

Industrial Solutions

Kubria® cone crushers

Cutting-edge technology
in hard rock crushing



thyssenkrupp



Our solutions for the hardest jobs

When it comes to the crunch, crushing systems from thyssenkrupp Industrial Solutions offer the ultimate in performance, reliability and cost-effectiveness. With us as your partner, you can expect the optimum, customized solution for even the most demanding of jobs.

Call on our services and you can count on a wealth of experience and constant innovative drive. As a leading manufacturer of machines and plants for the aggregates and mining industry, we supply well-engineered crushing systems that have stood the test of time in the hardest service conditions. At the same time, we invest in intensive research and development work to make proven solutions even better and to adapt to changing demands.

Kubria® cone crusher
(1,100 mm cone diameter)
in a quartz porphyry works
Feed grain size 5 – 32/44 mm
Product size 0 – 22 mm
Throughput approx. 150 t/h



Whether a standard or special design thyssenkrupp Industrial Solutions can provide the optimum solution to meet your needs. Our flexibility is a major plus: We act on your specific requirements and adapt our systems to suit the material to be crushed and the product size required, optimizing proven technology according to your specifications. The benefits of our systems are numerous: high throughput coupled with low costs, minimum maintenance, ease of operation and maximum reliability.

Kubria® cone crusher
(2,100 mm cone diameter)
for crushing granite
Feed grain size 75 – 350 mm
Product size 0 – 75 mm
Throughput approx. 800 t/h



Two Kubria® cone crushers
(750 mm cone diameter)
in a gravel works
Feed grain size 32 – 150/200 mm
Product size 0 – 32/45 mm
Throughput of each approx. 60 t/h

Fields of application and design characteristics

thyssenkrupp Kubria® cone crushers are modular in design.

Cost-efficient and versatile, these machines for crushing hard rock are available as either coarse, intermediate or fine crushers. Depending on the material to be crushed and the desired product size, thyssenkrupp cone crushers are tailored to your specific requirements.

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

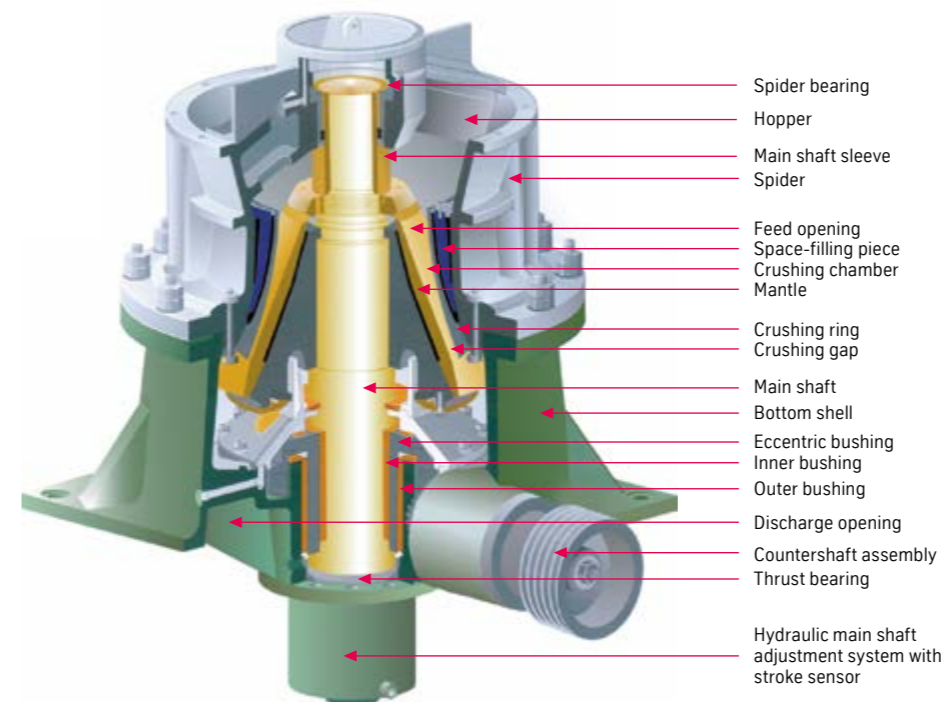
Applications

- Production of crushed rock and stone in the stone and gravel industry
- Ore mining industry
- Ore crushing in metallurgical plants
- Limestone and cement industries
- Refractory industry
- Other areas of the primary industry

Features

- High throughput rate
- High degree of comminution
- Highly cubical product
- Particularly low operating and wear costs
- Quick adjustment of crushing gap and product size
- Easy to operate in the optimum range
- Numerous options for converting crusher to suit feed characteristics and product requirements
- Stroke adjustment by turning inner bushing
- Rugged design
- No pressure build-up caused by tramp material
- Main shaft has a large tramp release stroke, even with new crushing elements
- Optimum service life of crushing elements
- Reliable electronics
- Easy-to-read operating data

Crushing chamber size and design



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

They come in three different designs:

- Fine crushers
- Intermediate crushers
- Coarse crushers

Coarse and intermediate crushers usually have a steeper crushing chamber. However, depending on the type of feed material and the required product size, fine crushers can also be designed with a steep crushing chamber.

Subassemblies in detail

Kubria® crushing elements

In fine as well as intermediate crushers the crushing chamber can be switched to a different feed opening and geometry simply by replacing the crushing ring and, if necessary, the filling pieces without having to replace the spider, which would be a complex operation.

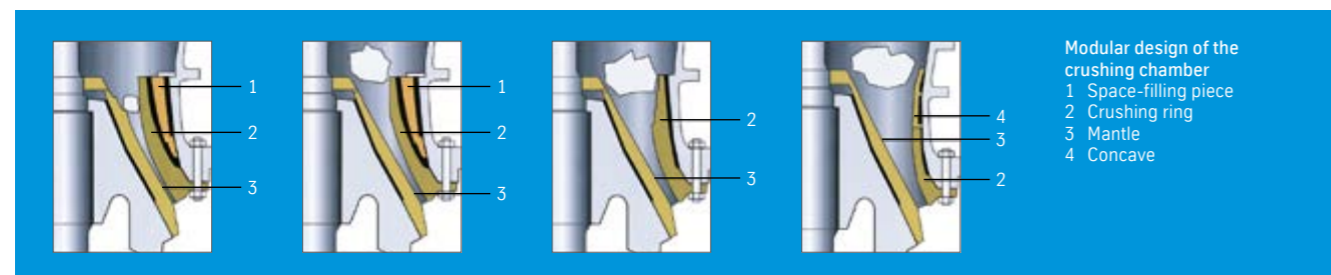
For special crushing jobs, anvil-type crushing mantles are much more effective than other designs and help to ensure uniform wear along the height of the crushing chamber.

The varying width of the top part of the crushing chamber (with reference to the circumference) ensures early pre-reduction of small lumps of feed material while allowing large lumps of feed material to enter at the same time.

This means:

- Uniform exploitation of the wear volume
- Low wear costs
- Up to 50% longer service lives

Crushing elements made of special materials are available for highly abrasive feed materials.



Thrust bearing

The hydrostatic thrust bearing is extremely robust. A high-pressure pump presses lubricating oil between the bearing discs to provide a constant force-feed lubricating film and prevent contact between the discs even under extreme loads. The combination of a hydrostatic thrust bearing and a flatter crushing chamber is particularly efficient.

The flat crushing chamber ensures improved exploitation of the wear volume of the crushing elements by up to 20%. The high pressures that occur are absorbed by the hydrostatic thrust bearing without causing wear.

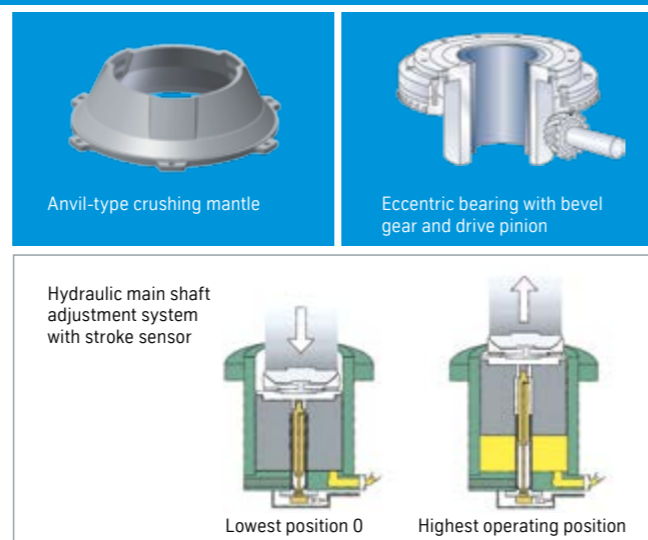
The circulating oil lubrication system for the step bearing and the eccentric bearing as well as the hydraulic unit for adjusting the crushing gap/main shaft are combined in one unit.

Lubrication systems

- Circulating oil lubrication for the step bearing and the eccentric bearing (axial and radial bearings) as well as the pair of bevel gears
- Separate oil bath lubrication system for the antifriction bearings of the countershaft
- Reliable lubrication of the spider bearing by a separate motor-driven grease pump

Main shaft hydraulics

- Electronic hydraulic crushing gap adjustment system with stroke sensor
- Main shaft is quickly lowered for tramp release



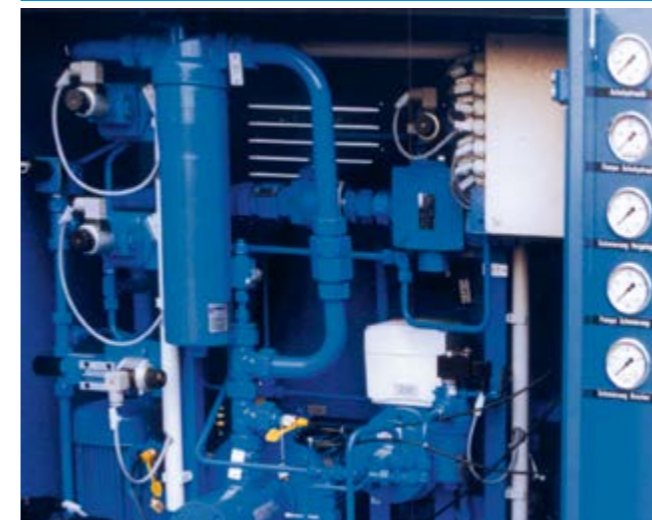
Monitoring, control and hydraulic systems

The "Kubriamatic" is a compact, reliable unit for controlling and monitoring Kubria® cone crushers. It provides all functions required for easy operation, adjustment and overload protection of a Kubria® cone crusher.

The electronic control and monitoring unit of the Kubria® cone crusher is programmable and modules can be added for the crusher as well as upstream and downstream machines and equipment.

Technical data

H x W x D	760 x 760 x 350 mm
Weight	approx. 75 kg
Enclosure protection	IP 54
Power supply	230 V, 50 Hz (standard)
Connected load	approx. 1 kW



Combined unit for circulating oil lubrication and main shaft hydraulics



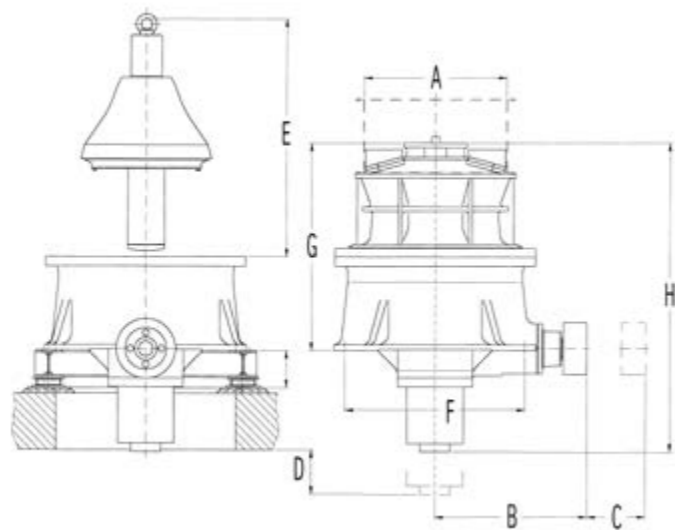
Electronic operating and control panel

Features

- Zero gap measurement for setting/adjusting the gap and wear compensation
- Automatic adjustment of the crushing gap within seconds even under load
- Selected gap width is displayed
- Degree of crushing element wear is easy to monitor as the mantle height is displayed
- Prevents reduced crushing gap when crushing elements are fully worn
- Main shaft position is held automatically and the crusher is automatically operated in the required kW range, ensuring the minimum gap width is maintained
- Setpoint gap is regulated as a function of power and pressure limits that can be specified
- Reliable safety feature if tramp material enters the crusher. Large release stroke of the main shaft in 0.2 seconds on tramp overload, thereby increasing the crushing gap to allow tramp material to pass through
- Maximum operating safety thanks to reliable software, accurate measurements and precise control elements
- Control and interlocking of all drive units as well as pressure, volume and temperature monitors
- Automatic operation and service mode with individual motor control
- Optical indication of crusher status (image and plain text)
- Input of all operating data via a touchscreen controller
- Input of main threshold values via a PIN code, e.g. maximum electric power, maximum hydraulic pressure, lowest and highest main shaft positions
- Operating data entered can be displayed by calling up the setpoint and actual values
- Registration of operating and load hours
- Registration of load and pressure spikes
- One-year main memory backup (in the absence of power)
- Remote data transmission possible

Technical data

Kubria®						
Type ¹⁾	Weight ²⁾	Max. drive power	Lower mantle diameter	Feed opening ²⁾	Throughput rate ³⁾	Product size
	[kg]	[kW]	[mm]	[mm]	[t/h]	[mm]
74	6,100	75	750	50 to 80	50	0 to 22
75	6,300	75	750	120 to 150	80	0 to 32
76	7,200	90	750	to 230	90	0 to 32
F/M 90	9,200	132	900	60 to 180	100	0 to 22
G 90	11,100	160	900	330	200	0 to 56
F/M 110	14,800	160	1,100	50 to 230	150 to 180	0 to 32
G 110	17,200	200	1,100	400	250	0 to 56
F/M 130	22,400	250	1,300	100 to 330	180 to 240	0 to 32
G 130	26,500	250	1,300	450	350	0 to 56
F/M 150	33,100	315	1,500	120 to 380	210 to 320	0 to 32
G 150	37,600	315	1,500	500	500	0 to 56
F 210	73,400	600	2,100	120 to 250	450	0 to 22
M 210	77,000	600	2,100	350 to 450	900	0 to 56



- ¹⁾ Crushing chamber design Fine (F), Intermediate (M) and Coarse (G) with different feed opening widths
- ²⁾ Depending on selected crushing elements. Weights indicated do not include drive unit, electrical auxiliaries, control system or hydraulic system
- ³⁾ Depending on crushing job (feed characteristics, product requirements) and machine configuration. Throughput rates based on medium-hard rock with a bulk density of 1.6 t/m³. Moisture content of feed material 1.2%

The guideline data may be subject to change.

Arrangement drawing with fitting dimensions on request.

Kubria®									
Type ¹⁾	A	B	C	D	E	F	G	H	I
	[ø mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
74	860	1,030	450	690	1,550	1,150 x 1,320	1,335	2,160	272
75	940	1,030	450	690	1,635	1,150 x 1,320	1,435	2,260	272
76	1,000	1,030	450	690	1,835	1,150 x 1,320	1,639	2,464	272
F/M 90	1,170	1,187	495	715	1,800	1,320 x 1,320	1,585	2,405	292
G 90	1,380	1,187	495	715	2,185	1,320 x 1,320	2,035	2,855	292
F/M 110	1,270	1,352	600	745	2,100	1,600 x 1,600	1,835	2,735	332
G 110	1,620	1,352	600	745	2,440	1,600 x 1,600	2,255	3,155	332
F/M 130	1,470	1,580	730	770	2,400	1,900 x 1,900	2,210	3,200	332
G 130	1,720	1,580	730	770	2,830	1,900 x 1,900	2,575	3,545	332
F/M 150	1,770	1,705	800	963	2,705	2,040 x 2,040	2,400	3,468	332
G 150	2,030	1,705	800	963	3,135	2,040 x 2,040	2,850	3,948	332
F 210	2,100	2,323	1,230	1,345	3,486	2,800 x 2,800	2,940	4,610	584
M 210	2,335	2,300	1,230	1,345	3,786	2,800 x 2,800	3,180	4,850	584

Our services keep things running smoothly!

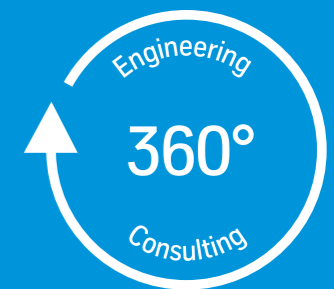
We offer our customers not only optimum, customized technical solutions, but also comprehensive, tailored service ranging from the engineering of individual crushers and entire plants to their operation, and modification if needed.

We usually start out by analyzing the storage areas and the feed material. Using state-of-the-art processes we characterize the respective material, which forms the basis for selecting the right crusher and any customer-specific adaptations that may be required. Then we perform testing under field conditions using a clever control and diagnostic system to check the main operating parameters again.

Whenever you need us, the maintenance and repair crews from thyssenkrupp Industrial Solutions are on hand to cater to your needs, from specialist advice, inspections and modifications through modernizations and performance enhancement to damage analyses and repairs, which are performed exclusively by our highly qualified assembly personnel using high-quality, certified spare parts. If necessary, we will maintain and repair your crusher at one of our service centers. You can call on these services not only for crushers from our own production lines, but also for machines manufactured by other suppliers.

Increase the productivity of your machines and plants! Call on our service team today.

One-stop-shop service



Asset Management



Spare Parts Supply & Management



Service Center & Field Services



Revamps



Changing the crushing elements of the Kubria® cone crusher

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