

Combined Quartz Pressure & Casing Collar Locator (QPC)

Provides a continuous log of borehole fluid pressure and also responds to changes in metal volume, such as pipe collars and perforations

Applications

- Measure shut-in and flowing pressure at prescribed depth levels
- Determine pressure differentials over prescribed intervals
- Accurately locate gas-liquid interfaces (two-phase, three-phase contacts)
- Estimate damage or improvement by skin factor value
- Pressure gradient measurement
- Draw-down and build-up pressure transient analysis
- Depth control in casing or tubing
- Location of casing or tubing damage
- Confirmation of perforation depths or intervals

Features and Benefits

- Combinable with other Sondex **Ultrawire™ production logging tools**
- Precision and accurate measurement
- Fast response to small changes in fluid pressure

The Sondex **Combined Quartz Pressure and CCL tool (QPC201)** is designed to minimise tool length. A gauge is used for the pressure measurement and the CCL detects casing collars and other variations in the casing and tubing.

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 and 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 coaxial 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.



Specifications

	QPC201
Temperature rating	350°F (177°C)
Pressure rating	15,000 psi (103.4 MPa)
Tool diameter	1 11/16 in. (43 mm)
Tool length	19.01 in. (483 mm)
Tool weight	8.8 lb (4.0 kg)
Toolbus	Ultrawire production logging tool
Current consumption	20 mA
Pressure accuracy	0.02% FS
Pressure resolution	0.008 psi
Pressure response	< 1 sec for 99.5%
Pressure ageing	< 3 psi/year
Temperature accuracy	+/- 0.27°F (+/- 0.15°C)
Temperature resolution	< 0.009°F (0.005°C)
Depth offset - pressure	0.6 in. (15 mm)
Depth offset - CCL	8.0 in. (203 mm)
Materials	Corrosion resistant throughout