

# GeoRes DownHole System

## “SLIMHOLE” DW150 ARRAY SYSTEM

### Miniaturized Multi-Component Borehole Sonde String



#### **DIGITAL MODULE FEATURES:**

- 24-bit x 3-channel Digitizer in each Shuttle.
- Ultra-Low-Noise Digitizer enables recording of low amplitude microseismic events, 3D-VSP, Crosswell Seismic Imaging, etc.
- Slim-hole sonde 1.6 inch OD (<41mm).
- 3C Sensor Packages available: 3C Tri-axis Orthogonal Geophone.
- OMNI-2400 High-output Geophone sensors.
- Machined stainless housing minimizes mechanical resonance for high-resolution, high-frequency recording.
- Direct connection sub-arrays, armored wireline, or rigid interconnects available with high-pressure multi-conductor booted connectors.
- Flexible or Rigid interconnects may be connected “back-to-back” to form longer intervals.
- Maximum distance between sonde modules: 100 meters.
- Maximum temperature rating: 150°C.
- Maximum pressure rating: 20,000 psi.
- Configurations for vertical, deviated, or horizontal wellbore deployments.
- Adaptable housing for user-defined, application-specific coupling devices.



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### MECHANICAL SPECIFICATIONS

Outside Diameter	1.6 inches	< 40.64 mm
Length	16 inches	406.4 mm
Tool Weight	5 lbs.	2.27 kg
Anchoring System	Mechanical on each shuttle (bow spring/magnetic)	Tubing mandrel Permanent (cemented)
Anchor-to-Weight ratio	7:1 (passive spring)	
Tool Anchoring Range	Custom adapters for dimension ranges	Sizes available upon request
Points of Contact	5 points, including opposing clamp axis	
Sensor Package	3C w/OMNI-2400, mutually orthogonal sensor set standard 2.26 Volts/inch/second Sensitivity	
Interconnect Options	Rigid Tubing	Flexible Armored Wireline Cable
Standard Lengths	3, 6, 9, 9, 12, 15, 20 meters	
Maximum Temperature	302°F	150°C
Maximum Pressure	20,000 psi	

### DIGITAL MODULE 3-CH X 24-BIT DIGITIZER SPECIFICATIONS

Sampling Rates	¼, ½, 1, 2, and 4 ms						
Pre-amplifier Gains	0dB	6 dB	12 dB	18 dB	24 dB	30 dB	36 dB
Equivalent Input Noise @2ms	1.13µV rms	0.58 µV rms	0.33 µV rms	0.22 µV rms	0.19 µV rms	0.18 µV rms	0.17 µV rms
Maximum Input Signal	1.8 V rms	0.9 Vrms	0.45 Vrms	0.225 Vrms	0.1125 Vrms	0.0562 Vrms	0.0281 Vrms
Gain Accuracy	< 1%						
Frequency Response	3 to 1.65 KHz						
Anti-alias Filter	83% Nyquist						
Instant. Dynamic Range @2ms	124 dB						
Cross-feed Isolation	>90 dB						
THD	0.001%						
System Timing Accuracy	Better than 1 PPM						

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