

**HENAN EXCELLENT  
MACHINERY CO.,LTD**

Bulk Material Handling





# MINERAL SIZERS

# PROFILE

Mineral sizer provide a more effective and economical way of crushing unbreakable materials. The operating principle of the mineral sizer is to generate continuous pressure between the tooth rollers through the reverse rotation of the two tooth rollers to continuously crush the material.

Mineral sizer provide primary, secondary crushing operations for many kinds of mineral, such as coal, gypsum, phosphate, limestone, bauxite, petroleum coke, lignite, clay, shale and other materials.

HOW IT

# WORK



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 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.



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.



MINERAL SIZERS

# COMPONENT

Drive Device



**Toothed Roller**





Synchromesh Gear



Lubrication System

# FEATURES

## NO.1

### Optimum Performance

Mineral sizer unique tooth alloy formula is sufficient to handle material from soft coal (30 MPa) to hard granite (250MPa).



Mineral sizer can handle not only wet sticky material and dry hard materials but also a mixture of both these materials.

The handling capacity of primary sizer can be reached 10,000 t/h, and the secondary sizer range covers up to 4,000 t/h.

# NO.2

## Cost Saving

Compared to other types of crushers, the mineral sizer has the most compact structure, which can minimize the cost of steel structures and civil works.



The modular design of wear parts makes it reach their full service life and greatly saves the maintenance cost.

# NO.3

## Increased Safety

Mineral sizer include overload protection device, preventing the equipment from sustaining damage by steel or other unbreakable material.

Various advanced sensors and protection switches are connected to the central control system, which can realize automatic control start and close, overload protection, automatic warning, automatic lubrication and other functions.



# NO.4

## Convenient Maintenance

Integrated moving unit allows the mineral sizer to be moved into maintenance position quickly.

The wear parts of mineral sizer are modular in design, which can replace quickly and reduce downtime.

Mineral sizer adopts automatic lubrication system, which facilitate the maintenance of equipment.



# NO.5

## Friendly Environment

Under the same crushing conditions, mineral sizer has low energy consumption and noise level compared with other types of crushers.

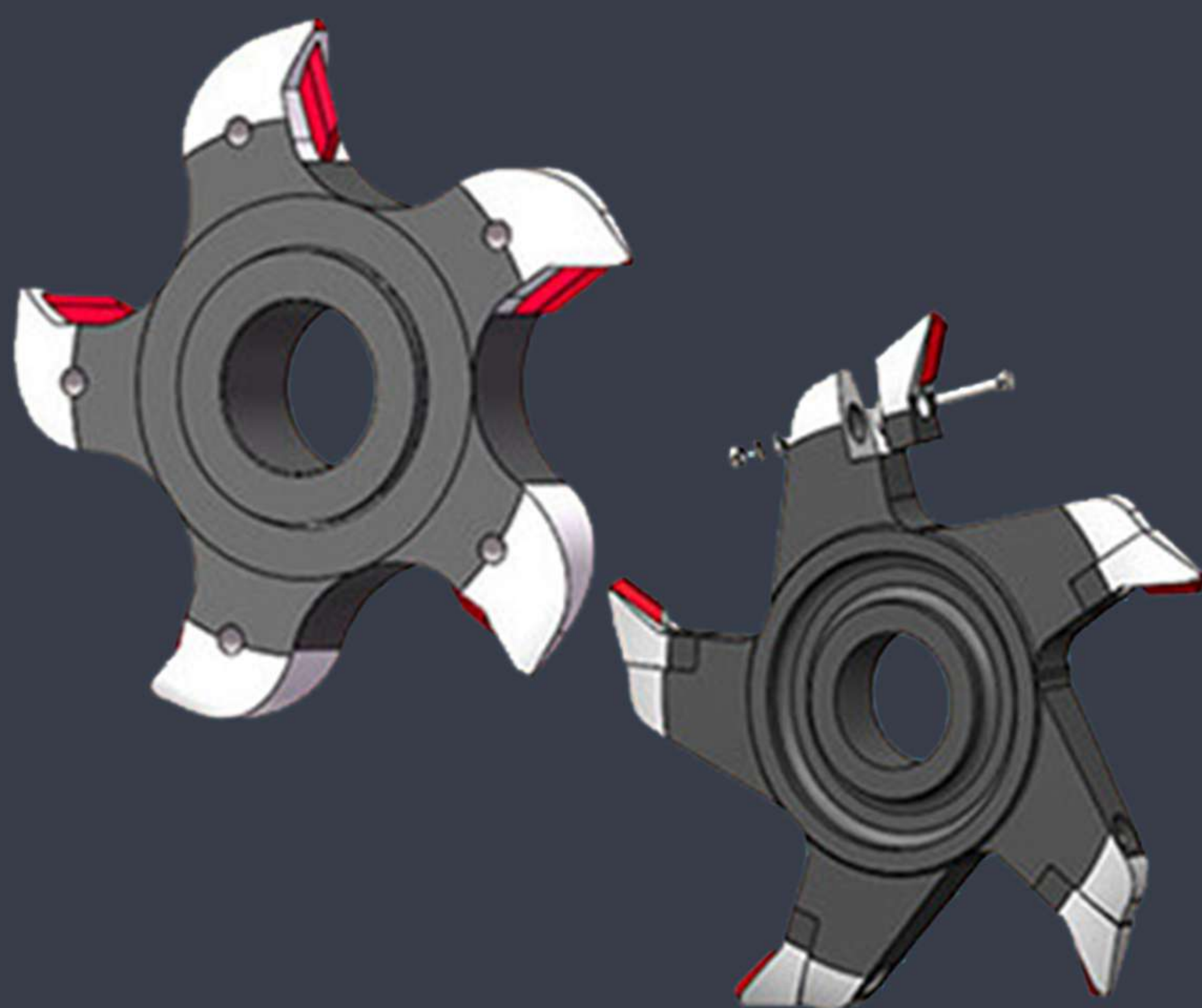
The unique structure of mineral sizer minimizes dust and fines during crushing process.



# SIZERS TOOTHED

# ROLLER

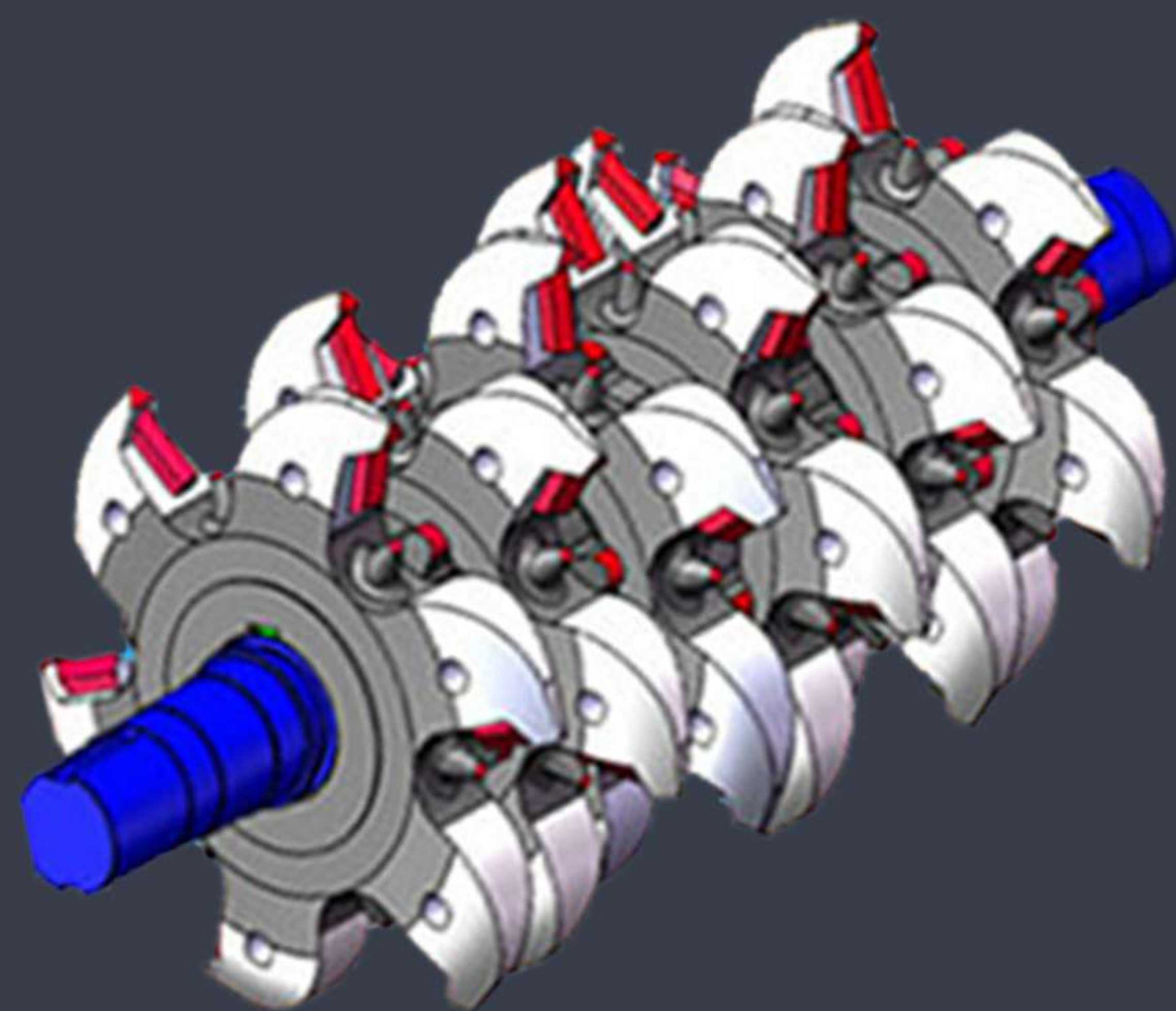
According to the types of broken materials provided by customers, working environment, material size, production capacity, maintenance status, etc., our tooth roller can be roughly divided into two categories-- primary crushing and secondary crushing.



## Primary Mineral Sizers Toothed Roller

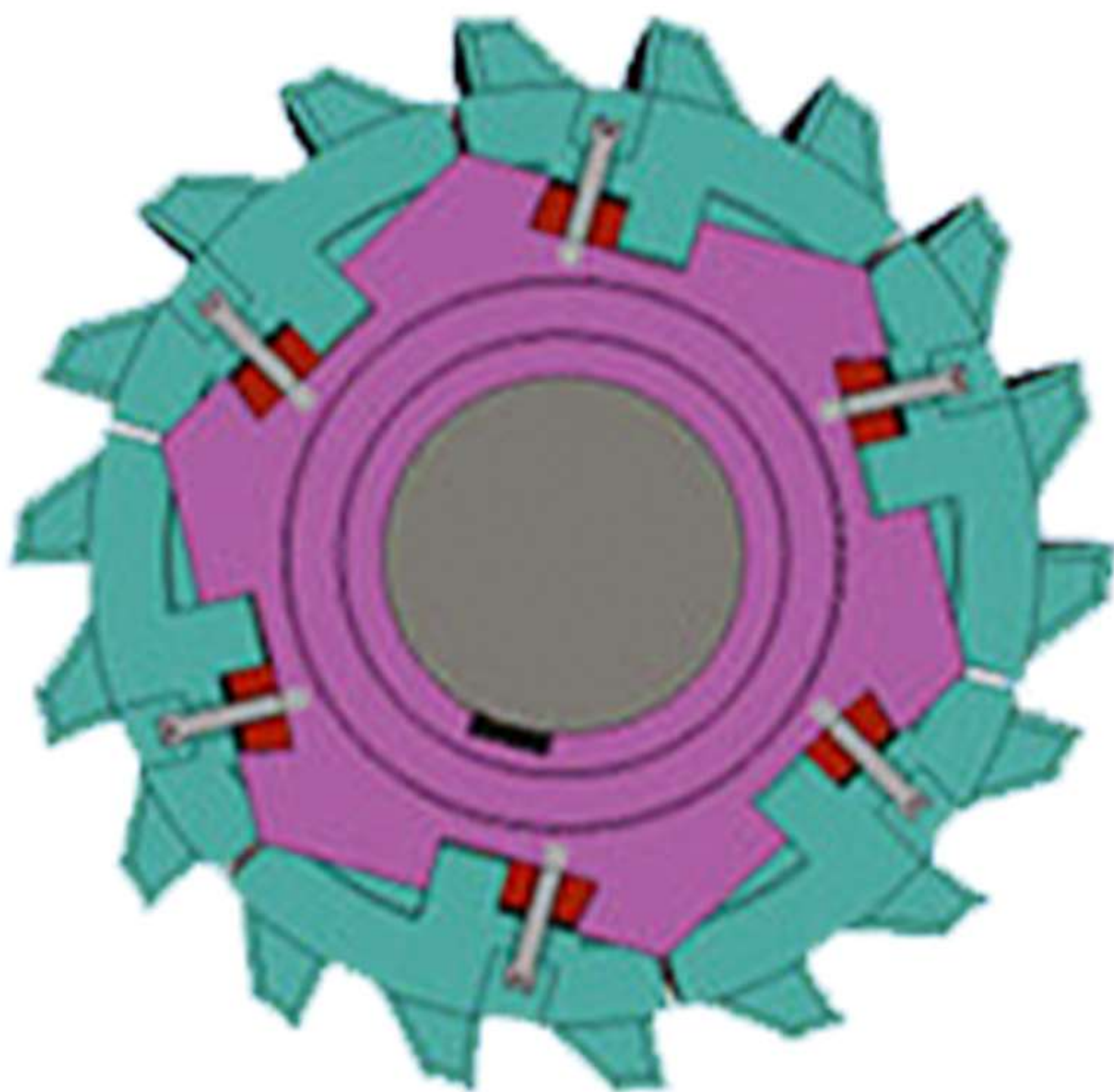
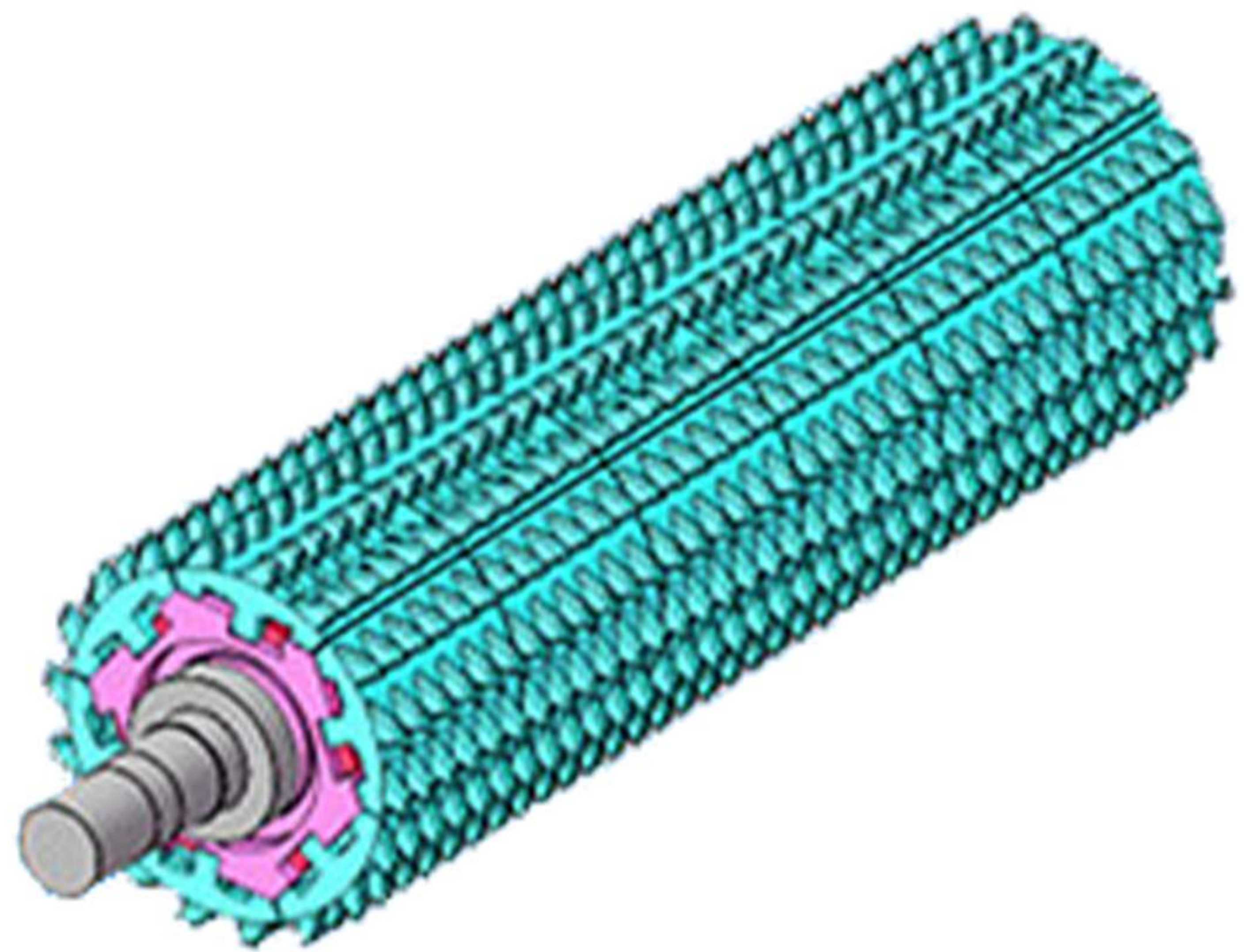
The arrangement of crushing tooth shapes and tooth shapes are arranged by special spiral tooth shapes. The crushing teeth are cast from abrasion-resistant and impact-resistant alloy steel. After heat treatment after precision casting, the crushing strength of the alloy steel up to 250Mpa. It is proved that the service life is far longer than those from the same industry.

Tooth shape arrangement is determined according to the field feeding situation, which is of strong biting capacity, improved crushing efficiency, high block rate, reduced over crushing, to reduce crushing power consumption, improve the crushing condition. Three passing cavities are formed between the two toothed rollers and between each toothed roller and the corresponding side plate body for screening and crushing materials respectively. The tail of the tooth roller is equipped with synchronous gear, so as to ensure that the jaw position of the crushing teeth on the double roller has a relatively stable effect so that the large material can be forced to be broken, and the discharge size of the material can be ensured.



## Secondary Mineral Sizers Toothed Roller

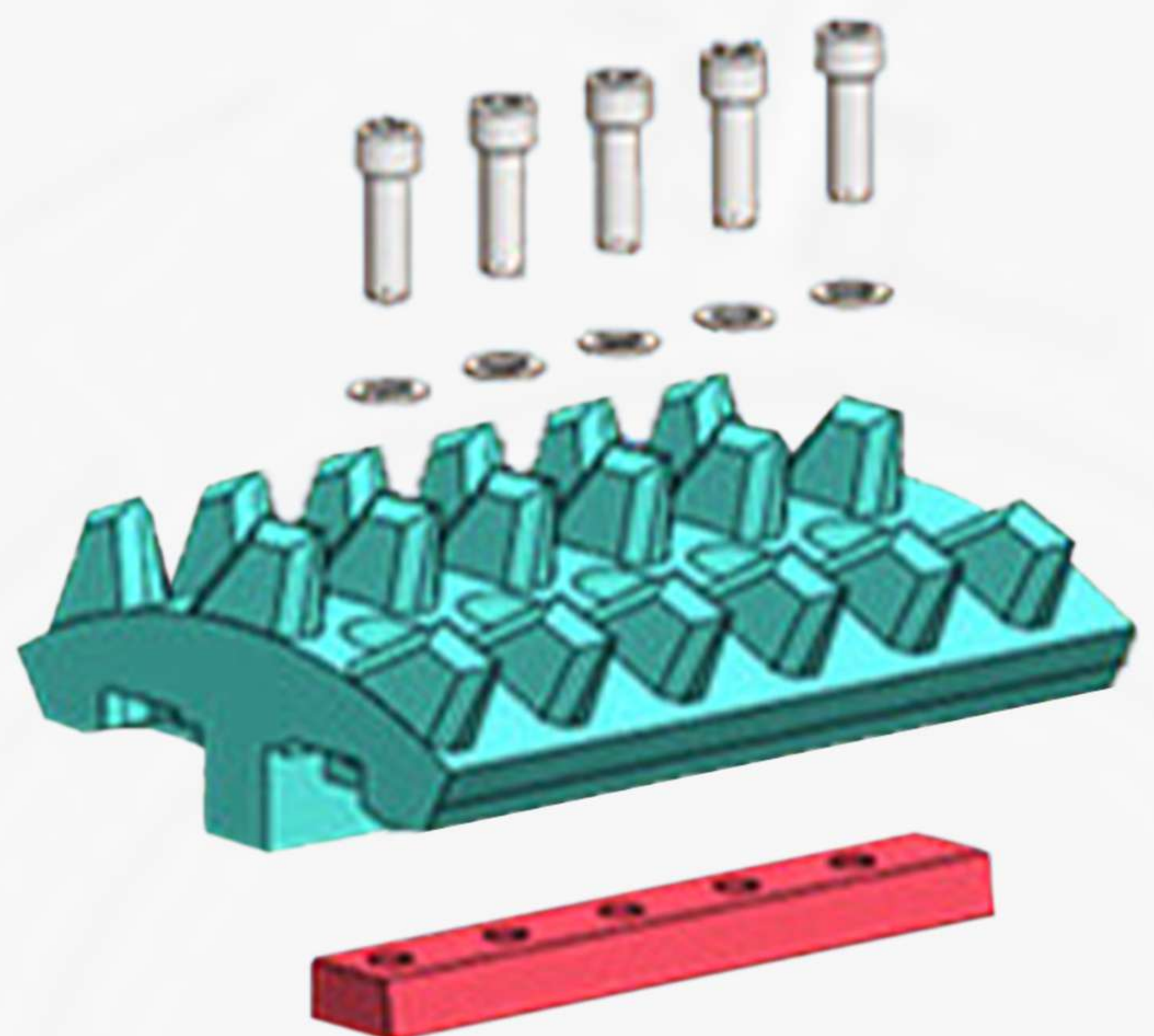
Secondary crushing and fine breaking.  
The grain size of the graded tooth roll crusher for fine breaking (tooth plate) coal is less than or equal to 300 (a small amount of 400mm is allowed), and the discharging grain size includes 30mm, 50mm, 80mm, 100mm and etc.



The graded tooth roll crusher for fine breaking (tooth plate) can break coal gangue and moderate strength rock.

The structure type of the broken teeth is adjusted to the tooth plate structure when the tooth plate is made of special steel, while the heat treatment is carried out after the precision casting.

The advanced tooth shape and the fixed way of the broken tooth plate, and there are two forms of the integral casting of micro-alloy and hard facing and wear-resistant material.





## Features & Advantages

The tooth head of crushing teeth is cast with abrasion-resistant and impact-resistant alloy steel as a whole. After precision casting, heat treatment is carried out to ensure its long service life.



A new type of solid-state high-frequency heating device is used to heat the crushing teeth at high frequency, and then it is installed on the crushing teeth roller shaft. The special properties of the material are utilized to make the fitting between the crushing teeth and the shaft firm and reliable.

Easy installation and disassembly of the crushing tooth head, which can significantly reduce the maintenance time.



## **Manufacturing Facilities**

The modern manufacturing and processing production line and the perfect equipment processing system provide the strong equipment guarantee for product manufacturing, which also can satisfy the requirements of personalized orders, production and installation services for large orders and customers.

We have advanced laser cutting machine, 3 shaft 5 planar gantry machine center, Vertical double column lathe, Planer type milling machine, Horizontal lathe, Automatic welding robot, Shot blasting machine for sandblasting



Laser Cutting Machine



Gantry Machine Center



Vertical Double Column Lathe



Planer Type Milling Machine



Horizontal Lathe



Automatic Welding Robot



Heat Treatment Device

HANDLING

# MATERIALS



Salt



Limestone



Coal



Phosphate



Petroleum Coke



Gypsum



Bauxite



Trona



Lignite



Clay



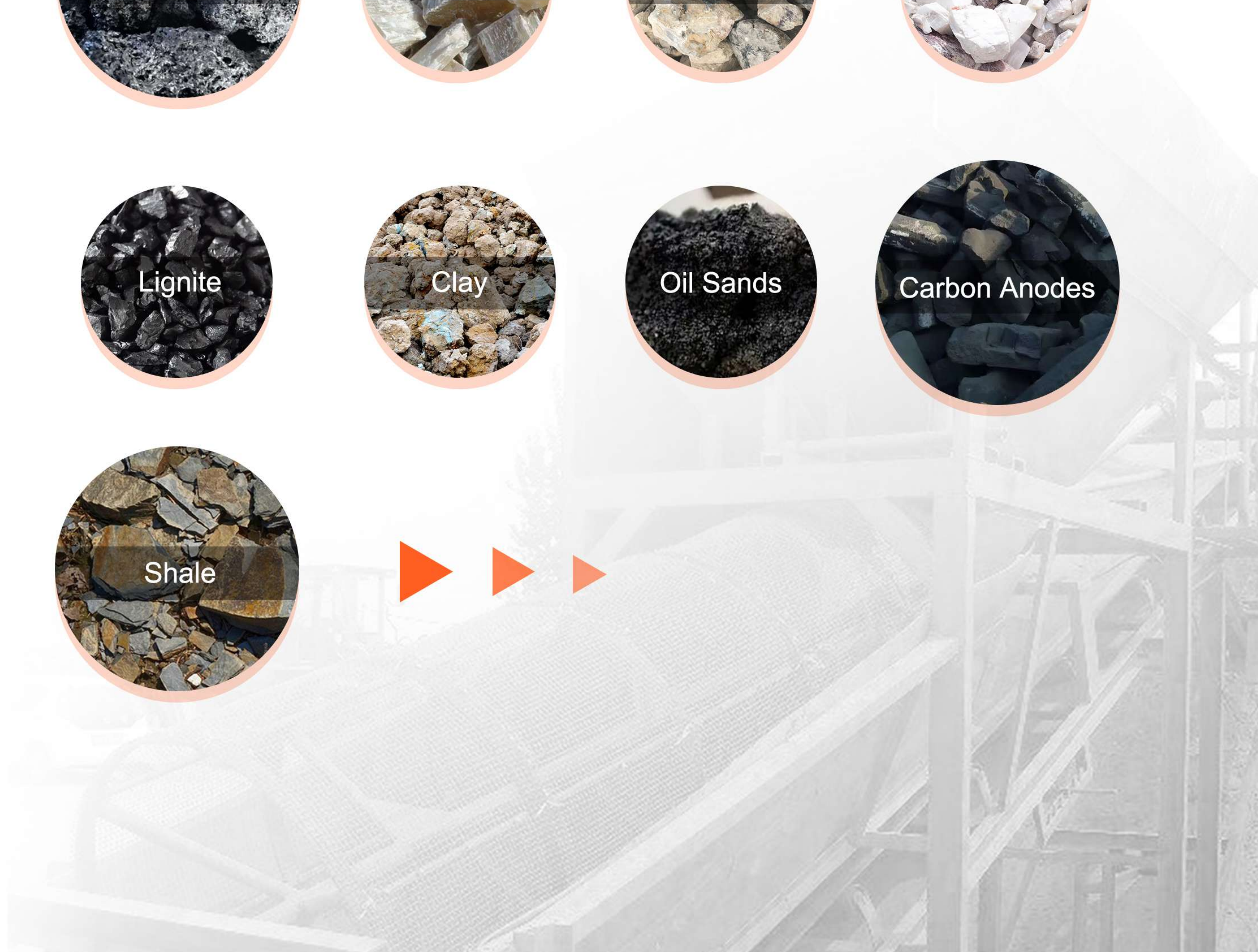
Oil Sands



Carbon Anodes



Shale



# 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	1500-3000	2000-3500
• 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



Committed To Be Leader  
In Bulk Material Handling

## CONTACT US

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 +86 373 5828866

 +86 18153098776

 [info@exctmach.com](mailto:info@exctmach.com)

 <https://www.exctmach.com>

Henan Excellent Machinery Co.,Ltd