

HDR GYRO PATH GWD

REAL-TIME GYRO-TELEMETRY SYSTEM

Available for HDR MWD, the Gyro Path Gyro While Drilling tool uses a North Seeking Gyro to send real time downhole Gyro Surveys from the wellbore.

The HDR MWD is a multi telemetry Measurement While Drilling tool. The integration of the Icefield Tools Gyro Path Sensor which uses a north-seeking gyro to provide precise wellbore surveys and telemetry with unparalleled accuracy.

Unlike conventional magnetometer-based sensors, HDR MWD with Gyro Path GWD is not affected by magnetic fields, and the real-time telemetry is reliable and available all in real time and without a wireline.

The HDR MWD with Gyro Path GWD system is designed to streamline your drilling operations and eliminate the need for multiple tools, reducing costs and minimizing downtime.

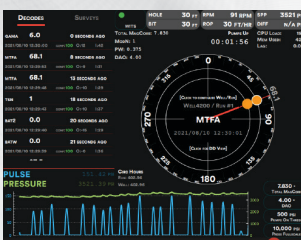
A compact design, advanced features and modular assembly options, make HDR MWD with Gyro Path GWD the perfect solution for any drilling company looking to stay ahead of the competition.

Get in touch with us to learn more about the HDR MWD with Gyro Path GWD system and stay on track with this game-changing tool.

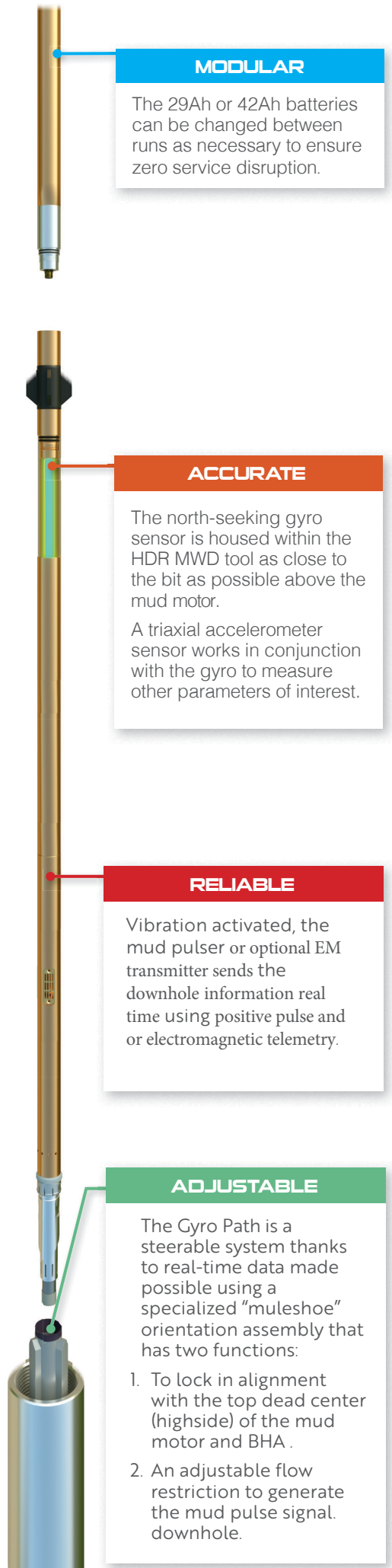
FEATURES

- ▶ Minimal MWD expertise is necessary to operate this tool; the entire system can be up and running in less than 30 minutes on-site.
- ▶ Uses a tried-and-true positive pulse and or EM data transmission to deliver real-time telemetry data, eliminating the need for wireline services
- ▶ Fully retrievable.
- ▶ Places gyro sensor as close to the bit as possible.
- ▶ Perfect for wedge and whipstock orientation and anti-collision environments, when accuracy is critical.
- ▶ For increased operational flexibility, several add-on sensors can be installed into the same string of tools.
 - ▶ Conventional Orientation Sensor
 - ▶ 360° Gamma, Orbital Gamma
 - ▶ Continuous Inclination & Azimuth
 - ▶ Shock & Vibration
 - ▶ RPM & Stick-Slip

ADVANCED DECODING



On-Site and remote Drilling engineers can make wellbore adjustments with confidence with the HDR MWD with Gyro Path GWD tool down hole. The real time MWD with GWD software is accessible anywhere on site, and remote monitoring functionality can be enabled when needed.



OPERATING SPECIFICATIONS

Minimum specifications and subject to change depending on the tool version and availability. Users can expect no less than the following characteristics when operating the HDR MWD with Gyro Path GWD system.

PHYSICAL

TOOL OD	47.625 mm	1-7/8 in	
TOOL LENGTH	6.2 m	21 ft	
MAXIMUM PRESSURE	124,105 kPa	18,000 psi	
MAXIMUM TEMPERATURE	85°C	185°F	
MECHANICAL OPERATING THRESHOLDS	BHA SIZE (INCHES)	BEND RADIUS	MAXIMUM FLOW RATE
	3-½	30°	0.8 m³/min 200 gpm
	4-¾	25°	1.5 m³/min 400 gpm
	6-½	18°	2.6 m³/min 700 gpm
	6-¾	20°	2.6 m³/min 700 gpm
8-½	12°	3.5 m³/min 900 gpm	
MAXIMUM SHOCK	500g, 0.5 msec, ½ sine all axes		
MAXIMUM VIBRATION	50 – 500 Hz - 10g all axes		
LOST CIRCULATION MATERIAL (FAST-PULSE SCREEN)	FINE	MEDIUM	COARSE
	50 lb/bbl	30 lb/bbl	20 lb/bbl

TECHNICAL

TELEMETRY SYSTEM	Positive Pulse and or EM
RETRIEVABILITY	Wireline Retrievable BHA ID >= 57 mm [2-¼ in]
TOOL ACTIVATION	Vibration Sensor Switch
OPERATING CAPACITY	180 Hours Per Battery 3 Batteries Maximum

		DATA RATE	0.5 - 1.2 Bits/Second	0.250 - 2.00s Plsw
SENSOR	PARAMETER	RANGE	ACCURACY	SPREAD
3-AXIS ACCELEROMETER	INCLINATION	0° - 180°	+/- 0.10°	0.20°
	GRAVITY TOOL FACE	0° - 360°	+/- 0.10°	0.20°
	TEMPERATURE	-35 - 200°C	+/- 0.5°C	1.00°C
NORTH-SEEKING GYROSCOPE	AZIMUTH	0° - 360°	+/- 0.10°	0.20°
	GYRO TOOL FACE	0 - 360°	+/- 0.10°	0.20°

Gyro accuracy is dependent on total survey time and may vary depending on the tool model and application.

GYRO ACQUISITION TIME	< 1 minute (depending on accuracy requirements)
TELEMETRY UPDATES	10 - 28 seconds between data points
GYRO CONSIDERATIONS	Azimuth values are not reliable at orientations within 20° of an east-west horizontal line but are valid at other horizontal azimuths. Inclination/ Dip values are valid at all orientations.

