

# DDS-250 DOWNHOLE SHUTTLE



## Mechanical-Clamped Digital Downhole Shuttle

- 24-bit x 4-channel Digitizer in each shuttle
- Ultra-low noise digitizer enables recording of ultra-low amplitude microseismic events
- Slim-hole shuttle 2.50 inch OD (63mm)
- 3C sensor package — 3C is tri-axis orthogonal geophone
- Dual-element OMNI 2400 high-output geophone sensor
- Solid machined titanium shuttle body minimizes mechanical resonance for high-resolution, high-frequency recording
- Selectable Open-Close motor control for each shuttle with special “Power Boost” operator control
- Armored Wireline or Rigid Interconnects available
- Flexible or Rigid interconnects may be connected “back-to-back” to form longer intervals
- Maximum distance between DDS-250 is 50 meters
- Up to thirty-two (32) 3-component levels per well deployment

# DDS-250

## MECHANICAL SPECIFICATIONS

|  |  |
|--|--|
| <b>Outside Diameter</b>                | 63 mm (2.50 in.)   |
| <b>Length</b>                          | 157 cm (62 in.)  |
| <b>Tool Weight</b>                     | 18 kg (40 lbs.)  |
| <b>Anchoring System</b>                | Electromechanical in each Shuttle  |
| <b>Anchoring-to-Weight Ratio</b>       | 10:1 @ 45° angle   |
| <b>Anchoring Motor Power</b>           | 24 VDC per Shuttle constant 0.5 Amp  |
| <b>Time-to-Anchor</b>                  | ~30 seconds per shuttle @ 6"   |
| <b>Tool Anchoring Range</b>            | 102–305 mm (4-12 inch)   |
| <b>Points of Contact</b>               | 3 points, plus Anchor Arm  |
| <b>First Mechanical Tool Resonance</b> | > 650 Hz   |
| <b>Sensor Package</b>                  | 3C with dual-element OMNI-2400   |
| <b>Interconnect Options</b>            | Rigid Tubing (stainless steel) 3m, 6m, 9m<br>Flexible Armored Wireline Cable 9m, 12m, 15m, 20m |
| <b>Maximum Temperature Rating</b>      | 150°C  |
| <b>Maximum Pressure Rating</b>         | 20,000 psi   |

## DDS-250 4-ch x 24-bit DIGITIZER SPECIFICATIONS

|                                    |                      |                  |                  |                  |
|------------------------------------|----------------------|------------------|------------------|------------------|
| <b>Sampling Rates</b>              | ¼, ½, 1, 2, and 4 ms |                  |                  |                  |
| <b>Pre-Amplifier Gains</b>         | 0 dB                 | 8 dB             | 19 dB            | 31 dB            |
| Equivalent Noise @ 2 ms            | 1.590 µvolts rms     | 0.674 µvolts rms | 0.264 µvolts rms | 0.176 µvolts rms |
| Maximum Input Signal               | 1.590 vrms           | 0.635 vrms       | 0.187 vrms       | 0.045 vrms       |
| <b>Gain Accuracy</b>               | < 1%                 |                  |                  |                  |
| <b>Frequency Response</b>          | 3 to 1.6 KHz         |                  |                  |                  |
| <b>Anti-Alias Filter</b>           | 80% Nyquist          |                  |                  |                  |
| <b>Instantaneous Dynamic Range</b> | 120 dB               |                  |                  |                  |
| <b>Cross-Feed Isolation</b>        | > 100 dB             |                  |                  |                  |
| <b>THD</b>                         | 0.0018%              |                  |                  |                  |
| <b>System Timing Accuracy</b>      | Better than 1 PPM    |                  |                  |                  |

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**DDS-250 3-Component Sensor**



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