

# Metso:Outotec

Mobile mining crushing solutions

## Made to perform, built to last





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Production for mine infrastructure and roads



Fully mobile in-pit crushing



Crushing and screening of overburden

## The original Lokotrack® for contractors and quarries

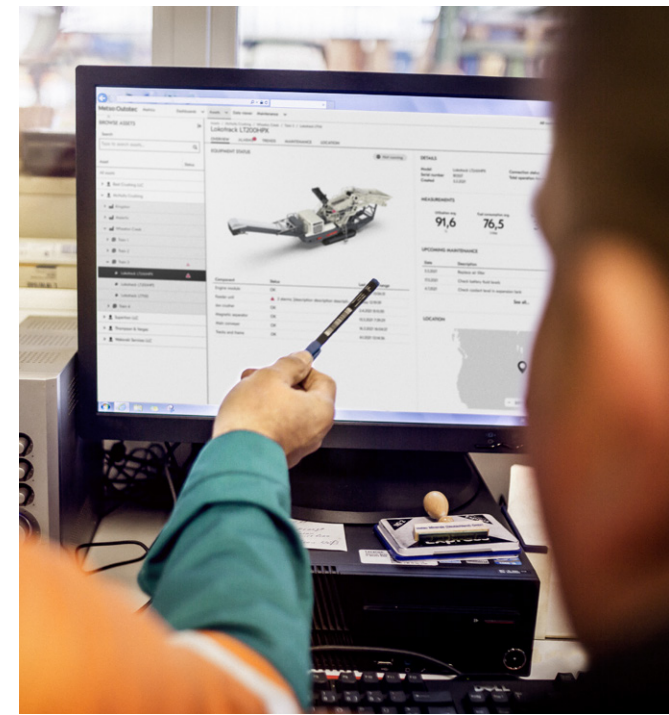
The track-mounted crushers were invented to go where the rocks are. Lokotrack® was originally developed in 1985 for our customer Telamurska to coincide with their first prototype. The idea was to move the crusher on tracks while building a forestry road, instead of the long process of digging out the rocks, transporting them to a quarry for crushing, and then transporting them back as a road base.

Today, we offer a wide range of different size and types of mobile crushers for mining customers, on and below the surface. The Nordwheeler crusher is towed to site and typically fed by wheel loader or dump trucks.

### Reliable partner day in, day out

Each Lokotrack® and Nordwheeler are built to last. Our decades of expertise in aggregates and mining crushing processes means that we can provide our customers with an unparalleled knowledge base. The engineering know-how together with persistent quality testing ensures that each Lokotrack and Nordwheeler runs reliably day in and day out. The premium-quality components together with modern, low emission diesel engines guarantee that your Lokotrack runs smoothly, efficiently and safely. And with our global service network, the help and parts are there when you need it.





## The right crushers for different materials



### Combine Lokotrack and optimize multi-stage processes

We offer a wide range of Lokotrack and Nordwheeler crushers - jaw, impact and cone crushers depending on your feed material, process and if it's in-the-pit crushing or underground. Mobile crushing solutions can be easily combined with other mobile crushing units, both mechanically and via their automation, for more efficient operation.

The machines are controlled and optimized with Metso Outotec IC™ process control and optional ICr for optimizing and controlling the entire crushing and screening process directly from the excavator cabin.

### Metso Outotec Metrics for remote monitoring and maintenance planning

The crushing and screening process and equipment can be monitored remotely by our Metso Outotec Metrics service. You can see the location of the plants online, as well as review the daily production and status of the machines. This helps you plan the upcoming production and maintenance needs ahead of time. With the ability to order parts and services beforehand, this completely minimizes any unplanned breaks in the production.



## Lokotrack jaw crushers

Jaw crushers are designed to crush all rock types, from the hardest granites to abrasive ones and to recycled materials such as demolished concrete. They are utilized as primary crushers that reduce the material to smaller sized for further processing. Different Lokotrack products (such as the LT130E, LT150E and LT160E) can be connected to Lokolink conveying system, for truckless crushing and conveying.



## Lokotrack cone crushers

Cone crushers are used as secondary, tertiary and quaternary crushers in multi-stage crushing applications such as ballast, stemming, aggregates and of course, to size the material before the mills. They're also great to pilot crushing and screening, in the beginning and end of mine-life. Lokotrack cone crushers are often fitted with an integrated screen to produce several calibrated end-products.



## Lokotrack mobile screens

Durable, high-quality Lokotrack® ST mobile screens operate in various standalone and multistage applications. This range of track-mounted screening plants provides you with multiple options, depending on produced material, production volume, site characteristics, and location. Lokotrack® ST mobile screens are customizable and fit for many different needs — they can also be tailored or modified later, if the production requirements change.



## Lokotrack mobile sizers

The Metso Outotec Lokotrack® mobile sizer comes from a proven, mobile design and is equipped with a sizer as a direct need from the market. Our sizers provide a fully integrated, flexible and modular solution that enables high productivity, ease of maintenance and a safe and simple operation.

Also, this solution is fully mobile at site and offers connectivity to Lokolink® conveyor systems.

## Applications:

- In pit crushing and conveying (IPCC)
- Mobile underground
- Multi-stage crushing for ballast and mine infrastructure

# Lokotrack® LT product range

|                 | MODEL                | WEIGHT                      | CRUSHER                   | CRUSHER DRIVE | INSTALLED POWER    | E-POWER                                                                                                                                                                     |
|-----------------|----------------------|-----------------------------|---------------------------|---------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JAW CRUSHERS    | Lokotrack® LT120E™   | 66,500 kg<br>(147,000 lbs)  | Nordberg® C120™           | Electric      | 310 kW<br>(416 hp) |       |
|                 | Lokotrack® LT130E™   | 105,000 kg<br>(230,000 lbs) | Nordberg® C130™           | Electric      | 403 kW<br>(540 hp) |       |
|                 | Lokotrack® LT150E™   | 155,000 kg<br>(341,700 lbs) | Nordberg C150™            | Electric      | 403 kW<br>(540 hp) |                                                                                                                                                                             |
|                 | Lokotrack® LT160E™   | 265,000 kg<br>(584,200 lbs) | Norberg C160™             | Electric      | 563kW<br>(754 hp)  |                                                                                                                                                                             |
| CONE CRUSHERS   | Lokotrack® LT200HP™  | 32,000 kg<br>(71,000 lbs)   | Nordberg® HP200™          | Direct        | 310 kW<br>(416 hp) |                                                                                                                                                                             |
|                 | Lokotrack® LT200HPX™ | 42,000 kg<br>(93,000 lbs)   | Nordberg® HP200™          | Direct        | 310 kW<br>(416 hp) |                                                                                                                                                                             |
|                 | Lokotrack® LT300HP™  | 45,000 kg<br>(100,000 lbs)  | Nordberg® HP300™          | Direct        | 403 kW<br>(540 hp) |                                                                                                                                                                             |
|                 | Lokotrack® LT220D™   | 47,900 kg<br>(105,600 lbs)  | Nordberg® GP220™ / HP200™ | Direct        | 310 kW<br>(416 hp) |                                                                                                                                                                             |
|                 | Lokotrack® LT330D™   | 71,000 kg<br>(156,600 lbs)  | Nordberg® GP330™          | Electric      | 563 kW<br>(755 hp) |       |
| IMPACT CRUSHERS | Lokotrack® LT1213™   | 46,000 kg<br>(101,000 lbs)  | Nordberg® NP1213M™        | Direct        | 310 kW<br>(416 hp) |                                                                                                                                                                             |
|                 | Lokotrack® LT1213S™  | 52,300 kg<br>(115,000 lbs)  | Nordberg® NP1213M™        | Direct        | 310 kW<br>(416 hp) |                                                                                                                                                                             |
|                 | Lokotrack® LT7150™   | 30,000 kg<br>(66,100 lbs)   | Barmac® B7150M™           | Hydraulic     | 310 kW<br>(416 hp) |                                                                                                                                                                             |
| MOBILE SCREENS  | Lokotrack® ST2.8E™   | 26,000 kg<br>(57,300 lbs)   | -                         | -             | 106kW<br>(142 hp)  |   |
|                 | Lokotrack® ST3.8E™   | 30,000 kg<br>(66,100 lbs)   | -                         | -             | 106kW<br>(142 hp)  |   |
|                 | Lokotrack® ST4.8E™   | 32,000 kg<br>(70,500 lbs)   | -                         | -             | 106kW<br>(142 hp)  |   |
|                 | Lokotrack® ST4.10E™  | 33,000 kg<br>(72,700 lbs)   | -                         | -             | 106kW<br>(142 hp)  |   |



## Lokotrack® e-Power hybrid mobile crushers and screens

Metso Outotec has committed to limiting global warming to 1.5 °C with our sustainability program, Planet Positive. It is our all-encompassing approach on sustainability, which covers the environmental, social and financial aspects. We are consistently developing our offering to be more sustainable, focusing on energy efficiency, reducing emissions and increasing safety.

One of our sustainable product ranges are hybrid diesel-electric mobile crushers and screens that we have been manufacturing since the early 1990's. The Lokotrack e-Power hybrid machines are powered by electricity from the grid when it is available, and by a modern, low emission diesel engine out in the wild. Using electricity can save up to 40% in fuel costs, giving you twice the opportunities compared to using only diesel-hydraulic machines. In addition, they are easy to service with commercial electrical components.

### Lokotrack® e-Power range:

#### Mobile crushers for mining

- Lokotrack® LT120E™ jaw crusher
- Lokotrack® LT130E™ jaw crusher
- Lokotrack® LT150E™ jaw crusher
- Lokotrack® LT160E™ jaw crusher

#### Mobile screens

- Lokotrack® ST2.8E™
- Lokotrack® ST3.8E™
- Lokotrack® ST4.8E™
- Lokotrack® ST4.10E™

# Nordwheeler™ portable crushers

Primary crushers



Secondary crushers



Underground crushers



## Pre-designed for fast delivery and quick set-up

NW Series™ portable crushers are wheel-mounted crushing machines that are made to process rocks and other hard materials. They can operate independently or as part of a larger fleet. Many models can be equipped with an integrated feeder and a screen into the same frame.

Thanks to transportability, the NW Series™ equipment commonly open new business opportunities for aggregate contractors, quarry operators, recyclers, and offer flexibility in mining applications.

Depending on the model, the NW Series™ can provide excellent size reduction performance as primary, secondary or tertiary crushers, as well as in fine crushing applications.

### Two ranges for different needs

Metso Outotec portable crushers offering consists of the NW Series™. Customizable NW Series™ equipment can be tailored to meet specific operational requirements.

### Crushing technologies

Portable jaw crushers are most commonly used as primary crushers. They are suitable for processing hard rock, soft rock and recycled materials.

Portable cone crushers are developed especially for secondary, tertiary and fine crushing with high productivity. Portable cone crushers can reduce any rock types.

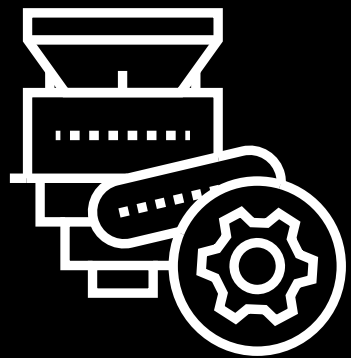
# Key technical specifications

| NW PRIMARY CRUSHING UNITS – JAW PLANTS |                 |                                                                               |       |                 | IMPACTOR PLANTS |                   |
|----------------------------------------|-----------------|-------------------------------------------------------------------------------|-------|-----------------|-----------------|-------------------|
|                                        | NW120™          | NW120™ UG<br>(for underground applications)<br>Crusher module   Feeder module |       | NW130™          | NW150™          | NW1213™           |
| TRANSPORT DIMENSIONS                   |                 |                                                                               |       |                 |                 |                   |
| Length (mm)                            | 14,000          | 9740                                                                          | 11630 | 17,630          | 18,950          | 14,193            |
| Width (mm)                             | 3,200           | 3420                                                                          | 3330  | 3,490           | 3,500           | 2,990             |
| Height (mm)                            | 3,900           | 3350                                                                          | 3010  | 4,500           | 4,500           | 4,113             |
| Weight (kg)                            | 52,500          | 38300                                                                         | 27000 | 72,000          | 70,500          | 40,000            |
| Bogie weight (kg)                      | 31,000          |                                                                               |       | 39,000          | 46,000          | 23,000            |
| King pin weight (kg)                   | 21,500          |                                                                               |       | 33,000          | 24,500          | 17,000            |
| CRUSHER                                |                 |                                                                               |       |                 |                 |                   |
| Model                                  | Nordberg® C120™ | Nordberg® C120™                                                               |       | Nordberg® C130™ | Nordberg® C150™ | Nordberg® NP1213M |
| Feed opening W x D (mm)                | 1,200 x 870     | 1,200 x 870                                                                   |       | 1,300 x 1,000   | 1,400 x 1,200   | 1,300 x 900       |
| Setting range (mm)                     | 70 - 200        | 70 - 200                                                                      |       | 100 - 250       | 125 - 250       | 20 - 80           |
| Motor power (kW)                       | 160 (200 hp)    | 160 (200 hp)                                                                  |       | 160 (200 hp)    | 200 (300 hp)    | 220               |
| FEEDER                                 |                 |                                                                               |       |                 |                 |                   |
| Model                                  | TK12-48-2V      | B13-56-2V                                                                     |       | VF561-2V        | VF661-2V        | TK11-42-2V        |
| Length (mm)                            | 4,800           | 5600                                                                          |       | 6,100           | 6,100           | 4,200             |
| Width (mm)                             | 1,200           | 1300                                                                          |       | 1,300           | 1,600           | 1,100             |

| NW SECONDARY AND TERTIARY CRUSHING UNITS – CONE PLANTS |                  |                  |                  | IMPACTOR PLANTS          | SCREEN ONLY  |
|--------------------------------------------------------|------------------|------------------|------------------|--------------------------|--------------|
|                                                        | NW500HP™         | NW300HPS™        | NW330GPS™        | NW7150S™<br>Double drive | NW2060S™     |
| TRANSPORT DIMENSIONS                                   |                  |                  |                  |                          |              |
| Length (mm)                                            | 18,200           | 15,307           | 15,000           | 13,738                   | 14,998       |
| Width (mm)                                             | 3,500            | 3,190            | 3,190            | 3,008                    | 3,190        |
| Height (mm)                                            | 4,480            | 4,357            | 4,200            | 4,504                    | 4,200        |
| Weight (kg)                                            | 64,000           | 55,900           | 55,500           | 33,000                   | 37,000       |
| Bogie weight (kg)                                      | 36,000           | 36,250           | 36,000           | 18,600                   | 28,700       |
| King pin weight (kg)                                   | 17,500           | 19,650           | 19,500           | 14,400                   | 8,300        |
| CRUSHER                                                |                  |                  |                  |                          |              |
| Model                                                  | Nordberg® HP500™ | Nordberg® HP300™ | Nordberg® GP330™ | Barmac® B7150SE VSI      |              |
| *Max opening/feed size (mm)                            | 350              | 241              | 225              | 45                       |              |
| *Closed side setting range (mm)                        | 10-51            | 10-45            | 8-35             |                          |              |
| Motor power (kW)                                       | 355              | 220              | 315              | 220                      |              |
| SCREEN                                                 |                  |                  |                  |                          |              |
| Model                                                  |                  | CVB2060-4M       | CVB2060-4M       | DS1855-4                 | NW2060CVB-IV |
| Length (mm)                                            |                  | 6,000            | 6,000            | 5,500                    | 6,000        |
| Width (mm)                                             |                  | 2,000            | 2,000            | 1,800                    | 2,000        |
| Power (kW)                                             |                  | 22               | 22               | 15                       | 22           |

\*cavity configuration dependant

Check the latest specifications [mogroup.com/nw-rapid](http://mogroup.com/nw-rapid)



Reduce hauling costs and increase productivity with Metso Outotec's mobile mining crushing solutions.



## Equipment Protection Services

As part of Metso Outotec's Life Cycle Services for Aggregates, Equipment Protection Services (EPS) can bring you added protection and give confidence in your cost structure by anticipating and minimizing unexpected equipment failures.

### EPS is built on three core elements:

- Scheduled inspections and parts recommendations with our certified technicians
- Extended warranty up to 10,000 hours or 5 years for specified major components
- Plan and report maintenance activities for your mobile equipment through our cloud-based Metso Outotec Metrics solution

### Metso Outotec Metrics

With mobile crushers moving frequently between sites it can be difficult to track, monitor and maintain your equipment for maximum performance. Through remote data monitoring, Metrics gives you access to critical insights on your equipment performance and maintenance needs. In addition, optional access to expertise can help you analyze the data with secured access on a PC or tablet.

Our Metrics tool also allows you to keep your costs in check. It helps reduce your inventory costs by mapping out which parts are required for upcoming service events so you can stay on top of your equipment's needs and minimize unnecessary maintenance costs.



## Standard parts for mining

Without proper parts, equipment cannot function optimally. Reliable crusher wear and spare parts enable stable production without unexpected downtime. We have a wide selection of parts that are available as standard or tailor-made according to your production requirements.

### Why choose Metso Outotec parts?

**Availability:** Not only are our parts accessible when you need them, our global distribution network is also there to support you throughout the life cycle of your equipment.

**Easy to buy and use:** Our equipment has unique designs making it easier to change our parts and components. We help to find the optimal wear liner solution from our standard and specialized offering of wear profiles to best match your application.

**Tried and tested:** All our spare parts are quality tested to ensure trouble-free operation with a strong warranty to back them up. Our crusher wear parts are expertly designed and manufactured to provide longer wear life and excellent performance for all your Lokotrack crushing equipment.

**OEM quality:** We apply the strictest standards and tolerances for guaranteed safety and reliability of our parts. Our crusher wear parts are designed to the same specifications as our crushing equipment, ensuring equipment compatibility for reliable and safe operation.



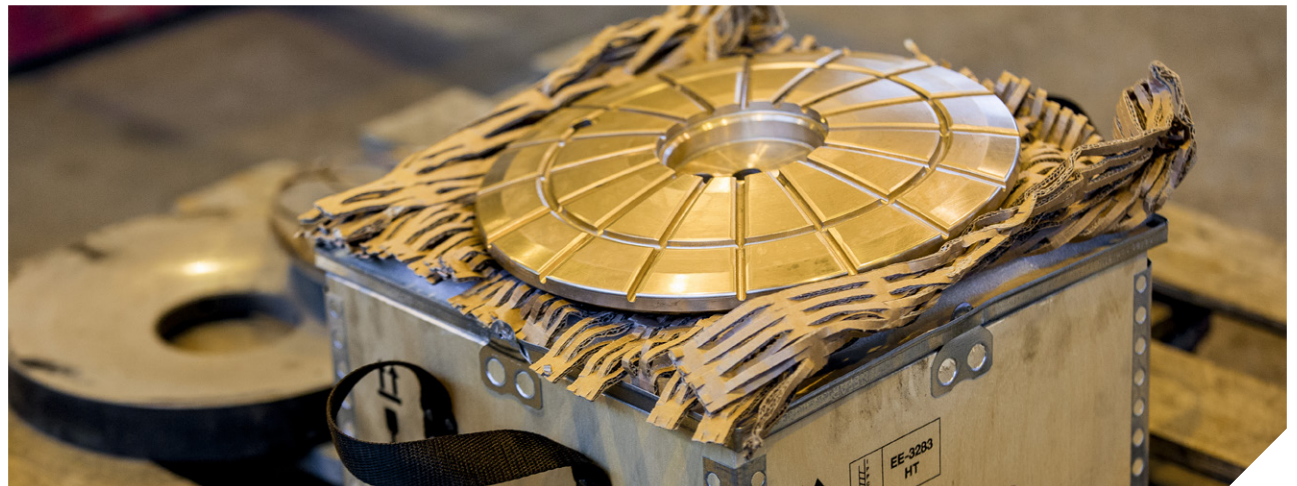
## Spare and wear part kits

Easy to order part kits are optimized to match your equipment maintenance intervals and guarantee optimal crushing performance. Specifically designed to fit your crusher and ensure the highest equipment availability. Maintaining your Lokotrack can also help to retain the resale value of your machine and reduce service costs.

- Maintenance kits for scheduled maintenance intervals
- Wear part fastening kits to secure your wear parts
- Part Recommendation lists (RPL's)

Visit the Lokotrack liveroom at [live.mogroup.com](https://live.mogroup.com)

A virtual showroom with 3D product models, services and parts booths.



Case: JK Sorajaloste, Finland

## Steady aggregate production

Maanrakennus Vääräniemi, who mainly produces road foundation material in northern Finland and also cut gravel in the Oulu region, has recently added one more Lokotrack to the arsenal: the safe and reliable LT106 jaw crusher. This new machine takes care of the primary stage of the double-stage plant, and the secondary stage is handled by LT1100 impactor crusher and screen plant.



An electric drive was an essential factor for us when choosing the new equipment since our plant's fine crusher and screen are fully electrically driven. It is certainly cheaper to transmit power electrically than with hydraulic oil. As a domestic manufacturer, Metso Outotec was the obvious choice."

Jarmo Stenberg, JK Sorajaloste



# Environmentally friendly and economical



The fact that they continue to choose us, and we are still the one — this speaks volumes on our capabilities."

Campbell Johnson  
Capital Distribution Manager  
Asia Pacific, Metso Outotec

## IPCC system reduces costs and CO<sub>2</sub> emissions

Following their usage of our in-pit crushing and conveying (IPCC) systems, Thailand's TPI Polene Public Company Limited cement plant looked to Metso Outotec for help in lowering their carbon footprint and cost. Through Metso Outotec providing a Lokotrack LT1510RC, Lokotrack mobile sizer and Lokolink conveyors, this allowed for TPI to achieve their project goals.

Fuel costs are also a major expense in plant operation. Therefore, low consumption is essential. In using the IPCC systems, as well as the Lokotrack® and Lokolink, the large site is able to further optimize their production and maximize their safety and sustainability - all whilst minimizing cost at the same time.

"It's important to note the safety aspect too — from a health and safety perspective, it reduces their mobile fleet, so they've got less traffic movement on the site, which is much safer," Kempas explains. "From an environmental perspective, it reduces fuel consumption and the environmental impact of dust emissions. From an operational perspective, it does everything they need it to do and more."

"The biggest benefit is that even with the sticky material, they are able to produce — this is the main thing. And they are using the IPCC system which has lower cost and is environmentally better than if they were using a conventional truck haul."

Jormas Kempas, Metso Outotec

[illegible]