



OPENFIELD™
TECHNOLOGY

MICRO INSTRUMENTS FOR HARSH ENVIRONMENTS

3/4" PRESSURE AND TEMPERATURE MICRO-RECORDER FOR DRILL STEM TESTING

HIGH ACCURACY - HIGH RESOLUTION



GENERAL DESCRIPTION

Combining mono-crystal micro sensing elements with corrosion and HPHT resistant protective casing that can fit in the palm of your hand, OpenField™ sensors are unique in making microchip technology work in the harshest environments, giving well operators superior data on downhole pressure and temperature.

IDEAL FOR PRESSURE TRANSIENT ANALYSIS

Thanks to its extremely fast settling time, OpenField™ proprietary MEMS technology drastically improves dynamic data acquisition and interpretation during Well test operations.

DUAL GAUGE DOWNHOLE FLOW MEASUREMENT

When mounted on the same mandrel with a restriction throat, two gauges are used as a Venturi flow-meter, making the most of their high-resolution time synchronisation

THE BENEFITS OF MINIATURIZED TECHNOLOGY

The small size of our revolutionary pressure and temperature gauges offers key advantages to well operators including easy deployment in standard DST mandrels, immediate responses to changing conditions and low power consumption. All of this with data quality superior to even Quartz technology.

SPECIFICATIONS

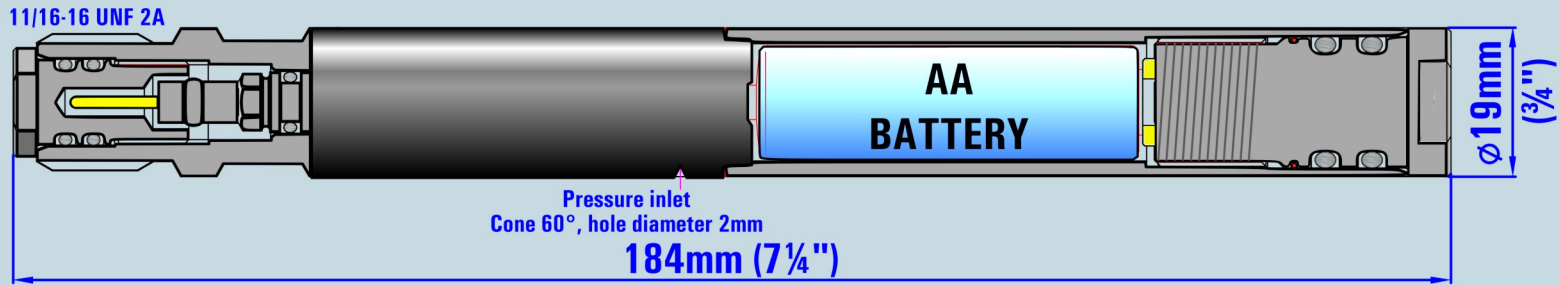
Outside Diameter	19mm (3/4")
Length	184mm (7 3/4")
Material	Inconel 718 - Sour Service
Battery	1 single AA lithium battery
Memory	5.6 million data sets (Time, Pressure, Temperature)
Pressure Range	10, 15 or 20 kPsi (700, 1000 or 1300 bar)
Temperature Range	125, 150 or 170 °C (257, 302 or 338 °F)
Pressure Accuracy	±0.01% FS
Pressure Resolution	0.00005% FS at 1Hz
Temperature Resolution	1mK at 1Hz
Sampling Rate	32 milliseconds to 128 seconds
Deployment	DST Mandrel Slickline Surface
Interface	Plug and Play USB

APPLICATIONS

- Fracturing Jobs
- Well Monitoring
- Reservoir Evaluation
- Build-up Analysis
- Flow Assurance
- Water Injection
- Perforation Jobs
- Gradient Logging
- Monitoring

HIGH ACCURACY - HIGH RESOLUTION

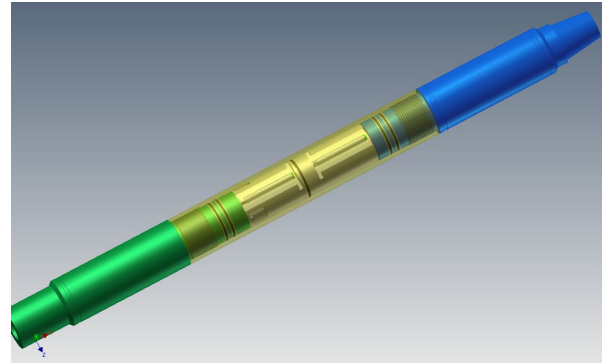
MEMS MICRO-RECORDER FOR PRESSURE AND TEMPERATURE



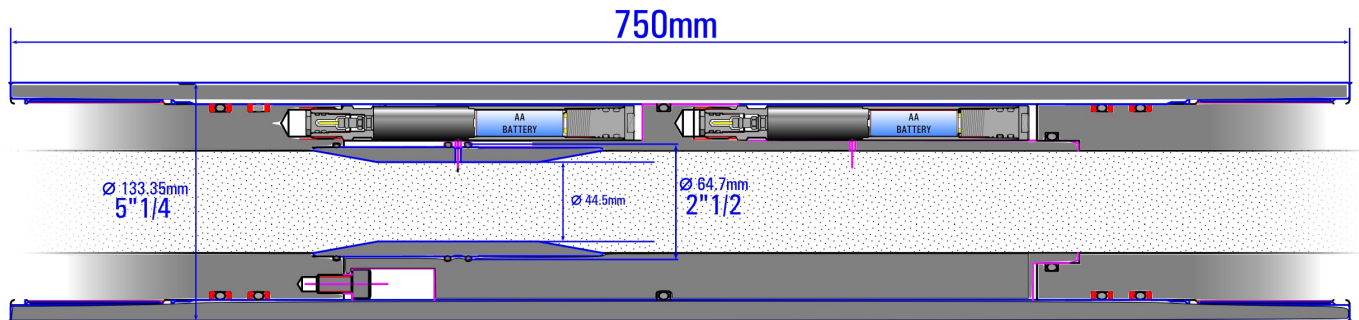
DUAL GAUGE FLOW MEASUREMENT

Mounting two gauges in a single mandrel with a restriction throat allows not only full Pressure Transient Analysis on each gauge, but also Flow Measurement through accurate differential pressure measurement.

Measurement range depends on allowed restriction diameter.



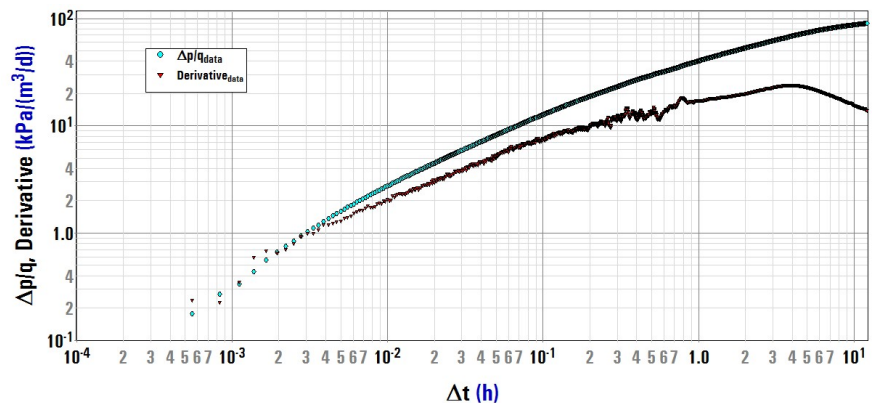
3D-view of a dual gauge flow measurement in a Venturi Mandrel



Side view of a dual gauge flow measurement in a Venturi Mandrel

METROLOGY

High Accuracy, High Resolution measurements with fast settling time means outstanding derivative analysis data. Any Pressure Transient Analysis will directly benefit from the higher data quality, to give you an even finer understanding of your reservoir.



Derivative analysis of a draw-down measured at 1Hz.

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