

QL Stackable Logging Tools

The Quick Link (QL) series of slim-hole logging tools can be combined in custom configurations to acquire more data in a single logging pass.

Each QL tool can be used as a stand-alone probe or combined into a "string" or "stack" to yield multiple measurement parameters simultaneously.

This innovative flexibility saves time in field acquisition and allows for purchases to suit budgets and projects, as needed.



Examples of QL Logging Tool Applications in Mining, Water, Engineering and Energy

Lithology identification ▶ QL40 GR | QL40 OBI | QL40 DEN | QL40 NEU | QL40 FWS | QL40 ELOG | QL40 DLL3 | QL40 IND

Mineral detection and indication of mineralization ▶ QL40 GR | QL40 SGR | QL40 IP | QL40 MGS | QL40 IND | QL40 DEN

Stratigraphy and bed thickness ▶ QL40 GR | QL40 OBI | QL40 DEN | QL40 NEU | QL40 FWS | QL40 ELOG

Permeable zones and Porosity ▶ QL40 DEN | QL40 FWS | QL40 ELOG | QL40 DLL3 | QL40 NEU

Location of aquifers / aquitards ▶ QL40 DEN | QL40 FTC | QL40 OCEAN | QL40 SFM | QL40 IND

Density ▶ QL40 DEN

Water quality and contamination ▶ QL40 FTC | QL40 OCEAN

Fluid flow measurements ▶ QL40 SFM

Detection of weathered, fractured and permeable zones ▶ QL40 DEN | QL40 IND | QL40 FWS | QL40 ABI | QL40 OBI

Fracture identification and orientation ▶ QL40 ABI | QL40 OBI

Core orientation ▶ QL40 ABI | QL40 OBI

Local Stress (borehole breakout orientation) ▶ QL40 ABI | QL40 OBI | QL40 CAL

Rock Strength and elastic parameters ▶ QL40 DEN | QL40 FWS | QL40 ABI

Coal quality ▶ QL40 DEN | QL40 DLL3 | QL40 GR | QL40 ELOG

Cased hole integrity / cementation ▶ QL40 GR-CCL | QL40 ABI | QL40 FWS

Borehole shape, volume, integrity and orientation ▶ QL40 ABI | QL40 OBI | QL40 CAL | QL40 DEV

QL40

Stackable Logging Tools



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IMAGING TOOLS

QL40ABI
Acoustic Televiewer

Sensor
Ultrasonic Transducer

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Borehole diameter
0.05 – 0.50 m (2"– 20")
depending on borehole conditions

Diameter - Length
40 mm (1.6") - 1.6 m (63")

Weight
6.7 kg (14 lbs)

Measurements/Features

- 360° orientated acoustic image (amplitude & travel time)
- Borehole azimuth and tilt
- Tool internal temperature
- Relative bearing
- Magnetic field
- Gravity

QL40OBI
Optical Televiewer

Sensor
1/3" high sensitivity CMOS digital image sensor

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Borehole diameter
0.05-0.53 m (2"-21") depending on borehole conditions

Diameter - Length
40 mm (1.6") - 1.47 m (57,9")

Weight
5.3 kg (11,7 lbs)

Measurements/Features

- 360° RGB true color oriented image
- Borehole azimuth and tilt
- Relative bearing
- 3 accelerometer calibrated components
- 3 magnetometer calibrated components
- Temperature of CMOS image sensor

● Bottom ● In line

SONIC TOOL

QL40FWS
Full Waveform Sonic

Sensor
Ceramic piezoelectric

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
50 mm (2")
| 2.27m (89.4")
| 1Tx-4Rx configuration

Weight
18 kg (39.7 lbs)

Measurements/Features

- Full waveform per receiver
- Real time p-wave velocity or slowness
- Real time CBL processing
- Additional post processing module available in WellCAD

FLUID PROPERTIES TOOLS

QL40SFM
Bi-directional spinner Flowmeter

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
40 mm (1.6") excluding cage
0,9 m (35,4")

Weight
3.2 kg (7 lbs)

Measurements/Features

- 60mm diameter pitch impeller/75 mm diameter cage
- 75mm diameter pitch impeller/100mm diameter cage
- Spinner speed in cps up and down

QL40FTC & FTC-b
Fluid Temperature and Conductivity

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
40mm (1.6") – 0.8m (31.5")
bottom sub
50mm (2") – 1.01m (39.8")
in line sub

Weight
3.3kg (14lbs) – 6.6kg (28lbs)

Measurements/Features

- Fluid temperature in °C
- Fluid conductivity in µS/cm or mS/cm
- Compensated conductivity at 25°C in µS/cm or mS/cm

QL40OCEAN 303
Water Quality Probe

Sensor
Itronaut ocean seven 303, Pressure, Temp, Fluid Conductivity, Oxygen, PH, Redox

Temperature - Pressure
0-70°C (32-158°F)
150 bar (2175 psi)

Diameter - Length
44 mm (1.7") - 1.4 m (55")

Weight
4.9 kg (10.8 lbs)

Measurements/Features

- Pressure : in dbar
- Temperature : in °C
- Conductivity
Salt water : in mS/cm
Fresh water : in µS/cm
- Oxygen : in ppm.
- pH
- Redox : in mV

● Bottom ● In line

NUCLEAR TOOLS

QL40GR
Total Count Natural Gamma

Sensor
NaI (TI) crystal (1 x 3")

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
40 mm (1.6") - 0.9 m (35")

Weight
4.3 kg (9.5 lbs)

Measurements/Features

- Total gamma counts in CPS and/or API unit

QL40GR-CCL
Natural Gamma & Casing Collar Locator

Sensor
GR: NaI (TI) crystal (1 x 3")
CCL: 32 x 280 mm coils & magnets assembly

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
40 mm (1.6") - 1.16 m (46")

Weight
5.9 kg (13 lbs)

Measurements/Features

- Total gamma counts in CPS and/or API unit
- CCL in mV

QL40SGR
Natural Spectral Gamma

Sensor
NaI (TI) crystal (1 x 4")
BGO crystal (1 x 4")

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
40 mm (1.6") - 0.93 m (36")

Weight
4.4 kg (9.6 lbs)

Measurements/Features

- 256 channels spectrum
- spectrum stabilized (software)
- Nuclides concentrations
- Window gamma counts
- Total gamma counts in CPS and/or API unit

● Bottom ● In line

MECHANICAL TOOL

QL40CAL
3 Arm Caliper

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
40 mm (1.6") - 1.87 m (73")

Weight
8.7 kg

Measurements/Features

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

MAGNETIC TOOL

QL40MGS
Magnetic Susceptibility

Sensor
Bartington : 1.36 kHz Focused Dual Coil system

W-R : Two coil system with inter coil spacing of 25 cm operating at ~ 2KHz

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
Bartington : 43 mm (1.7") - 1.4 m (56")
W-R : 45mm (1.6") - 1.1m (43")

Weight
Bartington : 6.1 kg (13 lbs)
W-R : 7 kg (15,4 lbs)

Measurements/Features

- Magnetic susceptibility in CGS unit

DEVIATION TOOL

QL40DEV
Borehole Deviation

Sensor
APSS44-3 axis magnetometer and accelerometer

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
40 mm (1.6") - 0.7 m (28")

Weight
5.3 kg (12 lbs)

Measurements/Features

- Angular values of azimuth, tilt and relative bearing
- Calibrated values of each accelerometer and magnetometer components

ELECTRICAL TOOLS

QL40ELOG
Normal Resistivity (8", 16", 32", 64", SP & SPR)

Temperature - Pressure
0 -70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
43 mm (1.7")
1.9 m (75")

Weight
9 kg (19.8 lbs)

Measurements/Features

- Chargeability Ma in [ms] on 16" and 64" electrodes
- SP in [mV]
- SPR in [Ohm]
- Current (mA)

Bridles
QL40 IS 1
QL40 IS 2
QL40 IS 4

QL40IP
Induced Polarization and Normal Resistivity (8", 16", 32", 64", SP & SPR)

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
43 mm (1.7")
1.9 m (35")

Weight
9 kg (19.8 lbs)

Measurements/Features

- Time Multiplex dual spacing focused resistivity LL3-S & LL3-D in [Ohm.m]
- 2 spacing full wave data
- Potential value on measuring and guard electrodes in [V]
- 8", 16", 32" and 64" Normal Resistivity in [Ohm-m]
- SP in [mV]
- SPR in [Ohm]

Bridles
QL40 IS 1
QL40 IS 2
QL40 IS 4

QL40DLL3
Dual Laterolog

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
43 mm (1.7")
2.83 m (111.4")

Weight
15 kg (33 lbs)

Measurements/Features

- Chargeability Ma in [ms] on 16" and 64" electrodes
- SPR in [Ohm]
- Current value on measuring and guard electrodes in [mA]

Bridles
QL40 IS 1
QL40 IS 2
QL40 IS 4

ELECTRICAL TOOL

QL40IND
Dual Induction Probe

Sensor
Dual coil system with intercoil spacing : 50 & 80 cm
Operating Frequency : 100 kHz

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
45 mm (1.77")
1.925 m (75.78")

Weight
7 kg (15.4 lbs)

Measurements/Features

- Deep Induction : mS/m

NUCLEAR TOOLS

QL40DEN
Formation Density Sonde

Sensor
CSI (TI) crystals
SSD (20cm) and
LSD (35cm)

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
50 mm (2") - 1.9 m (75")

Weight
20 kg (44 lbs)

Measurements/Features

- SSD : in CPS
- LSD : in CPS
- SSD density : in g/cc
- LSD density : in g/cc
- Compensated density : in g/cc
- Caliper : in mm or inch
- PE option

QL40NEU
Neutron - Thermal Neutron

Sensor
Single He-3 thermal neutron detector

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
40 mm (1.6") - 1.34 m (46")

Weight
5.5 kg (12 lbs)

Range
0 - 100.000 CPS

Measurements/Features

- Qualitative measurement of formation porosity in open and cased holes.
- Measures hydrogen content of formation.