



Cat[®] MD6640

ROTARY BLASTHOLE DRILL

Specifications

Mainframe Components

Air Compressor with Unloader Package

Oil-Flooded Screw Compressor and Constant Volume Oil Pump for Optimized Cooling

Standard	85 m ³ /min (3,000 ft ³ /min) free air, 4.5 bar (65 psi)
Optional	108 m ³ /min (3,800 ft ³ /min) free air, 4.5 bar (65 psi)

Leveling Jacks (4)

Automatic Leveling System	Standard
Jack Size – Rear	229 mm (9 in) diameter × 1676 mm (66 in) stroke
Jack Size – Front	229 mm (9 in) diameter × 1676 mm (66 in) stroke

- (2) positioned outside mast at rear and (2) positioned outside frame at front

Lubrication

Automatic PLC Centralized	Standard
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Rated Capacity

Hole Diameter	Up to 406 mm	Up to 16 in
Hole Depth		
Depth Single-pass	19.81 m	65 ft
Depth Multi-pass	Up to 39.6 m	Up to 130 ft
Depth Single-pass	21.3 m	70 ft
Depth Multi-pass	Up to 42.7 m	Up to 140 ft
Bit Load	54 341 kg or 64 000 kg	120,000 lb or 141,000 lb

Lower Works

Undercarriage

Cat 390 Excavator style undercarriage helps minimize downtime and reduce customers' owning and operating costs.

- All rollers and idlers are "sealed for life" which means they do not require periodic lubrication like the former model
- Double grouser track shoes provide more traction and allow the drill to be more aggressive in positioning
- 32% more drawbar pull, increasing the steering performance of the machine
- 56% more gradeability than previous version

Crawler Mounting

Heavy-duty with Excavator-style Sprocket Drive Links

Dual Axles	Fixed Rear and Pivotable Front	
Overall Length	6.72 m	22 ft 6 in
Overall Width – Standard	6.08 m	19 ft 11 in
Shoe Widths – Standard	750 mm	29.53 in
Ground Bearing Pressure	140 kPa	20.3 psi
Optional Wide Shoes	900 mm	35.43 in
Ground Bearing Pressure	120 kPa	17.4 psi
Total Effective Bearing Area (Standard shoes)	12 m ²	130 ft ²
Propel Speeds	1.77 km/h	1.1 mph
Propel Speeds	0.48 km/h	0.3 mph
Operating Propel Grade	25%*	
Gradeability	42%	

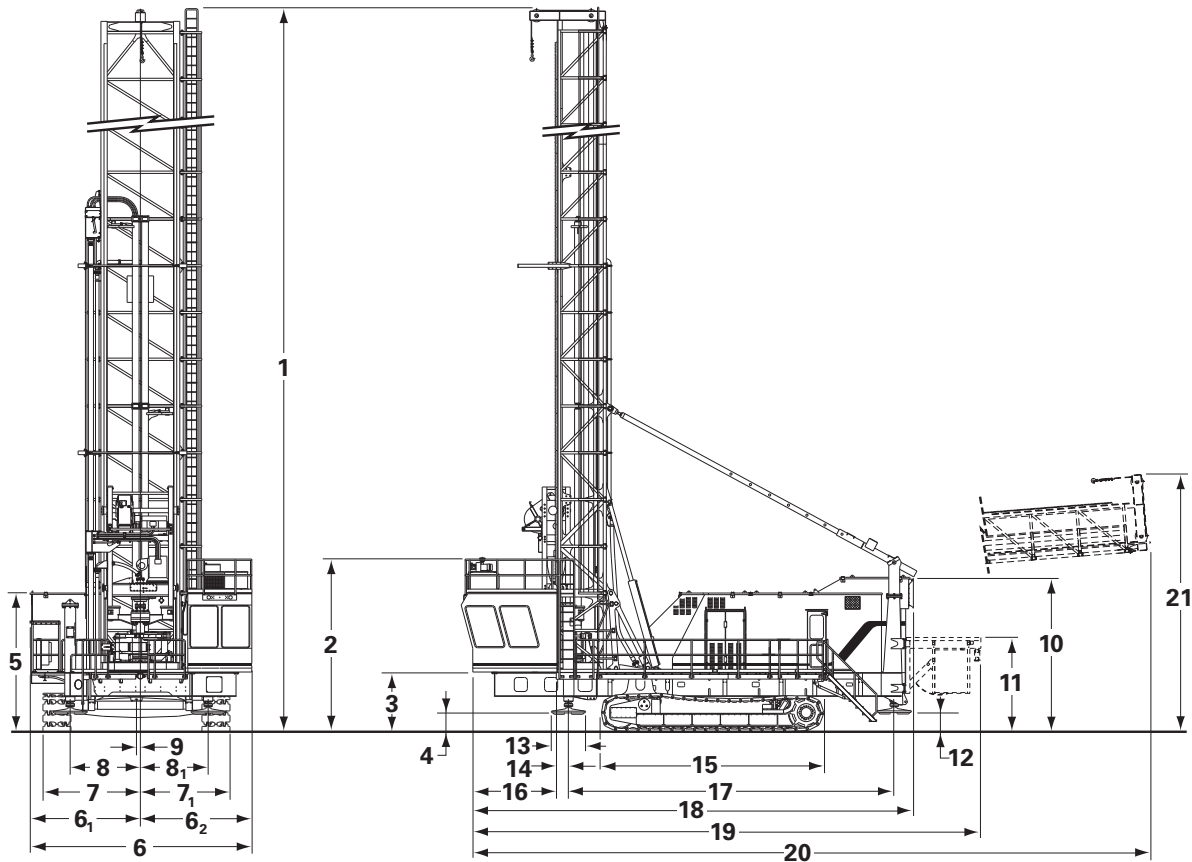
*Stability limitations apply.

General

Cab (option)	FOPS to SAE J231	
Operating Temperature Range	-40° C to +50° C	-40° F to +122° F



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Dimensions

Optimal Working Ranges

1	Overall height with mast for 19.8 m (65 ft) single pass	31.29 m	102 ft 8 in	10	Height to top of machinery house pressurizing unit	5.05 m	16 ft 7 in
2	Height to top of handrails on operator cab	5.71 m	18 ft 9 in	11	Height to top of cable reel (optional)	3.07 m	10 ft 1 in
3	Ground line to top of deck	2.00 m	6 ft 7 in	12	Ground line to bottom of front jack panels	0.63 m	2 ft 1 in
4	Ground line to bottom of rear jack pads	0.68 m	2 ft 3 in	13	Diameter of jack pads	1.12 m	3 ft 8 in
5	Ground line to top of machinery house roof	4.67 m	15 ft 4 in	14	Center line of hole to center line of rear jacks	400 mm	15.75 in
6	Overall width of machine	7.24 m	23 ft 9 in	15	Overall length of crawlers	6.72 m	22 ft 6 in
6 ₁	Center line of machine to LH side	3.61 m	11 ft 10 in	16	Center line of hole to rear of operator's cab	3.10 m	10 ft 2 in
6 ₂	Center line of machine to RH side	3.63 m	11 ft 11 in	17	Center line of rear jacks to center line of front jacks	11.02 m	36 ft 2 in
7	Center line of machine to LH outside edge of 900 mm (35.43 in) tracks	3.17 m	10 ft 5 in	18	Overall length of machine	14.73 m	48 ft 4 in
7 ₁	Center line of machine to RH outside edge of 900 mm (35.43 in) tracks	2.92 m	9 ft 7 in	19	Overall length of machine with optional cable reel	16.97 m	55 ft 8 in
8	Center line of machine to center line of LH rear leveling jack	2.29 m	7 ft 6 in	20	Overall length of machine with mast for 19.8 m (65 ft) single pass drill depth – mast at rest	31.24 m	102 ft 6 in
8 ₁	Center line of machine to center line of RH rear leveling jack	2.21 m	7 ft 3 in	21	Ground line to high point with mast for 19.8 m (65 ft) single pass drill depth – mast at rest	9.95 m	32 ft 8 in
9	Center line of hole to center line of equalizer jack	127 mm	5 in				

Weight*

Working Weight	172 365 kg	380,000 lb
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*Type and number of options will affect machine weight.

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Bailing Velocities: 15.5° C (60° F) @ Sea Level							
Diameter				Nominal Compressor Rating – m ³ /min (icfm)			
Hole		Pipe		84.9 (3,000)		107.6 (3,800)	
cm	in	cm	in	m/min	ft/min	m/min	ft/min
25.1	9.875	17.8	7	3450	11,300	4378	14,359
27.0	10.625	19.4	7.625	3050	10,000	3879	12,724
31.1	12.25	21.9	8.625	2200	7,300	2807	9,206
31.1	12.25	23.5	9.25	2600	8,500	3293	10,800
34.9	13.75	27.3	10.75	2300	7,500	2890	9,478
38.1	15	32.4	12.75	2700	8,800	3402	11,157
38.1	15	34.0	13.375	3650	11,900	4606	15,108
40.6	16	32.4	12.75	1800	5,900	2273	7,456
40.6	16	34.0	13.375	2150	7,100	2754	9,034

Recommended Bailing Velocity Range: 1524-3658 m/min (5,000-12,000 ft/min)

Mast Components

Mast

Standard mast for drill pipe and one pipe rack	19.81 m	65 ft
Optional mast	21.33 m	70 ft
Computer analyzed, HD tubular lattice construction with back braces		
Raising and Lowering	(2) 228.6 mm (9 in) diameter hydraulic cylinders	
Angle Hole Drilling	25° off vertical in 5° increments*	

Hoist/Pulldown

Chainless rack and pinion system driven by head-mounted excavator grade DC motor

Bit Loading	Up to 63 975 kg	Up to 141,000 lb
Feed Rate	Up to 7.62 m/min	Up to 25 ft/min
Hoist Rate	Up to 22.86 m/min	Up to 75 ft/min
Lowering Rate	Up to 22.86 m/min	Up to 75 ft/min
Electronic Depth Indicator	Standard	
Auxiliary Winch – Standard Capacity	5443 kg	12,000 lb

Pipe Racks

Single Rack 0.31 m (13.375 in) OD pipe at least 25 mm (1 in) wall thickness	Standard
Optional Rack Configurations and Maximum Drill Pipe Diameter	
2 Pipe Racks	Maximum diameter may vary

Rotary Drive

Rotary Drive – DC motor	145 kW (195 hp) @ 475V
Bit Maximum Speed	125 rpm
Cat® Shock Coupling	Standard

*With optional angle hole equipment.

Electrical

Equipment

Static DC Variable Output

Power Requirements

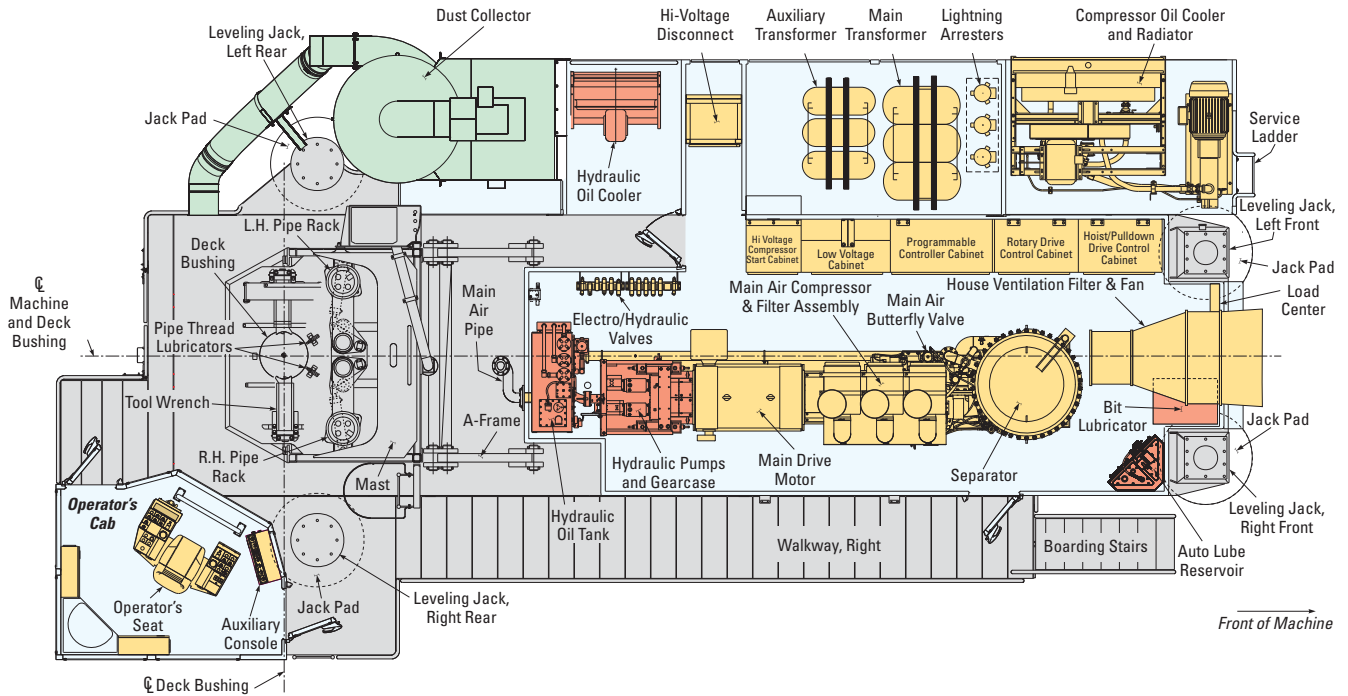
Voltage 3 Phase, 50 or 60 Hz, 4,160V to 7,200V**

Main Electrical Systems

Air Compressor/AC Induction Motor	
Dual Shaft – Standard	448 kW (600 hp) @ 4,160V available for 85 m ³ /min (3,000 ft ³ /min) compressor
Optional	597 kW (800 hp) available for 108 m ³ /min (3,800 ft ³ /min) compressors
Hoist/Pulldown – DC Motor	97 kW (130 hp) @ 475V
Main Hydraulic Oil Pumps	Driven from main air compressor motor
Machinery House Pressurization – @ 529 m ³ /min (18,700 ft ³ /min) with 2.2 kW (3 hp) bleed fan	15 kW (20 hp) @ 460V
Operator Cab Pressurization with Heater and Air Conditioner	Standard
Hydraulic Oil Cooler Fan	4 kW 5 hp
Drive Transformer	3 Phase, 425 kVA dry-type
Transformer, Auxiliary	3 Phase, 250 kVA dry-type
Lighting	120/240V
Windshield Wipers – Upper and Lower Front	Standard

**For alternate power configurations consult Caterpillar.

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COMPONENTS

- Bit Viewing Hatch – Hydraulic Operated (not shown)
- Hydraulic Breakout Wrench (optional) (not shown)
- Dust Collector – Dry (optional)
- Leveling Jack (4)
- Dust Control, Water Injection – 3785 L (1,000 gal) (optional) (not shown)
- Hydraulic Oil Cooler and Guard
- Transformers
- Compressor Oil Cooler
- Heated and Insulated Cooler Compartment (optional)
- Cable Reel (optional) (not shown)
- Boarding Stairs
- Main Air Compressor Package
- Main Drive Motor
- Hydraulic Pumps and Gearcase
- Pipe Racks – 1 Standard (2 optional)
- Operator's Cab
- Hydraulic Oil Reservoir
- Electro/Hydraulic Valves
- Air Compressor Motor Control Center (MCC)
High Voltage Compressor Start Cabinet
- Low Voltage Cabinet
- Programmable Controller Cabinet (PLC)
- Rotary Drive Control Cabinet
- Hoist/Pulldown Drive Control Cabinet
- Auto-Lube Reservoir

OPTIONS

- 18.3 m (60 ft) or 21.3 m (70 ft) Masts
 - Angle Hole Drilling
 - Automatic Fire Suppression System Interface
 - Cold Weather Options
 - Dry Dust and Water Injection Dust Control Systems
 - Dust Curtains
 - Remote Propel
 - Front Tow Bar/Rear Tow Hooks
 - GPS Interface
 - Hydraulic Breakout Wrench (controlled from operator's control console)
 - Hydraulic Drive Cable Reels
 - Optional 108 m³/min (3,800 ft³/min) Compressor
 - Programmed Drill Control
 - Quick-Fill System for Oils and Lubricants
- Additional options to meet customer's needs.

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