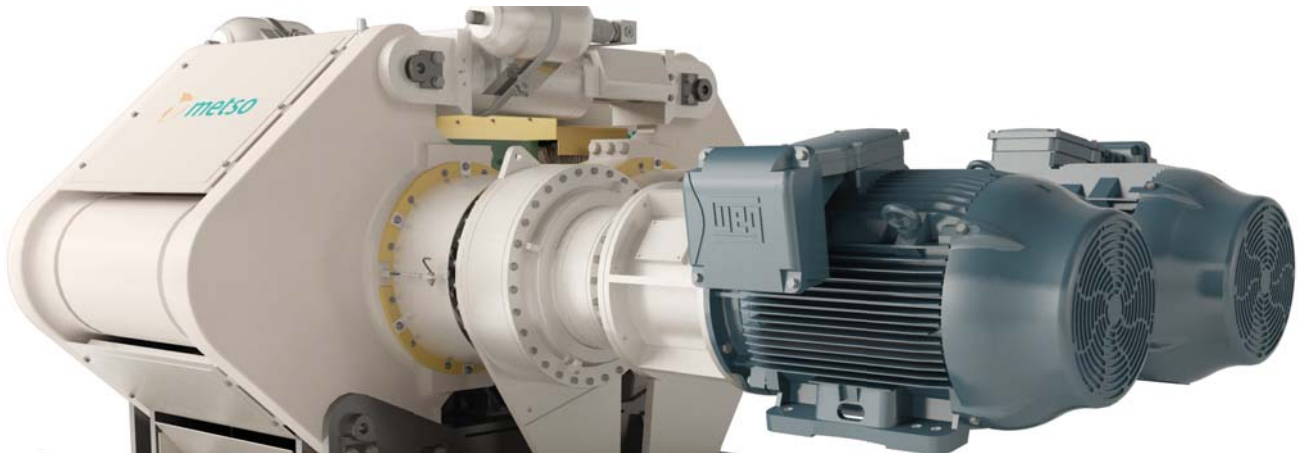


HRC™800





HRC™800

Delivering crushing efficiency and flexibility

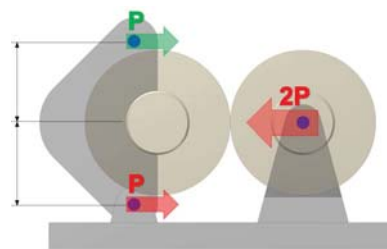
Metso's new HRC™800 crusher provides flexibility and maximum efficiency in construction applications. The machine is ideal for tertiary or quaternary applications used to produce a variety of products such as grit and fine gravel, dust and manufactured/artificial sand.

The patent pending technology behind the HRC™800 enables it to efficiently process a variety of materials and consistently produce (and adjust to) the desired product size. It achieves this by modifying crushing pressure in response to the feed material and type of processing. Additionally, the HRC™800 is appropriate for either open or closed circuit operations.

Successful pre-market tests have delivered proven results in crushing sandstone, basalt, limestone, coal, clinker, diabase, phonolite (clinkstone), gneiss, granite, copper ore, iron ore, nepheline, aluminum oxide and rolled pebbles.

Built on superior technology

The principle behind the design and construction of the HRC™800 is the application of a particular, pre-established crushing pressure, which is maintained throughout the entire duration of the process. Consistent pressure is created as the hydraulic cylinders work with accumulators (providing a spring effect) to push the rolls. Metso's patented design solution, mutually pivoting housings (see figure below), helps to maintain this pressure.



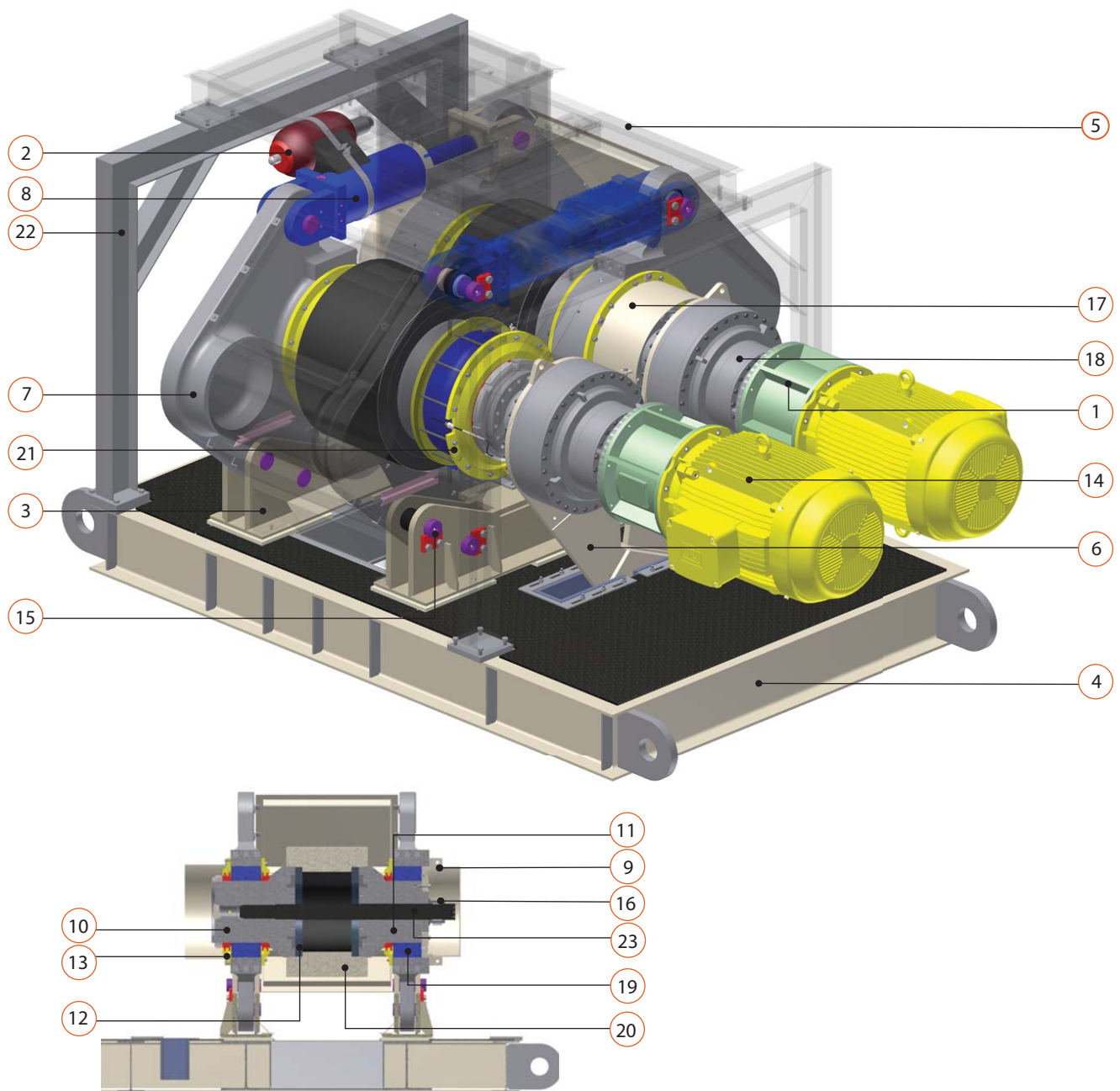
Due to Metso's patented frame design, the applied force is magnified, resulting in a higher crushing force.

Improvements to conventional roll crushers

While conventional roll crushers normally operate with a fixed aperture and a limited operating pressure, the HRC™800 utilizes a free-floating gap. This gap automatically adjusts based on the feed material characteristics (e.g., shape, density, moisture, size) and the hydraulic system. This mechanism also contributes to the constant force applied by the rolls, and the result is optimum flexibility for the feed.

Operational benefits:

- Flexibility of feed and energy efficiency
- Cubical product shape
- Low emission of dust and low noise during operation



Main components of the HRC™ 800

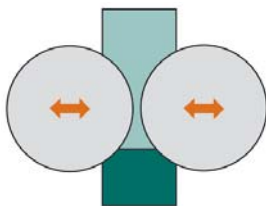
#	Component	#	Component	#	Component
1	Coupling	9	Cover	17	Protection
2	Accumulator	10	Fixed Shaft	18	Redutor
3	Crusher base	11	Moving Shaft	19	Bearing
4	Assembly base	12	Spacer	20	Roll
5	Feed Chute	13	Labyrinth	21	Temperature Sensor
6	Torque Arm	14	Electric Motor	22	Chute support
7	Arch-Frame	15	Base Pin	23	Tie rod
8	Hydraulic Cylinder	16	Nut		



Experience the difference

Energy efficiency

Technical studies have proven that the use of high crushing pressure on material is the most efficient way to achieve optimum comminution, resulting in a high reduction ratio. The HRC™ 800 is built on this principle, and the results are a low circulating load and limited liner wear – both major contributors to a low operating cost.



Self-adjusting gap

The gap automatically adjusts to accommodate the type of feed while maintaining a constant crushing force. The result of this constant force is a consistent, desired product size. Additionally, the force contributes to the hardening of linings over time, extending the service life of the machine.

Minimal environmental problems

All of the rotating parts in the HRC™800 are balanced and operate at a low speed of rotation, minimizing vibration so that no special foundation is required.

Noise is also reduced due to the basic operating principles of the machine, which applies a constant crushing pressure instead of impacting the ore.

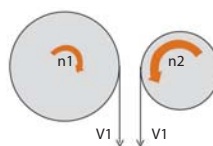
Another product of the machine's low operating speed – in combination with the compacting of feed material – is the low volume of dust released into the atmosphere from the HRC™. This amount is significantly less than other crushers that are used in the production of similar products.

Product shape

Depending on the user's needs, the end product can have a cubic shape. This is achieved simply by adjusting between the feed density and amount of pressure applied.

Torque Sharing

Through the use of an optional VFD it's possible to control the peripheral speed of the rolls, which can contribute to more even wear on both rolls. This also eliminates peaks in energy consumption, especially upon startup of the machine.



Quick set up

With simple commands on the control panel (included in the basic package) of the HRC™800, the operator can adjust working pressure and set the desired speed of operation quickly and safely. This simple set up and operation streamlines modifications, replacement of components and, most importantly, machine stoppages.

Hydraulic system

The HRC™800's hydraulic system is the heart of the machine; it is functional and easy to operate and maintain. The hydraulics are enhanced with a system that helps protect the tire against uncrushables and a system of shims that prevent contact between the rolls during operation.

Resilient bearings

The HRC™800 is equipped with bearing housings that are sealed by a combination of labyrinths and V-ring seals that extend the service life for bearings.

Quick lining replacement

The innovative design of the HRC™800 enables the replacement of linings with nothing but a partial disassembly of the machine, considerably minimizing the downtime required for this maintenance.

Easy-to-repair rolls

The tool required for flattening rolls – a procedure that is necessary to maintain the machine's high level of efficiency – is included in the basic package for the HRC™800. The tool makes this process quick and easy.

Safety

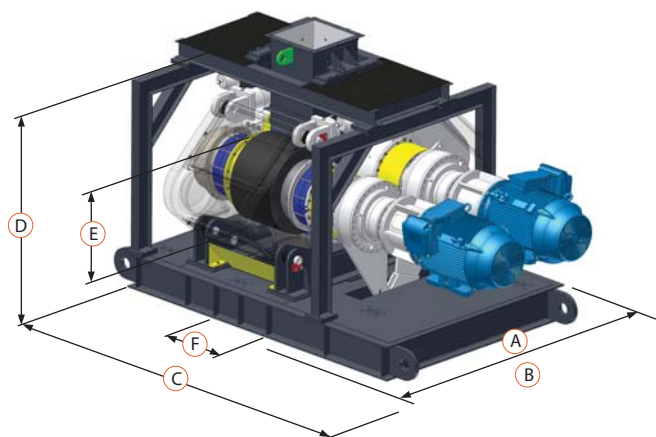
The HRC™800 complies with all relevant legislation and requirements and is built with outstanding safety features such as protections on moving parts and hydraulic overload security.

Technical Data

Drive	
Installed power (1x)	110kW (150HP)
Total units	2x
Rotation	1800rpm (4 poles)
Transmission	
Reducer	Planetary gears
Total units	2x
Cooling/Refrigeration	Dedicated unit (included)
Reduction	1 : 62.83
Rotation of crusher	32rpm (motors at 60Hz)

Lining	
Alloy	Manganese steel (other alloys subject to special consultation)
Total Units	2x
Dimensions	800mm (diameter) x 500mm (width)
Radius of utilization	60mm
Other information	
Working pressure (maximum)	4,5N/mm ² (180ton)
Total weight of the assembly	16.000kg
Admissible feed	Any fraction ≤ 32mm
Volume of production	70 to 120ton/h (according to the size of feed material, pressure and speed)

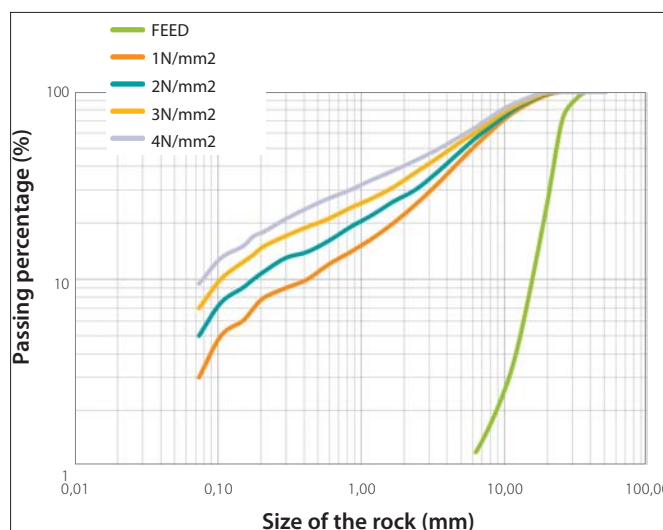
Projected Area



Main dimensions	
Dimension	Value
A – Width during operation	2647 mm (104.21")
B – Width required for maintenance	4000 mm (157.48")
C – Maximum length (depends on motorization)	4000 / 4300 mm (157.48" / 169.29")
D – Maximum height of machine	2400 / 2500 mm (94,48" / 98,42")
E – Roll diameter	800 mm (31.49")
F – Roll width	500 mm (19,68")

Product curve

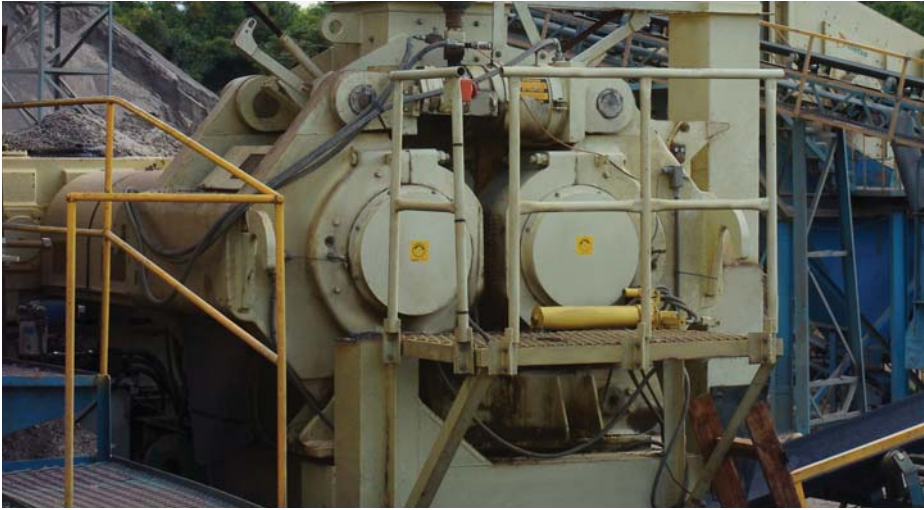
*The curves and capacities shown depend on the feed gradation/sizing curve, material density, degree of contamination in the material, its moisture, breakability and pressure of operation.



Example of gradation/size obtained with the HRC™800

Defining your application

Metso has a range of test equipment at its laboratory in Sorocaba, SP, Brazil. In this laboratory setting, Metso's engineers and product experts can accurately predict the commercial scale process results for each unique application. Count on our specialists in comminution to define the best equipment and settings for your process.



Service and support for our customers

A comprehensive offering

Our comprehensive offering of services includes everything from genuine original replacement parts and highly durable wear parts to specialized customer services customized for the unique needs of your plant. When you partner with Metso, you can count on more than efficient, reliable equipment – a qualified Metso service professional is always available.

Spare parts

Manufactured according to the same strict specifications and exacting standards as the equipment we design and manufacture, Metso replacement parts help to guarantee reliable performance in the long term. And with the support of our expertise, we can also help ensure that you have the right parts on hand when you need them: Metso's recommended parts lists are based on the company's vast industry experience and can provide you with peace of mind.

Crusher wear parts

In order to ensure the best crushing performance possible, Metso wear parts are designed in conjunction with your equipment. Precise dimensions and consistent, quality casting are the basis of Metso's process, ensuring that we minimize the risks and dangers posed by a potential overload of your equipment. Metso uses OEM wear parts to ensure maximum efficiency for your crushing plant without risk to machinery or to the safety of personnel.

Optimizing the crushing chamber

In the HRC™800, the wear roll is the main component of the crushing surface, and in its basic version, the roll is supplied in manganese. Metso, however, offers several other options in special alloys so that you can optimize the crushing chamber. By providing these options, Metso helps you balance costs and benefits for each process and achieve your goals for production and wear.



Example of gradation obtained with the HRC™800



Put Metso's experience to work for you

Supervision, maintenance and parts replacement

Inspection and regular maintenance of your equipment is essential to achieving production targets. Metso's team of professionals is equipped with an arsenal of the most recent product developments, technical specifications and detailed work procedures. Our qualified technicians can ensure the correct replacement of parts, provide valuable feedback on the status of your equipment, as well as propose preventative maintenance solutions.

Repairs, refurbishing and equipment updates

Metso's maintenance and service centers combine qualified personnel, global expertise and the most advanced technology. Our vast range of services includes modifying and repairing equipment, rebuilds and updates, detailed equipment failure analyses, and troubleshooting. Whether our team is replacing bearings or performing a complete overhaul of your machine, the Metso maintenance and service centers are committed to creating and maintaining the best operating conditions for your equipment.

Training

Metso seminars train operators to follow the procedures that are recommended by the manufacturer (OEM procedures) in order to properly operate and maintain equipment. Our training helps protect your investment, and by providing your personnel with this training, you can feel confident that the individuals operating your machinery are doing things efficiently and correctly – resulting in a plant that runs profitably. Metso training seminars are offered in a variety of national languages and locations around the world.

Equipment Protection Plan

Protect your business against the unexpected failure of components: Metso offers the Equipment Protection Plan (beyond the standard warranty), which provides extended coverage of key construction equipment components against unexpected failures for a period of five years or 10,000 hours of operation.

Comminution consulting

The operational efficiencies of a comminution circuit can be limited by a number of factors. Our Process Technology and Innovation (PTI) team – with a fundamental understanding of these limitations and how they affect every aspect of a circuit – works with you to optimize comminution processes, improve results and minimize inefficiencies.





Expect results

It is our promise to our customers and the essence of our strategy. It is the attitude we share globally; our business is to deliver results to our customers, to help them reach their goals.



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