

# OMNI@STEER

## Rotary Steerable Tool (RST) Differentiators



### ■ Slick Collar Design

D-Tech's RST features a fully internal, probe-based electronics design with no external hanger bolts or collar perforations.

- » Reduces susceptibility to cracking and torsional fatigue
- » Increases collar life
- » Minimizes twist-off risk in harsh drilling environments

### ■ Universal Chassis & Six-Axis D&I Package

A standardized control unit across the fleet allows electronics to be maintained at the highest standard across all hole sizes.

- » Six-axis directional & inclination package
- » Inc and Azi Hold (IH2) autonomous steering capability
- » Integrated gyro for enhanced string speed measurements, eliminating zones of exclusion for Inc/Azi hold downlinks
- » Electronics rotate at bit RPM for improved shock & vibration management

### ■ Sealed Bearing Generator

The turbine-powered sealed bearing generator provides reliable power generation in diverse mud environments.

- » Operates from 8.4 to 20 ppg mud weight
- » No viscosity requirements
- » No ditch magnets required
- » Performs reliably in adverse mud conditions

### ■ Electric Motor & Valve Assembly

An electric motor counter-rotates a low-mass control valve to divert drilling fluid to the steering head.

- » Counter-rotating mass measured in ounces, not ~100 lb
- » Improves steering responsiveness
- » Enhances reliability during drilling dysfunction

### ■ Hydraulic Piston Steering Head

D-Tech utilizes radially extending pistons rather than pads to generate steering force.

- » Up to 3× greater piston force than pad systems
- » ~5× greater surface area vs pad designs
- » Higher dogleg capability with lower formation contact stress
- » Reduces risk of formation damage in soft or depleted formations

### ■ Steering Optimization

Field-proven firmware enhancements deliver:

- » Up to 100% improvement in drill cycles
- » 80% reduction in sensor noise
- » Improved inclination and azimuth accuracy
- » Ability to adjust target inclination in a single downlink

### ■ Preemptive Quality & Reliability Processes

- » Proprietary preventative maintenance algorithms
- » Environmental screening for thermal, pressure, vibration, shock, and calibration qualification
- » Advanced metallurgy and potting procedures for enhanced electronics longevity

### ■ Application-Specific Customization

Designed for optimization across diverse drilling conditions:

- » Steering body ruggedization for abrasive environments
- » Piston upgrades for granite and hard-rock applications
- » Hydraulic optimization for expanded flow rates
- » Compatible with a wide range of mud systems

### ■ Operational & Real-Time Efficiency

Closed-loop Inc and Azi control

- » Short-hop and direct-connect telemetry options
- » Real-time GV data including inclination, delta azimuth, hydraulics, and tool diagnostics
- » Optimized depth of cut and operational best practices

For more information on the D-Tech OmniSteer™ RST, contact your sales representative or visit [dtechdrilling.com](http://dtechdrilling.com)