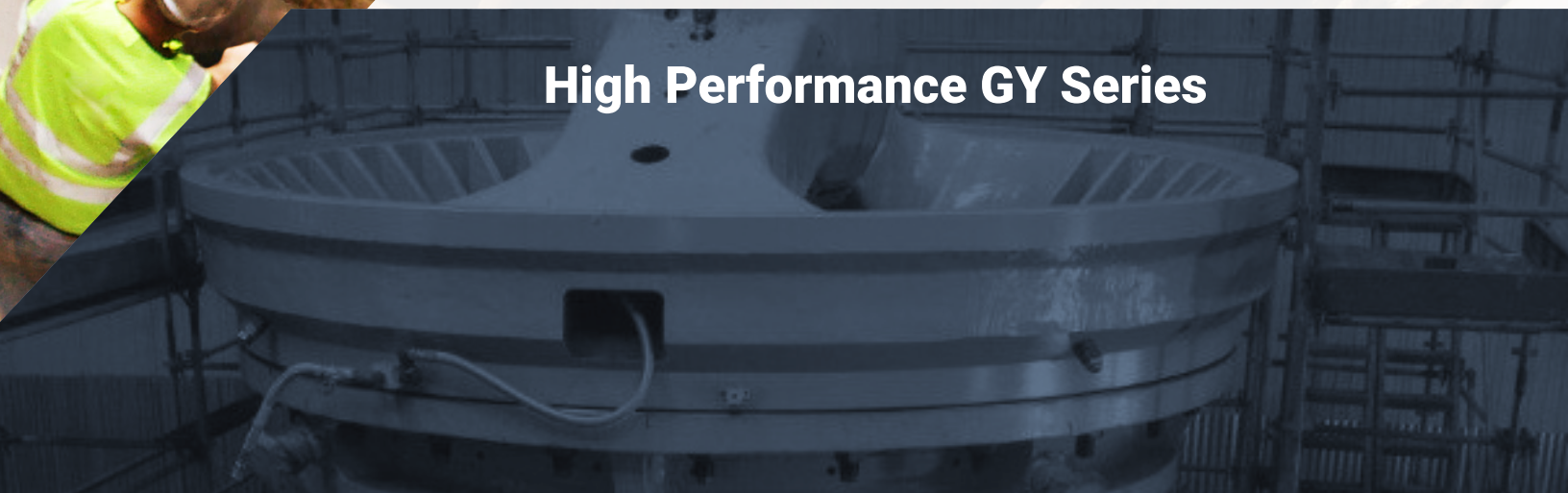
HAZEMAG

Experience.
Innovation.
Results.

# Gyratory Crusher

## High Performance GY Series



# **Gyratory** Crusher

**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 impactor performance, efficiency, adjustability, product size control, and safety.

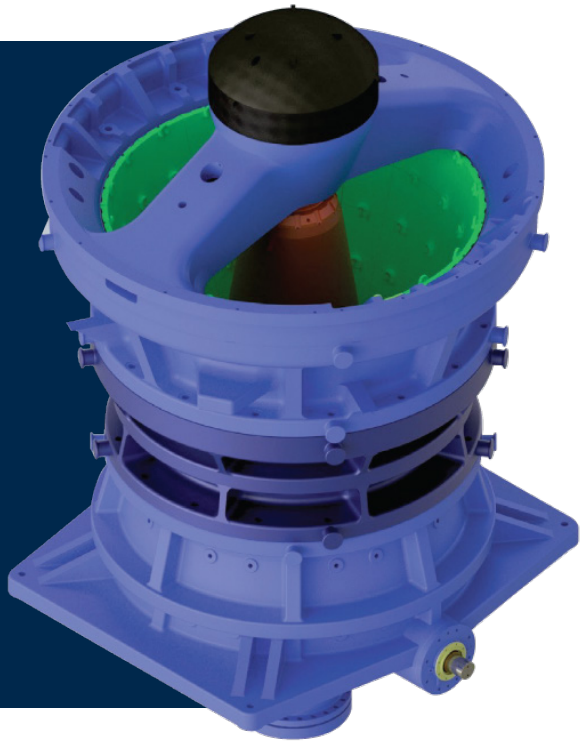
**HAZEMAG Primary Gyratory Crushers** are designed for primary reduction of different raw materials and many applications.

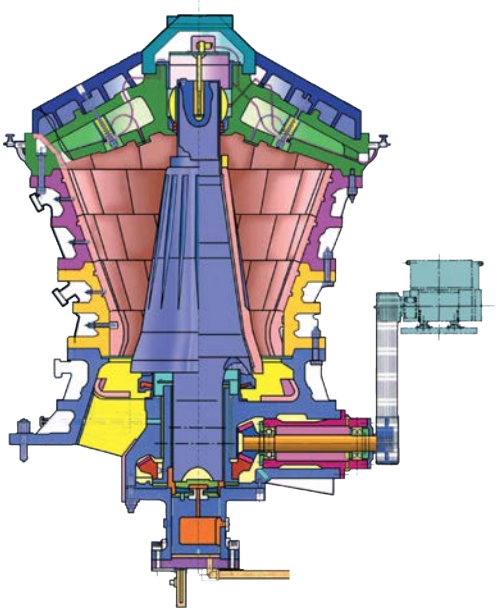
## PRIMARY GYRATORY CRUSHER

### High Performance GY Series

A gyratory crusher is one of the main types of primary crushers in a mine or ore processing plant. Gyratory crushers are designated in size either by the gape and mantle diameter or by the size of the receiving opening. Gyratory crushers can be used for primary or secondary crushing.

The crushing action is caused by the closing of the gap between the mantle line (movable) mounted on the central vertical spindle and the concave liners (fixed) mounted on the main frame of the crusher. The gap is opened and closed by an eccentric on the bottom of the spindle that causes the central vertical spindle to gyrate. The vertical spindle is free to rotate around its own axis. The crusher illustrated is a short-shaft suspended spindle type, meaning that the main shaft is suspended at the top and that the eccentric is mounted above the gear. The short-shaft design has superseded the long-shaft design in which the eccentric is mounted below the gear.

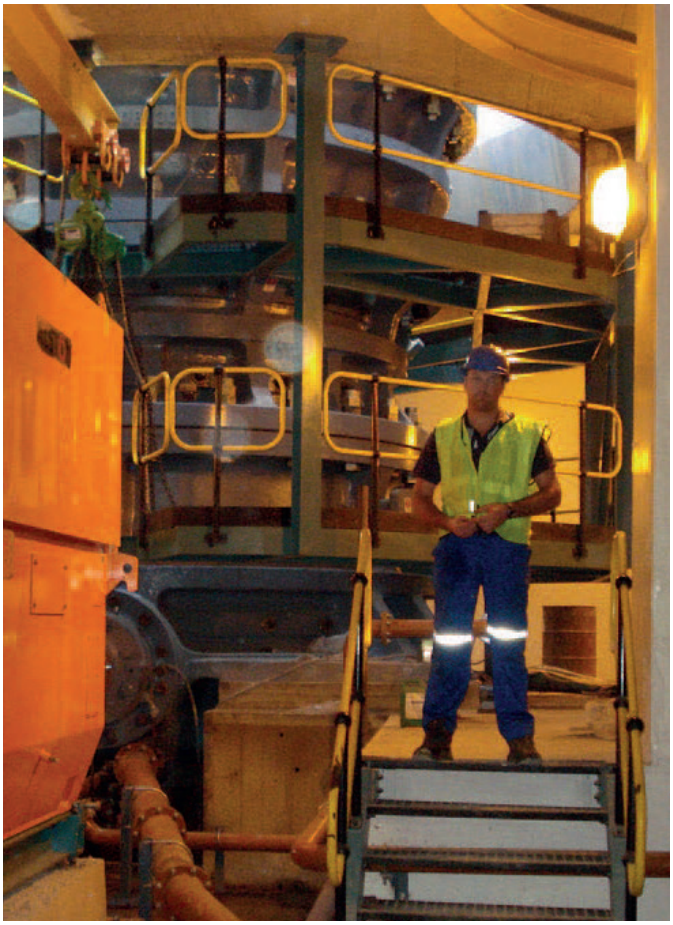




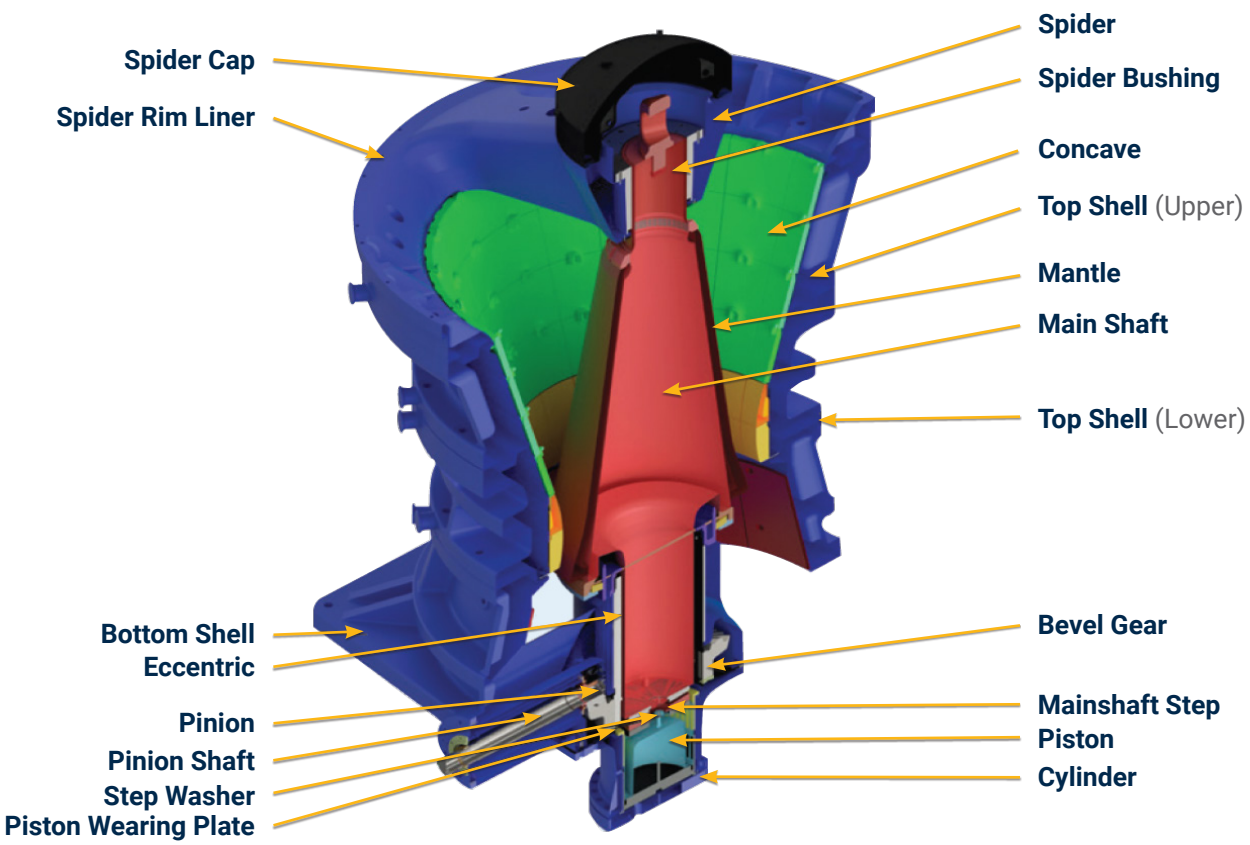
# **Gyratory** Crusher

## FEATURES AND BENEFITS

- Equipped with a balance cylinder that is designed to prevent damage to the step bearing should shaft jump occur. To maximize the fatigue life of the main shaft, a sleeve is used to eliminate the use of a screw thread in the area where the mantle is attached. This area is also where the maximum bending moment occurs in the main shafts of primary gyratory crushers during operation.
- ETCL has perfected a technique whereby the vertical position of the main shaft can be determined. This facility enables the user to have a digital readout of the setting of the machine at the operator's console, either in field or remotely.
- As part of the local gap setting panel, a set of graphs is provided from which the remaining liner life can easily be determined.
- Depending on the type of material to be processed, the primary gyratory crushers are offered with either smooth or grooved mantles. Grooves are usually used for the processing of harder materials. Furthermore, high chrome liners or liners with high chrome inserts can be used on the lower row of concave liners. This results in excellent nipping of material and increases wear life (increases of 3 to 5 times in liner life can be achieved).
- Dust sealing of the area between the main shaft assembly and the eccentric assembly is achieved by means of a combination of a mechanical seal and overpressure supplied by means of a vortex blower. Pre-filtration of the air going to the vortex blower can be done according to specific customer requirements.
- Due to the use of a hydraulic main shaft support mechanism, the GY primary gyratory crusher can be started under full load should it be required; e.g., in the case of an unplanned power failure.
- The spider arms are an integral part of the spider assembly. The spider assembly, which is a one-piece casting, is specifically designed to ensure adequate rigidity when crushing large, hard rocks in the upper region of the crushing chamber.
- Major components can be divided to ease transport restrictions; i.e., spider 3 pieces, top frame 2 pieces each for upper and lower, bottom frame 3 pieces.

# **Gyratory** Crusher Specifications

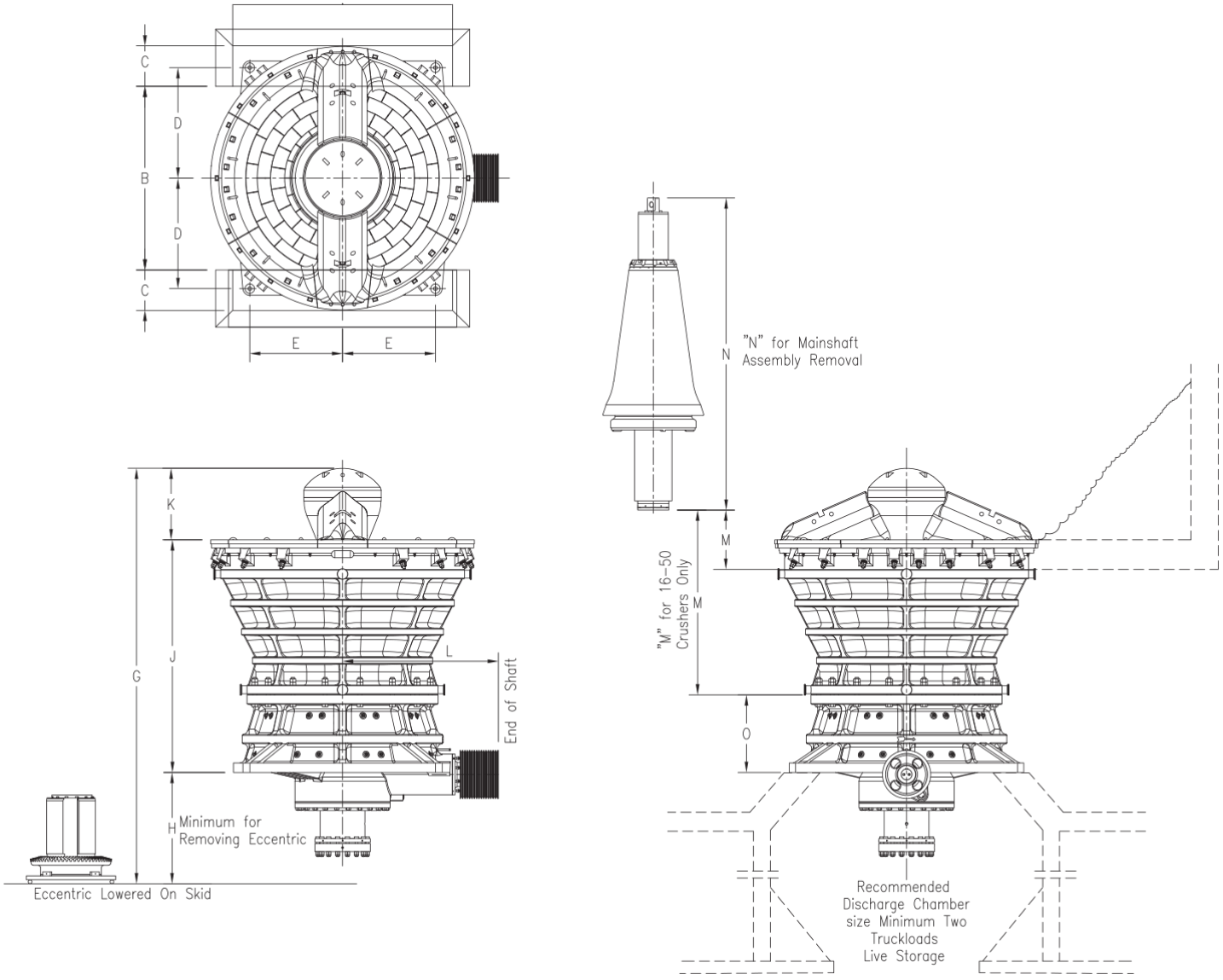



## PRIMARY CRUSHERS SPECIFICATIONS

| Crusher Size | Feed Opening x Mantle Dia (inch) | Allowable Max Feed Size (inch) | Speed of Pinion Shaft (rpm) | Gyration per minute (gpm) | Eccentric Throw (inch) | Reference Throughput Capcity (stph) Discharge Setting (Open Side Setting: OSS) (inch) | | | | | | | | | | | | | | Motor Power (Hp) | Mass (ton) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 4.5" | 5" | 5.5" | 6" | 6.5" | 7" | 7.5" | 8" | 8.5" | 9" | 9.5" | 10" | 10.5" | 11" | 11.5" | |
| 42 - 65 | 43" x 65" | 28" x 37" x 55" | 497 | 150 | 1" | 915 | 1031 | 1157 | 1278 | 1499 | 1697 | | | | | | | | | | 300 | 129 |
| | | | | | 1.25" | 1069 | 1223 | 1355 | 1510 | 1763 | 2006 | | | | | | | | | | 350 | |
| | | | | | 1.5" | 1234 | 1400 | 1576 | 1741 | 2039 | 2314 | | | | | | | | | | 400 | |
| 54 - 74 | 54" x 74" | 35" x 47" x 71" | 497 | 135 | 1" | | | 1499 | 1620 | 1763 | 1862 | 2006 | 2116 | | | | | | | | 300 | 255 |
| | | | | | 1.25" | | | 2039 | 2226 | 2392 | 2546 | 2733 | 2887 | | | | | | | | 400 | |
| | | | | | 1.5" | | | 2314 | 2513 | 2711 | 2887 | 3174 | 3273 | | | | | | | | 450 | |
| | | | | | 1.6875" | | | 2513 | 2733 | 2942 | 3152 | 3361 | 3559 | | | | | | | | 500 | |
| 60 - 89 | 60" x 89" | 39" x 53" x 79" | 497 | 125 | 1" | | | | 2017 | 2160 | 2303 | 2502 | 2634 | 2777 | 2920 | | | | | | 350 | 440 |
| | | | | | 1.25" | | | | 2325 | 2480 | 2656 | 2887 | 3042 | 3196 | 3361 | | | | | | 400 | |
| | | | | | 1.375" | | | | 2656 | 2821 | 3009 | 3273 | 3460 | 3626 | 3813 | | | | | | 450 | |
| | | | | | 1.5" | | | | 2887 | 3075 | 3273 | 3560 | 3747 | 3945 | 4155 | | | | | | 500 | |
| | | | | | 1.75" | | | | 3504 | 3736 | 3978 | 4331 | 4562 | 4794 | 5047 | | | | | | 600 | |
| 60 - 109 | 60" x 109" | 39" x 53" x 79" | 497 | 110 | 1" | | | | | | 2468 | 2612 | 2744 | 2964 | 3196 | 3405 | 3626 | 3846 | 4077 | 4320 | 500 | 645 |
| | | | | | 1.25" | | | | | | 2975 | 3196 | 3361 | 3615 | 3868 | 4155 | 4408 | 4695 | 4948 | 5246 | 600 | |
| | | | | | 1.5" | | | | | | 3637 | 4133 | 4166 | 4485 | 4827 | 5168 | 5488 | 5830 | 6171 | 6546 | 750 | |
| | | | | | 1.75" | | | | | | 4320 | 4628 | 4860 | 5212 | 5598 | 5984 | 6392 | 6777 | 7163 | 7593 | 900 | |
| | | | | | 2" | | | | | | 5025 | 5400 | 5642 | 6017 | 6469 | 6910 | 7361 | 7802 | 8254 | 8750 | 1000 | |

**Note:**
1. Capacity shown is based on an assumed feed distribution which 100% of feed passes 90% of feed opening and 80% of feed passes 42% of feed opening.
2. Capacity shown is based on continuous feed of typical limestone or similar with a bulk density of 100 lb/ft$^3$ minimum clay and moisture.
3. Actual capacity may vary due to characteristics and conditions of feed material (such as compressive strength, size distribution, etc.).
4. For operation in parentheses condition, consult IMS.

# **Gyratory** Crusher Dimensions




| PRIMARY CRUSHERS DIMENSIONS (inch) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Normal Size** | **A** | **B** | **C** | **D** | **E** | **F** | **G** | **H** | **J** | **K** | **L** | **M** | **N** | **O** | **P** |
| 42 - 65 | 134.0 | 108.0 | 38.0 | 64.7 | 60.0 | 155.0 | 279.3 | 90.0 | 133.2 | 56.0 | 83.7 | 6.0 | 184.4 | 49.3 | 118.5 |
| 48 - 74 | 162.2 | 129.9 | 36.2 | 81.5 | 68.5 | 181.0 | 340.0 | 115.9 | 171.2 | 52.9 | 94.0 | 6.0 | 234.5 | 57.2 | 141.0 |
| 54 - 74 | 162.2 | 129.9 | 36.2 | 81.5 | 68.5 | 194.1 | 340.0 | 115.9 | 171.2 | 52.9 | 94.0 | 6.0 | 234.5 | 57.2 | 141.0 |
| 60 - 89 | 189.0 | 154.0 | 42.0 | 95.0 | 69.0 | 220.0 | 414.9 | 132.5 | 211.3 | 71.0 | 105.4 | 6.0 | 281.0 | 69.0 | 161.5 |
| 60 - 109 | 232.0 | 180.0 | 36.0 | 96.0 | 86.0 | 248.0 | 482.2 | 171.0 | 227.0 | 84.3 | 111.8 | 6.0 | 311.8 | 81.0 | 188.0 |

# **HAZEMAG** Partnership


## 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

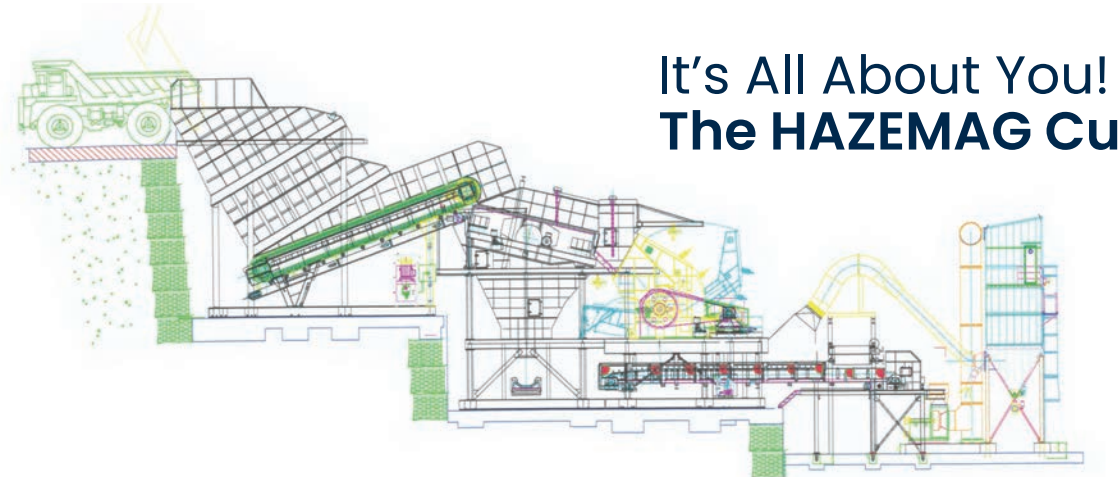
We serve your needs with a knowledgeable staff backed by a multimillion-dollar spare parts inventory. We will help you achieve the optimum level of machine performance and economical operation with the right part and the latest technology, in stock and shipped on time.

## ENGINEERING

We are here to serve your needs with engineering support, design guidance, project planning, and management. Our dedication to impactor 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.”



## It’s All About You!
## **The HAZEMAG Customer.**

# THE HAZEMAG DIFFERENCE

Hazemag Apron Feeders and Roller Screens are proving their worth around the world with outstanding, dependable performance. The latest generation apron feeders and roller screens are engineered and designed to ensure total application success, flexibility, highly reduced maintenance, and field proven reliability on every level.

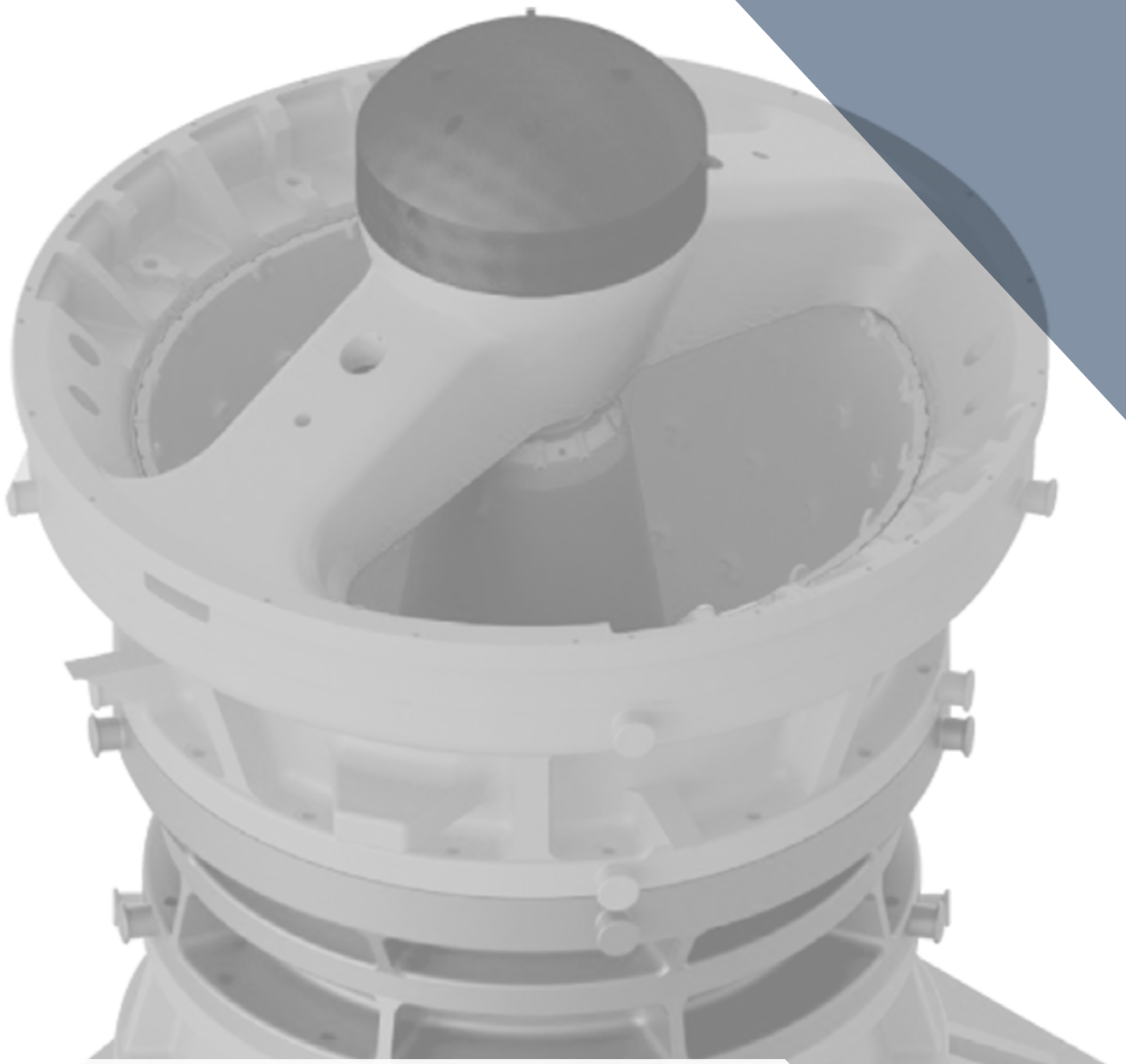
## Apron Feeder

- Heavy-duty, fabricated construction.
- Capacities up to 4,000 ton/hour.
- Overlapping, extra heavy-duty flight pans.
- Excellent, reliable performance under difficult material conditions.
- Variable speed: electro-mechanical or hydraulic.
- Proven success around the world!

## Roller Screen

Heavy-duty, fabricated construction.

- Capacities up to 4,000 ton/hour.
- Exclusive “chain link” shaft connection system.
- Excellent, reliable performance under difficult material conditions.
- Exclusive, optional “form fit” shaft wear protection system.
- VARIOwobbler: the ability to adjust the gap setting at the touch of a button.
- Proven success around the world!



## Experience. Innovation. Results.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