



# CALSCAN

precision  
temperature pressure  
& flow measurement



## WOLVERINE QUARTZ DOWNHOLE RECORDER

**CALSCAN's Wolverine Class** of quartz downhole tools provide the oilfield industry with superior accuracy, reliability, durability, and performance.

The Wolverine works with industry-standard quartz transducers. It surpasses industry standards for energy consumption by being the first quartz tool to operate using only one (for temperatures less than 150°C) or two (over 150°C) 3.6-volt lithium cells.

Wolverine has 10 times better stability and resolution than a typical silicon crystal strain gauge, enabling it to capture fast pressure pulses that other downhole recorders would miss. This improved performance allows sample rates as fast as 1/10th of a second, while maintaining the same accuracy as Badger and Mole Class tools.

Setup is simple. Wolverine uses the same software package and USB/Serial Interface box to program and download data as our other tools. Transition between our tools is seamless.

Wolverine was designed with durability and dependability in mind. All housings are made of long-lasting 718 INCONEL™ or equivalent material. We test all of our tools extensively at high temperatures to ensure that your tools stand up to the rigors of the oil field.

The Wolverine comes in a variety of pressure ranges, up to 20 000 psi, and two temperature ranges, 150°C and 177°C.



## SPECIFICATIONS

**Pressure Accuracy:**  $< \pm 0.02\%$  FS (0.015% FS typical)

**Pressure Resolution:**  $< 0.0001\%$  FS (1 second sample rate or higher)  
 $< 0.0024\%$  FS (0.1 to 0.5 second sample rate)

**Pressure Drift:**  $< 1$  psi/year

**Pressure Ranges:** Up to 20 000 psi

**Temperature Accuracy:**  $\pm 0.5\text{ }^{\circ}\text{C}$  ( $\pm 0.15\text{ }^{\circ}\text{C}$  typical)

**Temperature Resolution:** 0.0002 % FS

**Operating Temperature:** Up to 177°C

**Battery Requirements:** One or two 3.6 volt or 3.9 volt Lithium C/CC Cells

**Battery Life:** Temperature and sample rate dependent, typically  
fills memory at least once per battery pack

**Number of Data Points:** up to 696 000 expandable to 1.38 million

**Minimum Sample Rate at Maximum Resolution:** 1 second

**Minimum Sample Rate:** 0.1 seconds

**Maximum Sample Rate:** 18 hours

**Housing Material:** 718 INCONEL™ Standard; others types available

**Housing Diameter:** 0.75 inch & 1.25 inch Standard ;others sizes available

**Housing Length:** 30 inch Standard Battery Pack (Holds two C Cells)  
34 inch Extended Battery Pack (Holds two CC Cells)

**Communications:** USB and Serial Via Interface Box

**Software:** Windows 98/2000/XP

## OPTIONS

**1: Surface Readout** - This gives the ability to monitor downhole data via electric line.

**2: Pigtail** - Protects your pressure sensor from corrosive fluids in a well.



**For warranty, calibration, replacement battery, and local distributor information contact:**

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