



**HAZEMAG Center Sizer | HCS**

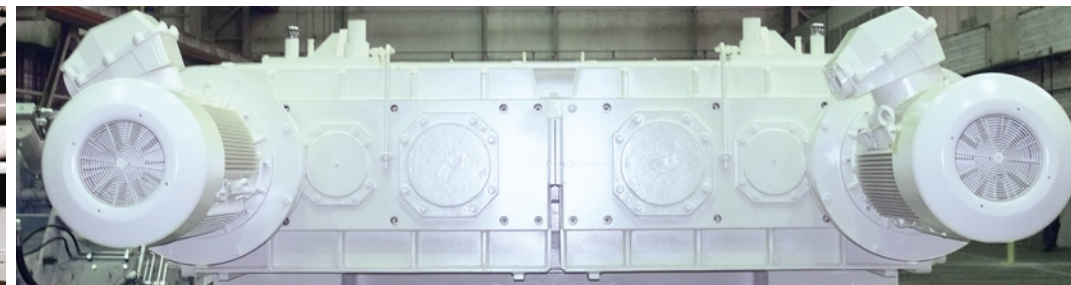


**HAZEMAG Side Sizer | HSS**





## Energy-efficient. Continuous-flow crushing. Economic Performance.



Since 1946. Our journey started here with the introduction of the Andreas Impact Crusher and the beginning of HAZEMAG; now backed by a reference list well exceeding 75,000 machines. Our customers benefit from an extensive range of HAZEMAG services, realized in our industry knowledge, application expertise, innovative technologies and proven solutions. HAZEMAG customers are the very foundation and focus of our work. Your success is our goal! We call it "Partnership Unlimited – The HAZEMAG Way."

Today, HAZEMAG continues its commitment toward developing and introducing new, innovative ideas to improve the performance, efficiency, adjustability, product size control and safety of our crushers. This commitment is easily realized throughout our line of primary and secondary mineral sizers; type HCS and HSS.



**The Selection Process:** For the processing of primary and secondary raw materials, it becomes clear that the selection of the correct reduction tool (crusher) is critical and it must be based on a solid understanding and knowledge of the raw materials; grain size, characteristics, chemical make-up, product size needs and one's long term goals.

Once the analysis of the raw material and project goals have been reached, the selected crusher

will be required to meet stringent requirements; economics, performance, safety and its ability to handle varying raw material conditions. Quarries or mines today are looking for solutions that are often associated with easier handling, higher capacities, reduced energy costs and a more compact, simplistic stage of processing. As a result, a mineral sizer can and often will provide the answer; realized in a stationary or in a mobile design. **The HAZEMAG Sizer – Helping You Achieve More!**

**The HAZEMAG Sizer is engineered and designed for success; for example.**

- Low specific energy demand
- High to very high throughput rate
- Intelligent design
- Simple & safe maintenance
- Flexibility: various crushing segments
- Cubicle product with minimal fines

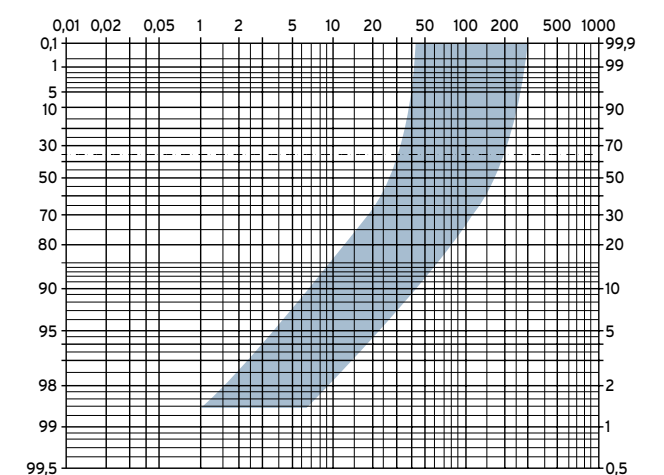
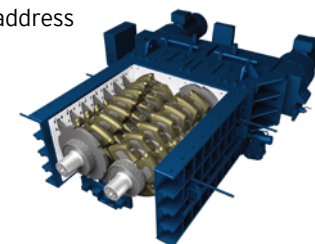
**The success of the HAZEMAG sizer is easily realized in its ability to process a range of raw materials; for example.**

Limestone, clay, gypsum, coal, coke, phosphate, marl, chalk, salts, quarry material, quicklime, ...

### HAZEMAG Center Sizer | HCS

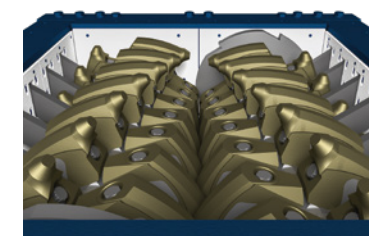
#### Operating Principle

The operating principle of the sizer is based on twin, counter rotating rotors; each operating at identical speeds. During the crushing process, the rotors work in unison with each other; generating an uninterrupted pressure point, ensuring its smooth and continuous operation. The rotor systems have been specifically designed with heavy duty, high protruding teeth, ensuring an immediate reduction of large feed pieces. Compared to a compression type machine, the mineral sizer offers an excellent, alternative solution, that can often address problematic materials.



#### General Application

Center Sizers are typically used in applications in which fines need to be limited. They are often also associated with the need to deal or solve the processing concerns associated with difficult materials; such as clays. Due to its design and open passage system; allowing all fines to pass very quickly, sizers can be very compact while reaching very high capacities.



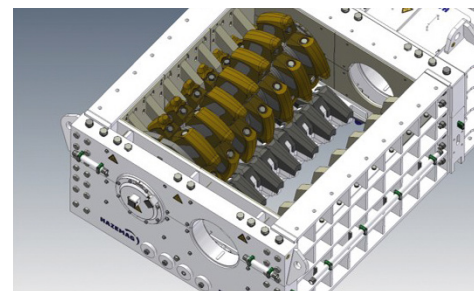


# HAZEMAG Center Sizers HCS, helping you achieve more!

## Housing / Wear liners

The housing and its drive support bracket are designed and fabricated as a heavy duty, rugged fabricated system; suitable for the most difficult applications. For protection, the housing system is fitted with wear resistant, exchangeable wear liners. Some notable features of the housing system are:

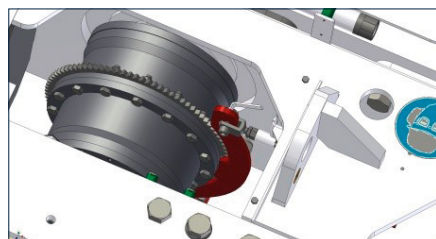
- Solid, very heavy duty front wall to absorb the stress / forces that are generated during the crushing process.
- A very rugged, welded steel side wall construction that is fitted with wear liners and exchangeable scrapers. These scrapers also serve the purpose as material blockers when the rotors are working in a reverse mode.
- Internal wall with wear plates (in front of the front wall), protection for bearings and gap setting components of breaker bar; at bottom side open into the outlet chute



Track roller lifting device

## Track Roll Lifting Device

- A system that easily permits and transports the sizer out from under the feed hopper; thus, permitting full access to the sizer and its internal parts.



Roll locking device

## Roll locking device

With safety in mind, all HAZEMAG crushing rolls can be fixed in position for safe maintenance. This Roll locking device is integrated into the crusher inter-locking system.

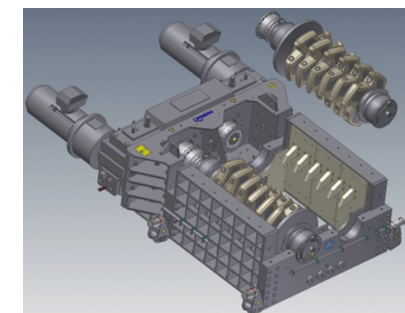
## Bearing system

- Grease filled spherical roller bearing with axial fixation
- Double sealing: labyrinth and rotary shaft sealing
- Temperature monitoring

## Drive System

The drive system consists of:

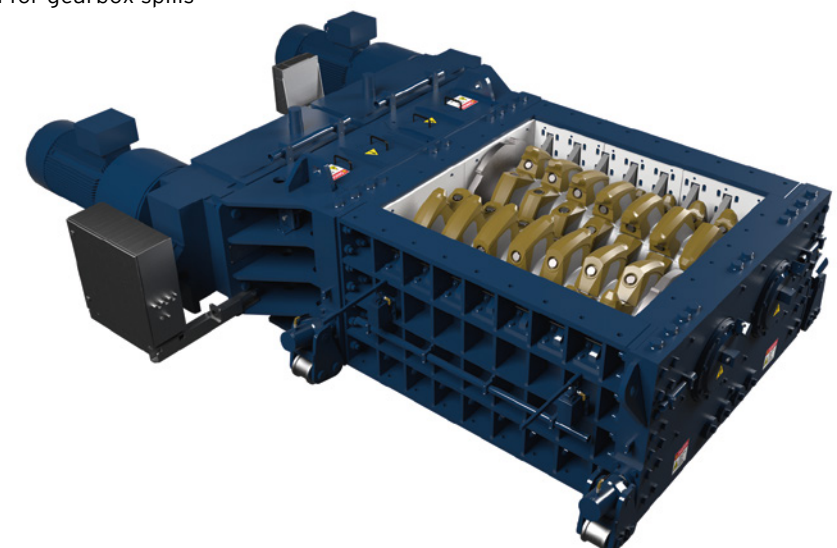
- Motor
- Flywheel (optional), for reduction of torque and power peaks for the motor
- Fluid coupling
- Gearbox
- Mechanical gear coupling placed between the gearbox and crushing roll. The advantage of this is realized during a crushing roll or rotor exchange; following a simple procedure.



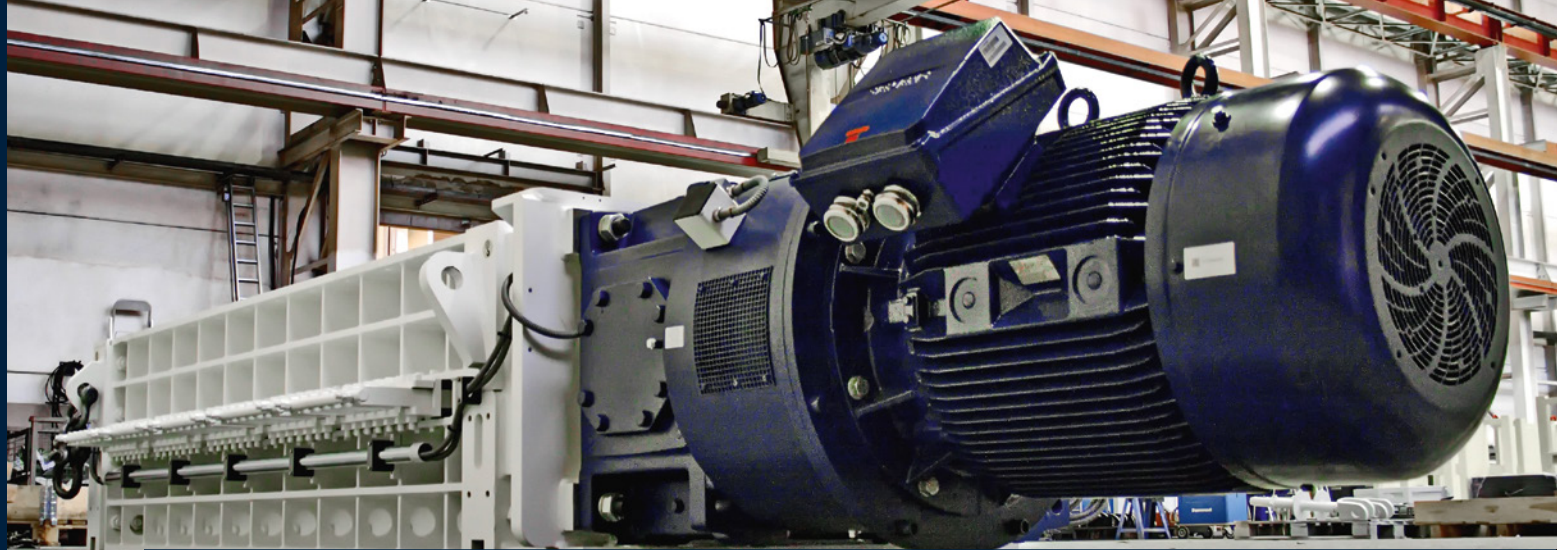
Mechanical gear coupling

- 1) Partially drain the gearbox of its oil.
- 2) Disconnect the coupling.
- 3) Remove the crushing roll.

This simple procedure is not only safer, it greatly reduces downtime and the potential for gearbox spills or contamination.







## HAZEMAG Center Sizers HCS, cubicle product with minimal fines.



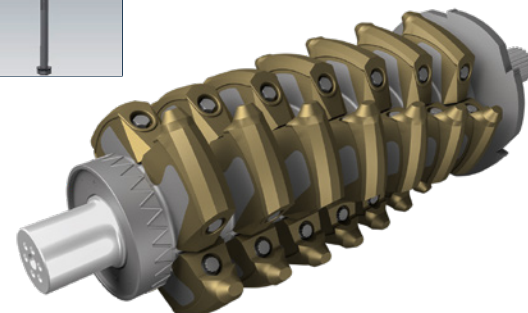
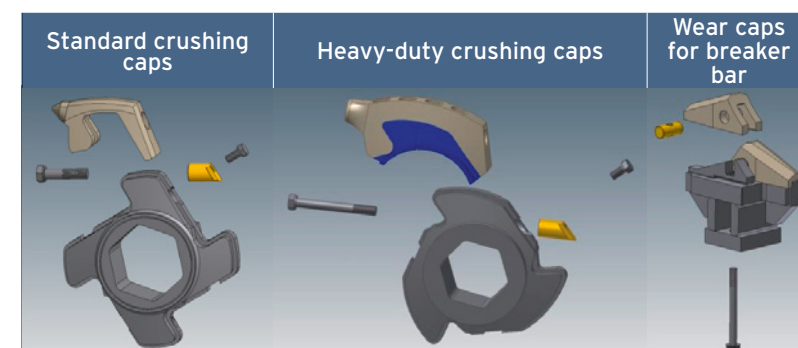
### HAZEMAG primary Center Sizers

#### Crushing Rolls and Breaker Bar

- Heavy duty crushing caps with special helical arrangement.
- Patented form-fit crushing rings
- Adjustable gap setting between the crushing roll and breaker bar.
- Exchangeable wear caps on the breaker bar
- Easy, safe and quick exchange of the breaking bar.



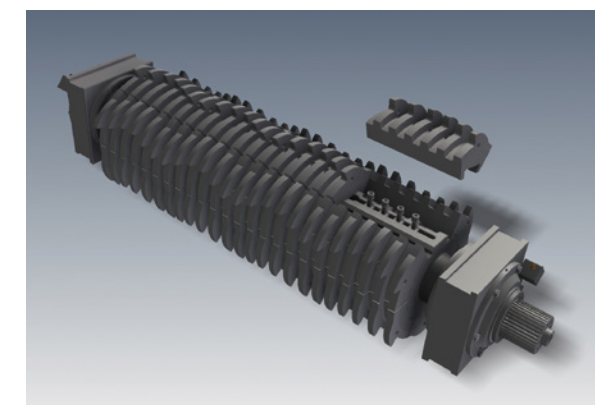
Primary Crushing Rolls and Breaker Bar



### HAZEMAG secondary / tertiary Center Sizers

#### Crushing Rolls and Scrapers

- Exchangeable crushing segments; flexibility, safe and reduced downtime.
- True-fit / dovetail segment securing system; safe, secure and optimum fit.
- Wear resistant crushing segments for reduced operating costs.
- Various segment designs ensuring the optimum balance between the crushing task and the sizer performance.
- Heavy duty design for extended service life and excellent reliability. Product size variation by adjusting the shaft distance
- High variety of scraper options



Crushing segments for secondary and tertiary crushing rolls

#### HAZEMAG Center Sizers HCS

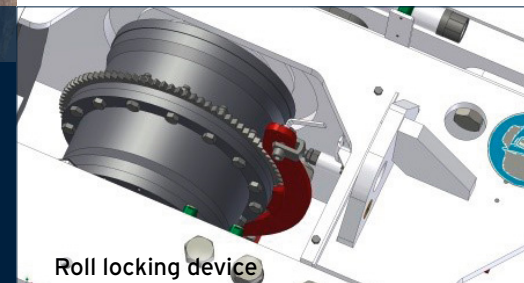
- Track roller lifting device (optional)
- Roll locking device
- Variety of crushing caps and segments, in particular for high abrasive and sticky material
- Reliable fixation of caps and segments
- Breaker bar (primary sizers only)
- Product size variation by gap setting between breaker bar and crushing rolls (primary sizers only)
- Product size variation by adjusting the shaft distance (secondary sizers only)
- Variety of scraper options (secondary sizers only)
- Flywheel assembly (optional)
- Mechanical gear coupling placed between the gearbox and crushing roll.

- Wherever possible, use of off-shelf available internals for the gear units
- Wall-mounted Gearboxes on **one** side of the machine
- Rotary and slip monitoring of the crushing rolls and fluid coupling (motor side)
- Monitoring of bearing, gear and fluid coupling temperatures

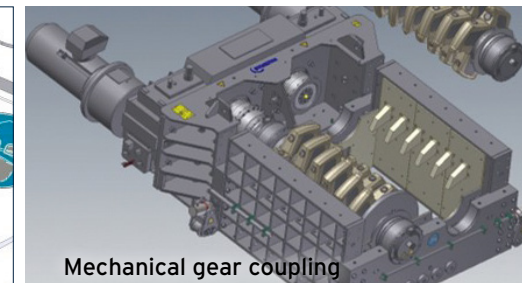




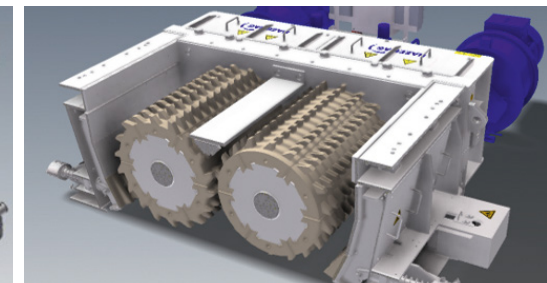
# HAZEMAG Side Sizer HSS, operating flexibility.



Roll locking device



Mechanical gear coupling



## HAZEMAG Side Sizer | HSS

### Operating Principle

The operating principle is based on a continuous generation of pressure between the crushing roll and side wall. Due to the unique and smart design, larger lumps can easily enter the crushing zone; between the crushing roll and housing sidewall. Its design and operation ensure the smooth and uninterrupted transport and processing of the feed material with a minimal generation of fines.

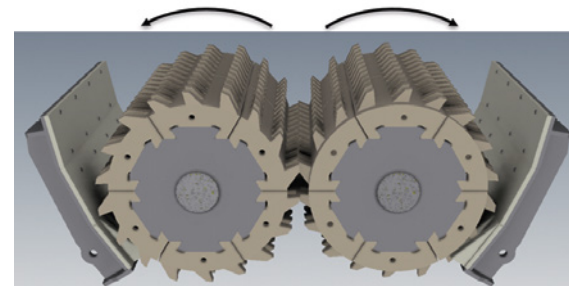
### Design & Features

- Twin crushing rolls; rotation toward its respective sidewall.
- Reduced crushing roll speed with high torque.
- Material reduction achieved by crushing, shearing and compression
- Optimum flow of finer materials that do not need to be crushed.

### Housing / Wear liners

Housing and drive bracket of the HAZEMAG Sizer are very sturdy and thus suitable for heavy - duty applications. The housing is fitted with heavy duty, wear resistant and exchangeable wear parts.

- Solid front wall to absorb the main crushing forces coming from crushing rolls
- Solid and rugged welded steel construction for the side walls including wear plate
- Internal wall with wear plates (in front of the front wall), protection for bearings
- Hydraulically adjustable and retractable crushing wall, with a bolt on crushing comb. This retractable crushing wall acts as a protection for



HAZEMAG Side Sizer | HSS

### Track Roll Lifting Device

- A system that easily permits and transports the sizer out from under the feed hopper; thus, permitting full access to the sizer and its internal parts.



Adjustable and retractable crushing wall



machine damages caused by entry of uncrushable. The possibility of adjustment acts as compensation for wear and as a possibility to effect the product gradation.

### Roll locking device

With safety in mind, all HAZEMAG crushing rolls can be fixed in position for safe maintenance. This Roll locking device is integrated into the crusher inter-locking system.

### Bearing system

- Grease filled spherical roller bearing with axial fixation
- Double sealing: labyrinth and rotary shaft sealing
- Temperature monitoring

### Drive System

The drive system consists of:

- Motor
- Flywheel (optional), for reduction of torque and power peaks for the motor
- Fluid coupling
- Gearbox
- Mechanical gear coupling placed between the gearbox and crushing roll. The advantage of this is realized during a crushing roll or rotor exchange; following a simple procedure.

- 1) Partially drain the gearbox of its oil.
- 2) Disconnect the coupling.
- 3) Remove the crushing roll.

This simple procedure is not only safer, it greatly reduces downtime and the potential for gearbox spills or contamination.

### Crushing Rolls

- Exchangeable crushing segments; flexibility, safe and reduced downtime.
- True-fit / dovetail segment securing system; safe, secure and optimum fit.
- Wear resistant crushing segments for reduced operating costs.
- Various segment designs ensuring the optimum balance between the crushing task and the sizer performance.
- Heavy duty design for extended service life and excellent reliability.







# HAZEMAG Side Sizer HSS, high tonnage crushing duties.



## HAZEMAG Side Sizers HSS

- Track roller lifting device (optional)
- Roll locking device
- Variety of crushing segments
- Reliable fixation of segments
- Product size variation by gap setting between crushing wall and crushing rolls
- Flywheel assembly (optional)
- Mechanical gear coupling placed between the gearbox and crushing roll.
- Wherever possible, use of off-shelf available internals for the gear units
- Wall-mounted Gearboxes on **one** side of the machine
- Rotary and slip monitoring of the crushing rolls and fluid coupling (motor side)
- Monitoring of bearing, gear and fluid coupling temperatures
- Positioning control of the sidewalls

## It's All About You! The HAZEMAG Customer.

### Partnership

What does it mean to you? At HAZEMAG we are committed to providing a level of partnership that is second to none. Everything we do from the initial presentation of our products, to the acceptance and processing of your order, to providing service and spare parts support after the sale, is done with a goal of exceeding your expectations.

### Sales

We are here to serve your needs with application assistance, machine selection, quotations and sales presentations. We are supported by a network of knowledgeable and experienced factory-trained representatives.

### Spare Parts

We serve your needs with a knowledgeable staff backed by a multi-million spare parts inventory. We will help you achieve the optimum level of machine performance and economical operation with the right part and the latest technology, in stock and shipped on time.

### Engineering

We are here to serve your needs with engineering support, design guidance, project planning and management. Our dedication to design excellence is backed by leading-edge computer design technology and proven by thousands (+75,000) of successful crusher installations.

### Customer Support

We are proud of our dedicated staff who take pride in providing a level of after the sale support and service that is second to none. They are here to assist you with machine optimization, training, inspections and repair. We call it "Partnership Unlimited - The HAZEMAG Way"







## **HAZEMAG Mineral Sizers – intelligent design**