

DirectDrive Top Drives

Fully integrated systems with purpose-built AC electric motor and gearbox-free design.

TECHNOLOGY



LEWCO DirectDrive Top Drives

High Torque Performance

LEWCO™ DirectDrive™ top drives from Cameron are manufactured for high performance and reliability in drilling applications. The drillstem of the patented LEWCO DirectDrive top drive is directly coupled to the purpose built AC electric motor, which eliminates the need for a gearbox, along with the bearing, gearing, maintenance and lubrication problems associated with the gearbox. The result is a low-maintenance, high-performance, high-reliability top drive designed for high torque, severe duty drilling applications, such as directional drilling.

A Fully Integrated System

Available in 500, 750 and 1000 ton load ratings, LEWCO DirectDrive top drives are built to improve drilling efficiency, performance and reliability. The simple, innovative design of the LEWCO DirectDrive top drive reduces the number of complex components, while its redundant speed-sensing capability helps enhance operational reliability. Built tough to withstand the most demanding drilling applications, each LEWCO DirectDrive top drive is designed, manufactured and tested to API (8C PSL1 and Q1) standards, with third party certifications available from industry recognized organizations including ABS and DNV, as well as hazardous area certifications such as ATEX.

The system includes:

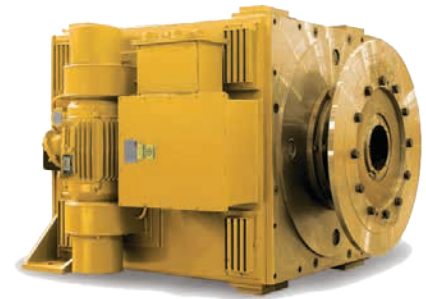
- Thread compensator system
- Through-shaft design AC drilling motor
- Integrated disc brake system
- Integrated open loop motor cooling system
- Infinitely positionable rotary head system with locking clamps and rotary union
- Infinitely positionable pipe handling system and link tilt
- Dual valve IBOP well control system
- Electrical/control service loop kit
- Derrick termination kit
- Flexible top drive dolly
- Elevator links



OEM AC Motors

The OEM™ AC motor used in the DirectDrive top drive possesses a unique set of characteristics that make it well suited to drilling without a gearbox in a wide variety of both land and offshore applications. These characteristics include:

- Reliable high-torque/low-speed design well suited for demanding applications which require more torque, such as directional drilling
- Inverter duty motor with Class H insulation system and high-quality formed coils, which allow for greater slot fill, increasing the copper content of the motor and its efficiency over the entire operating range
- Robust frame, large-diameter hollow shaft and oversized premium bearings
- Hazardous area rating availability and wide ambient temperature range



LEWCO DirectDrive Top Drive Specifications			
MODEL	DDTD-500	DDTD-750	DDTD-1000
Hoisting capacity	500 short tons	750 short tons	1000 short tons
Drilling capacity	500 short tons	750 short tons	750 short tons
DirectDrive variable AC motor performance ¹			
Continuous torque	42,500 ft-lbs 0 - 115 rpm	72,000 ft-lbs 0 - 116 rpm	94,000 ft-lbs 0 - 112 rpm
Intermittent torque	80,000 ft-lbs 0 - 115 rpm	100,000 ft-lbs 0 - 116 rpm	130,000 ft-lbs 0 - 112 rpm
Continuous horsepower	930 from 115 - 240 rpm	1575 from 116 - 240 rpm	2075 from 112 - 240 rpm
Static brake capacity	35,000 ft-lbs	57,000 ft-lbs	65,000 ft-lbs
Pipe clamp capacity	80,000 ft-lbs	110,000 ft-lbs	110,000 ft-lbs
Mud passage @ 7500 psi	3"	4"	4"
IBOPs, remote-actuated upper and manual-actuated lower	15,000 psi	15,000 psi	15,000 psi
Hook weight	43,500 lbs	65,000 lbs	105,000 lbs
Stack-up height	23.8 ft	28 ft	31.3 ft
Width x depth	7 ft x 5 ft	8.2 ft x 5 ft	9.4 ft x 6.8 ft

All specifications are subject to change. Information important to a particular application should be verified by Cameron.

¹All torque data is based on the combined performance of variable frequency drive and AC motor.

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Learn more about Cameron at:
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**HSE Policy Statement**

At Cameron, we are committed ethically, financially and personally to a working environment where no one gets hurt, nothing gets harmed.