



Designed and manufactured in-house, the E-360 Measurement While Drilling (MWD) system is a full-featured tool that transmits electric signals through geological formations to the surface rather than through the mud as a conventional mud pulse MWD system does.

## OPERATING PARAMETERS

Parameter	Range	
Telemetry	Electric Signal	
Transmission Speed	4 bps	
Collar Sizes	89–229 mm (3.5–9 in)	
Operating Flow Rate	No Limit	
Mud Weight	No Restriction	
Sand Content	<2%	
Operating Temperature	-20°C – 100°C (-4°F – 212°F)	
Operating Pressure	Maximum 135,000 kPa (20,000 psi)	
Pressure Drop Across Tool	700 kPa @ 1.5 m <sup>3</sup> /min (100 psi @ 400 gpm)	
LCM Tolerance	No Limit	
Max. Dogleg Severity Rotating	16°/100ft (30m) Slick Collars 30°/100ft (30m) Flex Collars	4.75 inch
Max. Dogleg Severity Rotating	11°/100ft (30m) Slick Collars 16°/100ft (30m) Flex Collars	6.50 inch

<sup>1</sup> 55 mm (2.125 in) of drill string ID is required to wireline retrieve the E-360 MWD tool

## MWD SENSOR SPECIFICATIONS

Parameter	Range	Accuracy
Azimuth	0–360 Deg	+/- 1.0 Deg
Inclination	0–180 Deg	+/- 0.2 Deg
Toolface	0–360 Deg	+/- 5.0 Deg
Temperature	0–100°C (212°F)	
Annular Pressure	0–10,000 psi (0–70,000 kPa)	+/- 40 psi (300 kPa)
Gamma	0–1,024 cps	+/- 1 AAPI

- ▶ The E-360 system can transmit signals through formations that block other EM-tool's signals and intuitively adapts signal output to the formation requirements
- ▶ Proprietary to Phoenix, this system was engineered in-house to provide fast, reliable data transmission and has two-way communication to optimize signal performance
- ▶ The ability to be wireline retrieved results in significant time and cost savings if downhole problems or lost in-hole situations occur

