Cat®
6030/6030 FS

Hydraulic Shovel

Features:
With over 300 deliveries world-wide, the Cat® 6030/6030 FS is our most popular and best-selling hydraulic mining shovel model. Along with the same advanced technology available on its larger Cat counterparts, the 6030/6030 FS provides the most powerful engine output in its class for added productivity and facilitates the mobility and flexibility you need from a 300 tonne machine. When optimally paired with our 777 or 785 Series mining trucks, you'll experience the operational efficiency and productivity you're looking for, supported by our unmatched Cat dealer network.

Specifications

General Data

Operating weight		
Face Shovel	294 tonnes	324 tons
Backhoe	296 tonnes	326 tons
Engine output SAE J1995		
2 × Cat C27 ACERT	1140 kW	1,530 hp
Standard bucket capacity		
Face Shovel (heaped 2:1)	16.5 m^3	21.6 yd^3
Backhoe (heaped 1:1)	17.0 m^3	22.2 yd^3

Features

- TriPower shovel attachment
- Independent oil cooling system
- Spacious walk-through machine house
- 5-circuit hydraulic system
- On-board electronics system: Control and Monitoring Platform (CAMP)
- Board Control System (BCS III)
- Torque control in closed-loop swing circuit
- Automatic central lubrication system
- LED working lights

Operating Weight

6030 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
6030		
Standard track pads	1000 mm	3 ft 3 in
Operating weight	296 500 kg	653,660 lb
Ground pressure	22.1 N/cm^2	32.0 psi

- Other track pads available on request

Diesel Engines

Make and model	2 × Cat C27 ACERT	
Total rated net power – ISO 3046/1	1140 kW 1,800 min^{-1}	1,530 hp 1,800 min^{-1}
Total rated net power – SAE J1349	1140 kW 1,800 min^{-1}	1,530 hp 1,800 min^{-1}
Total rated gross power – SAE J1995	1140 kW 1,800 min^{-1}	1,530 hp 1,800 min^{-1}
Number of cylinders (each engine)	12	
Bore	137.7 mm	5.42 in
Stroke	152.4 mm	6.0 in
Displacement	27.0 L	1,648 in^3
Aspiration	Turbocharged and charge air-cooled	
Maximum altitude without deration at 25° C (77° F) – above sea-level	500 m	1,640 ft
Alternators	2 × 150A	
Fuel tank capacity	5070 L	1,339 gal

- Meets U.S. EPA Tier 2 equivalent emission standards
- Hydraulically driven radiator fan with electronically controlled fan speed
- Micro processed engine management
- Heavy-duty air filters
- Two-stage fuel filter, including water separator
- Additional high-capacity water separator

Electric Motor – 6030 AC/6030 AC FS

Type	Squirrel cage induction motor
Output	1000 kW
Voltage	6.3 kV ± 10% (other on request)
Rated current IN	109A (at 6.3 kV)
Frequency	50 Hz (60 Hz on request)
Revolutions	1,500 min^{-1} (1,800 min^{-1} at 60 Hz)
Starting current	450% of I_N (253% of I_N optional)

Electrical System (diesel drive)

System voltage	24V
Batteries in series/parallel installation	4 × 210 Ah – 12V each 420 Ah – 24V in total

- Battery isolation relays
- Emergency stop switches accessible from ground level and in engine module
- 12 LED high-brightness working flood lights
  - 8 for working area
  - 2 for rear end
- 2 LED high-brightness access flood lights
- 14 LED service lights

Hydraulic System with Pump Managing System

Main pumps	4 × variable swash plate pumps	
Maximum oil flow		
Diesel version	4 × 552 L/min	4 × 146 gal/min
AC version	4 × 543 L/min	4 × 143 gal/min
Maximum pressure, attachment	310 bar	4,495 psi
Maximum pressure, travel	360 bar	5,220 psi
Swing pumps	2 × reversible swash plate double pumps	
Maximum oil flow		
Diesel version	2 × 394 L/min	2 × 104 gal/min
AC version	2 × 426 L/min	2 × 113 gal/min
Maximum pressure, swing pumps	350 bar	5,080 psi
Total volume of hydraulic oil – approximately	3500 L	925 gal
Hydraulic tank capacity – approximately	2500 L	660 gal

- Pump Managing System contains:
  - Electronic load limit control
  - Flow on demand from main pumps depending on joystick position
  - Automatic regulation of main pumps to zero flow without demand
  - Automatic RPM reduction of engine speed during working breaks
  - Reduced oil flow of main pumps at high hydraulic oil temperature or at high engine temperature
- Pressure cut-off for main pumps
- Cooling of pump transmission gear oil
- Filters:
  - Full-flow high-pressure filters (100 µm) for the main pumps, installed directly behind each pump
  - High pressure filters (100 µm) for the closed swing circuit
  - Full-flow filters (10 µm) for the complete return circuit
  - Full-flow filters (10 µm) for the cooling return circuit
  - Pressure filters (40 µm and 6 µm) for servo circuit
  - Transmission oil filters (40 µm)

Hydraulic Oil Cooling

Oil flow of cooling pumps		
Diesel version	2 × 467 L/min	2 × 123 gal/min
AC version	2 × 459 L/min	2 × 121 gal/min
Diameter of fans	2 × 1220 mm	2 × 48 in

- Cooling system is fully independent of all main circuits, i.e. controlled cooling capacity is available whenever engine is running
- Gear-type cooling pumps supplying high-volume, low-pressure oil to fans and aluminum coolers
- Variable axial piston pumps supplying low-volume, high-pressure oil to fans
- Fan speed is thermostatically controlled
- Extremely high cooling efficiency to ensure optimum oil temperature

Swing System

Swing drives	2 compact planetary transmissions with axial piston motors
Parking brakes	Wet multiple-disc brake, spring-loaded/hydraulically released
Maximum swing speed	
Diesel version	4.6 rpm
AC version	5.0 rpm
Swing ring	Triple-race roller bearing with sealed internal gearing

- Closed-loop swing circuit with torque control
- Hydraulic braking of the swing motion by counteracting control
- All raceways of swing ring as well as grease bath for internal gearing supplied by automatic, central lubrication system

Retractable Service Station

Retractable service station installed underneath the engine module and easily accessible from ground.

Equipped with:

- Quick couplings for:
  - Diesel fuel
  - Engine coolant – left/right
  - Pump transmission gear oil – left/right
  - Engine oil – left/right
  - Hydraulic oil tank
  - Grease container
- Cat jump-start socket
- Indicator lights for fuel tanks left/right full and grease container full

Operator's Cab

Operator's eye level – approximately	6.5 m	21 ft 4 in
Internal dimensions of cab		
Length	2200 mm	7 ft 3 in
Width	1600 mm	5 ft 3 in
Height	2150 mm	7 ft 1 in

- Under roof mounted heating ventilating and air conditioning system
- Pneumatically cushioned and multi-adjustable comfort seat with lumbar support, seat heating, safety belt, head- and armrests
- Switch in seat cushion to automatically neutralize the hydraulic controls when operator leaves the seat
- Joystick controls integrated in independently adjustable seat consoles
- Fold-away auxiliary seat with safety belt
- FOPS (rock guard; approved according to DIN ISO 3449) integrated into cab structure
- All-round safety glass, armored windshield and sliding side window
- Windshield with parallel intermittent wiper/washer
- Roller blinds at all windows
- External sun shields at side and rear windows
- Robust instrument panel including large colored BCS screen with transflective technology
- Board Control System (BCS) electronic monitoring and data logging system for vital signs and service data of engines, hydraulic system and lubrication system
- Machine access via retractable access stairway, stairway angle approximately 45°, hydraulically operated
- Sliding emergency ladder (kick-down type) with ladder cage

Undercarriage

Travel speed (2 stages)		
1st stage – maximum	1.4 km/h	0.87 mph
2nd stage – maximum	2.7 km/h	1.68 mph
Maximum tractive force	1637 kN	367,880 lbf
Gradeability of travel drives – approximate	64%	
Track pads (each side)	47	
Bottom rollers (each side)	7	
Support rollers (each side)	2 plus a skid plate in between	
Travel drives (each side)	1 planetary transmission with 2 two-stage axial piston motors	
Parking brakes	Wet multiple disc brake, spring loaded/hydraulically released	

- Cast double-grouser combined pad-links with bushings connected by hardened full floating pins
- All running surfaces of sprockets, idlers, rollers and pad links, as well as teeth contact areas of sprocket and pad links, are hardened
- Fully hydraulic self-adjusting track tensioning system with membrane accumulator
- Automatic hydraulic retarder valve to prevent over-speed on downhill travel
- Acoustic travel alarm

Automatic Lubrication System

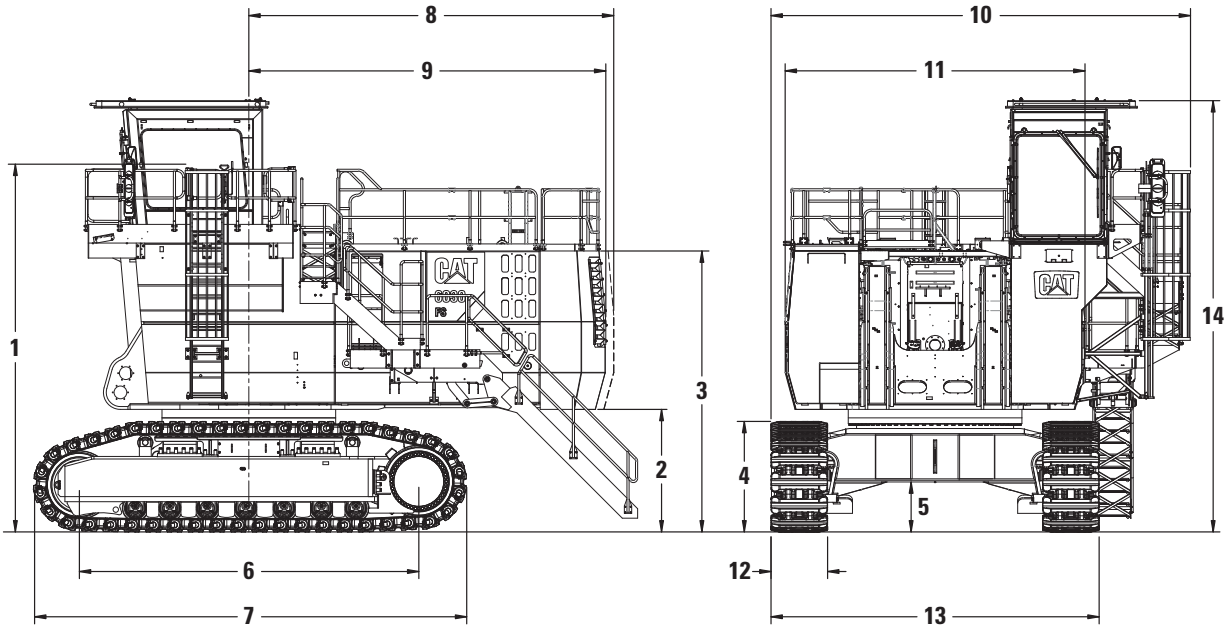
Capacity of grease container	450 L	120 gal

- Dual-circuit system with hydraulically driven heavy-duty pump and electronic time relay control to adjust the pause/lube times
- Connected to the lubrication system are the swing roller bearing with internal gearing and all pivot points of attachment, bucket and cylinders
- Lubricated pinion for greasing of internal gearing of swing ring
- System failures displayed by Board Control System
- Grease filters (200 µm) between service station and container as well as directly behind grease pump

Attachments

- Booms and sticks are torsion-resistant, welded box design of high-tensile steel with solid steel castings at pivot areas
- Welding procedures allow for internal counter-welding (double prep weld) wherever possible
- Booms and sticks are stress-relieved after welding
- Catwalks with rails at booms
- Pressure-free lowering of boom (FS and BH) and stick (FS) by means of a float valve
- Shovel attachment with unique TriPower kinematics ensuring the following main features:
  - Horizontal automatic constant-angle bucket guidance
  - Vertical automatic constant-angle bucket guidance
  - Automatic roll-back limiter to prevent material spillage
  - Kinematic assistance to hydraulic forces
  - Constant boom momentum throughout the whole lift arc
  - Crowd force assistance
- All buckets (FS and BH) are equipped with a wear package consisting of:
  - Special liner material covering main wear areas inside and outside of bucket
  - Lip shrouds between teeth
  - Wing shrouds on side walls
  - Heel shrouds at bottom edges
- Special wear packages for highly abrasive materials on request

6030/6030 FS Hydraulic Shovel



Dimensions (All dimensions are approximate. Dimensions and weights of AC machine differ slightly. Separate drawings, dimensions and weights can be provided upon request.)

1	6500 mm	21 ft 4 in
2	2170 mm	7 ft 1 in
3	4970 mm	16 ft 4 in
4	1940 mm	6 ft 4 in
5	880 mm	2 ft 11 in
6	6010 mm	19 ft 9 in
7	7660 mm	25 ft 2 in

8	6450 mm	21 ft 2 in
9	6310 mm	20 ft 8 in
10	7420 mm	24 ft 4 in
11	5300 mm	17 ft 5 in
12	1000 mm	3 ft 3 in
13	5800 mm	19 ft 0 in
14	7620 mm	25 ft 0 in

OPTIONAL EQUIPMENT

GENERAL
- Export crating
- Custom paint

SUPERSTRUCTURE
- C27 ACERT engines meet U.S. EPA Tier 4 Interim equivalent emission standards
- Oil change interval extension for engine oil up to 1,000 hours
- Hydraulic service crane on superstructure with auxiliary engine
- Round container for a standard 200 L (53 gal) grease barrel (instead of 450 L (119 gal) grease container)
- Cold-weather package

CAB
- Cab heating
- Dual (redundancy) HVAC system
- Camera monitoring system
- Windshield guard (FOGS)

UNDERCARRIAGE
- Track pad width 800 mm (2 ft 7 in) or 1200 mm (3 ft 11 in)
- Cover plate under carbody (belly plate)

Additional optional equipment available on request.

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at **www.cat.com**

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