

SLICK

SLICK is a drop in replacement servo pulser module that is fully compatible with the QDT-Tensor MWD system. It incorporates cutting-edge technologies to achieve significant improvements in performance.

SLICK features a rotary shear valve that provides exceptional performance in high solids and high LCM environments. It minimizes the pressure loss through the servo module, thus allowing greater forces to be imparted to the main valve assembly. The wiping action of the rotary shear valve clears away any compacted debris and ensures unobstructed flow through the system.

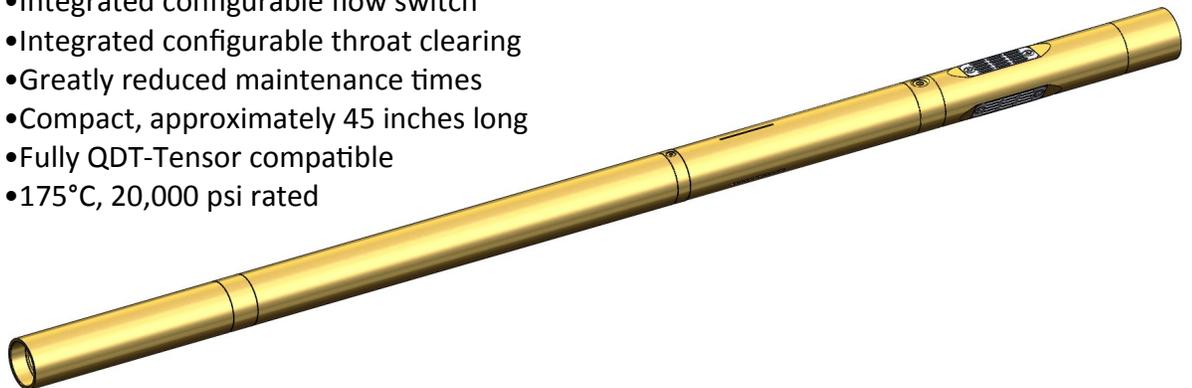
SLICK decouples the hydro-statically compensated section of the servo pulser from the pulser driver module with a high torque magnetic coupling assembly. This eliminates failures of the driver module caused by corrosion, fluid invasion and gas invasion while simultaneously reducing frictional losses and increasing system robustness. The pulser driver module is compact, modular, rugged and features built-in performance and maintenance tracking capabilities.

SLICK has low power consumption and significantly increases the battery life of the QDT-Tensor MWD system. Nominal power consumption of the SLICK servo pulser system is approximately one half that of the original QDT-Tensor servo pulser.

The combination of the rotary shear valve, magnetic coupling drive mechanism and robust control electronics enables SLICK to have exceptional performance in deep, hot and hostile environments.

FEATURES AND BENEFITS

- High wear rotary shear servo valve
- Decoupled compensation with magnetic coupling
- Exceptional performance in LCM and high solids
- Energy efficient, ~6 Joules per pulse (~225mA*sec per pulse)
- 50-150% Increase in battery life vs. original QDT-Tensor pulser
- Integrated configurable flow switch
- Integrated configurable throat clearing
- Greatly reduced maintenance times
- Compact, approximately 45 inches long
- Fully QDT-Tensor compatible
- 175°C, 20,000 psi rated



Specifications	
Nominal Length	46.2in (1173.5mm)
Housing O.D.	1.88in (47.6mm)
Power Supply	20-30VDC
Power Consumption	~3mA Standby, ~225mA*sec/Pulse@28V
Shock Limit	1000g, 0.5msec, ½ sine all axes
Vibration Limit	5-30Hz@1in double amplitude, 30-500Hz 20g all axes
Operating Temperature	0° to 175°C (32° to 347°F)
Hydrostatic Pressure (max)	137,895kPa (20,000psi)
Operating Pulse Width	0.600-2.00sec (controlled by QDT Compatible SEA)
Flow Switch	Axes used, thresholds and delays configurable

Data Stored in Memory	
Serial Number and Manufacturing Variables	Job Powered On Time
Lifetime Power On Time	Job Circulating Time
Lifetime Circulating Time	Job Energy Consumption
Lifetime Energy Consumed	Job Number of Pulses
Lifetime Number of Pulses	Flow Switch Configuration Variables
Part Level Maintenance Interval Tracking	Throat Clearing Configuration Variables

Additional Details	
The three axis flow switch is configurable for number of axes used (either x, y, z, xy, xz, yz or xyz), triggering thresholds, triggering delays and state machine hysteresis controls.	Throat clearing is a feature where the SLICK Servo Pulsar can be made to pulse independently of the QDT-Tensor compatible SEA on PUMPS ON to allow for actuation of the main valve prior to SYNC.

