Kubria® cone crushers.
Advanced technology in hard rock crushing.
ThyssenKrupp Industrial Solutions is one of the world’s leading manufacturers of machines and plants for the processing industry. Backed by decades of experience our research and development work has become an integral part of our processing equipment. Customers worldwide benefit from our innovations. Whether standard or customized designs – ThyssenKrupp Industrial Solutions always provides comprehensive solutions tailored to customer needs – reliably and cost-effectively.

Advanced technology means highest outputs, low operating cost, minimum maintenance, simple operation and maximum safety.

**Applications:**
- Production of ballast and chippings in the natural rock and gravel industry
- Ore mining
- Ore crushing in metallurgical plants
- Lime and cement industries
- Refractory industry
- Other primary industry areas

**Advantages:**
- High throughputs
- High crushing degrees
- Cubic products
- Low operating and wear part costs
- Quick change of gap settings and product sizes
- Simple crusher operation with optimum efficiency
- Easily converted to other crushing tasks (feed properties and product requirements)
- Changing the stroke by replacing the eccentric bushing
- Sturdy design
- No pressure increase caused by tramp material
- Large main shaft resilience stroke, also with new crushing members
- Optimum life of crushing members
- Reliable electronics
- Easy reading of operating data.

Kubria® Cone Crushers
Advance Technology in Modern Hard Rock Crushing

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1. Kubria® cone crusher (1,100 mm cone diameter) in a quartz-porphryy factory
   - Feed size: 5-32/44 mm
   - Product size: 0-22 mm
   - Throughput: approx. 150 t/h

2. Kubria® cone crusher (2,100 mm cone diameter) for crushing granite
   - Feed size: 75-350 mm
   - Product size: 0-75 mm
   - Throughput: approx. 600 t/h

3. Two Kubria® cone crushers (750 mm cone diameter) in a gravel factory
   - Feed size: 32-150/200 mm
   - Product size: 0-32/45 mm
   - Throughput: approx. 60 t/h
The modular system allows Kubria® cone crushers to be economically used for versatile tasks.

Crushers belonging to a specific series all feature identical bottom shells with bearing, hydraulic system, drive unit and auxiliary devices.

Crushing chamber size and design:
Kubria® cone crushers are available with cone diameters ranging from 750 mm to 2,100 mm.

Three designs of Kubria® cone crushers are available:
- Tertiary (fine) crusher
- Secondary crusher
- Primary crusher

Primary and secondary crushers usually have chambers with steeper angles. Depending on the type of feed material and required product size, tertiary crushers, too, can be designed with steep chambers.
Kubria® crushing members:
In tertiary as well as secondary crushers the crushing chamber can be converted to another feed opening and geometry simply by changing the crushing ring and the appropriate adapters. A costly replacement of the top shell is not necessary.

The change in the width of the feed opening in the upper area (referred to the circumference) is responsible for a primary crushing effect on the smaller feed lumps while coarse material is accepted at the same time.

This means:
- Large wear volumes
- Reduced wear part costs
- Up to 50% longer life

Crushing members made of special materials are available for feed materials causing heavy wear.

Thrust bearing:
The hydrostatic thrust bearing can handle extreme loads. A high-pressure pump forces lubricating oil between the bearing discs to provide a constant forced-feed lubricant film and to prevent contact between the discs even under extreme loads.

The combination of a hydrostatic thrust bearing with a flat feed opening is particularly efficient. The flat crushing chamber increases the life of the crushing members by up to 20%.

The high pressures which occur are absorbed by the hydrostatic thrust bearing without causing wear.

Lubrication systems:
- Oil circulation lubrication system for the lower bearing assembly (axial and radial bearings) and the pair of bevel gears
- Separate oil bath lubrication for the countershaft bearings
- Reliable lubrication of the upper main shaft bearing by a separate motor-driven grease pump.

Shaft hydraulics:
- Electronic hydraulic crushing gap adjustment system with position measurement
- Main shaft is quickly lowered when foreign matter is fed which cannot be crushed

The oil circulation lubrication unit for the lower shaft bearing and the hydraulic power pack for the crushing gap/ shaft adjustment are combined into one single unit.

For special crushing tasks anvil-type crushing mantles considerably improve the efficiency and provide a uniform wear across the crushing chamber height compared to customary designs.

Assemblies in Detail
“Kubriamatic” is a compact and reliable control and monitoring system especially designed for Kubria® cone crushers. It provides all operating, adjustment and overload monitoring functions required to run a Kubria® cone crusher in a comfortable way.

Features:
- Detecting the zero gap for gap adjustments, for changes and for compensating wear
- Automatic change of the gap width under load within seconds
- Display of the selected gap width
- Easy check of the wear status of crushing members by displaying the position of the crushing cone
- Preventing the crushing gap from being reduced when crushing members have reached the wear limit
- Main shaft position is automatically kept constant and/or the crusher is automatically operated in the desired kW range preventing the reference gap from dropping below a minimum value
- Controlling the reference gap as a function of specified performance and pressure limits
- High degree of safety when foreign matter is fed which cannot be crushed. Large shaft lowering stroke (within 0.2 seconds) in case of overload to increase the crushing gap and allow foreign matter to pass through
- Maximum operational safety owing to reliable software, exact measurements and precisely working control elements
- Control and interlocking of all drive units as well as pressure, volume and temperature monitoring devices.
- Automatic operation and service operation with individual motor control
- Optical display of crusher status (text and pictures)
- Input of all operating data via a touchscreen with control display
- Input of the main limit values via PIN code, such as maximum electric power, maximum hydraulic pressure, lowest and highest main shaft positions
- Display of the operating data inputs by calling up the reference and actual values
- Registration of production hours and running hours
- Registration of peak loads and peak pressures
- One-year main memory buffer (without power supply)
- Remote data transmission is possible.

The electronic control and monitoring unit of Kubria® cone crushers can be programmed and can be extended on a modular principle for the crusher itself and for the machines and equipment upstream and downstream of the crusher.

Technical data:
- HxWxD: 760x760x350 mm
- Weight: approx. 75 kg
- Type of enclosure: IP 54
- Supply voltage: 230 V, 50 Hz (standard)
- Connected load: approx. 1 kW
Permanences and Dimensions

<table>
<thead>
<tr>
<th>Kubria® Type</th>
<th>Weight [kg]</th>
<th>Max. installed drive power [kW]</th>
<th>Lower cone diameter [mm]</th>
<th>Feed opening [mm]</th>
<th>Throughput rate [t/h]</th>
<th>Feed material</th>
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1) Crushing chamber design
   Tertiary (F), secondary (M) and primary (G) with different feed opening widths

2) Depending on selected crushing members. Weights indicated do not include drive unit, electrics, controls and hydraulics.

3) Depending on the crushing task (properties of feed material, product requirements) and machine configuration. Throughput rates based on medium-hard rock with bulk density of 1.6 t/m³ and moisture of 1.2%.

Subject to guide value changes

Installation layout with fitting dimensions submitted on request

### Performances and Dimensions

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</table>
ThyssenKrupp are attaching great importance to research and development. Committed employees, experience and the ability to tread new paths together with the innovative power, flexibility and know-how are the foundation on which the successful co-operation with our customers is built.

The KF Cone program used for designing crushing chambers of cone crushers is only one example of ThyssenKrupp research and development efforts.

The program’s basic model allows the following main variables to be predicted:

- Throughput in metric tons per hour
- Bulk density and/or solids volume in the crushing chamber
- Location of maximum compression point
- Sap width, stroke, angle of inclination and/or nip angle on all levels inside the crushing chamber.

Our services include project research, damage analyses, planning and modifications aimed at a modernization and an increase of the output of machines and plants in conjunction with a worldwide after-sales service which also covers the equipment of other manufacturers.

Maintenance and repair services offered by ThyssenKrupp include expert on-site consultancy. Repairs are carried out by highly qualified staff using high-quality and tested spare parts.

Increase the productivity of your machinery and equipment. Get in touch with ThyssenKrupp Industrial Solutions – wherever you are.

- Inspection services
- Stand-by emergency services
- Repair services
  - on site
  - in the workshop of the service centre
- Diagnostic systems
- Maintenance contracts
- Spare parts services