
TMJ-400 Cable Granulator

Manual

1.Security:

1.1.Insecurity factor:

1.1.1The blade in the equipment is sharp, so a safe distance should be kept corresponding protective gears should be worn during the maintenance.

1.1.2 The machine power is 380V.The staff should operate in accordance with requirements to prevent the electric shock.

1.1.3 The equipment can not be maintained while the machine is still operating.

1.2 Safety rule:

1.2.1 The staff that is not familiar with the equipment should not start the equipment without authority. Recommend that the operator should go through learning and training.

1.2.2 The protection and transmission parts and fasteners related to the safety must not be removed without authority and the firmness of fasteners and transmission parts should be checked carefully before using each time. Check whether the joint of electrical parts is stable and the switches can perform the appropriate action.

1.2.3 The equipment can not be maintained and repaired during the operating without authority.The emergency stop switch should be pressed if emergencies occur. Operate after turn off the power supply.

1.2.4 Pay attention to warning signs to avoid accidents during the operating.

1.3 Safety facilities equipped with the machine.

1.3.1 Mechanical safety device: the equipment is equipped with a protective plate.

1.3.2 Electrical safety devices: the machine is equipped with the emergency stop which should be pressed if emergencies occur and the power supply should be cut off.

1.4 Warning signs:

1.4.1 Electric shock warning sign: the sign is on the junction box and electric motor, it is a kind of warning for unintentional contact with the charged body.



1.4.2 Rotor warning sign: the sign is on the rotating parts or rotating blades, it is a kind of warning for unintentional contact with rotors.



2.Basic parameters and description:

2.1 The use of equipment:

2.1.1 Industry for application:

The equipment is used to deal with the wasted electric cables, in order to recover the copper and plastic. This equipment has advantages of low power consumption, high economic benefits and simple operation. It is a kind of clean and equipment, environmental-friendly.

2.1.2 Applicable scope: rubber cable<15mm.

2.2 Technical Parameter:

2.2.1 Supply voltage/Motor power/ frequency: 380V/27KW/60HZ.

2.3 Working Principle:

2.3.1 Cable crusher:

2.3.1.1 The electric cables are crushed into granules, copper granules and plastic granules whose diameters are about 2MM-8MM after crushing.

2.3.2 Separator:

2.3.2.1 Using the principle of different proportion of metal and non-metal, separate heavy materials (copper) and light materials (plastic).

4 Carry, transport and storage:

2.4.1 Carry: The forklifts and other auxiliary carrying tools are used to carry the equipment

2.4.2 Transport: During the transportation the equipment cannot be scraped or collided to each other and should be fixed to avoid the accident.

2.4.3 Storage: The equipment should be stored in the dry place for 24-hour ventilation.

2.5 Commissioning Note:

2.5.1 Check whether the equipment has any abnormal sound and fasteners are installed securely.

2.5.2 Check whether transmission parts are loose.

2.5.3 Check whether electric parts are complete.

2.5.4 Check whether there are remaining materials inside of crusher.

2.Operating Instruction:

3.1 Connect to the power supply and start the equipment, The start up sequence of buttons is as Follows:

Dust Collector - Plastic Vibrating Screen - up material Fan - Feeding Fan - Air flow separation fan - Crusher - Gravity Separator-Gravity separation vibration (frequency regulation).



3.2 Refer to below pictures: it can control vibrating frequency size,.Usually we set values around 40-50.(Thin copper wire can be adjusted to 30-40).



3.3 After the equipment running for 3 minutes without any materials, check whether each parts are running smoothly without any strange sound.

3.4. The selected electric cables (cut off wire connectors of stainless steel, iron or brass),



3.5. Put material into the feed inlet of cable granulator and the feed quantity should be reduced when the ammeter is over 80A in the state of overload. The feed quantity should be remained uniform each time and balanced in the feed inlet.so the blade remain uniform force to increase the efficiency and keep the blade normal wear.

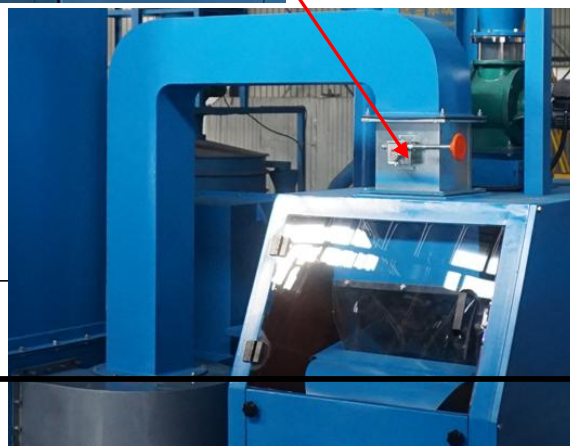
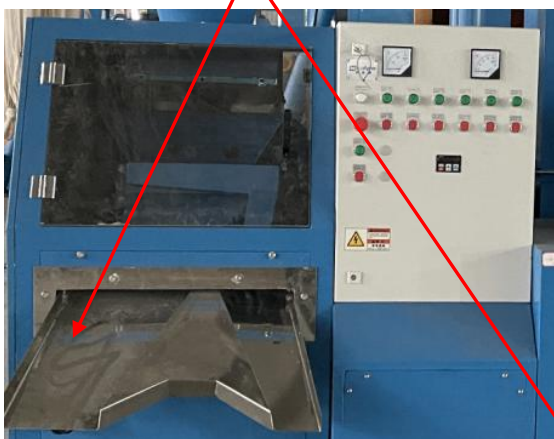


3.6 Observe the discharge port of the machine. When there are more copper wires wrapped with the plastic, the screen mesh of cable granulator should be replaced with a smaller screen. When there are more clean copper come out, should be replaced with a bigger screen.



3.7 When there are thick copper wires (usually the screen mesh size larger than copper diameter), the screen mesh of cable granulator should be replaced with a bigger one to reduce the copper powder loss due to the meticulous crushing and increase the proportion of the pure copper separated.

3.8 Observe the copper feed outlet of gravity separator. When there are many plastic granules within the copper granules, adjust gravity separation's fan air volume. When increase the air volume can prevent plastic go up, when increase gravity separation's fan air volume the dust collector air volume also need increase, prevent too much wind left in the gravity separation. When put too much cables into feed inlet, it also will cause too much material pile up on the separation machine, it has not enough time to separate, will effect sorting precision. Pay attention to control feeding uniformly.



3.9 The dust collector fan mainly used to remove gravity separation's dust and wind,also can through adjust air valve regulator to control air suction quantity,can absorb some lighter thin plastic powder.



4.The gravity separation's fan used to blow away copper and plastic mixture after crushing.To keep the plastic on the upper deck of the copper,according to material's different weight,the copper move upwards,plastic move downward.When there is more copper in the plastic end outlet,Reduce the air volume of the fan .When there is more plastic in the copper end outlet,Increase the air volume of the fan.The air suction is adjusted according to the rising for each gradation,observe the sorting effect change when adjusting gradation every time.Pay attention to control feeding uniformly and equal.



4.1 This is the air inlet of the fan of the gravity separator. It should be observed frequently to see if there is any dust blockage. If there is any blockage, it will affect the air volume of the fan.



4.2 During shutdown, the equipment should rotate without any material for more than 5 minutes, after all material within the equipment comes out, it can prevent next time crusher starts overload. Then shut down in the following order: **Gravity separation vibration-Crusher-Air flow separation fan-Feeding fan-up material Fan-Plastic vibration screen-Dust collector.**



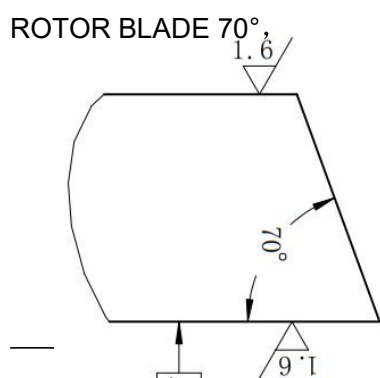
4.Common Troubleshooting:

Common Fault	Troubleshooting
After turning on the equipment,machine doesn't respond.	1.Check whether the electric motor reverses.Reconnect to the power line. 2.Check whether the power supply is connected. 3.Check whether the wire is complete. 4.Check whether the electric motor is damaged.
Abnormal sound	1.Check whether the blade is loose. 2.Check whether the belt is loose. 3.Check whether the hood is loose.
There are more copper wrapped with the plastic skin	1.The blade is not sharp or there is a gap within blade. 2.Check whether the crusher screen mesh is too big,change screen.
There is no material get down from Gravity separation	1.Check whether the suction fan is working normally. 2.Keep feeding uniformly,check whether feeding duct is jammed. 3.Check whether blade edge wear serious,the material.Keep in the crushing warehouse can't come out.Grinding the blades.

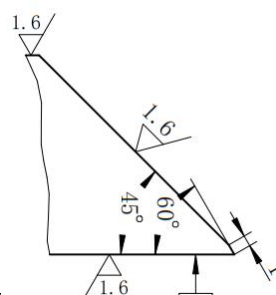
5.Maintenance:

5.1 The machine should be cleaned after using each time.

5.2The blade should be maintained once every 1-2 days,when the blade is not shape,the actual current will be too large and overload.Can using the grinder for repair,the space between the movable blade and fixed blade should be remained below 1 mm. When there is a gap within the blade,the blade should be repaired by the grinding machine.Fasten the screw nut after the blade is maintained.



STATOR BLADE 45°



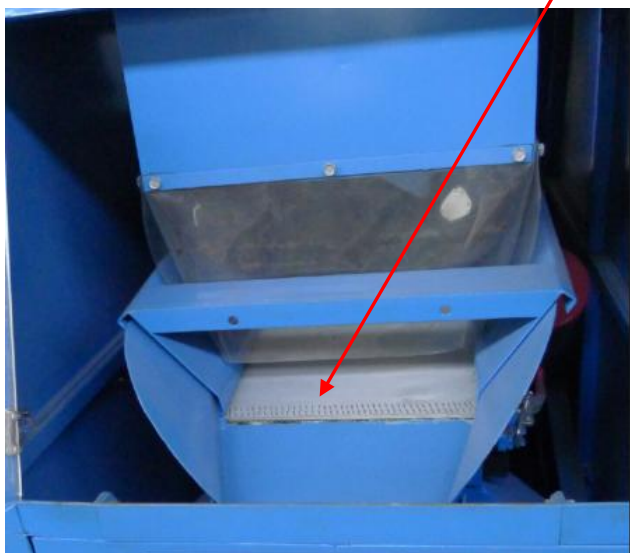
5.3The crusher bearing adds a high temperature resistant lubricant for about 7 days.

5.4 Check the drive belt every 20-40 days. And fasten screw.

5.5The dust bags should be cleaned around 7-15 days,can use air pump to blow away the dust.



5.6the screen of the specific gravity separator should be cleaned once every 4-8 hours (according to the dust, paper, fiber and so on contained in the wire, the maintenance time of the screen is determined. When too much light plastic appears at the outlet of copper, the screen should stop immediately to maintain the screen). Remove the screen and use air pump to clean dust, and the blockage of the screen will lead to the discharge of a lot of light plastic from the copper outlet.



5.7 Check the residual dust in the air duct every 7 days, clean it, and prevent the residual dust from blocking the air pipe after the machine is running for a long time.

5.8 Check all machine screws every 7 days for looseness and fix them all once.

5.9 Note: if you encounter a card machine, please immediately cut off the power supply to prevent burning down the motor.