

QL40.CAL 3 Arm Caliper

The QL40-CAL sub records a single continuous borehole diameter log by means of three mechanically coupled arms in contact with the borehole wall. The 3 arm caliper measurement is a useful first log to determine the borehole condition before running other probes.

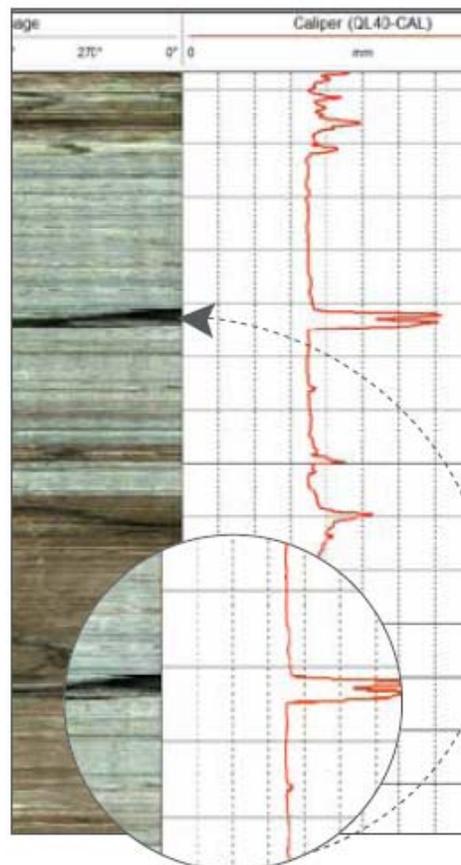
The QL40 CAL is supplied with two sets of arms. The standard arms are suitable for a borehole diameter ranging from 57 mm to 406 mm. The extension arms are suitable for borehole diameters up to 736mm. The caliper arms can be unscrewed from their short pivot arms and may be replaced with ones of different length. The hardened arm wear tips can be unscrewed and are easily replaced.

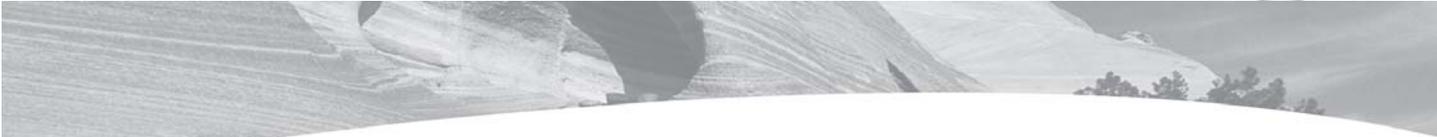
Opening and closing of the caliper arms is surface controlled from the Logger Suite application allowing the probe to be run into the borehole with the arms closed. Once positioned at the bottom of the bore-hole, and caliper arms opened, the spring-loaded arms respond to borehole diameter variations as the probe is moved up the borehole.

The QL40-CAL sub can be combined with other logging tools of the QL (Quick Link) product line or can be operated as a standalone tool. It is compatible with the Matrix acquisition system.

Application

- Borehole diameter measurement
- Borehole volume calculation before borehole completion cementation
- Fractures and cavities localization
- Rock integrity evaluation
- Often used in the implementation of environmental correction equations for other logs





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Principle of measurement

The caliper measurement is made with three arms attached to a mechanical assembly which drives a linear potentiometer. The DC output voltage from the wiper of the potentiometer is converted to a frequency linearly related to the borehole diameter. Digital control commands for opening and closing the arms are made via the LoggerSuite acquisition software interface. The caliper measurement can be scaled and calibrated in inches, centimeters or millimeters.

Measurements / Features

- Calibrated measurement of borehole diameter in inches, centimeters or millimeters
- Easy exchangeable caliper arms and wear tips

Operating Conditions

- Dry or fluid filled borehole
- Compatible with Matrix system
- Can be combined with other QL subs

Technical Specifications

Tool

- Diameter : Maximum 42.3mm (1.67")
- Length: 1.785m (70.28")
- Weight : 10kg (22lbs)
- Maximum Temperature: 70°C. (158 °F)
- Maximum Pressure: 200bar (2900psi)

Power

- DC voltage at probe top :
 - Minimum 80 VDC
 - Maximum 160 VDC
 - Nominal 120 VDC
- Current : Nominal 25mA

Measurement

- Standard arms: 50mm to 406mm (2" to 16")
- Extended arms: up to 736mm (up to 29")
- Accuracy: 1mm
- Resolution : 0.5mm



Specifications subject to change without notice