



One-stop Turnkey
Solutions Expert

ROLL CRUSHER FOR **ALL YOUR** NEEDS

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FORTY YEARS OF PRODUCTION EXPERIENCES



Henan Fote Mining Machinery Co., Ltd. is a joint-stock mining machinery enterprise integrated in scientific research, production and marketing, which mainly produces heavy-duty mining machines. The advanced technologies have been introduced from America, Germany, Japan and Australia.

It has established four internationally-advanced modern research centers and bases of four kinds of machines, i.e., sand making, powder grinding, ore beneficiation and building material.

The enterprise has

- Scientific management
- Excellent manufacturing technologies
- Creative manufacturing ideas
- Rapidly developed into a high-end production and export base.

The enterprise covers an area of over 350,000 m²

Standardized heavy-duty industrial plants of 260,000 m²

More than 600 large and medium-sized machines

More than 2,300 employees, including more than 360 high-tech talents



APPLICATIONS OF ROLL CRUSHER

This improved roll crusher with mightiness and high efficiency is developed by Fote’s senior mining research technicians through improving the roll pressure, rotation, and materials. This new crusher has the following features: smooth operation and a large reduction ratio. It is the ideal equipment to make sand and aggregate today for crushing middle-hard and extra-hard rocks, granite, pebble, carborundum, silicon carbide, high-alumina clinker, and others.



SPECIFICATIONS AND MAIN TECHNICAL PARAMETERS

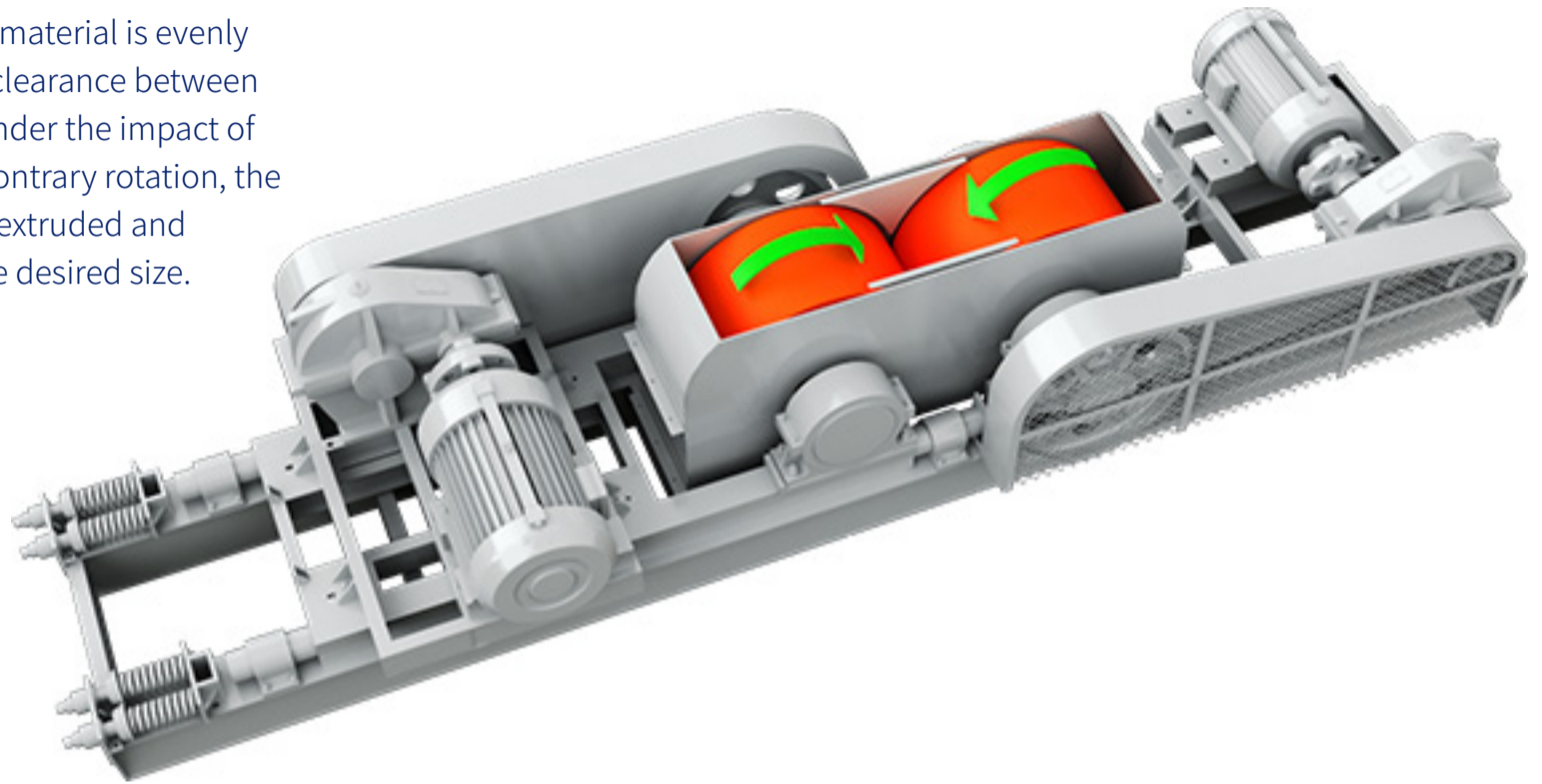
Model	Roller diameter (mm)	Roller length (mm)	Max. Feeding Size (mm)	Process capacity (t/h)	Roller rotation (r/min)	Motor power (kw)
2PG400×25	400	250	25	5-10	180	5.5×2
2PG610×40	610	400	85	13-40	75	15×2
2PG700×40	700	400	100	10-100	95	30×2

Model	Number of roller(mm)	Dimensions (mm)	V-belt type	Bearing type and number	Discharging Size (mm)	Total weight (kg)
2PG400×25	2	2200×834×830	C3800 C8	32216 8pcs	0.5-8	2.2
2PG610×40	2	3700×1600×1100	C8	22330 4pcs	0.5-30	5.9
2PG700×40	2	4300×1200×1200	C1550 10pcs	22330 4pcs	0.5-30	9.8

WORKING PRINCIPLE AND STRUCTURE

I .Working principle:

The big-sized material is evenly sent into the clearance between two rollers. Under the impact of two rollers' contrary rotation, the materials are extruded and crushed to the desired size.



II .Structure:

The roll crusher is mainly composed of fixed roller, movable roller, machine frame, shield, protecting guard. The machine is driven by the V-belt of the motor, which makes the two rollers rotate through the speed reducer chain, with the result of crushed materials.

1. Fixed roller and movable roller

The roller is the main part used for crushing materials. It consists of the shaft, cranked axle, conical disc, roll milling, chain wheel, bearing, bearing end closure and antifriction bearing, etc.

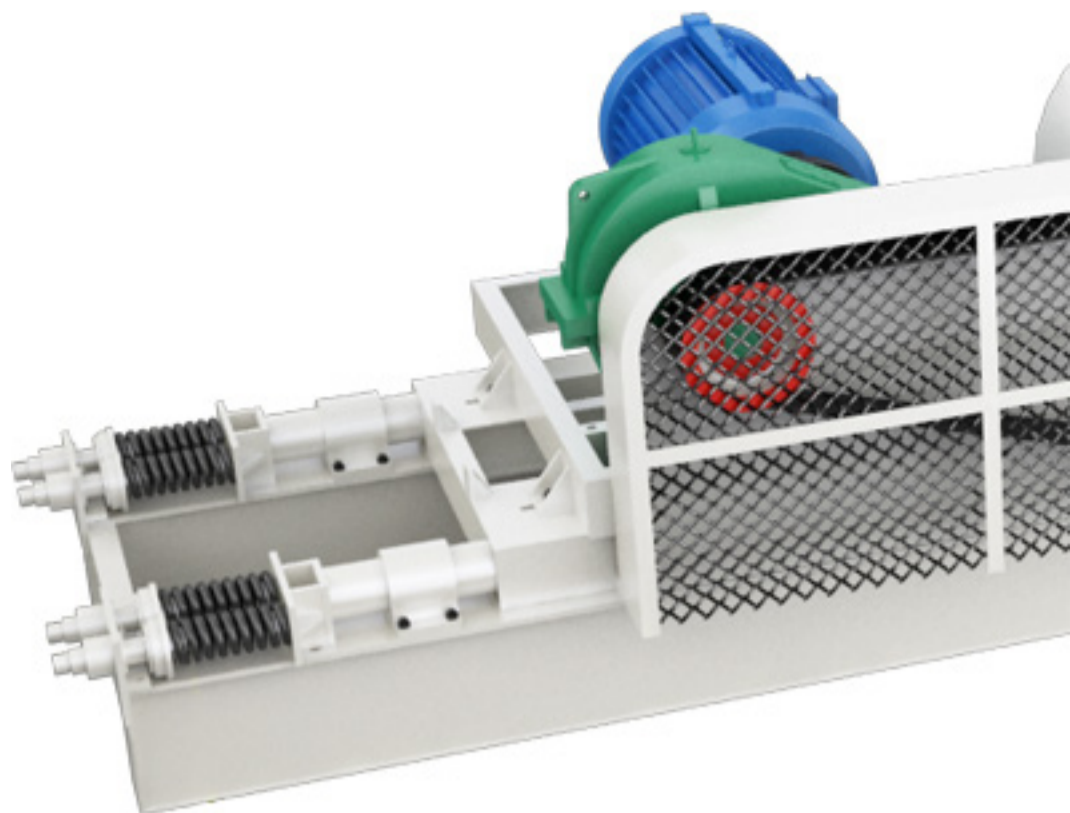
There are spines for connecting the two roller guards on the shafts of fixed and movable rollers. The tires are installed in the roller guards, and the shaft is equipped on the one end of the chain wheel. There are single-row tapered roller bearings on both sides of roll milling.

The main crushing part is roll milling, which undertakes the major crushing work. There are two types of roll millings: smooth types and toothed type, which are equipped according to actual conditions. It is easily damaged because deals with materials directly. Therefore, ZG50Mn2 is used as tire material after heat treatment, which makes tires more sturdy, durable, and easy to disassemble.



2. Movable device

There is a movable device on the movable roller to protect the machine from damage. In case any non-crushed materials or metals drop into the cavity and can't go through the clearance between the rollers, there is equipped with a movable system to protect the machine from damage. It can make the movable roller move back, so the non-crushed materials or metals can go through the two rollers.



The movable device consists of the nut, bolt, lifting wedge, back stand, bracket, spring, and a pressing plate. The movable roller frame that is put on the underframe can slide forward along the underframe. At the back of the movable roller frame, there is spring. During the installation, the acting force of spring shall satisfy the force to crush the big size stone. The spring pressure can be adjusted by the back-end screw.

This spring device acts as a protective device. When non-crushed materials cannot go through the clearance, the roller will be further pressured and compress the spring, so the clearance between the rollers will get larger to let non-crushed materials go through easily. One thing should be noticed that when you adjust the movable device, the maximum limit of the clearance should be known.

3. The chassis

The chassis is a metal structure made from steel plate and channel steel, fixing on the foundation by six anchoring bolts. The two bearing seats on the transmission shaft and fixed roller are fixed on the underframe by the bolts, the movable roller is put on the underframe and can move forward and backward and can be adjusted easily.

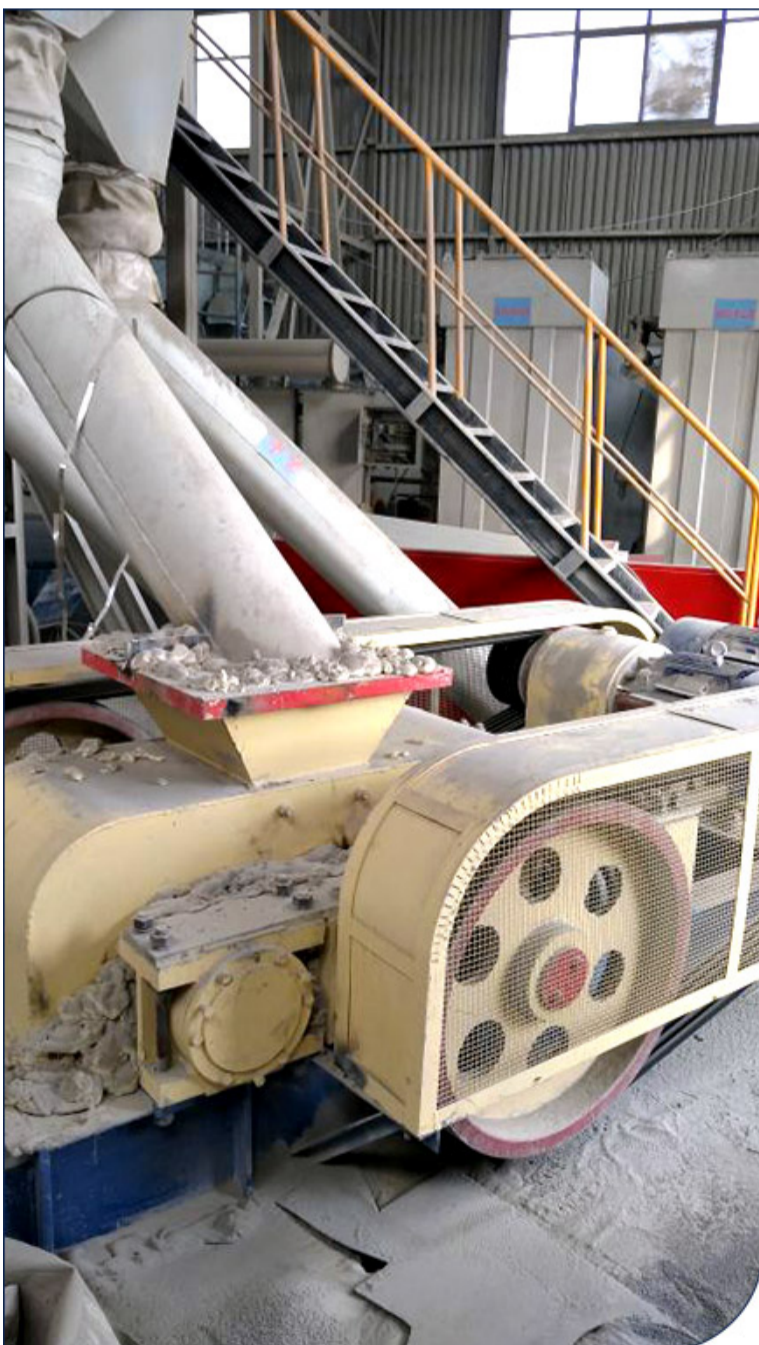


4. Machine body

The machine body is welded by angle iron and steel plate which is fixed on the chassis and makes the working surface of two rollers close to prevent the materials from dropping out of the machine without crushing. This part can be dismantled during the regular check and maintenance.

5. The roller guard

The longer roller guard is welded by the steel plate and angle steel and fixed on the chassis by bolts and screws.



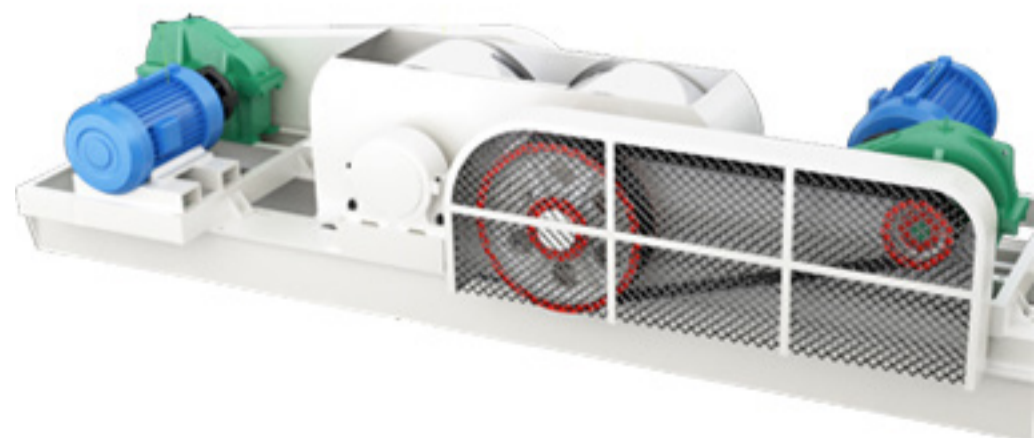
6. The main structure of chain transmitting device

The chain transmitting device consists of the chassis, fixed roller, movable roller, roller guard, supporting bearing and adjusting device, etc.

The rushing rollers are composed of roller guards and rollers, which is fixed by 12 bolts and screws. Since the rollers contact with ores and rocks directly, it is required to be replaced frequently, and the FTM rollers are made of ZG50Mn2 to guarantee good quality.

The motor transfers the power to the gearbox by V-belt. There is equipped with a chain at the other side of the gearbox, which can drive the roller to make the two rollers rotate in different directions.

Because of the friction produced by rollers, the material can be taken to space and crushed. The crushed material can be discharged by gravity. When non-crushed materials are sent to the machine chamber, the roller can move outside by spring's function and make a bigger space between the rollers to avoid destroying the machine.



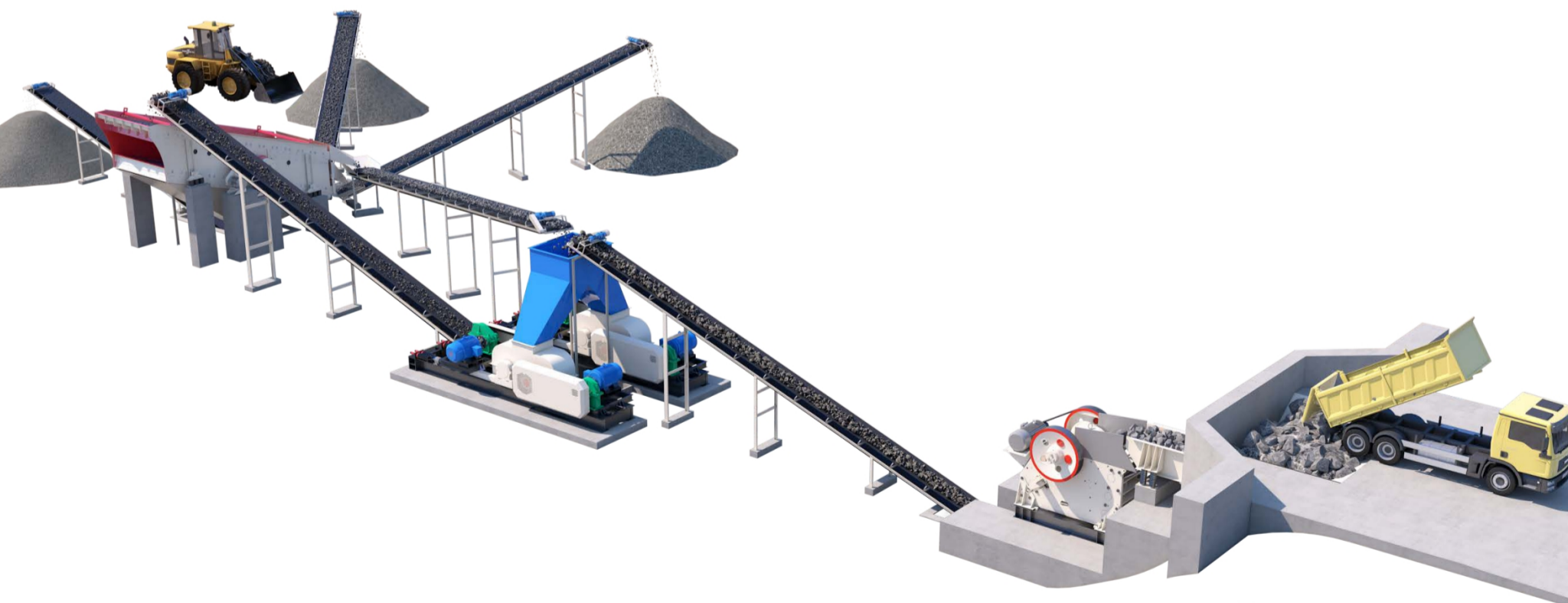
THE INSTALLATION, ADJUSTMENT AND RUNNING TEST

I .The installation and adjustment

The foundation drawing attached in the instruction book can be referred to design the basic construction. The machine should be fixed stably on the special chassis. Some cross-ties can be put under the chassis to make the machine bear the load better, but the discharging space should be reserved.

The machine is supplied fully with all necessary parts. Please make sure that all the parts are in good condition after delivery, including the driving and lubrication parts. The installation could be carried out after confirming the machine's completeness. Ensure that the horizontal level is correct and then install the driving parts according to the drawing. Transmission belts should be adjusted in a correct place and pressing spring should be adjusted properly.

Check all fixing parts to make sure they are on flexible conditions after finishing the installation.



II .Test running of the machine

The running test should be carried out after the machine installation and before bringing it into operation.

1. Running Test without load

More than 2 hours' running test without load should be carried out on the worksite. The bearing temperature should be less than 30°C and the max temperature should be less than 40°C when the machine is running. Keep the chain, gearbox, V-belt wheel, and roller rotate steadily and no abnormal noise and no collision between the rollers.



2. Running test with load

The running test with load can only be carried out based on the excellent result of the first step. The test time should be more than 8 hours.

Check if the actual discharging size and capacity are qualified or not and make sure the bearing temperature be less than 35°C. The crusher should work steadily and there should be no vigorous vibration. Each fastening part should be reliable. The lubrication parts should be fully lubricated. Keep good airproof and no leakage.

Please adjust the adjusting bolts at the back-end of the movable device if the capacity and the discharging size are not qualified during the running time. Please check whether the input size is too small or too big if the electric current is not stable. The machine can be put into operation after the load test.



OPERATION RULES OF MACHINE

The machine can be put into operation after the strict test running. To keep running safely in a long term, the proper operation, it's important and necessary to operate properly, maintain regularly, and repair timely.

I .Preparation before Running

Sufficient preparation and strict inspection are necessary before starting the machine. Keep the integrity of all the parts, and all the fixed screws and foundation screws are fixed well. There should be no sundries obstructing the machine's running.



Inspection

II. Start and Stop Orders

After the preparation and inspection are ready, the machine can be started. Feed the materials evenly after the machine running properly. Stop feeding first when turning off the machine. When there is no material in the hopper, the machine can be stopped running.

III. Normal Operations

After the machine running normally, the operator and all people related should pay attention to the following matters:

- 1. Make sure all the fixed screws are fixed well and no loosen condition occurs.
- 2. Make sure the lubrication of the bearing is in good condition and no over-hot condition.
- 3. Make sure the close seal and no leakage condition.
- 4. Make sure no overload condition and check if the output size is qualified.
- 5. Make sure no overload condition and check if the output size is qualified.

IV. Other matters need attention

- 1. The machine's rotation direction shouldn't be changed.
- 2. If the power is off during the operation, cut the power supply immediately to avoid the accident.

THE MAINTENANCE AND SECURITY OF MACHINE

The machine can be put into operation after the strict test running. To keep running safely in a long term, the proper operation, it's important and necessary to operate properly, maintain regularly, and repair timely.

- 1. The bearings in the roll crusher bear all the load of the machine and the favorable lubrication influences much to the life and efficiency of bearings' service. The lubricating oil must be clean and kept in good seal condition. The main oiling places are gearbox, roller bearing, all chains, movable bearing, and movable surface.

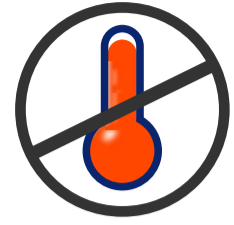
- 2. The newly equipped tire tends to be loose, so it must be inspected frequently.

- 3. Check if all parts of the machine work well or not.

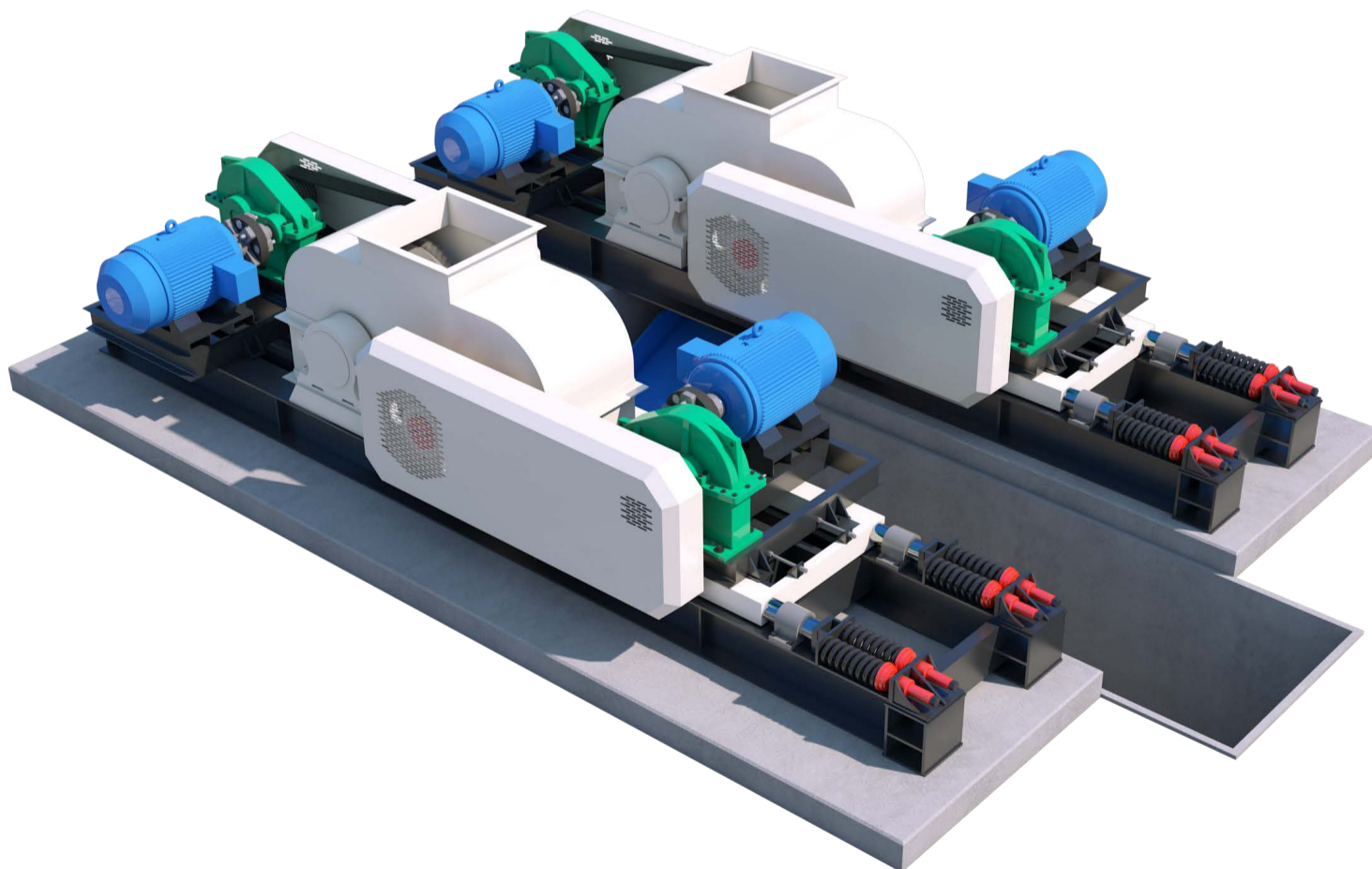
4. Check the wearing part frequently and change the worn parts in time.

5. Dust and other objects on the surface of the chassis in which the movable system is put on should be removed to avoid that the movable bearing cannot be moved flexibly on the under-frame when the machine encounters non-crushed materials, thus causing serious accidents.

6. When the bearing temperature raises, the machine must be turned off to check and eliminate this circumstance.



7. If there is attacking noise, the machine should be turned off to check and eliminate this circumstance.



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