



Cat[®] 6030 AC

Hydraulic Shovel

Equipped with a customized electric motor, the Cat[®] 6030 AC Hydraulic Mining Shovel delivers the productivity you expect, the reliability you demand, and a lower total cost of ownership. When optimally paired with our 777 or 785 series mining trucks, you'll experience the operational efficiency you are looking for, supported by our unmatched Cat dealer network.

Optimize Your Operation with a Robust Drive System and Our Engine Design

- Select the drive system best suited for your operation to optimize performance and efficiency. The Cat 6030 can be equipped with a single electric motor for lower operating costs and emissions or two Cat C27 diesel engines for greater mobility.
- Boost productivity with more constant revolutions per minute (rpm), and less scheduled down time for refueling or engine maintenance.
- Reduce total cost of ownership with an electric motor designed to last the life of the shovel and dramatically lower operating costs per working hour for electric energy (kWh) vs diesel fuel (L/h).
- Improve serviceability with best-in-class accessibility to swing drives, pump drives, coupling and electric motor. The coupling can also be changed without removing the motor or gearbox, which reduces scheduled downtime.
- Maintain safe operations with easily accessible and well-marked switch cabinets for both low and high voltage switches. The complete high voltage switch cabinet is pre-assembled for easy transport.
- Evaluate actual operating conditions of the electric motor against stored limit values with our Motor Protection Relay (MPR). The MPR provides protection from thermal overload, overcurrent, unbalance, load loss, and improper voltage or frequency. Data generated by MPR is also consumed and displayed in the cab by the Board Control system (BCS).

Lower Costs per Ton with Higher Productivity and Greater Efficiency

- Produce the most tons per hour at a lower cost with industry leading bucket capacity and fuel efficiency.
- Realize faster boom movements and cycle times with boom lowering float valves. Using gravity rather than hydraulic pumps to lower the boom increases efficiency and enables pumps to support other functions simultaneously, such as bucket curl and stick in or out.
- Improve energy efficiency and generate less heat with our closed-loop swing system. Kinetic energy captured during swing motion is fed back to the system during deceleration, providing more power to drive the main and auxiliary pumps. This reduces the load on the motor and energy consumption.
- Increase component life and motor efficiency with our pump management system. This system continuously evaluates real-time motor and hydraulic operating values against set values and adjusts pump output accordingly.
- Protect and extend the life of hydraulic components with our independent oil cooling system. This system functions independent of hydraulic return oil, which increases efficiency by utilizing dedicated pumps to provide cooling capacity as needed. This translates to optimum oil temperature throughout the duty cycle.
- Experience greater control with five circuit hydraulics, allowing for two-cylinder motions, two travel motions, and swing to be controlled simultaneously.
- Achieve targeted production with an optimized truck match to maximize volume of material moved at the lowest operating cost per ton. The Cat 6030 AC is optimally matched with Cat 777 or Cat 785 Large Mining Trucks.



Cat® 6030 AC Hydraulic Shovel

Dig More Effectively with Our Unique TriPower™ Face Shovel Design

- Generate superior mechanical leverage and control with our unique boom design and rotatable triangular rockers. These features facilitate quicker cycle times, increased lifting forces, constant boom momentum, automatic constant bucket angle guidance, and automatically limit roll-back.
- Achieve faster lifting speeds and cycle times with the use of smaller-diameter boom cylinders.
- Maintain constant boom momentum and lifting speed throughout the entire lifting distance.
- Minimize material spillage during boom lifting with our automatic constant bucket angle feature. This enables operators to work more safely and efficiently while lowering cost per ton.
- Reduce the risk of material spillage with our automatic roll-back limiter. This feature ensures the bucket is always in a safe position – especially at maximum height.

Reduce Owning and Operating Costs with Greater Reliability, Durability, and Serviceability

- Withstand harsh mining conditions less vibration and rugged front attachments designed with high-strength steel and castings, which are joined and thermally stressed-relieved to extend service life and achieve production targets.
- Increase uptime with our new and improved undercarriage. Updated heavy duty load rollers and idlers incorporate duo cone seals, steel-back bronze bearings and fixed axle technology resulting in increased service life and elimination of overheating during travel. Improvements to track pads, track tensioning, and wear volume increase durability and reliability of the undercarriage as well. The new heavy-duty rollers are retrofittable to improve reliability of shovels in the field.
- Monitor critical event-based machine condition and operating data with the Board Control System (BCS) which offers a comprehensive range of diagnostic and reporting tools. The BCS uses sensors throughout the machine to monitor operating data, record faults, and notify the operator audibly and visibly.
- Access motor compartment, superstructure components, and ground-level service station more easily, for safer and more streamlined serviceability.
- Inspect, maintain, and repair hydraulic components more efficiently with placement of the main valve block on the boom and improved routing and clamping of hoses. The integration of Cat hoses ensures they can be built locally, which reduces downtime and operating costs.

Get Peak Operator Performance with Our Safe and Comfortable Operator Environment

- Protect operators with excellent visibility, safety glass in all cab windows, a top guard protection system and armored glass for the windshield as standard. An additional front guard is optional.
- Neutralize hydraulic controls when the operator leaves the seat with our integrated safety switch.
- Reduce operator fatigue with a heated, pneumatically cushioned, multi-adjustable operator's seat, enhanced electro-hydraulic servo control, and intuitive on-board electronics.
- Monitor vital machine and diagnostic data on the large, color touchscreen for convenient troubleshooting and service assistance.
- Maintain internal ambient temperature with a single HVAC system or upgrade to a dual HVAC system.

Return Operators Home Safely Everyday with Our Standard Safety Features

- Access, egress, and move about the machine more safely with anti-slip stairways and a powered access ladder.
- Increase operational safety with automatic load braking when doors on the high voltage cabinet are opened, a standard cable connection, and improved routing and separation of hydraulic lines and electric cables.
- Improve machine service and maintenance safety with anti-slip walkways, a ground-level service station, LED lights, and easily accessible emergency shut-off and isolation switches.

Optimal Pass Match

	Cat 777	Cat 785	Cat 789
6030 AC	3	5	6

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional		Standard	Optional
CAT POWER TRAIN			FRONT ATTACHMENT		
Electric Motor (6.6 kV – 50 Hz)	✓		TriPower™ Face Shovel (FS) Attachment	✓	
Electric Motor (6.0 kV – 50 Hz)		✓	Guards for shovel cylinders at FS stick	✓	
Pressurized high voltage switch cabinet:	✓		Frontless base machine		✓
– Load breaking switches			Wear package and shrouds	✓	
– Main fuses			Special wear packages		✓
– Voltage transformers			OPERATOR ENVIRONMENT		
– Current transformer			Single HVAC system	✓	
– Voltage monitor for each phase			Dual HVAC system		✓
– Vacuum contactors motor start/stop			Heated, pneumatically cushioned and multi-adjustable comfort seat	✓	
Starting aid transformer		✓	Independently adjustable seat consoles with integrated joysticks	✓	
Power factor correction		✓	FM/AM radio with USB and AUX input	✓	
HYDRAULICS			Fold away auxiliary seat	✓	
Cat pump managing system:	✓		Sliding side window	✓	
– Electronic load limit control			Roller blinds at all windows	✓	
– Flow on demand			External sun shields	✓	
– Automatic zero flow regulation			Powered 55° access ladder	✓	
Pressure cut-off for main pumps	✓		Powered 45° access stairway		✓
Closed loop swing circuit	✓		Camera monitoring system		✓
Boom float valves	✓		Cat Board Control system with 305 mm (12 in) color touchscreen	✓	
ELECTRICAL SYSTEM			COLD WEATHER		
Maintenance-free batteries	✓		Gear oil heater with thermostat		✓
Pressurized low voltage switch cabinet:	✓		Hydraulic oil heaters with thermostat		✓
– Motor Protection Relay (MPR)			SERVICE AND MAINTENANCE		
– 24 V power supply			Retractable service station	✓	
– Active power converter			S-O-S SM sampling ports	✓	
– Phase reversal indication			Hydraulic oil exchange interval – 10,000 hours	✓	
– Circuit breakers			SAFETY AND SECURITY		
14 LED high-brightness working flood lights	✓		Emergency egress harness kit	✓	
11 LED service lights	✓		All-around safety glass	✓	
UNDERCARRIAGE AND STRUCTURES			Armored windshield	✓	
HD tracks	✓		Operator Protective Guard (Top Guard)	✓	
800 mm (2 ft 7 in) wide track pads		✓	Operator presence switch	✓	
1000 mm (3 ft 3 in) wide track pads	✓		Five (5) emergency stop switches	✓	
1200 mm (3 ft 11 in) wide track pads		✓	MISCELLANEOUS		
Belly plate for extra protection		✓	ISO or ANSI decals	✓	
HD fixed axle rollers	✓				
HD fixed axle idlers	✓				
Automatic hydraulic retarder valve	✓				
Acoustic travel alarm (forward and reverse)	✓				
Fully hydraulic self-adjusting track tensioning	✓				
Slip ring in undercarriage	✓				
Cable guide with junction box at undercarriage	✓				
300 m (985 ft) trailing cable		✓			

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Technical Specifications

Electric Motor

Type	Squirrel cage induction motor	
Output	1000 kW	
Voltage	6.6 kV ± 10% (other upon request)	
Rated Current I _N	110 A (at 6.6 kV)	
Frequency	50 Hz	
Speed	1,500 min ⁻¹	
Starting Current	350% of I _N (197% of I _N optional)	

Low Voltage Electrical System

System Voltage	24 V	
Batteries in Series/Parallel Installation	2 × 210 Ah – 12 V each 210 Ah – 24 V	

Operating Weights

6030 AC with TriPower™ Face Shovel Attachment (FS)		
Standard Track Pads	1000 mm	3 ft 3 in
Operating Weight*	294 300 kg	648,810 lb
Ground Pressure	21.9 N/cm ²	31.7 psi

*Operating weights include: base machine, front attachment, standard track pads, standard rock bucket, and lubricants.

Service Refill Capacities

Hydraulic Tank	2820 L	745 gal
Hydraulic System (including tank)	3300 L	872 gal
Grease Container	450 L	119 gal

Hydraulics

Maximum Flow to Main Pumps	4 × 543 L/min	4 × 143 gal/min
Maximum Pressure – Attachment	310 bar	4,495 psi
Maximum Pressure – Travel	360 bar	5,220 psi
Maximum Flow to Swing Pumps	2 × 426 L/min	2 × 113 gal/min
Maximum Pressure – Swing	350 bar	5,075 psi

Swing System

Swing Speed	5.0 rpm	
Swing Circuit	Closed-loop with Torque Control	

Undercarriage

Maximum Travel Speed – 1st Stage	1.4 km/h	0.9 mph
Maximum Travel Speed – 2nd Stage	2.7 km/h	1.7 mph
Maximum Tractive Force	1637 kN	367,880 lbf

Operator Environment

Operator's Eye Level	6.5 m	21 ft 4 in
Operator Protective Guard (Top Guard)	ISO 10262:1998 Level II	

Dimensions

Height Overall	8050 mm	26 ft 5 in
Height of Tracks	1940 mm	6 ft 4 in
Clearance Under Counterweight	2170 mm	7 ft 1 in
Tail Swing Radius	6450 mm	21 ft 2 in
Width Overall (@ 1000 mm [3 ft 3 in])	7110 mm	23 ft 4 in
Crawler Length	7660 mm	25 ft 2 in
Track Gauge	4800 mm	15 ft 9 in

Working Ranges and Forces

Face Shovel

Boom	6.2 m	20 ft 4 in
Stick	4.4 m	14 ft 5 in
Standard Rock Bucket Heaped 2:1 (ISO 7546)	16.5 m³	21.6 yd³
G.E.T. System with Six (6) Teeth	C95	
Maximum Crowd Force (ISO)	1298 kN	291,700 lbf
Maximum Breakout Force (ISO)	954 kN	214,390 lbf
Maximum Digging Height	13.9 m	45 ft 7 in
Maximum Digging Reach	13.7 m	44 ft 11 in

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