

Real Time Wireless Downhole Pressure: *The Elf*

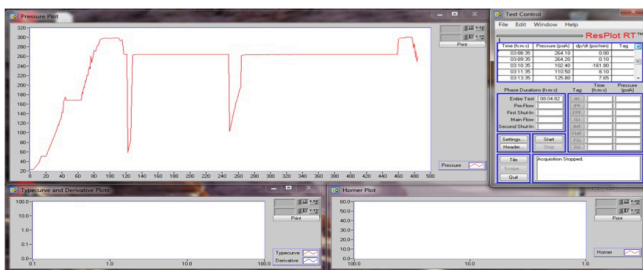
Subsurface pressure temperature measurement is critical in the energy industry. It is the basis on how to complete, repair and to determine the feasibility of a producing formation. The ELF EM tool was developed by GEO PSI to obtain critical pressure readings required by energy companies.

By using a low frequency radiowave that can travel through the earth without the use of wires, pressure data can be recorded for a variety of open hole oilfield applications such as: Drill Stem Testing, Injection Testing, Formation Stress Testing, and Pressure while Drilling.

The system consists of a pressure transducer and telemetry unit that operates from lithium batteries and fits inside a specially designed carrier, ("Gap Sub"). The Gap Sub creates an electrical insulator in the tubular string while the tool generates a radio signal in an attempt to bridge the barrier. At surface, the signal is detected by antenna stakes in the ground that are connected to a decoding box which transfers the data to a laptop computer for customer presentation.

The data is presented in a time/pressure format compatible with any standard analysis package.

A typical Gap Sub is shown to the right and is available in a variety of sizes with API standard threads. The standard tool can be used with different tubular sizes, utilizing adapter rings.



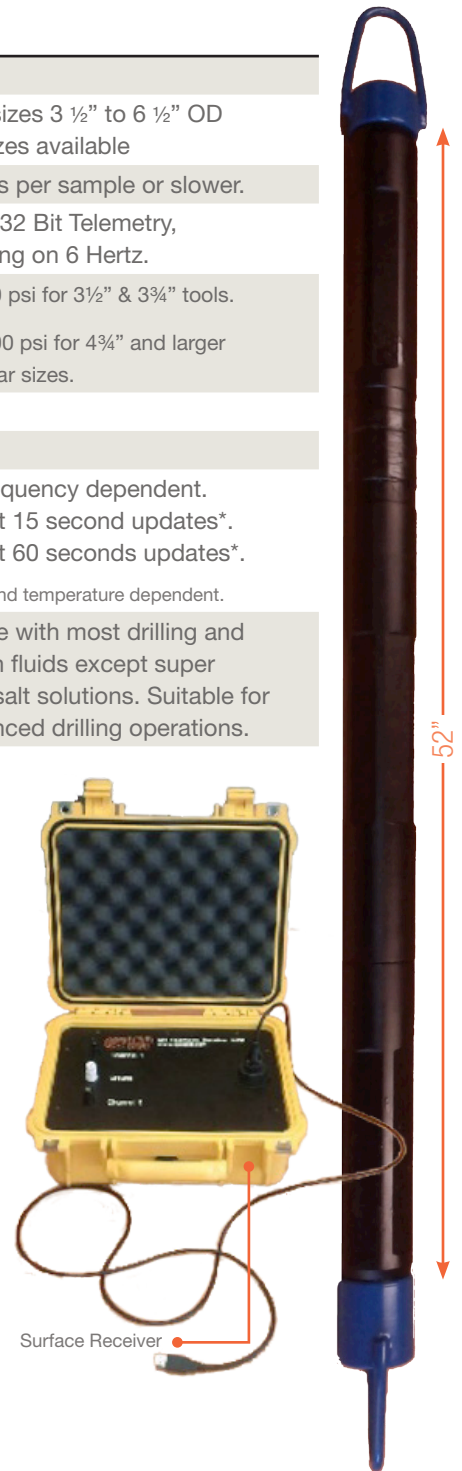
Intuitive User-Friendly Interface

SPECS

Overall length	52"
Diameter	Standard sizes 3 1/2" to 6 1/2" OD Custom sizes available
Sample rate	15 seconds per sample or slower.
Telemetry	2 Channel 32 Bit Telemetry, broadcasting on 6 Hertz.
Pressure Rating	<ul style="list-style-type: none"> 8,000 psi for 3 1/2" & 3 3/4" tools. 10,000 psi for 4 3/4" and larger tubular sizes.
Temperature Rating	150°C
Pressure Accuracy	0.25% FS
Battery Life	Sample frequency dependent. 24 hours at 15 second updates*. 96 hours at 60 seconds updates*. * Formation and temperature dependent.
Operating Environment	Compatible with most drilling and completion fluids except super saturated salt solutions. Suitable for underbalanced drilling operations.

FEATURES

- Smallest EM tool available.
- Easy to set up.
- Intuitive and user friendly software. Includes Build-Up, Derivative, and Horner Plots.
- Low power electronics.
- Suitable for coiled tubing applications.
- Ruggedized and proven.
- Flexible design is adaptable for several types of services.



Surface Receiver

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