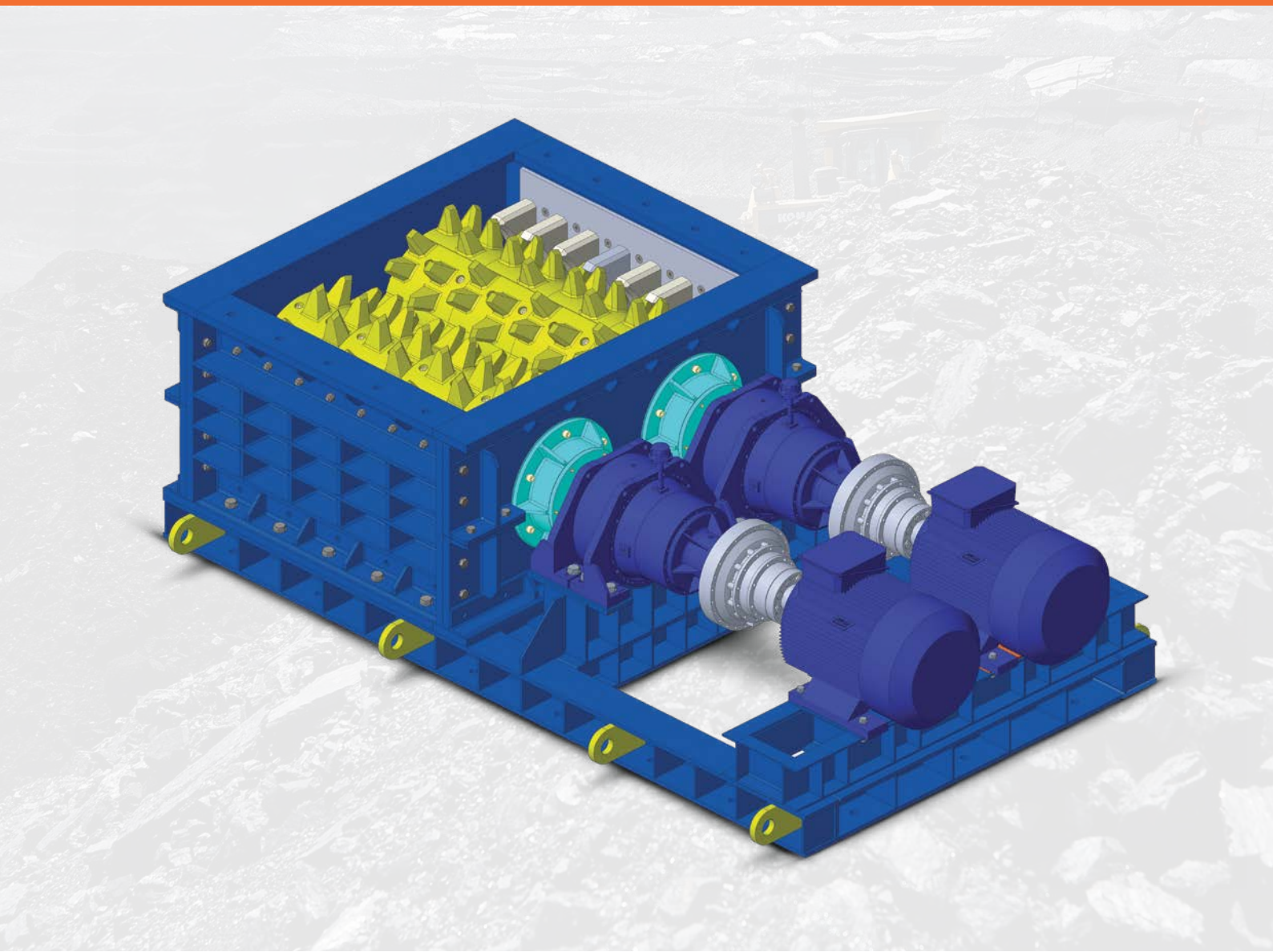
ELECON'S
SIZERS

EFFECTIVE SOLUTIONS FOR CRUSHING



ELECON CELEBRATES 70 years OF BUSINESS EXCELLENCE 1951 - 2021

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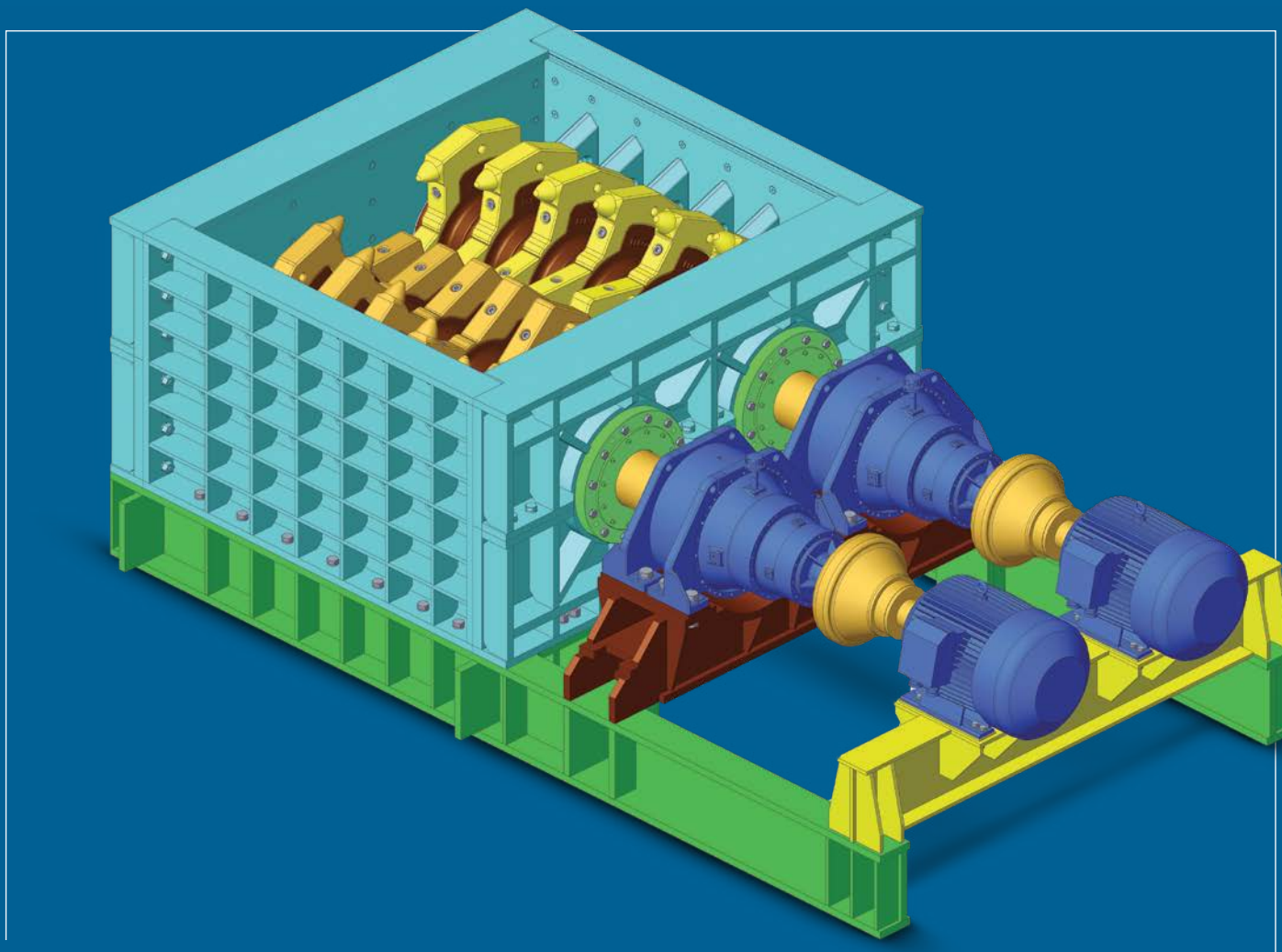
ELECON
GEARING THE FUTURE
MATERIAL HANDLING EQUIPMENT DIVISION



STRONG & SMART

Elecon MHE designs and manufactures Feeding, Sizing, Crushing and Screening equipment for an ever-expanding range of industries in the broad sphere of minerals handling and minerals processing by-product activities. Our sustained and continued growth has stemmed from the recognition and acceptance of our products by major industries from various sectors like power, mines, ports, steel, fertilizer, etc.

CRUSHING SYSTEM FOR MANY KINDS OF MINERALS

ELECON's Sizer's crushing mechanism is both compact and efficient. The reverse rotation of the two tooth rollers generates continuous pressure between the tooth rollers, allowing the crusher to constantly crush the material. ELECON has developed a high efficiency, low maintenance cost crusher, the Sizer based on our extensive analysis of the processing material characteristics

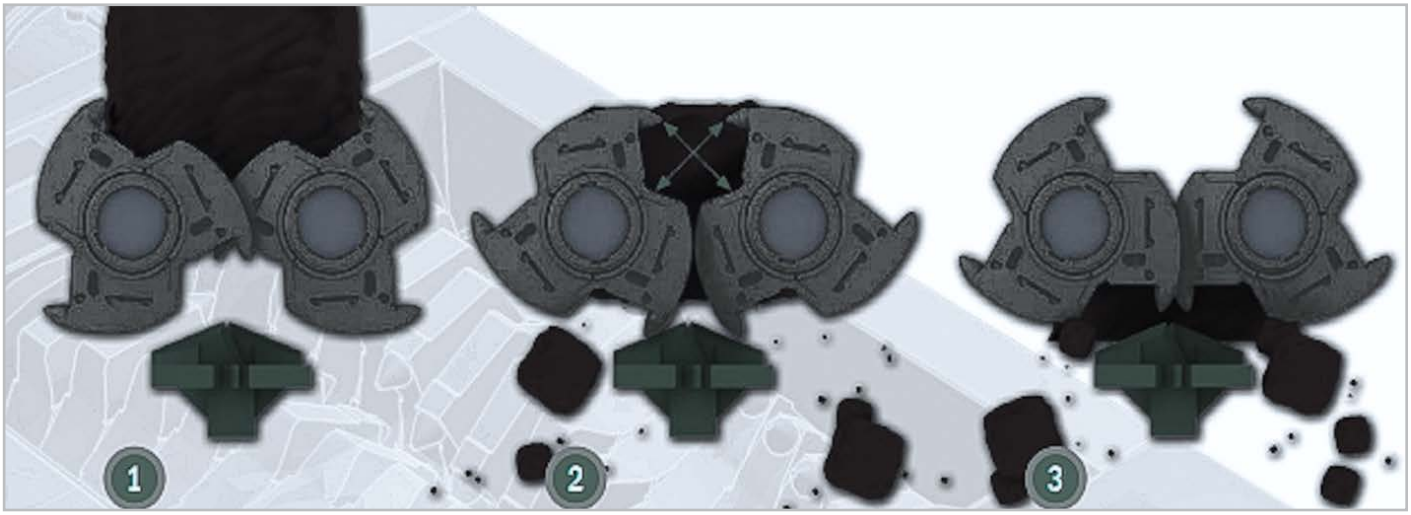
WHERE TO USE

ELECON's Sizers provide primary, secondary and tertiary crushing operations for many kinds of mineral, such as coal, salt, gypsum, phosphate, limestone, bauxite, petroleum coke, lignite, trona, carbon anodes, oil sands, clay, shale and more.

HOW IT WORKS

PRIMARY SIZER

The Primary Sizer is designed based on three stage breaking action.

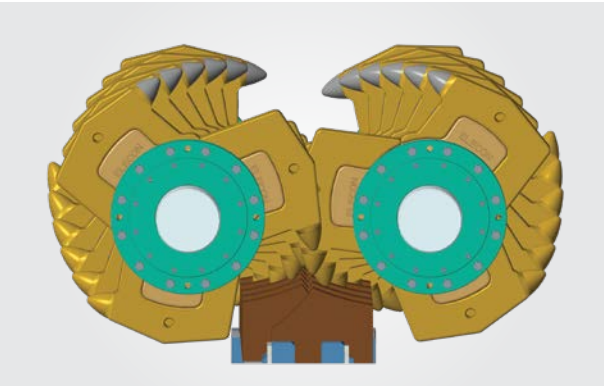


1. The front sides of opposing rotor teeth grasp the material, which is then stressed by the rotor teeth's focused strain. Materials are broken down by stress along with their inherent texture.
2. By being exposed to a three-point loading between the front tooth faces on one rotor and the rear tooth faces on the other rotor, the material is fractured in tension.
3. To ensure the 3D dimension requirements of the discharging material, the material that has not been totally broken can be further broken by the rotor teeth and fixed teeth of the breaker bar.

Rotating Screen Effects

The interchanged toothed rotor design allows free flowing undersize material to pass through the continuously changing gaps generated by the relatively slow-moving shafts.

Deep Scroll Tooth Pattern



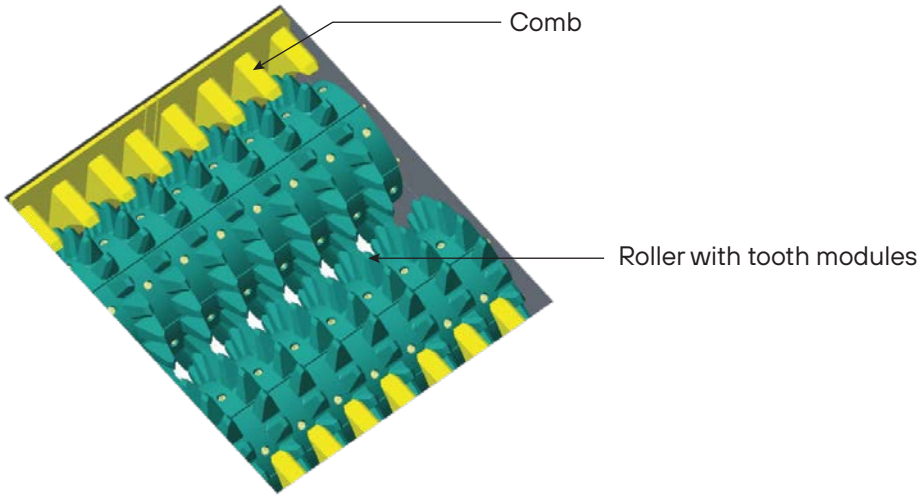
The deep scroll moves the bulkier material to one end of the machine and assists in spreading the feed throughout the whole length of the rotors; this feature can also be used to reject oversize material from the machine.

HOW IT WORKS

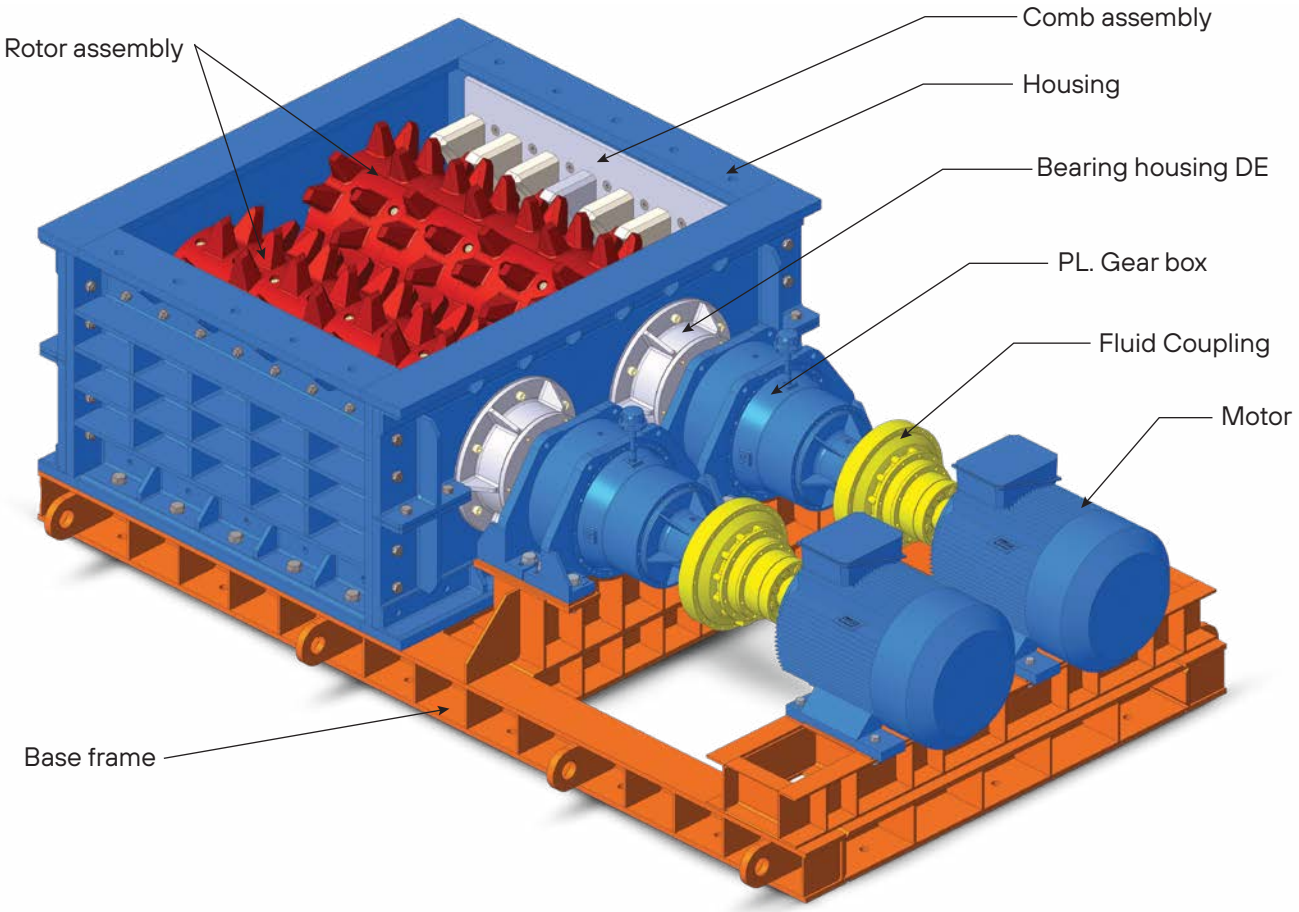
SECONDARY SIZER

As the feed material passes through the Secondary Center Sizer, it is crushed between the crushing teeth in the middle of the crushing chamber.

The comb arrangement also helps to restrict any over size to pass through as well as to clean the tooth profile during every rotation.



The toothed roller that is moving in the opposite direction with a low rotational speed and large quantity of torque produces the necessary forces to brake material in small sizes with minimum fine generation.



FEATURES & ADVANTAGES

EXCELLENT PERFORMANCE

- Reliable, rugged, higher performance technology
- Compact, flat design, less height
- Combination of grizzly and crusher in single machine
- Can handle sticky, medium hard and soft materials

ENVIRONMENT FRIENDLY

- Minimum fines, dust and dynamic loads on account of lower speed Compact, flat design
- Low energy consumption & Noise level compared to other type of crushers.

COST SAVING

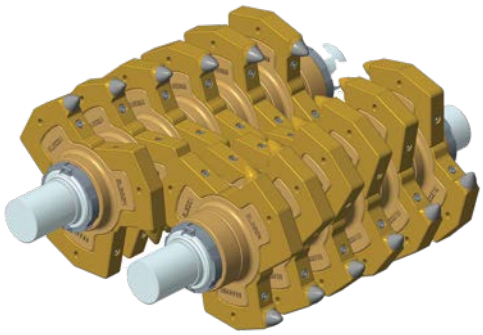
- Compact flat design helps in reducing the cost of steel structure and civil work
- Modular wear parts design leads low operation and maintenance costs

SAFE & SMART OPERATION

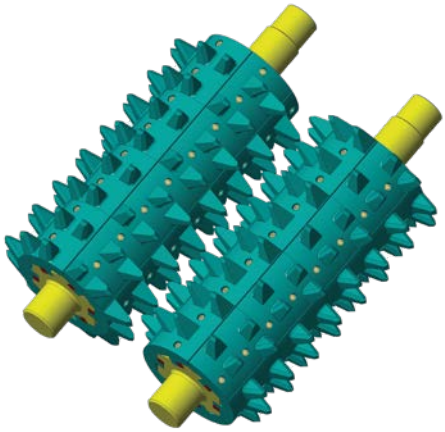
- The overload protection feature guards against harm from steel or other unbreakable materials
- Sizer matching PLC control system is capable of achieving automated control start and close, overload protection, automatic lubrication, and other operations

EASY MAINTENANCE

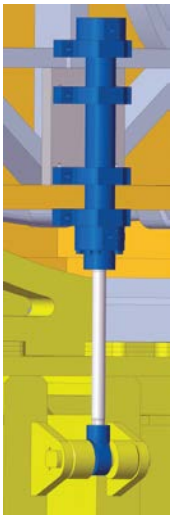
- The worn parts are modularized to make quick replacements and minimize downtime
- Integrated moving unit enables the sizer roll to be readily placed into maintenance position and can be easily taken care.



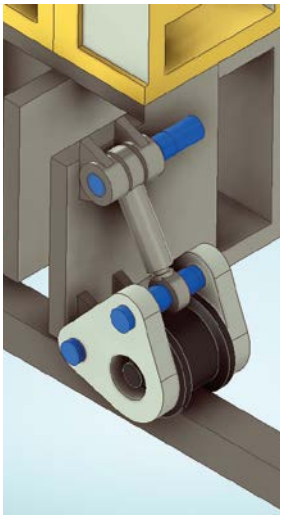
Primary Center Sizer Rotor Assembly



Secondary Center Sizer Rotor Assembly



Hydraulically adjustable breaker plate assembly



Sizer lifting & moving arrangment

TECHNICAL SPECIFICATIONS

PRIMARY SIZER

Model	2ESP800	2ESP1000	2ESP1200	2ESP1500
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 (TPH)	Up to 1500	Up to 2000	Up to 3000	Up to 3000

SECONDARY SIZER

Model	2ESS600	2ESS800	2ESS1000	2ESS1200
Teeth Roller Dia. (mm)	600	800	1000	1200
Roll Length (mm)	1000-2500	1500-3000	2000-3000	2000-4000
Max. Feed Size (mm)	Up to 300	Up to 300	Up to 400	Up to 400
Output Size (mm)	50-80	50-100	50-120	50-140
Capacity (TPH)	Up to 800	Up to 1500	Up to 2000	Up to 3000

* The above details are based on Indian Coal material having 0.8 T/m3 of bulk density.

SELECTION GUIDE

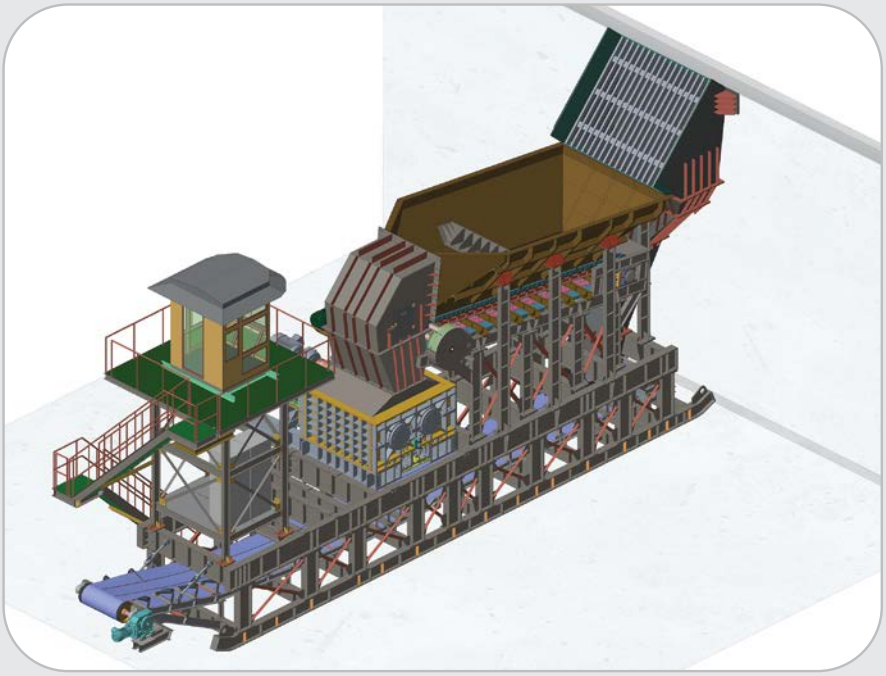
- Which material to be crushed: _____
- Handling capacity :_____t/h.
- Bulk material density: _____t/m3
- The material compressive strength : _____Mpa
- The material HGI (hard grove grind ability index) range: _____
- Material particle distribution percentage? _____
- Max. grain size of the feeding material: _____mm
- What is the grain size of the finished product after crushing? _____
- What equipment is used to feed the material into the sizer? _____
- What equipment is used to discharge the material from the sizer? _____
- As we know, the sizer should form a system with other equipment, do you have preliminary design or hand-drawn sketch? If have, please send it to our engineer for reference. **(infoepc@elecon.com)**

SEMI-MOBILE CRUSHING UNIT

A COMPLETE SOLUTION OF CRUSHING & FEEDING BULK MATERIAL FOR MINING & QUARRY INDUSTRIES

In the recent times, it has become very important for the coal, power and mining industries to supply crushed / sized coal in order to reduce the burden of conveying, transportation and easy handling in the next stage of the operation. Elecon has developed a product called "Semi Mobile Crushing Unit", which perfectly suits this application requirement.

This product consists of stationary grizzly at feeding area , dump hopper, apron feeder, toothed double roll crusher/sizer, discharge conveyor, intermediate & connecting chutes, fully equipped operator cabin, on-board electrical & instrumentation and plain water DS system. All machine parts are of modular design and mounted on fabricated skid at leveled floor/ground for easy installation and relocation.



SKID MOUNTED SEMI MOBILE CRUSHING UNIT

OPERATION:

ROM coal / lignite / soft & medium hard rocks are fed through dumpers in hopper via stationary grizzly. Undersized material is screened out through grizzly and discharged to the product conveyor. Over sized material is conveyed to crusher/sizer via apron feeder. Crushing gives 90 to 95% efficient crushing of (-) 100/50mm crushed coal discharge to product conveyor. Machine is equipped with operator cabin at sufficient level to see the operation properly and operate the machine safely.

MERITS:

1. Toothed double roll crusher/sizer gives controlled three dimensional product of (-) 100/50 mm with 90 to 95 % efficiency.
2. Stationary grizzly reduces the burden on crusher, thus reducing wear/tear, power consumption etc. which ultimately reduces operating cost.
3. Variable speed apron feeder facilitates control feeding and capacity variation.
4. Life lubricated chain & rollers reduces lubricating cost and down time.
5. Plain water dust suppression system provides better environment and pollution control.
6. Modular/bolted combination leads easy and faster reinstallation.
7. Easy installation, less operating cost and higher availability.

SAFETY & FEATURES:

1. Variable speed drive of apron feeder avoids any possible jamming in the system as well as control feed rate.
2. Zero speed switch with all drive motors to avoid motor and crusher internal damage.
3. Floating roll arrangement provides safety of crusher internals against uncrushable lumps in the feed.
4. Crusher fluid coupling and v-belt drive provides sufficient slip and make the drive safe.

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