

# Draglines

Product Line





## Draglines: Experience and Expertise

With over a century of leadership in the mining dragline market, Bucyrus provided unmatched dragline expertise to customers. Caterpillar is proud to continue that legacy. Whether called upon to service existing draglines, to relocate and refurbish pre-owned draglines, to design innovative dragline technologies, or to work collaboratively with our customers to determine the optimal dragline configuration for their operation, we will provide industry-leading expertise to ensure our customers' success.

Draglines, the largest single-bucket excavators in existence today, are used primarily for the removal of overburden in long-life surface coal mines. For over a century, Bucyrus led the world in the design, manufacture, relocation and refurbishment of draglines.

Today, Caterpillar offers the industry's broadest dragline portfolio, incorporating the latest in dragline technology. Cat® draglines are designed to operate at high availability with the lowest environmental impact, providing an

average operating life of 40 years; the greatest degree of safety, reliability and productivity; and the lowest total cost of ownership method of overburden removal.

We use the latest welding and fabrication techniques to produce superior products. The benefits of these techniques are transferred directly to the customer in the form of higher quality and more reliable component performance.

## A Century of Leadership

From the largest dragline ever built to the world's first AC and direct-drive draglines, Bucyrus led the industry with ground-breaking dragline innovations. More than 1,100 of these draglines have been produced and delivered to every major continent over the past century – more than any other mining dragline manufacturer. Today, Caterpillar continues to lead the way in the evolution of these excavators and maintains the expertise to keep them operating reliably.

## Safety

Our goal is to provide a safe workplace while producing products that exceed the needs of our customers and shareholders. As a responsible corporate citizen, we commit to our goal of Zero Harm as related to the safe manufacture, installation and operation of our products. We will accomplish this goal through coordinated efforts and accountability at all levels of our organization. Cat draglines improve the safety of mine operations in many ways, such as reducing the amount of personnel necessary to move massive amounts of material and providing a safe, environmentally-controlled operator cabin.

## Global Dragline Service & Support

Manufacturing the largest excavators in the world is a big job – supporting them is even bigger. At Caterpillar, the connection between machine uptime and customer profitability is well understood. In order to ensure that a customer's dragline investment provides the highest level of performance, productivity and financial return, we offer a stable of top-quality, globally-available service and support resources.

## Application Engineering

To ensure that a customer's dragline investment will garner expected returns, Caterpillar employs application engineers who specialize in analyzing mine environments and applying the findings to recommendations for new draglines specifically designed to meet the customer's productivity targets, as well as upgrade recommendations for existing dragline fleets. Our application engineers work collaboratively with existing and potential dragline customers, considering factors such as digging environment, mine life, mine plan and annual production targets, among others, to determine the proper dragline configuration for each customer's mine site.

## Mechanical Upgrades

Caterpillar provides full mechanical component upgrades for existing draglines. In-house and third-party Finite Element Analysis expertise is employed to ensure that replacement parts outperform the original components.

Cat mechanical upgrade solutions include, but are not limited to:

- Major dragline structure repair/replacement for improved reliability and productivity enhancement
- Boom modifications to optimize Rated Suspended Load (RSL), operating radius, digging depth and dumping height
- Re-engineered components for improved performance





## Dragline Relocation & Field Assembly

Performing top-notch overhaul and relocation services are fundamental elements of the Cat dragline portfolio. Caterpillar understands that, despite the dragline's unmatched ability to remove overburden at extremely low cost per ton, the initial capital outlay and time it takes to produce a new dragline can lead mine owners to explore other alternatives, including the purchase and relocation of pre-owned draglines. The ability to offer a turn-key solution of OEM dragline parts, dragline service expertise and local resources positions Caterpillar as an industry-leading provider of dragline relocation and field assembly solutions. Likewise, the unmatched institutional knowledge of current and legacy dragline models enables informed upgrade recommendations, leading to more productive and reliable operations following relocation.

## Component Rebuilds

Caterpillar-trained engineers, machinists, welders and service personnel, with unmatched knowledge and understanding of Cat dragline products and components, provide the highest-quality OE component rebuild services for both legacy draglines and current models in use today.

## Customized Training

Caterpillar provides customized on-site and/or classroom training for dragline operators and mine operation supervisors with the goal of developing internal training competency for the customer. The comprehensive training package is designed in module form to target key production issues specific to a given customer's operation.

Caterpillar product trainers have years of experience with hands-on and classroom training, offering the necessary skills to implement changes on all aspects of operation, machine management and maintenance. In addition, Caterpillar utilizes cutting-edge technologies to improve knowledge retention, increase training efficiency and create a safer learning environment via machine simulation.

Around the world, Caterpillar provides total training solutions and support.

## Electrical Upgrades

Caterpillar develops and implements dragline electrical upgrade solutions that allow the electrical system to work in harmony with onboard mechanical systems. Whether AC or DC electrical service is required, specialized and locally-based Caterpillar personnel can provide tailored solutions that address the customer's specific needs. By implementing electrical upgrade solutions, owners of legacy draglines can reap the benefits of the latest technology, reducing operating cost and improving machine productivity and reliability.

Cat electric upgrade solutions include, but are not limited to:

- Drive System upgrades for enhanced performance (AC & DC)
- Programmable Logic Controller (PLC) & Human Machine Interface (HMI) upgrades for enhanced safety and availability
- Production Monitoring System for optimized productivity
- Onboard troubleshooting & remote diagnostics for improved reliability



# 8750

## Large Dragline Series

Multiple Specifications Available

In 1979, we became the first mining equipment manufacturer to successfully implement AC drive technology into equipment with production of the 395-B electric mining shovel. Building upon 30 years of acquired AC drive system knowledge and expertise, we have successfully applied the technology on the mining industry's largest platform, the dragline.

Caterpillar produced the world's first AC direct drive and AC conventional-powered draglines. In fact, Caterpillar remains the only mining equipment manufacturer in the world to have successfully implemented AC drive technology on mining draglines. The result: Cat AC draglines offer the lowest long-term Total Cost of Ownership (TCO) means for overburden removal.

All Cat draglines are optimized to provide each customer with a suitable and capital cost-effective option for their specific application.

### AC Conventional Configuration

- Bucket capabilities: 76 to 129 m<sup>3</sup> (100 to 169 yd<sup>3</sup>)
- Boom length options: 109.7 to 132.5 m (360 to 435 ft)
- Rated Suspended Load (RSL) capabilities: 226 800 to 383 286 kg (500,000 to 845,000 lb)
- Approximate working weight range: 5 840 000 to 7 587 000 kg (12,875,000 to 16,726,000 lb)
- Lower cost of ownership when compared to DC-drive-powered counterparts
- Improved electrical efficiency, higher availability and reduced maintenance are achieved via brushless AC motors
- Reduced inventory costs while enhancing productivity, Cat AC conventional draglines are equipped with identical

BI 348 AC motors for all motions (e.g., swing, hoist and drag), facilitating high-speed operation

- Provides environmentally-friendly means of overburden removal: consumes less power, produces less heat and noise and emits less greenhouse gases than other methods of overburden removal

### AC Direct Drive Configuration

- Bucket capabilities: 76 to 100 m<sup>3</sup> (100 to 130 yd<sup>3</sup>)
- Boom length options: 109.7 to 124.9 m (360 to 410 ft)
- Rated Suspended Load (RSL) capabilities: 226 800 to 294 840 kg (500,000 to 650,000 lb)
- Approximate working weight range: 5 840 000 kg (12,875,000 lb)
- AC direct drive configuration features gearless AC direct drives on hoist and drag, utilizing a single, large, low-speed AC motor on each function
- Swing and propel functions use same AC gearing as AC conventional dragline configuration
- Reduced maintenance and associated cost through elimination of hoist and drag gearing
- Gearless hoist and drag drive consumes even less power than AC conventional and AC modular configurations, reducing operating cost
- With no required gearing change-outs, increased machine uptime and cost savings are realized throughout the life of the dragline
- Provides environmentally-friendly means of overburden removal: consumes less power, produces less heat and noise, and emits fewer greenhouse gases than other methods of overburden removal

# 8200

## Mid-Range Dragline Series

Multiple Specifications Available



Including most of the innovative technology present in the large dragline series, the Cat mid-range dragline series provides a comparable alternative for mines requiring a mid-size machine.

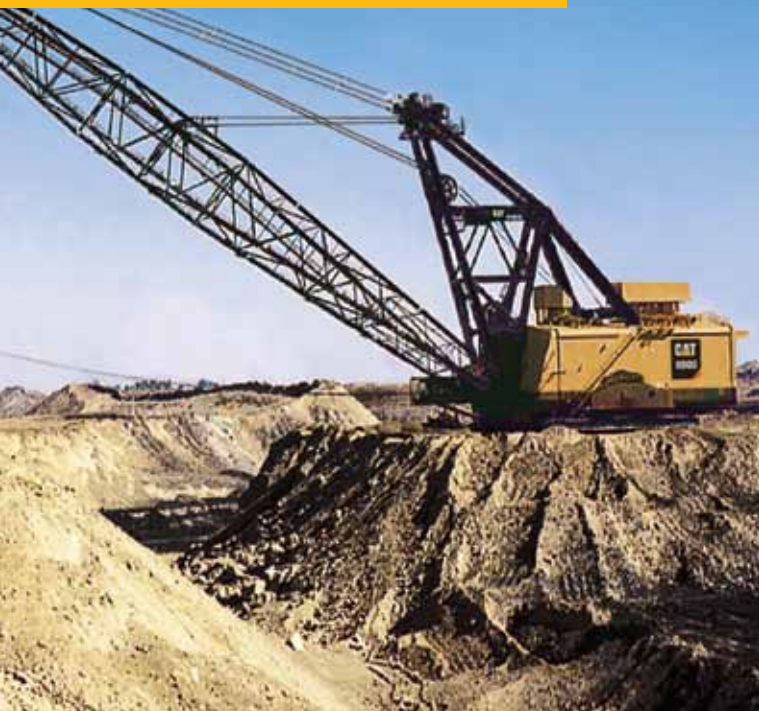
### AC Direct Drive Configuration

- Bucket capabilities: 45 to 61 m<sup>3</sup> (60 to 80 yd<sup>3</sup>)
- Boom length options: 100 m (328 ft)
- Rated Suspended Load (RSL) capabilities: 136 077 to 181 437 kg (300,000 to 400,000 lb)
- Approximate working weight range: 3 836 000 to 4 173 050 kg (8,457,000 to 9,200,000 lb)
- Lower TCO means of overburden removal when compared to DC drive-powered counterparts
- Greater electrical efficiency, higher availability and reduced maintenance are achieved by use of brushless AC motors
- Reduces inventory costs while enhancing productivity, Cat AC conventional draglines are equipped with identical BI 348 AC motors for all motions (e.g., swing, hoist and drag), facilitating high-speed operation
- Provides environmentally-friendly means of overburden removal: consumes less power, produces less heat and noise, and emits fewer greenhouse gases than other methods of overburden removal

# 8000

## Small Dragline Series

Multiple Specifications Available



The Cat small dragline series offers the latest in dragline technology and innovation, providing the highest levels of productivity and reliability and lowest total cost of ownership.

### Standard Configuration

- Bucket capabilities: 31-32 m<sup>3</sup> (42 yd<sup>3</sup>)
- Boom length options: 76 to 84 m (250 to 275 ft)
- Rated Suspended Load (RSL) capabilities: 93 900 to 95 200 kg (207,000 to 210,000 lb)
- Approximate working weight range: 1 751 000 to 1 792 000 kg (3,860,000 to 3,950,000 lb)
- Provides environmentally friendly means of overburden removal: consumes less power, produces less heat and noise, and emits fewer greenhouse gases than other methods of overburden removal

Model Series	8750 – Large Dragline	8200 Mid Range Dragline	8000 Small Dragline
<b>Bucket Capability</b>	76 to 129 m <sup>3</sup> (100 to 169 yd <sup>3</sup> )	45 to 61 m <sup>3</sup> (60 to 80 yd <sup>3</sup> )	31-32 m <sup>3</sup> (42 yd <sup>3</sup> )
<b>Boom Length</b>	109.7 to 132.5 m (360 to 435 ft)	100 m (328 ft)	76 to 84 m (250 to 275 ft)
<b>Rated Suspended Load</b>	226 800 to 383 286 kg (500,000 to 845,000 lb)	136 077 to 181 437 kg (300,000 to 400,000 lb)	93 900 to 95 200 kg (207,000 to 210,000 lb)
<b>Working Weight (Approximate)</b>	5 840 000 to 7 587 000 kg (12,875,000 to 16,726,000 lb)	3 836 000 to 4 173 050 kg (8,457,000 to 9,200,000 lb)	1 751 000 to 1 792 000 kg (3,860,000 to 3,950,000 lb)

# Draglines – Product Line

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at [mining.cat.com](http://mining.cat.com) and [www.cat.com](http://www.cat.com)

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