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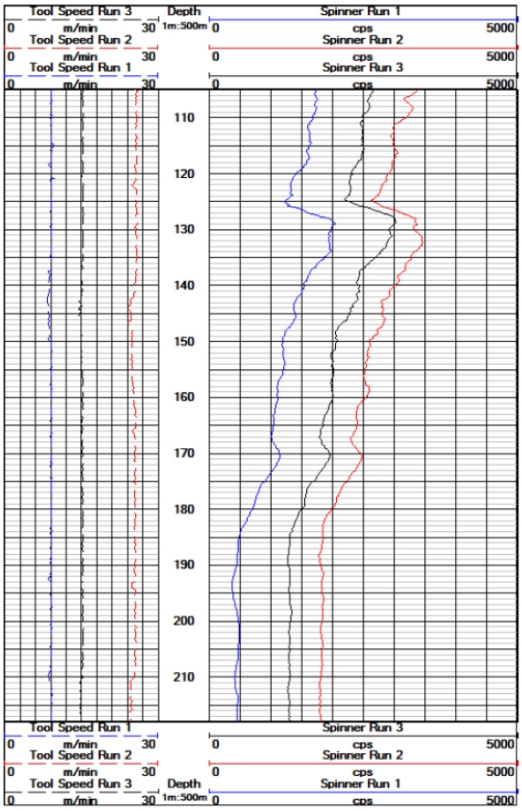
QL40 SFM bi-directional spinner flowmeter

This QL series probe measures impeller rotation caused by fluid flow in the borehole. It uses a magnetically coupled pick-up which drives a low friction, high resolution encoder located inside the lower pressure housing. The encoder produces 256 pulses per shaft rotation. It has quadrature sensing electronics that instantaneously detect flow direction changes.

The QL40 SFM is a bottom sub, and can be combined with other logging tools in the QL (Quick Link) product line or operated as a stand alone tool. Weight bars with centralizers are recommended to improve log response and repeatability in large boreholes or low flow environments

Application

- Pumping Flow profiles in screened or perforated cased holes
- Identification of hydrostratigraphic units
- Confirmation of predicted transmissive zones in open hole



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QL40.SFM bi-directional spinner flowmeter

Principle of measurement

A buoyant impeller mounted on a hollow stainless steel shaft is suspended between two precision ground ceramic bearings. A balanced transfer bulkhead filtered with magnets couples motion and direction from the impeller through a sealed sensor body inside the probe. A low friction high resolution encoder detects this information and transfers it digitally to a counter circuit that send the information by wireline modem to the surface

Measurement/Features

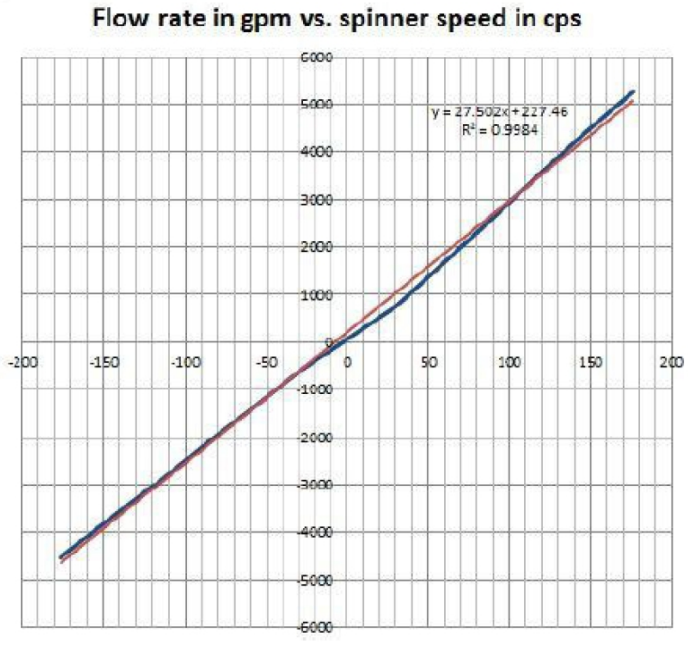
The probe is supplied with two different cages to provide optimum results in a variety of borehole diameters. 60 and 75mm diameter varied pitch impellers are available.

Technical Specifications

- Diameter : 40mm. (1.57") excluding cage
- Length : 90 cm (35.4")
- Weight : 3.2 kg (7lbs)
- Maximum Temperature: 70°C. (158 °F)
- Maximum Pressure: 200bar (2900psi)

Operating conditions

- Open or plastic-cased borehole
- Water filled
- Centralization recommended



Typical flow response curve for up and down runs in 6" casing

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