades and rotary blades; then check the screws of blade to see if there is any loose.

4.2 Circuit Connection

- 1) Connect the granulator to the power;
- 2) Turn on the gate circuit breaker;
- 3) Check if the emergency switch is on;
- 4) Check if the star screws on feed box and screen bracket are locked tightly

and if the safety switch is active.

- 5) Start up: turn on the gate circuit breaker and press the start button.
- 6) Check if the motor steering is the same with the direction of arrow on the cover.
- 7) If the motor steering is:
 - a) Shut down.
 - b) Turn off the gate circuit breaker.
 - c) Change the power line phase: exchange any two of the three power lines.
 - d) Start up and check again.

4.3 Startup and Shutdown

The startup and shutdown of SG-23/30 series are controlled by the start switch and stop switch on control panel.



Picture 4-1: Startup and Shutdown



If there are still materials which have not been granulated in feed box and cutting chamber, the machine should not be shut down. Otherwise, the materials left inside will block the blade rest shaft and make the motor overloaded and trip when restarting.

4.4 Open the Feed Box, Screen and the Storage box



For SG-23/30 series, it's necessary to turn off the main power before opening the feed box, screen and storage box.



Caution!

The blade is very sharp; it may cause personal injury.



Caution!

Be careful when closing feed box, screen bracket and storage box to prevent them from crushing.

Clean internal surface before closing feed box, screen bracket and storage box.

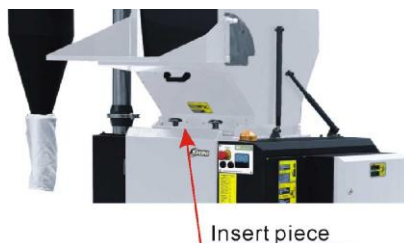
4.4.1 Open Feed Box

- 1) Make sure the feed box and cutting chamber are empty inside before turning off the machine.
- 2) Loosen the star screws on feed box.
- 3) Open the feed box backward.



Note!

The feed boxes of SG-23 / 30 series are supported by one-to-two pneumatic connecting bar so that the feed box will not fall when it folds backward.



Picture 4-2: Open Feed Box

4.4.2 Open the Screen Bracket

- 1) Open the door of granulator.
- 2) Turn the screw handle on storage box to loosen the piece of metal insert of safety switch.
- 3) Take out the storage box.
- 4) Loosen the star screws on screen bracket.
- 5) Take out the screen bracket; the screen can be took off for replacing or cleaning.



Knurling handle

Picture 4-3: Open the Screen Bracket



Note!

Hold the screen bracket while loosening the star screws to prevent it from falling off.

4.5 Close Feed Box, Mount Screen Bracket and Storage Box



Note!

Clean the joint surface first before closing it. Be careful! Do not crush it when closing it!

4.5.1 Mount Screen Bracket and Storage Box

- 1) Place the screen bracket in specified position and put the screen on it.
- 2) Hold up the screen bracket and lock the star screw tight.
- 3) Mount the storage box.
- 4) Turn the screw handle on storage box to lock the piece of metal insert of safety switch tight.
- 5) Close the door of granulator.

4.5.2 Close the Feed Box

- 1) Make sure there is no powder on the joint surface or in the corner.
- 2) Close the Feed Box.
- 3) When closing the feed box, the pothook should be directed at the slot.
- 4) Screw up the star screws.

4.6 Inspection

When maintaining, make sure that there is no material left in the granulator.



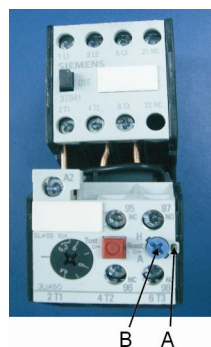
Note!

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

5. Trouble-shooting

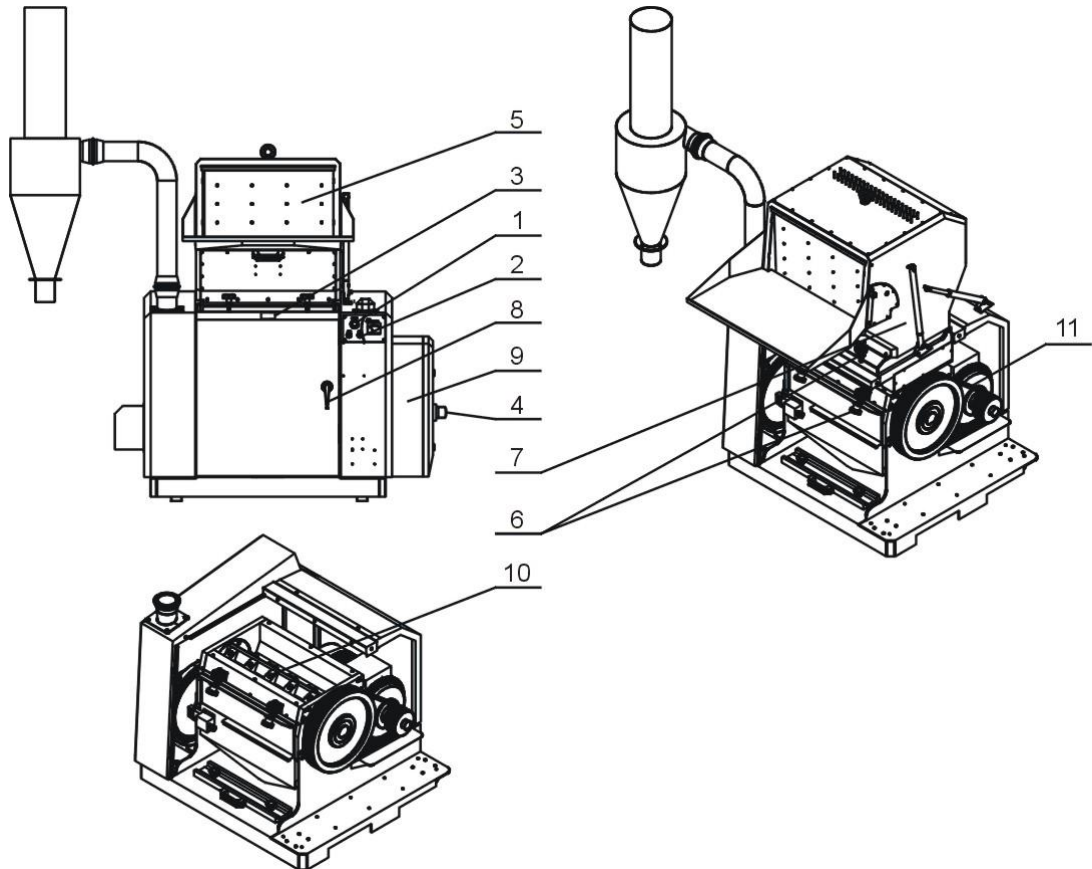
5.1 The Granulator doesn't Work

- 1) Check if the emergency stop is reset.
- 2) Check if the feed box is completely closed. If not or the star screws are not tightened, the machine could not be started.
- 3) Check if the storage box is installed well. If it's not fully closed or the piece of metal insert of safety switch hasn't been inserted, the machine also could not be started.
- 4) Check the motor's overload protector. The overload protector F1 in the electrical control box will trip if the motor is overloaded. Under that situation, (A) (the green pole) will be push-out. Press the "Reset" (B) to reset it. Before startup again, check whether there is any powder in the granulator.
- 5) Check the overload protector of feeding blower. 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 be push-out. Press the "Reset" (B) to reset it.
- 6) Check the clearance between rotary blades and fixed blades. If the blades are very blunt or the clearance between blades is not correct, the machine will be shutdown and the motor overload protector will trip. Please check and replace or readjust the clearance of blades.
- 7) When starting up, if warning alarm sounds and the machine could not be started, it indicates that the power is reverse or there is a default phase, please check the power connection.



6. Maintenance and Repair

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



1. Check whether the emergency stop button works normally. Period: Daily.
2. Check whether the start/stop button works normally. Period: Daily.
3. Check whether the safety switch works normally. Period: Daily.
4. Check whether the gate circuit breaker works normally. Period: Daily.
5. Check the material defender before starting. Period: Daily.
6. Check whether the screws on the feed box and cutting chamber are tighten before starting. Period: Weekly.
7. Check whether there is metal in the cutting chamber before starting. Period: Daily.
8. Check the whether the front door is locked tight before starting. Period: Daily.
9. Check whether the electrical elements in the electric control box are loose.

Period: Monthly.

10. Check the screws on both the fixed and the rotary blades are loose.

Period: Weekly.

11. Check the belt tension. Period: Monthly.

6.1 Replacement of Blade



Caution! The blades are very sharp; wear gloves when holding them.



When replacing blade, the fixing screws (inner hexagon screw M10 x 40 for SG-23 while M14 x 50 for M14 x 50; intensity: 12.9) of blade should be replaced with new ones.



Note!

Do not finish installation of blades with help from others to avoid personal injury.

Lock the blade rest shaft with a thick wood block on the cutting chamber.

- 1) Open the door of granulator to take out the screen and open feed box.
- 2) Loosen screws of fixed blade press block and take out the fixed blade.
- 3) Loosen screws of rotary blade press block and take out the rotary blade.
- 4) After taking out the blades, clean the blade installation groove.
- 5) Re-assemble prepared new blades. Check whether the screen meshes are out of shape. If there is any meshes turn to be oval, replace the screen immediately.
- 6) Turn the blade rest shaft and check the clearances between blades until all the clearances meet the requirement.



Picture 6-1: Disassemble the rotary blades

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 20-30 hours of full-load operation, inspect the tension of V-belt and running situation. Then, check the abrasion of belts every month.

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

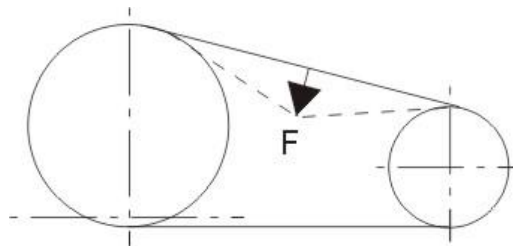
Loosen the screws which are on right shell and for fixing the electric control box and then take out the upper cover plate of granulator. Turn the V-belt for several circles to see whether the belt is damaged and worn.



Caution!

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

- a) For motor of 7.5kW, press the belt which is between the two belt pulleys with force of 205 N. The belt should not be stretched downward over 5mm.
- b) For motor of 11kW, press the belt which is between the two belt pulleys with force of 297N. The belt should not be stretched downward over 5mm.



Motor of 7.5kW L=5mm F=205N

For motor of 11kW L=5mm F=297N

Picture 6-2: Maintenance of Conveyor Belt

6.2.2 Adjustment of V-belt

- 1) Open the rear base plate of the granulator as well as the front door.
- 2) Loosen the screw handle and take out the storage box.
- 3) Adjust the two outer hexagon screws and adjust the belt tension by changing the space between the big and small belt pulley.

Recheck the belt tension after 20-30 hours of full-load operation.



Picture 6-3: Adjustment of V-belt

6.3 Lubrication

6.3.1 Lubricating Oil Specification (The following brands of lubricating oil are options.)

Xin Chang Long: 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 Please add lubricating oil to the bearing regularly.

Open the bearing cover and add lubricating oil.

Bearing cover



Picture 6-4: Lubricating Method

6.4 Maintenance

6.4.1 Daily maintenance

- 1) There is a rubber baffle in feed box. Check whether the rubber baffle is damaged. If it is, replace it immediately. Otherwise, the broken part may fall to the cutting chamber and cause damage to the blades. Besides, if the baffle is

damaged, the material may pop out from the feed box.

- 2) Check whether the emergency stop button works normally, then turn on the switch for emergency stop after starting the machine. Rotate the button according to the direction of arrow (counter-clockwise) to reset.

6.4.2 Weekly Check

- 1) Check the power supply wire to see whether they are worn or damaged. If so, replace them immediately.
- 2) Check the performance of safety switch.
- 3) Check the safety switches of feed box and storage box.

Loosen the star screws on feed box and screen bracket and try to start the machine (the machine can not be started if the door and screen bracket are not closed completely or the star knob is not tightened completely).



Note!

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

6.4.3 Monthly Check

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

6.5 Cleaning



Caution!

Make sure the main power switch is turned off before cleaning.



When opening the feed box, be careful with the blades; they are very sharp and may cause personal injury.

- 1) Check whether the feed box and cutting chamber are empty before stopping the machine.
- 2) Clean the outside surface of the feed box.
- 3) Loosen the star screws on feed box.
- 4) Open the feed box backward.
- 5) Clean the feed port.
- 6) Take out the material fender assembly and clean its both sides.

- 7) Open the front door of granulator and unscrew the screw handle to open the plug-in safety switch and take out the storage box.



Picture 6-5: Cleaning of Machine



Note!

Use a protective sleeve to cover the safety switch in case anything goes in.

- 8) Loosen the star screws on screen bracket and take down the screen bracket.
- 9) Loosen and clean the screen and hold the screen bracket to prevent it from falling off at the same time.
- 10) Blow compressed air into the material clear holes on the left and right side plates of cutting chamber and turn the blade bracket at the same time, which can clear materials stuck in the bearing block. It's recommended to do this cleaning once a day.
- 11) Clean the storage box and screen bracket.
- 12) Clean both inside and outside surfaces of the cutting chamber.
- 13) Clean the feeding pipe, feeding blower and cyclone dust collector.

6.6 Maintenance Schedule

6.6.1 About the Machine

Model: _____ SN: _____ Manufacturing date: _____

Voltage: _____ Φ _____ V Frequency: _____ Hz Total power: _____ kW

6.6.2 Check after Installation

- Check if the feed box, screen bracket and storage box are locked tight.
- Check the clearance between fixed blade and rotary blade (0.2~0.3mm).
- Check the dynamic balance of belt pulley.

Electrical Installation

- Voltage: _____ V _____ Hz
- Specs of the fuse: 1 Phase _____ A 3 Phase _____ A
- Check phase sequence of the power supply.
- Check the turning direction of the conveying blower.

6.6.3 Daily Check

- Check main power switch.
- Check emergency stop button.
- Check start / stop button.
- Check if the material fender (strip) is in good condition.
- Check whether emergency stop and safety switch works normally.
- Clean screen and feed box.
- Check whether start, stop and power switches works normally.

6.6.4 Weekly Check

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

6.6.5 Monthly Check

- Check the pneumatic bracket.
- Check the delay function of feeding motor.
- Check the overload protection function of the motor.
- Check the tightness of the blades.
- Check whether the belt pulley clamp is tight.
- Check belt tension.

6.6.6 Check Half-yearly or Every 1000 Running Hours

- Check the lubrication of bearing, motor and hopper shaft.
- Check the belt pulley.

- Check the two end plates.
- Assess the condition of the whole machine.

6.6.7 Check Every 3 Years

- Replace PC board
- Relace no-fuse switch.