

5 in. BlackStream MWD Tool

Through connection of the BlackStream MWD measurement tool to the IntelliServ™ wired drillstring, this high-frequency downhole data is available in real-time at rates exceeding 80 Hz. Surface data acquisition, visualization, and software analysis capabilities provide well construction teams with the information to optimize performance.

Dynamic Measurements

| Tool | Specifications | Dynamic Sensors | Specifications |
|-------------------|-------------------------------|-------------------------------|---|
| OD | 5.125 in. | Lateral Vibration (X, Y-axis) | -120 g to +120 g |
| ID | 1.875 in. | Axial Vibration (Z-axis) | -35 g to +35 g |
| Length | 97.1 in. shoulder to shoulder | Torsional Vibration | -5000 rad/s ² to + 5000 rad/s ² |
| Pressure Rating | 20,000 psi | RPM | +/- 1200 RPM |
| Bending Rating | 12/25 rotating/sliding | Weight | -120 klb to +240 klbs |
| Tension Capacity | 500,000 lbf | Torque | -40 kft-lb to +40 kft-lb |
| Torque Capacity | 12,000 ft-lb | Bending | -60 kft-lb to +60 kft-lb |
| Material | Nonmagnetic P650 | Annular Pressure | 0 to + 20,000 psi |
| Connection Type | XT38 Box / NC38 Pin | Internal Pressure | 0 to + 20,000 psi |
| Rated Temperature | 150°C | Temperature | -40° to 150°C |
| Battery Life | Up to 225 hr | Data Acquisition | 800 Hz sampling, 0.4 Hz |

Directional Measurements

| Tools | Specifications | Directional Sensors | Specifications |
|-------------------------|---------------------------------------|-----------------------------------|---------------------------|
| OD | 5.125 in. | Instrument Designation | 3σ |
| ID | 1.875 in. | Inclination – Range | 0 -180° |
| Length | 320.8 in. shoulder to shoulder | Inclination – Accuracy - Absolute | ±0.1° |
| Tension Capacity | 500,000 lbf | Inclination Roll Spread | ±0.1° |
| Torque Capacity | 12,000 ft-lb | Azimuth - Range | 0 - 360° |
| Material | Nonmagnetic P530 | Azimuth - Accuracy Absolute* | ±1.0° -(Inc>10°, Dip<70°) |
| Connection Type | XT38 Box / XT38 Pin | Azimuth Roll Spread | ±0.75° |
| | | Gravity Toolface (GTF) Abs | ±1.0° -(Inc>5°, Dip<70°) |
| | | Magnetic Toolface (MTF) Abs | ±1.0° -(Inc<7°, Dip<70°) |
| Sensor Placement | Distance from Bottom of Collar | Magnetic Steering Abs | ±1.0° |
| D&I Sensor | 6.2 ft | Dip Abs | ±0.3° |
| Gamma Ray Sensor | 3.1 ft | Dip Roll Spread | ±0.2° |
| | | Gtot Abs | ±0.003 |
| | | Gtot Roll Spread | ±0.0015 |
| | | Btot Abs | ±0.3μT |
| | | Btot Roll Spread | ±0.15μT |
| | | Gamma Ray Sensors | Specifications |
| | | Maximum API Range at 5% Error | 2,500 API |
| | | Accuracy | ±2% to 150°C |
| | | Sensitivity (Typical) | 3.9 cps/API unit |
| | | Vertical Resolution | 10.3 in. |

