

MD6310

ROTARY DRILL

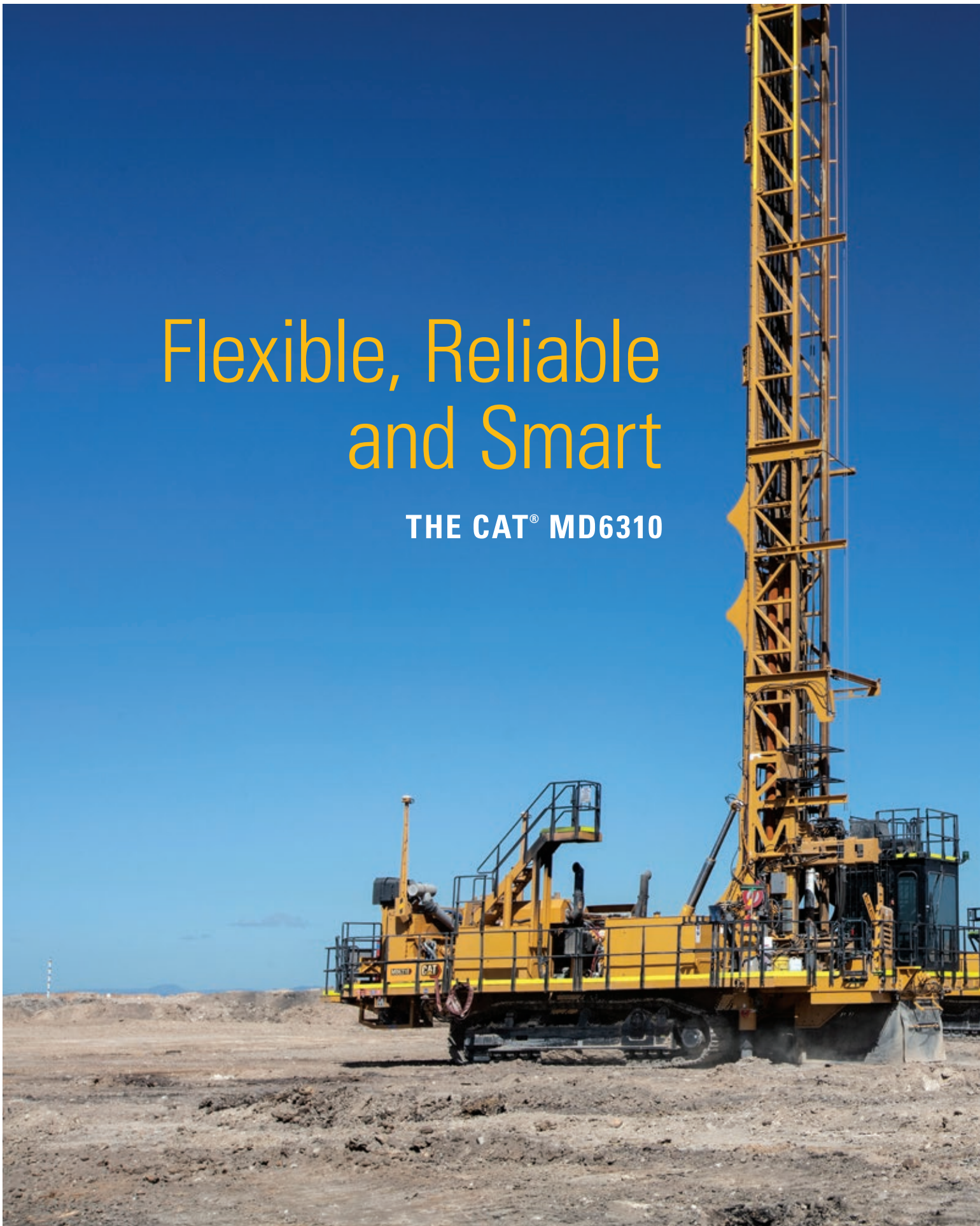


Bit Load: Up to 42 149 kg (92,922 lb)
Hole Diameter: 203-311 mm (8-12.25 in)
Engine: C32B @ 1,800 rpm



Flexible, Reliable and Smart

THE CAT® MD6310



The Cat® MD6310 rotary blasthole drill rig is a powerful, flexible tool that can help you get the most out of your drilling operation. It offers a wide variety of features and options designed to meet your site's specific needs and challenges, with an updated cab that keeps operators safe and comfortable while increasing performance and productivity.

Infused with the latest technologies, the MD6310 not only increases productivity and allows for automated drilling, but improves the efficiency of all downstream operations.





ENHANCED BY TECHNOLOGY

BUILT FOR AUTONOMY

The MD6310 offers a number of standard and optional technologies that can help you enhance efficiency, improve safety and even automate operation.

Drill Assist Automated Functions

- + Auto Level (and auto retract jacks)
- + Auto Mast (raise and lower)
- + Auto Drill (single- and multi-pass)



CAT® MINESTAR™ SOLUTIONS TERRAIN FOR DRILLING

Improve drilling accuracy with high-precision GPS guidance, ensuring that holes are drilled in the right place and to the right depth. Terrain for drilling improves pattern accuracy and reduces over- and under-drilling, reducing the amount of rework — leading to lower costs and faster, smoother operation.



CAT® MINESTAR™ SOLUTIONS COMMAND FOR DRILLING

Command for drilling is a building-block approach to autonomy that offers multiple solutions to meet your site's needs. From remote line-of-sight operation to fully autonomous operation, Command for drilling can improve the safety and productivity of your operation dramatically.

CAB AND OPERATOR STATION FOR SAFETY AND COMFORT

The MD6310 cab offers the comfort and control you expect from a Cat machine



Three standard cameras give the operator excellent visibility

Improved drill deck visibility

An optional heated and ventilated seat keeps your operator comfortable and productive throughout the shift

Multifunction joystick controls and touchscreens are easy and intuitive to use



CAT ELECTRONICS — THE BACKBONE OF THE MACHINE

The MD6310 is controlled through proven Cat electronics, with an electronic architecture your technicians are familiar with from other Cat machines. Integrated machine protection features and interlocks help keep your operators safe, and the machine up and running by preventing potential failures or misuse.

With Cat Electronic Technician (Cat ET), troubleshooting is quick and easy. The MD6310's electronics also provide a common platform for the integration of a number of future autonomy solutions.



PART OF THE CAT DRILL FAMILY

The MD6310 is a wholly integrated Caterpillar design, meaning it uses exclusively Cat parts, technologies and components, with a wide variety of customizable options that help you build the perfect drill for your application. Backed by the world-class support of the Cat dealer network, this drill offers the reliability and parts availability you expect from a Cat machine.

Common parts and components, as well as similar systems and controls, make for a unified owning and operating experience that helps reduce time spent training and improves operator performance while simplifying service.



IMPROVED SERVICEABILITY

The MD6310 is built to be more reliable and easier to service, reducing downtime and increasing availability. Neat and uniform hydraulic hose and wiring harness runs, grouped service points and ease of access help your maintenance personnel keep the machine running. Larger water and fuel tanks reduce time spent refilling. Common air intake, hydraulics, engine and compressor oil filters and consumables mean you can keep fewer parts on hand, further simplifying service. And with onboard health monitoring and Cat Electronic Technician, troubleshooting is quick and simple.



MATCHED POWER

Caterpillar's new Electronic Compressor Controls (ECC) modulate both working pressure and air volume flow, perfectly matching the drill's compressed air output to requirements specific to tooling used and how it interacts with ground conditions and operating environment — leading to efficient operation and lower fuel consumption. That means lower costs and higher profitability for your operation.

SAFETY-INFUSED DESIGN

We built the MD6310 from the ground up to improve the safety of your operators, service technicians and everyone else working on or around the machine. We've loaded it with features to help increase awareness, reduce fatigue, improve access and egress and more.

Remote or autonomous operation with **Cat MineStar Command** for drilling

LED interior lights and backlit joysticks and keyboard

Standard cameras for increased awareness

Excellent visibility to drill deck and surroundings

Exterior spot and flood lights

Safer, more accurate blasting

Grouped, ground-level service points

Engine shutdown button

(Eight total buttons at various ground- and platform-level locations)

Improved access and egress

Wide, no-slip walkways



MINING FOR A **BETTER WORLD**

Governments and regulatory agencies mandate that you establish and follow environmentally sound policies and practices as you meet the demand for mined materials. We're focused on doing our part to make sure our drills help you meet those regulations.

The MD6310 is designed to use less fuel, which reduces engine emissions. It also reduces consumable use, ultimately producing less waste — and with longer maintenance intervals and the option to use rebuilt or remanufactured components, you can get longer machine life with less impact on the environment.

PARTNERS

IN YOUR PERFORMANCE

Our commitment to your success doesn't end when your MD6310 starts drilling. We immediately start looking for ways to make your machine work more efficiently, safely and productively. From addressing performance issues, to training operators and technicians, to calibrating onboard technologies — our support of your drill productivity is ongoing.





YOUR PARTNER FOR THE COMPLETE EQUIPMENT LIFECYCLE

No one knows more about how to get the most from a piece of Cat equipment than Caterpillar and your local Cat dealer. Our partnership starts with validation and testing of the machine and continues through the complete lifecycle of the drill.

The one-of-a-kind Cat dealer support network delivers expert service, integrated solutions, after-sales support, fast and efficient parts fulfillment, world-class rebuild and remanufacturing capabilities and more. Cat dealers operate as nearly 200 local businesses — each one fully embedded in and committed to the geographic area it serves. That means you work with people you know, who know your business, and who respond on your timeframe.

Caterpillar and Cat dealer personnel will partner with you on site to improve the performance not only of your drill but of your entire operation. You'll have

access to parts and service, as well as technicians who are focused on helping you optimize repairs to keep machines productive. And we help with training to ensure your operators have the skills and knowledge they need to work as efficiently and productively as possible.

We also work alongside you to ensure you achieve maximum value throughout the life of your equipment. Together with our Cat dealer network, we customize service offerings to provide a maintenance solution that fits your operation — whether you want to perform the majority of service yourself, or you're looking for an onsite partner to manage your maintenance organization. We're also consultants who can help you make smart decisions about buying, operating, maintaining, repairing, rebuilding and replacing equipment.

TECHNICAL SPECIFICATIONS

See cat.com for complete specifications.

ENGINE OPTIONS

Emissions: U.S. EPA Tier 4 Final		
Engine Power		C32B @ 1,800 rpm
ISO 14396	751 kW	1,007 hp
ISO 14396 (DIN)		1021 mhp (PS)

Emissions: Equivalent to Tier 2		
Engine Power		C32B @ 1,800 rpm
ISO 14396	769 kW	1,031 hp
ISO 14396 (DIN)		1046 mhp (PS)

- + Dual starter motors
- + Scheduled oil sampling (S-O-SSM) ports
- + Ether starting aid; ether bottle supplied locally

COMPRESSOR / RECEIVER OPTIONS

Compressor		
Rotary drilling	56.6 m ³ /min (2,000 ft ³ /min)	@ 8.6 bar (125 psi)
Rotary drilling	73.6 m ³ /min (2,600 ft ³ /min)	@ 7.6 bar (110 psi)
DTH drilling	42.2 m ³ /min (1,500 ft ³ /min)	@ 34.4 bar (500 psi); includes tool lubrication system and hammer storage

- + With the compressors variable volume control, the operator can limit air output resulting in reduced fuel consumption
 - Both high and low pressure compressors contain this feature
- + Electronic compressor control and regulation with purged air lines

- Receiver Tank Choices
- + Low pressure 8.6 bar (125 psi) for ASME/CRN/AU or CE
 - + High pressure 34.4 bar (500 psi) for ASME/CRN/AU or CE

COOLING

- + Separate engine cooling module
- + Replaceable cooler core sections
- + Functional in ambient temperature of 52° C (125° F)
- + Automatic variable speed fan control

CLIMATE OPTIONS

- Climate Level 1 standard fluids and lubricants
- + Rated down to –1° C (30° F) temperatures
 - + Withstands high heat to 52° C (125° F)

- Climate Level 2 cold weather fluids and lubricants
- + Rated down to –18° C (–0.4° F) temperatures

- Climate Level 4 Arctic fluids and lubricants, heating package
- + Rated down to –40° C (–40° F) temperatures
 - + Diesel fired heating system that heats and circulates engine coolant through the: engine block, primary water tank, heating elements for battery trays with a provision for fuel tanks
 - + Full arctic lubricant package includes: engine oil, compressor oil and hydraulic oil
 - + Electric heating package with breaker panel to power:
 - 120V heating blanket for compressor receiver tank, compressor control box, heat trace for compressor control lines, heat trace for housing from water tank to water pump and water fast-fill assembly plus tank
 - Shore power connection box with switchable 240-600V (50 amp) connection; diesel genset and or plug, sold separately
 - Breaker panel includes five (5) additional breakers for locally supplied heating elements, if needed

FRAME AND WORK DECK

- + Jaws, mast pivot and deck are welded integrally to mainframe for maximum durability and long life
- + Stationary rear deck; for vertical and angle drilling
- + Four leveling jacks to provide leveling on a 7° bench (any orientation)
- + Fuel tank capacity 1609 L (425 gal)
- + Fuel capacity expansion for additional +1609 L (425 gal)
- + Automatic centralized, lubrication banks for all pivot points on drill, manual lubrication required for traveling sheaves
- + Heavy duty tow hooks (front end)
- + Four (4) lift lugs, for use with cables or chains
- + Bolt-on platform for cold weather generator or fire suppression bottles
- + Three egress points on deck areas in addition to main access
- + Cab perimeter walkway
- + Sturdy guardrails, toe guards, self closing gates

UNDERCARRIAGE

Model	Cat® 349E EL Excavator type	
Lower rollers	Fourteen (14)	
Carrier rollers	Three (3)	
Track chain guards and guides	Level two	
Draw bar pull	547 000 N	403,446 lbf
Travel speed	2.45 kph	1.5 mph
Triple grousers for soft rock ground bearing pressure 1.28 bar (18.5 psi)	750 mm	29.5 in

HYDRAULICS

- + Two (2) primary pumps – 210 cc (piston, with proportional electronic controls)
- + One (1) auxiliary circuit pump – 110 cc (piston, load sensing)
- + Two (2) fan pumps – 100 cc (piston, with proportional electronic controls)
- + Two (2) charge pumps – 43.9 + 56.5 cc (double stack gear, fixed displacement)
- + Scheduled Oil Sampling (S-O-S) ports

TOOL PACKAGE ROTARY

- + Roller deck bushing
- + Pipe positioner inserts
- + Deck wrench, sliding
- + Bit sub
- + Pipe wiper seal

TOOL PACKAGE DTH

- + Two piece bushing
- + Pipe positioner inserts
- + Deck wrench, sliding
- + Shock sub and top sub adapter
- + Cross over hammer adapter
- + Pipe wiper seal

ROTARY HEAD TOP DRIVE SYSTEM

- + Spindle with 168 mm (6.625 in) API regular thread and splined collar
- + Rotation gear box with dual motor arrangement, up to 160 rpm, and 16 000 N·m (11,800 lbf-ft) of torque
- + Rotary torque control
- + Virtual rotary head travel stops and interlocks

MAST		
13.7 m (44.9 ft) Mast		
Hole diameter range	203-311 mm	8-12.25 in
Single pass depth	13.7 m	44.9 ft
Multi pass depth	Down to 74.6 m	Down to 244.9 ft
Pull-down capacity	Up to 39 009 kg	Up to 86,000 lb
Hoist capacity	Up to 22 113 kg	Up to 48,750 lb
Hoist speed	37.4 m/min	122.7 ft/min
Bit load (single pass)	Up to 41 165 kg	Up to 90,753 lb
17.5 m (57.4 ft) Mast		
Hole diameter range	203-311 mm	8-12.25 in
Single pass depth	17.5 m	57.4 ft
Multi pass depth	Down to 47.9 m	Down to 157.4 ft
Pull-down capacity	Up to 39 009 kg	Up to 86,000 lb
Hoist capacity	Up to 22 113 kg	Up to 48,750 lb
Hoist speed	37.4 m/min	122.7 ft/min
Bit load (single pass)	Up to 42 149 kg	Up to 92,922 lb
Hydraulic, indexing pipe carousels accept various pipe diameters		
Configuration choices include single pass, multi pass, vertical out to 30 degree angle drilling		
<ul style="list-style-type: none"> + 13.7 m (44.9 ft) or 17.5 m (57.4 ft) Mast configurations complete with pipe rack carousel + Pulldown/hoist system is a single cylinder + Auto tensioning of pull down and hoist cables + Feed system accommodates multiple pipe diameters + Variable grip hydraulic break out wrench (HOB0) for range of pipe diameters + Sliding deck wrench assembly + Configured with roller deck bushing for tricone applications, two-piece deck bushing for DTH + Angle drilling 0-30°; in 5° increments + Drill pipe positioner + Rotation Gear Box with dual motor arrangement, up to 160 rpm, and 16,000 N·m of torque (11,800 ft·lb) 		

MAST PACKAGES	
Mast accessories manual 13.7 m (44.9 ft) Mast	One wire rope pipe catcher, hydraulically actuated pipe positioner
Mast accessories hydraulic	One hydraulic pipe catcher, hydraulically actuated pipe positioner
Mast accessories manual 17.5 m (57.4 ft) Mast	Two wire rope pipe catchers, hydraulically actuated pipe positioner
Mast accessories hydraulic	One hydraulic pipe catcher, plus one wire rope, hydraulically actuated pipe positioner
Angle drilling	Included with either mast
Bit basket – Manual bit basket for 13.7 and 17.5 m mast	
Bit basket – Hydraulic for (13.7 and 17.5 m mast)	
+ Recommended for use with tricone or DTH bits up to 279 mm (11 in) diameter	
Bit basket – Hydraulic (for use with 17.5 m mast and 311 mm [12.25 in] bit only)	

CAROUSEL (MAST SIZE AND PIPE DIAMETER DEPENDENT)		
13.7 m (44.9 ft) Mast Carousel; holds quantity of 4 × 12.19 m (40 ft) pipes; total depth 62.5 m (204.9 ft)		
Pipe diameters	178 mm	7 in
	194 mm	7.625 in
	203 mm	8 in
	219 mm	8.625 in
13.7 m (44.9 ft) Mast Carousel; holds quantity of 5 × 12.19 m (40 ft) pipes; total depth 74.6 m (244.9 ft)		
Pipe diameters	194 mm	7.625 in
	219 mm	8.625 in
13.7 m (44.9 ft) Mast Carousel, dual purpose; holds quantity of two (2) 12.19 m (40 ft) pipes and quantity of two (2) 9.14 m (30 ft) pipes, and adapters to connect to DTH hammer and tricone bit (DTH hammer and tricone not included)		
Accepts 194 mm (7.625 in) pipe – contact factory for additional pipe diameters		
17.5 m (57.4 ft) Mast Carousel; holds quantity of 4 × 7.62 m (25 ft) pipes; total depth 48 m (157.5 ft)		
Pipe diameters	178 mm	7 in
	194 mm	7.625 in
	203 mm	8 in
	219 mm	8.625 in
17.5 m (57.4 ft) Mast Carousel; holds quantity of 2 × 7.62 m (25 ft) pipes; total depth 32.7 m (107.4 ft)		
Pipe diameter	235 mm	9.25 in

HYDRAULIC BREAK OUT WRENCH	
Variable grip hydraulic break out wrench grip ranges	178-219 mm (7.0-8.625 in) 235 mm (9.25 in)

DRILL PIPE		
12.19 m (40 ft) pipes – pipe rack carousel holds a quantity of four (4) or five (5) pipes	13.7 m (44.9 ft) Mast	
DTH	178 mm	7 in
Rotary or DTH	194 mm	7.625 in
Rotary	203 mm	8 in
Rotary	219 mm	8.625 in
7.62 m (25 ft) pipes – pipe rack carousel holds a quantity of four (4) or five (5) pipes	17.5 m (57.4 ft) Mast	
DTH	178 mm	7 in
Rotary or DTH	194 mm	7.625 in
Rotary	203 mm	8 in
Rotary	219 mm	8.625 in
7.62 m (25 ft) pipes – pipe rack carousel holds a quantity of two (2) pipes	17.5 m (57.4 ft) Mast	
Rotary	235 mm	9.25 in
Dual purpose carousel pipe: 13.7 m (44.9 ft) Mast; holds quantity of two (2) 12.19 m (40 ft) pipes and quantity of two (2) 9.14 m (30 ft) pipes, and adapters to connect to DTH hammer and tricone bit (DTH hammer and tricone not included)		
Dual purpose pipe carousel accepts 194 mm (7.625 in) pipe – contact factory for additional pipe diameters		



MID6310 ROTARY DRILL

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

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Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

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