## SG-70(B)

# Sound-proof Central ("Regular" Series)Granulator

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## 1. General Description

Read this manual carefully before installation and using this machine to avoid personal injuries or damage of the machine.



Note!

Be careful during operation, the knives of the granulator are very sharp and can cause personal injury.

It's forbidden to process any toxic or flammable materials.

SG-70(B) series granulators are applicable to granulate various kinds of plastic materials from injection molding, blow molding or extrusion process. This series feature compact design, easy operation and quick blade replacement. It is great in motor power, cutting chamber size, and output capacity. Gradually inclined cutting and integrated power design offer a better cutting effect and a lower noise level.



Model: SG-70120

Model: SG-7090B



## 1.1 Coding Principle



#### 1.2 Features

- Rotating cutters adopt newly developed V-type cutting technology which can send the feeding material into the center of rotating cutters so to prevent the material from adhering onto the inner side of the cutting chamber while enhancing its wearability.
- 2) Two rows of fixed blades model has big inlet space and initially low cutting point. Material can be easily grabbed and cut thus making this rotor/housing combination ideal for the granulation of hollow objects such as bottles, crates and drums as well as large bulky materials.
- 3) The cutters are made of imported high quality steel featuring wearability, high rigidity, long service life and reusable after re-sharpening.
- 4) Equipped with presetting knife jig (optional in SG-70B), rotating and fixed blades can be adjusted in the fixture outside the machine inside of machine instead of machine inside. It made blades adjustment must easier.
- 5) Cutting chamber made of high rigidity material, after processing by CNC machine, has the features like high intensity, super wearability, no contamination, long service life and easy for maintenance and repairing.
- 6) Sound-proof feeding box reduces the noise level in operation, also equips a safety material checking curtain which ensures no material sprinkling during granulating.
- 7) V-type transmission belts help maintain a balanced operation mode, close contact, and also easy to disassemble and repair.
- 8) Both feeding hopper and screen cradle can be opened and closed by the hydraulic system which ensures safe operation.



- 9) Cooling water device at the rear plate of cutting chamber can effectively cool down the cutting chamber and prevent the inside material from melting up.
- 10) The equipped conveying device (optional in SG-70B) for auto loading has improved efficiency.
- 11) Equipped with flywheel (optional in SG-70B) to improve cutting ability.

All service work should be carried out by a person with technical training or corresponding professional experience. The manual contains instructions for both handling and servicing. Chapter 6, which contains service instructions intended for service engineers. Other chapters contain instructions for the daily operator. Any modifications of the machine must be approved by SHINI in order to avoid personal injury and damage to machine. We shall not be liable for any damage caused by unauthorized change of the machine.

Our company provides excellent after-sales service. Should you meet 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 Specifications

Model	SG-7090	SG-7090B	SG-70120	SG-70120B
Ver.	В	В	С	В
Motor Power (kW, 50/60Hz)	75	75	90	90
Rotating Speed (r.p.m. 50/60Hz)	525	525	525	525
Conveying Blower (kW, 50/60Hz)	7.5	7.5	7.5	7.5
Hydraulic Motor Power (kW, 50/60Hz)	1.5	1.5	1.5	1.5
Material of Blades	SKD11	SKD11	SKD11	SKD11
Number of Fixed Blades	2(3)	2	2(3)	2
Number of Rotating Blades	3(5)	3	3(5)	3
Cutting Chamber (mm)	700 x 900	700 x 900	700 x 1200	700 x 1200
Max. Throughput Capacity (kg/hr, 50/60Hz)	1300	1300	1800	1800
Noise Level dB(A)	115	120	115	120
Screen(mm)	Ф12	Φ12	Ф12	Ф12

#### Table 1-1: Specifications

Note: 1) SKD11 is material code number of Japanese JIS standard.

We reserve the right to change specifications without prior notice.

 Maximum output is subject to the diameter and material of Screen mesh. For granulating frame and shell material, maximum output will be reduced about 50%.

3) Noise level will vary with different materials and motor types.

4) Noise level is tested under conditions of 1m around the machine and 1.6m from the ground.

5) To avoid plastics from sticking to the blades, all materials should be crushed at normal temperature.

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



#### 1.3.2 Outline Drawing





Model	SG-7090	SG-7090B	SG-70120	SG-70120B
H (mm)	3950	3950	3950	3950
H1 (mm)	2815	2815	2815	2815
H3 (mm)	2710~3155	1770	2710~3155	1770
H4 (mm)	1240~1690		1240~1690	
H5 (mm)	1370		1370	
H6 (mm)	1720		1720	
H7 (mm)	1419	1419	1419	1419
H8 (mm)	846		846	
W1 (mm)	2000	2000	2300	2300
W2 (mm)	2000~2400		2000~2400	
W3 (mm)	1120	1120	1420	1420
W4 (mm)	1000		1000	
W5 (mm)	400	400	400	400
W6 (mm)	350x350	350x350	350x350	350x350
D (mm)	2630	2625	2630	2625
D1 (mm)	2200	2200	2200	2200
D2 (mm)	6840	6840	6840	6840
D3 (mm)	600		600	
Weight (kg)	4500	4000	5000	4500

#### Table 1-2: Outline Drawing Specifications



## 1.4 Safety Guide

Operation of the machine should be done according to safety guide so as to avoid personal injuries and damage of the machine.

1.4.1 Safety Signs and Labels





Main switch and control switch should be shut off during maintenance.



Don't let any part of your body get into the granulator before you disconnect the main switch and control switch.



Warning! High Voltage

This sign is attached to the surface of the control box!



Sharp rotating blades may cause injuries!



Rotor should not be rotated by hands. Pay more attention to it.



You should not start the granulator before the feeding box and screen housing are tightly shut.



The protective sponge and the quick coupling clip at storage box outlet must not be taken apart.



When it is granulating, the operator should wear earplugs!



When open feeding box, please make sure the front door is opened.



Loading blower is applicable to convey regrind powder and it requires the temperature less than  $80^{\circ}$ C.





Loading blower has great suction power and it is easy to have objects and clothes suctioned into and lead to personal injuries. So the blower should not be used without any protective cover.



When it is working with transmission belt, please carefully check if the operator's clothes, arm or leg has been stuck by the transmission belt. Make sure the waste materials are in the center of conveyor belt.



Regularly clean the dust in inlet air.



#### 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





## 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. Structural Features and Working Principle

## 2.1 Function Description

SG-70 (B) series are suitable for granulating various plastic wastes, including injection molding and blow molding and extruding process. Before granulating, you need to clean metal scraps and contaminations.

2.1.1 Working Principle



A. Feeding box B. Rotating blades C. Storage box D. Conveying blower

Picture 2-1: Function Description

Feed the material into the cutting chamber from the feeding box(A), the rotating blades(B) and fixed blades work together to granulate the materials. The size of granules is based on the diameter of screen. The screen is fixed under the cutting chamber, and is easy to replace screen of different diameters. The regrinds will fall into storage box (C) through the screen, then conveying via conveying blower, the outfit blower will convey regrinds info cyclone dust separator to separate dust and air.



## 2.2 Safety System

Safety system is used to prevent personal injuries caused by high rotating blades. Safety system could not be altered or accidents may happen.

Under no circumstance, the safety system could be altered otherwise the machine would be in dangerous condition and easy to have accident, so any repairing and maintenance of the safety system should be done by qualified technicians.

If there has any alteration to the safety system, our company will not fulfill our promise and all the spare parts should be purchased from Shini.

#### 2.2.1 Emergency Stop Button

Press the red button on the control panel to stop the machine immediately. Turn the button counter-clockwise as indicated by the arrow on the button to reset.



Picture 2-2: Emergency Stop Button

#### 2.2.2 Breaker interlock

When circuit breaker closed, the control box can't be opened, while the door plank of control box could be opened normally to ensure human safety.



Picture 2-3: Breaker Interlock



#### 2.2.3 Safety Switch

The granulator has three safety switches: one is between feeding box and cutting chamber, and the other two are at front and back of machine door.



Picture 2-4: Safety Switch for Door Lock

If the machine's back door is opened or the feeding box and storage box are moved under running condition, the machine will stop at once. Pay an attention to ensure the operator's security.



Picture 2-5: Safety Switch for Feeding Box

Pay attention to following items when start the machine:

- 1) Check if the feeding box has been locked up.
- 2) Check if the screen housing and storage box have been installed.
- 3) Close the machine door.



## 2.3 Parts List

#### 2.3.1 Assembly Drawing (SG-70(B))



Parts name:

- 1. Rack assembly 2. Screen bracket assembly
- 3. Cutting chamber assembly
- 4. Feeding box assembly 5. Transmission gear
- 6. Hydraulic device
- 7. Control box assembly 8. Sound-proof box assembly (optional in SG-70B)
- 9. Conveying device (optional in SG-70B)

Picture 2-6: Assembly Drawing (SG-70(B))



#### 2.3.2 System Structure Drawing(SG-70)



Note: Please refer to 2.3.3 material list about the parts code.

Picture 2-7: System Structure Drawing (SG-70)

#### 2.3.3 Part Lists of System Structure Drawing (SG-70)

Table 2-1:	Part Lists o	of System	Structure Drawing	(SG-70)
------------	--------------	-----------	-------------------	---------

No.	Name	Parts No.
1	Rack assembly	-
2	Screen bracket assembly	
3	Cutting chamber assembly	-
4	Feeding box assembly	-
5	Lifting device	
6	Control box	
7	Presetting knife jig	
8	Star knob B M8x35	YR40083500000
9	Sound-proof box assembly	
10	Sound-proof cover-plate device	
11	Feed separating assembly	
12	Safety switch board	
13	Belt conveyor	



#### 2.3.4 System Structure Drawing (SG-70B)



Note: Please refer to 2.3.5 material list about the parts code.

Picture 2-8: System Structure Drawing (SG-70B)

2.3.5 Part Lists of System Structure Drawing (SG-70B)

Table 2-2:	Part Lists of	System Structure	Drawing (SG-	70B)
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No.	Name	Parts No.
1	Rack assembly	-
2	Screen bracket assembly	
3	Cutting chamber assembly	
4	Feeding box assembly	
5	Lifting device	
6	Control box	
7	Feed separating assembly	
8	Presetting knife jig	
9	Star knob B M8x35	YR40083500000
10	Safety switch board	
11	Belt conveyor	



#### 2.3.6 Cutting Chamber Assembly



Note: Please refer to 2.3.7 material list about the parts code.

Picture 2-9: Cutting Chamber Assembly



## 2.3.7 Parts List of Cutting Chamber Assembly

No	Namo	Parts No.		
NO.	Name	SG-7090(B)	SG-70120(B)	
1	Fixed blade	YW40709000300	YW43070120000	
2	Inner hexagon cylindrical screw GB/T70.1 M16x70-12.9(thread length 50)- Longzine	YW61167000000	YW 61167000000	
3	Spring washer 16	YW 65016000000	YW65016000000	
4	Fixed blade pressing blade ${\rm I}$	BH11791100210	BH11701206910	
5	Hexagon bolt GB/T5783 M10x40-10.9- Longzine	YW60104000000	YW60104000000	
6	Hexagon nut GB/T6170 M10- Longzine	YW 64001000100	YW64001000100	
7	Inner hexagon cylindrical screw GB/T70.1 M10x100-12.9- Longzine	YW61101000000	YW61101000000	
8	Flat gasket A Grade GB/T97.1 10 (11x20x2)- Longzine	YW66102000100	YW66102000100	
9	Standard spring washer GB/T93 10- Longzine	YW6501000000	YW 65010000000	
10	Front block cover plate			
11	Inner hexagon cylindrical screw GB/T70.1 M6x16-12.9 Longzine	YW61061601200	YW61061601200	
12	Flat gasket A Grade GB/T97.1 10 (6.6x12x1.6)- Longzine	YW66061300000	YW 66061300000	
13	Standard spring washer GB/T93 6	YW 6506000000	YW 6506000000	
14	Sensor bracket			
15	Feeding box locking bolt	BH10070150040	BH10070150040	
16	C Grade hexagon nut GB/T 41 M20x2.5- Longzine	YW 64200200000	YW 64200200000	
17	Flat washer C Grade GB/T95 20	YW 66203700000	YW66203700000	
18	Standard spring washer GB/T93 20- Longzine	YW65205200000	YW 65205200000	
19	Locking bolt hinge pin			
20	Inner hexagon cylindrical screw GB/T70.1 M8x50-12.9- Longzine	YW61085000000	YW 61085000000	
21	Locking bolt base	BH10701201110	BH10701201110	
22	Front block	BW30791300010	BW30701280010	
23	Rotating blade	YW42709000200 left YW42709000300 right	BH11701207210	
24	Inner hexagon cylindrical screw GB/T70.1 M20x80-12.9- Longzine	YW61208000000	YW61208000000	
25	Standard spring washer GB/T93 20	YW 6502000000	YW 6502000000	



No	Namo	Parts No.		
NO.	Name	SG-7090(B)	SG-70120(B)	
26	Blade rest shaft	BH10792100010 BH11709005810 (5 rotating blade)	BH11701207710 BH11701208510 (5 rotating blade)	
27	Hexagon bolt GB/T5783 M10x50-8.8- Longzine	YW60105000000	YW60105000000	
28	Hexagon bolt GB/T6170 M10- Longzine	YW 64001000100	YW64001000100	
29	Rotating blade pressing plate		BH10701214010	
30	Rear upper block	BW30790300210 BH11709006010 (5 rotating blade)	BH10701430010 BH11701208010 (5 rotating blade)	
31	Inner hexagon cylindrical screw GB/T70.1 M12x60-12.9- Longzine	YW61260000000	YW61260000000	
32	Rear lower block	BW30790400010	BH10701410010	
33	Water tank cover plate	BH10794200010	BH10701209410	
34	Fixed blade	YW40709000300	YW43070120000	
35	Fixed blade pressing plate II	BH11794400010	BH11701207110	
36	Inner hexagon cylindrical screw GB/T70.1 M10x40-12.9- Longzine	YW61104000200	YW61104000200	
37	Flat gasket A Grade GB/T97.1 10 (11x20x2)- Longzine	YW66102000100	YW66102000100	
38	Standard spring washer GB/T93 10- Longzine	YW6501000000	YW6501000000	
39	Inner hexagon cylindrical screw GB/T70.1 M10x95-12.9- Longzine	YW61109500000	YW61109500000	
40	Flat gasket A Grade GB/T97.1 10 (11x20x2)- Longzine	YW66102000100	YW66102000100	
41	Standard spring washer GB/T93 10- Longzine	YW6501000000	YW 6501000000	
42	Inner hexagon flat end locking screw GB/T77 M12x40-8.	YW61124000100	YW61124000100	
43	Inner hexagon flat end locking screw GB/T5783 M10x40-10.9-Longzine	YW 60104000000	YW60104000000	
44	Hexagon bolt GB/T6170 M10-Longzine	YW64001000100	YW64001000100	
45	Inner hexagon cylindrical screw GB/T70.1 M16x70-12.9 (length 50) Longzine	YW61167000000	YW61167000000	
46	Flat gasket A Grade GB/T97.1 16- Longzine	YW 66163000100	YW66163000100	
47	Spring washer 16	YW 65016000000	YW 65016000000	
48	Belt wheel taper sleeve baffle	BH10701202010	BH10701202010	



No	Namo	Parts No.		
NO.	Name	SG-7090(B)	SG-70120(B)	
49	Bearing cover	BH10701600010	BH10701600010	
50	Right block	BH11701206110 BH11701208210 (5 rotating blade)	BH11701206110 BH11701208210 (5 rotating blade)	
51	Left and right material feeder	BH10701202342	BH10701202342	
52	Left bearing base	BH10701290010	BH10701290010	
53	Left block	BH11701206010 BH11701208110 (5 rotating blade)	BH11701206010 BH11701208110 (5 rotating blade)	
54	Flywheel taper sleeve	BW30509002910	BW30509002910	
55	Flywheel	BW30509003010	BW30509003010	
56	Flywheel taper sleeve	BH10701202610	BH10701202610	
57	Inner hexagon cylindrical screw GB/T70.1 M16x70-12.9(length 50)- Longzine	YW61167000000	YW61167000000	
58	Inner hexagon cylindrical screw GB/T70.1 M20x50-12.9- Longzine	YW61205000000	YW61205000000	
59	Single round head common flat key			
60	Inner framework rotary shaft lip seals	YR20140100000	YR20140100000	
61	Small round nut GB/T810 M145x2-45 steel	YW64145200000	YW64145200000	
62	Round nut lock washer GB/T858 140	YW65014500000	YW65014500000	
63	Inner hexagon cylindrical screw GB/T70.1 M10x35-12.9- Longzine	YW61103500000	YW61103500000	
64	NSK self-aligning roller bearing 24130CCK30/W33	YW11241300000	YW11241300000	
65	Inner hexagon cylindrical screw GB/T70.1 M12x45-12.9- Longzine	YW61124500000	YW61124500000	
66	Inner framework rotary shaft lip seals	YR20161901500	YR20161901500	
67	Inner hexagonal sunk screw GB/T70.3 M12x30-10.9- Longzine	YW61123000100	YW61123000100	
68	Dismantling sleeve AH24130 for rolling bearing	YW 19241300000	YW 19241300000	
69	Belt pulley taper sleeve 5050 Ø125	YW 30505012500	YW 30505012500	
70	Belt pulley SPC800x8	YW 30800800000	YW 30800800000	
71	Single round head common flat key C32x126	BH10704550010	BH10704550010	
72	Feeding box limiting plate	BL55701203540	BL55701203540	
73	Flat gasket A Grade GB/T97.1 12(13.5x24x2.5)- Longzine	YW66122400000	YW66122400000	
74	Standard spring washer GB/T93 12- Longzine	YW65012000000	YW65012000000	
75	Feeding box limiting plate fixed base	BH10701215410	BH10701215410	



		Parts No		
No.	Name	Paris NO.		
		SG-7090(B)	SG-70120(B)	
76	Large washer A Grade GB/T96 10(10.5x30x2.5)- Longzine	YW66103200000	YW66103200000	
77	Standard spring washer GB/T93 10- Longzine	YW 6501000000	YW6501000000	
78	Screen bracket rotating arm	BH10701204010	BH10701204010	
79	Single round head common flat key	BH10070122010	BH10070122010	
80	Screen bracket shaft pin	BH11790500110	BH10701205010	
81	Female column pin			
82	Inner hexagon cylindrical screw GB/T70.1 M16x70-12.9 (length 50) - Longzine	YW61167000000	YW61167000000	
83	Connector forced filling oil cup 45° M10x1	YW04010100000	YW04010100000	

\* 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.



#### 2.3.8 Lifting Device Assembly





Picture: 2-10 Lifting Device Assembly Table 2-4: Parts List of Lifting Device

No.	Name	Parts No.	
1	Oil cylinder lower base		
2	Oil cylinder hinge pin		
3	Hydraulic system		
4	Lower limit switch fixed plate		
5	Electronic handspike hinge pin		
6	Inner hexagon cylindrical screw	XW61061601200	
0	GB/T70.1 M6x16-12.9- Longzine	1001001200	
7	Flat gasket A Grade GB/T97.1 6	YW 66061300000	
1	(6.6x12x1.6)- Longzine		
8	Standard spring washer GB/T93 6	YW 6506000000	
9	Upper limit switch fixed plate		
10	Inner hexagon screw M10x35/12.9 Grade	YW 60135900000	
11	Flat gasket A Grade GB/T97.1 10	XW66102000100	
11	(11x20x2)- Longzine	10000102000100	
12	Standard spring washer GB/T93 10- Longzine	YW 6501000000	
13	Inner hexagon cylindrical screw	XW/61083000000	
15	GB/T70.1 M8x30-12.9 Longzine	1000000000	
14	Flat gasket A Grade GB/T97.1 8- Longzine	YW 66081600000	
15	Standard spring washer GB/T93 8- Longzine	YW 65008000100	
16	Flat gasket GB/T 96 8(8.4x24x2)-A2-70(SUS)	YW68240200000	



## 2.3.9 Transmission Gear Assembly



Picture 2-10:	Transmission Gear Assembly
Table 2-5:	Parts List of Assembly

No	Name	Parts No.		
NO.	Name	SG-7090(B)	SG-70120(B)	
1	Belt pulley SPC800*8	YW 30800800000	YW 30800800000	
2	Belt taper sleeve 5050 Ø125	YW 30505012500	YW30505012500	
3	Narrow V belt SPC L=4250	YR00425000000	YR00425000000	
4	Belt pulley SPC224x8	YW 30224800000	YW 30224800000	
5	Motor base			
6	Hexagon nut GB/T5782 M20x100-8.8- Longzine	YW 60201000000	YW60201000000	
7	C Grade hexagon nut GB/T41 M20x2.5- Longzine	YW 64200200000	YW64200200000	
8	Motor 1LE0001-2DB03-4AA4(75KW)	YM10000107600	YM10000107700	
9	Hexagon bolt GB/T5783 M20x160-12.9- Longzine (full thread)	YW61201600000	YW61201600000	



#### 2.3.10 Screen Bracket Assembly



Picture 2-11: Screen Bracket Assembly Table 2-6: Parts List of Screen Bracket Assembly

No	Name	Parts No.		
NO.	Name	SG-7090(B)	SG-70120(B)	
1	Screen bracket locking support plate			
2	Screen bracket main body			
3	Inner hexagon cylindrical screw GB/T70.1 M6x16-12.9- Longzine	YW61061601200	YW61061601200	
4	Standard spring washer GB/T93 6	YW6506000000	YW 6506000000	
5	Flat gasket Grade A GB/T97.1 6- Longzine	YW66641216000	YW66641216000	
6	Screen bracket rear buffer plate			
7	Screen bracket rear press plate			
8	Hinge pin hole-seat pressing plate of screen bracket	BH11701206610	BH11701206610	
9	Inner hexagon cylindrical screw GB/T70.1 M8x30-12.9- Longzine	YW61083000000	YW 61083000000	
10	Standard spring washer GB/T93 8- Longzine	YW65008000100	YW65008000100	
11	Flat gasket A Grade GB/T97.1 8- Longzine	YW66081600000	YW66081600000	
12	Hinge pin hole seat of screen bracket	BH11701206710	BH11701206710	



#### 2.3.11 Conveyor Assembly





#### Picture 2-12: Conveyor Assembly Table 2-6: Parts List of Conveyor Assembly

No.	Name	Parts No.	No.	Name	Parts No.
1	Anti-vibration pad <i>©</i> 50	YW03005000000	11	Inner hexagon cylindrical screw GB/T70.1M5 x 10- Longzine	YW61051000000
2	Inner hexagon cylindrical screw GB/T70.1 M6x20-12.9-Longzine	YW61062000300	12	Top cover plate	
3	Standard spring washer GB/T93 6- Longzine	YW65006000100	13	Clamp fixed plate	
4	Flat washer Grade A GB/T97.16 (6.6 x 12 x 1.6)- Longzine	YW66061300000	14	Embedded handle 3NL-5213	YR90521300000
5	Base		15	Side cover plate	
6	Blower cover		16	Side plate	
7	Inner hexagon cylindrical screw GB/T70.1 M12 x45 -12.9- Longzine	YW61124500000	17	Blower inlet pipe connector	-
8	Standard spring washer GB/T93 12- Longzine	YW65012000000	18	High pressure Centrifugal blower (7.5KW)	BM30005500050
9	Flat gasket A Grade GB/T97.1 12(13.5 x 24 x 2.5)- Longzine	YW66122400000	19	Blower outlet pipe connector	
10	Hexagon nut GB/T6170 M12- Longzine	YW64012100000			



#### 2.3.12 Feeding box Assembly



Picture 2-13: Feeding Box Assembly Table 2-7: Parts List of Feeding Box Assembly

No.	Nama	Parts No.	
	Name	SG-7090(B)	SG-70120(B)
1	Feeding box main body		
2	Switch spacing board	BH10702200040	BH10702200040
3	Feeding box rotation shaft base cover plate	BH10701900010	BH10701900010
4	Feeding box rotation shaft	BH10790700010	BH10701225010
5	Electrical handspike upper base		
6	Plastic curtain		-
7	Feeding box		



#### 2.3.13 Cyclone and Dust Separator Assembly



Picture 2-14: Cyclone and Dust Separator Assembly Table 2-8: Parts List of Cyclone and Dust Separator Assembly

No.	Name	Parts No.
1	Lower bracket	
2	Start nut 5/16	YW 09051600000
3	Lower hopper	
4	Stainless steel pipe clamp 5"	YW 02000500000
5	Large hopper	
6	Tensioning strip	
7	Upper bracket	
8	Cyclone dust separator main body	
9	Cyclone dust separator outlet	
10	Cloth bag <i>◎</i> 314x1800	BP82313100044
11	Blower 1.1kw( for SG)	BM30112230050
12	Cloth bag bracket	
13	Filter bag 2	
14	Blower and cloth bag support (1.1kw)	
15	Filter cloth bag pipe clamp	
16	Filter bag 2	
17	Steer wire plastic pipe 4" x3m	YR60000400100


# 2.4 Circuit Diagram

## 2.4.1 Main Circuit Diagram (SG-7090)



Picture 2-13: Main Circuit Diagram 1(SG-7090)





Picture 2-14: Main Circuit Diagram 2(SG-7090)



#### 2.4.2 Control Circuit Diagram (SG-7090)



Picture 2-15: Control Circuit Diagram 1(SG-7090)





Picture 2-16: Control Circuit Diagram 2(SG-7090)





Picture 2-17: Control Circuit Diagram 3(SG-7090)



## 2.4.3 Electrical Components Layout (SG-7090)



Picture 2-18: Electrical Components Layout (SG-7090)



# 2.4.4 Electrical Components List(SG-7090)

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7	Material I	YE412528	YE403010	YE40304(	YE403006	YE005046	YE005921	YE005921	YE005921	YE005045	YE006015	YE006911	YE006025	YE006911	YE006015	YE040476	YE866024	YE861230	YE860324	YE031038	YE030224	YE030421	YE030224	YE032724	YE030224	YE866024			-GB-D-7	有限公司	ogies, Inc.	1
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4	Typ	A2B	BM-	BM-	BM-	3RT	3RH	3RH	3RH	3RT	3RT	3RH	3R.T	3RH	3RT	LT4	TH3	TH3	TRF	ABJ	GR-	GR-	GR-	DRM	GR-	TH3	ol box.(2)	Version	Approved	þy	Date 201	4
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## Table 2-8: SG-7090 Electrical Components List 1

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   | 00000  | 0000  | 00000   | 00007   | 00000   | 0000*7  |  
  | Scale  | Standard GB   | Voltage   | Frequency              |    |
| Material      | YE86032,  | YE015146  | YE011602  | YE012601   | YE011602   | YE41032;  | YE46002  | YE410010  | YE46631  | YE041505  | YE70040  | YE83305   | YE713524  
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  | Drawing NO.  | 1-05  | ▌ 信易重整  | Shini Pla              | 9  |
| Specification | 24 VAC/DC 0~  | 80-100A   | 2.8-4A  | 14-20A   | 2.2-3.2A   | ZР  | 2A   |   | 10A  | 150/5A  | 24V 350VA /  | 24 V A C  | IN100-240V D  
  | 400VAC  | 400VAC   
   
  | 400VAC  | Ui=300V Ith=5  
  | 500V   | AZ-17   
   | 24 VDC   | Ē   | 1   | 32A   | Ē   | 32A   | full-receive   
  | 060,   | nents List 2  |   |                        |    |
|               |   |   |   |  |  |   |  |   |  |   | V/ 230V  |   | 7   
  |   |  
   
  |   |  
  |  | 0.00  
   |  |   |   |   |   |   | cessories of 1   
  | le SG-7  | Electrical Compo  | (1  | E)                     | ſ  |
| Type          | TRF-N   | 3RU5146-4MB0  | 3RU6116-1EB0  | 3RU6126-4BB0   | 3RU6116-1DB0   | RT28-32   | 10×38 500V   | FS-10   | 6×30   | RCT-35  | IN=400V 0UT=24   | LED-3051  | EPR-35-24 1.5/  
  | XB2BW33M1C  | XB2BA22C   
   
  | XB2B5542C   | C2SS2-10B-10   
  | TS236-11Z-M2(  | AZ17-11ZK   
   | DL-12  | SAK-35  | TB35 PE I   | TB2.5B  | TB2.5 PE I  | TB2.5B  | ns optional ac   
  | D  |   |   | 20160709               |    |
| rer           |   |   |   |  |  |   |  |   |  |   |  |   |   
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  | ١٢   | ۸L  
   |  |   |   |   |   |   | er; (4) Mea  
  | Version  | Approved  | þ   | Date                   | 4  |
| Manufactu     | YUYUN   | SIEMENS   | SIEMENS   | SIEMENS  | SIEMENS  | CHNT  | MRO  | YINDA   |  | RATIO   | BAIYUN   | SHINI   | MEANWELI  
  | SCHNEIDER   | SCHNEIDER  
   
  | SCHNEIDER   | ABB  
  | SCHMERS/   | SCHMERS/  
   | DELIN  | PHOENIX   | PHOENIX   | I   | Ē   | 1   | dusting blow   
  | Drawer   | tesigner  | roofread<br>by  | Checked<br>by          |    |
|               |   |   |   |  |  |   |  |   |  |   |  |   |   
  |   |  
   
  |   |  
  |  |   
   |  |   |   |   |   |   | ories of dec   
  |  | 0   | <u> </u>  | Modify<br>date         | 'n |
|               |   | elay  | elay  | elay   | elay   |   |  |   |  | ual inductance  | La   |   |   
  | u   | C  
   
  | stop button   | vitches  
  | nit switch   | tch   
   |  | oard  |   |   |   |   | onal access  
  |  |   |   | Modified<br>by         |    |
| Name          | Timer relay   | Overload r  | Overload ri   | Overload ri  | Overload re  | Fuse  | Fuse care  | Fuse  | Fuse core  | Current mut   | Transfarm  | Alarm lamp  | DC power  
  | Start butt  | Stop botto   
   
  | Emergency   | Selector sv  
  | Position lin   | Safety swi  
   | Sensor   | Terminal b  |   |   |   |   | (3)Means opti  
  |  |   |   | After<br>nodification  | 6  |
| Symbol        | K24   | F1  | F2  | B  | F4.  | FU1   |  | FU2   |  | TA1, TA2  | Т  | H2  | n   
  | S1, S5~S8(H)  | S2   
   
  | S3  | S4   
  | 59,510,511,512   | S13   
   | S14,S15  | X1  |   |   |   |   | Ver.B  
  |  |   |   | Befare<br>modification |    |
|               |   |   |   |  | 5  | _   |  |   | -  |   |  |   | -   
  |   |  
   
  |   |  
  |  | _   
   |  |   |   | 5   |   |   |  
  |  |   |   |                        | 1  |
|               | Symbol Name Manufacturer Type Specification Number Material number Remark | Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         YUYUN         TRF-N         24VAC/DC 0-3Min         1         YE866324.00000         (2) | Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         YUYUN         TRF-N         24VAC/DC 0-3Min         1         YE860324.00000         (2)           1         Overload relay         SIEMENS         3RU514.6.4/MB0         80-100.A         1         YE01514.680000         1 | Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         YUYUN         TRF-N         24,VAC/DC 0-3Min         1         YE80324.00000         (2)           1         Overload relay         SIEMENS         3RU5146.4MB0         80-100A         1         YE01514.680000         (2)           2         Overload relay         SIEMENS         3RU6116-1EB0         2.8-4A         1         YE0150280000         M | Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         YUYUN         TRF-N         24/AC/DC 0-3Min         1         YEB60324.00000         (2)           1         Qverload relay         SIEMENS         3RU5146-4/MB0         80-100 A         1         YE0150480000         (2)           2         Overload relay         SIEMENS         3RU6116-1EB0         2.8-4A         1         YE01160280000         M           3         Overload relay         SIEMENS         3RU6116-1EB0         2.8-4A         1         YE01160280000         M | Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         YUYUN         TRF-N         24/AC/DC 0-3Min         1         YEB60324.00000         (2)           1         Overload relay         SIEMENS         3RU5146-4MB0         80-100A         1         YE0150469000         (2)           2         Overload relay         SIEMENS         3RU6176-1EB0         2.8-4A         1         YE0150280000         1           3         Overload relay         SIEMENS         3RU6176-4BB0         14-20A         1         YE0150280000         1         4           4         Overload relay         SIEMENS         3RU6176-4BB0         14-20A         1         YE015010000         1         1 | Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         YUYUN         TRF-N         24/AC/DC 0-3Min         1         YE860324.00000         (2)           1         Overload relay         SIEMENS         3RU5146-4MB0         80-100A         1         YE015468000         (2)           2         Overload relay         SIEMENS         3RU6116-1EB0         2.8-4A         1         YE0160280000         (2)           3         Overload relay         SIEMENS         3RU6116-1EB0         2.8-4A         1         YE01560280000         (2)           4         Overload relay         SIEMENS         3RU6116-1EB0         2.8-4A         1         YE01160280000         (3)           4         Overload relay         SIEMENS         3RU6116-1EB0         2.8-4A         1         YE01160280000         (3)           4         Overload relay         SIEMENS         3RU6116-1EB0         2.8-4A         1         YE01160280000         (3)           4         Overload relay         SIEMENS         3RU6116-1EB0         2.2-32A         1         YE01160220000         (3)           1         Fuse | Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         YUYUN         TRF-N         24VAC/DC 0-3Min         1         YE860324.00000         (2)           1         Overload relay         SIEMENS         BUG146-4MB0         80-100A         1         YE80324.00000         (2)           2         Overload relay         SIEMENS         BUG146-4BB0         26-4A         1         YE0150280000         (2)           3         Overload relay         SIEMENS         BRG156-4BB0         14-20A         1         YE0150280000         1         4           0         Overload relay         SIEMENS         BR0516-4BB0         14-20A         1         YE0150280000         1         4           1         Overload relay         SIEMENS         BR0516-4BB0         22-32A         1         YE0150200000         1         4           1         Fuse         Correlader and relay         SIEMENS         BR0516-4BB0         27-32A         1         YE015020000         1         1           1         Fuse         Correlader and relay         R128-32         27-32A         1         YE41032200000 | Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark         Remark           24         Timer relay         YUV UN         TRF-N         24 VAC/DG 0-3Min         1         YE663324.00000         (2)           1         Overload relay         SIEMENS         3RU514.6E00         380-100A         1         YE060324.00000         (2)           2         Overload relay         SIEMENS         3RU516.EE00         28-4A         1         YE0160280000         (2)           3         Overload relay         SIEMENS         3RU516.1EB00         28-4A         1         YE0160280000         (2)           4         Overload relay         SIEMENS         3RU516.1EB00         28-4A         1         YE0160280000         (3)           4         Overload relay         SIEMENS         3RU516.1BB00         22-32A         1         YE0160220000         (3)           0         Fuse         CHNT         RT28-32         22-32A         1         YE0160220000         (3)           1         Fuse         MRO         1         YE0160200000         (3)         1           1         Fuse         YE40020000000         1 | Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         YUV         TRF-N         24VAC/DG 0-3Min         1         YE66324.00000         (2)           21         Overload relay         SIEMENS         3RU5146-4MB0         80-100A         1         YE66324.00000         (2)           2         Overload relay         SIEMENS         3RU5146-4MB0         80-100A         1         YE06324.00000         (2)           3         Overload relay         SIEMENS         3RU5146-4BB0         1         YE015020000         (2)           4         Overload relay         SIEMENS         3RU6116-1BB0         2.3-3.2A         1         YE015020000         (3)           4         Overload relay         SIEMENS         3RU6116-1BB0         2.2-3.2A         1         YE015020000         (3)           4         Overload relay         SIEMENS         3RU6116-1BB0         2.2-3.2A         1         YE015020000         (3)           0         Fuse         CHO10202000         1         1         YE403220000         (3)         M           1         Fuse         YE4002000100         (3) | Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         YUYUN         TRF-N         24/AC/DC 0-3Min         1         YEB60324.00009         (2)           1         Overload relay         SIEMENS         3RU616-1EB0         2.8-4/A         1         YE015028000         (2)           2         Overload relay         SIEMENS         3RU616-1EB0         2.8-4/A         1         YE015020000         (2)           3         Overload relay         SIEMENS         3RU616-1EB0         2.8-4/A         1         YE015020000         (3)           4         Overload relay         SIEMENS         3RU616-1EB0         2.8-4/A         1         YE015020000         (3)           4         Overload relay         SIEMENS         3RU616-1EB0         2.8-4/A         1         YE012601000         (3)           4         Overload relay         SIEMENS         3RU6165-1EB0         2.8-4/A         1         YE012601000         (3)           4         Overload relay         SIEMENS         3RU6176-4BB0         1         YE012601000         (3)           1         Fuse         YE4602001000         ( | Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         YUYUN         TRF-N         Z4VAC/DC 0-3Min         1         YEB60324.00000         (2)           24         Overload relay         SIEMENS         3RU5146-1EB0         24.VAC/DC 0-3Min         1         YEB60324.00000         (2)           2         Overload relay         SIEMENS         3RU616-1EB0         28-4A         1         YE0160280000         (2)           3         Overload relay         SIEMENS         3RU616-1EB0         28-4A         1         YE0160280000         (3)           4         Overload relay         SIEMENS         3RU616-1EB0         28-4A         1         YE0160280000         (3)           4         Overload relay         SIEMENS         3RU616-1EB0         27-3 ZA         1         YE0160200000         (3)           0         Fuse         MRD         10×38 500V         27-3 ZA         1         YE0160200000         (3)           1         Fuse         YE4002000000         MRD         1         YE400300000         1           1         Fuse         YE4002000000         1         1 | Symbol         Name         Manufacturer         Type         Specification     
   Number         Material number         Remark           24.         Timer relay         YUYUN         TRF-N         Z4VAC/DC 0-3Min         1         YE66532400000         (2)           2         Overload relay         SIEMENS         3RU5146-4MB0         80-100A         1         YE605340000         (2)           2         Overload relay         SIEMENS         3RU516-4BB0         24-4A         1         YE015020000         (3)           3         Overload relay         SIEMENS         3RU516-4BB0         24-4A         1         YE015020000         (3)           4         Overload relay         SIEMENS         3RU516-1BB0         24-4A         1         YE015020000         (3)           4         Overload relay         SIEMENS         3RU516-1BB0         24-4A         1         YE015020000         (3)           4         Overload relay         SIEMENS         3RU516-1BB0         22-32A         1         YE015020000         (3)           4         Fuse         Fuse         YE015020000         (3)         (4)         YE015020000         (3)           1         Fuse         YE010000         (4)< | Symbol         Name         Manufacturer         Type         Specification         Mumber         Metrial number         Remark           24         Timer relay         YUYUN         TRF-N         Z4VAC/DC 0-3Min         1         YE6603240000         (2)           24         Overload relay         S1EMENS         3RU5146-4.MB0         80-100A         1         YE603240000         (2)           2         Overload relay         S1EMENS         3RU514-4.BB0         2.4.4         1         YE60320000         (2)           3         Overload relay         S1EMENS         3RU616-1.EB0         2.8-4.4         1         YE015020000         (2)           4         Overload relay         S1EMENS         3RU616-1.EB0         2.8-4.4         1         YE015020000         (3)           4         Overload relay         S1EMENS         3RU616-1.EB0         2.8-4.4         1         YE016020000         (3)           4         Overload relay         S1EMENS         3RU616-1.EB0         2.8-2.3.2.4         1         YE016020000         (3)           4         Diverload relay         S1EMENS         3RU616-1.EB0         2.8-2.3.2.4         1         YE016020000         (3)           1         Euse | Spendid         Name         Mauristurer         Type         Specification         Number         Material number         Remark           24         Timer relay         VUYUN         TFF-N         ZVAC/DC 0-3Min         1         Ye663324.00000         (2)           1         Overload relay         SEMENS         3RU5146-4,MB0         80-100A         1         Ye601502000         (2)           2         Overload relay         SEMENS         3RU6116-1EB0         28.4.A         1         Ye6015020000         (2)           4         Overload relay         SEMENS         3RU6116-0B80         2.2-3.2.A         1         Ye601502000         (3)           4         Deveload relay         SEMENS         3RU6116-0B80         2.2-3.2.A         1         Ye601502000         (3)           0         Overload relay         SEMENS         3RU6116-0B80         2.2-3.2.A         1         Ye601502000         (3)           0         Deveload relay         Remark         Remark         1         Ye6015020000         (3)         A           1         Fus         Ye6016020000         R         2         2         Ye400200000         (3)         A           1         Fuse         Ye2002001000 <td>Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         VUVIN         TRF-N         ZVAC/DC 0-3Min         1         YE6032400000         (2)           2         Overload relay         SIEMINS         3RU5/46-LMB0         84-100A         1         YE6032400000         (2)           3         Overload relay         SIEMINS         3RU5/16-IEB0         28-4A         1         YE016020000         (2)           4         Overload relay         SIEMINS         3RU5/16-IEB0         28-4A         1         YE016020000         (3)           4         Overload relay         SIEMINS         3RU5/16-IEB0         28-4A         1         YE016020000         (3)           4         Overload relay         SIEMINS         3RU5/16-IEB0         28-4A         1         YE016020000         (3)           4         Overload relay         SIEMINS         3RU5/16-IEB0         28-4A         1         YE016020000         (3)           4         Dise core         CMT         RT28-32         Z         Z         Z         Z         Z         Z         Z         Z         Z         Z</td> <td>Symboli         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         V(YUN         TRF-N         2VAC/DC 0-34%         1         YE6032400000         (2)           2         Overload relay         StEMENS         3NUG/16.EE00         28-4A         1         YE003460000         (2)           2         Overload relay         StEMENS         3NUG/16.EE00         28-4A         1         YE01600000         (2)           4         Overload relay         StEMENS         3NUG/16.EE00         28-4A         1         YE01600000         (3)           4         Deveload relay         StEMENS         3NUG/16.EE00         28-4A         1         YE01600000         (3)           4         Deveload relay         StEMENS         3NUG/16.6000         23-32A         1         YE01600000         (3)           4         Deveload relay         RRO         R728-32         2         2         YE040200000         (3)           4         Deveload relay         RRO         R728-32         2         YE04020000         (3)           4         Puse         R         YE01000000000         1         <t< td=""><td>Symboli         Name         Manufacturer         Type         Specification         Number         Material number         Remark           2k         Timer relay         YUYUN         TRF-N         2vAC/CG C-3Min         1         YE66032.00000         (2)           1         Overlaad relay         StEMENS         3RU5/46-4MB0         88-100A         1         YE66032.00000         (2)           2         Overlaad relay         StEMENS         3RU5/46-4MB0         88-100A         1         YE6053.00000         (2)           4         Overlaad relay         StEMENS         3RU5/16-4BB0         2-3.2.3.2         1         YE0150.0000         (3)           4         Overlaad relay         StEMENS         3RU5/16-1BB0         2-3.2.3.2         1         YE0150.0000         (3)           4         Doverlaad relay         RMD         RT28-32         2045/10.000         (3)         1           1         Fuse         RMD         1         YE0150.000         (3)         1         1         YE0150.0000         (3)           1         Fuse         RE         RT28-30         2         YE0160.0000         (3)         1           1         Fuse         RE         RE</td><td>Symboli         Name         Mandfacturer         Type         Specification         Number         Markation         Remark           24         Timerrelay         VUVUN         TRF-M         2.VAC/C0.0-3Min         1         YE663200000         (2)           2         Overload relay         SIEMENS         380/16-1EB0         2.9-4.A         1         YE06320000         (2)           2         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE061020000         (3)           4         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE016020000         (3)           4         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE016020000         (3)           4         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE016020000         (3)           4         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE016020000         (3)           4         Fuse core         MRD         MRD         MRD         5.90/V         2.4         YE016000000         (3)           1         Fuse core         MRD</td><td>Syndlit         Name         Marufacturer         Type         Specification         Number         Maruber         Ramark Marek           24         Timerrelay         VUVIN         TRF-M         2.VXC/DG 0-3Min         1         YE0514680000         (2)           2         Overload relay         SIEMENS         3RUG16-IEBO         80-000A         1         YE0514680000         (2)           3         Overload relay         SIEMENS         3RUG16-IEBO         2.8-4A         1         YE0514680000         (2)           4         Overload relay         SIEMENS         3RUG16-IDBO         2.8-4A         1         YE051460000         (2)           4         Overload relay         SIEMENS         3RUG16-IDBO         2.8-4A         1         YE015020000         (3)           4         Deveload relay         SIEMENS         3RUG16-IDBO         2.8-4A         1         YE015020000         (3)           4         Deveload relay         SIEMENS         3RUG16-IDBO         2.8-4A         1         YE015020000         (3)           4         Fuse core         MRO         0-38500V         2.8-4A         1         YE015010000         (3)           1         Fuse         YE01501000</td><td>Syndol         Name         Mandacturer         Type         Specification         Number         Mandacturer         Remark           24         Timer relay         VIVNIN         TRF-M         ZVXC/DC 6-396n         1         YE603240000         [2]           2         Overlaad relay         SIPRINS         SINGi6-4800         1         YE603240000         [2]           3         Overlaad relay         SIPRINS         SINGi6-4800         1         YE603240000         [2]           4         Overlaad
relay         SIPRINS         SINGi6-4800         1         YE603240000         [3]           4         Overlaad relay         SIPRINS         SINGi6-1960         1         YE603240000         [3]           4         Overlaad relay         SIPRINS         SINGi6-1960         22-32         1         YE60320000         [3]           4         Develaad relay         NINO         YE603020000         [3]         YE603020000         [3]           1         Develaad relay         NINO         YE6030200000         [3]         YE603020000         [3]           1         Fue         YE603020000         YE6030200000         [3]         YE603020000         [3]           1         Eve</td><td>Syndol         Name         Mandacturer         Type         Specification         Number         Mandacturer         Rmark           24         Timerretay         VYUN         Timerretay         VYUN         Timerretay         Rmark         Rmark           21         Overload relay         SteMeNS         SteMeNS</td></t<><td>Syndol.         Nandschurer         Type         Specification         Mumber         Mandschurer         Rmank           24.         Time relay         VUVUN         TRF-N         ZVXC/05 C=394in         1         YEB6032.00000         [21]           21         Overlead relay         SEMENS         380/616-160         84-0A         1         YEB6030000         [23]           2         Overlead relay         SEMENS         380/616-160         2.8 -4A         1         YEB6030000         [23]           4         Overlead relay         SEMENS         380/616-160         2.8 -4A         1         YEB6030000         [24]           0         Overlead relay         SEMENS         380/616-160         2.8 -4A         1         YEB6030000         [24]           0         Derected relay         SEMENS         380/616-160         2.2 -32A         1         YEB603200000         [39]         A           0         Derected         CNT         KT1-32         ZP         Z         YE603200000         [39]         A           1         Fuse core         CNT         KT1-32         ZV         ZV/20741         1         YE603200000         [31]         A           1         Fuse core</td><td>Syndol         Name         Meutacturer         Type         Specification         Number         Mented immeter         Remark to the second interval interval</td><td>Synoid         Name         Markatione         Type         Specification         Markatione         Remark Remark           2.1         Inter relay         Stytek-type         2xVAC/CG-pHin         1         XerG1560000         C)           2.1         Deretoad relay         StPENS         3RU6/G-type         2xVAC/CG-pHin         1         XerG1560000         C)           2         Deretoad relay         StPENS         3RU6/G-tBB         1/-2AA         1         XerG1560000         C)           3         Deretoad relay         StPENS         3RU6/G-tBB         1/-2AA         1         XerG1520000         C)         A           4         Deretoad relay         StPENS         3RU6/G-tBB         2-3.2A         1         YerG1520000         C)         A           1         Deretoad relay         StPENS         3RU6/G-tBB         2-3.2A         1         YerG1520000         C)         A           1         Deretoad relay         StPENS         RU16         R128-2         Z         Z         YerG1520000         C)         A           1         Deretoad relay         StPENS         RU16         R128-2         Z         Z         YerG16200000         C)         Z         Z</td><td>Symbol         Name         Mandaturet         Tipe         Specification         Number         Attends under         Remark           24.         Then relay         VIVUX         Tip         VIVUX         Tip         Ketends under         Remark           21.         Dereioad relay         SIPKIS         SIVUX         Tip         Ketendsup         C           21.         Dereioad relay         SIPKIS         SIVUK-EB0         2.8.4.4         T         Ketendsup         C           22.         Dereioad relay         SIPKIS         SIVKIS-EB0         2.8.4.4         T         Ketendsup         C           23.         Dereioad relay         SIPKIS         SIVKIS-EB0         2.8.4.4         T         Ketendsup         C           24.         Dereioad relay         SIPKIS         SIVKIS-EB0         2.8.4.4         T         Ketendsup         C         C           24.         Dereioad relay         SIPKIS         SIVKIS-EB0         Z<td>Specification         Name         Mencial number         Remain         Remain           24         1         1         Nervicial number         Remain         Remain           24         1         1         1         PERVIABIONO         1         Remain         Remain           2         1         0         1         1         PERVIABIONO         1         PERVIABIONO         1           2         1         0         1         1         PERVIABIONO         1         PERVIABIONO         1           2         1         1         1         PERVIABIONO         1         PERVIABIONO         1           2         1         1         PERVIABIONO         2         2         2         1         PERVIABIONO         1         1           1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1</td><td>Symteti         Name         Manufacturer         Type         Specification         Martent munitare         Remark manual           2.1         Unererlay         Streff set (1)         VUVUN         Tipe         2.4X/CCC 0-9m         1         YEB3240000         (2)           2         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           2         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           3         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           3         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           1         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (3)           1         Fase         Manual         Marcel (rely)         STRMS         300/54_4-M90         300/54_4-M90         (4)         1         YEB3240000         (4)           1         Fase         Manual         Marcel (rely)         STRMS         2         2         YEB3260000<!--</td--><td>Synticity         Number         Manufacturer         Type         Specification         Number         Material material         Remark and material           2.4.         Enersity         STE-NA         WUVIN         STE-NA         1         YEBN5440000         20           2.         Corrindar relay         STE-NA         STU-NA         STE-NA         1         YEBN5440000         20           2.         Corrindar relay         STE-NA         STU-NA         STE-NA         1         YEBN5460000         20           2.         Corrindar relay         STE-NA         STU-NA         1         YEBN5460000         20           2.         Corrindar relay         STE-NA         STU-NA         1         YEBN5450000         20           2.         Corrindar relay         STE-NA         STU-NA         2         YEN07050000         20           0.         Corrindar relay         STE-NA         NUNA         STA         2         YEN07050000         20           0.         Fase         Monutarener         MA         NUNA         STA         2         YEN0705000         20           0.         Fase         MA         Monutarener         MA         NUNA         2</td><td></td><td></td></td></td></td> | Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         VUVIN         TRF-N         ZVAC/DC 0-3Min         1         YE6032400000         (2)           2         Overload relay         SIEMINS         3RU5/46-LMB0         84-100A         1         YE6032400000         (2)           3         Overload relay         SIEMINS         3RU5/16-IEB0         28-4A         1         YE016020000         (2)           4         Overload relay         SIEMINS         3RU5/16-IEB0         28-4A         1         YE016020000         (3)           4         Overload relay         SIEMINS         3RU5/16-IEB0         28-4A         1         YE016020000         (3)           4         Overload relay         SIEMINS         3RU5/16-IEB0         28-4A         1         YE016020000         (3)           4         Overload relay         SIEMINS         3RU5/16-IEB0         28-4A         1         YE016020000         (3)           4         Dise core         CMT         RT28-32         Z         Z         Z         Z         Z         Z         Z         Z         Z         Z | Symboli         Name         Manufacturer         Type         Specification         Number         Material number         Remark           24         Timer relay         V(YUN         TRF-N         2VAC/DC 0-34%         1         YE6032400000         (2)           2         Overload relay         StEMENS         3NUG/16.EE00         28-4A         1         YE003460000         (2)           2         Overload relay         StEMENS         3NUG/16.EE00         28-4A         1        
YE01600000         (2)           4         Overload relay         StEMENS         3NUG/16.EE00         28-4A         1         YE01600000         (3)           4         Deveload relay         StEMENS         3NUG/16.EE00         28-4A         1         YE01600000         (3)           4         Deveload relay         StEMENS         3NUG/16.6000         23-32A         1         YE01600000         (3)           4         Deveload relay         RRO         R728-32         2         2         YE040200000         (3)           4         Deveload relay         RRO         R728-32         2         YE04020000         (3)           4         Puse         R         YE01000000000         1 <t< td=""><td>Symboli         Name         Manufacturer         Type         Specification         Number         Material number         Remark           2k         Timer relay         YUYUN         TRF-N         2vAC/CG C-3Min         1         YE66032.00000         (2)           1         Overlaad relay         StEMENS         3RU5/46-4MB0         88-100A         1         YE66032.00000         (2)           2         Overlaad relay         StEMENS         3RU5/46-4MB0         88-100A         1         YE6053.00000         (2)           4         Overlaad relay         StEMENS         3RU5/16-4BB0         2-3.2.3.2         1         YE0150.0000         (3)           4         Overlaad relay         StEMENS         3RU5/16-1BB0         2-3.2.3.2         1         YE0150.0000         (3)           4         Doverlaad relay         RMD         RT28-32         2045/10.000         (3)         1           1         Fuse         RMD         1         YE0150.000         (3)         1         1         YE0150.0000         (3)           1         Fuse         RE         RT28-30         2         YE0160.0000         (3)         1           1         Fuse         RE         RE</td><td>Symboli         Name         Mandfacturer         Type         Specification         Number         Markation         Remark           24         Timerrelay         VUVUN         TRF-M         2.VAC/C0.0-3Min         1         YE663200000         (2)           2         Overload relay         SIEMENS         380/16-1EB0         2.9-4.A         1         YE06320000         (2)           2         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE061020000         (3)           4         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE016020000         (3)           4         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE016020000         (3)           4         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE016020000         (3)           4         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE016020000         (3)           4         Fuse core         MRD         MRD         MRD         5.90/V         2.4         YE016000000         (3)           1         Fuse core         MRD</td><td>Syndlit         Name         Marufacturer         Type         Specification         Number         Maruber         Ramark Marek           24         Timerrelay         VUVIN         TRF-M         2.VXC/DG 0-3Min         1         YE0514680000         (2)           2         Overload relay         SIEMENS         3RUG16-IEBO         80-000A         1         YE0514680000         (2)           3         Overload relay         SIEMENS         3RUG16-IEBO         2.8-4A         1         YE0514680000         (2)           4         Overload relay         SIEMENS         3RUG16-IDBO         2.8-4A         1         YE051460000         (2)           4         Overload relay         SIEMENS         3RUG16-IDBO         2.8-4A         1         YE015020000         (3)           4         Deveload relay         SIEMENS         3RUG16-IDBO         2.8-4A         1         YE015020000         (3)           4         Deveload relay         SIEMENS         3RUG16-IDBO         2.8-4A         1         YE015020000         (3)           4         Fuse core         MRO         0-38500V         2.8-4A         1         YE015010000         (3)           1         Fuse         YE01501000</td><td>Syndol         Name         Mandacturer         Type         Specification         Number         Mandacturer         Remark           24         Timer relay         VIVNIN         TRF-M         ZVXC/DC 6-396n         1         YE603240000         [2]           2         Overlaad relay         SIPRINS         SINGi6-4800         1         YE603240000         [2]           3         Overlaad relay         SIPRINS         SINGi6-4800         1         YE603240000         [2]           4         Overlaad relay         SIPRINS         SINGi6-4800         1         YE603240000         [3]           4         Overlaad relay         SIPRINS         SINGi6-1960         1         YE603240000         [3]           4         Overlaad relay         SIPRINS         SINGi6-1960         22-32         1         YE60320000         [3]           4         Develaad relay         NINO         YE603020000         [3]         YE603020000         [3]           1         Develaad relay         NINO         YE6030200000         [3]         YE603020000         [3]           1         Fue         YE603020000         YE6030200000         [3]         YE603020000         [3]           1         Eve</td><td>Syndol         Name         Mandacturer         Type         Specification         Number         Mandacturer         Rmark           24         Timerretay         VYUN         Timerretay         VYUN         Timerretay         Rmark         Rmark           21         Overload relay         SteMeNS         SteMeNS</td></t<> <td>Syndol.         Nandschurer         Type         Specification         Mumber         Mandschurer         Rmank           24.         Time relay         VUVUN         TRF-N         ZVXC/05 C=394in         1         YEB6032.00000         [21]           21         Overlead relay         SEMENS         380/616-160         84-0A         1         YEB6030000         [23]           2         Overlead relay         SEMENS         380/616-160         2.8 -4A         1         YEB6030000         [23]           4         Overlead relay         SEMENS         380/616-160         2.8 -4A         1         YEB6030000         [24]           0         Overlead relay         SEMENS         380/616-160         2.8 -4A         1         YEB6030000         [24]           0         Derected relay         SEMENS         380/616-160         2.2 -32A         1         YEB603200000         [39]         A           0         Derected         CNT         KT1-32         ZP         Z         YE603200000         [39]         A           1         Fuse core         CNT         KT1-32         ZV         ZV/20741         1         YE603200000         [31]         A           1         Fuse core</td> <td>Syndol         Name         Meutacturer         Type         Specification         Number         Mented immeter         Remark to the second interval interval</td> <td>Synoid         Name         Markatione         Type         Specification         Markatione         Remark Remark           2.1         Inter relay         Stytek-type         2xVAC/CG-pHin         1         XerG1560000         C)           2.1         Deretoad relay         StPENS         3RU6/G-type         2xVAC/CG-pHin         1         XerG1560000         C)           2         Deretoad relay         StPENS         3RU6/G-tBB         1/-2AA         1         XerG1560000         C)           3         Deretoad relay         StPENS         3RU6/G-tBB         1/-2AA         1         XerG1520000         C)         A           4         Deretoad relay         StPENS         3RU6/G-tBB         2-3.2A         1         YerG1520000         C)         A           1         Deretoad relay         StPENS         3RU6/G-tBB         2-3.2A         1         YerG1520000         C)         A           1         Deretoad relay         StPENS         RU16         R128-2         Z         Z         YerG1520000         C)         A           1         Deretoad relay         StPENS         RU16         R128-2         Z         Z         YerG16200000         C)         Z         Z</td> <td>Symbol         Name         Mandaturet         Tipe         Specification         Number         Attends under         Remark           24.         Then relay         VIVUX         Tip         VIVUX         Tip         Ketends under         Remark           21.         Dereioad relay         SIPKIS         SIVUX         Tip         Ketendsup         C           21.         Dereioad relay         SIPKIS         SIVUK-EB0         2.8.4.4         T         Ketendsup         C           22.         Dereioad relay         SIPKIS         SIVKIS-EB0         2.8.4.4         T         Ketendsup         C           23.         Dereioad relay         SIPKIS         SIVKIS-EB0         2.8.4.4         T         Ketendsup         C           24.         Dereioad relay         SIPKIS         SIVKIS-EB0         2.8.4.4         T         Ketendsup         C         C           24.         Dereioad relay         SIPKIS         SIVKIS-EB0         Z<td>Specification         Name         Mencial number         Remain         Remain           24         1         1         Nervicial number         Remain         Remain           24         1         1         1         PERVIABIONO         1         Remain         Remain           2         1         0         1         1         PERVIABIONO         1         PERVIABIONO         1           2         1         0         1         1         PERVIABIONO         1  
      PERVIABIONO         1           2         1         1         1         PERVIABIONO         1         PERVIABIONO         1           2         1         1         PERVIABIONO         2         2         2         1         PERVIABIONO         1         1           1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1</td><td>Symteti         Name         Manufacturer         Type         Specification         Martent munitare         Remark manual           2.1         Unererlay         Streff set (1)         VUVUN         Tipe         2.4X/CCC 0-9m         1         YEB3240000         (2)           2         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           2         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           3         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           3         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           1         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (3)           1         Fase         Manual         Marcel (rely)         STRMS         300/54_4-M90         300/54_4-M90         (4)         1         YEB3240000         (4)           1         Fase         Manual         Marcel (rely)         STRMS         2         2         YEB3260000<!--</td--><td>Synticity         Number         Manufacturer         Type         Specification         Number         Material material         Remark and material           2.4.         Enersity         STE-NA         WUVIN         STE-NA         1         YEBN5440000         20           2.         Corrindar relay         STE-NA         STU-NA         STE-NA         1         YEBN5440000         20           2.         Corrindar relay         STE-NA         STU-NA         STE-NA         1         YEBN5460000         20           2.         Corrindar relay         STE-NA         STU-NA         1         YEBN5460000         20           2.         Corrindar relay         STE-NA         STU-NA         1         YEBN5450000         20           2.         Corrindar relay         STE-NA         STU-NA         2         YEN07050000         20           0.         Corrindar relay         STE-NA         NUNA         STA         2         YEN07050000         20           0.         Fase         Monutarener         MA         NUNA         STA         2         YEN0705000         20           0.         Fase         MA         Monutarener         MA         NUNA         2</td><td></td><td></td></td></td> | Symboli         Name         Manufacturer         Type         Specification         Number         Material number         Remark           2k         Timer relay         YUYUN         TRF-N         2vAC/CG C-3Min         1         YE66032.00000         (2)           1         Overlaad relay         StEMENS         3RU5/46-4MB0         88-100A         1         YE66032.00000         (2)           2         Overlaad relay         StEMENS         3RU5/46-4MB0         88-100A         1         YE6053.00000         (2)           4         Overlaad relay         StEMENS         3RU5/16-4BB0         2-3.2.3.2         1         YE0150.0000         (3)           4         Overlaad relay         StEMENS         3RU5/16-1BB0         2-3.2.3.2         1         YE0150.0000         (3)           4         Doverlaad relay         RMD         RT28-32         2045/10.000         (3)         1           1         Fuse         RMD         1         YE0150.000         (3)         1         1         YE0150.0000         (3)           1         Fuse         RE         RT28-30         2         YE0160.0000         (3)         1           1         Fuse         RE         RE | Symboli         Name         Mandfacturer         Type         Specification         Number         Markation         Remark           24         Timerrelay         VUVUN         TRF-M         2.VAC/C0.0-3Min         1         YE663200000         (2)           2         Overload relay         SIEMENS         380/16-1EB0         2.9-4.A         1         YE06320000         (2)           2         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE061020000         (3)           4         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE016020000         (3)           4         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE016020000         (3)           4         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE016020000         (3)           4         Overload relay         SIEMENS         380/16-1EB0         2.9-3.2A         1         YE016020000         (3)           4         Fuse core         MRD         MRD         MRD         5.90/V         2.4         YE016000000         (3)           1         Fuse core         MRD | Syndlit         Name         Marufacturer         Type         Specification         Number         Maruber         Ramark Marek           24         Timerrelay         VUVIN         TRF-M         2.VXC/DG 0-3Min         1         YE0514680000         (2)           2         Overload relay         SIEMENS         3RUG16-IEBO         80-000A         1         YE0514680000         (2)           3         Overload relay         SIEMENS         3RUG16-IEBO         2.8-4A         1         YE0514680000         (2)           4         Overload relay         SIEMENS         3RUG16-IDBO         2.8-4A         1         YE051460000         (2)           4         Overload relay         SIEMENS         3RUG16-IDBO         2.8-4A         1         YE015020000         (3)           4         Deveload relay         SIEMENS         3RUG16-IDBO         2.8-4A         1         YE015020000         (3)           4         Deveload relay         SIEMENS         3RUG16-IDBO         2.8-4A         1         YE015020000         (3)           4         Fuse core         MRO         0-38500V         2.8-4A         1         YE015010000         (3)           1         Fuse         YE01501000 | Syndol         Name         Mandacturer         Type         Specification         Number         Mandacturer         Remark           24         Timer relay         VIVNIN         TRF-M         ZVXC/DC 6-396n         1         YE603240000         [2]           2         Overlaad relay         SIPRINS         SINGi6-4800         1         YE603240000         [2]           3         Overlaad relay         SIPRINS         SINGi6-4800         1         YE603240000         [2]           4         Overlaad relay         SIPRINS         SINGi6-4800         1         YE603240000         [3]           4         Overlaad relay         SIPRINS         SINGi6-1960         1         YE603240000         [3]           4         Overlaad relay         SIPRINS         SINGi6-1960         22-32         1         YE60320000         [3]           4         Develaad relay         NINO         YE603020000         [3]         YE603020000         [3]           1         Develaad relay         NINO         YE6030200000         [3]         YE603020000         [3]           1         Fue         YE603020000         YE6030200000         [3]         YE603020000         [3]           1         Eve | Syndol         Name         Mandacturer         Type         Specification         Number         Mandacturer         Rmark           24         Timerretay         VYUN         Timerretay         VYUN         Timerretay         Rmark         Rmark           21         Overload relay         SteMeNS         SteMeNS | Syndol.         Nandschurer         Type         Specification         Mumber         Mandschurer         Rmank           24.         Time relay         VUVUN         TRF-N         ZVXC/05 C=394in         1         YEB6032.00000         [21]           21         Overlead relay         SEMENS         380/616-160         84-0A         1         YEB6030000         [23]           2         Overlead relay         SEMENS         380/616-160         2.8 -4A         1         YEB6030000         [23]           4         Overlead relay         SEMENS         380/616-160         2.8 -4A         1         YEB6030000         [24]           0         Overlead relay         SEMENS         380/616-160         2.8 -4A         1         YEB6030000         [24]           0         Derected relay         SEMENS         380/616-160         2.2 -32A         1         YEB603200000         [39]         A           0         Derected         CNT         KT1-32         ZP         Z         YE603200000         [39]         A           1         Fuse core         CNT         KT1-32         ZV         ZV/20741         1         YE603200000         [31]         A           1         Fuse core | Syndol         Name         Meutacturer         Type         Specification         Number         Mented immeter         Remark to the second interval | Synoid         Name         Markatione         Type         Specification         Markatione         Remark Remark           2.1         Inter relay         Stytek-type         2xVAC/CG-pHin         1         XerG1560000         C)           2.1         Deretoad relay         StPENS         3RU6/G-type         2xVAC/CG-pHin         1         XerG1560000         C)           2         Deretoad relay         StPENS         3RU6/G-tBB         1/-2AA         1         XerG1560000   
     C)           3         Deretoad relay         StPENS         3RU6/G-tBB         1/-2AA         1         XerG1520000         C)         A           4         Deretoad relay         StPENS         3RU6/G-tBB         2-3.2A         1         YerG1520000         C)         A           1         Deretoad relay         StPENS         3RU6/G-tBB         2-3.2A         1         YerG1520000         C)         A           1         Deretoad relay         StPENS         RU16         R128-2         Z         Z         YerG1520000         C)         A           1         Deretoad relay         StPENS         RU16         R128-2         Z         Z         YerG16200000         C)         Z         Z | Symbol         Name         Mandaturet         Tipe         Specification         Number         Attends under         Remark           24.         Then relay         VIVUX         Tip         VIVUX         Tip         Ketends under         Remark           21.         Dereioad relay         SIPKIS         SIVUX         Tip         Ketendsup         C           21.         Dereioad relay         SIPKIS         SIVUK-EB0         2.8.4.4         T         Ketendsup         C           22.         Dereioad relay         SIPKIS         SIVKIS-EB0         2.8.4.4         T         Ketendsup         C           23.         Dereioad relay         SIPKIS         SIVKIS-EB0         2.8.4.4         T         Ketendsup         C           24.         Dereioad relay         SIPKIS         SIVKIS-EB0         2.8.4.4         T         Ketendsup         C         C           24.         Dereioad relay         SIPKIS         SIVKIS-EB0         Z <td>Specification         Name         Mencial number         Remain         Remain           24         1         1         Nervicial number         Remain         Remain           24         1         1         1         PERVIABIONO         1         Remain         Remain           2         1         0         1         1         PERVIABIONO         1         PERVIABIONO         1           2         1         0         1         1         PERVIABIONO         1         PERVIABIONO         1           2         1         1         1         PERVIABIONO         1         PERVIABIONO         1           2         1         1         PERVIABIONO         2         2         2         1         PERVIABIONO         1         1           1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1</td> <td>Symteti         Name         Manufacturer         Type         Specification         Martent munitare         Remark manual           2.1         Unererlay         Streff set (1)         VUVUN         Tipe         2.4X/CCC 0-9m         1         YEB3240000         (2)           2         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           2         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           3         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           3         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           1         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (3)           1         Fase         Manual         Marcel (rely)         STRMS         300/54_4-M90         300/54_4-M90         (4)         1         YEB3240000         (4)           1         Fase         Manual         Marcel (rely)         STRMS         2         2         YEB3260000<!--</td--><td>Synticity         Number         Manufacturer         Type         Specification         Number         Material material         Remark and material           2.4.         Enersity         STE-NA         WUVIN         STE-NA         1         YEBN5440000         20           2.         Corrindar relay         STE-NA         STU-NA         STE-NA         1         YEBN5440000         20           2.         Corrindar relay         STE-NA         STU-NA         STE-NA         1         YEBN5460000         20           2.         Corrindar relay         STE-NA         STU-NA         1         YEBN5460000         20           2.         Corrindar relay         STE-NA         STU-NA         1         YEBN5450000         20           2.         Corrindar relay         STE-NA         STU-NA         2         YEN07050000         20           0.         Corrindar relay         STE-NA         NUNA         STA         2         YEN07050000         20           0.         Fase         Monutarener         MA         NUNA         STA         2         YEN0705000         20           0.         Fase         MA         Monutarener         MA         NUNA         2</td><td></td><td></td></td> | Specification         Name         Mencial number         Remain         Remain           24         1         1         Nervicial number         Remain         Remain           24         1         1         1         PERVIABIONO         1         Remain         Remain           2         1         0         1         1         PERVIABIONO         1         PERVIABIONO         1           2         1         0         1         1         PERVIABIONO         1         PERVIABIONO         1           2         1         1         1         PERVIABIONO         1         PERVIABIONO         1           2         1         1         PERVIABIONO         2         2         2         1         PERVIABIONO         1         1           1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1         1         PERVIABIONO         1 | Symteti         Name         Manufacturer         Type         Specification         Martent munitare         Remark manual           2.1         Unererlay         Streff set (1)         VUVUN         Tipe         2.4X/CCC 0-9m         1         YEB3240000         (2)           2         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           2         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           3         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           3         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (2)           1         Derendar (rely)         STRMS         300/54_4-M90         8.7X/CC 0-9m         1         YEB3240000         (3)           1         Fase         Manual         Marcel (rely)         STRMS         300/54_4-M90         300/54_4-M90         (4)         1         YEB3240000         (4)           1         Fase         Manual         Marcel (rely)         STRMS         2         2         YEB3260000 </td <td>Synticity         Number         Manufacturer         Type         Specification         Number         Material material         Remark and material           2.4.         Enersity         STE-NA         WUVIN         STE-NA         1         YEBN5440000         20           2.         Corrindar relay         STE-NA         STU-NA         STE-NA         1         YEBN5440000         20           2.         Corrindar relay         STE-NA         STU-NA         STE-NA         1         YEBN5460000         20           2.         Corrindar relay         STE-NA         STU-NA         1         YEBN5460000         20           2.         Corrindar relay         STE-NA         STU-NA         1         YEBN5450000         20           2.         Corrindar relay         STE-NA         STU-NA         2         YEN07050000         20           0.         Corrindar relay         STE-NA         NUNA         STA         2         YEN07050000         20           0.         Fase         Monutarener         MA         NUNA         STA         2         YEN0705000         20           0.         Fase         MA         Monutarener         MA         NUNA         2</td> <td></td> <td></td> | Synticity         Number         Manufacturer         Type         Specification         Number         Material material         Remark and material           2.4.         Enersity         STE-NA         WUVIN         STE-NA         1         YEBN5440000         20           2.         Corrindar relay         STE-NA         STU-NA         STE-NA         1         YEBN5440000         20           2.         Corrindar relay         STE-NA         STU-NA         STE-NA         1         YEBN5460000         20           2.         Corrindar relay         STE-NA         STU-NA         1         YEBN5460000         20           2.         Corrindar relay         STE-NA         STU-NA         1         YEBN5450000         20           2.         Corrindar relay         STE-NA         STU-NA         2         YEN07050000         20           0.         Corrindar relay         STE-NA         NUNA         STA         2         YEN07050000         20           0.         Fase        
Monutarener         MA         NUNA         STA         2         YEN0705000         20           0.         Fase         MA         Monutarener         MA         NUNA         2 |                        |    |

Table 2-9: SG-7090 Electrical Components List 2



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| Kemark       | (E)        | (2)  |  |  
   
   
   
   | (11)   |  | {1}   | (1)(2)  | [1][4]  | (1)(t)  
   
   
   
  | (1)((4))  | (1)(7)  | (1)  | (1)   | (1)   | (I)(J)   |  
  |  |  |   |  |   |   
   
   |  |  
  |  | Page 9   | Totally 9 Page  | 4007  | 50Hz   
  | 8   |
| number       | 00000      | 140000   | 40000  | 00000  
   
   
   
   | 00007  | 00000  |   | 00100   | 200000  | -00100  
   
   
   
  | +00000  | +00100  |  |   |   |  |  
  |  |  |   |  |   |   
   
   |  |  
  |  | Scale  | Standard GB   | Voltage   | Frequency  
  |   |
| Material     | YE612535   | YE612500   | YE612500   | YE612535   
   
   
   
   | YE612500   | YE610700   |   | YE680162  | YE84240   | YE158024  
   
   
   
  | YE68025/  | YE68025/  |  |   |   |  |  
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  |  |  | -GB-D-9   | 有限公司  | Nogies, Inc.   
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| Number       | ÷          | 2  | 24   | -  
   
   
   
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  |  |  | 1090-4000   | <b>参点 社体 左肋 日巳 40</b>   | astics Techno  
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   |  |  
  |  | Drawing NO.  | - 9S  |   | Shini Pu   
  | 9   |
| Specificatio | ł          | 32A  | 32A  | 3  
   
   
   
   | 32A  | Ŧ  | 24VAC 50/6  | 2P  | 24VAC   | 24VAC   
   
   
   
  | 4 P   | 4Þ  | 400V 50Hz  | 400V 50Hz   | 400V 50Hz   | 400V 50Hz  |  
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  |  | 0602-  | aonents List 3  |   |  
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  |  | e SG-  | Electrical Comp   | (į  | J)   
  | 5   |
| lype         | TB2.5 PE I | TB2.5B   | TB2.5B   | TB2.5 PE I   
   
   
   
   | TB2.5B   | NCT-70PE   |   | ⊃L T-162-RRI <b>公</b>   | EA-2  | SR-80   
   
   
   
  | ⊃LT-254-PM  | ⊃LT-254-RF  | 75KW   | 1.5KW   | 7.5KW   | 1.1K W   |  
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  |  | ±<br>D   |   | 1   | 20160709   
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  | 4   |
| Manutacture  | ł          | ł  | PHOENIX  | PHOENIX  
   
   
   
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  |  |  |   |   | Modified<br>by   
  |   |
| Name         |            |  | Terminal boa   |  
   
   
   
   |  | Terminal bo  | Solenoid val  | Metal tie in  | Buzzer  | Material lev  
   
   
   
  | Metal tie in  |   | Matar  | Oil pump mol  | Blower  | Blawer   |  
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  |  |  |   |   | After<br>modification  
  | 2   |
| Symbol       |            |  | (2 X3  |  
   
   
   
   |  | 14   | '11 Y12 Y13 Y14   | 6   | 3   | 15  
   
   
   
  | (10   |   | 11   | 12  | 13  | 14   |  
  |  |  |   |  |   |   
   
   |  |  
  | Ver.B  |  |   |   | Befare<br>modification   
  |   |
|              | 51         | 52   | 53 X   | 54   
   
   
   
   | 55   | 56 X   | 57 Y  | 58 X  | 59 H  | 60 M  
   
   
   
  | 61 X  | 62  | 63 M   | 64 M  | 65 M  | 66 M   |  
  |  |  |   |  |   |   
   
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  | 版本   |  |   |   | Mark   
  |   |
|              |            | NO.         Symbol         Name         Priority actualies         Type         Specification         Products         Priority instruct         Prioret         Priority instruct | NO.         Dependent         Neurost         Transfer of transfer         Type         Dependent of transfer         Instruction         Instruction         Neurost           51          TB2.5 FE1          1         Yt65735300000         (3)           52          TB2.5 F1          32.4         2         Yt6575300000         (3) | No.         Symbolic         Name         Instruction         Instruction         Instruction         Instruction         Instruction         Instruction         Neurosci         Neurosci <td>NO.         Symbolic         Name         Transferior         Type         Specification         Instruction         Instruction         Instruction         Instruction         Neurosci         Neurosci</td> <td>NO.         Symbolic         Name         Trianuction         Type         Specification         Instruction         Instruction</td> <td>NO.         Symbol, Matter         Name         Training to the symbol, Matter         Instruction         Training to the symbol, Matter         Name         Instruction         Name         Name         Instruction         Name         Nam         Name         Name         N</td> <td>NO.         Symbolic         Induction         Indu</td> <td>NO.         Symbolic         Name         Induction         Induction</td> <td>NO.         Symbol, Matter         Name         Instruction         Television         Television         Television         Neurest         Instruction         Instruction         Neurest         Neurest         Instruction         Neurest         Neurest<!--</td--><td>NO.         Symbolic         Name         Interfact induction         Televicial current         Type         Specification         Interfact induction         Number         Numer         Numer         Numer</td><td>NO.         Syntox, and the model         Indicator of the model         In</td><td>No.         Symotic         Instruction         Inst</td><td>No.         Symbol Matter         Inductationed         Tradictationed         Type         Specification         Inductationed         Inductationed</td><td>NO.         Symbol         Name         Tracticat number         Type         Detention of the contract number         Detention of thetenin         Detententi</td><td>NO.         Symot         Instruction         Instrestruction         In</td><td>NU.         NIMOR         Individuant         Indit         Indit</td><td>WO.         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Symbolic         Name         Transferior         Type         Specification         Instruction         Instruction         Instruction         Instruction         Neurosci         Neurosci | NO.         Symbolic         Name         Trianuction         Type         Specification         Instruction         Instruction | NO.         Symbol, Matter         Name         Training to the symbol, Matter         Instruction         Training to the symbol, Matter         Name         Instruction         Name         Name         Instruction         Name         Nam         Name         Name         N | NO.         Symbolic         Induction         Indu | NO.         Symbolic         Name         Induction         Induction | NO.         Symbol, Matter         Name         Instruction         Television         Television         Television         Neurest         Instruction         Instruction         Neurest         Neurest         Instruction         Neurest         Neurest </td <td>NO.         Symbolic         Name         Interfact induction         Televicial current         Type         Specification         Interfact induction         Number         Numer         Numer         Numer</td> <td>NO.         Syntox, and the model         Indicator of the model         In</td> <td>No.         Symotic         Instruction         Inst</td> <td>No.         Symbol Matter         Inductationed         Tradictationed         Type         Specification         Inductationed         Inductationed</td> <td>NO.         Symbol         Name         Tracticat number         Type         Detention of the contract number         Detention of thetenin         Detententi</td> <td>NO.         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Table 2-10: SG-7090 Electrical Components List 3





2.4.5 Main Circuit Diagram (SG-70120)



Picture 2-19: Main Circuit Diagram 1(SG-70120)





Picture 2-20: Main Circuit Diagram 2(SG-70120)



2.4.6 Control Circuit Diagram (SG-70120)



Picture 2-21: Control Circuit Diagram 1(SG-70120)





Picture 2-22: Control Circuit Diagram 2(SG-70120)





Picture 2-23: Control Circuit Diagram 3(SG-70120)



## 2.4.7 Electrical Components Layout (SG-70120)



Picture 2-24: Electrical Components Layout (SG-70120)



# 2.4.8 Electrical Components List (SG-70120)

E41503400000	0000			(3)																								ages			
E41503400000	0002			- 1			8				(3)							(2)			(2)	(2)	(2)				Page 7	Totally 9 P.	400V	50Hz	8
E415034		03000	03000	03000	00600	02600	02600	0000	02600	0000	02600	01200	00300	00000	00000	00000	00300	00300	00300	00000	00300	00E00	00000	30000	30000		Scale	Standard GB	Voltage	Frequency	
7	VEI DANIO	TE403010	YE403040	YE403006	YE005054	YE005046	YE006015	YE0069111	YE006025	YE0069111	YE006015	YE040476	YE866024	YE861230	YE860324	YE031038	YE030224	YE030421	YE030224	YE032724	YE030224	YE866024	YE860324	YE0151461	YE0116028		t t	/	有限公司	ogies, Inc.	7
-		-	<del>.</del>		2	1	1	2	1	I.	1	-	L	÷	-	F	1	Ļ	5	2	2	-	-	Ļ	L			120-400V	<b>機械服份</b> :	tics Technol	
					μz							c/DC]	50S	3S/60Min	3Min							50S	3Min			essories.	Draving NO.	20-7(	/ 信易電熱	Shini Plas	9
320A	10.4	NA .	40A	6A	24 VAC 50/60	24V 50/60Hz	24V 50/60Hz	1NO	24V 50/60Hz	1NO	24V 50/60Hz	0.5-6A (24VA	24 VAC/DE 0-	24 VAC/DC 0-	24 VAC/DC 0~	400V 50/60Hz	24VAC	24VAC	24VAC	24 VDC	24VAC	24 V AC/DC 0-	24 VAC/DC 0-	80-100A	2.8-4A	optional acc	70120	ments List 1			
32003PFF																										nveying belt	-9S	llectrical Compo	(1	E N)	5
N400TMF320/	63C/3P	-024/25	-63C/3P	-63C/3P	T5054-1AB36	T5046-1AC20	T6015-1AB02	H6911-1AA10	T6025-1AC20	H6911-1AA10	T6015-1AB02	4706BA	3A-NAB	3M-NAB	F-N	J-10W	-2C-AC24V	-4C-AC24V	-2C-AC24V	M270024LT	-2C-AC24V	3A-NAB	F-N	J5146-4MB0	J6116-1EB0	Stand for co	D Title		_	160709	
A3	Ϋ́		BM	BM	3R	ЗR	3R	3RI	3R'	3RI	3R.	Ľ	푸	푸	TR	AB	GR	GR	GR	DR	GR	푸	TR	3RI	3RI	l box.(2) :	Version	Approved	Ą	Date 20	4
88		CLU	ECO	ECO	EMENS	EMENS	EMENS	EMENS	EMENS	EMENS	EMENS	CHNEIDER	UYUN	UΥUN	UΥUN	HADSHI	oneywell	oneywell	oneywell	EIDMULLER	oneywell	UΥUN	UγUN	EMENS	EMENS	e the contro			q		
A	: =		F	F	S	N	S	S	S	S	N	S	7	7	7	Ð	Ĩ	Í	Í	M	Ŧ	×	*	S	S	-erial insid	Drawer	Jesigner	Proofrea by	fy Checked e by	E
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rcuit breake	reaker	ו בפעבו	oreaker	oreaker	or	or	or	nt point	or	nt point	or	'elay	elay	el a y	elay	equence pro	elay.	yelay	yelay	elay.	yelay	elay	elay	d relay	d relay	eans it's no				Modifie	2
Gate-cii	Circuit b		Circuit t	Circuit £	Contact	Contact	Contact	Assista	Contact	Assista	Contact	Circuit r	Timer re	Timer rt	Timer ri	Phase s	Middle r	Middle r	Middle r	Middle r	Middle r	Timer r	Timer rt	Overloa	Overloa	Notes: (1)Mt				After nodification	
01	0.3	7 <b>n</b>	Q3	04	K1,K2	K3	K4		KS		K6	K7	KB	К9	K10	K12	K13	K13	K14-K18	K19,K20	K21,K22	K23	K24	E	F2	Ver.C				Before modification	+
-	2	i r	n	4	S	9	L	8	6	10	11	12	Et	14	15	16	17	18	19	20	21	22	23	24	25	版本				Mark	
	1 D1 Gate-rincuit hreaker ARR AANLOOTME3201/32003PEF 320.A 1	1         1         01         Gate-clicuit breaker         ABB         ABV400TMF320/32003FFF         320A         1           2          ricroit broaker         rrcn         bx carbo         nx <td>1         α1         Gate-circuit breaker         ABB         Anu00TMF320/32003PFF         320.A         1           2         α2         Circuit breaker         TEC0         BM-63C/3P         10.A         1</td> <td>1         1         1         1         Gate-circuit breaker         ABB         AN400TMF320/32003PFF         320.A         1           2         2         0.2         Circuit breaker         TECO         BM-63C/3P         10.A         1           A         3         0.3         Circuit breaker         TECO         BM-63C/3P         40.A         1</td> <td>1         1         1         1         Gate-circuit breaker         ABB         A3N400TMF320/32003PFF         320.A         1           2         2         2         2         Circuit breaker         TECO         BM-63(/3P         10.A         1           A         3         0.3         Circuit breaker         TECO         BM-63(/3P         40.A         1           4         4         0.4         Circuit breaker         TECO         BM-63(/3P         6.A         1</td> <td>1         1         1         1         Gate-circuit breaker         ABS         A3N400TMF320/32003PFF         320.A         1           2         2         2         Circuit breaker         TECO         BM-63C/3P         10.A         1           A         3         0.3         Circuit breaker         TECO         BM-63C/3P         40.A         1           4         3         0.4         Circuit breaker         TECO         BM-63C/3P         40.A         1           4         0.4         Circuit breaker         TECO         BM-63C/3P         6.A         1           5         K.JK2         Contactor         SIEMENS         3RT0564-14B36         24.VAC 50/6Hz         2</td> <td>1         0         Gate-circuit breaker         ABB         AN4.00TMF320/32003PFF         320.A         1           2         2         2         Circuit breaker         TEC0         BM-63C/3P         10.A         1           A         3         23         Circuit breaker         TEC0         BM-63C/3P         40.A         1           4         3         0.3         Circuit breaker         TEC0         BM-63C/3P         40.A         1           4         A         3         Circuit breaker         TEC0         BM-63C/3P         40.A         1           5         KT/X2         Contactor         SIEMENS         SIT5054-14B36         24VC 50/60H2         2           6         K3         Contactor         SIEMENS         SIRFNS         3RT5046-14C20         2         2</td> <td>1         0         Gate-circuit breaker         ABB         AN400TMF320/32003PFF         320.A         1           2         0.2         Circuit breaker         TEC0         BM-63C/3P         10.A         1           4         3         0.3         Circuit breaker         TEC0         BM-63C/3P         40.A         1           4         3         0.3         Circuit breaker         TEC0         BM-63C/3P         40.A         1           4         3         0.3         Circuit breaker         TEC0         BM-63C/3P         60.A         1           4         4         0.4         Circuit breaker         TEC0         BM-63C/3P         60.A         1           5         K1/X2         Contactor         Stecos         3875054-14B36         24V 50/60H2         2         2           6         K3         Contactor         Stecos         387504-14B36         24V 50/60H2         1           7         K4         Contactor         Stecos         387605-14B02         24V 50/60H2         1</td> <td>1         0         Gate-circuit breaker         AB         AN400TMF320/3203PFF         320.4         1           2         2         0         Circuit breaker         TEC0         BM-63C/3P         10.4         1           4         3         0.3         Circuit breaker         TEC0         BM-63C/3P         10.4         1           4         3         0.3         Circuit breaker         TEC0         BM-63C/3P         40.4         1           4         4         0.4         Circuit breaker         TEC0         BM-63C/3P         40.4         1           5         K1x2         Circuit breaker         TEC0         BM-63C/3P         54.40500Hz         1           6         K3         Contactor         StEMENS         3RT504-14B36         24.40500Hz         2           6         K3         Contactor         StEMENS         3RT504-14B30         24.50500Hz         1           7         K4         Contactor         StEMENS         3RT6015-14B30         10         1           7         K4         Contactor         StEMENS         3RT504-14B30         1         1</td> <td>1         0         0         6ate-circuit breaker         ABB         A3N400TMF320/3203PFF         320.4         1           2         2         22         Circuit breaker         TEC0         BM-637/3P         10.4         1           4         3         a3         Circuit breaker         TEC0         BM-637/3P         6.04         1           4         3         a3         Circuit breaker         TEC0         BM-637/3P         6.04         1           4         4         a4         Circuit breaker         TEC0         BM-637/3P         6.04         1           5         K1,kz         Circuit breaker         TEC0         BM-637/3P         6.04         1           6         K1,kz         Contactor         S16MeNs         3RT5046-14B36         2,4V 50/60Hz         2           7         K4         Contactor         S16MeNs         3RT5046-14Z00         24V 50/60Hz         1           8         Y         A         Contactor         S16MENs         3RT5045-14B30         10         1           7         K4         Contactor         S16MENs         3RT5046-14Z00         10         1           8         Y         A         S0460-1</td> <td>1         0         Gate-circuit breaker         AB         AN400TMF320/3203PFF         320.4         1           2         Q2         Circuit breaker         TEC0         BM-637/3P         10.4         1           4         3         Q2         Circuit breaker         TEC0         BM-637/3P         10.4         1           4         3         Q2         Circuit breaker         TEC0         BM-637/3P         10.4         1           4         4         Q4         Circuit breaker         TEC0         BM-637/3P         6.4         1           5         Ki,K2         Circuit breaker         TEC0         BM-637/3P         6.4         1           6         K3         Contactor         Stemes         3RT504-1A356         2.4V 50/60H2         2           7         K4         Contactor         Stemes         3RT504-1A30         NO         1           7         K4         Contactor         Stemes         3RT605-1A20         2.4V 50/60H2         1           6         K3         Contactor         Stemes         3RT605-1A20         2.4V 50/60H2         1           7         K4         Contactor         Stemes         3RT605-1A20         2.4V 50/</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1010103640-circuit breaker48A3N.001MF320/303PFF320.41202Creut breakerTECBM-637/3P10.414303Creut breakerTECBM-637/3P10.41400Creut breakerTECBM-637/3P10.415K1/k2Creut breakerTECBM-637/3P6.416K3ContactorSteMeN315054-1M3362.4V5.050614227K4ContactorSteMeN315054-1M3022.4V5.050614228K3ContactorSteMeN316055-1M20202.4V5.050614229K5ContactorSteMeN316055-1M20202.4V5.050614229K5ContactorSteMeN316055-1M20202.4V5.050614219K5ContactorSteMeN316055-1M20202.4V5.050614219K5ContactorSteMeN316055-1M20202.4V5.050614219K5ContactorSteMeN316055-1M20202.4V5.0506142110K5ContactorSteMeN316055-1M20202.4V5.0506142111K5K1ContactorSteMeN316055-1M20202.4V5.0506142112K7ContactorSteMeNSteMeN2.4V5.0506142113K8ContactorContactorSteMeN2.4V5.0506142114K9Contactor</td> <td></td> <td>1         0         0         0         0         0         1           2         0         0         0         0         0         1           2         0         0         0         0         0         1         0           4         0         0         0         0         0         0         0         1           4         0         0         0         0         0         0         0         0         1           4         0         0         0         0         0         0         0         1         1           6         0         0         0         0         0         0         0         1         1           6         0</td> <td></td> <td>1         0         0         Gate-circuit breaker         ABB         AMM00THF320/32003FFF         32.0.4         1           2         0         0         0         0         0         0         1           4         0         0         0         1         10         0         0         1           4         0         0         0         0         0         0         0         0         1           4         0         0         0         0         0         0         0         1         1           4         0         0         0         0         0         0         0         0         1         1           6         K         0</td> <td>1         01         01         040-circui breaker         AB         A3Nd0TNF320/3005FF         320.4         1           2         02         01crui breaker         150         BH-35/2P         10.4         1           4         0.2         01crui breaker         150         BH-35/2P         4         1           5         K1X         010         BFENS         381505-MB3         24X6506042         1           6         63         010         0104eter         1500         BH-35/2P         6.4         1           6         63         0104eter         1500         BH-35/2P         24X6506042         1           7         K4X         0104eter         1600         BH-35/2P         24X6506042         1           7         K4X         0104eter         1600         1600         10         1           8         17         K4X         0104eter         10         1         1           16         K4X         11040         10         10         1         1           17         K4X         0104         114300         10         1         1           17         K4X         0104         1143AB<!--</td--><td>1         0         0         0         0         0         0         0         0           2         0         0         0         0         0         0         0         1         1           2         0         0         0         0         0         0         0         1         1           4         0         0         0         0         0         0         0         1         1           4         0         0         0         0         0         0         0         1         1           6         1         0         0         0         0         0         0         1         1           7         1         0         0         0         0         0         0         0         0         1         1           7         1         0</td><td>1         0         0         0         0         0         0         1         0           2         0         0         0         0         0         0         0         1         1           2         0         0         0         0         0         0         0         0         1         1           4         0         0         0         0         0         0         0         0         1         1           6         0         0         0         0         0         0         0         1         1         1           7         K4         0         0         0         0         0         0         1</td><td>1         0         clance         ABM         ANMONTF320730FF         320.4         1           2         02         Crevit breaker         FE(0)         BH-637/3P         R0         1           2         02         Crevit breaker         FE(0)         BH-637/3P         R0         1           4         0.2         Crevit breaker         FE(0)         BH-637/3P         2.40         1           5         KX2         Contactor         SFENES         387505-AR356         2.40         1           6         KX2         Contactor         SFENES         387505-AR356         2.40         1           7         K4         Contactor         SFENES         387505-AR320         2.40         1           9         K5         ASSISTANT SOLD         MODINESACO         2.40         1         1           9         K4         ASSISTANT SOLD         MODINESACO         2.40         1         1           9         K4         ASSISTANT SOLD         MODINESACO         2.40         1         1           10         K4         ASSISTANT SOLD         MODINESACO         2.40         1         1           11         K4         ASSISTANT</td><td></td><td></td><td></td><td></td></td>	1         α1         Gate-circuit breaker         ABB         Anu00TMF320/32003PFF         320.A         1           2         α2         Circuit breaker         TEC0         BM-63C/3P         10.A         1	1         1         1         1         Gate-circuit breaker         ABB         AN400TMF320/32003PFF         320.A         1           2         2         0.2         Circuit breaker         TECO         BM-63C/3P         10.A         1           A         3         0.3         Circuit breaker         TECO         BM-63C/3P         40.A         1	1         1         1         1         Gate-circuit breaker         ABB         A3N400TMF320/32003PFF         320.A         1           2         2         2         2         Circuit breaker         TECO         BM-63(/3P         10.A         1           A         3         0.3         Circuit breaker         TECO         BM-63(/3P         40.A         1           4         4         0.4         Circuit breaker         TECO         BM-63(/3P         6.A         1	1         1         1         1         Gate-circuit breaker         ABS         A3N400TMF320/32003PFF         320.A         1           2         2         2         Circuit breaker         TECO         BM-63C/3P         10.A         1           A         3         0.3         Circuit breaker         TECO         BM-63C/3P         40.A         1           4         3         0.4         Circuit breaker         TECO         BM-63C/3P         40.A         1           4         0.4         Circuit breaker         TECO         BM-63C/3P         6.A         1           5         K.JK2         Contactor         SIEMENS         3RT0564-14B36         24.VAC 50/6Hz         2	1         0         Gate-circuit breaker         ABB         AN4.00TMF320/32003PFF         320.A         1           2         2         2         Circuit breaker         TEC0         BM-63C/3P         10.A         1           A         3         23         Circuit breaker         TEC0         BM-63C/3P         40.A         1           4         3         0.3         Circuit breaker         TEC0         BM-63C/3P         40.A         1           4         A         3         Circuit breaker         TEC0         BM-63C/3P         40.A         1           5         KT/X2         Contactor         SIEMENS         SIT5054-14B36         24VC 50/60H2         2           6         K3         Contactor         SIEMENS         SIRFNS         3RT5046-14C20         2         2	1         0         Gate-circuit breaker         ABB         AN400TMF320/32003PFF         320.A         1           2         0.2         Circuit breaker         TEC0         BM-63C/3P         10.A         1           4         3         0.3         Circuit breaker         TEC0         BM-63C/3P         40.A         1           4         3         0.3         Circuit breaker         TEC0         BM-63C/3P         40.A         1           4         3         0.3         Circuit breaker         TEC0         BM-63C/3P         60.A         1           4         4         0.4         Circuit breaker         TEC0         BM-63C/3P         60.A         1           5         K1/X2         Contactor         Stecos         3875054-14B36         24V 50/60H2         2         2           6         K3         Contactor         Stecos         387504-14B36         24V 50/60H2         1           7         K4         Contactor         Stecos         387605-14B02         24V 50/60H2         1	1         0         Gate-circuit breaker         AB         AN400TMF320/3203PFF         320.4         1           2         2         0         Circuit breaker         TEC0         BM-63C/3P         10.4         1           4         3         0.3         Circuit breaker         TEC0         BM-63C/3P         10.4         1           4         3         0.3         Circuit breaker         TEC0         BM-63C/3P         40.4         1           4         4         0.4         Circuit breaker         TEC0         BM-63C/3P         40.4         1           5         K1x2         Circuit breaker         TEC0         BM-63C/3P         54.40500Hz         1           6         K3         Contactor         StEMENS         3RT504-14B36         24.40500Hz         2           6         K3         Contactor         StEMENS         3RT504-14B30         24.50500Hz         1           7         K4         Contactor         StEMENS         3RT6015-14B30         10         1           7         K4         Contactor         StEMENS         3RT504-14B30         1         1	1         0         0         6ate-circuit breaker         ABB         A3N400TMF320/3203PFF         320.4         1           2         2         22         Circuit breaker         TEC0         BM-637/3P         10.4         1           4         3         a3         Circuit breaker         TEC0         BM-637/3P         6.04         1           4         3         a3         Circuit breaker         TEC0         BM-637/3P         6.04         1           4         4         a4         Circuit breaker         TEC0         BM-637/3P         6.04         1           5         K1,kz         Circuit breaker         TEC0         BM-637/3P         6.04         1           6         K1,kz         Contactor         S16MeNs         3RT5046-14B36         2,4V 50/60Hz         2           7         K4         Contactor         S16MeNs         3RT5046-14Z00         24V 50/60Hz         1           8         Y         A         Contactor         S16MENs         3RT5045-14B30         10         1           7         K4         Contactor         S16MENs         3RT5046-14Z00         10         1           8         Y         A         S0460-1	1         0         Gate-circuit breaker         AB         AN400TMF320/3203PFF         320.4         1           2         Q2         Circuit breaker         TEC0         BM-637/3P         10.4         1           4         3         Q2         Circuit breaker         TEC0         BM-637/3P         10.4         1           4         3         Q2         Circuit breaker         TEC0         BM-637/3P         10.4         1           4         4         Q4         Circuit breaker         TEC0         BM-637/3P         6.4         1           5         Ki,K2         Circuit breaker         TEC0         BM-637/3P         6.4         1           6         K3         Contactor         Stemes         3RT504-1A356         2.4V 50/60H2         2           7         K4         Contactor         Stemes         3RT504-1A30         NO         1           7         K4         Contactor         Stemes         3RT605-1A20         2.4V 50/60H2         1           6         K3         Contactor         Stemes         3RT605-1A20         2.4V 50/60H2         1           7         K4         Contactor         Stemes         3RT605-1A20         2.4V 50/								1010103640-circuit breaker48A3N.001MF320/303PFF320.41202Creut breakerTECBM-637/3P10.414303Creut breakerTECBM-637/3P10.41400Creut breakerTECBM-637/3P10.415K1/k2Creut breakerTECBM-637/3P6.416K3ContactorSteMeN315054-1M3362.4V5.050614227K4ContactorSteMeN315054-1M3022.4V5.050614228K3ContactorSteMeN316055-1M20202.4V5.050614229K5ContactorSteMeN316055-1M20202.4V5.050614229K5ContactorSteMeN316055-1M20202.4V5.050614219K5ContactorSteMeN316055-1M20202.4V5.050614219K5ContactorSteMeN316055-1M20202.4V5.050614219K5ContactorSteMeN316055-1M20202.4V5.0506142110K5ContactorSteMeN316055-1M20202.4V5.0506142111K5K1ContactorSteMeN316055-1M20202.4V5.0506142112K7ContactorSteMeNSteMeN2.4V5.0506142113K8ContactorContactorSteMeN2.4V5.0506142114K9Contactor		1         0         0         0         0         0         1           2         0         0         0         0         0         1           2         0         0         0         0         0         1         0           4         0         0         0         0         0         0         0         1           4         0         0         0         0         0         0         0         0         1           4         0         0         0         0         0         0         0         1         1           6         0         0         0         0         0         0         0         1         1           6         0		1         0         0         Gate-circuit breaker         ABB         AMM00THF320/32003FFF         32.0.4         1           2         0         0         0         0         0         0         1           4         0         0         0         1         10         0         0         1           4         0         0         0         0         0         0         0         0         1           4         0         0         0         0         0         0         0         1         1           4         0         0         0         0         0         0         0         0         1         1           6         K         0	1         01         01         040-circui breaker         AB         A3Nd0TNF320/3005FF         320.4         1           2         02         01crui breaker         150         BH-35/2P         10.4         1           4         0.2         01crui breaker         150         BH-35/2P         4         1           5         K1X         010         BFENS         381505-MB3         24X6506042         1           6         63         010         0104eter         1500         BH-35/2P         6.4         1           6         63         0104eter         1500         BH-35/2P         24X6506042         1           7         K4X         0104eter         1600         BH-35/2P         24X6506042         1           7         K4X         0104eter         1600         1600         10         1           8         17         K4X         0104eter         10         1         1           16         K4X         11040         10         10         1         1           17         K4X         0104         114300         10         1         1           17         K4X         0104         1143AB </td <td>1         0         0         0         0         0         0         0         0           2         0         0         0         0         0         0         0         1         1           2         0         0         0         0         0         0         0         1         1           4         0         0         0         0         0         0         0         1         1           4         0         0         0         0         0         0         0         1         1           6         1         0         0         0         0         0         0         1         1           7         1         0         0         0         0         0         0         0         0         1         1           7         1         0</td> <td>1         0         0         0         0         0         0         1         0           2         0         0         0         0         0         0         0         1         1           2         0         0         0         0         0         0         0         0         1         1           4         0         0         0         0         0         0         0         0         1         1           6         0         0         0         0         0         0         0         1         1         1           7         K4         0         0         0         0         0         0         1</td> <td>1         0         clance         ABM         ANMONTF320730FF         320.4         1           2         02         Crevit breaker         FE(0)         BH-637/3P         R0         1           2         02         Crevit breaker         FE(0)         BH-637/3P         R0         1           4         0.2         Crevit breaker         FE(0)         BH-637/3P         2.40         1           5         KX2         Contactor         SFENES         387505-AR356         2.40         1           6         KX2         Contactor         SFENES         387505-AR356         2.40         1           7         K4         Contactor         SFENES         387505-AR320         2.40         1           9         K5         ASSISTANT SOLD         MODINESACO         2.40         1         1           9         K4         ASSISTANT SOLD         MODINESACO         2.40         1         1           9         K4         ASSISTANT SOLD         MODINESACO         2.40         1         1           10         K4         ASSISTANT SOLD         MODINESACO         2.40         1         1           11         K4         ASSISTANT</td> <td></td> <td></td> <td></td> <td></td>	1         0         0         0         0         0         0         0         0           2         0         0         0         0         0         0         0         1         1           2         0         0         0         0         0         0         0         1         1           4         0         0         0         0         0         0         0         1         1           4         0         0         0         0         0         0         0         1         1           6         1         0         0         0         0         0         0         1         1           7         1         0         0         0         0         0         0         0         0         1         1           7         1         0	1         0         0         0         0         0         0         1         0           2         0         0         0         0         0         0         0         1         1           2         0         0         0         0         0         0         0         0         1         1           4         0         0         0         0         0         0         0         0         1         1           6         0         0         0         0         0         0         0         1         1         1           7         K4         0         0         0         0         0         0         1	1         0         clance         ABM         ANMONTF320730FF         320.4         1           2         02         Crevit breaker         FE(0)         BH-637/3P         R0         1           2         02         Crevit breaker         FE(0)         BH-637/3P         R0         1           4         0.2         Crevit breaker         FE(0)         BH-637/3P         2.40         1           5         KX2         Contactor         SFENES         387505-AR356         2.40         1           6         KX2         Contactor         SFENES         387505-AR356         2.40         1           7         K4         Contactor         SFENES         387505-AR320         2.40         1           9         K5         ASSISTANT SOLD         MODINESACO         2.40         1         1           9         K4         ASSISTANT SOLD         MODINESACO         2.40         1         1           9         K4         ASSISTANT SOLD         MODINESACO         2.40         1         1           10         K4         ASSISTANT SOLD         MODINESACO         2.40         1         1           11         K4         ASSISTANT				

Table 2-11: SG-70120 Electrical Components List 1

-				≪								æ								Ų								0				1
8	Remark		(3)							(1)						(1)	(1)	(1)					(E)	(E)	(2)			Page 8	Totally g Pages	V004	50Hz	8
	number	40000	20000	100000	00100	00000	00000	00000	005800	00600	00100	0000	00000	00000	0000	00000	0000	00000	40000	00000	40000	00000	40000	00000	0000	0000		Scale	Standard GB	Voltage	Frequency	
L	Material I	YE012601	YE011602:	YE410322	YE460020	YE410010	YE466310	YE041505	YE700400	YE833051	YE713524	YE1123310	YE1122201	YE112542	YE1221010	YE103612(	YE1617110	YE151224	YE613500	YE613535	YE612500	YE612535	YE612500	YE612535	YE612500	YE612500			/-GB-D-8	有限公司	logies, Inc.	7
-	Number	Ţ	F	,	2	1	Ļ	2	t.	۰,	J.	5	÷	ų.	۲	4	÷	2	6	T.	6	2	Э	÷	2	24			0120-400	魚繊織股份	tics Techno	
9	ШВ								/ 230V 350mA		0UT24V				=5A												e alarm device.	Drawing NO.	20-1(	■ 信易電数	Shini Plas	9
-	Specificati	14-20A	2.2-3.2A	2P	2A		10A	150/5A	24 V 350 V A	24 VAC	IN100-240V	400VAC	400VAC	400VAC	Ui=300V IH	500V	AZ-17	24 VDC	1	1	32A	ł	32A	ł	32A	32A	f full-receiv	5-70120	mponents List 2			
-C		80	0						=24V/230V		1.5A				10	120											accessories o	Title S(	Electrical Co	(ī	N)	5
	Type	3RU6126-4B	3RU6116-1DB	RT28-32	10×38 500V	FS-10	6×30	RCT-35	IN=400V DUT=	LED-3051	EPR-35-24	XB2BW33M11	XB2BA22C	XB2BS542C	C2SS2-10B-	TS236-11Z-N	AZ17-11ZK	DL-12	SAK-35	TB35 PE I	TB2.5B I	TB2.5 PE I	TB2.5B I	TB2.5 PE I	TB2.5B	TB2.5B	s optional a	D			20160709	
4	urer										-L.	ER	ER.	R		AL	AL										er; (4) Mear	Version	Approver	þ	Date	4
	Manufact	SIEMENS	SIEMENS	CHNT	MRO	YINDA		RATID	BAIYUN	SHINI	MEANWEI	SCHNEIDE	SCHNEIDE	SCHNEIDE	ABB	SCHMERS	SCHMERS	DELIN	PHOENIX	PHOENIX	1	ł	3	ľ.	ł	PHDENIX	lusting blow	Drawer	Designer	a-aofread by	Checked by	
τ.																											ories of dec				Modif y date	m
		elay	elay					ual inductance	er	0		UD	ц	stop button	witches	imit switch	itch		oard							oard	onal accesso				Modified by	
2	Name	Overload r	Overload r	Fuse	Fuse care	Fuse	Fuse core	Current mut	Transfarm	Alarm lamp	DC power	Start butt	Stop botto	Emergency	Selector s:	Position (	Safety swi	Sensor	Terminal b							Terminal b	(3)Means optic				After modification	2
-	Symbol	E	F4	FU1		FU2		TA1, TA2	н	H2	n	S1, S5-S8(H)	S2	S3	S4	S9, S10, S11, S12	S13	S14, S15	X1							X2 X3	Ver.C (				Befare modification	F
	KO.	26	27	28	29	30	31	32	33	34	35	36	37	38	39	4.0	41	42	43	44	45	46	47	48	49	50	版本	-			Mark	

Table 2-12: SG-70120 Electrical Components List 2



Ē				¢							_	æ				_	 U			 _		0			1	
80	Remark		(†)		(1)	(1)(2)	[1][4]	(7)(L)	(1)(7)	(1)(+)	(1)	(L)	(1)	(1)(3)								Page 9	Totally 9 Pages	400V	50Hz	89
	number	50000	000070	000000		200100	0000020	400100	00000	400100												Scale	Standard GB	Voltage	Frequency	
1	Material	YE61253	YE61250	YE61070		YE68016	YE84240	YE15802	YE68025	YE68025													-CB-D-9	<b>恒</b> 公	ogies, Inc.	1
_	Number	-	4	r.	4	Ļ	Ţ	r-	÷	+	۲	Ļ	1	۲									120-400V	機械服件	ics Technol	<u> </u>
9					Z																	Drawing NO.	2C-70	1 信易電熱	Shini Plast	9
	Specification	1	32A	Ē	24VAC 50/60H	2P	24 V A C	24VAC	4,P	4.P	400V 50Hz	400V 50Hz	400V 50Hz	400V 50Hz								70120	onents List 3			
5						Å)																iitle SG-	Electrical Compo	(1	E N)	5
	Type	TB2.5 PE I	TB2.5B	NCT-70PE		PLT-162-RR[	EA-2	SR-80	PLT-254-PM	PLT-254-RF	90KW	1.5KW	7.5KW	1.1K W								D	-		20160709	
7	urer																					Version	Approve	\$	Date	4
	Manufact	PHDENIX	ł	Ē	1	SHIN	TEND	SIPAI	APEX	APEX	I	1	1	ł								Drawer	Designer	Proofread by	Thecked	8
m																									Modify date	m
				oard	alve.	c		evel switch	E			iotor													Modified by	
2	Name			Terminal b	Solenoid v	Metal tie ii	Buzzer	Material le	Metal tie i		Matar	Oil pump m	Blower	Blower											After modification	2
-	Symbol			X4	Y11 Y12 Y13 Y14	X5	H3	MS	X10		M1	M2	EΜ	M4							Ver.C				Before modification	+
	0.	51	52	53	54	55	56	57	58	59	60	61	62	63						_	版本				Mark	

Table 2-13: SG-70120 Electrical Components List 3





2.4.9 Main Circuit Diagram (SG-7090B)



Picture 2-25: Main Circuit Diagram 1(SG-7090B)





Picture 2-26: Main Circuit Diagram 2(SG-7090B)



2.4.10 Control Circuit Diagram (SG-7090B)



Picture 2-27: Control Circuit Diagram 1(SG-7090B)





Picture 2-28: Control Circuit Diagram 2(SG-7090B)





Picture 2-29: Control Circuit Diagram 3(SG-7090B)







Picture 2-30: Electrical Components Layout (SG-7090B)



# 2.4.12 Electrical Components List(SG-7090B)

(2) A (3)	(2)           (2)           (2)           (2)           (2)           (2)           (2)           (2)           (2)           (2)           (2)	(2)           (3)           (5)           (2)           (3)           (2)           (3)           (2)           (3)           (2)           (3)           (3)           (2)           (3)
0301803000 0304003000 0302603000 03026402603000 030292110100	0301003000 0304003000 030603000 030603000 052410100 0522110000 0522110000 052210000 0525120000 05601502600 06601502600 06601502600	0301003000 0304003000 0300603000 030504602600 0592110100 0592110100 0592110000 0594502600 059110000 059110000 0601502600 0601502600 0601502600 0601502600 0601502600 0601502600 05022400300 13103800000 13022400300 100200 100200 100200 100200 100000 100000 100000 1000000000 100000000
1 YE40 1 YE40 1 YE40 2 YE00 3 YE00	1         YE40           1         YE40           2         YE60           3         YE60           1         YE60	1         YE40           1         YE40           2         YE00           3         YE00           1         YE00
V60Hz	V60Hz / 1000 / 1	V/60Hz 2 V/60Hz 2 V/60Hz 2 V/60Hz 1 V/60Hz 1 V/6
54 50/60 1NC	24V 50/60 6 45 1 1NC 1 1NO 24V 50/60 1 1NO 24V 50/60 1 1ND 24V 50/60 1 1ND 24V 50/60 1 1ND 24V 50/60 1 1ND 24V 50/60 1 1ND 24V 50/60 24V 50/60 1 1NC 24V 50/60 1 1NC 24V 50/60 1 1NC 1	24V 50/60 64 24V 50/60 1NC 1NO 24V 50/60 1NO 24V 50/60 24V 50/60 24V 50/60 24V 50/60 24V 50/6 24V 4C/DC 24V 50/60 24V 50/60 24
BH-B3-U3F 3RT5046-1AC20 3RH5921-1CA01	01-05/2/7 3875945-14(20) 3875945-14(20) 3845921-1(201) 3845921-1(201) 3845921-1(201) 3875645-14(20) 3875605-14802 3875605-14805 3875605-14805 3875605-14805 3875605-14805 3875605-14805 3875605-14805 3875605-14805 3875605-14805 3875605-14805 3875605-14805 3875605-14805 3875605505 3875605 3875605 3	01-5-2/27 381-591-1(2.01 381-591-1(2.01 381-591-1(2.01 381-591-1(2.01 381-591-1(2.01 381-5045-14.02 381-5045-14.02 381-5045-14.02 381-5045-14.02 381-504 381-504 114-706.04 381-504 114-706.04 381-504 114-706.04 114-706
SIEMENS	SIEMENS SIEMENS SIEMENS SIEMENS SIEMENS SIEMENS SIEMENS SIEMENS SIEMENS SIEMENS SIEMENS	SIEMENS SIEMEN
215		第二
	Assistant point Assistant point Contactor Contactor Assistant point Contactor Assistant point Contactor Contactor	Assistant point Assistant point Contactor Contactor Assistant point Assistant point Contactor Contactor Circuit relay Timer relay Timer relay Middle relay Middle relay Middle relay
	2 2 2 2 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4	A3         A3         A5           K4         A3         A5           K5         K5         A5           K6         Co         Co           K6         Co         Co           K6         Co         Co           K10         T1         Co           K13         Mi         Mi           K14         Mi         Mi           K14         Mi         Mi           K14         K18         Mi
7	8 6 6 1 6 6 4 4 X X X X X X X	8 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7

## Table 2-14: SG-7090B Electrical Components List 1

Ĩ			A			a - 12					8		- 1	Ĩ				-	U.	- 1	-	_						s		1	1
Remark	(5)			(2)	(3)							(1)						(1)	[1]	[1]					(2)	accessories.	8 aõed	Totally g Page	4 00 V	50Hz	α
number	00000	80000	80000	40000	20000	00000	000100	00000	00000	00000	005800	100900	+00100	00000	00000	00000	00000	00000	0000	00000	00000	00000	000010	00000	00000	belt optional	Scale	standard GB	Voltage	Frequency	
Material	YE860324	YE015146	YE011602	YE012601	YE011602	YE410322	YE46002	YE410010	YE466310	YE041505	YE700401	YE83305'	YE713524	YE112331	YE112220	YE112542	YE122101	YE103612	YE161711	YE151224	YE613500	YE613535	YE612500	YE612535	YE612500	or conveying		V-UB-B-V	有限公司	logles, Inc.	7
Number	۴	<del>,</del>	F	F	ج	-	2	ų	50	2	٣	·	<u> </u>	5	۳	-		4		2	9	e	æ	L	3	(5)Stand fo	- - - -	008-400	伪横植股份	stics Techno	
6	- 3Min										<sup>230V 350mA</sup>		0UT24V				5A									alarm device	Drawing ND.	- 20-1(	■ 信易電業	Shini Plas	4
Specification	24VAC/DC 0	80-100A	2.8-4A	14-20A	2.2-3.2A	2P	2A		10A	150/5A	24V 350VA /	24VAC	IN100-240V (	400VAC	400VAC	400VAC	Ui=300V Ith=	500V	AZ-17	24 V D C	11		32A	Ē	32A	full-receive	-7090B	ponents List 2			
		BO	0	30	0						:24V/ 230V		.5A	2.1			10	120								acressories of	Title SG	Electrical Com	(1	N)	Ľ
Type	TRF-N	3RU5146-4 MI	3RU6116-1EB	3RU6126-4BE	3RU6116-1DB	RT28-32	10×38 500V	FS-10	6×30	RCT-35	IN=4:00V OUT=	LED-3051	EPR-35-24 1	XB2BW33M10	XB2BA22C	XB2BS542C	C2SS2-10B-1	TS236-11Z-M	AZ17-11ZK	DL-12	SAK-35	TB35 PE I	TB2.5B I	TB2.5 PE I	TB2.5B	ns optional ;	В			20160709	
urer													Ţ	æ	Я	В		AL	AL							rer; (4) Mea	Version	Approve	by	Date	1
Manufact	YUYUN	SIEMENS	SIEMENS	SIEMENS	SIEMENS	CHNT	MRD	YINDA		RATIO	BAIYUN	SHINI	MEANWEL	SCHNEIDE	SCHNEIDE	SCHNEIDE	ABB	SCHMERS	SCHMERS	DELIN	PHDENIX	PHDENIX	ł	Ť	100	custing blaw	Drawer	Designer	hoofread by	Checked by	
																										ories of dec			æ	Madify date	1
	٨	elay	elay	velay	elay					'ual inductance	er	_		UD	Ц	stop buttan	witches	H.	itch		oard					onal access				Modified by	
Name	Timer rela)	Overload r	Dverload r	Overload r	Overload r	Fuse	Fuse core	Fuse	Fuse core	Current mut	Transfarm	Alarm lamp	DC power	Start butt	Stop botto	Emergency	Selector s	Limit switc	Safety swi	Sensor	Terminal b					3)Means opti-				After modification	
Symbol	K24	E	F2	F3	F4	FU1		FU2		TA1,TA2	Т	H2	n	S1, S5~S8(H)	52	SJ	54	\$9,\$10,\$11,\$12	S13	S14, S15	X1					Ver.B {				Before modification	,
_	0.02	125	12220	-	~		~	~				<b></b>	8	0	0	-	2	~	at.	10	10	2		•		14					
	Symbol Name Manufacturer Type Specification Number Material number Remark	Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           K24         Timer relay         YUYUN         TRF-N         Z4VAL/DC 0-3Min         1         YE860324,00000         [5]	Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           K24         Timer relay         YUYUN         TRF-N         Z4VAC/DC 0-3Min         1         YE86032400000         (5)           F1         Dverload relay         S1EMENS         3RU5146-4,MB0         80-100A         1         YE801514,680000         1	Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           K24         Timer relay         YUVUN         TRF-N         Z4VAL/DE 0-3Min         1         YE86032400000         [5]           F1         Dverload relay         SIEMENS         3RU5146-4/MB0         80-100 A         1         YE8032400000         [5]           F2         Dverload relay         SIEMENS         3RU6146-4/MB0         28-100 A         1         YE01514680000         M	Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark         Remark	Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           K24         Timer relay         YUYUN         TRF-N         24VAC/DC 0-3Min         1         YE8632400000         [5]           F1         Dverload relay         SIEMENS         3RU5146-4,MB0         80-100A         1         YE01514680000         [5]           F2         Dverload relay         SIEMENS         3RU616-1EB0         28-4A         1         YE0150280000         [7]         A           F3         Dverload relay         SIEMENS         3RU616-1EB0         28-4A         1         YE0150280000         [2]         A           F4         Dverload relay         SIEMENS         3RU616-1EB0         2.3-3ZA         1         YE0150220000         [3]	Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           K24         Timer relay         YUYUN         TRF-N         24VAC/DC 0-3Min         1         YE86032400000         [5]           F1         Overload relay         SEMENS         3RU5146-4MB0         80-100A         1         YE0156280000         [5]           F2         Overload relay         SEMENS         3RU616-1EB0         2.8-4.A         1         YE0156280000         [5]           F3         Overload relay         SEMENS         3RU616-1EB0         2.8-4.A         1         YE0156020000         [5]           F4         Dverload relay         SEMENS         3RU616-1EB0         2.7-3.2.A         1         YE0156020000         [2]           F4         Dverload relay         SEMENS         3RU616-1B30         2.2-3.2.A         1         YE0156220000         [3]	Symbol         Name         Manufacturer         Type         Specification         Mumber         Material number         Remark           K24         Timer relay         YUYUN         TRF-N         Z4VAC/DC 0-3Min         1         Ye66032400000         [5]           F1         Dverload relay         SIEMENS         3RU5146-4MB0         80-100Å         1         Ye60532400000         [5]           F2         Overload relay         SIEMENS         3RU616-7EB0         2.8-4Å         1         YE0160280000         [5]           F3         Overload relay         SIEMENS         3RU616-7EB0         1.4-20Å         1         YE0160280000         [5]           F4         Dverload relay         SIEMENS         3RU616-1DB0         2.2-32Å         1         YE0160280000         [3]           F4         Dverload relay         SIEMENS         3RU616-1DB0         2.2-32Å         1         YE0160280000         [3]           F4         Dverload relay         SIEMENS         3RU616-1DB0         2.2-32Å         1         YE0160220000         [3]           F4         Fuse         Toveload relay         T         YE0160220000         [3]         [3]           F4         Fuse         T         YE0160200	Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           K24         Timer relay         YUYUN         TRF-N         Z4VAC/DC 0-3Min         1         YE86032400000         [5]           F1         Dverload relay         SIEMENS         3RU5146-4MB0         80-100A         1         YE86032400000         [5]           F2         Dverload relay         SIEMENS         3RU516-EB0         24/A         1         YE8050000         [5]           F3         Overload relay         SIEMENS         3RU616-EB0         28-4A         1         YE0160280000         [5]           F4         Dverload relay         SIEMENS         3RU616-EB0         21-3ZA         1         YE0160280000         [2]           F4         Dverload relay         SIEMENS         3RU616-IDB0         22-3ZA         1         YE0160280000         [3]           F01         Fuse         TSe-3Z         Z2-3ZA         1         YE0160220000         [3]           F01         Fuse         T         YE016020000         [3]         [3]           F01         Fuse         Z2-3ZA         1         YE01602200000         [3]	Symbol         Name         Manufacturer         Type         Specification         Muther         Material number         Remark           K24         Timer relay         YUYUN         TRF-N         Z4VAC/DC 0-3Min         1         YE86032400000         [5]           F1         Dverload relay         SEMENS         3RU5146-4MB0         80-100A         1         YE8032400000         [5]           F2         Dverload relay         SEMENS         3RU616-FBB0         28-4A         1         YE8050000         [5]           F3         Overload relay         SEMENS         3RU616-FBB0         14-20A         1         YE8050000         [3]           F4         Dverload relay         SEMENS         3RU616-FBB0         14-20A         1         YE8050000         [3]           F4         Dverload relay         SEMENS         3RU616-FBB0         14-20A         1         YE10520000         [3]           F4         Dverload relay         SEMENS         3RU616-FBB0         22-32A         1         YE4103220000         [3]           F4         Fuse         MRD         SEMENS         SEMENS         216-32A         1         YE4103220000         [3]           Fuse         Fuse core         MR	Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           K24         Timer relay         YUYUN         TRF-N         Z4VAC/DC 0-3Min         1         YE86032400000         [5]           F1         Overload relay         SEMENS         3RUG16-4EB0         80-100A         1         YE8032400000         [5]           F2         Overload relay         SEMENS         3RUG16-4EB0         28-4A         1         YE016020000         [5]           F3         Overload relay         SEMENS         3RUG16-1DB0         27-32A         1         YE016020000         [3]           F4         Overload relay         SEMENS         3RUG16-1DB0         2.2-32A         1         YE016020000         [3]           F4         Overload relay         SEMENS         3RUG16-1DB0         2.2-32A         1         YE10320000         [3]           F01         Fuse         MRD         10-365000         [3]         [4]         YE10220000         [3]           F01         Fuse         YE016020000         [3]         [4]         YE10220000         [3]           F01         Fuse         YE0160200000         [3]         [4]	Symbol         Name         Manufacturer         Type         Specification         Number         Material number         Remark           K24         Timer relay         YUYUN         TRF-N         Z4VAC/DC 0-3Min         1         YE66022400000         [5]           F1         Overload relay         SIEMENS         3RU5146-4MB0         60-100A         1         YE6051468000         [5]           F2         Overload relay         SIEMENS         3RU616-4BB0         1         YE10514680000         [5]         A           F2         Overload relay         SIEMENS         3RU616-4BB0         1         YE10528000         [3]         A           F3         Overload relay         SIEMENS         3RU616-1BB0         27-3.2A         1         YE10520000         [3]         A           F4.         Dverload relay         SIEMENS         3RU616-1DB0         2.2-3.2A         1         YE410320000         [3]         A           F4.         Dverload relay         MRD         INDA         2.2-3.2A         1         YE410320000         [3]         A           F0.1         Fuse         MRD         INDA         Z2         YE46020000         [3]         [3]         A           F0.1<	Symbol         Name         Manufacturer         Type         Specification         Number         Mare facial number         Remark           K24         Timer relay         YUYUN         TRF-N         ZuVAC/DC 0-3Min         1         YE80324,00000         [5]           F1         Dverload relay         SIEMENS         3RUG146-4480         80-100A         1         YE80324,00000         [5]           F2         Dverload relay         SIEMENS         3RUG16-16B0         28-4A         1         YE0150280000         [5]           F3         Overload relay         SIEMENS         3RUG16-16B0         22-32A         1         YE0160220000         [3]           F4         Dverload relay         SIEMENS         3RUG110-DB0         22-32A         1         YE103220000         [3]           F4         Dverload relay         SIEMENS         3RUG116-DB0         22-32A         1         YE103220000         [3]           F0         Fuse         MRO         10x38500         22-32A         1         YE103220000         [3]           FU         Fuse         YE0760000         1         YE103220000         [3]         [4]           FU         Fuse         YE0410320000         1         YE4103	Symbol         Name         Manufacturer         Type         Specification         Mumber         Material number         Remark           K24         Timer relay         YUVUN         TRF-N         ZuVAC/DC 0-3Mm         1         YE8003240000         [5]           F1         Dverload relay         SIEMENS         3RU5146-4MB0         80-100A         1         YE803240000         [5]           F2         Dverload relay         SIEMENS         3RU5146-4MB0         2-4.4         1         YE803240000         [5]           F2         Dverload relay         SIEMENS         SIEMENS         3RU5146-4BB0         1         YE0028000         [5]         A           F3         Overload relay         SIEMENS         SIEMENS         3RU516-4BB0         1         YE0160220000         [5]         A           F4         Dverload relay         SIEMENS         SIEMENS         SIEMENS         SIEMENS         22-3ZA         1         YE10220000         [3]         A           F4         Dverload relay         REMENS         RT28-32         Z2-3ZA         1         YE106220000         [3]         A           F0         Fuse         Manu         INDA         RT38-32         Z2-3ZA         1	Symbol         Name         Manufacturer         Type         Specification         Mumber         Matrial number         Remark           K24         Timer relay         YUYUN         TRF-N         ZVAC/DC 0-3Min         1         YE055460000         [5]           F1         Doveload relay         SEKENS         38UG16-4KB0         80-100A         1         YE0754680000         [5]           F2         Doveload relay         SEKENS         38UG16-4EB0         14-20A         1         YE076020000         [3]         A           F3         Overload relay         SEKENS         38UG16-4EB0         14-20A         1         YE076020000         [3]         A           F4         Doveload relay         SEKENS         38UG16-4EB0         14-20A         1         YE076020000         [3]         A           F4         Doveload relay         SEKENS         38UG16-4EB0         14-20A         [1]         YE07602000         [3]         A           F4         Doveload relay         SEKENS         38UG16-4EB0         14-20A         [1]         YE07601000         [3]         [3]           F4         Fuse         Fuse         MRO         IOVE10-2100         [3]         [4]         YE016020000	Symboli         Name         Markacturer         Type         Specification         Markinal number         Remark         Remark           K24         Time relay         YUUN         TRF-N         ZUVAC/DC 0-3Min         1         YE6052400000         [5]           F1         Dverlaad relay         SEMENS         3RU54.4M90         80-106A         1         YE605260000         [5]           F2         Dverlaad relay         SEMENS         3RU56.4B90         1         YE051.680000         [5]         A           F2         Dverlaad relay         SEMENS         3RU56.4B90         1         YE0150.20000         [5]         A           F3         Overlaad relay         SEMENS         3RU56.4B90         1         YE0150.20000         [3]         A           F4         Dverlaad relay         SEMENS         3RU66.6100         1         YE0150.20000         [3]         A           F4         Dverlaad relay         INC         ZE         Z<	Symbol         Name         Maufacturer         Type         Specification         Mathacturer         Remark           K24         Timer relay         YUVuN         TRF-M         2VAC/DC 0-3Min         1         YE60324.00000         [5]           F1         Dvertoad relay         SIEMENS         3RU5164.4M90         60-100A         1         YE60324.00000         [5]           F2         Dvertoad relay         SIEMENS         3RU5164.4M90         2.4.4.A         1         YE010506000         [2]         A           F2         Dvertoad relay         SIEMENS         3RU5164.4M90         2.4.4.A         1         YE010506000         [2]         A           F4         Dvertoad relay         SIEMENS         3RU5164.4B00         2.4.4.A         1         YE010506000         [2]         A           F4         Dvertoad relay         SIEMENS         3RU5164.0B00         2.2.3.2.A         1         YE01060000         [2]         [3]         A           F4         Dvertoad relay         MRD         IR3.61610         IR3.7.2.2.2         2         YE01020000         [2]         [3]         [4]           F1         Fuse         MRD         IR3.617.0100         I         I         YE403200000	Symbol         Name         Manufacturer         Type         Specification         Number         Maturation         Remark           K24         Timerrelay         VUVN         TRF-N         ZvAL/DC 0-3Min         1         YE8032400000         65           F1         Deveload relay         SEMENS         3NUG4.4M90         60-100A         1         YE8032400000         67           F2         Deveload relay         SEMENS         3NUG6-LBB0         28-4A         1         YE070280000         13         A           F4         Deveload relay         SEMENS         3NUG6-LBB0         28-4A         1         YE07020000         13         A           F4         Deveload relay         SEMENS         3NUG6-LBB0         1         YE07020000         13         A           F4         Deveload relay         NRO         1         YE07020000         13         A           F4         Fuse         MRO         10-332         YE430200000         13         A           F4         Fuse         MRO         1         YE430200000         13         A           F1         Fuse         YE440200000         1         YE440200000         13         A	Symboli         Name         Manufacturer         Type         Specification         Mumber         Matrical, number         Remark           K24         Timer relay         VIVUN         TRF-M         ZvXC/CG 0-3Min         1         Y E96324.00000         [5])           F1         Doveload relay         SEMENS         3ND5146.4H9B0         2.4-A         1         Y E965280000         [5])           F2         Doveload relay         SEMENS         3RU616-1EB0         2.4-A         1         Y E016220000         [5])           F4         Doveload relay         SEMENS         3RU616-1EB0         2.4-2A         1         Y E016220000         [3])           F4         Doveload relay         SEMENS         3RU616-1EB0         2.4-2A         1         Y E016220000         [3])           F4         Doveload relay         SEMENS         3RU616-1EB0         2.4-2A         1         Y E016220000         [3]           F4         Doveload relay         SEMENS         3RU616-1EB0         2.4-2A         1         Y E016220000         [3]           F4         Doveload relay         MEN         RT2a-32         2?         Y         Y E00200000         [3]         [4]           F0         Fuscere	Symboli         Name         Manufacturer         TR-M         Specification         Manuer         Manuer         Manuer         Remark         Remark           R24         Timer relay         YUVUN         TRF-M         2.4VAC/DC 0-3Min         1         YED51460000         [5]           F1         Devicad relay         Sterris         340/14-LMB0         2.4-VAC/DC 0-3Min         1         YED51460000         [5]           F3         Overlaad relay         Sterris         340/14-LBB0         2.4-A         1         YED50400000         [5]           F4         Devicad relay         Sterris         340/14-LBB0         12A         1         YED5040000         [3]           F4         Devicad relay         Sterris         340/14-LBB0         12A         1         YED5040000         [3]           F4         Devicad relay         Sterris         340/14-LBB0         2.2-32         1         YED10200000         [3]           F4         Devicad relay         MRO         0.038 500V         2.2         2         YED10200000         [3]           F4         Devicad relay         MRO         0.385 50V         2         YED10200000         [3]         1           F1         YED100000	Symbol         Name         Manutaturer         Type         Specification         Number         Mentificationer         Remork.           R/2         Timer relay         VUVIN         TRF-M         2V-X/CIC 5-9/m         1         YE0532400000         [5]           F         Doerload relay         SERENS         3UU546-4/BB         17         YE0532400000         [5]           F         Doerload relay         SERENS         3UU516-1/BB         17         YE053200000         [5]         A           F         Doerload relay         SERENS         3UU516-1/BB         17         YE05320000         [5]         A           F         Doerload relay         SERENS         3UU516-1/BB         2-32A         1         YE05320000         [5]         A           F         Curent mulai         RPD         KPA         2-32A         1         YE00300000         [3]         A           F         Euse core         RPD         KPA         2-32A         2         YE4003000000         [3]         A           F         Fuse core         RPD         KPA         2-32A         2         YE4003000000         [3]         A           F         Fuse         YE4000000	Symbol         Name         Mendectrerer         Type         Specification         Number         Mandectrent         Remark           K24         Timerrelay         VUVU         SterNis         SterNis         SterNis         SterNis         Remark         Remark           F2         Deveload relay         SterNis         SterNis         SterNis         SterNis         SterNis         SterNis         SterNis         SterNis         Remark         Remark           F2         Deveload relay         SterNis         SterNis	Specification         Name         Manufacturer         Type         Specification         Number         Manufacturer         Remark           R24         Timer relay         VUVUN         Tife-AM         2VAC/OC PAIn         1         YEB69320000         51           R2         Devicad relay         SEPENS         3RUG16-EBD         62-00A         1         YEB0320000         23           F3         Devicad relay         SEPENS         3RUG16-EBD         2-32A         1         YE010020000         23           F4         Devicad relay         SEPENS         3RUG16-EBD         2-32A         1         YE010020000         23           F4         Devicad relay         SEPENS         3RUG16-EBD         2-32A         1         YE01020000         23           F4         Fue         Fee         A         YE000000         23         2	Symboli         Name         Member         Type         Specification         Number         Renark         Renark           R2         Develoat relay         SteWord         SteWord         T         Y (YOU)         SteWord         SteWord	Symboli         Name         Meaulacturer         Type         Specification         Number         Affensik umber         Remark and the second of the se	Specification         Name         Manufacturent         Type         Specification         Manufacturent         Reads.           R2         Time relay         Styrelis         Specification         1         PER662940000         E9           R2         Deveload relay         StPENS         BAURIGA-VEBD         E0         1         PE66629000         E9           F2         Deveload relay         StPENS         BAURIGA-VEBD         E         1         PE6000000         E9           F3         Deveload relay         StPENS         BAURIGA-VEBD         E         1         PE600000         E9           F4         Deveload relay         StPENS         BAURIGA-VEBD         E2-12.3.         1         PE600000000         E9           F4         Fuse         Man         Deveload relay         StPENS         BAURIGA-VEBD         E	Symboli         Name         Manufacturer         Type         Specification         Number         Market number         Result         Result           R21         Inter relay         VUV0a         Type         2.94.4.0         1         YE9052.0000         15           R2         Deveload relay         SEPEIS         340.56.4.060         8-0.0A         1         YE9052.0000         15           R3         Deveload relay         SEPEIS         340.55.4.060         8-0.0A         1         YE9052.0000         13           R3         Deveload relay         SEPEIS         340.55.4.00         1         YE9052.0000         13           R3         Fiss         Autoratice         Manufacture         Autoratice         1         YE9052.0000         13           R3         Fiss         Autoratice         Manu         Namu         YE9052.0000         13           R4         Fiss         R4.0         Autoratice         Manufacture         Manufacture         1         YE9052.0000         13         14           R4         Fiss         R78.3.3         22.3         24.4         1         YE9052.0000         13         14           R4         Fiss         Kes         R10		Symbol         Manufacturer         Type         Specification         Manufacturer         Type         Specification         Manufacturer         Remark           R23         Derivation (rdy)         Streeks         340/646660         6608.m         1         YE0002200000         13           P3         Derivation (rdy)         Streeks         340/646660         256.4.         1         YE0002200000         13           P3         Derivation (rdy)         Streeks         340/646660         2.35.4.         1         YE000200000         13           F4         Derivation (rdy)         Streeks         340/646660         2.33.4.         1         YE000200000         13           F4         Derivation (rdy)         Streeks         340/64660         2.33.4.         1         YE0000000         13           F4         Past         Past         2         2         2         YE000000         13         1           F4         Past         Past         Past         Past         2         YE00000000         13         1           F4         Attra         Mart         Past         Past         2         YE0000000         13         1         YE00000000         13 <td>Syntati         Neurolative         Type         Spectration         Manuality         Remarks         Remarks</td> <td>Spital         Beach         Type         Special interfactor         Mandacturation         Mandacturaturation         Mandacturation</td>	Syntati         Neurolative         Type         Spectration         Manuality         Remarks         Remarks	Spital         Beach         Type         Special interfactor         Mandacturation         Mandacturaturation         Mandacturation

Table 2-15: SG-7090B Electrical Components List 2



			_	¥								ю	į		_					L	_	_							2
8	Remark	(2)	(3)	(3)	(5)			(4)		(1)	[1][5]	(1)(4)	(7)(L)	(1)((†)	(1)[4]	(1)	(1)	(1)(2)	(1)(3)					1	6 alled	Totally g Pages	4 00V	50Hz	8
	l number	350000	0040000	3500000	0040000	004000	350000	00000700	000000		5200100	0200000	24,00100	0000075	5400100										Scale	9 Standard GB	Voltage	Frequency	-
L	Materia	YE6125	YE6125(	YE6125	YE6125(	YE6125(	YE6125	YE6125(	YE6107(		YE68016	YE8424	YE15802	YE6802	YE6802				l					 10 10		00V-GB-B-	的名词	nologies, inc.	7
	Number	-	3	-	2	24	-	7	100	4	٢	~	5	F	١	5	٢	5	5							090B-4(	44 44 44	stics Tech	
9										łz															Drawing ND.	20-7			9
	Specification	1	32A	LL I	32A	32A		32A		24VAC 50/60	2P	24VAC	24VAC	4P	4P	400V 50Hz	400V 50Hz	400V 50Hz	400V 50Hz						7090B	onents List 3			
5											\\$														Title SG-	Electrical Comp	(	E N)	5
	Type	TB2.5 PE I	TB2.5B	TB2.5 PE I	TB2.5B	TB2.5B I	TB2.5 PE I	TB2.5B	NCT-70PE	1	PLT-162-RR(	EA-2	SR-80	PLT-254-PM	PLT-254-RF	75KW	1.5KW	7.5KW	1.1KW						В		3	20160709	
4	rurer						8.72																		Version	ADDrove	by	Date	7
-	Manufac.	ł	ł	Ē		PHOENIX	PHOENIX			1	SHINI	TEND	SIPAI	APEX	APEX	4	ł	ŧ	ł						Drawer	Designer	P-pofread by	Checked by	2
Υ.																												Madify date	3
						ard			ard	lve			vel switch	2211			tor											Modified by	
2	Name					Terminal bo			Terminal bo	Solenoid va	Metal tie in	Buzzer	Material lev	Metal tie in		Matar	Oil pump mo	Blower	Blower									After modification	2
-	Symbol					X2 X3			X4	Y11 Y12 Y13 Y14	X5	H3	MS	X10		M1	M2	M3	44					Ver.B				Before modification	1
	.ON	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68					版本				Mark	

Table 2-16: SG-7090B Electrical Components List 3





2.4.13 Main Circuit Diagram (SG-70120B)



Picture 2-31: Main Circuit Diagram 1(SG-70120B)





Picture 2-32: Main Circuit Diagram 2(SG-70120B)



2.4.14 Control Circuit Diagram (SG-70120B)



Picture 2-33: Control Circuit Diagram 1(SG-70120B)





Picture 2-34: Control Circuit Diagram 2(SG-70120B)





Picture 2-35: Control Circuit Diagram 3(SG-70120B)











# 2.4.16 Electrical Components List (SG-70120B)

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8	Remark			(2)	(3)					(2)	(2)	(3)				(2)			(5)			(5)	(5)	(5)				Page 7	Totally g Pages	4 0 0 V	50Hz	80
	umber	00000	13000	03000	03000	00600	02600	12600	0000	02600	0000	12600	01200	00300	0000	00000	0000	00300	00300	00300	00000	00300	00300	00000	0000	0000		Scale Scale	Standard GB	Voltage	Frequency	
7	Material n	YE415034(	YE4030100	YE403040	YE403006	YE005054	YE005046	YE0060150	YE0069111	YE0060250	YE0069111	YE0060150	YE040476	YE8660241	YE8612300	YE8603241	YE0310380	YE030224	YE030424	YE030224	YE0327241	YE030224	YE866024	YE860324	YE0151468	YE0116028		Press	-GB-B-7	有限公司	logles, Inc.	7
1	Number	5	-			2	۲	~	2	-	Ļ	1		+	•	Ļ	F	r.	F	5	2	2	-		-	-		<ul> <li>Second and a second seco</li></ul>	20B-400V	熟機械股份	stics Technol	
6	2					0Hz	2	z		Z		z	AC/DC )	-60S	~3S/60Min	~ 3Min	łz						-605	~ 3Min			ccessories.	Drawing ND.	- SG-701	■ 信易電!	Shini Pla	9
	Specificatio	320A	10 A	40A	6A	24VAC 50/6	24V 50/60H	24V 50/60H	1ND	24V 50/60H	1ND	24V 50/60H	0.5-6A (24V.	24VAC/DC 0	24VAC/DC 0	24VAC/DC 0	400V 50/60H	24 VAC	24 V AC	24 V AC	24 VDC	24 VAC	24VAC/DC 0	24VAC/DC 0	80-100A	2.8-4A	elt optional a	-70120B	ponents List 1			
5		)/32003PFF				6	0	2		0		2															conveying be	le SG	Electrical Com	(1	N)	ы
	Туре	A3N400TMF32	BM-63C/3P	BM-63C/3P	BM-63C/3P	3RT5054-1AB3	3RT5046-1AC2	3RT 6015 - 1A B 0	3RH6911-1AA10	3RT6025-1AC2	3RH6911-1AA1(	3RT 6015-1AB0	LT4706BA	TH3A-NAB	TH3M-NAB	TRF-N	ABJ-10W	GR-2C-AC24 V	GR-4C-AC24V	GR-2C-AC24V	DRM270024LT	GR-2C-AC24V	TH3A-NAB	TRF-N	3RU5146-4MB(	3RU6116-1EB0	2) Stand for	₽		I	20160709	
4	Jrer										2 2		Я							1	ER	_					ontrol bax.	Version	Approved	Åq.	Date	4
-	Manufacti	ABB	TECO	TECO	TECO	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SIEMENS	SCHNEIDE	ΥUYUN	YUYUN	YUYUN	CHADSHI	Honeywel	Honeywel	Honeywel	MEIDMULL	Honeywel	ΥUYUN	ΥUYUN	SIEMENS	SIEMENS	inside the o	Drawer	Designer	by by	Checked by	
3																	tor										the material				Madify date	Æ
		uit breaker	eaker	eaker	eaker				· point		· point		lay	ye.	ýe	ýe	quence protec	ay	ay	ay.	y s	ay	ye.	a y	relay	relay	ans it's not				Modified by	
2	Name	Gate-circi	Circuit bre	Circuit bre	Circuit bre	Contactor	Contactor	Contactor	Assistant	Contactor	Assistant	Contactor	Circuit rel	Timer rela	Timer relà	Timer rela	Phase sec	Middle rel	Middle rel	Middle rel	Middle rel	Middle rel	Timer rela	Timer rela	Dverload	Dverload	Notes: (1)Me:				After modification	2
5	Symbol	a1	02	03	04	K1,K2	<u></u> Х3	K4		K5		K6	K7	K8	K9	K10	K12	K13	ELX	K14~K18	K19,K20	K21,K22	K23	K24	E	F2	Ver.B				Before modification	5
	ND.	-	2	e e	4	5	9	7	8	6	10	11	12	Ð	14	15	16	17	18	19	20	21	22	23	24	25	版本				Mark	
10				₹								m	ş.			Т																•

## Table 2-17: SG-70120B Electrical Components List 1

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8	Remark	(2)	(3)							[1]						[1]	[1]	[1]					[2]	(2)	(3)	(3)	accessories.	8 aded	Totally g Pages	4 0 0 V	50Hz	80
	number	40000	20000	00000	00100	00000	0000	00000	005800	00600	00100	00000	00000	00000	00000	00000	0000	00000	0000	00000	14 0000	00000	14,0000	00000	14 0000	00000	I belt optional	\$cale	standard GB	Voltage	Frequency	
ł	Material	YE012601	YE011602	YE410322	YE46002	YE410010	YE466311	YE041505	YE70040	YE83305	YE713524	YE112331	YE112220	YE112542	YE122101	YE103612	YE1617110	YE151224	YE61350(	YE613535	YE61250(	YE612535	YE61250(	YE612535	YE61250(	YE612535	or conveying	And and and a	-GB-B-8	有限公司	logles, Inc.	7
	Number	٢	۲	5	2	1	-	2	-	۲	5	5	ſ	~	I.	4	~	2	9	۴	З	t.	Э	٣	3	5	(5)Stand fo		20B-400V	人機械股份	tics Techno	-
9									230V 350mA		JT24V				A												alarm device	Drawing ND.	SG-701	/ 信易電券	Shini Plas	9
	Specification	14-20A	2.2-3.2A	2P	2A		10 A	150/5A	24V 350VA /	24VAC	IN100-240V 0	400VAC	400VAC	400VAC	Ui=300V Ith=5	500V	AZ-17	24 VDC		3	32 A	E E	32A	1	32 A		ull-receive	70120B	onents List 2			
ų.									1/ 230V																		essories of 1	. SG-	Electrical Compo	(1	E N)	ц.
	уре	RU6126-4BB0	RU6116-1DB0	T28-32	)×38 500V	S-10	×30	CT-35	1=4.00V OUT=241	ED-3051	PR-35-24 1.5A	B2BW33M1C	B2BA22C	B2B5542C	2552-10B-10	S236-11Z-M20	Z17-11ZK	L-12	AK-35	B35 PE I	B2.5B	82.5 PE I	B2.5B I	B2.5 PE I	B2.5B	82.5 PE I	optional acc	B			0160709	-
4	-	m	3	R	10	Ξ.	9	R	2	П	Ξ	×	×	×	C	н	A	D	S	н	т	T	Т	H	T	Ц	(4) Means	Version	Approved	λq	Date 2	4
	Manufacture	SIEMENS	SIEMENS	CHNT	MRD	YINDA		RATID	BAIYUN	SHINI	MEANWELL	SCHNEIDER	SCHNEIDER	SCHNEIDER	ABB	SCHMERSAL	SCHMERSAL	DELIN	PHDENIX	PHDENIX	ł	100	Ĩ	Ĭ	Ĩ	100	ting blower	/er	Der	read	pax.	
<b>~</b> 1																											es of decus	Drav	Desig	Proof by	Madify Ched date by	m
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2	Name	Dverload rela	Overload rela	Fuse	Fuse core	Fuse	Fuse core	Current mutual	Transfarmer	Alarm lamp	DC power	Start button	Stop botton	Emergency st	Selector switu	Limit switch	Safety switch	Sensor	Terminal boar								)Means option:				After modification	2
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Table 2-18: SG-70120B Electrical Components List 2



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1 YE6/1253500000 32A 4, YE6/1259040000 1 YE6107000000 24VAC 50/60Hz 4,	4C 1 YEB0240000 AC 1 YEB02400000 AC 1 YEB02400100 1 YEB025400000	Hz 1 YE68025400100 Hz 1 Hz 1 Hz 1			Drawing ND.         Scale         Scale	5 hini Plastics Technologies, Inc. Frequency 6
1 YE61233 32A 4 YE61250 24VAC 50/60Hz 4	4C 1 7 7684240 AC 1 7 YE55802 AC 1 7 YE55802	Hz 1 YE68025 Hz 1 Hz 1 Hz	1 		Drawing No.         SG-70120B-4,00V-GB-B-9           「二 信易常教機械的人有限公司	Shiri Plastics Technologies, Inc.
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Table 2-19: SG-70120B Electrical Components List 3




## 2.5 Main Electrical Components Illustration



Picture 2-37: Main Electrical Components Ilustration

- 1) Thermo overload relay, which can protect the motor when it is overloading or open phase.
- 2) Electromagnetic contactor controls the circuit connection and cut off.
- 3) Electrify delay timer, which can control motor to start from Y to  $\triangle$  with a reduced voltage, by doing this to save the startup current.
- 4) Power cut off delay timer, which can delay the blower's stop time, and when stop the machine, it can make the machine do a little extra work to suck the material at the bottom of the tube or within the storage box.
- 5) Breaker interlock, which perform the function of cutting off or connecting to power source.



## 2.6 Optional Accessories

2.6.1 Dust Separating System



Picture 2-38: Dust Separator System

2.6.2 Screen



Picture 2-39: Screen

According to different requirements to select different screen size, add "SS+ screen dia." at the end of the model code. E.g.: for 17mm screen, add "SS17" at the end of the model code.

Table 2-20:	Screen S	pecification	List
-------------	----------	--------------	------

Hole Dia. (mm)					
Φ8	Ф10	Ф12	Ф14		

Notes: Φ12 is standard.



### 2.6.3 Cutter

Material	Relating standard steel ode				
	China	USA	Japan		
SKD11	Cr12MoV	D2-	SKD11		

Table 2-21: Blade List

Standard Equipped Cutter(low cutting point)



Picture 2-43: Standard Equipped Cutter (Low Cutting Point)

Low cutting point fixed blades model has big inlet space and initially low cutting point. Material can be easily grabbed and cut thus making this rotor/housing combination ideal for the granulation of hollow objects and frame material.

Optional Cutter (High Cutting Point)



Picture 2-40: Optional Cutter (High Cutting Point)

High cutting point fixed blades model has small inlet space and initially high cutting point. Thus its cutting force is not so strong, which enhances the reliability of cutting solid material. The design is suitable for granulating big solid material with thick wall and sheet. Based on the high cutting point of standard layout, a row of fixed blade is added and makes it 3 rows of fixed blades so that cutting performance is higher than that of 2 rows of fixed blades. But 3 rows have the same design parameter, features and applications as the 2 rows.



#### 2.6.4 Belt Conveyor



Picture 2-41: Belt Conveyor

Material feeding for traditional large granulators is quite a difficult matter. They are generally installed at a lower place or a platform must be built for material feeding. Add "BCF" at the model behind.

2.6.5 Material Side Feed Pipe



The design of feeding hopper of traditional granulators is not suitable for longer pipes and section bars. We have designed material side feed pipe for convenient feeding of long materials. Add "SF" at the model behind.



2.6.6 Flywheel



Increase inertia, thereby increasing the cutting ability. At the same time can result in a more balanced force and longer service life. Add "FW"at the model behind. (Standard equipped in SG-70, option for SG-70B)

2.6.7 Presetting Knife Jig



Equipped with presetting knife jig, rotating blades can be adjusted in the fixture outside the machine instead of machine inside. It makes blades adjustment must easier.Add "KAD"at the model behind. (Standard equipped in SG-70, option for SG-70B)

2.6.8 Sound-proof Box



Adopt overall sound-proof box inside the machine largely reduces the noise level (Standard equipped in SG-70, option for SG-70B).



# 3. Installation Testing



Read this chapter carefully 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.

### 3.1 Installation Place



Please use the right hoisting way.

The feeding box and mainbody of the granulator is packed separately before leaving the factory. Use a forklift to transport the mainbody to a proper place, then hoist feeding box onto the mainbody, tight the installation screw up.



It is not allowed to install the feeding box onto the main body then hoist them together, because this could damage the machine!



Picture 3-1: Installation Drawing

78(110)



 $\triangle$ 

Please make sure there is enough installation space for easier maintenance and repairing.

Examine and make sure the installation floor is level and enough intensity when operating.

Use spirit level to adjust the cutting chamber into a level position.



Picture 3-2: Cutting Installation Adjust Drawing

When open the feeding box, there should remain at least 500mm safety space



Picture 3-3: Notice of Opening Feeding Box



### 3.2 Install Feeding Box

1) Open the two front doors of the machine.



Picture 3-4: Feeding Box Installation 1

2) Carefully lift the feeding box onto the cutting chamber and aim to the screw holes.





3) Lock the screws of the feeding box.



# 3.3 Connection and Installation of Oil Cylinder

- 1) The oil cylinder of the collection box has been installation before out factory without treatment for customer.
- 2) Feeding box and the tank is separate installation, so need to disassembly feeding box first.
- 3) The oil cylinder support in the right groove of the cover, and then amount the oil cylinder on the right bolt. (Should be tight enough of the oil cylinder and support, and then lock the oil pipes.)
- 4) Made the bolt into the right fixed block to fixed oil cylinder on the right fixed block.
- 5) Tighten enough the screw of the oil cylinder.
- 6) Testing the hydraulic system, no problem and then lock the right cover of the feeding box.



Picture 3-11: Schematic Diagram of the Feeding Box Oil Cylinder Installation 3.4 Connection to Cooling Water

According to machine's label, cooling water should be connected to the machine.

Cooling water level indicator is equipped beside the water tank that behind the back block of the machine and helps check out the water level.

(Note: water level should be lower than 80%)



When discharging the cooling water, first need to open rear door of the machine, insert a water hose into water outlet and drain off the water so to avoid damaging of machine.



### 3.5 Power Connection

- 1) Make sure voltage and frequency of the power source comply with those indicated on the manufacture's plate, which is attached to the machine.
- 2) Power cable and earth connections should conform with local regulations.
- 3) Use independent power cable and ON/OFF switch. The cable's size should not smaller than those applied in the control box.
- 4) The power cable connection terminals should be tightened securely.
- 5) The machine requires a 3-phase 4-wire power source, connect the power lead (L1, L2, L3) to the live wires, and the earth (PE) to the ground.
- 6) Power supply requirements: Main power voltage: +/- 10% Main power frequency: +/- 2%
- 7) Power connection refers to the circuit diagram of each model.



 $\Delta$  Power connection must be done by the professional electrician.

- 3.5.1 Check the running direction of the motor
  - 1) Open the door to check whether the feeding box, screen, or storage box has been installed.
  - 2) Close the door.
  - 3) Ensure the main power switch is in ON position.
  - 4) Check the emergency stop.
  - 5) Start the granulator via pressing the START button and stop the granulator via pressing the STOP button.
  - 6) The granulator needs some time to fully come to a halt. After full stop, check whether the running direction is anti-clockwise.
- 3.5.2 Check the Running Direction of the Blower
  - 1) Check whether the running direction of the blower is in accordance with the symbol on the shield.
  - 2) Start the blower and stop again to check the blower's running direction.



CAUTION!

If the blower's running direction is not in accordance with the symbol, the machine's working capability will be reduced by at least 25 percent. Under these circumstances, please disconnect to the main power and transpose any two wires of the three in the blower.



When equipped with transmission belt: please check the running direction of the transmission belt.



# 3.6 Installation of Dust-separating System

Read chapter 3 carefully before operating on 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 delivery and transport. Clean the granulator from rust protection agent before it is used.

- 1) Place a separator under cyclone device, the diameter is  $\Phi$ 180mm.
- 2) Connect to conveying pipe, the diameter is 4"×2.
- 3) Mount dust collection device including air and dust separate bags.
- 4) Place a container under the separator to help collecting plastic material after dust removing.



Notes!

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

## 3.7 Installation of Separating Conveying Device

- 1) Tighten the cyclone separator body and three upper brackets;
- 2) Tighten three upper brackets with each lower bracket separately;
- 3) Lay the cyclone separator on the ground horizontally;
- 4) Fix the filter bag tightly on the outlet pipe of the cyclone separator.
- 5) Bind 5" steel wired plastic pipe on the inlet of cyclone separator and outlet of conveying blower, then tight them up with pipe clamp.
- 6) Bind 6'' steel wired plastic pipe on the inlet of conveying blower and outlet of storage box, then tight them up with pipe clamp.
- 7) Connect the power source of conveying blower to the socket of control box.



## 3.8 Options Installation

- 3.8.1 Conveying Belt Installation
  - 1) Connect belt main frame to floor stand with hexagon bolt.
  - 2) Put belt top end to feeding box inlet.
  - 3) Insert belt power plug into power socket.
  - 4) Connect metal head of belt control wire to control box socket.



# 4. Operation



Please wear earplugs when operating machine so to avoid personal injuries!

Please wear gloves when operating machine so to avoid personal injuries!



Please wear goggles when operating machine so to avoid personal injuries!



Because blades or rotors may be loose, before operating the machine, please check the following items:

1) is there any damage to the knives?

2) is there any loose within the surface of the rotors?

If any above situation has been found, please contact local dealer or SHINI company.

### 4.1 Startup Pretest

Unpainted part of the machine has been covered with anti-rusted oil. Before use, the anti-rusted oil should be cleaned.

- 1) Clean with a towel.
- 2) Wash with a towel dipping with amyl acetate.
- 4.1.1 Before the First Startup
  - Check whether the granulator is in the level state.
    Note: adjust the machine to make its four holders to share the weight and be in a level state.
  - 2) Check the space (0.2~0.3mm) between fixing and rotating blades, confirm if the lockup screws of the blades are tightened (torque is 600 Nm).



### 4.1.2 After First Startup for 2 Hours

- 1) Check the space between fixing and rotating blades again; check whether the lockup screws of the blades are loose.
- 2) Check the position-adjusting screws of the motor and check whether the position-adjusting screws are tightened.
- 4.1.3 After First Startup for 20~30 Hours

Check and adjust the belt's tension after a 20~30-hour under full-load operation.

### 4.2 Circuit Connection

SG-50(E) series of granulators via the main power switch, safety switch, "start/stop" button and the "emergency stop button" to control the machine. Main power switch:

The main power switch of granulator is mounted on control box. The connection of the power is controlled by rotating of the main power switch.



Picture 4-1: Control Box Drawing

Start/Stop Button:

The granulator has start/stop button, which controls machine's start/stop.

Emergency Stop Button:

Besides, the machine has design of emergency stop button. When accident or emergency happens, press down the emergency stop button to stop the machine.









Never stop the granulator before any material in the hopper or cutter chamber is completely granulated.

Residusal material will clog the rotor in the granulator when restart it.

4.3 Open the Feeding box, Screen Bracket and the Storage Box



Before opening the feed hopper, screen bracket and the storage box, turn off the main power switch and the power switch of the granulator.



Be careful!

The blade is very sharp, please take care!

- 4.3.1 Open the Feeding box
  - 1) At first, loose the locking screw on feeding box's set bolt.
  - 2) Check if the feeding box and cutting chamber is empty.
  - 3) Operate the hydraulic button to forwardly open the feeding box, and then cut off the main power source.



### Attention !

The feeding box is supported by hydraulic cylinder, which won't be dropped when opening.

After feeding box contacts the limit switch when dropping, it will stop and won't damage the hydraulic cylinder.



When using the hydraulic cylinder to open the feeding box, please unlock the locking bolt.

- 4.3.2 Open the Screen Bracket and Screen
  - 1) Power off the granulator.
  - 2) Open the front door.
  - 3) Loosen the fast pipe clamp at the end of outlet pipe and put it aside.



Picture 4-2: Loosen the Fast Pipe Clamp

4) Loosen the two star screws, and draw out the storage box.



Picture 4-3: Draw Out the Storage Box

5) Unscrew the bolt on the screen bracket, turn the spring pin on the left block to left.



Picture 4-4: Spring Bolt



6) Gradually lay down the screen bracket, and take out the screen.

# 

The screen bracket is supported by pneumatic stick to avoid its dropping when opening it.

## 4.4 Timer (Optional with feeding blower)

Press down the stop button to stop the machine, the feeding blower working time can be prolonged by the timer, which enables the granules in the storage box be fully conveyed. The setting of timer varies with different screen diameters and output capacities.

Timer Setting:

After the granulator stops, via the timer it could prolong the working time of the feeding blower, the granules in the storage box can be sent out completely. The setting of timer varies with different screen diameters and output capacities.



Picture 4-7: Timer

K9: When granulator motor Y is switching with  $\triangle$ ,  $\triangle$  contactor connects with the relay in delay, which avoids motor short circuit when two contactors connecting through the electricity simultaneously during activating (Range: 0.1~1S).

K10: after pressing the stop button, the conveying and dust-removing blowers will continue working for a while, which should ensure the granules could all be conveyed by the granulator (Range:  $0 \sim 3$ Min). Note: the setting time of K10 must be larger than K24.

K8: setting the operation time of granulator motor Y (Range: 8~20S) .(Option) K23: Make the belt conveyor work in delay. After the granulating motor  $\triangle$  is connected through in delay time and motor operates stably, connect the K23



with the belt conveyor (Range: 0~1Min). (Option)

K24: after pressing the stop button, the granulator stops in delay. It makes the un-granulated materials inside the granulator finish the granulating after pressing down the stop button (Range: 0~1Min). Note: the setting time of K10 must be larger than K24. (Option)



# 5. Trouble-shooting

### 5.1 The Granulator Can Not Work

- 1) Check if the emergency stop has been reset. If not, rotate the button anti-clockwise to reset it.
- 2) Check whether the door is closed. If not, the machine could not be started.
- 3) Check if the feeding hopper is completely closed. If not, the machine could not be started. Then, check the lockup clip after opening the door.
- 4) Check the motor's overload protector. The overload protector in the electrical control box will work if the motor overloads. Under that situation, (A) (the green pole) will come out. 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 the feeding blower's motor. If the feeding blower does not run, the granulator can not run neither. Check the motor protector in the electrical control box. If it is closed, the switch will be in 0 positions. Reset it to 1 position. (A) (The green pole) will come out. Press the Reset button (B) to reset it.
- 6) Check the space between blades stop will happen or the motor overload protector will trigger off if the blade is very blunt or the space between blades is not correct. More details about checking, replacing and readjusting the blades to see chapter 3.6.
- 7) Check the phase sequence protector, which is inside the control box. If power phase shortage occurs, the phase sequence protector will cut off the control circuit of granulator, and it leads to granulator can't be started.





## 5.2 Stop Due to Other Reasons

Connection failure or looseness of safety switch or limit switch can also result in operational failure.

Note: Do not disconnect to safety switch or control switch.



# 6. Repair and Maintenance



- 1. Check the material defender.
- 2. Clean the screen and feeding chamber. Period: Daily.
- 3. Check the start/stop button and the main power switch. Period: Daily.
- 4. Check the emergency stop button. Period: Daily.
- 5. Check all the cables. Period: Weekly.
- 6. Check the electrical components joints. Period: Weekly.
- 7. Check the safety switch. Period: Weekly.
- 8. Check the cooling system function of the cutting chamber. Period: Weekly.
- 9. Check the hydraulic cylinder. Period: Weekly.
- 10. Check the screws between the fixed blades and therotating blades. Period: Weekly.
- 11. Check the service condition of the blades. Period: Weekly.



- 12. Check the gear motor. Period: Weekly.
- 13. Check the locking ring of the pulley. Period: Monthly.
- 14. Check the belt tension. Period: Semiyearly or every 1000 working hour.
- 15. Check the shaft, motor and the lubrication. Period: Semiyearly or every 1000 working hour.
- 16. Check the bearing holders. Period: Semiyearly or every 1000 working hour.

### 6.1 Repair

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

6.1.1 Operation and Maintenance of Dust-separating System

Daily check

- Air and dust bags, check if these bags are damaged, if there is any damage, please replace them.
- Check if the conveying pipe is damaged, if it is, please replace it.
- Check if the connecting joint had been fixed and sealed.
- Check if the dust collection bag is full, if it is, please dump it checks if the collection barrel is placed right under the dust separator, if there has any deviation, please adjust it.
- Check the collection barrel, if it is full, take out the dust removed plastic in timely.

Weekly check

• Check to see if the wire has any damage and the condition of the wire, if it has any problem, please fix it.

### 6.1.2 Dust-separating System Cleaning



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

- First clean the inner side of the cleaning facilitates.
- It is necessary to check and clean dust separator.
- Move away separator, use high pressure air to blow away its interior granules.



- Clean out the storage hopper and clean its interior.
- Shake the air bag to drop the dust down.
- Assembly the disassembled parts according to reversed order.
- 6.1.3 Replace the Blades



### CAUTION

Warning: rotating blades need balanced force. Self rotation exists due to non-balanced forces or unstable barycenter.



Press emergency stop button and turn off main power switch before blades changing.



Wear grooves to avoid being cut and be careful of the sharp blades!

Inject fixing glue (blue LOCTITE 243 recommended) on all tighten screws to protect these screws from loosing.



Picture 6-1: Blade Maintenance Drawing



# CAUTION!

To decrease the possibility of harm to other people, the replacement action must be conducted by oneself.



## CAUTION!

To avoid self rotation, block the rotating blade with a thick wood block. Cutters are very sharp, attention should be paid when block them. After replacement, check whether the screen is damaged. If so, replace the screen.



# CAUTION!

Each time to replace the blade, the screw and washer must be replaced Before replacing the blades, open the door and feeding box remove the storage box, screen and screen bracket.

1) Remove the rotating blades



CAUTION!

To avoid self rotation, block the rotating blade with a thick wood block.

- 1. Remove the screws and washers.
- 2. Remove the blades.
- 3. Clean the installation surface of the blades.



Picture 6-2: Change Blade Drawing

- 2) Remove the Fixed Blades
  - 1. Revolve the screw of the front fixed blade.
  - 2. Loosen and remove the hexagon socket cap screws from the front pressing block.
  - 3. Remove pressing block and blade, clean the blade rest.
  - 4. Loosen and remove the screws of the back blades.
  - 5. Loosen and remove the hexagon socket cap screw from the pressing block again, remove the pressing block and blade. Clean the supporter box.



### CAUTION!

Press the pressing block and blade when you remove the last screw to avoid the personal injuries.



- 3) Install the blades
- A: The installation steps with presetting knife jig:
- All blades, including rotating blade and fixed blade, could be adjusted inside the presetting knife jig outside the machine. Put the blade into the presetting knife jig. Regulate the adjusting screw till it touches the presetting knife jig.



Picture 6-3: Blades Installation Adjusting

- 2) After the rotating and fixed blade adjusted well on the presetting knife jig, put the rotating blade inside the groove of the milled blade rest. Aim the holes on the blade rest, put down the pressing plate and fix the screws till the blade without any shaking (in order to adjust the clearance between the rotating and fixed blade).
- 3) Mount front / back pressing block of the rotating and fixed blade on front /back block, fasten the screw till the blade without any shaking.
- 4) Use the feeler gauge to check the clearance between rotating and fixed blade, the distance is 0.2~0.3mm; Adjust the rotating and fixed blade if it is not within this distance. At last, lock the fixing screw of rotating and fixed blade with torque spanner, for the torque please refer to Table 6-1.



Picture 6-4: Installation of Rotating and Fixed Blade



- B: Without presetting knife jig:
- 1) When presetting knife jig is not adopted, firstly adjust the length of one adjusting screw on rotating blade as its total width with blade to  $114 \pm 0.07$ mm (3 rotating bades width, 5 rotating blades width is  $90 \pm 0.07$ mm); Then adjust another screw length to the same value, at last lock the nuts and screws.
- 2) Same as the installation with presetting knife jig.

# 

In order to avoid human injury and machine damage, it must lock up the blade screw tightly.



The blade clearance can't be too close to avoid blade damage!



### CAUTION!

Every time to replace the cutters, the blade, pressing block, screw, blade rest and main shaft should be inspected carefully, to check if there is any damage.



### Table 6-1: Attached Form, Cutters and other Fixing Screw Torque

Threading	Threading Specification	Stretching Force Fv(N)			Tightening Torque Ma (N.M)		
Туре		Grade	Grade	Grade	Grade	Grade	Grade
		-8.8	-10.9	-12.9	-8.8	-10.9	-12.9
	M4	3900	5750	6700	3.0	4.4	5.1
	M5	6400	9400	11000	5.9	8.7	10
	M6	9000	1320	15500	10	15	18
	M8	16500	24300	28400	25	36	43
	M10	26300	38700	45200	49	72	84
	M12	38400	56500	66000	85	125	145
Coorse Thread	M14	52500	77500	90500	135	200	235
Coarse mieau	M16	72500	107000	125000	210	310	365
	M18	91000	129000	152000	300	430	500
	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
	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
Eine Thread	M16×1.5	79500	116000	136000	226	330	390
Fine Inread	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

### 6.2 Transmission



Press emergency stop button and turn off the main power switch before repairing and maintenance of the transmission belt.



#### 6.2.1 Daily Maintenance of Transmission Belts

According to granulator's motor power, it equipped with 4~8 belts.

- 1) Check the transmission belts Check transmission belts' tensility after a full-load operation for 20-30 hours. Then check its abrasion condition.
- 2) Check transmission belts' tensility every 6 months. Remove the right sideboard and transmission belt cover. Rotate the transmission belts for several circles to see if there is any damage or abrasion.

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Do not place your hands between wheels and the belts. to avoid being pinched.

If it is necessary, check the belt's tension via extra force and measure its excursion. Inflict extra force (75N) in the middle of the belt and this force is determined by power and frequency of the motor.



Picture 6-5: Conveying Belt Maintenance Drawing Table 6-2: Conveying Belt Maintenance Standard List

Motor 50Hz	18.5/22kW	30/37kW	45-55kW
New belt	15mm	14mm	15mm
Old belt (Six - month later)	19mm	19mm	19mm
Motor 60Hz	18.5/22kW	30/37kW	45-55kW
New belt	18mm	17mm	16mm
Old belt (Six - month later)	22mm	23mm	20mm



### 6.2.2 Adjustment of Transmission Belts

- 1) Loose the 4 fixing screws on mounting base of the motor.
- 2) Adjust the V belt tension by pulling and pushing up the motor mounting base via the adjustment of the 4 screws.
- 3) Lock up the moving bolts.
- Lock up the fixed bolts. Recheck the belt tension after a full-load operation of 20-30 hours.

## 6.3 Installation of Bearing and Blade Rest

- 1) Lock the right bearing housing to the right box block of the granulating chamber; then, continue to install the right flap.
- 2) Align the shaft of blade rest with the slot of right bearing housing, and insert the blade rest into the housing.
- 3) Insert the flap and left bearing housing matching to the shaft of blade rest, and lock it to the left box block.
- 4) Install sealing ring on the right and left bearing housing, and press the ring into the bearing. At the same time, use round-nut to fix the inner ring of bearing.

Note: Add some lubricating oil to both bearing and bearing base.

5) Adjust the right and left clearness of the blade rest shaft, finally install the bearing cover and lock it tightly. The right bearing cover firmly presses the outer ring of bearing to make the right bearing cannot be moved or turned direction.



Picture 6-6: Bearing and Blade Rest Installation Drawing



- 6.4 Installation of Belt Pulley and Motor
  - 1) Put the flat key on the key groove of the shaft.



Picture 6-7: Installation of Belt Pulley and Motor 1

- 2) Put the taper sleeve inside the hole of large pulley and aim the hole to the big pulley. Then lock up the inner hexagon screw (M20mm×50).
- Adjust the balance of the large pulleywith dial gauge. Stick the dial gauge to the large pulley and rotate the large pulleyto see whether the value of gauge is within 0~0.1 mm.
- 4) After balance, screw tightly the 3 inner hexagon screws (Torque: 710 Nm)
- 5) Install the small pulley on the shaft of the motor.
- 6) Put the taper sleeve into the hole of small pulley and aim the hole to large pulley, then lock it up with inner hexagon screw (M12mm×50).



Picture 6-8: Installation of Belt Pulley and Motor 2

- 7) Put the motor on the motor fixed board, and move it forward to reduce the distance between small and large pulley.
- 8) Adjust the balance of the small and large pulley: put spirit level between the big pulley and the small pulley to observe whether the mercury column is in the middle. If not, adjust the small pulley (Note: NOT to adjust the big pulley) to make the two pulley in balance.



9) Install the belt, push the motor backward and screw tightly the position adjusting screw. Make the 6 belts be stressed by equal forces. Tighten the belts and lock up the position adjusting screw.



Picture 6-9: Installation of Belt Pulley and Motor 3

10) Finally mount the upper and lower protective cover for the pulley.



Picture 6-10: Installation of Belt Pulley and Motor 4 6.5 Installation of Screen, Screen Bracket and Storage Box

1) Insert the rotary shaft of screen bracket in left / right block hole. Make the right end of rotary shaft and right block outside in a line.



Picture 6-11: Installation of Storage Box, Screen and Screen Bracket 1



2) Mount the screen bracket on the rotary shaft under the cutting chamber, fix the pin hole cover with serew tightening.





Pin hole cover

Picture 6-12: Installation of Storage Box, Screen and Screen Bracket 2

3) Put the screen into the screen bracket. Lift up the screen bracket to left spring pin and insert in the screen bracket, lock it up with 5 screws for fixing.



Picture 6-13: Installation of Storage Box, Screen and Screen Bracket 3

- 4) After flat key is mounted inside the rotating arm of screen bracket, put it through the rotating shaft end at left.
- 5) Mount the hydraulic cylinder and adjust the angle of screen bracket's rotating arm to correct angle, and then fasten the hydraulic cylinder.



Hydraulic cylinder Rotation shaft

> Rotating arm of screen bracket

Picture 6-14: Installation of Storage Box, Screen and Screen Bracket 4





Make sure the fixing screw of pneumatic spring is fastened. Otherwise, the screen bracket would be deformed with screw fracture.

4) Lift up the storage box, insert the storage box on the support plate and mount the safety switch.



Picture 6-15: Installation of Storage Box, Screen and Screen Bracket 5

5) Lock the two star bolts in front of the screen bracket tightly.



Picture 6-16: Installation of Storage Box, Screen and Screen Bracket 6

### 6.6 Lubrication

- 6.6.1 Lubricating oils
  - 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
- 6.6.2 Please Grease the Bearing with Lubricating Oil Periodically
  - 1) Open the front door of the machine.
  - 2) Inject lubricating oil via throat with an oil greaser.



Picture 6-17: Oil Throat

### 6.7 Maintenance

When carrying out maintenance, ensure that there is no material left in the granulator.



All stuff concerning repair must be conducted by professionals to avoid damage or harm to human body.

- 6.7.1 Daily Check
  - 1) There is rubber shutter in the feeding box. If the rubber shutter is damaged, replace it immediately.
  - Check whether the Emergency Stop works properly. Start the machine and then stop it via Emergency Stop. Rotate the button anti-clockwise to reset the Emergency Stop.
- 6.7.2 Weekly Check
  - 1) Check the power wire to see whether there is any damage. If so, replace it immediately.
  - 2) Check the safety switch.
  - Check the function of the electrical handspike which is used to open the feeding box.



- 6.7.3 Monthly Check
  - 1) Check the belt to see whether there is some damage. Check the belt's tension every 6 months. More details to see chapter 6.2 Transmission.
  - 2) Check the blades and screws to see if they get loose.

### 6.8 Cleaning



CAUTION!

The blade may do harm to human body when opening the feeding hopper!

- 1) Check whether the feeding box is emptied before stopping the machine.
- 2) Clean the exterior surface of the feeding box.
- 3) Open the front door first, then the back door, push forward to open the feeding box.
- 4) Turn off the main power switch.
- 5) Clean the check board of the feeding box with dust separator.



The feeding box is held by electrical handspike, therefore it cannot fall down.

- 6) Clean the interior surface of the feeding hopper.
- 7) Remove the connecting pipe.
- 8) Loosen the fixing screw of screen bracket and open the screen bracket.
- 9) Take out the screen.
- 10) Loosen the hole base of screen bracket and remove the screen bracket.
- 11) Clean screen bracket and screen.
- 12) Clean both surfaces of the cutting chamber.
- 13) Clean every loading pipe, blower, and cyclone dust separator.
- 14) Clean the wheels with bright dust-precipitator.

Reinstall after cleaning



Take care not to be squeezed when closing the door!



- 1) Install screen into screen bracket and put screen bracket under the cutting chamber.
- Put pneumatic break iron rod along installation holes on both sides of the side board to insert the rod into directive block on the screen bracket and lock up the screws.
- Install pneumatic break on its base and lock up the fixing screw. (M12x17 torque: 35Nm)
- 4) Mount the pneumatic break iron rod on the pneumatic break.
- 5) Turn the spring dowel on both ends of the storage box to fix the storage box.
- 6) Install quick coupling clip at the end of the outlet pipe.
- 7) Shut off the feeding box



Note!

Before closing the feeding box, the door must be open; check if there is any residual powder left in the interface and edges; close and fix the feeding box with pothook.

- 8) Install the plastic shutter of the feeding box.
- 9) Close the door.
- 10) Check if the feeding box is emptied.
- 11) Open the main power switch.
- 12) Start the machine.


<ul><li>6.9 Repair and Maintenance Record</li><li>6.9.1 About the Machine</li></ul>	
Model SN Manufacture date	
VoltageΦV Frequency Hz Power k	W
6.9.2 Check After Installation	
<ul> <li>Check if pipe connections are firmed locked by clips.</li> <li>Check the gap between fixed blade and rotating blade. (0.2~0.3mm).</li> <li>Check the rotating balance of the belt wheel.</li> </ul>	
Electrical Installation	
Voltage:V Hz Specs of the fuse: 1 Phase A 3 Phase A Check phase sequence of the power supply. Check the rotating direction of the conveying blower.	
6.9.3 Daily Check	
<ul> <li>Check main power switch.</li> <li>Check emergency stop button.</li> <li>Check start / stop button.</li> <li>Check material check plate (strip) is perfect or not.</li> <li>Check whether emergency stop and safety switch works normally.</li> <li>Clean screen and feeding hooper.</li> <li>Check whether start, stop and power switches are normal.</li> </ul>	
6.9.4 Weekly Check	
<ul> <li>Check all the electrical cables.</li> <li>Check if there are loose connections of electrical components.</li> <li>Check the start and stop function of the electrical handspike</li> <li>Check function of all the safety switch</li> <li>Check the cooling system of the cutting chamber</li> <li>Check blade condition.</li> <li>Check whether set screws in fixed and rotate blades are under looseness.</li> <li>Check if there is abnormal noise, vibration and heat in reduction gear.</li> <li>Check the cracking window</li> </ul>	



## 6.9.5 Monthly Check

Check the status of the belt.

Check the overload protection function of the motor.

Check motor reversed running function.

 $\Box$ Check the tightness of the blades.

Check the pneumatic stick

Check start/stop delay function of the conveying motor

Check whether clamp ring of pulley is fastened.

Check belt tension.

6.9.6 Check Half-yearly or Every 1000 Running Hours



 $\Box$ Check the bearings, motor and shaft lubrication

Check the shaft holder

□Valuation of machine performance

## 6.9.7 3 year Checking

PC board renewal.

No fuse breaker renewal.