

# QL40<sup>▲</sup>

## Stackable Logging Tools



**ALT**  
Advanced Logic Technology

Mount Sopris Instrument Co. Inc. | 4975 E. 41 st Ave. Denver | CO 80216 | **USA** | Ph. 303 279 3211 | [www.mountsopris.com](http://www.mountsopris.com)

Zoning de Solupla Bât A | route de Niederpallen | L-8506 Redange | **Luxembourg** | Tel. +352 23 649 289 | [www.alt.lu](http://www.alt.lu)  
36th Floor, Menara Maxis | Kuala Lumpur City Centre | 50088 Kuala Lumpur | **Malaysia** | Tel. +60 3 2615 7261 | [www.alt.lu](http://www.alt.lu)



**ALT**  
Advanced Logic Technology



Imaging Tools



**QL40.ABI**

Acoustic Televiwer

**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 dip
- Tool internal temperature
- Relative bearing
- Magnetic field
- Gravity



**QL40.OBI**

Optical Televiwer

**Sensor**  
CCD Camera

**Temperature - Pressure**  
0-50°C (32-122°F)  
200 bar (2900 psi)

**Caliper**  
0.05-0.53 m (2"-21") depending on borehole conditions

**Diameter - Length**  
40 mm (1.6") - 1.2 m (47")


**Weight**  
4.9 kg (11 lbs)

**Measurements/Features**

- 360° RGB orientated optical image
- Borehole azimuth and dip
- Tool internal temperature
- Relative bearing
- Magnetic field
- Gravity

☒ Bottom ☐ In line

Sonic Tool



**QL40.FWS**

Full Waveform Sonic

**Sensor**  
Ceramic piezoelectric

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


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

**Weight**  
18 kg (39.7 lbs)

**Measurements/Features**

- 1Tx-4Rx standard
- Other configuration on request
- Real time display and processing of full waveforms
- Cement bond logging (CBL)
- Porosity evaluation. Permeability
- Variation of rock strength
- Calculation of rock mechanical properties
- Identification and hydraulic characterization of fractures

Electrical Tools



**QL40.Elog**

Normal Resistivity (8", 16", 32" and 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**

- 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.IP**

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

**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**

- 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.DLL3**

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**


- Time Multiplex dual spacing focused resistivity LL3-S & LL3-D in [Ohm.m]
- Potential value on measuring and guard electrodes in [V]
- Current value on measuring and guard electrodes in [mA]

**Bridles**

- QL40 IS 1
- QL40 IS 2
- QL40 IS 4

☒ Bottom ☐ In line

Nuclear Tools



**QL40.GR**

Total Count Natural Gamma

**Sensor**  
Nal (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



**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**  
5.9 kg (13 lbs)

**Measurements/Features**

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



**QL40.SGR**

Natural Spectral Gamma

**Sensor**  
Nal (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



**QL40.CAL**

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



**QL40.MGS**

Magnetic Susceptibility

**Sensor**  
Bartington – 1.36 kHz Focused Dual Coil system

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


**Diameter - Length**  
43 mm (1.7") - 1.4 m (56")

**Weight**  
6.1 kg (13 lbs)

**Measurements/Features**

- 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**  
5.3 kg (12 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  
90 cm (35.4")

**Weight**  
3.2 kg (7 lbs)

**Measurements/Features**

- 60 and 75 mm diameter varied pitch impellers are available
- Spinner speed in CPS



**QL40.FTC & FTC-b**

Fluid Temperature and Conductivity


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

**Diameter - Length**  
40 mm (1.6") bottom sub  
50 mm (2") in line sub  
1.31 m (52")

**Weight**  
6.4 kg (14 lbs)

**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



**QL40.OCEAN 303**

Water Quality Probe

**Sensor**  
Idronaut ocean seven 303, Pressure, Temp, 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

Nuclear Tool



**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**  
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



**QL40.NEU**

Neutron - Thermal Neutron

**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.

Top & Bottom



**QL40-MS1**

QL40-GO4

QL40-GO1


QL40-GO7

Tool Top

**Diameter**  
40 mm (1.6")

**Length**  
± 0.06 m (2.3")

**Weight**  
± 0.8 kg (1.8 lbs)



**QL40-BOT**

Tool Bottom Plug

**Diameter**  
40 mm (1.6")

**Length**  
0.19 m (7.5")

**Weight**  
1.0 kg (2.2 lbs)

QL40-BOT