

**SG-24EB Series**  
**"Budget" Screenless Granulators**

Date: Aug. 2019

Version: Ver.A (English)





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# 1. General Description



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



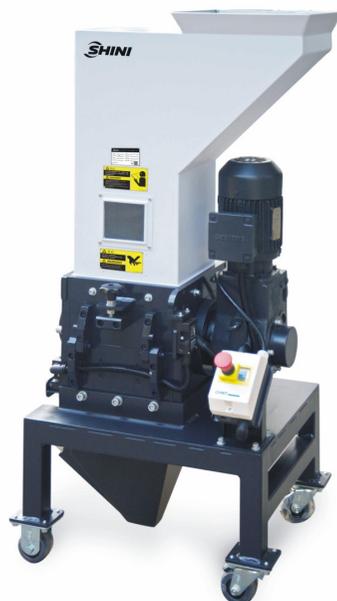
Note!

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



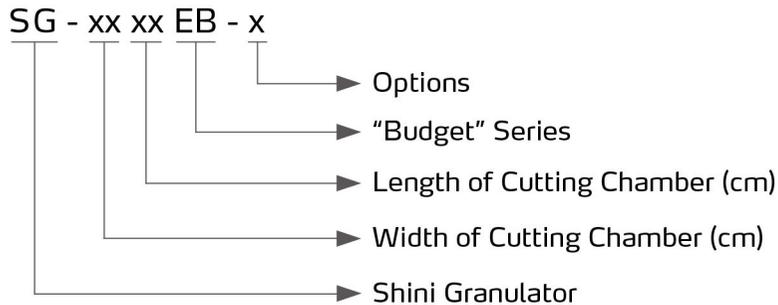
Forbidden to process flammable or toxic material!

SG-24EB series "Budget" screenless granulators are suitable for instant recycling or granulating hard and thick materials. With European-type style and compact size, they feature low rotating speed, low abrasion and super soundproof. Unique cutting blades design ensures well-proportioned granules and minimal amount of dusts. It's easy to clean and safe to operate. The unique transmission design cuts the cost greatly.



Model: SG-2417EB

## 1.1 Coding Principle



## 1.2 Feature

- Excellent gear motor features reliable performance, long service life and high torque.
- Integral design of teeth cutters and staggered blades makes coarse crushing and fine crushing simultaneously to mix with new materials and obtain uniform particles.
- Even granule with little dust.
- Compact in size that saves space and easy for cleaning and maintenance.
- Feeding hopper adopts visible window, welded steel plate structure.
- Easy motor installation for convenient maintenance.

All service work should be carried out by a person with technical training or corresponding professional experience. The manual contains instructions for both handling and servicing. Chapter 6, which contains service instructions intended for service engineers. Other chapters contain instructions for the daily operator.

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

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

Headquarter and Taipei factory:

Tel: (886) 2 2680 9119

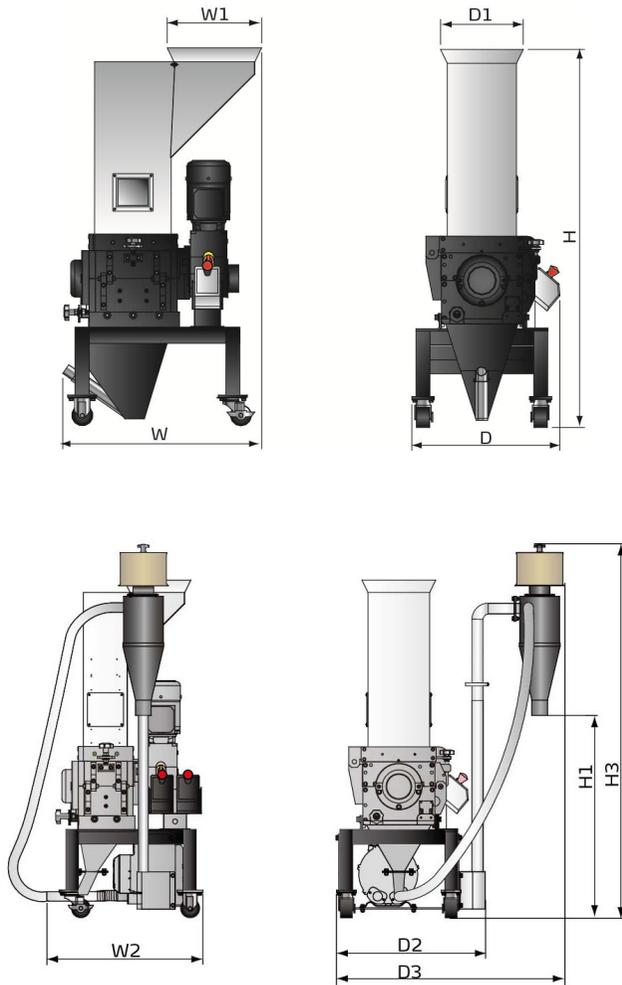
Shini Plastics Technologies (Dongguan), Inc:

Tel: (86) 769 8111 6600

Shini Plastics Technologies India Pvt.Ltd.:

Tel: (91) 250 3021 166

### 1.3 Technical Specifications



blower conveying + cyclone dust collector (BC)

Picture 1-1: Dimensions

Table 1-1: Technical Specifications

Model		SG-2417EB	SG-2427EB	SG-2436EB
Motor Power (kW, 50/60Hz)		0.75 / 0.86	0.75 / 0.86	1.5 / 1.75
Rotating Speed (r.p.m, 50/60Hz)		27/32.5	27/32.5	27/32.5
Capacity of optional manual collection bins (L)		30	40	48
Material of Teeth Cutters		SKD-11	SKD-11	SKD-11
Number of Staggered Blade		1	2	3
Number Teeth Cutters		2	3	4
Cutting Chamber (mm)		240×175	240×270	240×365
Max. Throughput Capacity (kg/hr)		3.5	6	8.5
Noise Level dB(A)		80~85	80~85	80~85
Motor Power (KW)		0.4	0.4	0.4
Dimensions	H (mm)	1360	1360	1400
	H1 (mm)	815	815	815
	H2 (mm)	1504	1504	1504
	W (mm)	566	713	899
	W1 (mm)	268	338	428
	W2 (mm)	628	709	895
	D (mm)	530	530	530
	D1 (mm)	297	297	297
	D2 (mm)	597	597	597
Weight (kg)		180	220	260

- Note: 1) The skew teeth cutter is standard equipped; and the narrow and widened skew teeth cutter are optional.  
 2) Max. Capacity of the machine is subject to the size and composition of the material.  
 3) Noise level varies according to different granules.  
 4) To avoid plastic from sticking to the blades, all materials should be crushed at normal temperature.  
 5) Power supply: 3Φ, 230 / 400 / 460 / 575VAC, 50 / 60Hz.

## 1.4 Safety Regulations

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

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

### 1.4.1 Safety Signs and Labels



Electrical installation must only be done by a competent electrician!



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



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



High voltage! Danger!

This sign is attached on the control box and the wiring box.



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



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



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



Attention please!

Ear protection is used during granulating of plastic materials.



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



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

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

## 1.4.2 Transportation and Storage of the Machine

### Transportation

- 1) SG-24EB series of granulators are packed in plywood cases with wooden pallet at the bottom, suitable for quick positioning by fork lift.
- 2) After unpacked, castors equipped on the machine can be used for ease of movement.
- 3) Do not rotate the machine and avoid collision with other objects during transportation to prevent improper functioning.
- 4) The structure of the machine is well-balanced, although it should also be handled with care when lifting the machine for fear of falling down.
- 5) The machine and its attached parts can be kept at a temperature from  $-25^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$  for long distance transportation and for a short distance, it can be transported with temperature under  $+70^{\circ}\text{C}$ .

### Storage

- 1) SG-24E series should be stored indoors with temperature kept from  $5^{\circ}\text{C}$  to  $40^{\circ}\text{C}$  and humidity below 80%.
- 2) Disconnect all power supply and turn off main switch and exigency stop switch.
- 3) Keep the whole machine, especially the electrical components away from water to avoid potential troubles caused by the water.
- 4) Use plastic film to cover the machine tightly to prevent the machine from dust and rains.

### Working environment

The machine should be operated:

- 1) Indoors in a dry environment with max. temperature  $+45^{\circ}\text{C}$  and humidity no more than 80%.

Do not use the machine:



- 1) If it is with a damaged cord.
- 2) On a wet floor or when it is exposed to rain to avoid electric shock.

- 3) If it has been dropped or damaged until it is checked or fixed by a qualified serviceman.
- 4) This equipment works normally in the environment with altitude over 3000m.
- 5) At least 1m surrounding space is requested when this equipment is running. Keep this equipment away from flammable sources at least two meters.
- 6) In the work area of vibration and strong magnetic force.

### Rejected parts disposal

When the equipment has run out its life time and can not be used any more, unplug the power supply and dispose of it properly according to local code.



Fire hazard!

In case of fire, CO<sub>2</sub> dry powder fire extinguisher should be applied.



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



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



When process item is longer than feed port, please cut long items into half until the length is shorter before processing.



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

## 1.5 Exemption Clause

The following statements clarify the responsibilities and regulations born by any buyer or user who purchases products and accessories from Shini (including employees and agents).

Shini is exempted from liability for any costs, fees, claims and losses caused by reasons below:

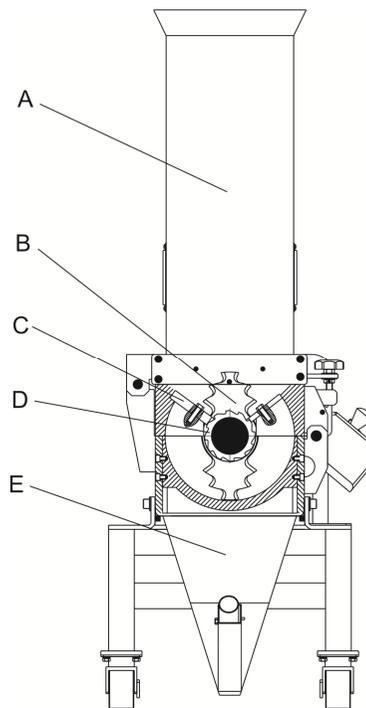
1. Any careless or man-made installations, operation and maintenances upon machines without referring to the Manual prior to machine using.
2. Any incidents beyond human reasonable controls, which include man-made vicious or deliberate damages or abnormal power, and machine faults caused by irresistible natural disasters including fire, flood, storm and earthquake.
3. Any operational actions that are not authorized by Shini upon machine, including adding or replacing accessories, dismantling, delivering or repairing.
4. Employing consumables or oil media that are not appointed by Shini.

## 2. Structural Features and Working Principle

### 2.1 General Description

SG-24EB machine-side granulators are mainly operated beside the moulding machine for small quantity of granulation, so don't put excessive material into it when granulating. The granulator is controlled by the main power switch, start button, stop button, safety switches and emergency stop button.

#### 2.1.1 Working Principle



Parts name:

- A. Feed box      B. Staggered blade      C. Fixed blade      D. Teeth cutter  
E. Storage box

Picture 2-1: Working Principle

The material is fed in via feed box(A) and falls down into the cutting chamber, the block material is cutted by the staggered blades(B) and fixed blades(C), then the material is grinded into even granule by teeth blade(D) and fixed blades (C). The granule directly fall into the collecting box(E), it does not need the screen. The

cutting house is easy to open for cleaning and maintenance. The granule can be reused directly after processed or put into other place for storage.

## 2.2 Safety System

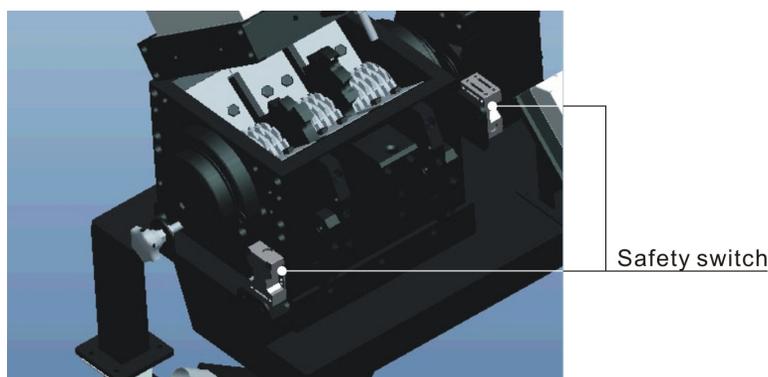
To avoid accidental bodily injury during granulator running, a set of safety system has been designed. High-speed rotating cutter is located in the granulator and subject to accident. So safety system has been set up to protect bodily safety. In any cases, the safety system cannot be changed at random.

Otherwise the machine will be under dangerous condition and subject to accident happening. The maintenance and preservation of safety system shall be done by professional staff.

In case the safety system of granulator is changed, our company will not perform our commitment. The replacement of all spare parts will be done by SHINI Company.

### 2.2.1 Safety Switch

The circuit safety switch is equipped on the granulator. If the position of storage box or feed box is changed or the breaker is loosened, the safety switch will cut off the power supply. There're two safety switches on the granulator: one is located between the feed box and the cutting chamber while the other one is on the inner wall of the cutting chamber, linked with the storage box.



Picture 2-2: Safety Switch

### 2.2.2 Lock

The lock of this machine is a long hexagonal screw, which can extend the time of door opening to avoid any injury. When opening the door, this hexagonal screw

shall be loosened. The loosening will last a quite long period of time to enable the granulator fully stops, avoiding personal injury.

The following shall be paid attention to before switch on:

- 1) Check if the feed box has been tightened.
- 2) Check if the safety switch pin of storage box and the hexagonal screw have been tightened.

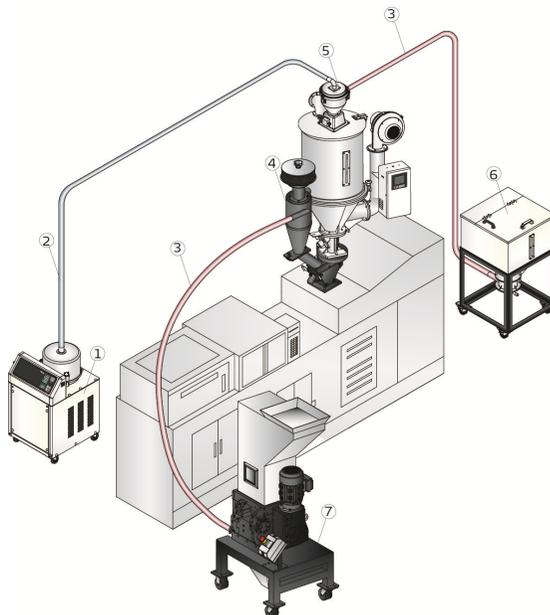
## 2.3 Options

### 2.3.1 Manual Collection Bins



Manual collection bin helps to collect and store regrind.

### 2.3.2 30-Sec Instant Recycling System(Patented Product)



- 1.Hopper loader
- 2.Vacuum pipe
- 3.Material pipe
- 4.30-Sec instant recycling system
- 5.Vacuum hopper
- 6.Material tank
- 7.SG-24EB

30-second instant recycling system utilizes high pressure air to easily convey the regrind material in the storage box to new and regrind material proportion governor to get mixed and reused, so to prevent physical property and color change caused by oxidation or dampening, as well improve the product quality.

### 2.3.3 Other optional

- The well-known brand of gear motor is optional.
- Optional blower conveyor + cyclone dust collector (BC type)
- Optional narrow and dilated cutters are available in addition to standard cutter.



## 2.4.2 Parts List (SG-2417EB)

Table 2-1: Parts List (SG-2417EB)

No.	Name	Part No.
1	Suction pipe	-
2	Storage box	-
3	American plate fixed black castor 3" /SG-23	YW03000300500
4	Standard spring washer GB/T93 8-longzine	YW65008000100
5	Flat gasket A GB/T97.1 8(8x19x2.0) -longzine	YW66081900000
6	Hexagon screw bolt GB/T5781 M8x16-4.8-longzine	YW60081600100
7	American side brake black castor 3"	YW03000300900
8	Base	-
9	Left bearing holder at bottom	BH10241100110
10	Screw lock nut	BH11241000010
11	Flat gasket A GB/T97.1 12(13.5x24x2.5) -longzine	YW66122400000
12	Star assembly	BH56240200010
13	Right bearing holder at bottom	BH10002405210
14	Cutting chamber rotating block 2	BH10240900210
15	Front lower case block	BH10241705320
16	Back lower case block	BH10241705220
17	Feed box rotating block 2	BH10241200110
18	Inner hexagon countersunk head screw GB/T70.3 M8x20-12.9-longzine	YW61082000100
19	Interlayer 2	BH10002400910
20	Interlayer 1	BH10002400710
21	Bearing 6213 DDU/VV	YW11621300000
22	Elastic ring for hole use GB/T 893.1 127	YW69012700000
23	Washer	BL51802100020
24	Inner hexagon cylindrical screw GB/T70.1 M12x20-12.9-longzine	YW61122000000
25	Bearing cover	-
26	Inner hexagon cylindrical screw GB/T70.1 M12x25-12.9-longzine	YW61122500000
27	Left bearing block	BW30024001010
28	Left shaft sleeve	BW30024000210
29	Teeth cutter R *	YW40024000400
	Narrow teeth-cutter R *	YW40241400000
	Broadened teeth cutter R *	YW40241000000
30	Cutting chamber rotating block 1	BH10240900110
31	Staggered blade *	BW40240500010

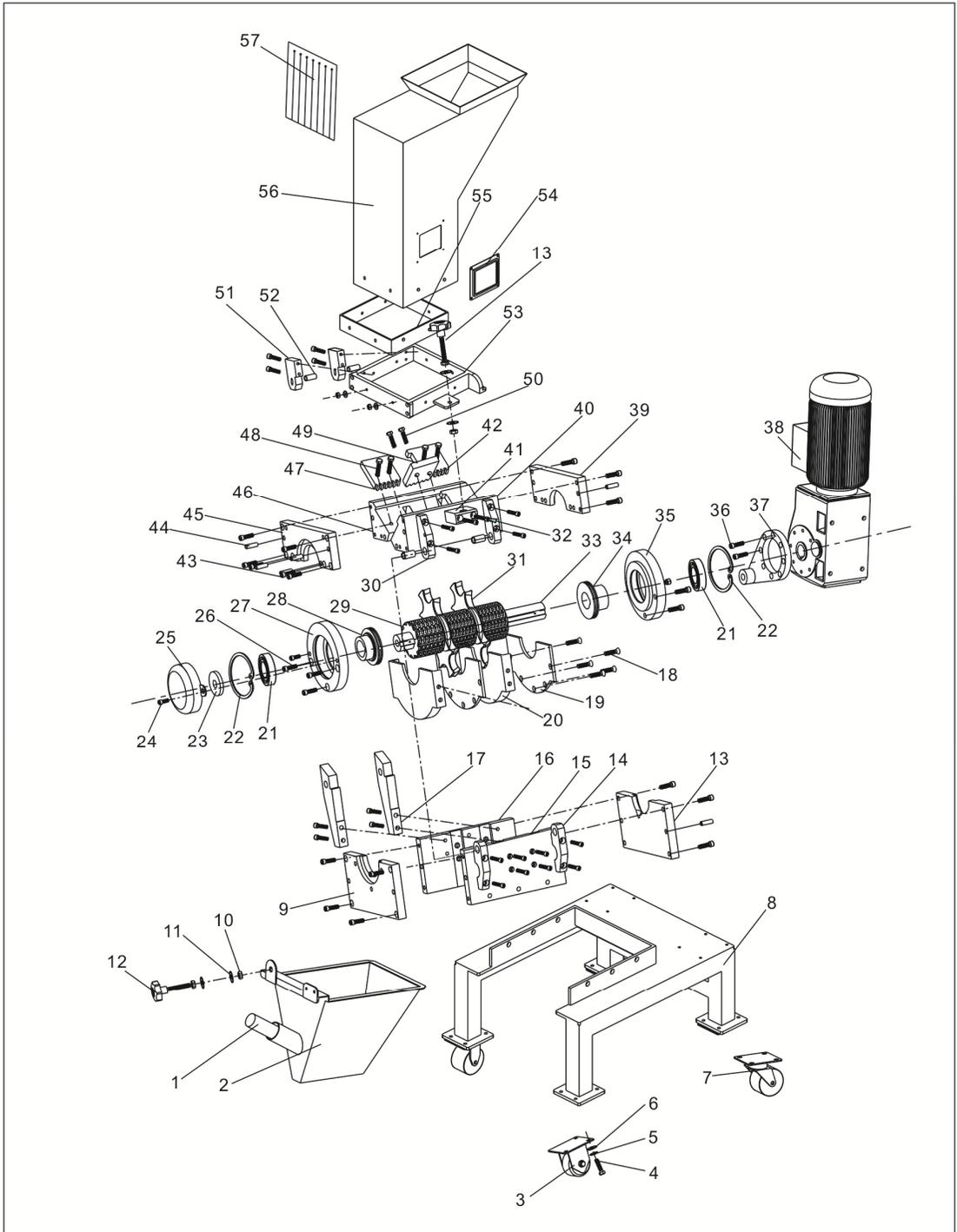
32	Inner hexagon cylindrical screw GB/T70.1 M10x55-12.9-longzine	YW61105500000
33	Main shaft	BH10241705120
34	Right shaft sleeve	BH10002405410
35	Right bearing block	BW30002405310
36	Inner hexagon cylindrical screw GB/T70.1 M8x20-12.9-longzine	YW61082000200
37	Gearmotor fixing plate	BH10002407810
38	Gearmotor 0.75KW	BM50007500050
39	Right bearing holder at top	BH10002405510
40	Front block at top	BW30241700110
41	Feeb box locking block	-
42	Inner hexagon cylindrical screw GB/T70.1 M10x30-12.9-longzine	YW61103000100
43	Elastic column pin 12x35	YW69123500000
44	Left bearing holder at top	BH10002405110
45	Rear block at top	BW30241700010
46	Fixed front blade F1*	YW40024000100
	Narrow front fixed blade F1*	BW40041100010
	Broadened front fixed blade F1*	YW40240700000
47	Hexagon screw bolt GB/T5783 M10x35-12.9-longzine	YW60103500200
48	Fixed rear blade B*	YW40024000300
	Narrow back fixed blade B*	BW40131100010
	Broadened back fixed blade B*	YW40240900000
49	External hexagonal screw GB/T5783 M10x30-12.9-longzine	YW60103000200
50	Feeb box locking block1	BH10241300110
51	Feeb box locking shaft	BH10184900010
52	Lower base of feed box	-
53	Visual window	-
54	Lower feeb box frame	-
55	Feeding box	-
56	Material fender	-

\* means possible broken parts.

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

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

### 2.4.3 Assembly Drawing (SG-2427EB)



Note: Please refer to 2.3.4 material list about the parts code.

Picture 2-4: Assembly Drawing (SG-2427EB)

## 2.4.4 Parts List (SG-2427EB)

Table 2-2: Parts list (SG-2427EB)

No.	Name	Part No.
1	Suction pipe	-
2	Storage box	-
3	American plate fixed black castor 3" /SG-23	YW03000300500
4	Standard spring washer GB/T93 8-longzine	YW65008000100
5	Flat gasket A GB/T97.1 8(8x19x2.0) -longzine	YW66081900000
6	Hexagon screw bolt GB/T5781 M8x16-4.8-longzine	YW60081600100
7	American side brake black castor 3"	YW03000300900
8	Base	-
9	Left bearing holder at bottom	BH10241100110
10	Screw lock nut	BH11241000010
11	Flat gasket A GB/T97.1 12(13.5x24x2.5) -longzine	YW66122400000
12	Star assembly	BH56240200010
13	Right bearing holder at bottom	BH10002405210
14	Cutting chamber rotating block 2	BH10240900210
15	Front lower case block	BH10242703710
16	Back lower case block	BH10242703610
17	Feed box rotating block 2	BH10241200110
18	Inner hexagon countersunk head screw GB/T70.3 M8x20-12.9-longzine	YW61082000100
19	Interlayer 2	BH10002400910
20	Interlayer 1	BH10002400710
21	Bearing 6213 DDU/VV	YW11621300000
22	Elastic ring for hole use GB/T 893.1 127	YW69012700000
23	Washer	BL51802100020
24	Inner hexagon cylindrical screw GB/T70.1 M12x20-12.9-longzine	YW61122000000
25	Bearing cover	-
26	Inner hexagon cylindrical screw GB/T70.1 M12x25-12.9-longzine	YW61122500000
27	Left bearing block	BW30024001010
28	Left shaft sleeve	BW30024000210
29	Teeth cutter R *	YW40024000400
	Narrow teeth-cutter R *	YW40241400000
	Broadened teeth-cutter R *	YW40241000000
30	Cutting chamber rotating block 1	BH10240900110
31	Staggered blade *	BW40240500010

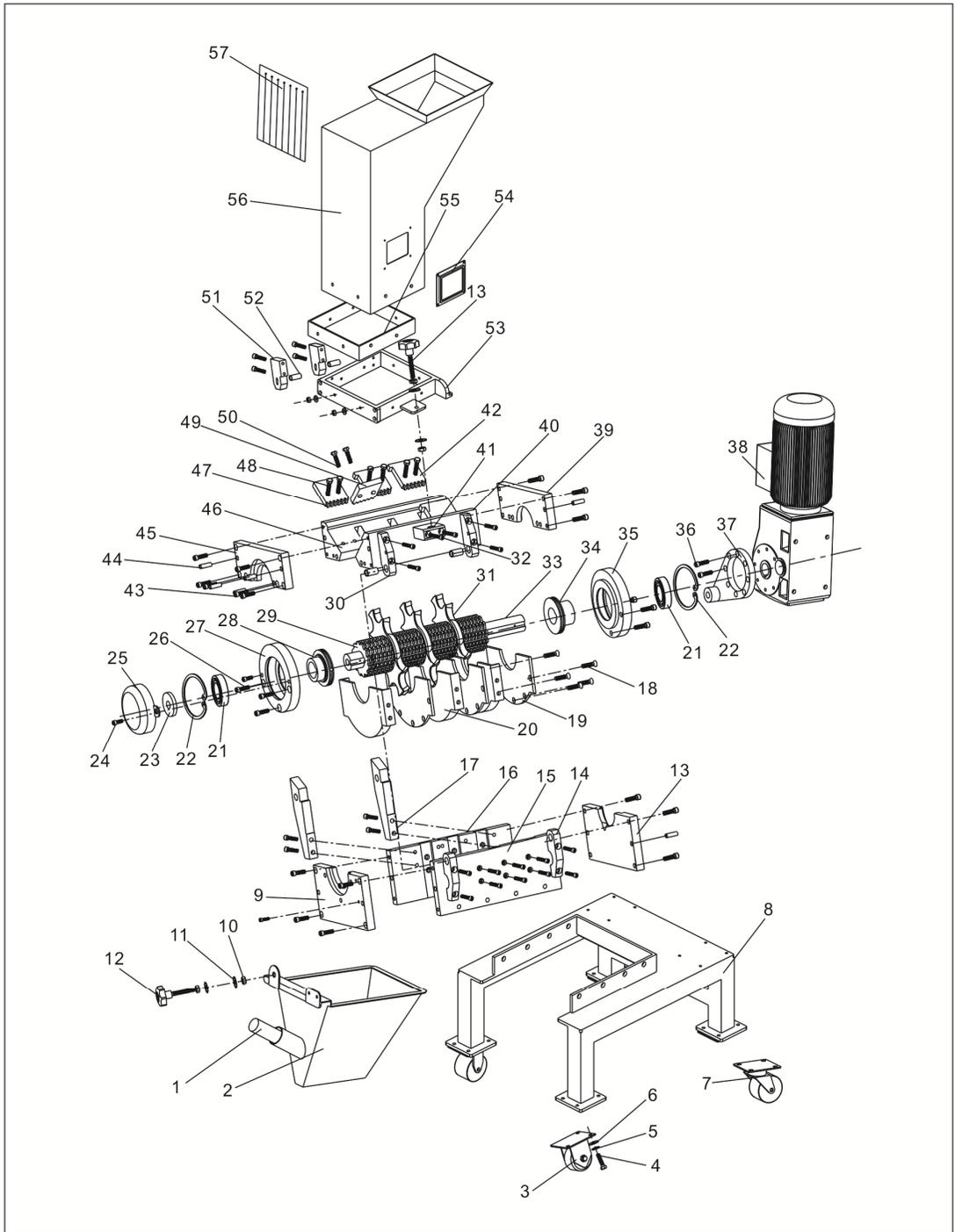
32	Inner hexagon cylindrical screw GB/T70.1 M10x55-12.9-longzine	YW61105500000
33	Main shaft	BH11242703510
34	Right shaft sleeve	BH10002405410
35	Right bearing block	BW30002405310
36	Inner hexagon cylindrical screw GB/T70.1 M8x20-12.9-longzine	YW61082000200
37	Gearmotor fixing plate	BH10002407810
38	Gearmotor 0.75KW	BM50007500050
39	Right bearing holder at top	BH10002405510
40	Front block at top	BW30242700510
41	Feed box locking block	-
42	Fixed front blade F2*	YW40024000200
	Narrow front fixed blade F2*	BW40021100010
	Broadened front fixed blade F2*	YW40240800000
43	Inner hexagon cylindrical screw GB/T70.1 M10x30-12.9-longzine	YW61103000100
44	Elastic column pin 12x35	YW69123500000
45	Left bearing holder at top	BH10002405110
46	Rear block at top	BW30242700410
47	Fixed front blade F1*	YW40024000100
	Narrow front fixed blade F1*	BW40041100010
	Broadened front fixed blade F1*	YW40240700000
48	Hexagon screw bolt GB/T5783 M10x35-12.9-longzine	YW60103500200
49	Fixed rear blade B*	YW40024000300
	Narrow back fixed blade B*	BW40131100010
	Broadened back fixed blade B*	YW40240900000
50	External hexagonal screw GB/T5783 M10x30-12.9-longzine	YW60103000200
51	Feeb box rotating block1	BH10241300110
52	Feeb box rotating shaft	BH10184900010
53	Lower base of feed box	-
54	Visual window	-
55	Lower feeb box frame	-
56	Feeding box	-
57	Material fender	-

\* means possible broken parts.

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

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

### 2.4.5 Assembly Drawing (SG-2436EB)



Note: Please refer to 2.3.6 material list about the parts code.

Picture 2-5: Assembly Drawing (SG-2436EB)

## 2.4.6 Parts List (SG-2436EB)

Table 2-3: Parts List (SG-2436EB)

No.	Name	Part No.
1	Suction pipe	-
2	Storage box	-
3	American plate fixed black castor 3" /SG-23	YW03000300500
4	Standard spring washer GB/T93 8-longzine	YW65008000100
5	Flat gasket A GB/T97.1 8(8x19x2.0) -longzine	YW66081900000
6	Hexagon screw bolt GB/T5781 M8x16-4.8-longzine	YW60081600100
7	American side brake black castor 3"	YW03000300900
8	Base	-
9	Left bearing holder at bottom	BH10241100110
10	Screw lock nut	BH11241000010
11	Flat gasket A GB/T97.1 12(13.5x24x2.5) -longzine	YW66122400000
12	Start assembly	BH56240200010
13	Right bearing holder at bottom	BH10002405210
14	Cutting chamber rotating block 2	BH10240900210
15	Front lower case block	BH10243604110
16	Back lower case block	BH10243604010
17	Feed box rotating block 2	BH10241200110
18	Inner hexagon countersunk head screw GB/T70.3 M8x20-12.9-longzine	YW61082000100
19	Interlayer 2	BH10002400910
20	Interlayer 1	BH10002400710
21	Bearing 6213 DDU/VV	YW11621300000
22	Elastic ring for hole use GB/T 893.1 127	YW69012700000
23	Washer	BL51802100020
24	Inner hexagon cylindrical screw GB/T70.1 M12x20-12.9-longzine	YW61122000000
25	Bearing cover	-
26	Inner hexagon cylindrical screw GB/T70.1 M12x25-12.9-longzine	YW61122500000
27	Left bearing block	BW30024001010
28	Left shaft sleeve	BW30024000210
29	Teeth cutter R *	YW40024000400
	Narrow teeth cutter R *	YW40241400000
	Broadened teeth cutter R *	YW40241000000
30	Cutting chamber rotating block 1	BH10240900110
31	Staggered blade *	BW40240500010

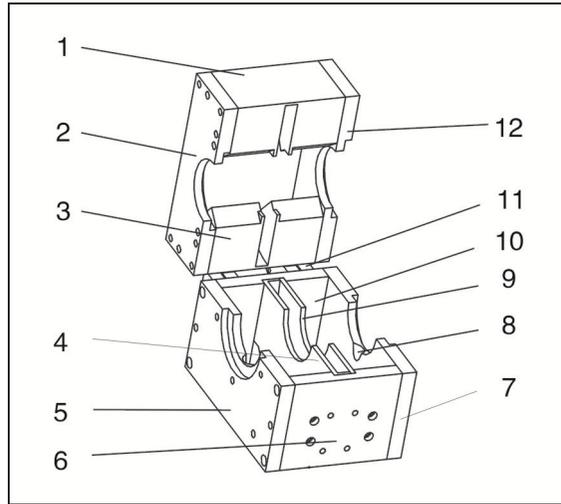
32	Inner hexagon cylindrical screw GB/T70.1 M10x55-12.9-longzine	YW61105500000
33	Main shaft	BH11243603910
34	Right shaft sleeve	BH10002405410
35	Right bearing block	BW30002405310
36	Inner hexagon cylindrical screw GB/T70.1 M8x20-12.9-longzine	YW61082000200
37	Gearmotor fixing plate	BH10002407810
38	Gearmotor 1.5KW	BM50015000350
39	Right bearing holder at top	BH10002405510
40	Front block at top	BW30243600610
41	Feed box locking block	-
42	Fixed front blade F2*	YW40024000200
	Narrow front fixed blade F2*	BW40021100010
	Broadened front fixed blade F2*	YW40240800000
43	Inner hexagon cylindrical screw GB/T70.1 M10x30-12.9-longzine	YW61103000100
44	Elastic column pin 12x35	YW69123500000
45	Left bearing holder at top	BH10002405110
46	Rear block at top	BW30243600710
47	Fixed front blade F1*	YW40024000100
	Narrow front fixed blade F1*	BW40041100010
	Broadened front fixed blade F1*	YW40240700000
48	Hexagon screw bolt GB/T5783 M10x35-12.9-longzine	YW60103500200
49	Fixed rear blade B*	YW40024000300
	Narrow back fixed black B*	BW40131100010
	Broadened back fixed black B*	YW40240900000
50	External hexagonal screw GB/T5783 M10x30-12.9-longzine	YW60103000200
51	Feed box rotating block 1	BH10241300110
52	Feed box rotating shaft	BH10184900010
53	Lower base of feed box	-
54	Visual window	-
55	Lower feed box frame	-
56	Feeding box	-
57	Material fender	-

\* means possible broken parts.

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

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

## 2.4.7 Cutting Chamber



Note: Please refer to 2.3.8 material list about the parts code.

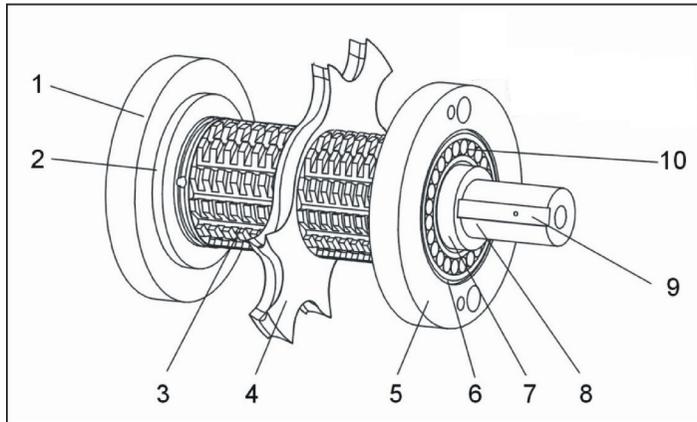
Picture 2-6: Cutting Chamber

## 2.4.8 Cutting Chamber Parts List

Table 2-4: Cutting Chamber Parts List

No.	Name	Quantity		
		SG-2417EB	SG-2427EB	SG-2436EB
1	Front top housing block	1	1	1
2	Left top bearing holder	1	1	1
3	Back top housing block	1	1	1
4	Interlayer 1	1	2	3
5	Left bottom bearing holder	1	1	1
6	Front bottom housing block	1	1	1
7	Right bottom bearing holder	1	1	1
8	Air exhaust	1	1	1
9	Interlayer 2	1	2	3
10	Back bottom housing block	1	1	1
11	Locating block	1	1	1
12	Right top bearing holder	1	1	1

## 2.4.9 Blade Rest



Note: Please refer to 2.3.10 material list about the parts code.

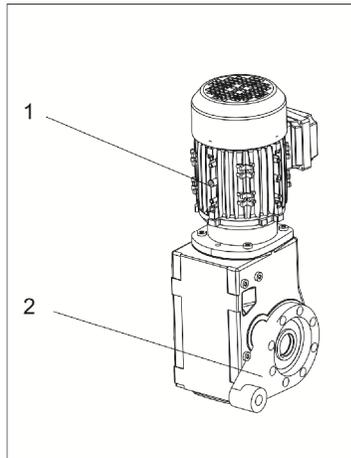
Picture 2-7: Blade Rest

## 2.4.10 Blade Rest Parts List

Table 2-5: Blade Rest Parts List

No.	Name	Quantity		
		SG-2417EB	SG-2427EB	SG-2436EB
1	Left bearing block	1	1	1
2	Left bearing sleeve	1	1	1
3	Teeth cutter	2	3	4
4	Staggered blade	1	2	3
5	Right bearing block	1	1	1
6	Spring ring	2	2	2
7	Right bearing block	1	1	1
8	Shaft	1	1	1
9	Key	1	1	1
10	Bearing	2	2	2

## 2.4.11 Transmission Parts



Note: Please refer to 2.3.12 material list about the parts code.

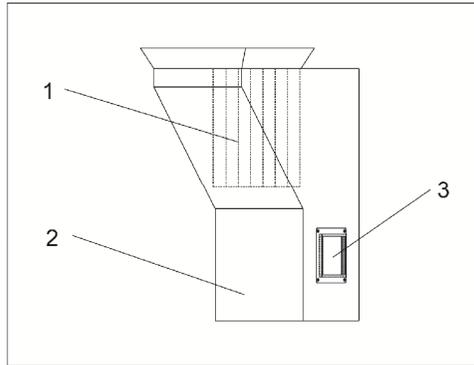
Picture 2-8: Transmission Parts

## 2.4.12 Transmission Parts List

Table 2-6: Transmission Parts List

No.	Name	Quantity		
		SG-2417EB	SG-2427EB	SG-2436EB
1	Gear motor	1	1	1
2	Flange	1	1	1

### 2.4.13 Feed Box, Sound Insulation Box and Check Plate



Note: Please refer to 2.3.14 material list about the parts code.

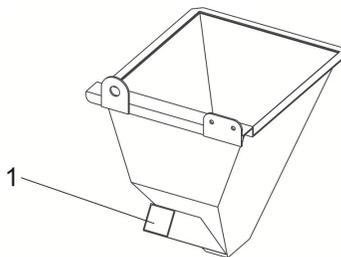
Picture 2-9: Feed Box, Sound Insulation Box and Check Plate

### 2.4.14 Feed Box, Sound Insulation Box and Check Plate Parts List

Table 2-7: Feed Box, Sound Insulation Box and Check Plate Parts List

No.	Name	Quantity		
		SG-2417E	SG-2427E(H)	SG-2436E(H)
1	Material shutter	1	1	1
2	Feed box	1	1	1
3	Visual window	1	1	1

### 2.4.15 Storage Box



Note: Please refer to 2.3.16 material list about the parts code.

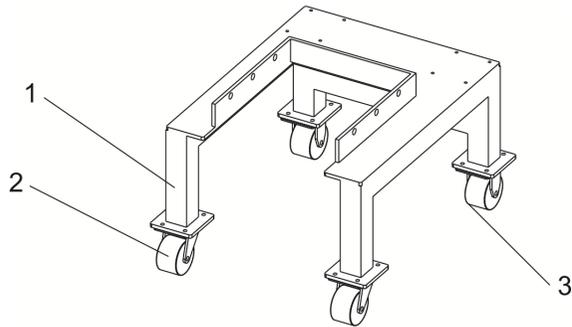
Picture 2-10: Storage Box

### 2.4.16 Storage Box Parts List

Table 2-8: Storage Box Parts List

No.	Name	Quantity		
		SG-2417EB	SG-2427EB	SG-2436EB
1	Extraction pipe	1.5"	1.5"	1.5"

### 2.4.17 Main Body



Note: Please refer to 2.3.4 material list about the parts code.

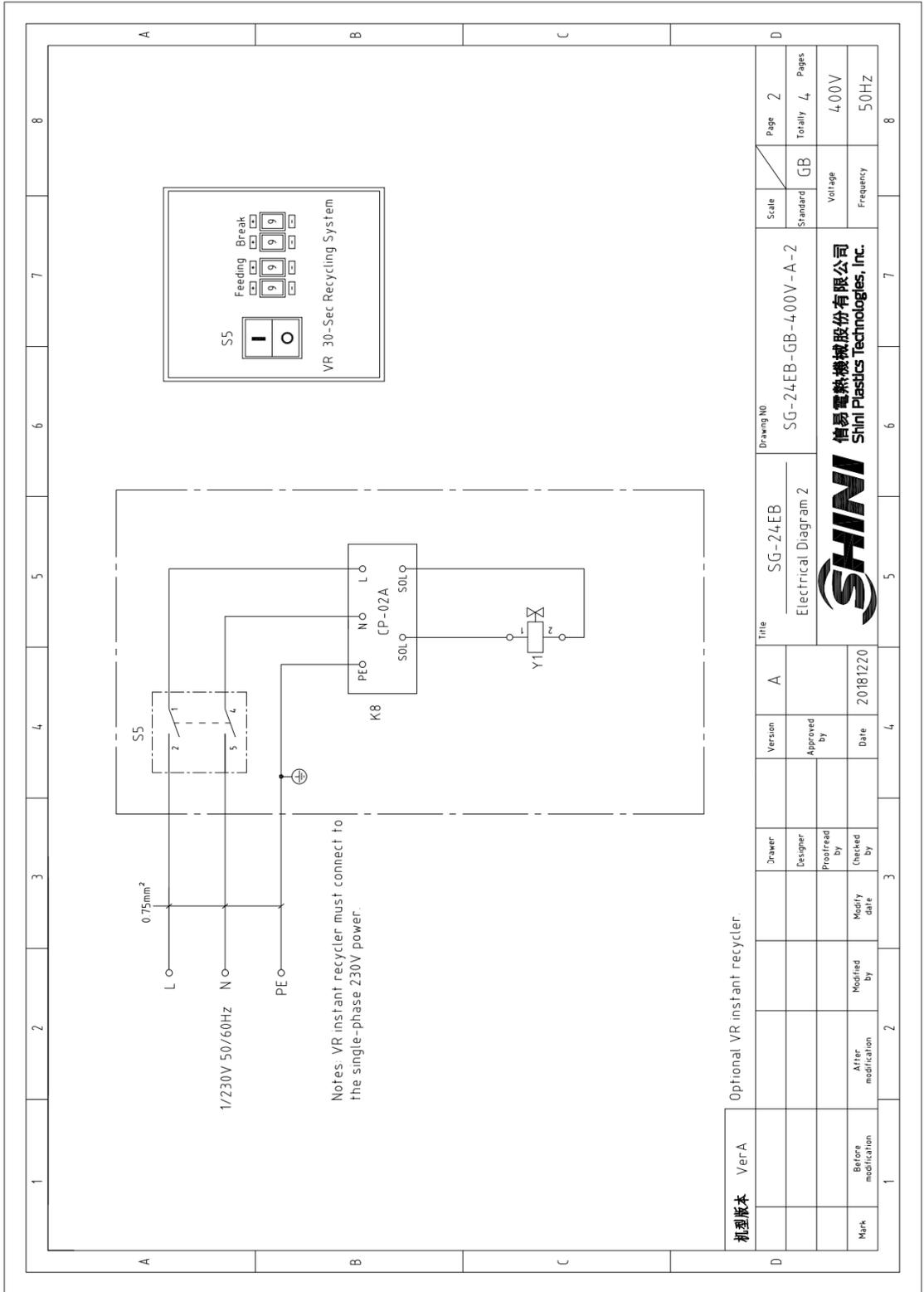
Picture 2-11: Main Body

### 2.4.18 Main Body Parts List

Table 2-9: Main Body Parts List

No.	Name	Quantity		
		SG-2417EB	SG-2427EB	SG-2436EB
1	Base	1	1	1
2	Fixed castor	2	2	2
3	Brake castor	2	2	2





机 型 版 本	Ver.A	1	2	3	4	5	6	7	8
Drawer		Version	A	Title		SG-24EB		Drawing NO	
Designer		Approved by		Electrical Diagram 2		SG-24EB-GB-4,00V-A-2		Scale	
Proofread by		Date	20181220			Standard		Page 2	
Checked by		Modify date				Voltage		Totally 4	
Mark	Before modification	After modification				Frequency		Pages	
						4,00V		4	
						50HZ		8	











1	2	3	4	5	6	7	8	
NO	Symbol	Name	Manufacturer	Type	Specification	Number	Material number	Remark
1	Q1	Thermomagnet circuit breaker	CHNT	NS2-25	2.5-4.0A	1	YE102504.00100	
2		Undervoltage release	CHNT	NS2-LV380	380V	1	YE90238000600	
3		Waterproof-box	CHNT	NS2-MC01	----	1	YR4.0012000000	A
4	S1, S2	Safety switch	SCHMERSRC	AZ15-02ZVRK-14.76	AZ-15	2	YE1614.7600100	(1)
5	M1	Motor	SIEMENS	----	0.75KW 4.00V 50Hz	1	BM50007500050	(1)
6	X1	Terminal	Honeywell	2.5mm <sup>2</sup> PE	----	1	YE600025034.00	
7	S5	Alternative switch	----	R210-C5LBW4P	----	1	YE102104.00000	(2)
8	K8	VR Dialer	YUYUN	CP-02A	AC220V	1	YE80222000600	(2)
9	Y	Solenoid valve	AIRTAC	----	4V210-08/AC220V	1	-----	(1)(2)
								B
								C
								D
<b>初型版本</b> VerA Notes: (1)Means it's not the material inside the control box. (2)Optional VR instant recycler.								
			Version	Title		Drawing NO		Scale
			Designer	SG-2417EB/2427EB		SG-24EB-GB-230V-0-3		Standard
			Approved by	Electrical Components List				GB
			Proofread by					Voltage
			Checked by	20181220				Frequency
			Modify date					230V
			Modified by					50Hz
			After modification					Totally
			Before modification					Page
								3
								4
								Pages
								230V
								50Hz
								8



1	2	3	4	5	6	7	8			
NO.	Symbol	Name	Manufacturer	Type	Specification	Number	Material number	Remark		
1	Q1	Thermomagnet circuit breaker	CHINT	NS2-25	4.0-6.3A	1	YE40406300000			
2		Undervoltage release	CHINT	NS2-UV380	380V	1	YE90238000600			
3		Waterproof-box	CHINT	NS2-MC01	----	1	YR40012000000	A		
4	S1, S2	Safety switch	SCHMERSRC	AZ15-02ZVRK-14.76	AZ-15	2	YE1614.7600100	(1)		
5	M1	Motor	SIEMENS	----	15KW 4.00V 50Hz	1	BM50015000350	(1)		
6	X1	Terminal	Honeywell	2.5mm <sup>2</sup> PE	----	1	YE600025034.00			
7	S5	Alternative switch	----	R210-CSLBW4P	----	1	YE102104.00000	(2)		
8	K8	VR Dialer	YUYUN	CP-02A	AC220V	1	YE80222000600	(2)		
9	Y	Solenoid valve	AIRTAC	----	4V210-08/AC220V	1	-----	(1)(2)		
B										
C										
D										
机壳版本 VerA				Notes: (1)Means it's not the material inside the control box. (2)Optional VR instant recycler				Scale	Page	
				Version	Title	Drawing NO	Standard	GB		
				A	SG-24.36EB	SG-24EB-GB-230V-0-4	Voltage	4		
				Designer	Electrical Components List	Totality	Frequency	4		
				Approved by	 信易电热机械股份有限公司 Shini Plastics Technologies, Inc.	4	230V	50HZ		
				Profread by		Date	20181220			
Mark				Before modification	After modification	Modified by	Modify date	Checked by		
1				2	3	4	5	6	7	8

### 3. Installation and Debugging



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 avoid electrical shock.



Caution!

Cutters should be laid level, prevent the cutters from self-rotating when do installation, don't let your hands be near to the cutters to avoid personal injury.



Notice!

Do not install the cutters by working together, because this could bring personal injury. Use a thick wood block to stop the rotating knives from turning.



Notice!

The blades are very sharp, so use protective gloves to avoid being cut.



Notice!

Please use new screws and gaskets when installing cutters.

### 3.1 Installation Notice

- 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 dia. 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: +/- 5%

Main power frequency: +/- 2%

Make at least 1 meter clearance around the machine to facilitate repair and maintenance.



Picture 3-1: Installation Space

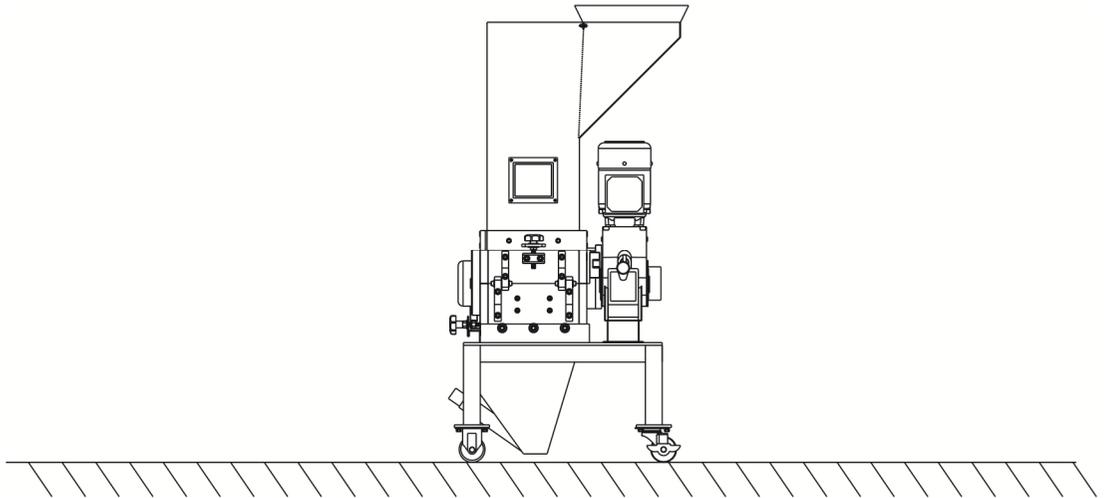
Table 3-1: Attached Form: Cutters and Other Fixing Screw Torque

Thread size	M10	M12	M14	M16	M18	M20	M22	M24
Axial force (N)	23.8	34.5	47	65.5	78.5	103	129	149
Fixing torque (Nm)	50	86	135	215	290	420	570	730

### 3.2 Installation Place

Move the granulator to the proper place and fix its castors.

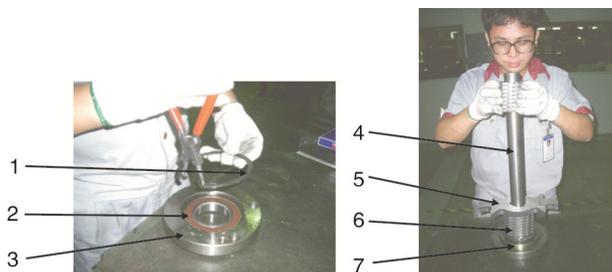
Check and make sure the installation ground is level, there is enough intensity when it is running.



Picture 3-2: Installation Place

### 3.3 Installation of Bearing and Blade Rest

- 1) Install the bearing 2 bearing washer 1 bearing sleeve 7 into the bearing base 3.
- 2) Insert the blade shaft 4 into the bearing sleeve vertically 7. Then sleeve the staggered blade 5 and the teeth blade 6 on the bearing spacing.



Picture 3-3: Installation of Bearing and Blade Rest 1

- 3) Install the right bearing base, bearing sleeve and bearing washer.
- 4) Put the blade rest 2 into the cutting chamber 1, Let both ends of the bearing tallies with the grooves on the bearing base.

- 5) Use screws to fix the left and right bearing base 3 on to the respective bearing base holder 4.



Picture 3-4: Installation of Bearing and Blade Rest 2



Caution!

cutters should be laid level, prevent the cutters from self-rotating when do installation, don't let your hands be near to the cutters to avoid personal injury.

### 3.4 Installation of Motor



Attention!

When mounting the gear motor, it should use a thick block to lock the rotating blade as to prevent the blade rest shaft from rotating.

- 1) Lock the fixed plate on gear box with the inner hexagon screw (M8x20), and then put the cutter shaft over the cutter shaft. Align the key slot hole location to cutter shaft, and then tighten up with the inner hexagon screw (M12x30).



Picture 3-5: Installation of Motor 1

- 2) Fix the fixed plate on the lower box of cutting chamber with the inner hexagon screw (M16x40), and tighten up the screws as to fasten the motor.



Picture 3-6: Installation of Motor 2



Careful!

The cutter must be placed stably and fasten the cutters before installation. During machine operation, don't touch the cutter as to prevent personal injuries.

### 3.5 Installation of Rotating Blade and Fixed Blade

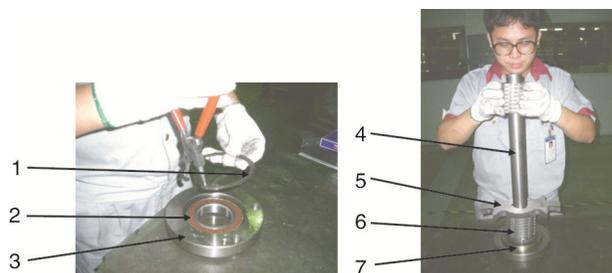


Note:

The blade is very sharp edged, please wear the gloves and take great care before installation to avoid injury!

Installation steps:

- 1) Put the blade rest of rotating blade on the lower box of cutting chamber, and align the hole to the hole on cutting chamber.



Picture 3-7: Installation of Rotating Blade and Fixed Blade 1

- 2) Tighten the screws on the bearing block and cutting chamber with the spanner, and fasten it with proper torsion.



Picture 3-8: Installation of Rotating Blade and Fixed Blade 2

- 3) After installing the rotating blade rest on the rack, mount the teeth cutter corresponding fixed blades on the front and rear block to maintain 1.5-2.0MM distance between the teeth cutters and corresponding fixed blades, and then fasten the fixed blade screws (use the screw and thread fixing agent LOCTITE243).



Picture 3-9: Installation of Rotating Blade and Fixed Blade 3



**Caution!**

In order to avoid personal injury and machine damage, the lockup screws has to be tightened.

### 3.6 Installation of Feed Box, Feed Throat and Storage Box

- 1) Put the feed box in the cutting chamber, fix and tighten it with screw (M8).



Picture 3-10: Installation of Feed Box, Feed Throat and Storage Box 1

- 2) After mounting the upper parts, hold up the storage box by hands, and gently push in and out along the track of castor fixed plate.



Picture 3-11: Installation of Feed Box, Feed Throat and Storage Box 2



Note!

Each screw shall be tightened with correct torque.

## 4. Operation Guide

### 4.1 Startup Pretest

Unpainted part of the machine has been covered with stainless oil. Before use, the stainless 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

- 1) Check whether the granulator is in the level state.
- 2) Check the space of the cutting tools to see whether the lockup screws of the blades are tightened.
- 3) Before granulating, make sure the main shaft of the granulator is in right rotating direction.



Caution!

Adjust the machine to make its four holders to share the weight and be in a level state.

#### 4.1.2 After First Startup for 2 Hours

- 1) 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 tensility after a 20~30-hour full-load operation.

### 4.2 Circuit Connection



The installation of the granulator's circuit must be conducted by the professional electricians.

- 1) Connect granulator to the power.
- 2) Connect the transmission belt clockwise.

#### 4.2.1 Check the Running Direction of the Motor

- 1) Check whether the feed box or feed inlet screw is locked up.
- 2) Check whether the storage box is shut off properly.
- 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 clockwise.



#### CAUTION!

The cutting tools may be damaged and the granulating capability will be reduced if there is a wrong running direction. Please disconnect the power and transpose any two wires of the three in the main power.

### 4.3 Opening the Feed Box and the Storage Box



#### Note!

Prior to opening the feed box and the storage box, cut off the main switch and the power supply on the granulator.



#### Caution!

The blade is very sharp-edged and easy to injure people.

#### 4.3.1 Opening the Feed Box

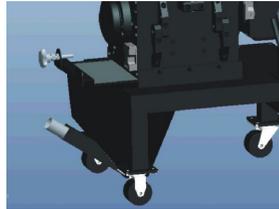
- 1) Check if the feed box is empty and then cut off the main power;
- 2) Loosen the long hexagonal screw.
- 3) Open the feed box backwards.



Picture 4-1: Opening the Feed Box

#### 4.3.2 Opening the Storage Box

- 1) Cut off the power supply of granulator.
- 2) Loosen the long hexagonal screw.
- 3) Draw out the storage box.



Picture 4-2: Opening the storage box

### 4.4 Closing the Feed Box and the Storage Box

#### 4.4.1 Closing the Feed Box



Note!

The feed box shall be tightly closed, otherwise the machine cannot start.

- 1) Check no powder remains on the interface surface or corner.
- 2) Close the feed box forwards.
- 3) Tighten the hexagonal screw to fix the feed box.

#### 4.4.2 Closing the Storage Box



Note!

Before closing, clean the interface surface.

Be careful!

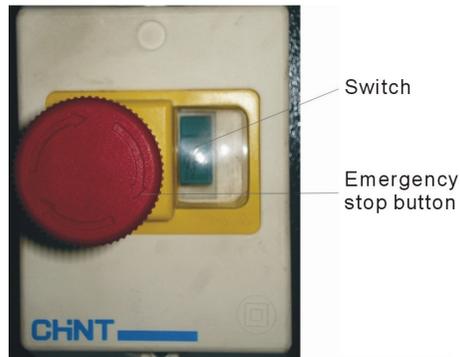
Don't get squeezed and injured.

- 1) Check no powder or leftover material around the cutting chamber and the storage box; timely remove them if any;
- 2) Push in the storage box along the track;
- 3) Tighten the hexagonal screw to fix the storage box.

### 4.5 Start and Stop the Granulator

The granulator is controlled by main power switch, safety switch, START/STOP

button and emergency stop button.



Picture 4-3: Motor Circuit



**CAUTION!**

If there are ungrinded crew materials in the feed box or cutting chamber, the granulator shall NOT be stopped, otherwise the crew materials will blockade the rotor and the motor will be overloaded next time you start the machine up.

## 5. Trouble Shooting

### 5.1 Granulator doesn't run

- 1) Check the emergency emergency stop button is at its position; and turn the button in arrow direction (anti-clock) to reset it if not.
- 2) Check the feed box is fully closed; if not, the machine cannot run; open the door to check the lock clip is tightened or not.
- 3) Check the gap between the blades.

If the cutters are blunt or the cutter clearance is incorrect, the machine will shut down, and the motor circuit breaker will trip. Blade maintenance and replacement please refer to Chapter 3.5.

Failure	Possible reasons	Troubleshooting methods
Upon the main power switch is on, push the "start" button, but the system cannot start.	The power supply not connected; The emergency stop button not restored; The main power switch damaged; The breaker not closed/or damaged; Power line fails; Electric fuse burnt; Transformer damaged; Safety switch operates; Thermal overload relay tripped.	Connect the power supply; Reset the emergency stop button; Replace the power supply switch; Check the breaker; Check the power line; Check the power line and then replace the fuse; Replace the transformer; Check the safety switch; Reset the thermal overload relay.
Upon the main power switch is on, push the "start" button, the motor makes abnormal sound.	Too low power supply voltage; Lack of phases of power supply; Motor seized; Motor fails.	Check the power supply; Check the power supply; Check the cutting chamber; Check the motor.
In the course of running, the machine suddenly stops.	The granulating motor overloaded; Material absorbing motor overloaded; The voltage fluctuates significantly.	Check the granulating motor and related components; Check the material suction motor; Improve the quality of power supply.

### 5.2 Other Reasons for Shutdown

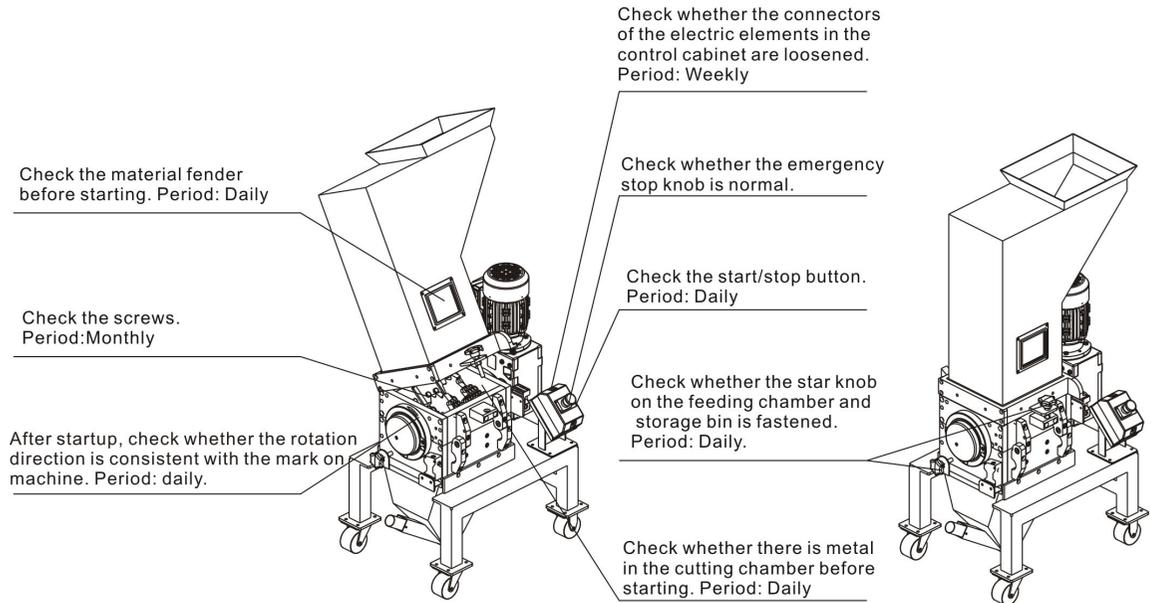
If connection of safety switch or limit switch is damaged or loosened, shutdown can also happen.



Note!

Do not disconnect the safety switch or the control switch

## 6. Maintenance and Repair



### 6.1 Preservation

At the time of preservation, ensure that no material is left in the machine.

#### 6.1.1 Replace the Blades



#### CAUTION!

Warning: Self-rotation exists due to non-balanced forces or unstable barycenter.



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



When replacing and maintaining the blades, please refer to chapter 5.5, and comply with the installation request of fixed blade and movable blade to assemble it. Smear the screw with threading fixative agent (it's recommended to use blue LOCTITE 243) to prevent screw from loosening.



Picture 6-1: Replace the Blades



**CAUTION!**

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



To avoid self-rotation, block the rotating blades with a thick wood block. Be careful with the sharp blades.

1) Remove the fixed blades



**Caution!**

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

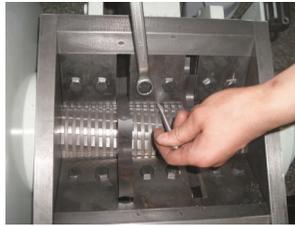
1. Remove the screws.
2. Remove the fixed blades.
3. Clean the installation surface of the blades.



Picture 6-2: Remove the Fixed Blades

2) Remove the rotating blades

1. Open the cutting chamber and take out the blade rest.
2. Loosen and remove the hexagon socket cap screw.
3. Clean the whole rotating blades and cutting chamber.



Picture 6-3: Remove the Rotating Blades



**Caution!**

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

### 3) Install the blades

Clean carefully the fixed blades and rotating blades and then install them.



**CAUTION!**

Each time to replace the blade, the screw and insulation ring must be replaced also. Install the rotating blades, then the fixed blades, finally the front fixed blades. More details about replacing or maintaining the blades to see chapter 3.5.

## 6.2 Transmission

### 6.2.1 Routine Preservation of Reducer

After the reducer runs for its first 400 hours, the grease shall be replaced. The period of grease replacement will be 4000 hours afterwards. Sufficient amount of grease shall be maintained in the reducer box and periodic check is needed. Timely supplement or replace the grease when it is found the amount of grease decreases or the quality of grease deteriorates. Please keep the appearance of mixing motor and reducer clean and timely remove dust and dirt to better dissipate heat.

Machine components	Service life
Reducer	5 years
Bearing	40,000 hours
Breaker	100,000 times

## 6.3 Preservation

At the time of preservation, ensure that no material is left in the machine.



Note!

All maintenance activities shall be done by professional staff to avoid any injury and damage to the machine.

### 6.3.1 Daily Check

- 1) Check no damage to the material fender in the feed box and replace it in case of any damage.
- 2) Check if the emergency stop switch functions normally. Start the machine and then push the emergency stop switch. When restoring, turn the button in the arrow direction (i.e. anticlockwise).
- 3) Check the main power switch to see if the functions of start, stop and reverse are normal.

### 6.3.2 Weekly Check

- 1) Check the power line of machine has worn or damaged, if so, replaces It immediately.
- 2) Check the safety switch.
- 3) Check the electrical connectors have loosened or not.

### 6.3.3 Monthly Check

- 1) After the reducer runs for its first 400 hours, the grease shall be replaced. The period of grease replacement will be 4000 hours afterwards. Sufficient amount of grease shall be maintained in the reducer box and periodic check is needed. Timely supplement or replace the grease when it is found the amount of grease decreases or the quality of grease deteriorates. Please keep the appearance of mixing motor and reducer clean and timely remove dust and dirt to better dissipate heat.
- 2) Check the cutting tool is not loosened or worn.
- 3) If the granulator is idle for long time, please apply the anti-rust oil on the blade rest, fixed blade, blade rest, cutting chamber and screws to prevent the rust.

## 6.4 Cleaning



Note!

When opening the feed box, be careful not to touch the blade that is very sharp-edged and may injure people.

- 1) Before the machine is stopped, check if the feed box is empty.
- 2) Clean the outer surface of feed box.
- 3) Close the main power switch.
- 4) Loosen the long hexagonal screw and then open backwards the feed box.
- 5) Clean the inner surface of feed box.
- 6) Loosen the hexagonal screw and remove the storage box.
- 7) Clean the storage box.
- 8) Clean the cutting chamber internally and externally.

## 6.5 Maintenance Schedule

### 6.5.1 About the Machine

Model \_\_\_\_\_ SN \_\_\_\_\_ Manufacture date \_\_\_\_\_

Voltage \_\_\_\_\_  $\Phi$  \_\_\_\_\_ V Frequency \_\_\_\_\_ Hz Power \_\_\_\_\_ kW

### 6.5.2 Check After Installation

- Check if the lockup screws of the fixed blades are locked firmly.
- Check if the flange of the speed reducer has been locked firmly.

#### Electrical Installation

- Voltage: \_\_\_\_\_ V \_\_\_\_\_ Hz
- Specs of the fuse: 1 Phase \_\_\_\_\_ A 3 Phase \_\_\_\_\_ A
- Check phase sequence of the power supply.

### 6.5.3 Daily Check

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

### 6.5.4 Weekly Check

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

### 6.5.5 Monthly Check

- Check the status of the belt.
- Check the overload protection function of the motor.
- Check the tightness of the blades.

### 6.5.6 Check Half-yearly or Every 1000 Running Hours

- Check or replace lubrication for gear motor.
- Check lubrication of bearing.
- Check coupling.
- Evaluation of the machine condition.

### 6.5.7 3 year Checking

- PC board renewal.
- No fuse breaker renewal.