TOP DRIVES

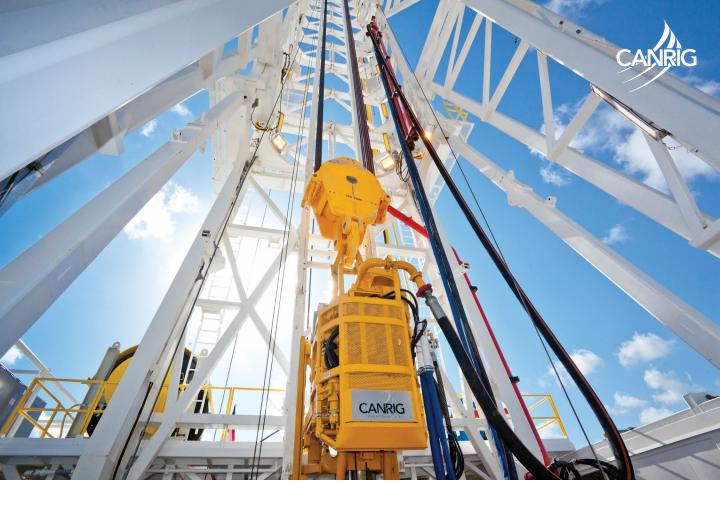
A full range of critically engineered, portable, and integrated top drive systems for onshore and offshore

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CANRIG





Over the last 35 years, Canrig has become the recognized leader in top drives. We design and manufacture top drive systems for sale or for rent, and we stand behind our products with a globally established, dedicated parts and service team available to our customers through <u>Rigline 24/7TM</u>.

3,000+ TOP DRIVES DELIVERED WORLDWIDE

Design

Our top drives are built for drillers, by drillers

High Reliability Drilling Motors

Low motor failure rates compared to competitors

High Torque

Up to 1,500 HP/75,000 lb-ft continuous torque

SYSTEM CONFIGURATIONS





Onshore

PORTABLE SYSTEMS

- Exclusive folding torque guide for fastest and safest rig-up
- Independent VFD house can easily be connected to the rig power source
- Optional engine-generator system for mechanical or underpowered rigs
- Onshore configuration skid with Top Drive Support Unit (TDSU), Grasshopper, cable tray, and additional spare parts storage
- Complete system transports in as few as two self-contained loads

INTEGRATED SYSTEMS

- Integrated and stand-alone VFD options
- All electric and hydraulic controls can be fully integrated into the rig's master control system
- Torque can be reacted through mast legs, eliminating the need for torque guide
- Top drive can be permanently fixed into the mast, eliminating the need for removal during transport
- Multiple operator console options



Offshore

- Fixed torque guide sized with mast or wide flange track
- Highly adaptable to a variety of torque tracks
- Retract option for integration with pipe handling systems
- Design includes work platforms for easy, safe access to the top drive
- Load capabilities from 500 to 1250 tons
- ABS and ATEX certification available

FEATURES AND BENEFITS



Each top drive is equipped with premium features that deliver both safety and reliability. These features make the Canrig top drive the only one of its kind in the industry and create a system that ensures maximum efficiency.

SmartROS®

The SmartROS controls platform is designed to further enhance drilling performance through intuitive, icon-based navigation screens that adjust based on rig activity.

- Optimizes the driller's ability to navigate between operations
- Enables the automation of repetitive tasks and alerts the driller of any potential issues
- Ability to integrate with other downhole technologies for streamlined management

HYDRAULIC TORQUE BOOST

The hydraulic torque boost provides additional make-up or break-out torque when combined with the motor torque.

- Provides up to 50% more torque when needed
- Continuous rotation up to 5 RPM

INTEGRATED SWIVEL & COUNTERBALANCE SYSTEM

The integral swivel and counterbalance system eliminates the need for a swivel and hook. It allows for easy connection to the traveling block with no external counterbalance system required.

 Reduces installation time and does not require expensive modification to the travelling block

POLYMER SLIDE GUIDE RUNNERS

The polymer slide guide runners replace the wheel and bogie systems. The polymer acts as a sound and shock absorber during drilling operations.

- Reduces noise level
- Eliminates moving parts for reduced maintenance and repair costs

PRESSURIZED UPPER SEAL

The pressurized upper seal has redundant sealing with pressurized lube oil to keep out contaminants.

- Extends top drive bearing and gear life
- Reduced maintenance and repair cost

ADVANCED DIAGNOSTICS SYSTEM (ADS)

Monitors strategic points on the top drive unit and its associated control and power system, making intelligent assessments of malfunctions and reporting possible causes.

- Reduces downtime and streamlines troubleshooting
- Allows for easy shutdown of non-essential functions in case of equipment failure

FEATURES AND BENEFITS



TRAVELING EQUIPMENT ANTICOLLISION (TAC) SYSTEM

The TAC system sounds an alarm and can stop motion whenever contact between certain rig components (traveling equipment and crown, floor, racking board) is about to occur.

 Improves safety and prevents equipment damage by stopping the travelling equipment before a collision occurs

ELECTRONIC CONTROL MODULE (ECM)

Using sophisticated sensors, purpose-built software, and web-based data archiving, ECM monitors top drive conditions. A feature of Canrig's ECM systems is the lube oil sensor, which safely monitors oil conditions in real time unlike conventional oil sampling.

- Reduces downtime and costs by allowing for condition-based maintenance
- Enhances equipment reliability and performance through a customizable tiered escalation and notification system

HammerLess[™] WASHPIPE

The HammerLess Washpipe is designed for effortless and safe replacement of the top drive washpipe without the use of power tools or hammers.

- Extended life through reduced barrel wear and even compression of packing
- Quick and easy installation and removal
- Multiple packing options including aramid fiber packing for rigs operation at high speeds/pressures

ROCKit®

ROCKit is an automated directional steering control system that oscillates drill pipe to reduce friction. Parameters are set on an operator interface terminal and displayed in real time.

- Increased rate of penetration/sliding efficiency
- Improves marketability of rig

REVit®

REVit is a proven real-time stick slip mitigation system.

- Extends top drive life by reducing wear and tear
- Provides significant savings in drilling time and overall cost
- Improves marketability of rig



ELECTRIC TOP DRIVE MODEL SPECIFICATIONS



		C275	T350/ 400	T500	С500/НТ	С750/НТ	Sigma 500
Certified Capacity (API 8C)	ton	275	350	500	500	750	500
	tonnes	249	317	454	454	680	454
Output Power (Continuous)	HP	600	570	1,000	1,150	1,150	1,500
	kW	450	425	750	860	860	1,120
Max Speed	rpm	225	220	220	265/225	265/225	250
Continuous Drill Torque	ft-lb	30,000	30,000	52,000	51,400/ 65,300	51,400/ 65,300	75,000
	daN-m	4,067	4,067	7,050	6,970/8,860	6,970/8,860	10,168
Maximum Torque	ft-lb	60,000	45,000	78,000	90,000/ 95,000	90,000/ 95,000	100,000
	daN-m	8,130	6,101	10,580	12,880/ 13,590	12,880/ 13,590	13,560
Temperature Configurations	°F	-49 to +131	-40 to +131	-58 to +131	-40 to +131	-40 to +131	-49 to 131
	Ĉ	-45 to +55	-40 to +55	-50 to +55	-40 to +55	-40 to +55	-45 to +55
Weight	lb	18,000	25,000	40,000	29,000/ 32,000	30,000/ 32,000	38,000
	Kg	8,200	11,340	18,070	13,200/ 14,450	13,600/ 14,450	17,300

SALES INFORMATION info@canrig.com

RIGLINE 24/7™ SUPPORT US & Canada: 866 433 4345 International: +1 281 774 5649 support@rigline247.com

CORPORATE HEADQUARTERS

515 West Greens Road Houston, TX 77067 USA Main: +1 281 774 5600

