

MINERAL SIZER BROCHURE

Henan Excellent Machinery Co.,Ltd.

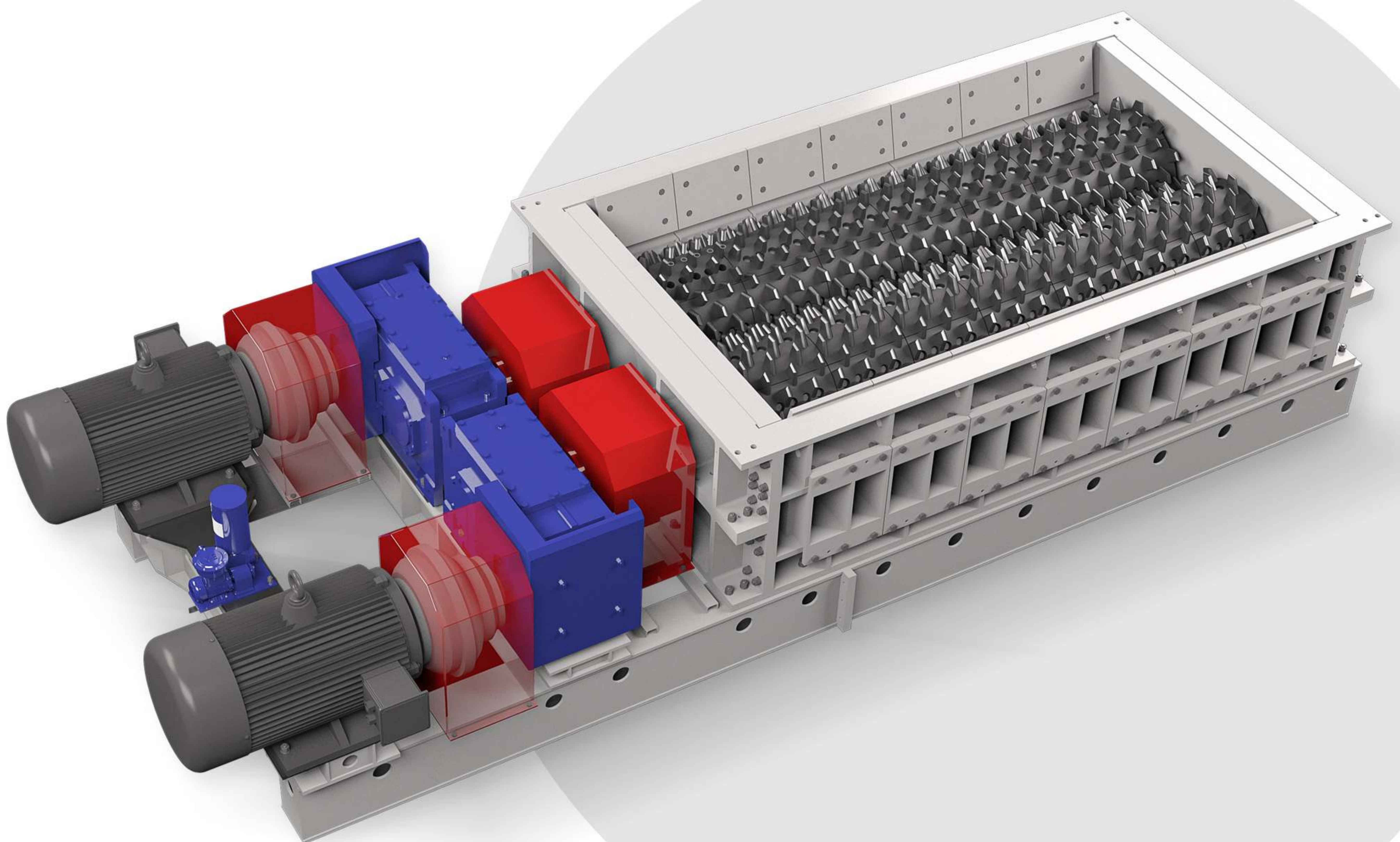
MINERAL SIZER

INTRODUCTION

Mineral sizer is a modern approach to crushing that uses shear force and tensile force between the toothed rollers to crush materials, which is the best choice for handling hard, wet, sticky materials.

Mineral sizer is a type of graded crushing equipment which can provide primary, secondary and tertiary crushing operations for many kinds of mineral.

Mineral sizer is mainly composed of drive device, toothed roller, synchromesh gear, housing, base frame, lubrication device, running gear and so on.



HOW MINERAL SIZER WORK

Mineral Sizer has two inwardly rotating tooth rollers with replaceable crushing teeth. The most suitable feeding method is by apron feeder or screening equipment, which conveys the material at a uniform rate and distributes it evenly over the tooth rollers.



The mineral is gripped by the leading faces of opposed rotor teeth, and to be subjected to stress under the concentrated load of the rotor teeth. The stress breaks minerals along with their natural texture.



The mineral that has not been fully broken can be further broken by the rotor teeth and fixed teeth of the breaker bar to ensure the 3d dimension requirements of the discharging material.



The mineral is broken in tension by being subjected to a three-point loading between the front tooth faces on one rotor and rear tooth faces on the other rotor.



MINERAL SIZER

MAIN COMPONENT

➤ Toothed Roller

Toothed roller can be divided into Primary Mineral Sizer Toothed Roller and Secondary Mineral Sizer Toothed Roller. Easy installation and disassembly of the mineral sizer tooth head, which can significantly reduce the maintenance time and lower the maintenance cost.

- **Primary Toothed Roller**

The feeding granularity of primary sizers is less than or equal to 1500mm and the discharging granularity is less than 300mm.

The arrangement of crushing tooth shapes and tooth shapes are arranged by special spiral tooth shapes. The crushing teeth are cast from abrasion resistant and impact resistant alloy steel.

Primary Sizer toothed roller has a unique and novel tooth design structure with deep spiral distribution for high productivity. The passing cavities are formed between the two toothed rollers and the side plate body for screening and crushing materials respectively.



- **Secondary Toothed Roller**

The Feeding size of Secondary sizer less than or equal to 300 mm (a small amount of 400mm is allowed), and the discharging granularity is less than 50mm.

The connection form of the teeth plate adopts a single dovetail groove, which is complementary to the bevel of the insert clamping block, and then the crushing tooth plate is installed on the fixing seat of the teeth plate, formed a surface to surface connection, which is tightened and pressed by high-strength bolts.

The function of the bolt becomes a fixed insert clamping block, avoiding the problem of the fixed lock bolt breaking, teeth plate falling off or difficult to disassemble and replace.



MINERAL SIZER

OTHER COMPONENTS

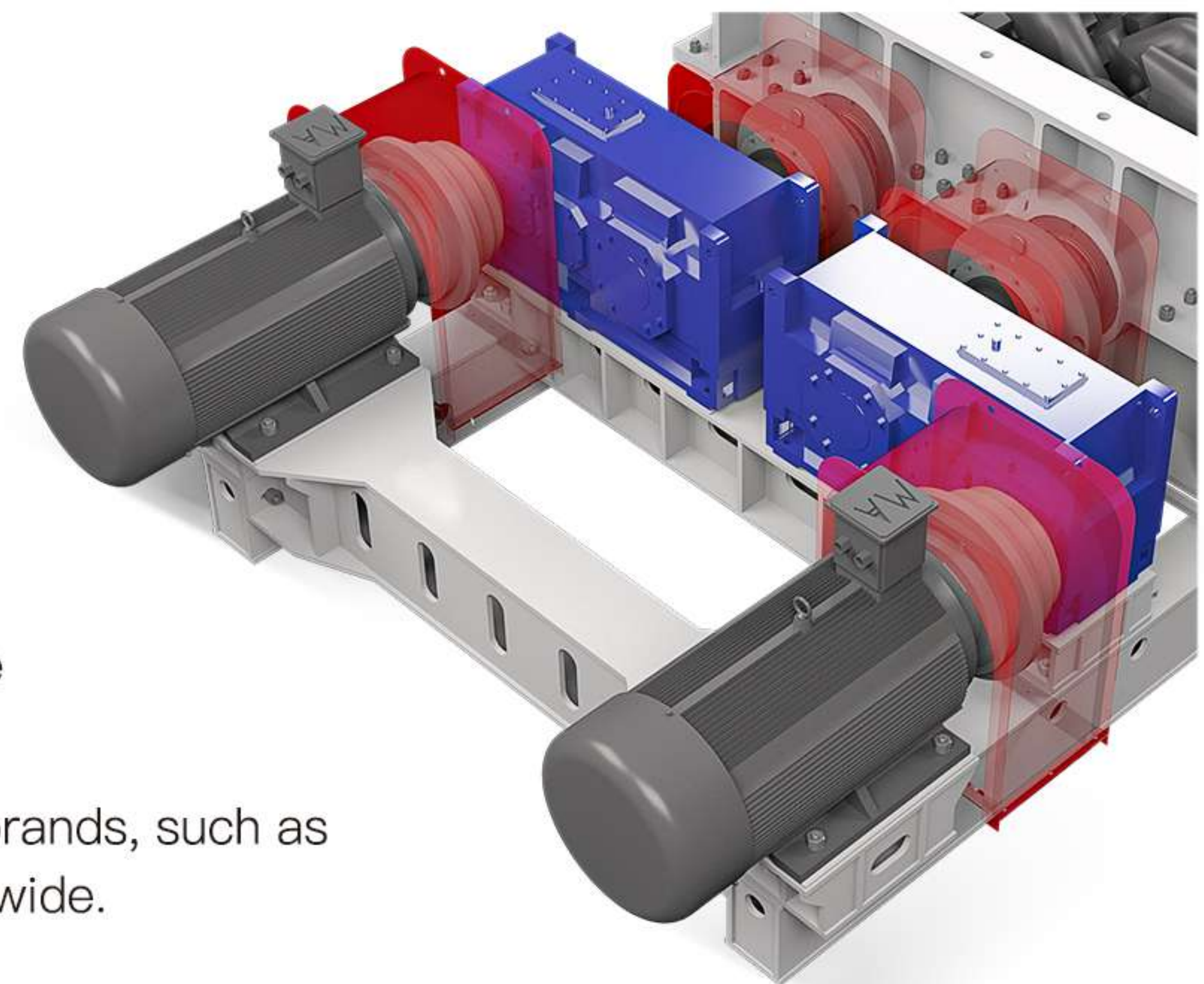
➤ Drive Device

Two independent drive units, each drive units includes: motor, high-speed end coupling, gear box, low-speed end coupling.

The high-speed end coupling uses a hydraulic coupling to connect the motor to the gearbox. The gearbox adopts parallel shaft helical gear structure to meet the requirements of power transmission, speed ratio and torque under extreme load of the mineral sizer.

The low-speed end coupling adopts the drum gear coupling which is developed and manufactured by ourselves, and it is used to connect the gearbox to the toothed roller shaft.

The main components of the drive unit will be internationally renowned brands, such as Siemens, SEW, Flender to ensure 24-hour service and availability worldwide.



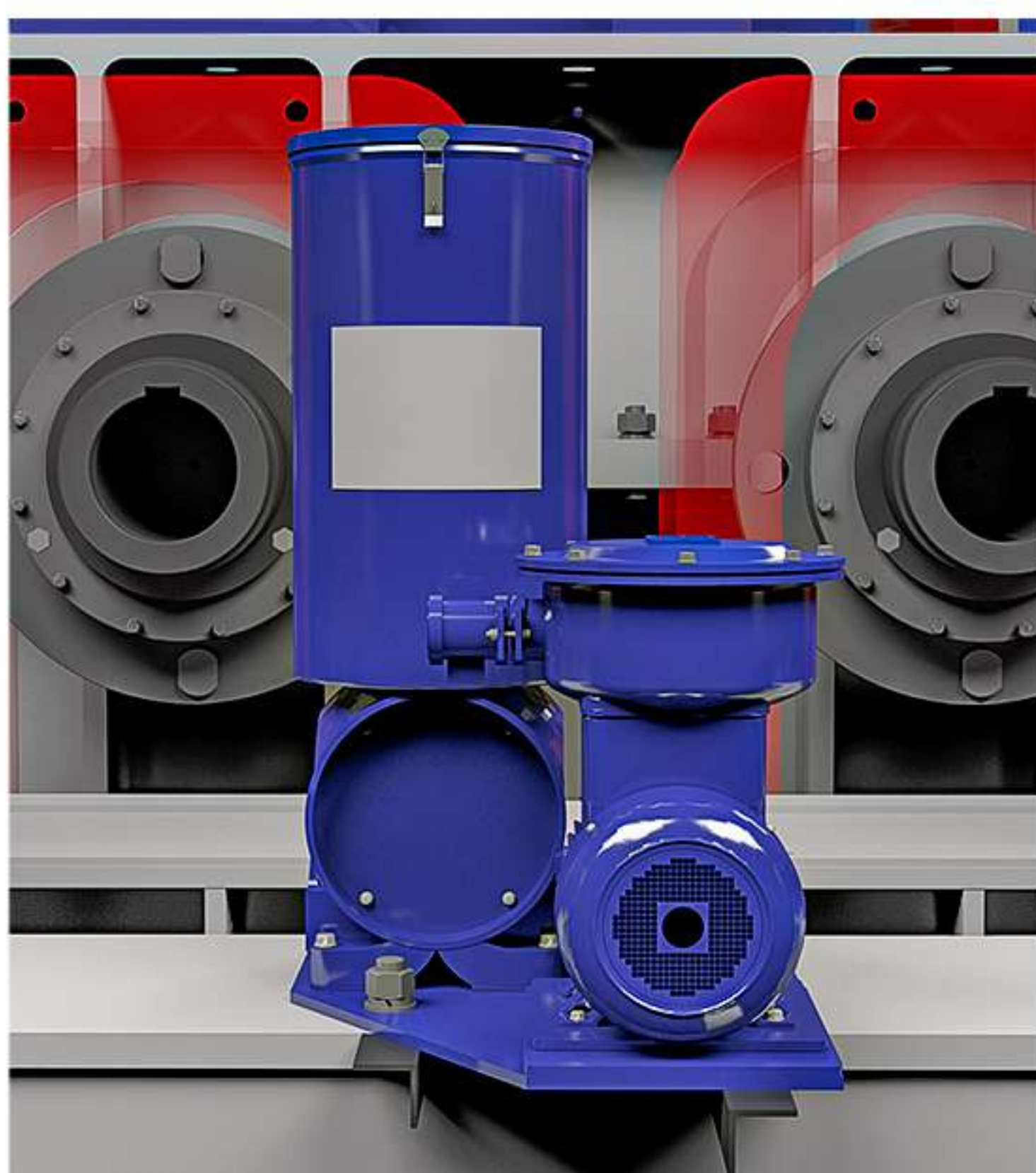
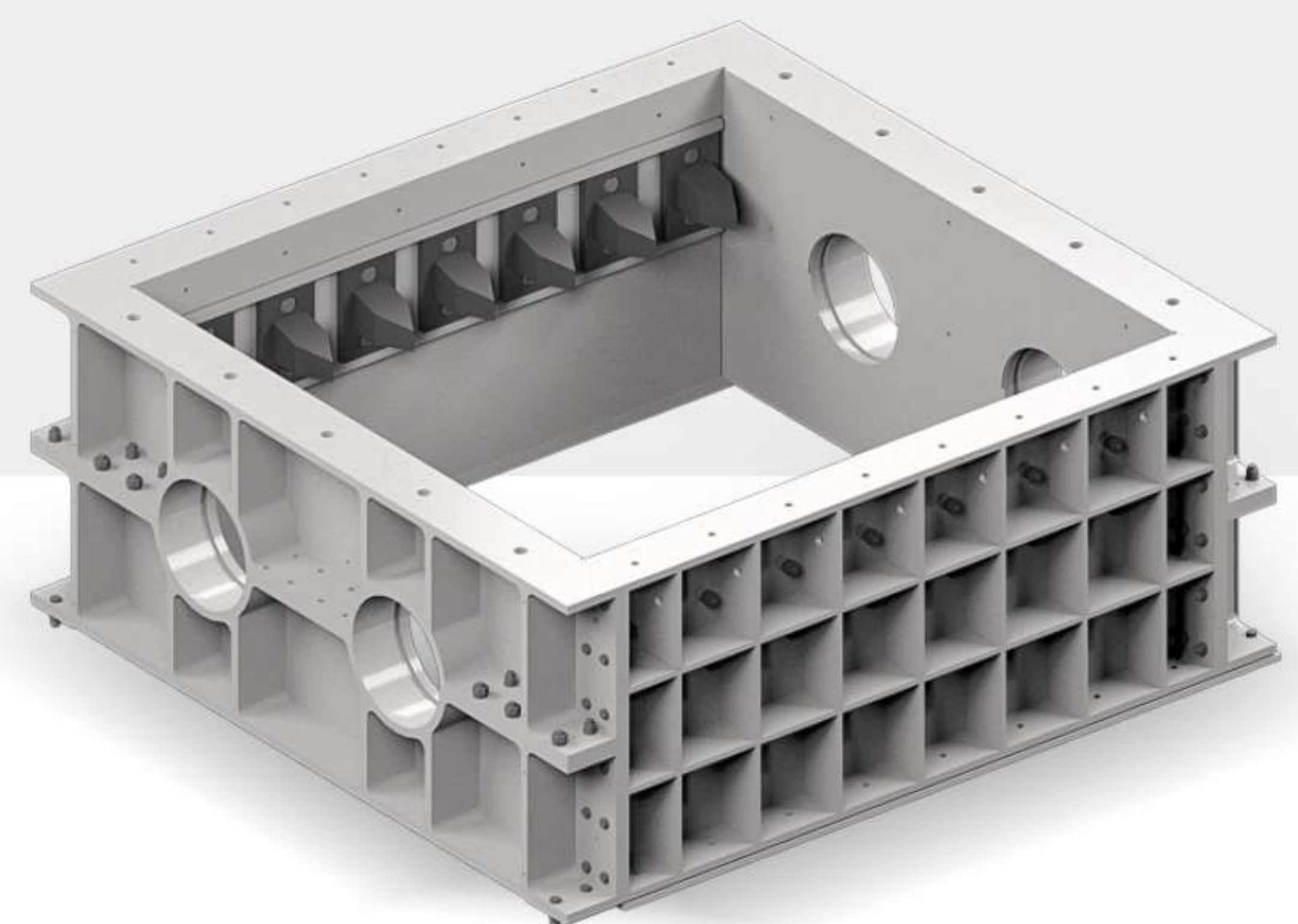
➤ Synchronomesh Gear

The primary mineral sizer is equipped with synchronizing gears at the end of the toothed rolls. Synchronous gears and roll shafts are connected by the expansion sleeve, which can guarantee the relative stability of the biting position of the crushing teeth on the double rolls, and can force the breaking of large pieces of materials, making the material discharge size uniform.

➤ Housing

Mineral sizer housing is designed as a rigid host frame, and the housing is made of cast steel and connected by high strength bolts.

Wear-resistant plates are installed around the inside of the housing, and comb shaped wear plates are installed on both sides of the housing to prevent excessive material from adhering to the crusher tooth rollers.



➤ Lubrication Device

Mineral sizer adopts centralized automatic lubrication system, it can be more oil filling times, oil filling time Settings, reliable to ensure the effective and reliable lubrication of each part. Automatic control of oil supply interval time, oil supply pressure is large, oil supply speed is fast, the bearing is fully lubricated effectively, so that the core part of the teeth roller bearing to achieve good lubrication, greatly extend the service life of the teeth roller.

MINERAL SIZER FEATURES

01

Compact Dimensions & Lower Cost

Mineral sizer is compact in size and have a small overall footprint, making it suitable for deployment in situations with limited space.

Compared to other types of crushers with the same capacity, the mineral sizer ensure the smallest size and lightest weight, which reduces the structural support of the plant and lowers construction costs.



Control Product Size & Minimum Fines

02

Mineral Sizer has a unique and novel tooth design structure with deep spiral distribution, which the finished product size can be effectively controlled.

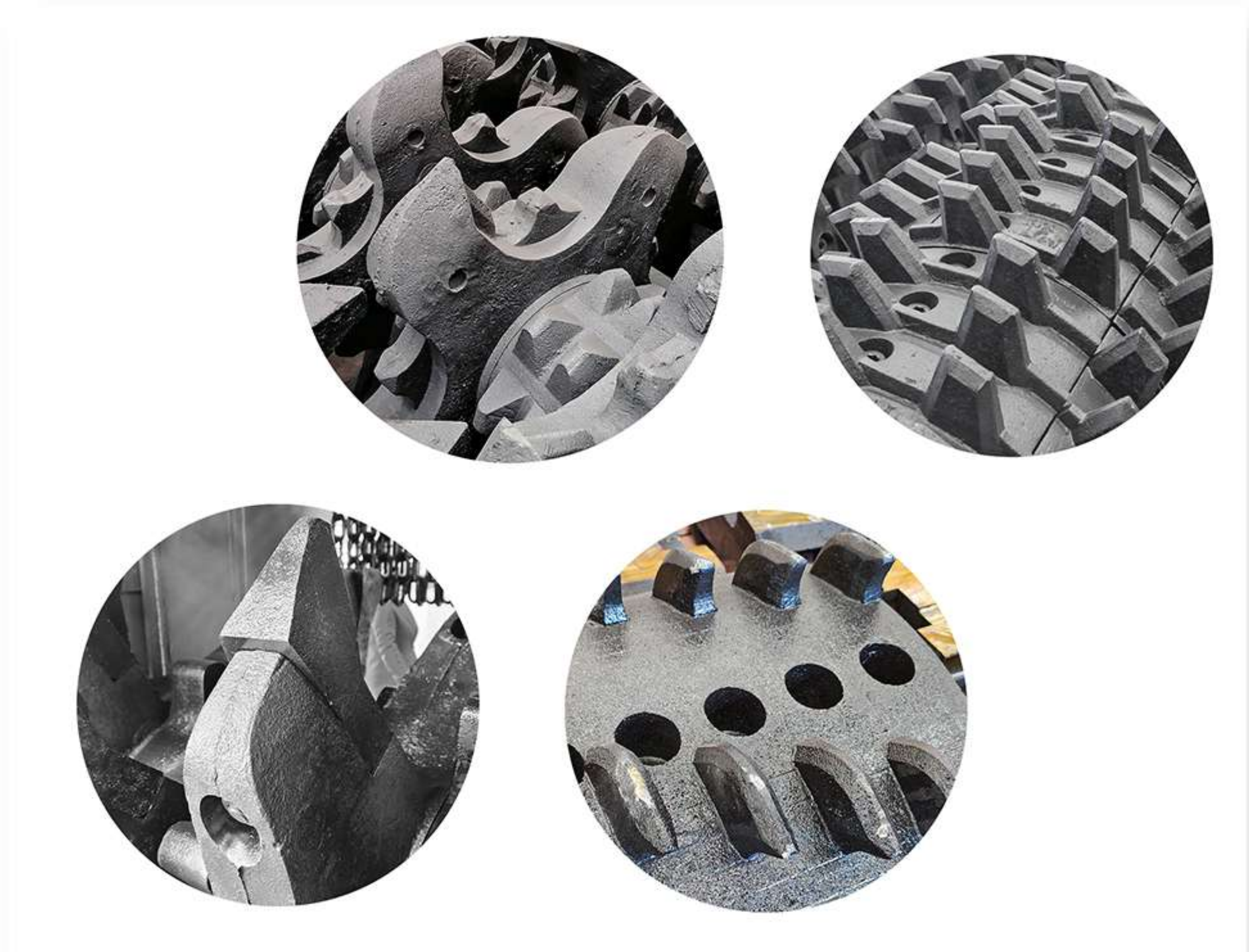
The finished product is uniform in size, with lower oversize and overcrushing than conventional crushers, and the minerals are crushed by low-speed shearing and stretching, resulting in less dust and fines.

For traditional mining plants, the reduction of fines ensures the largest percentage of finished material, increasing the economic value of the company.

03

Handle Complex Materials

Mineral sizer can not only deal with wet or sticky material, but also can deal with dry or hard rock, or deal with wet sticky material and dry hard rock at the same time.



Automated Operation

04

Mineral sizer can be fully automated to ensure continuous optimal performance, matched with a PLC control system for remote automatic control and monitoring, overload protection and other functions, providing a safer working environment.

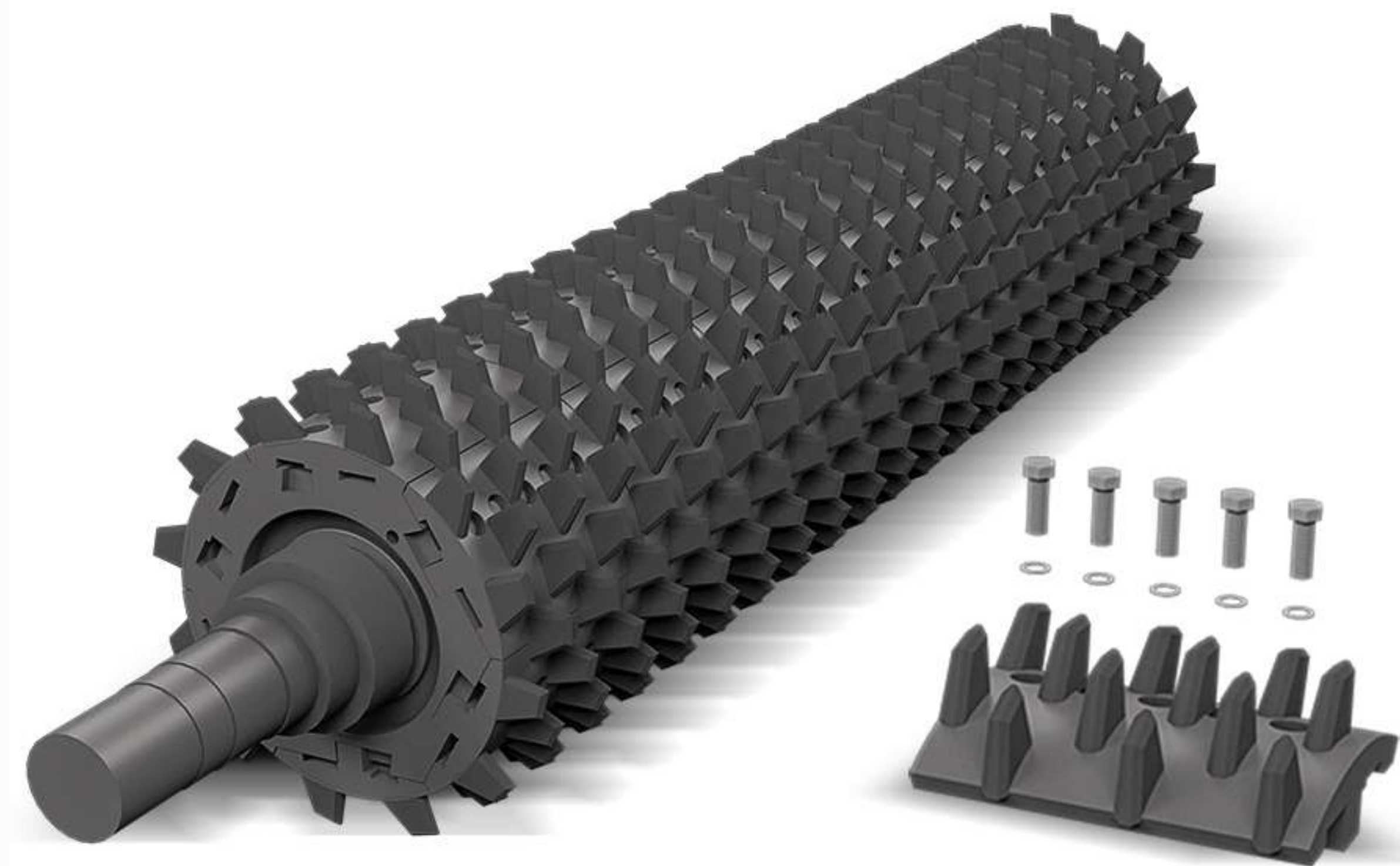
Mineral sizer integrates automatic lubrication system, automatic removal, automatic high temperature alarm for bearings and other functions, which combines the electrical control system to realize remote operation and protect the operator's safety.

05

Modular design & Easy Maintenance

Mineral sizer can be modularized in design and production, which facilitates equipment installation and routine inspection, maintenance and upkeep.

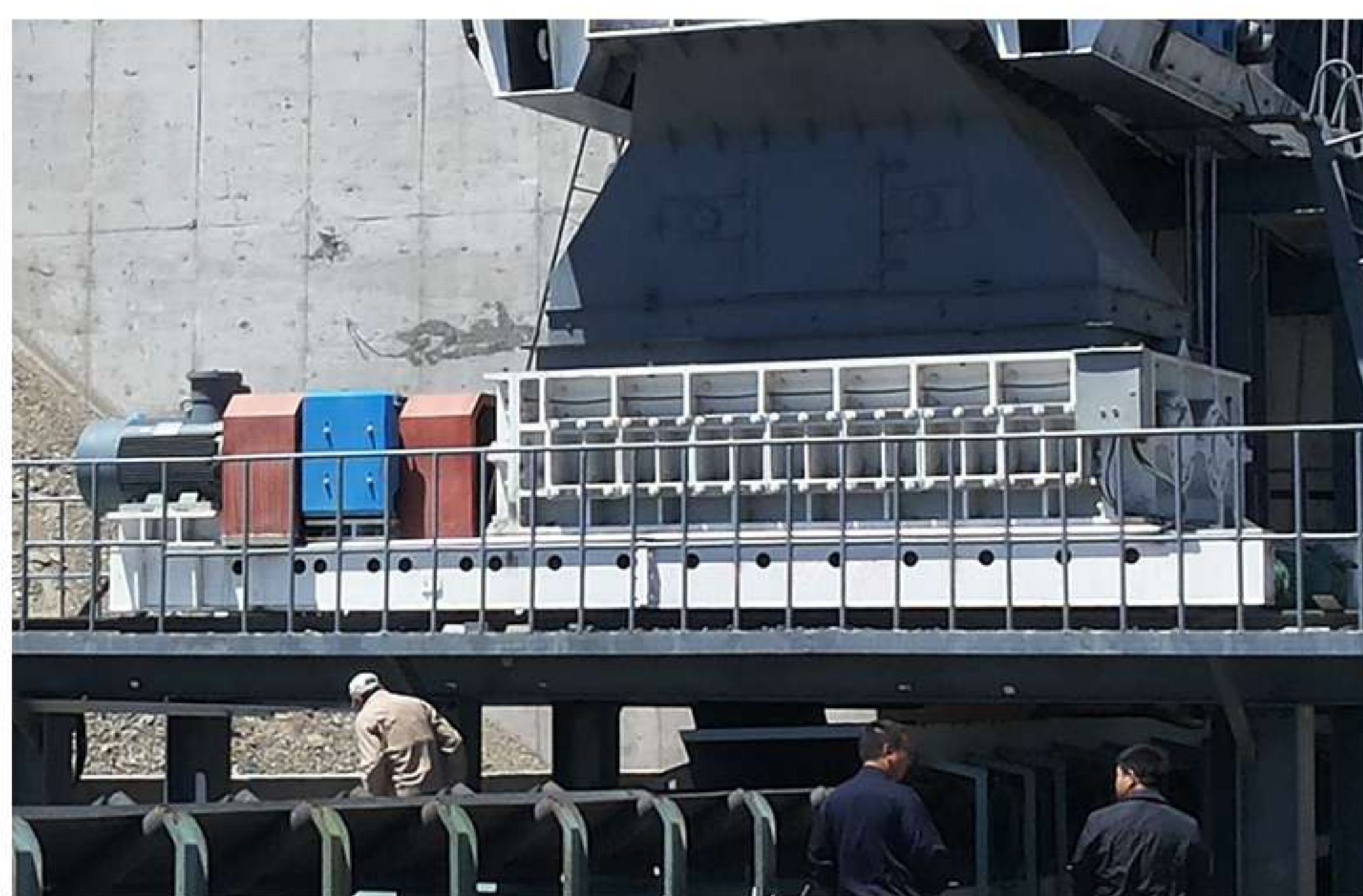
Modularized components can be replaced quickly and efficiently, reducing downtime for maintenance and improving the efficiency of the mineral sizer.



MINERAL SIZER APPLICATION

With high quality and perfect service, our Mineral has won the support and trust of many customers at home and abroad.





HANDLING MATERIALS

- Salt
- Coal
- Potash
- Limestone
- Phosphate
- Lithium Ore
- Bauxite
- Overburden
- Trona
- Lignite
- Gold Ore
- Copper Ore
- Shale
- Gypsum
- Nickel Ore
- Antimony Ore
- Carbon Anodes
- Petroleum Coke
- Clay
- Oil Sands
- Iron Ore
- Cobalt Ore
- Lead And Zinc Ore
- Soft Non-Coal Minerals

MINERAL SIZER

TECHNICAL SPECIFICATIONS

Primary Mineral Sizer

• Model	2PLF800	2PLF1000	2PLF1200	2PLF1500
• Teeth Roller Dia (mm)	800	1000	1200	1400
• Roll length (mm)	1500–2500	1500–3000	1500–3500	2000–4000
• Max feed size (mm)	800	1000	1200	1500
• Output size (mm)	≤300	≤300	≤300	≤300
• Capacity (t/h)	≤2000	≤3500	≤6000	≤10000

Secondary Mineral Sizer

• Model	2PLS600	2PLS800	2PLS1000	2PLS1200
• Teeth Roller Dia (mm)	600	800	1000	1200
• Roll length (mm)	1000–2500	1500–3000	2000–3000	2000–4000
• Max feed size (mm)	200	300	350	400
• Output size (mm)	50–80	50–100	50–120	50–140
• Capacity (t/h)	250–800	500–2000	600–3000	800–4000



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