Nordberg
C Series jaw crushers
The world’s favourite jaw crusher

Metso’s Mining and Construction, the world’s leading rock and mineral processing group, has installed over 10 000 jaw crushers since the 1920s. Today, the Nordberg C Series is indisputably the world’s favourite jaw crusher. Where cost-efficient primary reduction of hard, abrasive materials is concerned, C Series crushers represent the highest technical and manufacturing knowledge.

All C Series jaw crushers are based on a revolutionary modular, non-welded frame construction. This design offers owners the highest possible fatigue strength, excellent reliability and numerous mounting possibilities. This, combined with high-quality cast steel components and premium spherical roller bearings, means exceptionally high crusher availability, cost-efficient crushing and low cost per ton.

There are now two ranges of models in the C Series range. The first is the well-known traditional jaw crusher range that is designed for stationary as well as mobile applications (C80, C100, C3054, C120, C125, C140, C150, C160, C200). The second range is designed specifically to meet the needs of small to medium size mobile crushing (C96, C106, C116). All C Series crushers are designed to crush very hard rock.

Whatever your crushing needs – from hard and abrasive rock to various recycling materials – you’ll find the optimum solution with the Nordberg C Series jaw crushers. Take a closer look at the world’s favourite jaw crusher!
World-class craftsmanship and materials

C Series crushers are premium class crushers due to their design as well as to the materials that are used to produce them. Attention has been paid to even the smallest details, so as to ensure the highest possible functionality and reliability, without any compromises. Those who have owned and operated C Series jaw crushers know that not all jaw crushers are the same!

**Modular, non-welded construction**
A uniquely modular, non-welded frame construction is a state-of-the-art design with two hot-rolled steel side plates joined to high-quality cast steel frames through robust, precision machined bosses secured with bolts. The absence of stress inducers such as weld seams ensures excellent durability against shock loads.

**Durable pitman assembly**
The pitman is made of high-quality cast steel and is propelled by two massive cast steel or iron flywheels. A very large eccentric shaft forging and four large spherical roller bearings that are all of the same size ensure the greatest reliability even under the most severe crushing conditions. The grease-lubricated bearings are kept free from contamination by means of well-proven labyrinth seals.

**Single piece cast steel frame bearing housings**
The single piece cast steel frame bearing housings ensure a perfect fit to the crusher frame. They also prevent unnecessary loads to the frame bearings that are common with 2-piece frame bearing housings.

**Repairable crusher construction**
C Series crushers constantly fulfill the durability expectations of their owners around the clock, but they will eventually need some care. Due to the use of cast steel components, the crusher can be economically reconditioned or rebuilt after many years of operation. Such repairs are uneconomical or impossible to carry out with crushers of alternative designs.

All C Series jaw crushers incorporate larger and sturdier eccentric shaft bearings than other crushers of comparable size.
The right cavity design

C Series jaw crushers are literally designed “from the inside out” because the cavity is the heart and only purpose of the jaw crusher. That is why over the years great attention has been paid to the feed opening dimensions as well as to the cavity height. The right feed opening width to depth ratio ensures minimum blockage and eliminates unnecessary height from the crusher.

Aggressive kinematics and high power. In addition to the right cavity dimensions, the right kinematics must be applied. That is why C Series jaw crushers have a large eccentric throw coupled with a steep toggle plate angle that magnifies the effective stroke at the crusher discharge. The large stroke, combined with the right speed, flywheel inertia and high available crusher power result in truly high crusher performance. Operation at small settings as well as the method of setting measurement results in finer products in comparison to other crushers.

The right jaws for a given application. Many types of jaws have been developed over the years in order to optimize the performance of Nordberg C Series crushers in a very wide range of applications, including conventional quarries, mines, gravel pits, and recycling of demolition material and asphalt. The tooth profiles as well as the thickness of the jaws are optimized and combined with the right manganese steel alloys to maximize throughput and minimize operating costs. Metso also actively develops custom jaws for special applications. Special cheek plates are also available.

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<tr>
<th>Standard</th>
<th>Quarry</th>
<th>Superteeth</th>
<th>Special +Quarry</th>
<th>Quary +Super grip</th>
<th>Anti-Slab</th>
<th>Wavy/like Recycling</th>
<th>Corrugated Recycling</th>
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Many types of jaws are available for different applications. For recommendations concerning your specific application please contact Metso.
**Indicative product gradation**

**Measurement of the crusher’s closed side setting varies depending on the jaw profile that is being used and has an impact on the crusher’s capacity and product gradation. The following factors will enhance crusher capacity and performance:**

1. Proper selection of the jaws.
2. Proper feed gradation.
3. Controlled feed rate.
4. Sufficient feeder capacity and width.
5. Adequate crusher discharge area.
6. Discharge conveyor sized to convey maximum crusher capacity.

* Smaller closed side settings can be often used depending on application and production requirements. For a performance estimation for your specific application, please contact Metso.

The above figures represent through the crusher capacities, which are based on a feed material with an average specific gravity of 2.7 t/m³, a maximum feed size that will enter the crusher without bridging and material finer than the crushers closed side setting removed. The capacities may vary depending on the feeding method and on feed characteristics such as gradation, bulk density, moisture, clay content and crushability.
In addition to bringing you high performance, C Series crushers are also designed to bring your total crushing costs down. Each unique feature of the C Series brings specific benefits that have a direct impact on the bottom line – which means that you will be more profitable. Those who have owned and operated C Series jaw crushers know that not all jaw crushers are the same!

Fast and safe setting adjustment systems
All C Series crushers are equipped with a proven, rugged and fast wedge setting adjustment system. The wedge setting adjustment is simpler, much safer and faster than outdated shim adjustment systems. The crusher’s setting can be manually adjusted with tools that are supplied with the crusher in a matter of minutes, without having to handle dirty and bulky shims. Alternatively, the crusher’s setting can be changed in seconds, from a remote location, even while the crusher is idling! The system is also especially effective at cleaning the crusher’s cavity should it stall under load due to interruptions in the supply of electric power.

Special rubber dampers and stoppers allow the crusher to move vertically and longitudinally while preventing wear and subsequent damage to the crusher’s foundation.

The most durable bearings available
All C Series jaw crushers incorporate larger and sturdier eccentric shaft bearings than other crushers of comparable size. Their higher load bearing capacity and effective labyrinth seals result in considerably longer bearing lifetimes.

Tired of repairing your jaw crusher’s foundation?
Rubber dampers and stoppers effectively decrease crushing loads to the foundation by absorbing peak shock loads and allowing the crusher to move vertically and longitudinally. This unique and innovative system eliminates the need for anchor bolts, and is a much more desirable solution as all anchor bolts eventually damage jaw crusher foundations.

Designed to bring your crushing costs down

LOW INSTALLATION AND OPERATING COSTS

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VERSATILE INTEGRAL MOTOR BASE

An integral motor base is mounted on the main frame of the crusher, thereby reducing the need for space and excessively long v-belts. V-belt lifetime is prolonged because there is no differential movement between the crusher and the integral motor base, and the base pivots on the crusher in order to adjust v-belt tension. It also accommodates both IEC and NEMA electric motors. Use of the integral motor base allows for the use of standard flywheel guards, thereby eliminating the need for local engineering and fitting.

COMPACT AND SERVICE FRIENDLY FLYWHEEL GUARDS

Flywheel guards are bolted onto the crusher’s side plates and effectively protect operators from the potentially dangerous moving parts. Viewing windows and access doors allow service crews to inspect and service the crusher. Their use also gives greater access to the crusher as the guards are not laying on the service platform.

CUSTOM FEED CHUTE

The feed chute is designed to effectively guide the feed into the crusher’s cavity. Jaw and cheek plate removal and installation are carried out without having to move or remove the feed chute. The feed chute is bolted to the crusher and can be removed for other maintenance purposes.

OTHER EXCELLENT COST SAVING FEATURES

There are several additional features that will assist you in reaching lower operating and installation costs. Amongst these features are an automatic grease lubrication system, different mounting brackets to accommodate different feeding heights, temperature and speed sensors, protection plates, and intermediate plates in order to maximize the utilization of the manganese jaws. There are even special deflection plates available in order to protect the crusher discharge conveyor belt from sharp steel bars that are often present in recycling applications.
The right choice for surface installations

Nordberg C Series jaw crushers are the right choice for stationary surface installations at quarries, mines, gravel pits and even recycling plants. Their ease of installation, serviceability and productivity make them especially suitable for existing installations or new green-field primary crushing plants.

The Excellent replacement for your existing crusher

Due to their overall space requirements, C Series crushers are an ideal choice for the replacement of existing double and single toggle jaw crushers. Foundation loads, when compared to those of older version crushers, are less and therefore modifications to the existing foundation are rarely required.

An increase in plant capacity, the ability to process a coarser feed and the ability to produce a finer product are common benefits when replacing double toggle as well as single toggle jaw crushers of comparable size.

Comprehensive expertise in complete plants

Metso designs and supplies complete aggregate crushing and screening systems. We are globally local, and manage plant design, equipment selection, sourcing, manufacturing, installation, and commissioning. New primary crushing plants are tailored to each customer’s needs. Various types of feed arrangements, automation, serviceability and overall cost effectiveness are the trademarks of our success.
The right choice for underground installations

C Series jaw crushers are indisputably the most popular crushers in underground mines and quarries all around the globe. Their productivity, reliability, ease of transport and possibility to automate make them an ideal choice for operations that run 24 hours a day.

Underground assembly
Transportation of C Series crushers to underground installations is greatly simplified as each major component can be handled individually, and final crusher assembly is done underground. This has a direct impact on mine planning that often results in considerable time and cost savings. Final assembly underground requires typical lifting facilities and a surprisingly short amount of time.

Easy to automate
Due to their hydraulic setting adjustment, C Series jaw crushers can be fully integrated into plant automation systems. The setting of the crusher can be changed from an electrical cabinet next to the crusher, or from the operator’s room, all at the touch of a button, and even while the crusher is idling. The lubrication of the crusher’s bearings can also be automated. Bearing temperatures, crusher speed and cavity levels can all be measured and fully integrated into plant automation systems.
MOBILE PLANTS

Metso has pioneered the development of track-mounted, fully mobile crushing plants, and has also supplied wheel-mounted and semi-mobile plants for many decades. The Lokotrack (LT) and Nordberg (NW) mobile jaw plants are used in aggregate production, mining, recycling, cement production and tunnel crushing.

At the heart of every jaw crusher mobile plant is a Nordberg C Series jaw crushe.

Full mobility with the Lokotrack range
The Lokotrack Series mobile crushing plant is based on the innovative idea of flexibility, by moving the equipment to the rock face in order to eliminate the need for haulage trucks. Lokotracks can be moved within and between sites, which means lowered material transport costs. Transportability can further be improved with special options like the bogie and split versions. Fully mobile crushing equipment offers considerable benefits, including less quarry traffic, less dust, noise and exhaust emissions. All this combines to create a safer and cleaner working environment.

There’s a Nordberg mobile plant for every crushing process
Whether the priority requirement is high production capacity, good process adaptability, excellent cubicity or efficient recycle crushing, the Metso mobile plant range can provide the right answer.

From contract crushing to demanding in-pit crushing applications, Metso has the right mobile plant specified for your capacity and end product needs.

Three stage crushing and screening process with the Lokotrack LT110, LT300GP and LT100DGP.

Mobile crushing with the NW125.

The Lokotrack LT106 at quarry in Finland.

The gigantic Lokotrack LT160, coupled with Lokolink in-pit mobile conveyors, eliminates the need for haulage trucks.
## Dimensions & Weights

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Notes:
- **C**: Crusher without options.
- **D**: Crusher, hydraulic setting adjustment, flywheel guards, integral motor support, feed chute, automatic grease lubrication system, and typical electric motor.

Certified general arrangement, foundation and service space requirement drawings are available from Metso.
Not all jaw crushers are the same

Contrary to popular belief, not all jaw crushers are the same. This is certainly the case for Nordberg C-Series jaw crushers, and there is no secret to this success. Take a closer look at the world’s favourite jaw crusher!

**High quality and reliability**
- World-class craftsmanship and materials
- Modular, non-welded construction
- Four equal size bearings that are larger than those of most crushers of comparable size
- Cast steel pitman and crusher frames
- Single-piece cast steel frame bearing housings
- Repairable crusher construction

**Outstanding performance**
- Efficient cavity designs
- Aggressive kinematics
- Long stroke, optimum speed
- Small allowed crusher settings
- The right jaws and cheek plates for the widest range of applications

**Low operating and installation costs**
- Easy to automate
- Fast and safe wedge setting adjustment system
- Protection plates behind the jaw plates
- Rubber damper crusher mounting
- Versatile integral motor base
- Compact and service friendly flywheel guards
- Custom feed chute
- Automatic grease lubrication system

**Used in a wide range of applications, both stationary and mobile**
- Aggregate
- Mining (surface and underground)
- Recycling (concrete, asphalt, etc.)
- Industrial (slag, anodes, etc.)
All Metso Minerals Oy Tampere Works equipment is produced in accordance with a quality assurance system that complies with the ISO 9001 standard, as certified by Lloyd’s Register Quality Assurance Limited.