

dB(A) Reduction



More Energy Efficient

CANRIG® Sigma Top Drive

With the highest continuous torque in the 500-ton top drive class, the next generation top drive is completely reimagined to endure the harshest drilling conditions for maximum efficiency.

Overview

HIGH TORQUE EFFICIENCY FOR
LONGER LATERAL WELLS

30% LESS COMPONENTS FOR
SAFER OPERATIONS

ADVANCED AUTOMATION THROUGH
SEAMLESS INTEGRATION

20 dB(A) REDUCTION SIGNIFICANTLY DECREASES
ENVIRONMENTAL NOISE POLLUTION

Designed to endure the harshest drilling conditions, this all-new, innovative top drive provides more power, performance and torque density than ever before, while enabling greater automation and remote-control capabilities – both at the surface and downhole.

Currently outfitted with the smart suite of software, this top drive can be seamlessly integrated and automatically controlled by the driller, enabling more consistent and precise control over both directional and horizontal drilling operations.

The Canrig® Sigma top drive includes technology and preventative maintenance features that monitor machine health, usage and diagnostics, resulting in increased reliability and an overall lower cost of ownership.

Features

Compact footprint

Reduced number of components

Rigorous testing through simulated
20-year duty cycle of rough drilling

Support provided by RigLine 24/7

Liquid-Cooled Motor

Onboard Diagnostics and Robotics
Control Integration

Benefits

Allows for deeper setback/racking capacity

- Enhanced DROPS awareness
- Reduced repair and maintenance cost

Withstands the harshest drilling environments

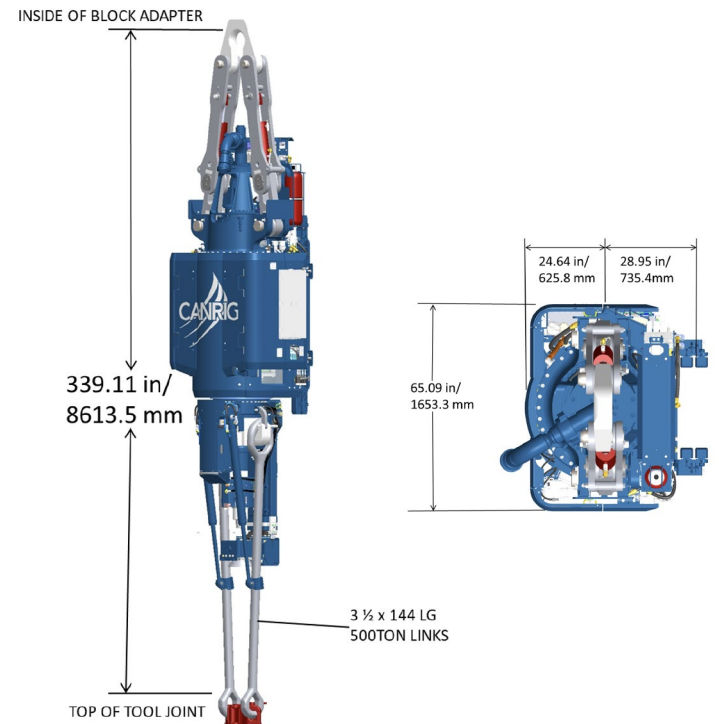
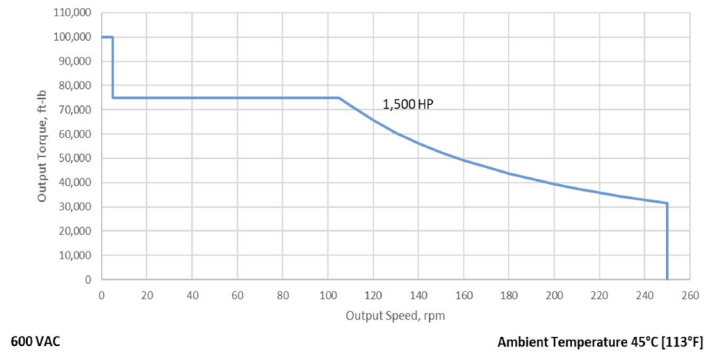
An expert team is at your disposal whether you are in the field, a remote operating center, or in your office.

No condensation or overheating - resulting in reduced failures and noise

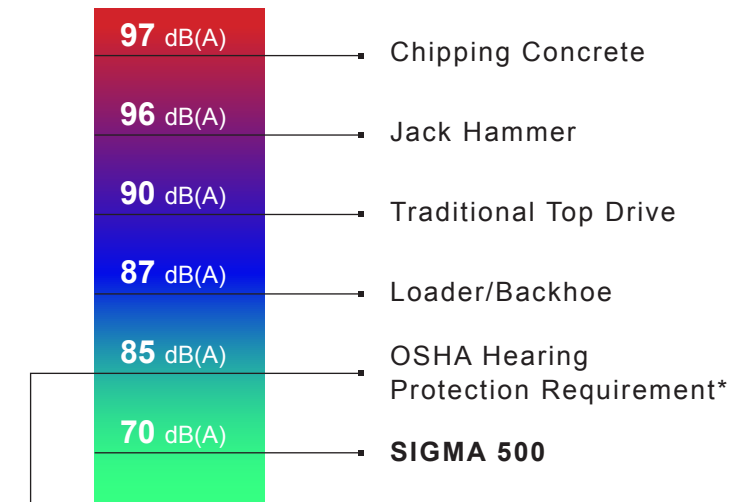
- Zone Management
- Shock and vibration monitoring and feedback

Elevator Load Path	500 Tons	454 Tonnes
Quill Load Path	500 Tons	454 Tonnes
Pull Down Capacity	50 Tons	45.2 Tonnes
API Bearing Rating	520 Tons	472 Tonnes
Electric Motor	Permanent Magnet Motor	
Output Power Continuous	1,500 HP	1,120 KW
Gear Ratio	Direct Drive	
Continuous Torque Rating	75,000 ft-lb (101,686 Nm) @ 92 RPM 31,500 ft-lb (42,700 Nm) @ 250 RPM	
Speed Range	0-250 RPM	
Disc Brake Capacity	60,000 ft-lb	81,000 N-m
Maximum Connection B/O Torque	100,000 ft-lb	135,600 N-m
Pipe Handler Orientation	Available to lock 360 deg.	
Back-up Wrench Gripper Diameter Range	5.75 to 9.0 inches 3.75 to 7.0 inches with alternate die blocks	
Back-Up Wrench Maximum Extension	37 in.	94 cm
Quill Connection Option 1	6-5/8" Reg.	
Quill Connection Option 2	7-5/8" Reg.	
Universal Hammerless™ Washpipe	3x Packings per barrel with specialty coatings for longer life	
Circulating Pressure Rating - Standard	7,500 PSI	51,700 kPa
Thread Compensation Counterbalance Travel	8.0 in.	20 cm
Rotary Hose Connection	5" FIG 1502 Optional Adapter to customer requirements	
Environmental Working Temperature	-20°C - +40°C	
Optional Cold Temperature	-45°C	
Optional High Temperature	+55°C	
Control Type	On-board Allen-Bradley Compact I/O PLC system. Redundant fiber optic EtherNet/IP communication interface.	
Cooling System	Water/Glycol cooling	
Lubrication System	1.5 GPM	
Hydraulic Fluid Required	12 GPM flow 2,350 PSI	45 l/min flow 16,200 KPa
Standards Conformance	API Spec 8C PSL 1 or 2, Spec 7-1, RP500, RP505	
Weight (without blocks)	38,000 lb	17,300 Kg

Torque - Speed Curve SIGMA-500



Reduced Decibel Level SIGMA-500



*OSHA requires employers to implement a hearing conservation program when noise exposure is at or above 85 decibels averaged over 8 working hours.