



QL40

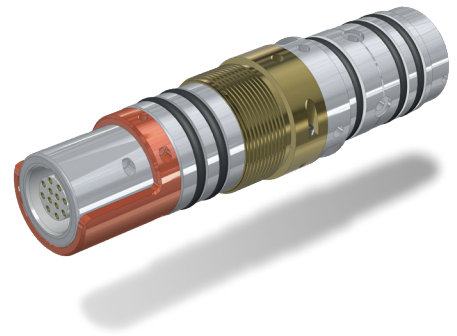
Stackable Logging Tools

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 IND

Mineral exploration ▶ 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 NEU

Location of aquifers / aquitards ▶ 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 · QL40 FTC · QL40 NEU

Fracture identification and orientation ▶ QL40 AB · 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 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



Imaging Tools

QL40 ABI™/ABI™ VLB

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") - 1.62 m (63")

Weight

6.5 kg (14.38 lbs)

Measurements/Features

- 360° orientated acoustic image (amplitude & travel time)
- Borehole azimuth and tilt
- Tool internal temperature
- Relative bearing
- Magnetic field / Gravity
- 3 accelerometer / 3 magnetometer calibrated components
- QL40 ABI VLB specifics
 - Casing thickness integrity
 - CADI (cement amplitude decay index) qualitative cement impedance



QL40 OBI™/OBI™ UV

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") depend-
ing 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
- UV light option (UVA-365 nm)
- Borehole azimuth and tilt
- Relative bearing
- Magnetic field / Gravity
- Gravity
- 3 accelerometer / 3 magnetometer calibrated components
- Temperature of CMOS image sensor



Sonic Tool

QL40 FWS-S

Full Waveform Sonic

Sensor

Ceramic piezoelectric

Temperature - Pressure

0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length

50 mm (2")
2.14 m (84.3") (1Tx-4Rx configu-
ration)

Weight

18 kg (39.7 lbs)

Measurements/Features

- Monopole 15 KHz resonant frequency
- Full waveform per receiver
- Real time p-wave velocity or slowness
- Real time CBL processing
- Additional post processing module available in WellCAD



○ Bottom ● In line

Mechanical Tool

QL40 CAL

3 Arm Caliper

Temperature - Pressure

0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length

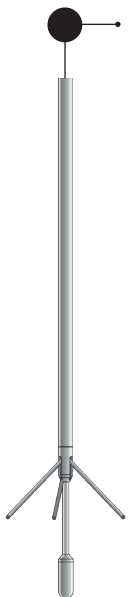
42.3 mm (1.67") - 1.78 m (70.28")

Weight

9.04 kg (19.93 lbs)

Measurements/Features

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



Magnetic Tool

QL40 HM-453

QL40 MGS

Magnetic Susceptibility

Sensor

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

Bartington : 1.36 kHz Focused Dual Coil system

Temperature - Pressure

0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length

W-R : 44.6 mm (1.75") - 1.54 m (60.6")

Bartington : 44.6 mm (1.75") - 1.54 m (60.6")

Weight

W-R : 7 kg (15.4 lbs)

Bartington : 6.1 kg (13 lbs)

Measurements/Features

- W-R : Magnetic susceptibility in 10e⁻³ Si
- Bartington : Magnetic susceptibility in CGS unit



Deviation Tool

QL40 DEV

Borehole Deviation

Sensor

APS544-3 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

3.4 kg (7.5 lbs)

Measurements/Features

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



Fluid Properties Tools



QL40 SFM

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 (7.05 lbs)

Measurements/Features

- 50mm (2") diameter impeller cage
- 75mm (3") diameter impeller cage
- 100mm (4") diameter impeller cage
- Spinner speed in cps up and down



QL40 FTC-I & FTC-B

Fluid Temperature and Conductivity

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

Diameter - Length
Bottom sub :
40mm (1.6") - 0.78m (30.7")
In line sub :
50mm (2") - 0.94m (37")

Weight
Bottom sub : 3.3kg (7.27lbs)
In line sub : 6.2kg (13.6lbs)

Measurements/Features

- Fluid temperature in °C
- Fluid conductivity in $\mu\text{S}/\text{cm}$ or mS/cm
- Compensated conductivity at 25°C in $\mu\text{S}/\text{cm}$ or mS/cm



QL40 OCEAN 310

Water Quality Probe

Sensor
Idronaut ocean seven 310, Pressure, Temp, Fluid Conductivity, Oxygen, PH, Redox

Temperature - Pressure
0-50°C (32-122°F)
1500 dbar (2175 psi)

Diameter - Length
Cartridge 40 mm (1.7")
1.41 m (55")
Sensor section: 43mm (1.11/16)

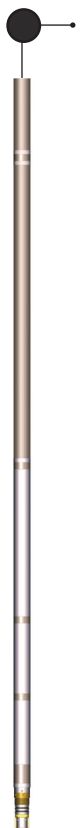
Weight
4.46 kg (9.08 lbs)

Measurements/Features

- Pressure : in dbar
- Temperature : in °C
- Conductivity
Salt water : in mS/cm
Fresh water : in $\mu\text{S}/\text{cm}$
- Oxygen : in ppm
- pH
- Redox : in mV

○ Bottom ● In line

Electrical Tools



QL40 ELOG

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

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

Diameter - Length
40 mm (1.6")
1.89 m (74.57")

Weight
8.8 kg (19.4 lbs)

Measurements/Features

- 8", 16", 32" and 64" Normal Resistivity in [Ohm-m]
- SP in [mV]
- SPR in [Ohm]
- Current [mA]

Bridles
QL40 IS 1
QL40 IS 2
QL40 IS 4



QL40 IP

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

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

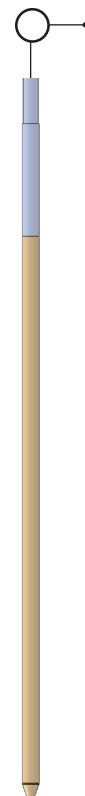
Diameter - Length
40 mm (1.6")
1.89 m (74.57")

Weight
8.8 kg (19.4 lbs)

Measurements/Features

- Chargeability Ma in [ms] on 16" and 64" electrodes
- 2 spacing full wave data
- 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



QL40 IND

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)

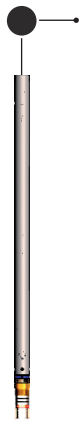
Diameter - Length
45 mm (1.77")
1.94 m (76.38")

Weight
5.1 kg (11.24 lbs)

Measurements/Features

- Medium Induction : mS/m
- Deep Induction : mS/m

Nuclear Tools



QL40 GR

**Total Count
Natural Gamma**

Sensor

Nal (TI) crystal (0.875 x 3.0")

Temperature - Pressure

0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length

40 mm (1.6") - 1.03 m (40.43")

Weight

4.15 kg (9.15 lbs)

Measurements/Features

- Total gamma counts in CPS and/or API unit



QL40 GR-CCL

**Natural Gamma &
Casing Collar Locator**

Sensor

GR: Nal (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

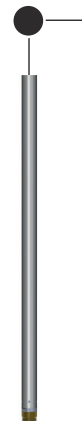
40 mm (1.6") - 1.16 m (46")

Weight

6.0 kg (13.23 lbs)

Measurements/Features

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



QL40 SGR

**Natural
Spectral Gamma**

Sensor

CeBr3 crystal (0.79 x 3.78")
BGO crystal (1 x 4")

Temperature - Pressure

0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length

40 mm (1.6") - 1.01 m (39.8")

Weight

6 kg (13.2 lbs)

Measurements/Features

- Up to 512 channels spectrum (BGO)
- Up to 2048 channels spectrum (CeBr3)
- Spectrum stabilized (software)
- Nuclides concentrations
- Window gamma counts
- Total gamma counts in CPS and/or API unit

○ Bottom ● In line

Nuclear Tools



QL40 DEN

**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

51 mm (2.01") - 1.83 m (72.24")

Weight

19.2 kg (42.33 lbs)

Measurements/Features

- SSD : in CPS
- LSD : in CPS
- SSD density : in g/cc
- LSD density : in g/cc
- Compensated density (RHOB) : in g/cc
- Compensation (DRHO) : in g/cc
- Caliper : in mm or inch



QL40 NEU

**Neutron - Thermal
Neutron**

Sensor

Single He-3 thermal neutron
detector
35 cm source-detector
spacing

Temperature - Pressure

0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length

40 mm (1.6") - 1.32m (51.97")

Weight

6.3 kg (13.89 lbs)

Range

0 - 100.000 CPS

Measurements/Features

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



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