

ROTOSTEER™

The Next Generation of Extended Reach Drilling

The RotoSteer™ is a mechanical system positioned above an existing steerable BHA to drive the BHA independently from the drill string. Developing torque from drill string rotation, RotoSteer enables the continuous rotation of the drill string during all drilling operations. It eliminates the need for agitation tools while attaining the benefits of a rotary steerable in extended reach applications. RotoSteer utilizes a steerable BHA with the addition of a specialized drilling motor-based device. This system produces torque from drill string rotation which is used to counteract the torque generated from the drilling motor, allowing for continuous rotation while sliding. The RotoSteer in conjunction with the steerable BHA acts as a “Point the Bit” system and is a cost-effective option for drilling longer reach horizontal wells.

How RotoSteer Works

During drilling ahead operations (higher string rpm), RotoSteer allows the BHA to rotate in conjunction with the drill string. During sliding operations (lower drill string rpm), RotoSteer counteracts the drilling motor reactive torque, holding the BHA stationary with small changes in drill string RPM or WOB adjustments.

Benefits

- Reduced cost in steerable BHA applications through improved ROP by reducing torque and drag and improved hole cleaning
- Further cost savings in the completion of the well with reduced doglegs and improved borehole quality
- Simple installation and operation; The RotoSteer is installed above the BHA in the drill string and requires no special handling or orientation
- Easily adjustable for a variety of mud motors and drilling conditions
- Limits torque output while preventing the damaging effects of “stalling” the PDM
- Uses familiar conventional drilling methods; Controlled by balancing RPM and WOB

Technical Specifications

Tool Size	5.00"	6.50" & 6.75"
Outer Diameter	5"	6.50" & 6.75"
Overall Length	474"	398"
Weight	1500 lbs.	2000 lbs.
Recommended Flow Rates	150-350 gpm	300-650 gpm
Continuous operating Drilling motor torque	5500 ft. lbs.	8000 ft. lbs.
Temperature Range	300°F	300°F
Operational Pressure Drop Generated	400-700 psi	400-700 psi
Max Pull	328000 lbs.	406900 lbs.
Absolute Overpull	546000 lbs.	678200 lbs.
Torsional Load to Yield Body Connection	17,000 ft. lbs.	48,000 ft. lbs.
Connections	3 ½ IF Pin & Box DS 42 Pin & Box XT 39 Pin & Box	4 ½ IF Pin & Box

Corporate

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**Offshore/International
and Manufacturing**

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Product Sales

337.364.9244

Other Drilling Tools International Centers:

Houston, TX • 281.645.2010

Midland, TX • 432.563.0676

Odessa, TX • 432.248.8350

New Iberia, LA • 337.256.5848

Oklahoma City, OK • 405.604.2763

Bakersfield, CA • 661.869.1752

Casper, WY • 307.237.5248

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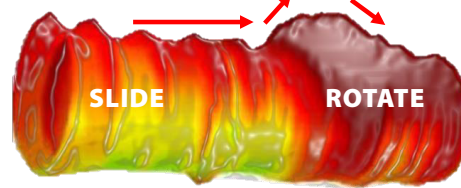
Minot, ND • 701.818.5724

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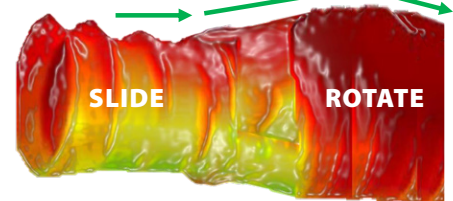
ROTOSTEER™

ABRUPT LEDGES



Conventional Ledging

TRANSITION LEDGES



RotoSteer Ledging

CASE STUDIES:

Lea County, New Mexico

September 2022

A Permian Basin operator drilled the curve and a portion of the lateral with a steerable BHA in Lea County, NM. The decision was made to pull out of the hole and install RotoSteer to drill the lateral. The lateral BHA with RotoSteer drilled 2000' of hole with sliding rates of penetration (ROP) in the 140'/hour range. Prior to installing the RotoSteer, sliding was in the 40'/hour range and returned to 40'/hour after it was laid down.

Tioga County, Pennsylvania

October 2022

A Pennsylvania operator planned to drill a horizontal well on a multi-well pad in Tioga County. The tangent to KOP included a 100° turn. The RotoSteer was installed with the steerable BHA with 12° of angle in the hole. The directional drillers built to 48° of angle and turned the well while sliding 75% of the time. The BHA was pulled at KOP after drilling 5555' and the RotoSteer was laid down.

Tioga County, Pennsylvania

January 2023

The same Pennsylvania operator asked for a RotoSteer to be placed on standby on the Tioga County pad. In January 2023, on a subsequent well, the lateral BHA was pulled and RotoSteer was installed above the steerable BHA. The remaining 4000' of lateral was drilled with no onsite Drilling Tools International personnel by directional drillers and rig drillers previously trained to operate RotoSteer. ROP while sliding steadily increased as the onsite personnel gained confidence in the tool.

Drilling Tools International, Inc. is a leading provider of downhole tools to the land and offshore drilling markets. For nearly 40 years our company has been guided by the principals of Strength, Innovation and Performance. We consistently deliver world class customer service while providing quality products that meet the demanding drilling applications of today's market.

Our Quality Management System is certified in compliance to ISO 9001, and API Spec Q1 and our manufacturing is licensed to API Spec 7-1. Our Quality Management System governs all of our processes from planning, to process control, to delivery. This ensures that we consistently manufacture products that not only meet API standards but also meet the ever-changing needs of our customers.