



## Kubria® Cone Crushers

ThyssenKrupp Fördertechnik  
Excellence in Technology



ThyssenKrupp

# Kubria® Cone Crushers

## Advance Technology in Modern Hard Rock Crushing

ThyssenKrupp Fördertechnik are 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 all over the world benefit from our innovative power. In standard or customized designs ThyssenKrupp Fördertechnik always offer complex solutions often developed in co-operation with users.

Reliable, safe, economic,...  
ThyssenKrupp Fördertechnik.

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



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### 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.



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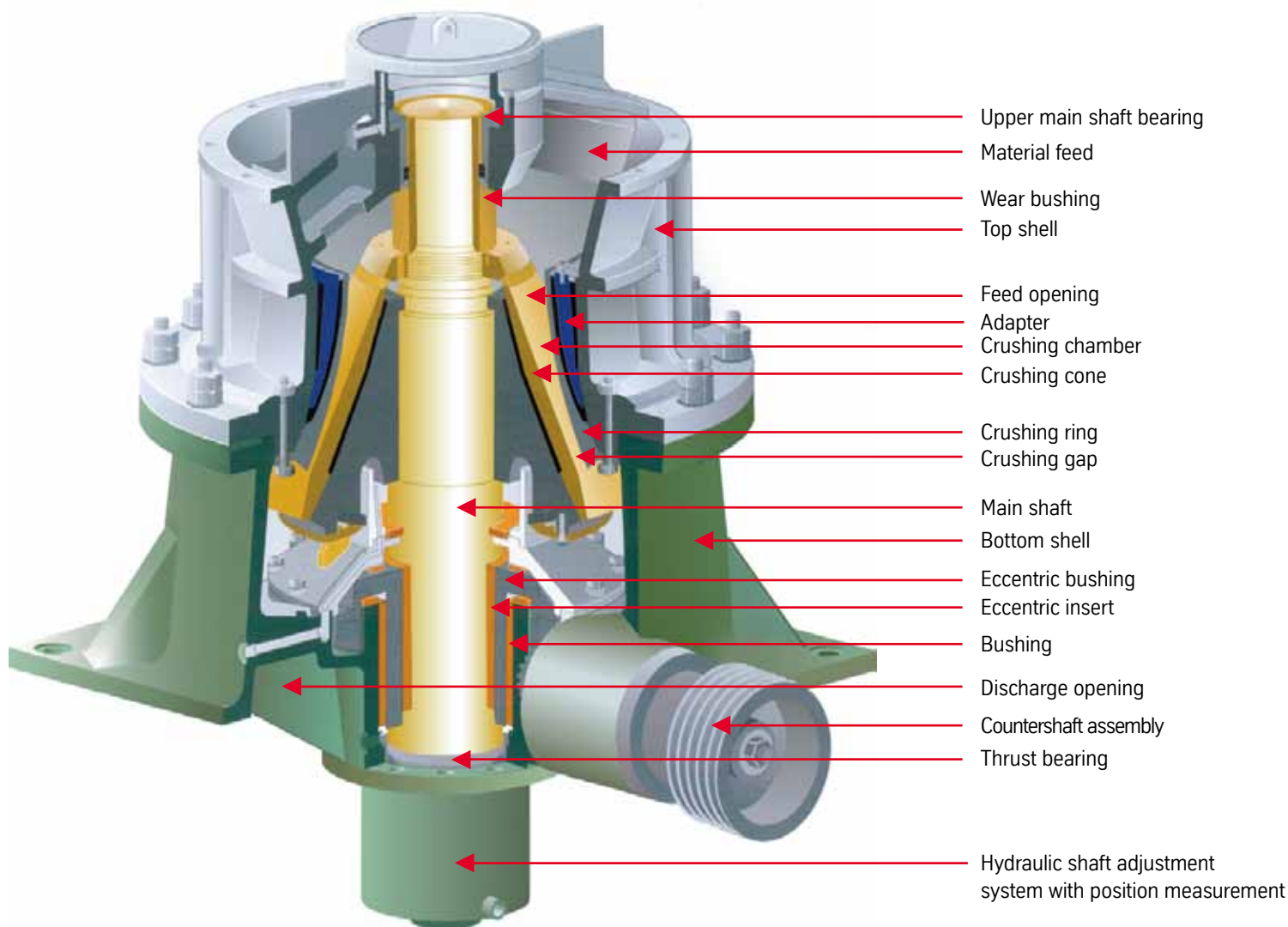
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1  
Kubria® cone crusher  
(1,100 mm cone diameter)  
in a quartz-porphry factory  
Feed size: 5-32/44 mm  
Product size: 0-22 mm  
Throughput: approx. 150 t/h

2  
Kubria® cone crusher  
(2,100 mm cone diameter)  
for crushing copper ore  
Feed size: 12-45/56 mm  
Product size: 0-15 mm  
Throughput: approx. 250 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 each

# Design Characteristics



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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:

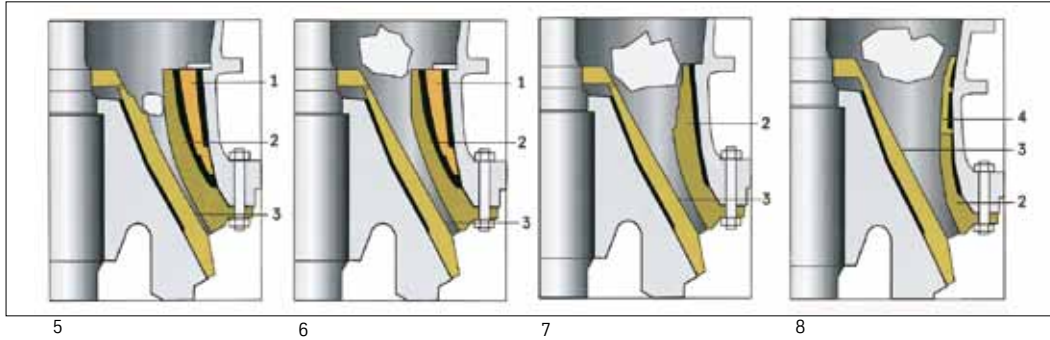
Kubria® cone crushers are available with cone diameters ranging from 750 mm to 2,100 mm.

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.

# Assemblies in Detail



### 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.

### 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

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.

5 to 8

Modular design of the crushing chamber

- 1 Adapter
- 2 Crushing ring
- 3 Crushing cone
- 4 Crushing jaw

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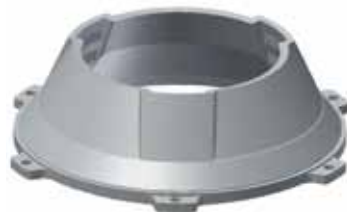
Anvil-type crushing mantle

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Eccentric bearing with bevel gear and drive pinion

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Shaft hydraulics with position measurement



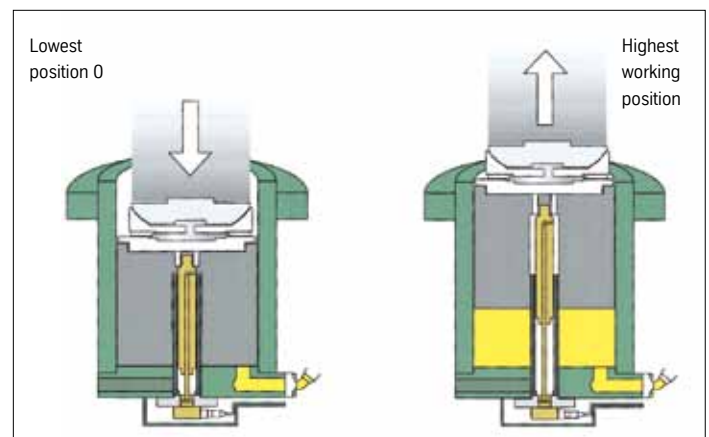
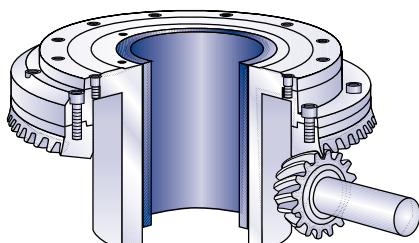
Crushing members made of special materials are available for feed materials causing heavy wear.

### 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

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.



# Monitoring, Control and Hydraulic Systems

„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.

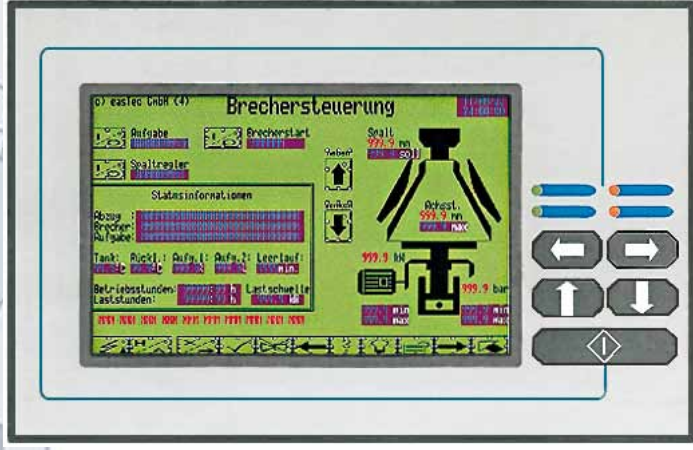
**Features:**

- 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

12 Electronic operating and control panel

13 Combination unit for oil circulation lubrication system and shaft hydraulics



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- 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:**

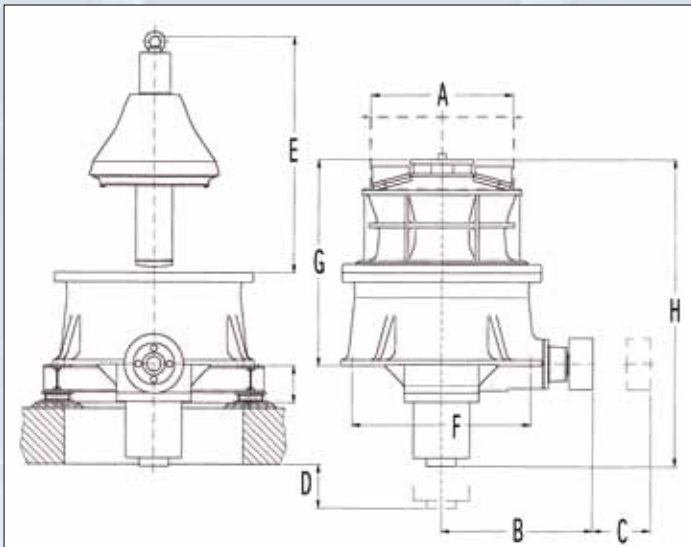
- HxWxD: 760x760x350 mm
- Weight: approx. 75 kg
- Type of enclosure: IP 54
- Supply voltage: 230 V, 50 Hz (standard)
- Connected load: approx. 1 kW



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# Performances and Dimensions

Kubria®	Masse <sup>2)</sup>	Antriebsleistung	Unterer Kegeldurchmesser	Maulweite <sup>2)</sup>	Durchsatzleistung <sup>3)</sup>	Bei Austragsgut
Typ <sup>1)</sup>	[kg]	[kW]	[mm]	[mm]	[t/h]	[mm]
74	6,000	75	750	30 to 80	50	0 to 22
75	6,400	75	750	120 to 150	80	0 to 32
76	7,200	90	750	to 230	90	0 to 32
900 F	9,350	132	900	60 to 80	100	0 to 22
900 M	10,000	132	900		120	0 to 32
900 G	12,000	160	900	330	200	0 to 56
1,100 F	14,500	160	1,100	50 to 230	150	0 to 22
1,100 M	15,500	160	1,100		180	0 to 32
1,100 G	17,200	200	1,100	400	250	0 to 56
1,300 F	23,700	200	1,300	100 to 330	180	0 to 22
1,300 M	25,750	200	1,300		240	0 to 32
1,300 G	30,200	250	1,300	450	350	0 to 56
1,500 F	33,350	250	1,500	120 to 380	210	0 to 22
1,500 M	36,400	250	1,500		280	0 to 32
1,500 G	41,500	315	1,500	500	500	0 to 56
2,100 F	73,000	355	2,100	120 to 250	450	0 to 22
2,100 M	85,000	355	2,100	350 to 450	900	0 to 56



1) Crushing chamber design  
Tertiary (F), secondary (M) and  
primary (G) with different  
feed opening widths

Subject to guide value changes

Installation layout with fitting dimensions  
submitted on request

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

Kubria®	A	B	C	D	E	F	G	H	I
Typ <sup>1)</sup>	[Ø mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
74	860	1,030	480	690	1,700	1,150 x 1,320	1,335	2,432	272
75	940	1,030	480	690	1,780	1,150 x 1,320	1,435	2,532	272
76	1,000	1,030	480	690	1,965	1,150 x 1,320	1,639	2,736	272
900 F	1,170	1,187	560	750	1,970	1,320 x 1,320	1,630	2,747	292
900 M	1,170	1,187	560	750	1,970	1,320 x 1,320	1,630	2,747	292
900 G	1,400	1,187	560	750	2,330	1,320 x 1,320	2,035	3,152	292
1,100 F	1,270	1,352	630	830	2,300	1,600 x 1,600	1,890	3,122	332
1,100 M	1,270	1,352	630	830	2,300	1,600 x 1,600	1,890	3,122	332
1,100 G	1,640	1,352	630	830	2,630	1,600 x 1,600	2,255	3,487	332
1,300 F	1,676	1,580	730	880	2,600	1,900 x 1,900	2,210	3,617	332
1,300 M	1,176	1,580	730	880	2,600	1,900 x 1,900	2,210	3,617	332
1,300 G	1,176	1,580	730	880	2,930	1,900 x 1,900	2,575	3,877	332
1,500 F	1,800	1,730	880	1,030	2,830	2,540 x 2,540	2,495	4,067	332
1,500 M	1,800	1,730	880	1,030	2,830	2,540 x 2,540	2,495	4,067	332
1,500 G	1,980	1,730	880	1,030	3,280	2,540 x 2,540	2,895	4,067	332
2,100 F	2,100	2,323	1,230	3,930	3,930	2,800 x 2,800	3,040	5,227	502
2,100 M	2,280	2,300	1,230	3,930	3,930	2,800 x 2,800	3,300	5,562	502

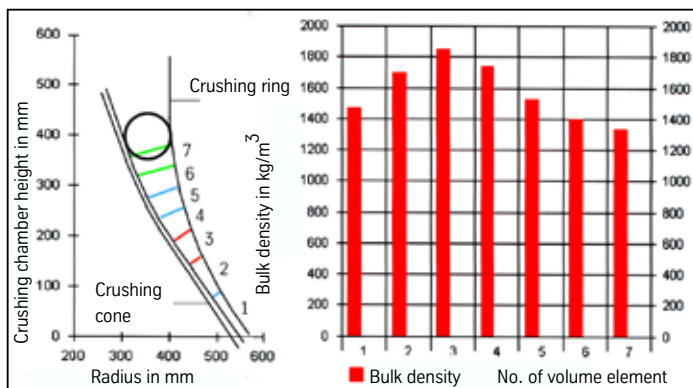
# Research, Development and Services

ThyssenKrupp Fördertechnik 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.

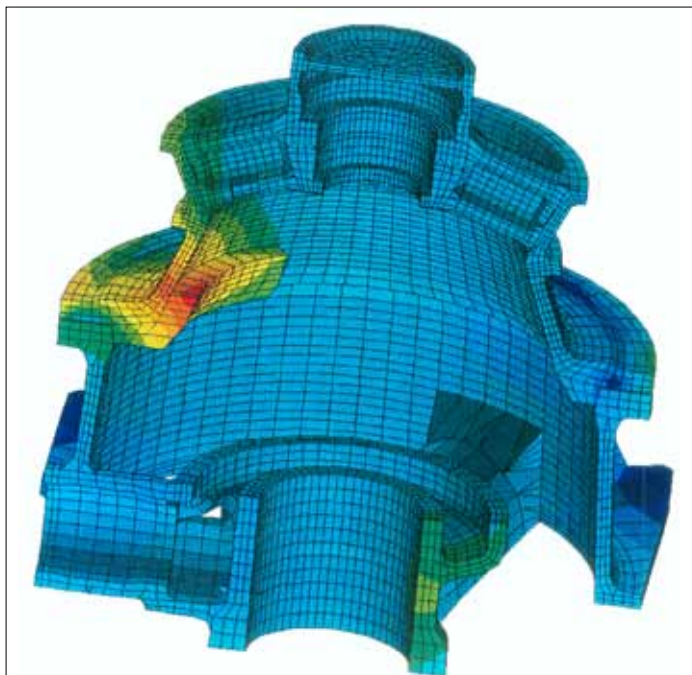
The KF Cone program used for designing crushing chambers of cone crushers is only one example of ThyssenKrupp Fördertechnik's research and development efforts.

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.



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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 Fördertechnik 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 Fördertechnik – 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.**

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Mobile service

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# ThyssenKrupp Fördertechnik

## Partners of the mineral processing industry

### Product range

#### Crushing technology

- Stationary, semi-mobile and mobile crushing plants
- Gyratory crushers
- KUBRIA® cone crushers
- Double-toggle jaw crushers
- Single-toggle jaw crushers
- Impact jaw crushers
- MAMMUT® single-shaft hammer crushers
- TITAN® double-shaft hammer crushers
- Impact crushers
- Roller crushers
- RollSizers
- SIEBRA® swivel-arm crushers

#### Screening technology

- Linear vibrating screens
- Circular vibrating screens
- Elliptical vibrating screens
- Eccentric vibrating screens
- Screener Fines screening machine
- Grizzly primary screens
- Vibrating screen feeders
- Unbalance drive units
- Aqua vibrating separators

#### Grinding technology

- Ball mills
- Rod tube mills
- Hammer mills
- Roll mills
- Separating systems
- Water injection systems

#### Feeding and conveying systems

- Apron feeders
- Chain conveyors
- Reciprocating plate feeders
- Vibrating screens
- Wobbler feeders

#### Filtering- and drying technology

- Magnetic separators
- Dryers
- Vacuum belt filters
- CHF vacuum belt filters
- Separating cyclones
- Hydro-cyclones
- Cyclone clusters
- Disc filters

#### Systems

- Systems for power plants
- Coal preparation systems
- Detection systems

#### Engineering

#### Modernization, Refurbishment

#### After-sales service

#### Training

#### ThyssenKrupp Fördertechnik GmbH

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