Products
Overview
At Joy Global, everything starts with a **singular focus on mining**. Our business is focused solely on serving surface and underground mining operations with superior equipment, services and technology that allow our customers to achieve the lowest cost per unit of production over the life cycle.

Joy Global has a unique business model in the mining industry, centered on a **direct service** approach. Our customers deal directly with our company representatives, with no middleman or dealership operations intermediating discussions. This allows us to be more effective in responding to our customer’s needs. Our direct service approach reaches all six continents and more than twenty countries. Our **experienced people** and high quality services are close to the mines to provide better decisions and solutions.

Additionally, Joy Global is continually investing in research and development in order to deliver **technology** products that will revolutionise the way our customers do mining. Our resources are committed to developing methods and solutions focused on higher productivity and reliability and safer operations. These responsive and competitive solutions are concentrated on meeting our customer’s needs and take into consideration the ever changing demands of the mining industry.
### Electric Mining Shovels

**Benefits & Features**

- Designed for severe-duty digging and loading to maximise productivity and reliability
- Application matched with custom Optima dippers to maximise overall fleet production
- Operator cab designed to optimise visibility and ergonomics to increase operator efficiency
- PreVail Remote Health Management (RHM) to promote coordinated maintenance schedules and optimise availability
- Modular components to speed assembly and maintenance

<table>
<thead>
<tr>
<th>Model</th>
<th>Nominal Payload Capacity*</th>
<th>Dipper SAE Struck capacity range m³ / yd³</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900AL</td>
<td>18.0 / 20</td>
<td>7.5 - 19.1 / 10 - 25</td>
</tr>
<tr>
<td>2300XPC</td>
<td>45.4 / 50</td>
<td>18.3 - 25.5 / 24 - 33</td>
</tr>
<tr>
<td>2800XPC</td>
<td>59.0 / 65</td>
<td>26.8 - 33.6 / 35 - 44</td>
</tr>
<tr>
<td>4100C</td>
<td>81.6 / 90</td>
<td>42.8 - 47.7 / 56 - 62</td>
</tr>
<tr>
<td>4100C BOSS</td>
<td>90.7 / 100</td>
<td>44.3 / 58</td>
</tr>
<tr>
<td>4100XPC</td>
<td>108.9 / 120</td>
<td>52.8 - 61.2 / 69 - 82</td>
</tr>
<tr>
<td>4800XPC</td>
<td>122.5 / 135</td>
<td>66 - 71 / 86 - 90</td>
</tr>
</tbody>
</table>

*To optimise the payload based on haul truck matching and application specific requirements, contact your nearest Joy Global representative.
Optima Dippers

Benefits & Features

- Options tailored to differing mine applications & conditions
- Optimum digging & loading performance

### Nominal Payload Per Pass (metric tons)

<table>
<thead>
<tr>
<th>Options</th>
<th>Nominal Payload Per Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optima 50</td>
<td>10, 110</td>
</tr>
<tr>
<td>Optima 60</td>
<td>20, 120</td>
</tr>
<tr>
<td>Optima 80, 90</td>
<td>30, 110</td>
</tr>
<tr>
<td>Optima 110, 120</td>
<td>40, 100</td>
</tr>
</tbody>
</table>

### Oil Sands

- 2300XPB
- 2300XPC
- 2800XPB
- 2800XPC
- 4100TS
- 4100A
- 4100C
- 4100BOSS
- 4100C BOSS
- 4100XPB
- 4100XPC
Rotary Blasthole Drills

Benefits & Features

- Designed for high penetration rates
- Rugged mast and structures to maximise reliability
- Fast propel and positioning

<table>
<thead>
<tr>
<th>Model</th>
<th>Bit Loading kg / lbs</th>
<th>Hole Size max. dia. mm / in</th>
<th>Single Pass drilling depth m / ft</th>
<th>Multi-pass drilling depth m / ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>320XPC</td>
<td>68,038 / 150k</td>
<td>444 / 17.5</td>
<td>19.8 / 65</td>
<td>59.4 / 195</td>
</tr>
<tr>
<td>250XPC</td>
<td>40,823 / 90k</td>
<td>349 / 13.75</td>
<td>12.0 / 40</td>
<td>85.3 / 280</td>
</tr>
<tr>
<td>250XPC</td>
<td>47,627 / 105k</td>
<td>349 / 13.75</td>
<td>19.8 / 65</td>
<td>59.4 / 195</td>
</tr>
</tbody>
</table>

- Designed for high penetration rates
- Rugged mast and structures to maximise reliability
- Fast propel and positioning

Blasthole Drills
Benefits & Features

- Gradial Tub design for extended life
- AC drive with Centurion supervisory control system
- Designed for efficient, easy maintenance access to lower operating cost
- Mining-duty planetary swing and walk transmissions
- Straddle supported walk system for reliable operation

<table>
<thead>
<tr>
<th>Walking Draglines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>9010C</td>
</tr>
<tr>
<td>9020C</td>
</tr>
<tr>
<td>9020XPC</td>
</tr>
</tbody>
</table>
## Wheel Loaders

### Benefits & Features

- Low fuel consumption
- Optimised truck matching
- Small carbon footprint
- Designed for efficient, easy access maintenance to lower operating cost
- Designed to reduce operator fatigue and increase productivity
- Rugged, modular design for extended longevity

### Wheel Loaders

<table>
<thead>
<tr>
<th>Model</th>
<th>Nominal Payload tonnes / tons</th>
<th>Bucket nominal in m³ / yd³</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-1150</td>
<td>Standard: 34.5 / 38, High-lift: 31.7 / 35</td>
<td>19.1 / 25, 17.6 / 23</td>
</tr>
<tr>
<td>L-1350</td>
<td>Standard: 40.8 / 45, High-lift: 38.1 / 42</td>
<td>22.9 / 30, 21.4 / 28</td>
</tr>
<tr>
<td>L-1850</td>
<td>Standard: 54.4 / 60, High-lift: 49.9 / 55</td>
<td>30.6 / 40, 28.3 / 37</td>
</tr>
<tr>
<td>L-2350</td>
<td>Standard: 72.5 / 80, High-lift: 68.0 / 75</td>
<td>40.5 / 53, 38.2 / 50</td>
</tr>
<tr>
<td></td>
<td>Super High-lift: 54.4 / 60</td>
<td>53.5 / 70</td>
</tr>
</tbody>
</table>
Benefits & Features

- IPCC systems consist of Joy Global loading tools, crushers and conveyors. When required, products from alliance partners are included.
- We offer both fully mobile and stationary IPCC systems.
- Joy Global Smart Services support is available.
Conveyors

**Benefits & Features**
- Utilised to economically move bulk materials over long distances
- Able to negotiate varied terrain and both horizontal and vertical curves
- Viable option for many materials handling applications when compared to other methods

**High Angle Conveyor (HAC)**

**Benefits & Features**
- The HAC system is a proven option for a variety of steep angle applications
Feeder-Breakers

Benefits & Features

- Surge capacity allows haulage equipment to discharge mined material at its maximum rate
- Powerful rotary pick breaker reduces mined material to a consistent, easily handled size
- Mined material is discharged at a steady rate to reduce spillage and belt wear

Reclaim Feeder

Benefits & Features

- Efficient and cost-effective mechanism for reclaiming stockpiles and feeding material
Continuous Miners

Benefits & Features

- A wide variety of models and configurations to meet the most demanding production and geological requirements
- The Faceboss control platform can maximise continuous miner productivity

<table>
<thead>
<tr>
<th>Model</th>
<th>tonnes (tons) per minute min/max</th>
<th>Optimal Cut Range metres (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12CM</td>
<td>15 - 29 (17 - 36)</td>
<td>1.8 - 4.6 (5.9 - 15)</td>
</tr>
<tr>
<td>14CM</td>
<td>9 - 36 (10 - 36)</td>
<td>1.1 - 2.3 (3.6 - 7.5)</td>
</tr>
</tbody>
</table>
Entry Drivers

Benefits & Features
- Simultaneous cut and bolt - Auto sump and shear cycles while roof and rib bolters are operating
- Two height models for varying applications – 14ED25 for lower seam heights, and 12ED25 for higher seams
- Increased automation including auto ‘one touch’ cutting cycles and ‘one touch’ drilling cycles; ‘one touch’ bolt insert cycles
- Extendable side platforms to allow enhanced operator space for roof and rib bolting
- On board roof and rib mesh storage system including detachable pods for replenishment of roofbolts, rib bolts, resin and roof plates
- Sump frame has auto greasing and replaceable shims contributing to long life
- New cutter gearcase with symmetrical design (both sides interchangeable)
- The Faceboss control and monitoring system including diagnostic and historical operating data, and data-to-surface transmission
- Smart Bolter... electro-hydraulic semi-automatic touch pad roof and rib bolters

<table>
<thead>
<tr>
<th>Model</th>
<th>Seam Height metres (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14ED25</td>
<td>1.8 - 3.2 (5.10 - 10.5)</td>
</tr>
<tr>
<td>12ED25</td>
<td>2.8 - 3.9 (8.8 - 12.7)</td>
</tr>
</tbody>
</table>
Miner Bolters

Benefits & Features
- The Joy 12CM30 miner bolter is a single-pass machine for specified roadway cutting widths of either 4.8 m (15.7 ft), 5.0 m (16.4 ft), 5.2 m (17.0 ft) or 5.4 m (17.7 ft)
- Drum extensions allow cutter drum to retract for maneuvering and cornering
- Minimum bolt to face distance ~ 2 m (6.5 ft), ideal for early bolt application in poor ground conditions
- Large operator platforms to allow ease of operations for roof and rib drilling

Multibolter

Benefits & Features
- The Joy multibolters can be designed to meet a wide range of operating conditions with four models to cover various seam heights
- The number of platform-mounted drill units can be matched to suit the bolting pattern and mine conditions with up to six semi-automatic roofbolters. Either wet-drill or dry-drill versions (with vacuum dust collection system) are available
**Benefits & Features**

- The Joy AFX roofbolter is a heavy-duty, low-maintenance drill feed that is suitable for wet or dry drilling.
- A patented round bar design featuring high tensile chrome bars that virtually eliminates wear and greatly increases service life.
- 50% increase in thrust to three tonnes (3.3 tons) at 190Bar.

**HFX Roofbolters**

**Benefits & Features**

- The Joy HFX roofbolter is a patented round bar design drill feed featuring high tensile chrome bars with an integral cylinder arrangement that virtually eliminates wear and greatly increases service life.
- The HFX roofbolter comes in a range of sizes from 1.9 m (6.2 ft) to 3.4 m (11.1 ft) single pass stroke length, with a choice of clamping top plates and rotation units.
- The HFX roofbolter features a completely sealed carrier unit that virtually eliminates wear to the hardened chrome slide bars.
- Internally ported, clamping and centralising top plates keep the drill steels straight and eliminate the need for operators to interact with moving parts.
Rapid Facebolter

**Benefits & Features**

- The Joy longwall Facebolter is an AFC-mounted, hydraulically-propelled roofbolting machine specifically designed for longwall face bolting during salvage or installation or in the presence of severe adverse geologic conditions.

- This bolter mounts directly onto the AFC and is powered by hydraulic energy from the longwall roof supports supplied through a spocket meshed into the AFC rack bars.

- It incorporates maximum roofbolting flexibility allowing a wide coverage of roofbolter positions by permitting the two roofbolting rigs to move on sliding mechanisms both forward and backward (toward and away from the face) and also to raise and lower.

- A rotary actuator also allows the roofbolt rig to roll over to install bolts into the longwall face.
Shuttle Cars

Benefits & Features

- Most widely used haulage vehicle in the industry
- Lowest operational cost of all haulage products
- Variable frequency drive provides more power, speed and smoother acceleration
- Optional four-wheel independent suspension for better operator comfort, less fatigue
- Permanent four-wheel drive system
- Models available to meet mine seam heights
- Ergonomical designed operators cab with Joy stick controls
- Variable frequency conveyor drive
- Enhanced data transmission

<table>
<thead>
<tr>
<th>Model</th>
<th>Min. Mining Height metres (inches)</th>
<th>Payload tonne (ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10SC32B</td>
<td>1.9 (77)</td>
<td>14 (15)</td>
</tr>
<tr>
<td>10SC32BC</td>
<td>2.0 (80)</td>
<td>16 (18)</td>
</tr>
<tr>
<td>10SC32D</td>
<td>2.6 (102)</td>
<td>30 (33)</td>
</tr>
<tr>
<td>10SC42BC</td>
<td>2.4 (94)</td>
<td>16 (18)</td>
</tr>
</tbody>
</table>
Benefits & Features

- The Joy Flexible Conveyor Train (4FCT) is a truly continuous haulage system.
- Eliminates any haulage-related bottlenecks from typical underground continuous miner operations.
- Ability to continuously convey material along its length while simultaneously tramming.
- The lumpbreaker front-end provides ample 4FCT maneuverability and material sizing.
- Reduction in the total number of mobile machines in the section.
- Single operator; eliminates the need for multiple machine operators.
- Fixed path of travel so the FCT’s location is always known.

<table>
<thead>
<tr>
<th>Flexible Conveyor Trains</th>
<th>Discharge</th>
<th>Min. Seam Height metres (inches)</th>
<th>Min. Entry Width metres (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4FCT-B/C Side</td>
<td>1.40 (55)</td>
<td>6.0 (20)</td>
<td></td>
</tr>
<tr>
<td>Over the top</td>
<td>2.20 (86)</td>
<td>4.7 (15)</td>
<td></td>
</tr>
<tr>
<td>4FCT-C Side</td>
<td>1.65 (65)</td>
<td>6.0 (20)</td>
<td></td>
</tr>
<tr>
<td>Over the top</td>
<td>2.31 (96)</td>
<td>4.7 (15)</td>
<td></td>
</tr>
</tbody>
</table>
Benefits & Features

- Joy Feeder-Breakers, designed for a wide range of mining applications, provide high productivity and reliability in the most rigorous of conditions.

- Large surge capacity and high thru put allows the Feeder-Breaker to size and process mined material without impacting on the maximum discharge rate of haulage equipment.

- Designed to work as an integral part of total mining system and can accommodate both side and end loading or optional Ram car configuration.

- Incorporates extremely robust frame construction, rotating elements and durable conveyor wear materials for long term, low cost operation.

- High tractive effort.

- High level of machine function monitoring and protection of critical components.

<table>
<thead>
<tr>
<th>Model</th>
<th>Conveyor Width mm (inches)</th>
<th>Rated Capacity tonnes (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UBF 14A-59-103C</td>
<td>1422 (56)</td>
<td>1250 (1370)</td>
</tr>
<tr>
<td>UBF 14B-59-103C</td>
<td>1270 (50)</td>
<td>950 (1048)</td>
</tr>
<tr>
<td>UBF 14-59-103C</td>
<td>1181 (44)</td>
<td>750 (827)</td>
</tr>
</tbody>
</table>
Joy Global’s conveyor products are utilised in some of the most productive material handling applications worldwide. Conveyor equipment is designed for optimum availability and reliability.

Conveyor Controls

In today’s market, four drive options have emerged as the designs most frequently provided to our customers. They are the controlled clutch slip system, controlled fill fluid system, low-voltage VFD control, and medium-voltage VFD control system. Continually working with customers to determine which system best fits their particular requirements, Joy can supply all of these systems in addition to other drive alternatives. Joy Global has been the leader in high horsepower conveyor terminals for many years, designing conveyors with up to 10,000 connected horsepower.
Terminals

Terminals are designed and manufactured for the most grueling mining conditions. Critical items such as pulleys, shafts, and bearings are designed for each application by experienced Joy Global engineers. Power train components, such as motors, gear reducers, and couplings are sized with ample service factors.

All-Electric Winches

When properly equipped, this design allows a user to monitor belt tensions and provides the ability to apply variable rope pull to the take-up carriage or belt storage unit. The all-electric winch is “smart” and can adjust to dynamic load conditions found in many complicated systems. It allows the motor to reach full torque at zero speed. These features allow the winch to maintain proper belt tensions regardless of load conditions and belt speed.
Joy Global designs and manufactures the major elements of modern, high-production longwall systems and provides the integrated approach necessary for the productivity gains required for success in underground mining.

The major elements of a Joy longwall system are a shearer, an armored face conveyor (AFC), roof supports, stageloader, crusher and mobile belt tailpiece. Joy Global manufactures these individual elements and provides professional project management capability to incorporate them into an integrated system and deliver that system on time, to specification and on budget.

Benefits & Features

- The Faceboss control platform enables consistent operation yielding optimal production rate and reducing cost per tonne
- Seamless integration of data and information management between the shearer, face conveyor and roof support systems enables advanced automation for enhanced performance
Shearers

Benefits & Features

• A wide range of shearer models is offered to accommodate seam ranges from 1.3 m (4.2 ft) to over 7 m (22.9 ft)

• The Joy shearer is designed to be as simple and easy to maintain as possible

• Joy Global’s modular design concept allows for proper machine configuration for the application

• The Joy shearer has the industry’s most advanced automation system that provides the greatest benefit when utilised as part of a total system solution including a Joy AFC and powered roof supports

<table>
<thead>
<tr>
<th>Model</th>
<th>Cutting Range metres (feet)</th>
<th>Max Total Power kW (hp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7LS0</td>
<td>1.3 - 2.1 (4.2 - 6.9)</td>
<td>814 (1090)</td>
</tr>
<tr>
<td>7LS1D</td>
<td>1.5 - 3.0 (4.9 - 9.8)</td>
<td>1162 (1558)</td>
</tr>
<tr>
<td>7LS2A</td>
<td>1.6 - 3.5 (5.2 - 11.5)</td>
<td>1402 (1880)</td>
</tr>
<tr>
<td>7LS3A</td>
<td>2.0 - 4.0 (6.6 - 13.1)</td>
<td>1402 (1880)</td>
</tr>
<tr>
<td>7LS5</td>
<td>2.0 - 4.5 (6.6 - 14.8)</td>
<td>2050 (2749)</td>
</tr>
<tr>
<td>7LS6</td>
<td>2.5 - 5.0 (8.2 - 16.4)</td>
<td>2330 (3124)</td>
</tr>
<tr>
<td>7LS7</td>
<td>2.8 - 6.5 (9.2 - 21.3)</td>
<td>2345 (3145)</td>
</tr>
<tr>
<td>7LS8</td>
<td>4.5 - 7.2 (14.8 - 23.7)</td>
<td>2925 (3922)</td>
</tr>
</tbody>
</table>
Benefits & Features

- Joy Global has over 60 years of experience designing and manufacturing longwall roof supports.
- Joy Global designs and delivers roof supports that are tailored to the mine’s life/needs from a life of 28,000 to 90,000 cycles.
- The Faceboss electronic control system enables automatic control of the longwall operation, including fully automatic shearer and roof support gate turn arounds.
- Tonnage up to 1,750 metric tonnes.

<table>
<thead>
<tr>
<th>Units</th>
<th>Closed Height</th>
<th>Open Height</th>
<th>Total Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm</td>
<td>760 - 2200</td>
<td>1100 - 6500</td>
<td>1500/1750/2000</td>
</tr>
<tr>
<td>in</td>
<td>30 - 87</td>
<td>43 - 226</td>
<td>59/69/79</td>
</tr>
</tbody>
</table>
AFC Systems

Benefits & Features

- Joy Global manufactures all of the key elements for the armored face conveyor (AFC)
- Joy AFC line pans have become the linepan of choice for heavy duty applications
- The Broadband long life chain delivers new levels of conveying efficiency and reduced operating cost
- AFC and BSL Dynamic Chain Management helps reduce maintenance, increase production hours
- The Joy AFC design uses cast steel sigma sections with exacting tolerances
- TTT transmissions allow controlled soft start and high pull-out torque
- Power-up to 1600 kw per transmission
- Heavy-duty reliable gearboxes - 1000 EP/BP and 3000 EP/BP
Smart Services

Offerings

• Responsive Technical Support
• Prognostic Intelligence
• Advanced Technical Training
• Performance Optimisation
• Remote Health Monitoring
• Proactive Reliability
• Interactive Information Delivery
• 24/7 Technical and Logistical Support
• Genuine Service Products
• Machine & Component Rebuilds
• Comprehensive Asset Management
• Authentic Parts & Components
• On-Site Machine Revitalisation
• Performance Life Cycle Management