Combined Quartz Pressure & Casing Collar Locator (QPC)

The combined quartz pressure & CCL tool is designed to minimise tool length. A Quartzdyne gauge is used for the pressure measurement and the CCL detects casing collars & other variations in the casing and tubing.

Description

The resonant frequency of a shaped quartz crystal varies with the applied pressure, this variation has to be compensated for changes of crystal temperature thus both pressure & temperature outputs are available from the gauge. Using this data and a calibration supplied with the gauge an accurate and high resolution pressure reading is available over the wide measurement range. The gauge is fitted with bellows to provide isolation from well fluids. Pressure access is via a single filtered port, with a second flushing port available for use during maintenance. The co-axial CCL uses a pair of rare earth magnets & a single coil to detect changes in the amount of magnetic material around the tool. These variations induce an emf within the coil which is processed to produce the log.

Features

- Depth Control in Casing and Tubing.
- Location of Severe Casing or Tubing Damage.
- Confirmation of perforation depths/intervals.
- Data for P.I. and Nodal Analysis.
- Draw-Down and Build-Up Pressure Transient Analysis.
- Down-Hole Pressure Gradient Measurement.

Specification

Model	QPC003	QPC004
Temperature rating	350°F (177°C)	
Pressure rating	15000psi (103.4MPa)	
Tool diameter	1 11/16in (43mm)	1 3/8in (35mm)
Tool length	19.01in (483mm)	17.8in (452mm)
Tool weight	8.8lb (4.0kg)	5.4lb (2.4kg)
Toolbus	Ultrawire™	
Current consumption	20mA	
Pressure accuracy	± 0.02% FS	
Pressure resolution	< 0.008psi	
Pressure response	< 1sec for 99.5%	
Pressure ageing	< 3psi/year	
Temperature accuracy	± 0.27°F (0.15°C)	
Temperature resolution	< 0.009°F (0.005°C)	
Depth offset - Pressure	0.6in (15mm)	0.67in (17mm)
Depth offset - CCL	8.0in (203mm)	8.54in (217mm)
Materials	Corrosion resistant throughout	

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