

KOMATSU

Industrial minerals mining



Meet the growing needs of industrial mineral mining with technology, innovation and expertise

Demand for industrial minerals for agriculture, food preservation, manufacturing, road de-icing and so many other uses is growing fast. To meet these needs, you need to increase your production — profitably. We can help.

Lean on our expertise

Komatsu has a storied history in mining, providing solutions to operations like yours for more than 100 years. We've been active in the industrial minerals market with high-quality Joy and Komatsu brand equipment, specially designed for industrial mineral mining with advanced technologies — all with the journey to zero harm in mind.

Support at every step

To achieve your goals, it's essential to be backed by machines engineered and supported by a responsive, knowledgeable team. We're here to work with you every step of the way, including designing processes, selecting machines and monitoring performance to help maximize production.

Full range of solutions

No matter what aspect of your operation you're looking to elevate, we have solutions for you. We offer room and pillar equipment, drill and blast options, feeders and crushers and advanced automation and smart technologies. Komatsu equipment uses common components and technologies, helping simplify operation, maintenance and parts management.

Mining for today and the future

Take your operation to new levels by utilizing the latest technologies and solutions. Highly automated systems, new battery technologies and connected/interoperable mining management systems can help deliver greater efficiency and safety.



Continuous miners

One machine to cut, gather and move

Continuous miners have proven a very effective method of room and pillar industrial mineral production, as they cut, gather and move materials to haulage. As an alternative to drill and blast mining or borers, our Joy 12HM series miners provide a compelling balance of cutting power, reliability, serviceability and technology. The 12HM46 is the latest model specialized for industrial mineral mining.

Application-specific cutting

Get impressive production from your Joy continuous miner with a cutting system that can be sized to match mining conditions, with cutting power up to 1,140 HP (850 kW).

Designed for uptime

Each Joy miner is designed for efficient servicing as much as performance. For instance, access to motors, gear cases, controllers and other major components is outboard for easier troubleshooting and maintenance.

OptiDrive

Our patented OptiDrive AC variable-frequency drive (VFD) traction system is coupled to a compact all-gear transmission for smooth and reliable performance.

Faceboss Control System

The Faceboss Control System adds advanced features to help maximize production, such as operator assistance tools, automated sequences, advanced diagnostics, machine performance monitoring and remote operation.

Joy 12HM continuous miner

The largest and most powerful Joy drum-style continuous miner, with a machine mass greater than 340,000 lbs. (154,000 kg) and a maximum cutting height of 20 ft. (6 m). Specifically designed to operate in tough industrial minerals applications, with considerations such as components designed to resist corrosion.

Maximum cutting height

11' 6"	3,500 mm
14' 9"	4,500 mm
18'	5,500 mm
19' 8"	6,000 mm

Minimum cutting height

6' 1"	1,860 mm
8' 10"	2,700 mm
9' 2"	2,800 mm
9' 10"	3,000 mm

Total machine power

1,128 HP @ 2,300 V, 60 Hz	841 kW @ 2,300 V, 60 Hz
1,128 HP @ 4,160 V, 60 Hz	841 kW @ 4,160 V, 60 Hz
*1,678 HP @ 4,160 V, 60 Hz	*1,251 kW @ 4,60 V, 60 Hz
1,207 HP @ 3,300 V, 50 Hz	900 kW @ 3 300 V, 50 Hz

**Optional higher-power cutterhead*



Haulage

Moving your materials

We offer several haulage options so you can get what you need for your mine design and conditions, each one engineered and built with reliability, economy and safety in mind.

Joy flexible conveyor train (FCT)

Truly continuous haulage is now within reach. The 4FCT can help transform material transport by reducing — or even eliminating — haulage-related bottlenecks. It can be equipped to automatically follow a continuous miner. An integrated lump breaker helps size the product and meter the flow onto the belt.

Joy shuttle cars

Shuttle cars are the traditional haulage solution, and Joy shuttle cars are engineered for exceptional reliability, low operating cost and consistently high productivity. An optional remote-control system means an unmanned shuttle car can follow a continuous miner under an unsupported roof section, allowing for deeper cuts.

Joy battery haulers

Boost productivity by combining exceptional maneuverability with flexible routing. Optional lithium-ion batteries have a 75% faster charge time and much lower maintenance than traditional lead-acid technology.

Joy scoops

Scoops are true utility players in your mine, handling multiple tasks, such as maintenance, re-supply and clean-up.

**Once you've mined it,
you've got to move it**



Crushing

Sizing up your minerals

Komatsu material handling systems can help you unlock production growth for your operation with efficiency and productivity in sizing and feeding. The crushing equipment lineup includes feeder breakers, reclaim feeders and sizers.

Breaking in tension

Komatsu crushing equipment is designed to break minerals predominantly in tension rather than compression, helping reduce fines and increase performance with wet and sticky materials.

UFB-14, UFB-33 underground feeder breakers

Joy UFB-14 and UFB-33 feeder breakers provide reliable and cost-effective means for continuous feeding and breaking of most bedded, mined materials. When located closer to the working face, haulage distances and travel times are reduced for efficiency of the remaining section equipment. A powerful crawler drive system makes for quick, efficient belt moves.

Stamler RF-5 reclaim feeder

Engineered for flexibility, the RF-5 is easy to relocate and fits multiple applications. As a standard design, you can receive it 25-30% faster than engineered solutions. The RF-5 has a 15-year average life and replacement parts cost as low as \$0.01/ton.

DRX 800, DRX 1000 sizers

These versatile dual-roller, high-capacity machines can be easily reconfigured for applications with changing materials, such as lengthy tunneling applications. They're specifically designed for very sticky materials, to improve high angle conveyor system performance and boost total cost of ownership. Smart machine technology helps you monitor operations and predict maintenance to maximize uptime.



MVT-II 600 and 800

This secondary sizer features matched velocity technology (MVT) to minimize fines generation and a segmented roll design with replaceable teeth, so only the worn segments need replacement. Roll gap can be adjusted to optimize productivity. The self-cleaning, timed teeth optimize throughput by allowing sized material to pass through unimpeded.

SFB-29 feeder breaker

For streamlined operation, the SFB-29 feeder breaker combines the receiving, sizing and conveying of mineral material in a single unit. For additional efficiency, its low profile enables haulage equipment to discharge directly into the feeder hopper.



Leverage tech to level up

Automation and data analytics

The rapid advance of technology and automation has unlocked new possibilities in industrial minerals mining. Data and automation bring consistency and productivity, plus key safety advances.

Operations are forging multiple paths of automation to match their operations, goals and technology readiness. We will work with you to develop your own road map and implementation. Whether you want to start with in-depth data analysis or plan an entire coordinated autonomous system, we will help you meet your objectives.

Room and pillar automation opportunities

- Automated sump and shear cycles
- Miner navigation for straight cutting
- FCT follow-me mode
- Multicycle automated roof bolting

Spatial awareness

- Proximity detection
- Machine-to-machine communication
- Machine localization and mapping

Remote operations

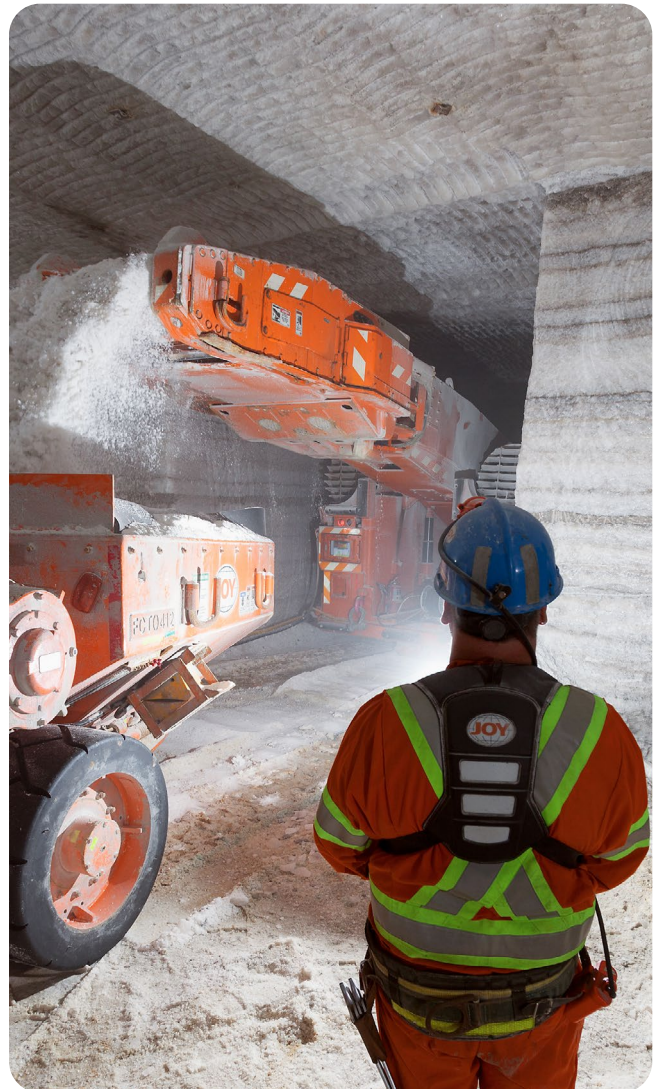
- Machine controls visible on the surface
- Flexibility in operations
- Remote operator override
- Third-party integration



Smart Solutions/Remote health management

Smart Solutions brings advanced data analytics, including trend analysis, to the mining industry. We continually receive data from machines within minutes — rather than end of shift — so you can make better decisions in near real-time.

With Smart Solutions, the system analyzes your machine's data and compares it to design and baseline. If it sees an anomaly, it informs you, enabling you to understand the issue and schedule a remedy to least disrupt production.



Application engineering *More than equipment — expertise*

There are times where you're looking for added performance, optimization and safety. You might not have in-house expertise or may just want another set of expert eyes to get your project started right or up your game.

Our Application Engineering group leverages Komatsu's more than 100 years of mining expertise to consult on your operation. The core group of mining and geological engineers have experience refining and designing room and pillar, single entry, gate road, multiple seam, longwall and bench developments. They also help you optimize your equipment, especially with today's equipment challenges: varied geological conditions, transitions from traditional drill and blast to mechanized mining and identification of alternate equipment solutions.

We use a full system approach to customer mine design/sequencing, production needs and safety considerations, and then develop models unique to your operation to predict production or to suggest optimizations based on the team's expertise, the Komatsu warehouse of historical data and Komatsu engineering subject matter experts.



Some of the services we use:

- Underground site evaluation and cuttability testing for base models
- Productivity analyses using the full system, including mine design, ventilation, ground support, material handling system compatibility and supporting infrastructure
- Cutting scenario evaluations and optimizations, starting with a base case to continued system integration at greenfield, transition and brownfield sites
- Evaluations of models versus results, further equipment integrations and continuous improvement reviews
- Visual animations of equipment and operations

Drill and blast mining

Innovation for your production

To help you find ways to lower your costs, speed production and help mitigate environmental and safety concerns, Komatsu offers a robust portfolio of drill and blast mining equipment and advanced technologies, including shaft sinking equipment, raise boring tools, development and bolting drill jumbos, drifters, feeds, loaders and trucks.

ZB21 bolter

The innovative ZB21 offers convenience and productivity on a flexible common-carrier platform. This solid workhorse allows 100% completion of the bolting cycle from the operator enclosure to reduce human interaction with screens and bolts. Covers all the tunnel, walls and backs.

ZJ21 jumbo drill

Designed for flexibility and productivity, the ZJ21 is a jumbo drill on a first-ever common carrier platform that makes operator training and adoption on the controls easier and faster. The ZJ21 also offers excellent useable coverage in a small jumbo platform, up to 66 m² for getting the most from your application use cases.

WX04 load-haul-dump (LHD)

Many industrial mineral mines are choosing the 4-tonne WX04. Its high-strength steel frame design with heavy-duty, all-mechanical powertrain can help you hit your production targets while keeping your costs down. With benchmark breakout force and operating speed, the WX04 performs up to 14% more productive than the competition.*

**Productivity increase based on a detailed competitive comparison with other 4-tonne loaders in its class (data available on request)*



Maintenance and repair programs

Maintain peak performance

To help you keep your machines producing at their best, we offer inclusive coverage options that go beyond the standard warranty. Whether you are looking to increase machine resale value or minimize everyday wear, our experts can help you decide which options best fit your needs.



Komatsu service and rebuild programs

At some point your equipment is going to need service or reach the end of its useful life. You'll need to decide how to proceed, balancing productivity, budget and timing. We can help with service and rebuild programs designed to help return your machines to their original specifications and performance.

Benefits include:

- Confidence knowing service work is backed by Komatsu warranties and completed with genuine Komatsu parts
- Simplifying your operation and budget by taking advantage of our component exchange programs, on-site technical support through service-for-hire, shop services and engineered solutions
- Reducing inventory costs by servicing and rebuilding your fleet with common parts
- For significant cost savings when a machine reaches the end of its useful life, opt for a like-new machine from the Komatsu rebuild program.

Lifecycle management

As you strive to keep your operation up and running at its peak for years, we can help by assisting you in design, management and maintenance of your fleet. A variety of life cycle management programs put our expertise to work for you:

- Cost-per-ton contracts
- Cost-per-hour contracts
- Machine rebuild programs and spare parts programs
- Preventive maintenance programs
- Combinations of the above for your specific needs
- Support when and where you need it. With more than 130 service locations in 18 countries, you have access to experts and our direct service model links you with the entire Komatsu organization — from field services to factory engineering and disciplines in between.

Component exchange program

Minimal machine downtime during planned and unplanned outages is critical to maintaining your production goals. With Komatsu component exchange programs, you access a supply of like-new, remanufactured assemblies available for fast delivery.

- Designed to reduce your total cost of ownership
- OEM reliability with an OEM-backed warranty
- Helps reduce costly inventory
- Like-new performance with reduced environmental impact
- 24/7 regional warehousing across the globe





Equipping the world to empower a sustainable future together

For the last century, the companies that power society and develop the world's infrastructure have relied on Komatsu to empower them. Through manufacturing, technology and service innovation with unmatched quality, reliability, insights and support, we work as your partner to create lasting value for your business.

Committed to enhancing your entire ownership experience, we leverage the intelligence of big data to deliver actionable insights and provide the technology needed to make sure you have the service, tech tools and parts you need to reduce downtime.

Your global partner

Tomorrow's mining demands ever-evolving technology to lower costs, raise productivity and drive zero harm. With virtual work sites throughout the world, we're able to develop and deploy the right technology at the right time.

Product designs, specifications and/or data in this document are provided for informational purposes only and are not warranties of any kind. Product designs and/or specifications may be changed at any time without notice. The only warranties that apply to sales of products and services are Komatsu's standard written warranties, which will be furnished upon request.

Komatsu and other trademarks and service marks used herein are the property of Komatsu Ltd., Komatsu America Corp., Komatsu Mining Corp., or one of their affiliates, or the respective owners or licensees.

KOMATSU

[komatsu.com](https://www.komatsu.com)

