NEOG-18

Medium-speed Granulator

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1. General Description

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

Note!

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

Forbidden to process flammable or toxic material!

NEOG-18 series medium - speed granulators are suitable for by - the - press recycling of sprues they feature easy operation, excellent performance, low noise and dust level. They are in “Euro” style design and compact in size. High quality blades ensure long - life span. The high security grade also conforms with CE safety standard.



Model: NEOG-1830

1.1 Feature

1) NEOG-18 series granulators are equipped with either staggered blades or paddle blades which feature in high efficient cutting.
2) Low granulating speed and sharp angle design of rotating blades are helpful for smooth and continuous operation.
3) Best shear angle ensures the efficiency of material granulating.
4) Optimal design can effectively reduce vibration during operation of granulator.
5) Low speed granulating ensures well - proportioned granules、low dust level and low noise level.
6) Low speed and sound-proof material hopper brings a quieter operation environment.
7) For granulating glass-filled material, increase fibre-added granulator model for choose. Adopt surface-hardening treatment on the material contacting components.
8) Easy access for easy maintenance and cleaning.
9) Small in size with castors for easy moving.
10) High safety grade designing to comply with euro safety standard.
11) Feed hopper with built-in magnet will catch metal impurities in the materials.

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 NEOTEC 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.

Service hotline: +33 4 50 27 29 00

1.2 Technical Specifications

1.2.1 Technical Specifications (NEOG-18)

Table 1-1: Technical Specifications (NEOG-18)

Model	NEOG-240(S)	NEOG-300(S)	NEOG-360(S)	NEOG-360(H)
Motor Power (kW)	1.5 (0.75)	2.2 (1.5)	3.0 (2.2)	3.0 (4.0)
Rotating Speed (rpm)	230 (230)	230 (230)	230 (230)	230 (230)
Material of Blades (DC53)	SKD11	SKD11	SKD11	SKD11
Type of Blades	Staggered	Staggered	Staggered	Staggered
Number of Fixed Blades	2	2	2	2
Number of Rotating Blades	12	15	18	18
Cutting Chamber (mm)	180×240	180×300	180×360	180×360
Max. Throughput Capacity (kg/hr)	35(30)	50 (45)	70 (60)	70 (80)
Noise Level dB(A)	85~90	85~90	85~90	85~90
Dia. of Screen Mesh (mm)	√(Φ6)	√(Φ6)	√(Φ6)	√(Φ6)
30-sec. Instant Recycler	○	○	○	○
Dust Separator (with Instant Recycling)	○	○	○	○
Level Detector	○	○	○	○
Proportional Valve	○	○	○	○
Special Screens (mm)	○	○	○	○
Manual Storage Bin	○	○	○	○
Dimensions				
H (mm)	1280	1280	1280	1280
W (mm)	500	560	620	620
D (mm)	850	850	850	850
Weight (kg)	200(180)	210 (180)	230 (260)	260 (280)

Note: 1) "√" standard, "○" optional.

2) "H" Refers to higher motor power. "S" refers to smaller motor power. "C" Refers to staggered blades.

3) For stainless steel made feed port and manual storage bin, plus "R" at model behind.

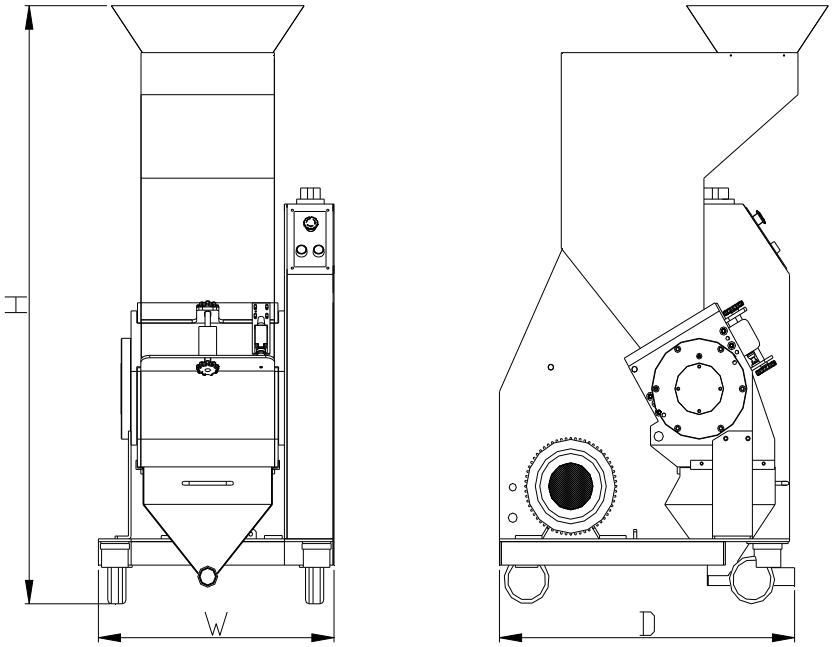
4) Max. capacity of the machine is subject to diameter of screen hole and composition of the material. Continually with PET preforms.

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

6) For avoiding plastic to adhibit the blade, all materials should be crushed at normal temperature.

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

1.2.2 Dimensions (NEOG-18)



Picture 1-1: Dimensions (NEOG-18)

1.3 Safety Regulations

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

1.3.1 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!

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

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

 Attention please!

Ear protection is used during granulating of plastic materials.

 Attention!

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

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

 Loading blower is applicable to convey regrind and powder, and it requires that the temperature of regrind and powder should not be more than80℃.

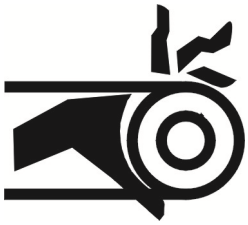
 The loading blower has great suction power and it is easy to get things or clothes sucked into, so it should have a protective cover.



Air inlet dust clean.

Concerning SG-20 the cutting chamber should be heat-processed and the blades must be changed before the granulators deal with fibre added material.

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 Pinch risk when moving belt. Take out or open protective cover is not allowed when it is running.
	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.

1.3.2 Transportation and Storage of the Machine

Transportation

1) NEOG-18 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 located at the bottom of the machine can be used for easier 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 and has device for transportation 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℃ to +55℃ for long distance transportation and for a short distance, it can be transported with temperature under +70℃.

Storage

1) NEOG-18 series granulators should be stored indoors with temperature kept from 5 ℃ to 40℃ and humidity below 80%.
2) Disconnect all power supply and turn off main switch and control switch.
3) Keep the whole machine, especially the electrical components away from water to avoid potential troubles caused by the water.
4) Plastic film should be used to protect the machine from dust and rains.

Working Environment

The machine should be operated: Indoors in a dry environment with max. temperature +45℃ and humidity no more than 80%.

Do not use the machine:



1) If it is with a damaged cord.
2) On a wet floor or when it is exposed to rain to avoid electrical shock.
3) If it has been dropped or damaged until it is checked or fixed by a qualified serviceman.
4) This equipment works normally in the environment with altitude within 3000m.
5) At least a clearance of 1m surrounding the equipment is required during operation. Keep this equipment away from flammable sources at least two meters.
6) Avoid vibration, magnetic disturbance at the operation area.

Rejected Parts Disposal

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



Fire hazard

In case of fire, Co_2 dry powder fire extinguisher should be applied.



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



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



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



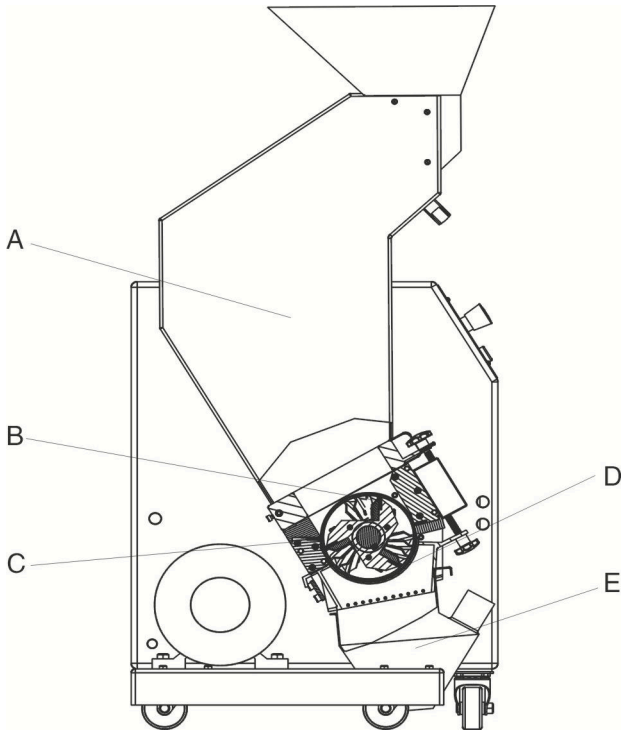
Please don’t put materials into the granulator if they are thinner than 2mm and are soft and flexible, like rubber.

2. Structural Features and Working Principle

2.1 General Description

Granulators of NEOG-18 series are designed for grinding different types of plastic waste. The granulator is controlled by main power switch, emergency stop button, safety switch, start and stop button.

2.1.1 Working Principle



Parts name:

A. Feed box B. Rotating blade C. Fixed blade D. Screen E. Storage box

Picture 2-1：Working Principle

The material is fed in via feed box (A) and falls down to the rotating blades (B) there it grind the material against the fixed blades (C) in the cutting chamber. Underneath there is a screen (D) which the granulate passes through before it is gathered in the storage box (E). The storage box, screen and screen frame are removable. The feed box can also be opened up for easy cleaning and maintenance.

2.2 Safety System

To avoid accidental bodily injury during granulator running, a set of safety system has been designed.

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 NEOTEC Company.



Picture 2-2：Safety Switch

2.2.1 Emergency Stop Switch

There is one red button on the control panel. Upon pushing it, the machine will stop running. Turn the button in the arrow direction as shown on the button, the button will reset (counter-clockwise).



Picture 2-3：Emergency Stop Switch

2.2.2 Safety Switch

On the granulator is equipped the safety position switch for the breaker. In case the position of storage box or feed box is changed or the breaker is loosened, it will cut off the power supply.

There are two safety switches on the granulator: one is located between the feed box and the cutting chamber while the other one is on the cutting chamber and linked with the screen frame.



Picture 2-4：Safety Switch

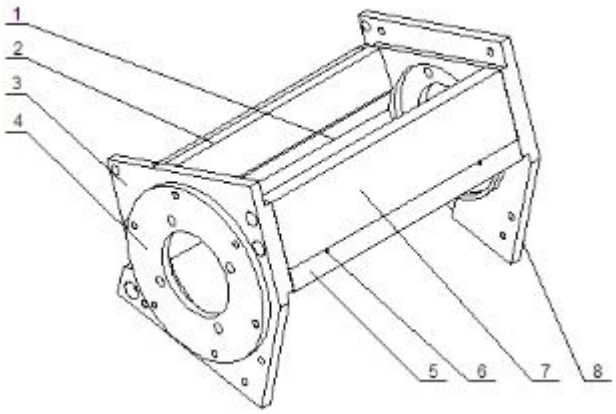
2.2.3 Lock

When opening the feed box and granulator chamber, a long hexagon screw should be loosed (it's just the door lock). It will take a long time to loosen the screw. And this period of time is enough for stopping the blade bearing completely to avoid personnel injury.

Prior to machine switch-on, please notice:

1) Check if the feed box has been locked up.

2) Shut the screen frame and lock the star screw tightly.



Picture 2-5：Cutting Chamber

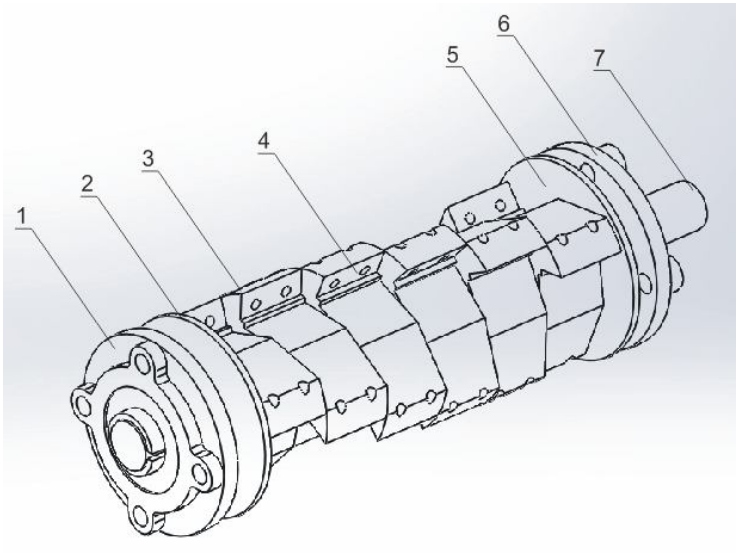
2.2.4 Cutting Chamber Parts List

Table 2-1：Cutting Chamber Parts List

No.	Name	Quantity
1	Back block	1
2	Back pressing block	1
3	Left block	1
4	Bearing block	1
5	Front pressing block	1
6	Blade adjusting hole	2-4
7	Front block	1
8	Front pressing block	1

2.2.5 Blade Rest

2.2.5.1 Staggered Blade



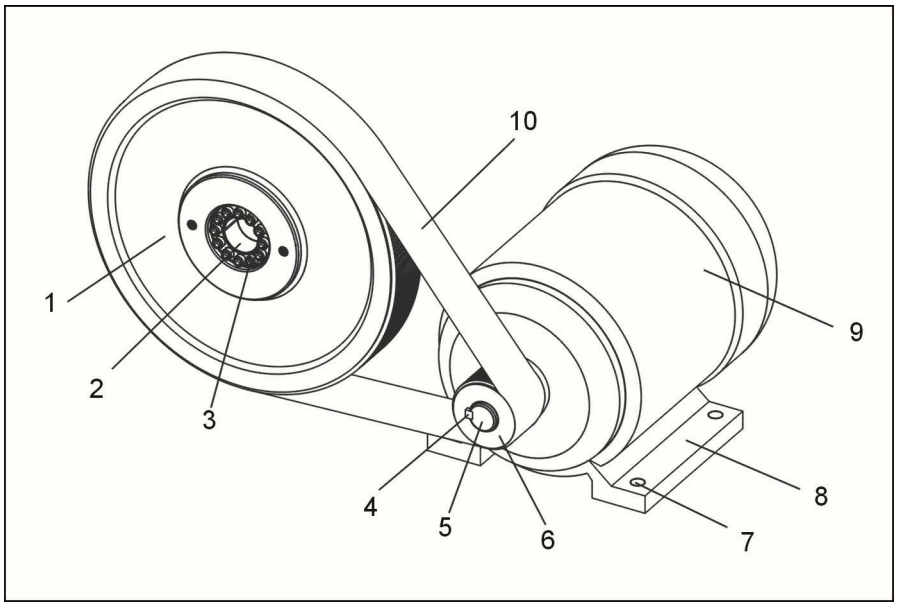
Picture 2-6：Staggered blade

2.2.5.2 Staggered Blade Parts List

Table 2-2：Staggered Blade Parts List

No.	Name	Quantity
1	Bearing	1
2	Material flap	1
3	Rotating blade rest	4~6
4	Rotating blade	12~18
5	Material flap	1
6	Bearing	1
7	Blade shaft	1

2.2.6 Transmission Parts



Picture 2-7：Transmission Parts

2.2.7 Transmission Parts Parts List

Table 2-3：Transmission Parts Parts List

No.	Name	Quantity
1	Blade shaft pulley	1
2	Lockup ring	2
3	Fixing screw	12
4	Key	1
5	Motor shaft	1
6	Motor belt pulley	1
7	Motor locating hole	4
8	Motor base	1
9	Motor	1
10	V belt	1

2.3 Electrical Diagram

2.3.1 Electrical Circuit

Table 2-4：Electrical Circuit

codes / model	ⓐ	ⓑ	ⓒ	ⓓ	ⓔ	ⓕ	ⓖ	ⓗ	ⓘ	ⓙ	ⓚ	ⓛ	ⓜ	ⓝ
NEOG-1824	4.1	1.5	16	10	2.5-4	2.8	1.0	0.75	3.4	0.63-1	0.77	1.0	0.37	0.7
NEOG-1824S	4.1	1.5	16	10	2.5-4	3.8	1.0	1.5	3.4	0.63-1	0.77	1.0	0.37	0.7
NEOG-1830S	5.5	2.5	16	15	2.5-4	3.8	1.0	1.5	4.8	0.63-1	0.77	1.0	0.37	0.7
NEOG-1830	5.5	2.5	16	15	4-6.3	5.2	1.0	2.2	4.8	0.63-1	0.77	1.0	0.37	0.7
NEOG-1836	5.5	2.5	16	15	4-6.3	5.2	1.0	3.0	5.6	0.63-1	0.77	1.0	0.37	0.7
NEOG-1836S	5.5	2.5	16	15	4-6.3	5.2	1.0	2.2	4.8	0.63-1	0.77	1.0	0.37	0.7
NEOG-1836H	9.5	2.5	16	20	6.3-10	9.5	2.5	4.0	8.8	0.63-1	0.77	1.0	0.37	0.7

ⓐMain current ⓑMain power cable dia. ⓒMain rating current

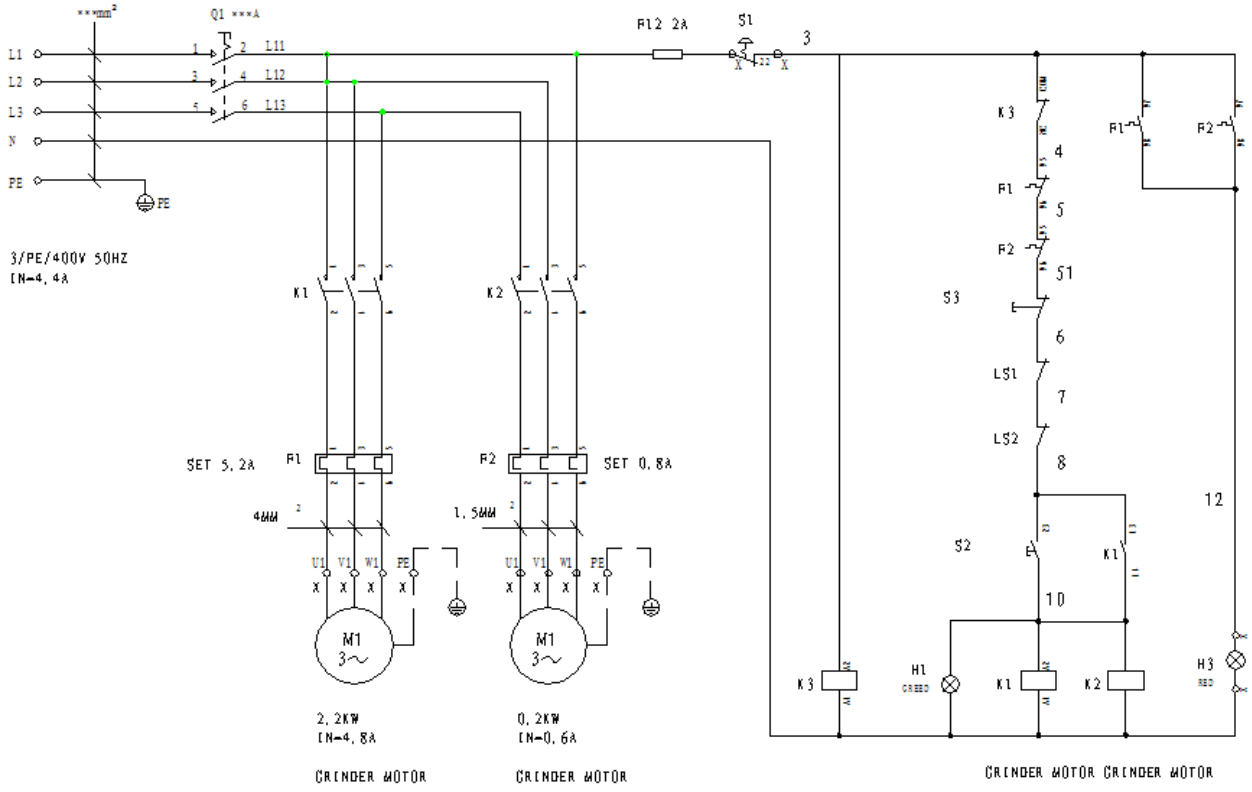
ⓓBreaker rating current ⓔGrinding motor overload relay ⓕGrinding motor overload relay setting value

ⓖGrinding motor cable dia. ⓗGrinding motor power ⓘGrinding motor current

ⓙConveying blower overload relay ⓚConveying blower overload relay setting value

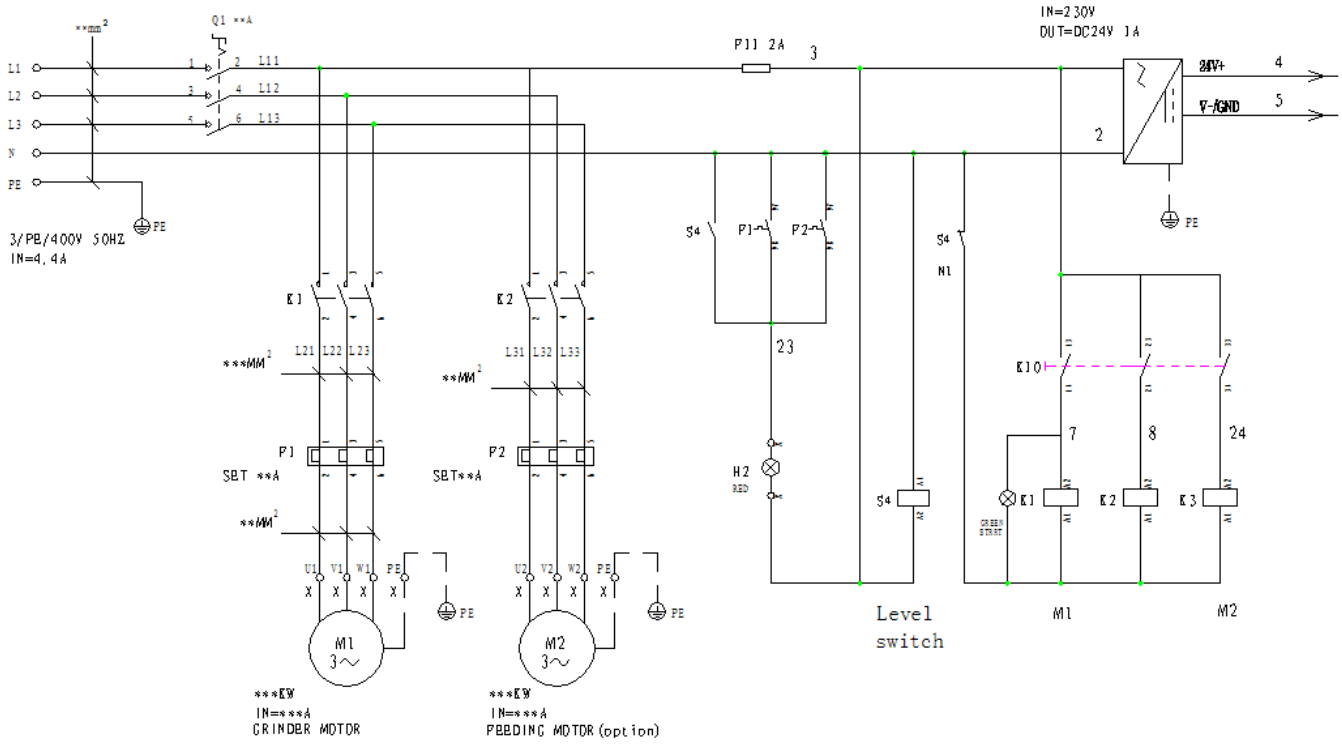
ⓛConveying motor cable Dia. ⓜConveying blower power ⓝConveying blower current

2.3.2 Main Circuit(400V)



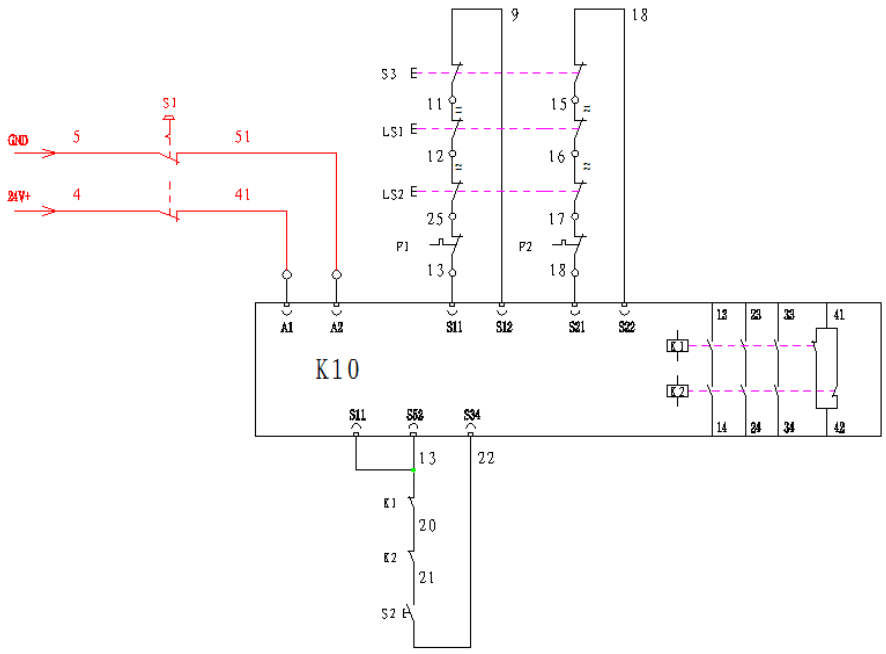
Picture 2-8：Main Circuit 1

2.3.3 Main Circuit Diagram –CE include safety relay (400V)



picture 2-9：Main Circuit Diagram –CE include safety relay (400V)

2.3.4 Control Circuit Diagram –CE include safety relay (400V)



picture 2-10：Control Circuit Diagram –CE include safety relay (400V)

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 to 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: ± 10%
   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

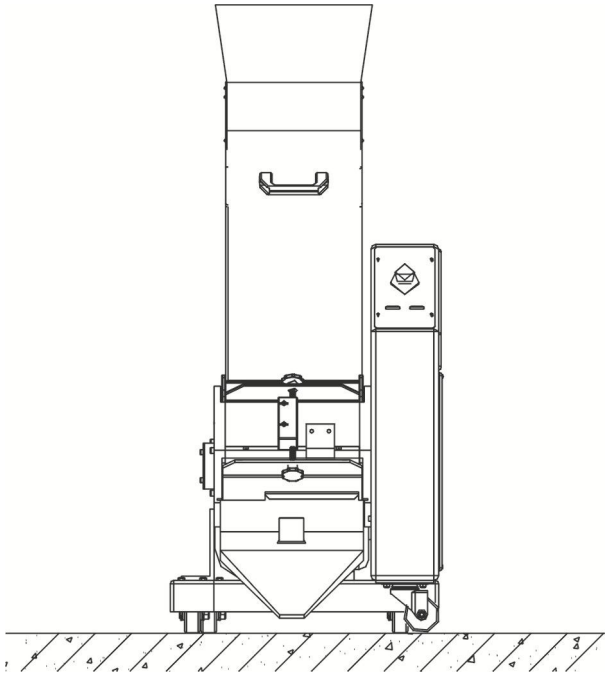
Thread size	M10	M12	M14	M16	M18	M20	M22	M24
Axial force (N)	23.8	34.5	47	65.5	78.5	103	129	149
Fixing torque (Nm)	50	86	135	215	290	420	570	730

3.1 Installation Place

Make enough installation space to help the repair and maintenance.

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

Lockup the castors so to prevent the granulator from moving.



Picture 3-2：Installation Place

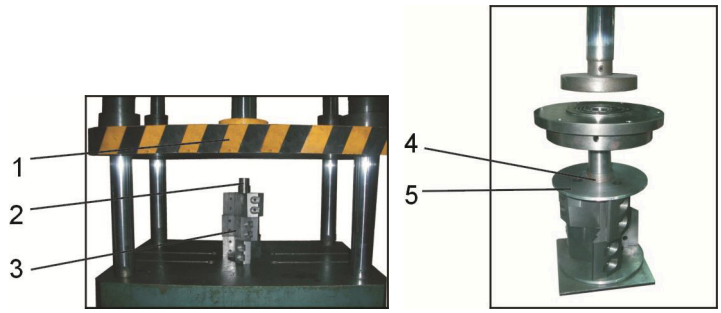
3.2 Installation of Bearing and Blade Rest

1) Put oil seal (see figure 2) and bearing (see figure 1) orderly into bearing pedestal. (See figure 3).



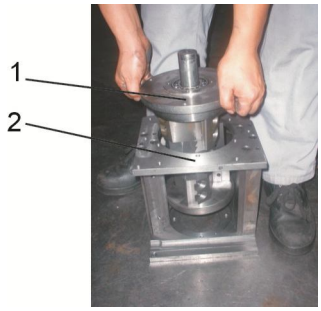
Picture 3-3：Installation of Bearing and Blade Rest 1

2) Insert blade shaft (see figure 2) vertically into blade rest (see figure 3), let hydraulic machine (see figure 1) compress it tightly.
3) Mount shaft sleeve (see figure 4) and material flap (see figure 5) orderly into the main shaft (see figure 2) and to make the material flap completely match shaft sleeve and blade rest.
4) Mount bearing pedestal (see figure 4) onto the blade rest and use hydraulic machine to press tight. (see figure 3)



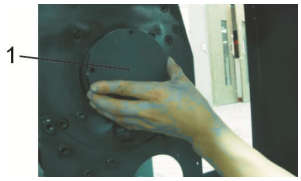
Picture 3-4：Installation of Bearing and Blade Rest 2

5) Put the installed blade rest (see figure 1) into the cutting chamber (see figure 2).



Picture 3-5：Installation of Bearing and Blade Rest 3

6) 6) Install the bearing cover and tighten it by screw. (see figure 1).



Picture 3-6：Installation of Bearing and Blade Rest 4

Note!

Apply grease on the bearing and bearing pedestal.

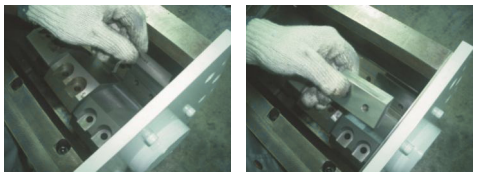
3.3 Installation of Rotating Blade and fixed Blade

Note!

The blade is very sharp edged, so wear gloves before installation and care shall be taken when installation to avoid injury!

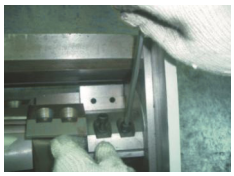
Installation steps:

1) Put the rotating blades, and their pressing blocks orderly to the installation position on the rotating blade retainer.



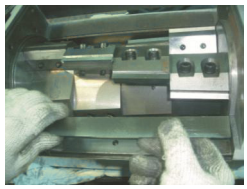
Picture 3-7：Installation of Rotating Blade and fixed Blade 1

2) Lock the screws corresponding to blades with proper torque. (Torque: 280Nm)



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

3) Put the pressing blocks onto the fixed blades, align screws to the fixing holes and lock them tightly.



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

4) Use proper small wrench to adjust the distance of fixed blades and rotating blades to 0.2~0.3mm and lock the fixed blade tightly.



Picture 3-10：Installation of Rotating Blade and fixed Blade 4

Note!

To avoid bodily injury and machine damage, the fixing screw of blades shall be tightened well.

When adjusting the clearance, it shall not be too small to avoid damage to the cutter!

3.4 Installation of Belt and Belt Pulley

1) Install one end of the main shaft into the guide hole of the blade shaft, then tighten the screw with correct torque (280Nm) after matching the hole on the housing case, by this

way to fix the right bearing block on the housing case.



Picture 3-11：Installation of Belt and Belt Pulley 1

2) Match the blade shaft to install the belt pulley.



Picture 3-12：Installation of Belt and Belt Pulley 2

3) Before putting the belt on the motor belt pulley, install the lock rings into the blade shaft belt pulley in sequence.



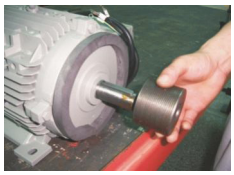
Picture 3-13：Installation of Belt and Belt Pulley 3

4) Tighten the lock rings by lock screw. Before tightening, the needle of dial indicator contacts the edge of belt pulley. As the pulley is turned, tighten the lock screw as indicated by the dial indicator (its range is 0.01-0.03mm) to enable the lock rings are fully engaged between the pulley and the blade shaft.



Picture 3-14：Installation of Belt and Belt Pulley 4

5) Put the small belt pulley on the motor to allow the key of motor corresponding with the key groove on the belt pulley.



Picture 3-15：Installation of Belt and Belt Pulley 5

6) Put the belt on the blade shaft belt pulley and motor belt pulley. The tooth of belt shall correspond with synchronal gear. Turn the blade shaft and motor shaft to enable the tooth of belt fully corresponds with the pulley tooth under totally even stress.

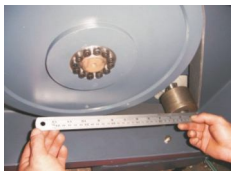


Picture 3-16：Installation of Belt and Belt Pulley 6

Note !

Apply grease on the bearing and bearing pedestal. Apply applicable torque to tighten the key and the screw on the shaft.

7) Put the straight edge closely against the surface of the blade shaft belt pulley; then observe the spacing between two pulleys and the straight edge and adjust the motor belt pulley at the same time to allow the surface of the motor belt pulley parallel with it.



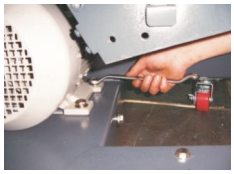
Picture 3-17：Installation of Belt and Belt Pulley 7

8) Adjust the adjusting screws at both ends of motor fixed plate by the wrench until two belt pulleys are parallel, to keep the motor flat and the belt tensioned. Use the correct torque (340Nm) until the pulley moves to the place where the belt is balanced.



Picture 3-18：Installation of Belt and Belt Pulley 8

9) Tighten the fix screws of motor at four corners to allow the motor fixed on the base plate of granulator.



Picture 3-19：Installation of Belt and Belt Pulley 9

 Be careful!

The cutting blade rest shall be put stably. Self turning of cutting tool shall be prevented prior to installation. At the time of operating, hand shall stay away from the cutting tool to avoid bodily injury.

4. Operation Guide

 Wear earplugs during operating to avoid personal injury!

 Wear gloves during operating to avoid personal injury!

 Wear goggles during operating to avoid personal injury!

 Because the blades and rotor may be loosen, check the following items before operating：

1) If the blades has any damage.
2) If the surface of the rotor is loosen.
3) Push or pull the rotor and blades to see if there is any loose connection.

If any of the above situation is found, please contact local representative or NEOTEC company for help.

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 (torque: 280Nm).

4.1.2 After First Startup for 2 Hours

1) Check the space of the cutting tools of the fixed blades 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 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) Open the door to check whether the feed box is closed.

2) Ensure the main power switch is in ON position.

3) Check the emergency stop.

4) Start the granulator via pressing the START button and stop the granulator via pressing the STOP button.

5) 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 Start and Stop the Granulator

The granulator is controlled by main power switch, safety switch, START / STOP button and emergency stop button.

Main power switch:

It is located at the front control panel. Rotate the switch to control the startup and stop of the machine.



Picture 4-1：Main Power Switch

START button and STOP button:

These two buttons control the startup and stop of the machine.

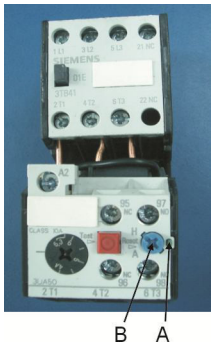
Emergency Stop:

When an accident happens, this button can do a favor.

5. Trouble-shooting

5.1 Granulator Can Not Work

1) Check if the emergency stop has not 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 feed box 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 sprout. Press the reset button (B) to reset it. Before startup again, check whether there is any powder in the granulator.
5) Check the overload protector of the feeding blower's motor.
   If the feeding blower does not run, the granulator cannot run either. Check the motor protector in the electric control box. If it is closed, the switch will be in 0 positions. Reset it to 1 position. (A) (The green pole) will sprout. Press the reset button B) to reset it.
6) Check the space between blades
   A stop will happen or the motor overload protector will work if the blade is very blunt or the space between blades is not correct. More details about checking, replacing and readjusting the blades to see chapter 3.4.
7) The contactor is burnt down or the control circuit is open.



5.2 Stop Due to Other Reasons

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

Note!

Do not disconnect to safety switch or control switch.

6. Maintenance and Repair

6.1 Repair

All the repair must be done by professionals to avoid damage to machine and harm to human body.

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！

More details about replacing or maintaining the blades to see chapter 3.4. Inject screw thread fixing glue (light blue LOCTITE 243 recommended) to the fixing screw so to avoid slipping and tighten screws up.



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.

 Each time to replace the blade, the screw and insulation ring must be replaced also. Before replacing the blades, open the feed box, remove the storage box, screen and screen frame.

1) Remove the fixed blades

 CAUTION!

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

1) Remove the screws and insulation rings.
2) Remove the blades.
3) Clean the installation surface of the blades.

2) Remove the rotating blades

1. Loosen and remove the hexagon socket cap screw.
2. Clean the whole rotating blades and cutting chamber.

CAUTION!

Press the pressing block and blade when you remove the last screw.

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 back fixed blades then the front fixed blades, finally the rotating blades. More details about replacing or maintaining the blades to see chapter 3.4.

4) Check the blades

Turn around the blade rest till all the blades can rotating freely.

6.2 Transmission

6.2.1 Daily Maintenance of V Belts

Transmission belts are fixed according to motor power.

1) Check the V belts

Check V belts' tensility after a full-load operation for 20-30 hours. And then check its abrasion condition monthly.

2) Check V belts' tensility every 6 months.

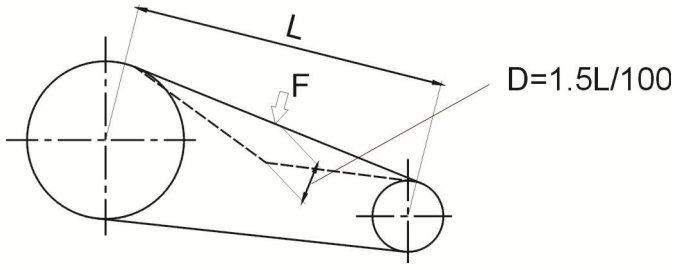
Remove the upper panel in the back end of the granulator.

Rotate the V belts for several circles to see if there is any damage.

CAUTION !

Pinch risk! Do not place your hands between wheels and the belts.

If it is necessary, check the belt's tensility via enforce extra force (150N) and measure its excursion. (This excursion is determined by central distance L of the belt pulley).



Picture 6-2：Transmission

6.2.2 Adjustments of V Belts

1) Take down the side plate on the control box that is located on the right side of the machine.
2) Take out the storage box; loose the position adjusting screws of the motor.



Picture 6-3：Adjustments of V Belts 1

3) The tension of the belt could be altered by adjusting the distance between motor and driving wheel. Tighten the screws after you finished the adjustment.



Picture 6-4：Adjustments of V Belts 2

4) Recheck the belts' tensility after a full-load operation for 20-30 hours.

6.3 Maintenance

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

⚠ CAUTION!

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

6.3.1 Daily check

1) There is rubber shutter in the feed box. If the rubber shutter is damaged, replace it immediately. Otherwise the fragment of the shutter will damage the blades in the cutting chamber and besides that, it will cause personal injury as it makes the grinded material shoot out during granulating.
2) 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.
3) Check whether the main power switch and start/stop switch function is normal.
4) Check whether the reverse function is normal.

6.3.2 Weekly Check

1) Check the power wire to see whether there is any damage. If so, replace it immediately.
2) Check the safety switch.

6.3.3 Monthly Check

1) Check the belt to see whether there is some damage.
2) Check the belt's tensility every 6 months. More details to see chapter 6.2 Transmission.

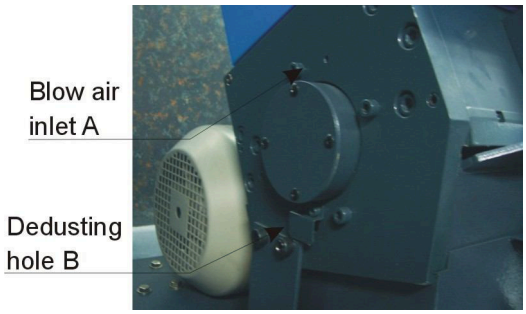
6.4 Cleaning



Caution:

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

1) Check the cutting chamber is clear before stopping the granulator.
2) Switch of the main power and lock the isolator.
3) Clean all external surfaces of the granulator.
4) Open the feed hopper.
5) Clean internal surfaces of the feed hopper.
6) Remove and clean the material collection box.
7) Open the screen frame and remove and clean the screen.
8) Remove all excessive dust and material from the cutting chamber and clear the dust collection chambers. See section 6.4.1.
9) Remove the transmit ion cover, clean the belt pulleys and transmit ion chamber.
10) Open the cutting chamber, remove the material collection box and open the screen frame.
11) It is unlikely that there will be no dust in the chamber. Should no dust come out of de-dusting hole (B), remove the de-dusting hole cover plate and ensure that there is no blockage in the chamber or through the air inlet holes (A)



Picture 6-5：Clearing the Dust Collection Chambers

6.5 Maintenance Schedule

6.5.1 About the Machine

Model _____ SN _____ Manufacture date _____

Voltage_____Φ_____V Frequency _____ Hz Power _____ kW

6.5.2 Check after Installation

- ☐ Check if the star knob is firmly tightened.
- ☐ Check the gap between rotating and fixed blades (0.3~0.4mm).
- ☐ Check the rotating balance of the belt pulley.

Installation of Electrical Components

- ☐ 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.

6.5.3 Daily Check

__/__/__

- ☐ Check main power switch
- ☐ Check emergency stop button
- ☐ Check start / stop button
- ☐ Check material check plate (strip) is perfect or not.

__/__/__

- ☐ Check main power switch
- ☐ Check emergency stop button
- ☐ Check start / stop button
- ☐ Check material check plate (strip) is perfect or not.

__/__/__

- ☐ Check main power switch
- ☐ Check emergency stop button
- ☐ Check start / stop button
- ☐ Check material check plate (strip) is perfect or not.

__/__/__

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__/__/__

- ☐ Check main power switch
- ☐ Check emergency stop button
- ☐ Check start / stop button
- ☐ Check material check plate (strip) is perfect or not.

__/__/__

- ☐ Check main power switch
- ☐ Check emergency stop button
- ☐ Check start / stop button
- ☐ Check material check plate (strip) is perfect or not.

6.5.4 Weekly Check

__/__/__

- [ ] Check if there is any damaged cables
- [ ] Check if there is loose electrical connections

__/__/__

- [ ] Check if there is any damaged cables
- [ ] Check if there is loose electrical connections

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- [ ] Check if there is any damaged cables
- [ ] Check if there is loose electrical connections

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- [ ] Check if there is any damaged cables
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- [ ] Check if there is any damaged cables
- [ ] Check if there is loose electrical connections

6.5.5 Monthly Check

___/___/___	___/___/___
☐ Check the transmission belt	☐ Check the transmission belt
☐ Check safety switch of the machine	☐ Check safety switch of the machine
☐ Check motor overload protector	☐ Check motor overload protector
___/___/___	___/___/___
☐ Check the transmission belt	☐ Check the transmission belt
☐ Check safety switch of the machine	☐ Check safety switch of the machine
☐ Check motor overload protector	☐ Check motor overload protector
___/___/___	___/___/___
☐ Check the transmission belt	☐ Check the transmission belt
☐ Check safety switch of the machine	☐ Check safety switch of the machine
☐ Check motor overload protector	☐ Check motor overload protector
___/___/___	___/___/___
☐ Check the transmission belt	☐ Check the transmission belt
☐ Check safety switch of the machine	☐ Check safety switch of the machine
☐ Check motor overload protector	☐ Check motor overload protector
___/___/___	___/___/___
☐ Check the transmission belt	☐ Check the transmission belt
☐ Check safety switch of the machine	☐ Check safety switch of the machine
☐ Check motor overload protector	☐ Check motor overload protector
___/___/___	___/___/___
☐ Check the transmission belt	☐ Check the transmission belt
☐ Check safety switch of the machine	☐ Check safety switch of the machine
☐ Check motor overload protector	☐ Check motor overload protector
___/___/___	___/___/___
☐ Check the transmission belt	☐ Check the transmission belt
☐ Check safety switch of the machine	☐ Check safety switch of the machine
☐ Check motor overload protector	☐ Check motor overload protector
___/___/___	___/___/___
☐ Check the transmission belt	☐ Check the transmission belt
☐ Check safety switch of the machine	☐ Check safety switch of the machine
☐ Check motor overload protector	☐ Check motor overload protector
___/___/___	___/___/___
☐ Check the transmission belt	☐ Check the transmission belt
☐ Check safety switch of the machine	☐ Check safety switch of the machine
☐ Check motor overload protector	☐ Check motor overload protector

6.5.6 Check Half-yearly or After 1000 Hours Running Check

____/____/____

- ☐ Check belt tension
- ☐ Check the bearings, motor and feed box shaft lubrication
- ☐ Check the belt pulley
- ☐ Check the shaft holder
- ☐ Valuation of machine performance

____/____/____

- ☐ Check belt tension
- ☐ Check the bearings, motor and feed box shaft lubrication
- ☐ Check the belt pulley
- ☐ Check the shaft holder
- ☐ Valuation of machine performance

____/____/____

- ☐ Check belt tension
- ☐ Check the bearings, motor and feed box shaft lubrication
- ☐ Check the belt pulley
- ☐ Check the shaft holder
- ☐ Valuation of machine performance

____/____/____

- ☐ Check belt tension
- ☐ Check the bearings, motor and feed box shaft lubrication
- ☐ Check the belt pulley
- ☐ Check the shaft holder
- ☐ Valuation of machine performance

____/____/____

- ☐ Check belt tension
- ☐ Check the bearings, motor and feed box shaft lubrication
- ☐ Check the belt pulley
- ☐ Check the shaft holder
- ☐ Valuation of machine performance

____/____/____

- ☐ Check belt tension
- ☐ Check the bearings, motor and feed box shaft lubrication
- ☐ Check the belt pulley
- ☐ Check the shaft holder
- ☐ Valuation of machine performance

____/____/____

- ☐ Check belt tension
- ☐ Check the bearings, motor and feed box shaft lubrication
- ☐ Check the belt pulley
- ☐ Check the shaft holder
- ☐ Valuation of machine performance\