

COMPETENCE AS TRADITION

KLEEMANN is part of the WIRTGEN GROUP, a group of companies in the plant construction industry who operate on an international level. This Group includes the five well-known brands, WIRTGEN, VÖGELE, HAMM, KLEEMANN and BENNINGHOVEN, with their headquarters in Germany and local production sites in Brazil, India and China. Customer service is provided worldwide through its 55 independent sales and service outlets.



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For the past 100 years, KLEEMANN GmbH has been developing and manufacturing machines and plants for the natural stone and recycling industry.













For high crushing rates and highquality end product with cubic grain shape in the 1st and 2nd crushing stage

USE IN:

- > soft to medium-hard natural stone
- > recycling





Screens for process or coarse elements

USE IN:

- > all natural stones
- > residual construction materials
- > iron





For recrushing in the 2nd and 3rd crushing stage

USE IN:

- > medium-hard to hard, abrasive natural stone
- > mining applications



▶ For recrushing in the 2nd and 3rd crushing stage

USE IN:

> moderate abrasive natural stone

MOBICAT - THE MOBILE JAW CRUSHERS FROM KLEEMANN

The crushing plants in the MOBICAT series are used for pre-crushing of almost all natural stone and for the reprocessing of residual construction materials. The output of the MOBICAT crushing plants, however, is not determined by the jaw crusher alone, but rather the optimised interaction of all components plays a decisive role. The focus is also increasingly on cost and environmental consciousness, availability of the plants, versatility and quality of the final product.

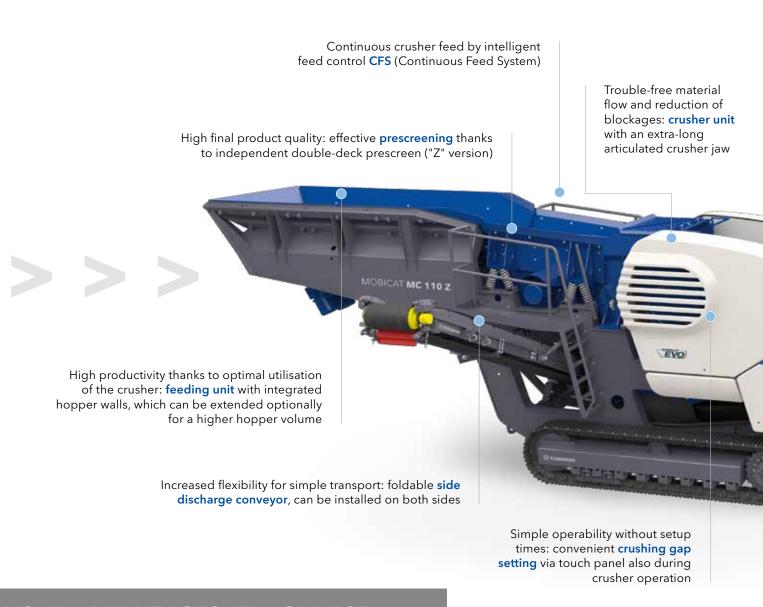


MOBICAT - THE SERIES 09



MOBILE JAW CRUSHERS OF THE MOBICAT EVO LINE

THE **COMPACT CLASS** OF THE PRIMARY CRUSHERS



YOUR ADVANTAGES AT A GLANCE

Maximum flexibility. During transport and operation. Particularly compact dimensions and high efficiency.

The plants in the MOBICAT EVO line are designed for very flexible use with regard to the feed material.

They are light and thus easy to transport. They have robust drive concepts that can master changing application conditions without any problems - from natural stone to recycling

Use in natural stone





Minimised downtimes in the event of blockages in the crusher jaw: innovative **crusher unblocking system** with reversible crusher drive

Economical consumption: efficient and powerful **diesel-direct drive** with fluid coupling for protection of the plant



■ Use in recycling

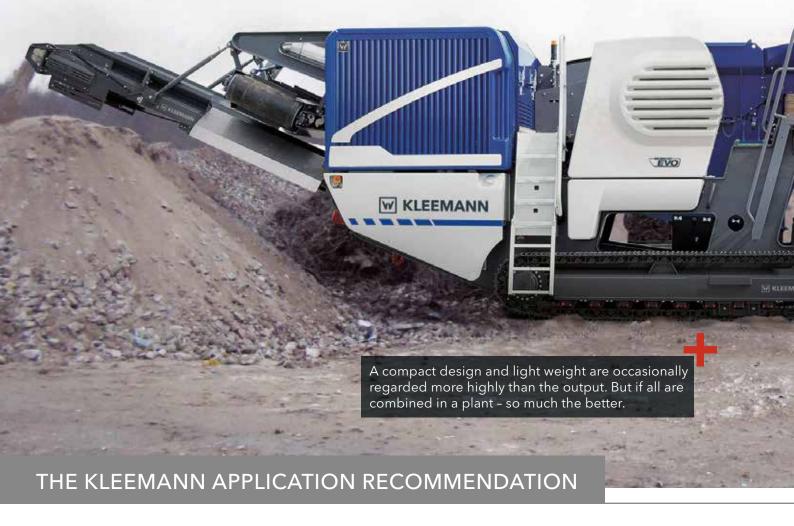






MOBICAT MC 100 R EVO THE COMPACT BUNDLE OF ENERGY

The smallest tracked jaw crusher of the EVO line impresses with its compactness and reliability. It can be used for the most varied of materials, it offers wideranging possibilities for both demolition companies and contract crushers. Economical consumption thanks to diesel-direct drive goes without saying with the MC 100 R EVO from KLEEMANN.



- Processing of residual construction materials (e.g. rubble, concrete, reinforced concrete)
- Processing of natural stone (e.g. limestone, river gravel, granite, basalt)
- Application in narrow construction site conditions
- Feed capacity of up to 220 tons per hour
- For smaller batch sizes

APPLICATION



Application in recycling, demolition and construction sector, natural stone



TRANSPORT



Small dimensions and light weight for simple transport with flat bed trailer

Technical Information MC 100 R EVO

Feed capacity up to approx.

Crusher inlet (W x D)

Weight

Engine/motor output

220 t/h

950 x 550 mm

30,000 kg

165 kW

FAST WORKERS

The advantages of the MOBICAT MC 100 R EVO are obvious.

- Feeding unit with integrated hopper walls
- Prescreening through the long vibrating feeder with integrated slotted grate
- Innovative feed control CFS for continuous crusher feed
- New crusher unit with extra-long articulated crusher jaw
- Compact transport unit and light weight

With a weight of 30 tons, the MC 100 R EVO is very easy to transport. The setup time is extremely short: with the feeding unit integrated in the chassis, there is no need to fold the hopper walls. The side discharge conveyor, which is available in two lengths, remains attached to the machine during transportation and is put into position in an instant.

Simple to operate

The menu-guided touch display means that the control system of the MC 100 R EVO is child's play and can be operated intuitively, which also makes the plant quickly ready for use.





Extended crusher discharge conveyor, foldable for simple transport.



Integrated hopper walls for short setup times and simple transportation - can be extended for a higher hopper volume as an option.



MOBICAT MC 110 EVO THE EFFICIENT HIGH-PERFORMERS

Both versions of the MC 110 EVO impress with a superior performance in their equipment class. Thanks to their light weight of less than 40 tons in the basic configuration, they are easy to transport and flexible in use. A large number of genuine highlights guarantee excellent economy and efficiency. Available in two basic configurations (R-version with vibrating feeder with integrated slotted grate, Z-version with double-deck prescreen that works independently of the chute), the use as a primary crusher of natural stone and in demolition and recycling companies is very lucrative.



- Processing of residual construction materials (e.g. rubble, concrete, reinforced concrete)
- Processing of natural stone (e.g. limestone, river gravel, granite, basalt)
- Feed capacity of up to 330 tons per hour
- For medium batch sizes
- Ideally tuned complete solution in combination with the secondary cone crusher MOBICONE MCO 9 EVO and a MOBISCREEN screening plant

APPLICATION



Application in natural stone, recycling, demolition and construction sector



TRANSPORT



Light weight for simple transport with flat bed trailer

Technical Information MC 110 R EVO/MC 110 Z EVO

Feed capacity up to approx.

Crusher inlet (W x D)

Weight

Engine/motor output

330 t/h

1,100 x 700 mm

38,500 kg / 39,500 kg

248 kW

ONE CONCEPT - TWO MACHINES

The mobile MOBICAT MC 110 EVO jaw crushers from KLEEMANN are available in two versions and are characterised by their versatility, high machine availability and ease of transport.



The R-version is even more compact than the Z-version due to the shorter feeding unit with integrated slotted grate. Furthermore, the plant impresses with its light

weight (one ton lighter). This makes flexible, brief applications also possible in this power class.





The MOBICAT MC 110 Z EVO has an independent doubledeck prescreen that allows the fines in the feed material to be effectively screened. Wear in the crusher is reduced by diverting the medium grain via the generously proportioned crusher bypass. This output of the crusher is also increased. The material stream

is simply diverted via the integrated bypass flap - a dummy cover is no longer necessary. The prescreening unit also effectively levels the material in the crusher, which ensures that the crusher is constantly filled and really productive.

IN COMBINATION FOR TOP PERFORMANCE

MATERIAL FLOW



INTELLIGENT MATERIAL FLOW CONTROL

THANKS TO LINE COUPLING

- ➤ Via the line coupling, the material flow of both machines is tuned to one another
- When the filling level at the MCO 9 EVO changes, the CFS regulates the belt speed and sends a signal to the upstream MC 110 Z EVO
- MC 110 Z EVO controls the frequencies of the vibrating feeder and the prescreen in the same manner as the request from the MCO 9 EVO
- MC 110 Z EVO adapts the material feed accordingly
- **►** Continuous utilisation of the crusher and complete interlinked plant

In combination with the secondary cone crusher MOBICONE MCO 9 EVO, the Z-version of the MOBICAT MC 110 EVO demonstrates all its advantages. After all, with this machine version fines in the feed material are effectively separated thanks to the independent doubledeck prescreen. Wear in the crusher is also reduced by diverting the medium grain via the generously proportioned crusher bypass.

The material stream is simply diverted via the integrated bypass flap - a dummy cover is no longer necessary. The installed magnetic seperator (optionally available) separates metallic objects from the material stream to increase product quality and prevent damage to any possible downstream cone crushers.

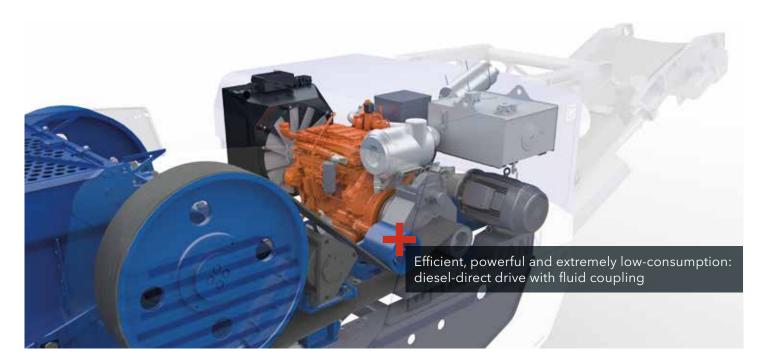


ADAPTATION OF CONVEYING SPEED



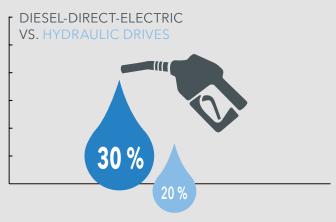
EVEN BETTER RESULTS THANKS TO INNOVATIVE **DRIVE CONCEPT**

- ▶ Highly efficient, powerful diesel engine
- Low efficiency losses due to crusher direct drive and full output at crusher
- ▶ Lowest consumption values in its class
- Fluid coupling guarantees high operational reliability
- On-board current generator for driving the prescreen and vibrating chutes and conveyor belts
- Excellent Service accessibility to all components



THE DRIVE COMPARISON

INNOVATIVE CONCEPT - COST-EFFECTIVE AND RELIABLE





> HIGH PERFORMANCE, LESS CONSUMPTION

Up to 30% more cost-effective compared to hydraulic drives: the drive concept "diesel-direct-electric"

The plants of the MC EVO line are characterised by the innovative drive concept "diesel-direct-electric". The crusher is driven via a fluid coupling direct from the diesel engine; belts and other components, on the other hand, by electric motors. The lowest possible consumption values are thus achieved.

The fluid coupling guarantees high operational reliability and protection for the machine. The current generator is used for driving the prescreen, vibrating chutes and conveyor belts. Speed setting is simple and fully automatic - adaptable to material and without setup times.

⊠ KLEEMANN



CRUSHERS FOR **MEDIUM** AND **LARGE** BATCH SIZES

Robust, low-maintenance, high operational reliability: **Crusher** with installed fill level monitoring crusher inlet for regulating continuous feeding

Powerful with flexible deployment:

Diesel-electric drive concept with an option
of external power supply



Simple and intuitive operation, rapid diagnostics in the event of a fault: electrical system

YOUR ADVANTAGES AT A GLANCE

Robust. Powerful. Efficient.

The plants in the Quarry-Line are designed to deal with the tough conditions encountered in day-to-day work in a quarry. Furthermore, thanks to the diesel-electric drive concept they work very efficiently and can also be run from an external power source – for continuous work in natural stone.

Use in natural stone



High final product quality: effective prescreening of fines and contamination by an **independent double-deck prescreen**

Generously proportioned **feeding unit:** for convenient feeding with wheel loaders



Can be **adapted to conditions:** different slotted grates and punched plates made from wear-resistant steel, steel wire mesh or steel punched plate

Use in mining









- Processing of natural stone (e.g. limestone, granite, basalt)
- Processing of residual construction materials (e.g. rubble, concrete, reinforced concrete)
- In mining applications
- Feed capacity of up to 450 tons per hour
- For large batch sizes
- For a consistent process: in combination with the cone crusher MOBICONE MCO 11 and a MOBISCREEN screening plant

APPLICATION



Use mainly in natural stone, but also recycling and mining applications



The MC 120 Z is the real classic among the mobile jaw crushers of the MOBICAT series. Developed for professional quarry operators, with its 70 tons the MC 120 Z is at home in almost all natural stone areas. As the MC 120 is optionally available with magnetic separators, it is also a viable alternative for demolition or recycling companies who have suitable transportation possibilities.

WELL EQUIPPED

The basic configuration of the MC 120 Z includes a frequency-controlled feeding unit for continuous feeding of the crusher. An discharge chute below the crusher diverts the material directly onto the crusher discharge conveyor, which reduces wear on the conveyor belts.



ROBUST CRUSHER



Robust 24-ton jaw crusher

Technical Information MC 120 Z

Feed capacity up to approx.

Crusher inlet (W x D)

Weight

Engine/motor output

450 t/h

1,200 x 800 mm

70,000 kg

364 kW

MOBICAT MC 125 Z

THE POWER PACK WITH NO-HOLDS-BARRED



- Processing of natural stone (e.g. limestone, granite, basalt)
- ▶ In mining applications
- ▶ Feed capacity of up to 600 tons per hour
- For large batch sizes
- ▶ For even better results: in conjunction with the secondary cone crusher MOBICONE MCO 13 and a MOBISCREEN screening plant

APPLICATION



Can be deployed in large quarries and mining plants



The MC 125 Z is design for the tough conditions in quarries. The crusher unit of the jaw crusher - which alone has a weight of 43 tons - has a particularly long impact toggle and a drive output of 200 kW.

UNCOMPROMISING DESIGN

The MC 125 Z is equipped with even larger jaw crusher than the smaller MC 120 Z. The length of the articulated crusher jaws and their large stroke are distinctive characteristics of these plants and reflect the uncompromising design of the machinery. The possibility of connecting to a stationary power source makes the MC 125 a economic power pack.



ROBUST CRUSHER



Robust 43-ton jaw crusher

Technical Information MC 125 Z

Feed capacity up to approx.

Crusher inlet (W x D)

Weight

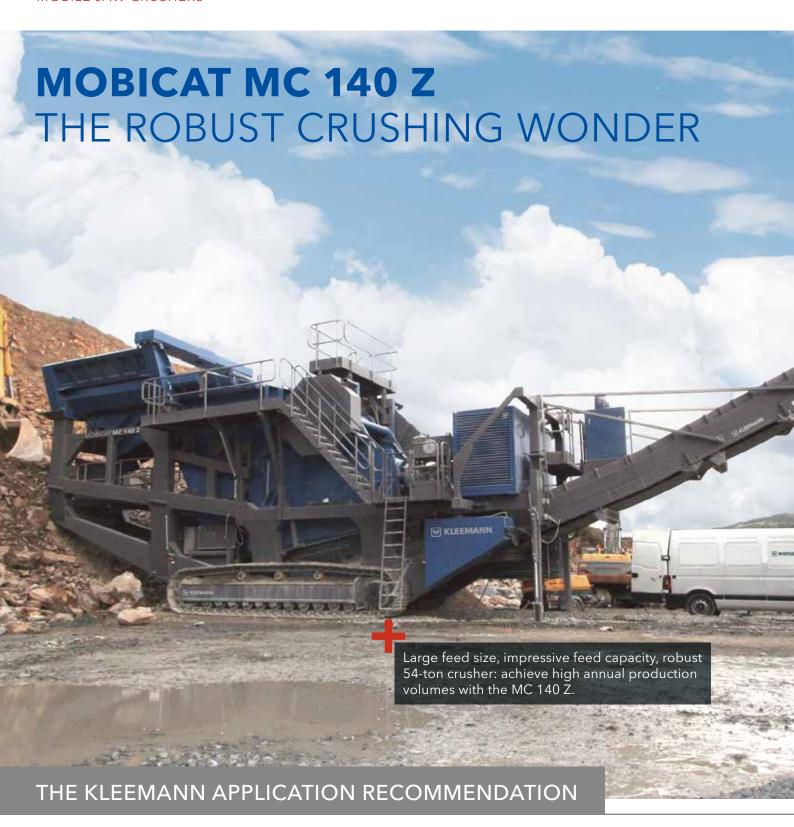
Engine/motor output

600 t/h

1,250 x 1,000 mm

130,000 kg

364 kW



- Processing of natural stone (e.g. limestone, granite, basalt)
- ▶ In mining applications
- Feed capacity of up to 750 tons per hour
- For very large batch sizes
- Deployment as a single plant or as an ideally tuned complete solution with the MOBICONE cone crusher plant and the MOBISCREEN screening plant

APPLICATION



Can be combined for work in natural stone in large quarries or mining plants with flexible belt conveyor systems



The MOBICAT MC 140 Z is used to achieve high annual production volumes and to deal with large feed sizes. Depending on the conditions of the location and rock deposit, various prescreen modules and feeding units can be integrated in this plant. This makes it predestined for use with natural stone in quarries as well as various mining applications.

HIGH PRODUCTIVITY – LOW-MAINTENANCE OPERATION

The MC 140 Z is equipped with a very robust 54-ton jaw crusher. It has a solid double-deck prescreen with a length of more than 3 m, which is equipped with a step that allows additional recirculation of the feed material.



ROBUST CRUSHER



Robust 54-ton jaw crusher

Technical Information MC 140 Z

Feed capacity up to approx.

Crusher inlet (W x D)

Weight

Engine/motor output

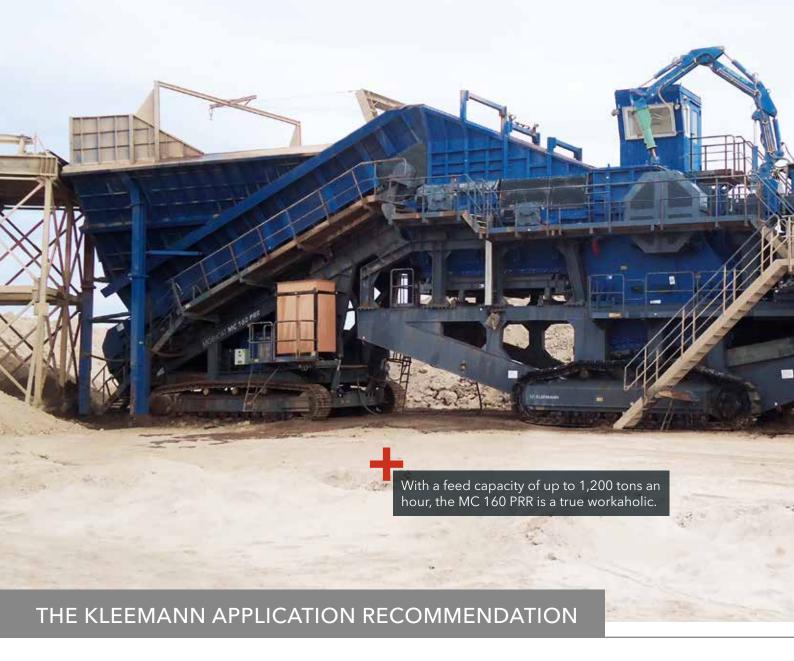
750 t/h

1,400 x 1,130 mm

160,000 kg

438 kW

MOBICAT MC 160 PRR THE DYNAMIC HEAVYWEIGHT



- Processing of natural stone (e.g. limestone, granite, basalt)
- ▶ In mining applications
- ▶ Feed capacity of up to 1,200 tons per hour
- For maximum batch sizes

APPLICATION



For very high production volumes in natural stone and mining applications



The largest mobile jaw crusher plant from KLEEMANN, the MOBICAT MC 160 PRR, is designed for maximum production volumes. Feed sizes up to $1,500 \times 1,100$ mm are possible. In order to realise feed capacities like these, dump trucks are generally used for loading the MC 160. A hopper volume of 90 m³ allows for two dump trucks each with loading capacities of 45 tons.

MAXIMUM PERFORMANCE IN ALL KINDS OF STONE

The MOBICAT MC 160 PRR has a total weight of 400 tons and consists of a feeding unit with apron feeder, a main unit with prescreening and the extremely robust crusher unit. Each unit has a separate crawler chassis.

The 77-ton heavy crusher unit is driven by a 325 kW powerful electric motor. With this equipment, the MC 160 PRR achieves a feed capacity of up to 1,200 tons an hour.



ROBUST CRUSHER



Robust 77-ton jaw crusher

Technical Information MC 160 PRR

Feed capacity up to approx.

Crusher inlet (W x D)

Weight

Engine/motor output

1,200 t/h

1,600 x 1,250 mm

400,000 kg

580 kW





THE RECIPE FOR SUCCESS FOR OPTIMUM CRUSHING RESULTS

An ideal crushing result is always achieved by means of plant components perfectly tuned to one another combined with the settings made by the operator.

Feed material

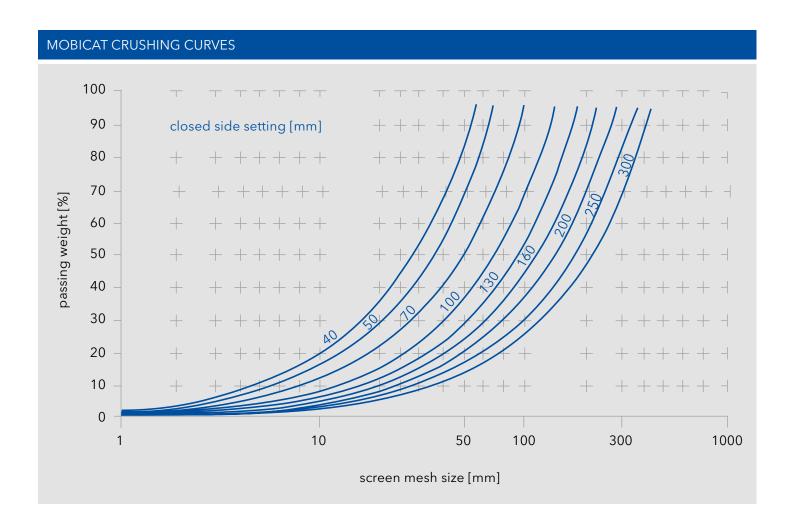
- ► Feed size: where possible, the maximum feed size should not exceed 80% of the specified crusher opening
- Compressive strength: mineral materials can be used with a maximum compressive resistance of 280 MPa *
- Mineral type: all soft to hard natural stones, e.g. dolomite, granite, basalt, diabase, quartzite or gneiss as well as residual construction materials such as rubble, bricks and reinforced concrete
- * Depending on the material and machine type, higher values are also possible.

Crushing ratio

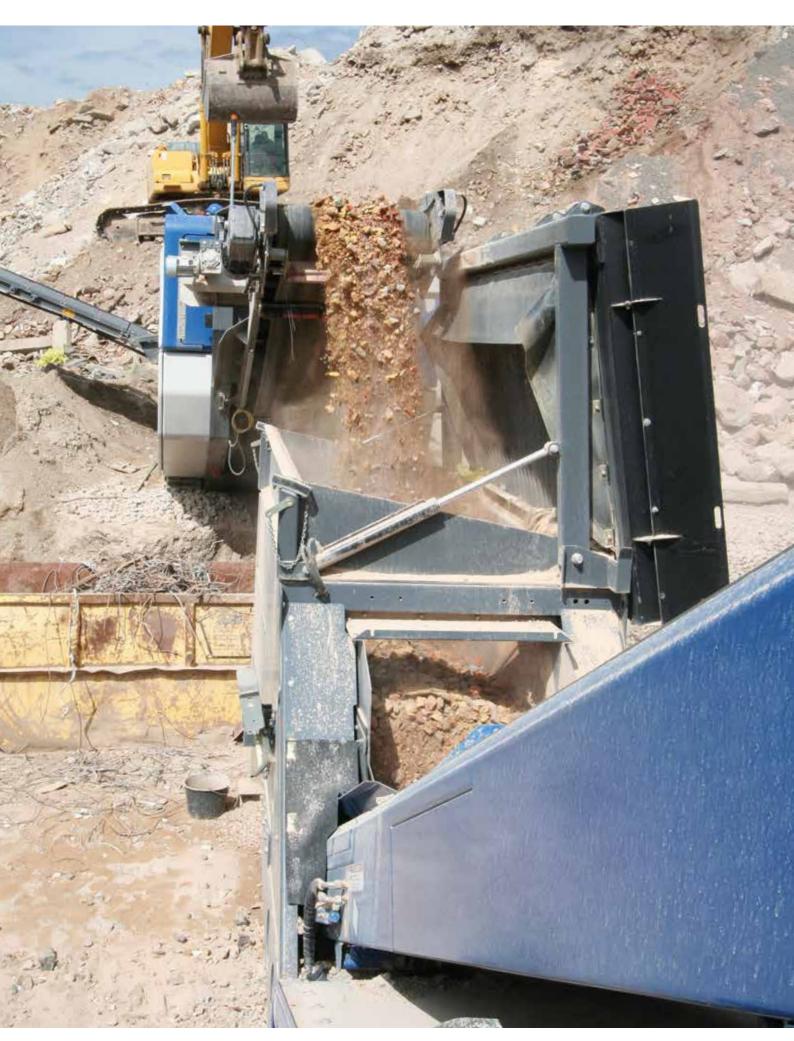
The maximum crushing ratio (ratio of feed grain size / grain output) largely depends on the physical properties of the feed material. The following standard values result:

Medium-hard to hard rock depending on crushing strength and robustness up to 5:1

Exceeding the crushing ratio leads to an undesirable decrease of the crushing capacity and to an increase in wear.



TECHNICAL EXPERTISE 37



THE KLEEMANN SERVICE PROGRAM:

CUSTOMER SERVICE AT KLEEMANN

Customer service at KLEEMANN means: reduced downtimes, minimum wear costs, maximum customer proximity.

A wide range of training courses as a basis for optimal use of our plants. A dense network with experienced service technicians. Quickly available original spare parts. All of this is guaranteed by our comprehensive support organisation. Worldwide, day after day.

The KLEEMANN service program:

- Professional maintenance and repair of your machines and plants
- ▶ Preventive maintenance through service contracts
- Ordering of original parts the correct wear part for your application, reduction in wear part and operating costs
- Application advice and training



SERVICE 39



SERVICE NETWORK



Our local contact partners provide you with comprehensive support for all tasks and questions related to our products. Quick technical support is our main priority. We ensure short response times and quick solutions through a close network of subsidiaries, their experienced service technicians and the additional support provided by our support organisation in the parent plant.

TRAINING COURSES



An essential element of the successful use of our plants is corresponding knowledge of their operation. In order to communicate the necessary technical knowledge to your employees, KLEEMANN offers a wide range of training courses, which can be carried out in the CTT (Centre for Training and Technology) in Göppingen or on site.

PARTS AND ACCESSORIES



Original parts and accessories from KLEEMANN can assure the high reliability and availability of the machines in the long term. Rapid identification of the correct part is possible using WIDOS - the WIRTGEN GROUP documentation system. An overview of all spare parts with simple ordering information is available under www.partsandmore.net

Further information: service@kleemann.info

CRUSHING TECHNOLOGY - THE CORRECT TOOLS OF THE TRADE FOR OPTIMUM RESULTS

The crushing principle

KLEEMANN offers a very wide range of parts and accessories. The selection of the correct crusher jaws, in particular, has a strong influence on the result: for abrasive rock, for example, different crusher jaws have to be used than for coarse rock.

The crushing material is crushed in the wedge-shaped pit between the fixed crusher jaw and the crusher jaw articulated on an eccentric shaft. The material is crushed by the elliptic course of movement and transported downwards. This occurs until the material is smaller than the set crushing gap.

Low-wear material

The crusher jaws installed in jaw crushers from KLEEMANN are made from a special manganese casting characterised by excellent durability of the basic body. Through the compressive load, during operation the manganese casting forms a highly wear-resistant surface for long service lives.

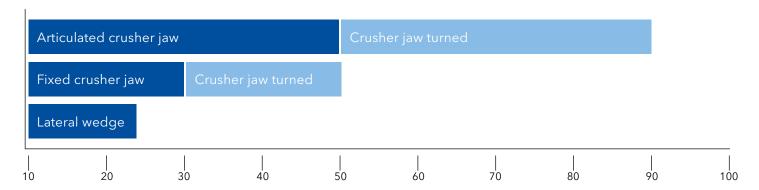
In ideal operation, the main wear occurs in the lower half of the crusher jaw. If the teeth are completely worn (smooth crusher jaw), the crusher jaw should be turned over or replaced. The crushing capacity (t/h) is reduced considerably when the crusher jaws are smooth because the material is mainly crushed and no longer broken.

Service life comparison - ratio of the service lives of the individual crushing tools

The draw-in movement of the articulated crusher jaw causes the material to generate a grinding movement at the fixed crusher jaw. This results in increased wear at the fixed crusher jaw.

Furthermore, the fixed crusher jaw is located on the inlet side. The fines tend to slide towards the fixed crusher jaw as they run into the crusher. The fines cause higher wear than coarser feed material.





Ratio of service life as a percentage

Tooth shape	Final product size	Aufgabematerial				
		Hard stone	Soft and medium- hard rock	Gravel	Rubble/ Recycling	Laminated medium- hard rock
RT* (regular teeth)	> 60 mm	•	••	••	••	••
FT* (flat teeth)	> 60 mm	••	•	•	•	•
ST* (sharp teeth)	> 60 mm	•	•	••	•	••
• Highly recomme	• No	t recommende	d			

Tooth shape	Illustration	Properties
RT* (regular teeth)	***************************************	Well-balanced with regard to service life, energy requirements and crushing pressure, suitable for natural stone and gravel.
FT* (flat teeth)	##.	Due to the large wear dimensions, flat teeth are particularly efficient in abrasive material. A higher pressure load is created and thus a higher energy requirement.
ST* (sharp teeth)	a a	Sharp teeth reduce the laminated share in the crushed material. Recommended with small gap widths (< 60 mm).

^{*} Two quality levels available: > XPERT with 18% manganese > XTRA with 20% manganese

Further information: www.partsandmore.net



EVO-LINE

MC 100 R EVC

MC 110 R EVC

MC 110 Z EVO







Feed size up to max. (depending on material)	900 x 500 mm	1,050 x 650 mm	1,050 x 650 mm		
Crusher inlet width x depth	950 x 550 mm	1,100 x 700 mm	1,100 x 700 mm		
Feed capacity up to approx.	220 t/h	330 t/h	330 t/h		
Weight approx.	30,000 kg	38,500 kg	39,500 kg		
Drive concept	Diesel-direct-electric				
Features	Foldable side discharge conveyors (optional) Crusher unit with long articulated crusher jaw Easy-to-operate control system, menu-guided touch panel				
	Feed control CFS Continuous Feed System (optional)				
	Fully automatic crushing gap adjustment				
	Innovative crusher unblocking system (optional)				
		Magnetic separator (optional	separator (optional)		
	Vibrating feeder with prescreen	Vibrating feeder with prescreen	Independent double-deck prescreen		
Application spectrum	Recycling Natural stone	Recycling Natural stone	Recycling Natural stone		

	QUAR	RY-LINE		
MC 120 Z	MC 125 Z	MC 140 Z	MC 160 PRR	
1,100 x 700 mm	1,200 x 900 mm	1,300 x 1,000 mm	1,500 x 1,100 mm	
1,200 x 800 mm	1,250 x 1,000 mm	1,400 x 1,130 mm	1,600 x 1,250 mm	
450 t/h	600 t/h	750 t/h	1,200 t/h	
70,000 kg	130,000 kg	160,000 kg	400,000 kg	
С	iesel-electric, connection to e	external power supply (optiona	1)	
	Mountable side discha	rge conveyors (optional)		
	Extra-robus	t crusher unit		
	Electrical control w	ith plain text displays		
	Crusher fill le	vel monitoring		
	Hydraulically assisted	crusher gap adjustment		
Magnetic separator (optional)	Magnetic separator (optional)			
Independent double-deck prescreen	Independent double-deck prescreen	Independent double-deck prescreen	Wobbler feeder	
Natural stone Mining Recycling	Natural stone Mining	Natural stone Mining	Natural stone Mining	





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