PRODUCT SPEC SHEET

MICROGUIDE

High Resolution Tortuosity Log

GENERAL SPECS

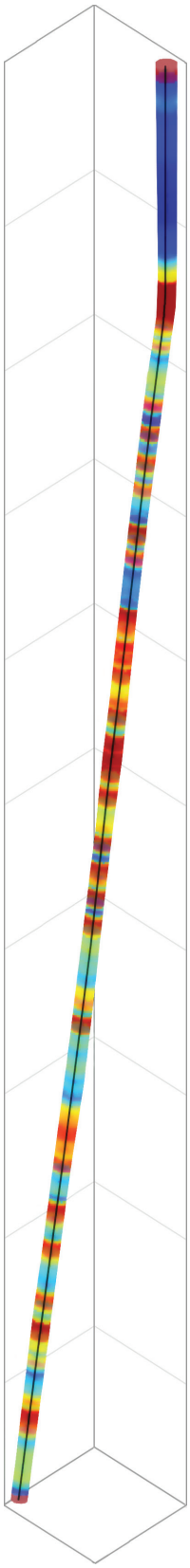
Tool Length	10 - 22 ft	3 - 6.7 m
Tool Diameter	1.75 - 2.06 in	44.5 - 52.3 mm
Tool Weight	66 - 275 lbs	30 - 125 kg
Max Pressure	30,000 psi	206.8 MPa
Max Temperature*	300°F	150°C
Deployment Options	Memory Real-Time	
Logging Speed Individual Combination**	 300 ft/min 100 ft/min	 91 m/min 30 m/min
Vertical Resolution (Along Hole)	0.025 ft	7.62 mm
Radial Resolution	0.01 ft	3.05 mm
Sample Frequency	21.7 Hz	

*High temperature options available.
**Max Logging Speed for the Combination tool configuration will vary based on tool selections and associated specifications.

COMBINABILITY

GyroGuide	Real-Time or Memory Gyro Surveying
GeoGuide MFC	Multi-Finger Caliper
GeoGuide CBL	Radial Cement Bond Log
GeoGuide MTD	Magnetic Thickness Detector
GeoGuide GR	Scintillation Gamma Ray
GeoGuide Temp	Temperature
GeoGuide CCL	Casing Collar Locator

Tool combinability dependent on application and tool configuration. Tool selection enables data correlation of depth, formation, tortuousity, or tool orientation and to pin-point anomalies in the well.



Gyrodata's MicroGuide high resolution tortuosity logging service delivers the most accurate wellbore depiction available by combining a proprietary tortuosity log with other industry-accepted measurements. This innovative analysis and representation log revolutionizes how production, drilling and completions challenges are addressed by providing greater insight into wellbore conditions, enabling the most informed decisions to be made when it matters most.

DESIGN + PERFORMANCE

- Provides detailed tortuosity and obstruction analysis to identify the best possible placement of artificial lift equipment and extend the life of the well
- Delivers high accuracy measurements and high resolution imagery to improve modeling calculations and drilling engineering, such as torque and drag calculations, BHA modeling, and TVD corrections
- Seamlessly combines with our GeoGuide cased hole logging services for a complete and in-depth depiction of the wellbore casing integrity
- Generates customized well insight and analysis reports, including 3D visualizations as well as standard traditional log format presentations

MARKET + APPLICATIONS

- Drilling
  - BHA Design
  - Open Hole Analysis
  - Casing Wear
  - Drilling Dynamics
- Completions
  - Torque & Drag
  - Insertion Modeling
  - Liner Seal Placement
  - Packer Placement & Setting
  - Perforation Gun BHA Optimization
- Production
  - ESP Placement
  - Rod Guide Design & Placement
  - Tubing Tension
  - Seating Nipple Location
  - Subsidence Monitoring

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