SMART MOTOR

Enhanced Navigation

Scientific Drilling's SMART MOTOR is configured to facilitate enhanced navigation in horizontal and directional wellbores.

The Smart Motor contains a power section, a smart housing containing the sensors, a bent housing and a bearing section.

The sensor section contains accelerometers and a directional focused gamma sensor, which are housed in the payload attached to the motor housing.

The placement of the sensors on the motor just above the bend allows more accurate inclination readings and protects the sensors from extreme downhole conditions.

The Smart Motor uses Scientific Drilling's proprietary Wi-Sci Communication link to achieve realtime, bi-directional communication between the MWD and Smart Motor.

The SMART MOTOR is currently available in a 4 - 3/4" configuration, with a 6-1/2" tool being available in early 2008.

Technical Specifications	
Motor Sizes:	4.75" 7:8 2.0 : 219.25" Total Length 4.75" 7:8 2.2 : 270.75" Total Length
Dimensions:	Smart Housing 74.5" Bit Box to bend 47.75"
Maximum Temperature:	302°F (150°C)
Sensors:	Tri-axis Accelerometers 5/8"Gamma crystal
Effective Rotational O.D. :	5"
Inc.Sensor Accuracy:	Inclination: ± 0.15° all angles
Sensor Update Rate:	8 - 14 seconds
Bit box to sensor:	76.75"

ADVANTAGES

- Focused Gamma for Geo steering.
- Gamma and Inclination sensors closer to the bit.
- Smart Motor sensors work in conjunction with existing MWD sensors, both EM and M.PULSE.
- Shorter spacing allows earlier detection of formation boundaries.
- On-Motor Inclination gives true measurement of inclination without correction for motor bend.

Scientific Drilling

Preliminary