

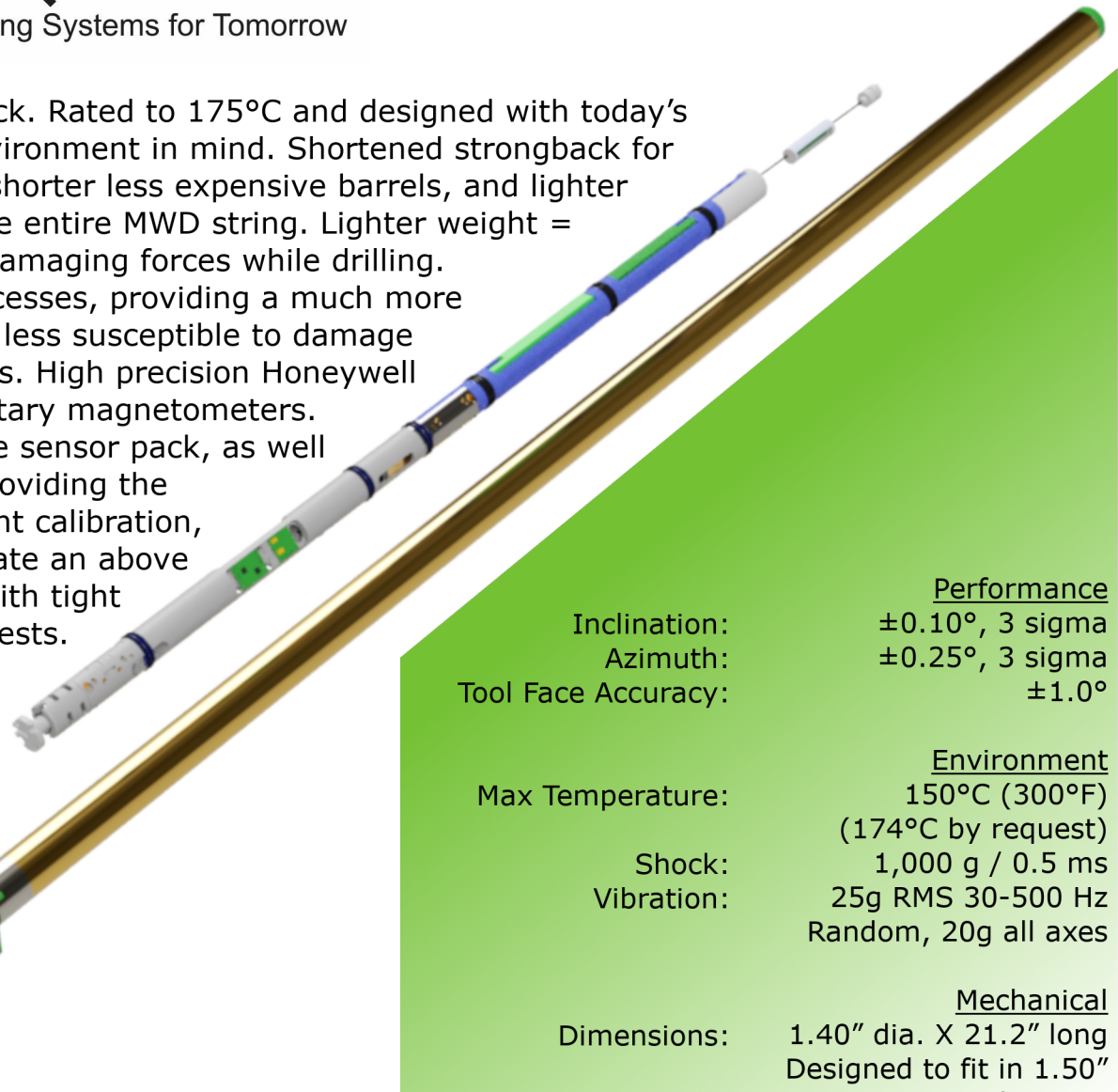


QCD

Drilling Systems for Tomorrow

Directional Module

The QCD sensor pack. Rated to 175°C and designed with today's rigorous drilling environment in mind. Shortened strongback for lighter weight and shorter less expensive barrels, and lighter overall weight of the entire MWD string. Lighter weight = less inertia = less damaging forces while drilling. Triangular board recesses, providing a much more rigid chassis that is less susceptible to damage from torsional forces. High precision Honeywell accels, with proprietary magnetometers. Designing the entire sensor pack, as well as designing and providing the temperature gradient calibration, allowed QCD to create an above class sensor pack with tight spreads in the roll tests.



	<u>Performance</u>
Inclination:	±0.10°, 3 sigma
Azimuth:	±0.25°, 3 sigma
Tool Face Accuracy:	±1.0°
	<u>Environment</u>
Max Temperature:	150°C (300°F) (174°C by request)
Shock:	1,000 g / 0.5 ms
Vibration:	25g RMS 30-500 Hz Random, 20g all axes
	<u>Mechanical</u>
Dimensions:	1.40" dia. X 21.2" long Designed to fit in 1.50" ID pressure housing
Connectors:	21-pin MDM, 15-pin MDM Mates with Snubber Shock Assembly and Sensor End Assembly
	<u>Electrical</u>
Operating Voltage:	18 - 32 V
Nominal Current:	12 mA



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