



# Pressure While Drilling System

## Leaders in Measurement-While-Drilling Technologies

World leaders in Measurement-While-Drilling (MWD) technologies, Scientific Drilling's Pressure While Drilling (PWD) system utilizes an Annulus Pressure and Pipe Pressure module to provide the optimum in downhole pressure measurements.

## Scientific's Annulus/Pipe Pressure Modules

High rates of penetration, high rpm, limited annular volume in slimholes, borehole irregularities, or mud weight variations can create costly lost circulation or high pressure environments. Scientific's advanced pressure modules measure and monitor critical annulus and pipe pressure during tripping or drilling operations. The PWD system is offered optionally with either telemetry platforms, EM or Positive Pulse MWD.

## Wide Range of Applications

Scientific Drilling's annulus and pipe pressure tools are essential to all drilling applications where accurate and timely pressure measurements and calibrations are required.

These modules are used to:

- Avoid pressure swabs and surges.
- Detect kicks and shallow water flows
- Ensure equivalent circulation density (ECD) is accurately calculated and remains within safe operating ranges
- Monitor hole cleaning
- Keep annular pressure below reservoir flow pressure in underbalanced drilling
- Monitor pressure drop across downhole motor and bit
- Minimize formation fracturing and resultant mud loss
- Reduce wellbore instability
- Avoid annular pressure buildup, especially in deepwater environments
- Early detection of pipe washouts
- Determine formation integrity (leak-off test)

## High Accuracy & Durability

Scientific Drilling's PWD system utilizes silicon-on-silicon technology and are factory calibrated for all operating ranges. No on-site calibration is necessary as the sensors offer the highest accuracy and durability across the entire spectrum of well environments.

## High-Speed Data Delivery Rates

Scientific Drilling's pressure measurements can be pulsed to the surface at speeds of one reading every 10.6 seconds. They can be recorded to downhole memory every 10 seconds. A combination of these modes can also be delivered to a high-resolution log downloaded from memory when the tool returns to surface.

### ADVANTAGES

- Wide range of pressure measurements
- Ideal for many well types
- High-speed, real-time or memory output
- Static pressure reading during pumps off
- High accuracy and reliability

### TECHNICAL SPECIFICATIONS

<b>Optional Sensor Pressure Ranges</b>	0 – 5,800 psi (0 - 39,990 kPa) 0 – 14,500 psi (0 – 99,974 kPa)
<b>Resolution</b>	0.1 psi (0.69 kPa) increments
<b>Accuracy</b>	±0.1% of full scale
<b>Temperature Rating</b>	302°F (150°C)

*Specifications are subject to change without notice.*



Scientific Drilling

*The Leading Force in Wellbore Navigation*

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