ABSOLUTE
PRECISION

LIM

MEASURING INSTRUMENTS FOR DRILLING
AND GEOLOGY ENGINEERING

About LIM Group

Since 1985, the LIM Group has been a provider of complete solutions for measurement and acquisition of drilling data, whether during drilling or in boreholes after their completion.

LIM tools are used by major companies all over the world.

Site investigation

Special foundations

Mineral exploration & hydrogeology

Drill & blast

AAPOCA

MPC KINETIC

WIRELINE SERVICES GROUP

DE BEERS A DIAMOND IS FOREVER

ENTREPOSE

orano

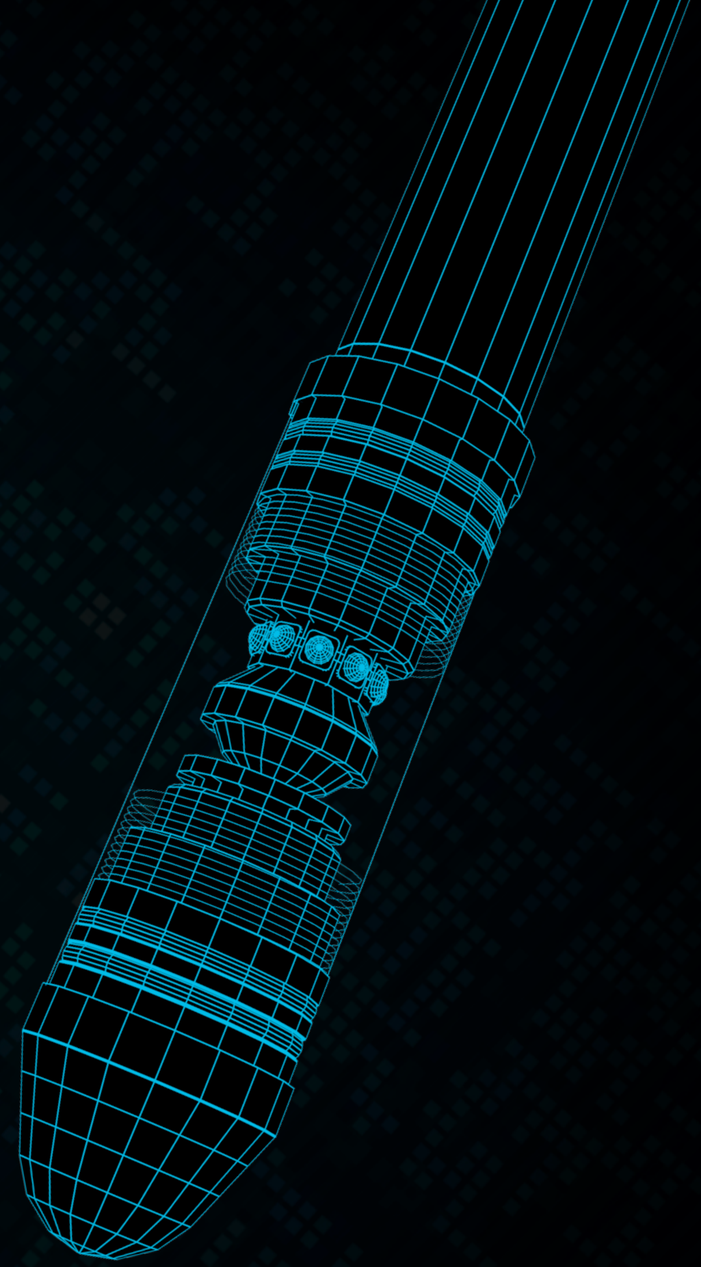
FUGRO

LAFARGE

Products are supplied and serviced through a network of experienced and competent distributors and are widely used all over the world

OPTV 52/52G — Optical Televiewer

Records high-resolution video at different vertical and horizontal dimensions. The image is digitized and superimposed on the position sensors, and then transmitted to the surface.



Specifications

Diameter	52 mm
Length	1 630 mm
Weight	7 kg
Mex operating temperature	60 °C
Max operating pressure	100 bar
Housing type	titanium and non-magnetic brass

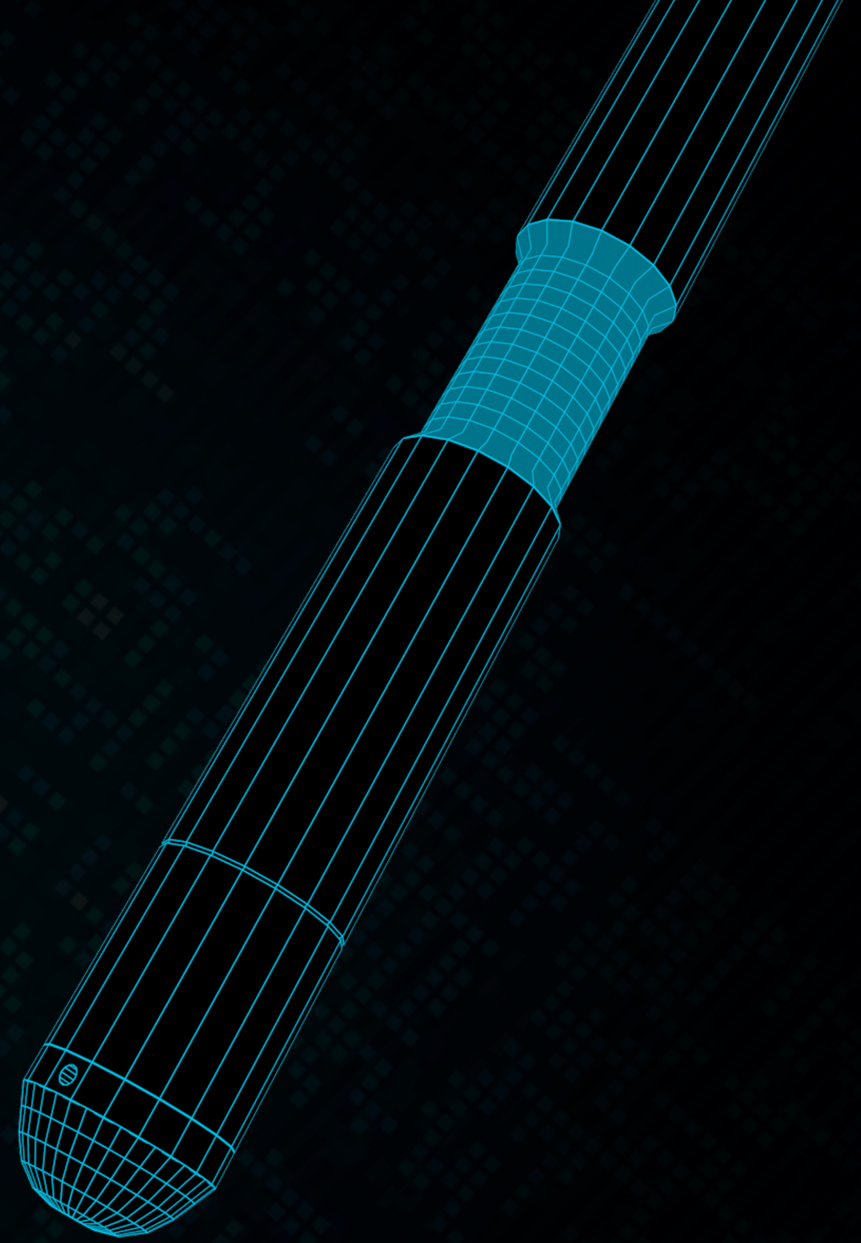
Data / Sensor parameters

Camera sensor	1 280 x 1 024 pixels CMOS
Picture format	24 bit RGB
Horizontal definition	360/540/720/900/1080/1260/1440 pixels
Vertical definition	unlimited (defined to logging speed)
Orientation sensor	triple magnetometers / accelerometers
Orientation accuracy	± 0.5° dipping ; ± 1° azimuth

BHTV 42 — Acoustic Televiewer

Allows you to get a detailed acoustic image of the borehole wall with its position in space.

This scanner can be supplied with a gamma detector, which allows obtaining lithological characteristics and determining the correlation of the layers.



Specification

Diameter	42 mm
Length	2 100 mm
Weight	8 kg
Max operating temperature	70 °C — normal conditions; 90 °C — recommended <= 1 hour
Max operating pressure	200 bar
Housing type	titanium and non-magnetic brass

Data / Sensor parameters

Transducer	1” piezo composite emitter and rotating mirror
Signal frequency	1,5 MHz
Acoustic beam angle	3° (3 dB) conical
Amplification	0-60 dB at a step of 1 dB
Horizontal definition	90, 120, 180 or 360 px depending on logging speed
Vertical definition	unlimited, depending on logging speed
Orientation sensor	triple magnetometers / accelerometers
Orientation accuracy	± 0.5 ° tilt, ± 1 ° azimuth

FWS 60/60G — Fullwave Sonic

The advantage of the FWS60 tool is that it digitises and transmits to the surface the full sonic waveform arriving at each receiver during a user-configurable sampling window. For each receiver the user can choose one of three sampling periods to optimise the acquisition according to the application and/or formation characteristics.

Specification

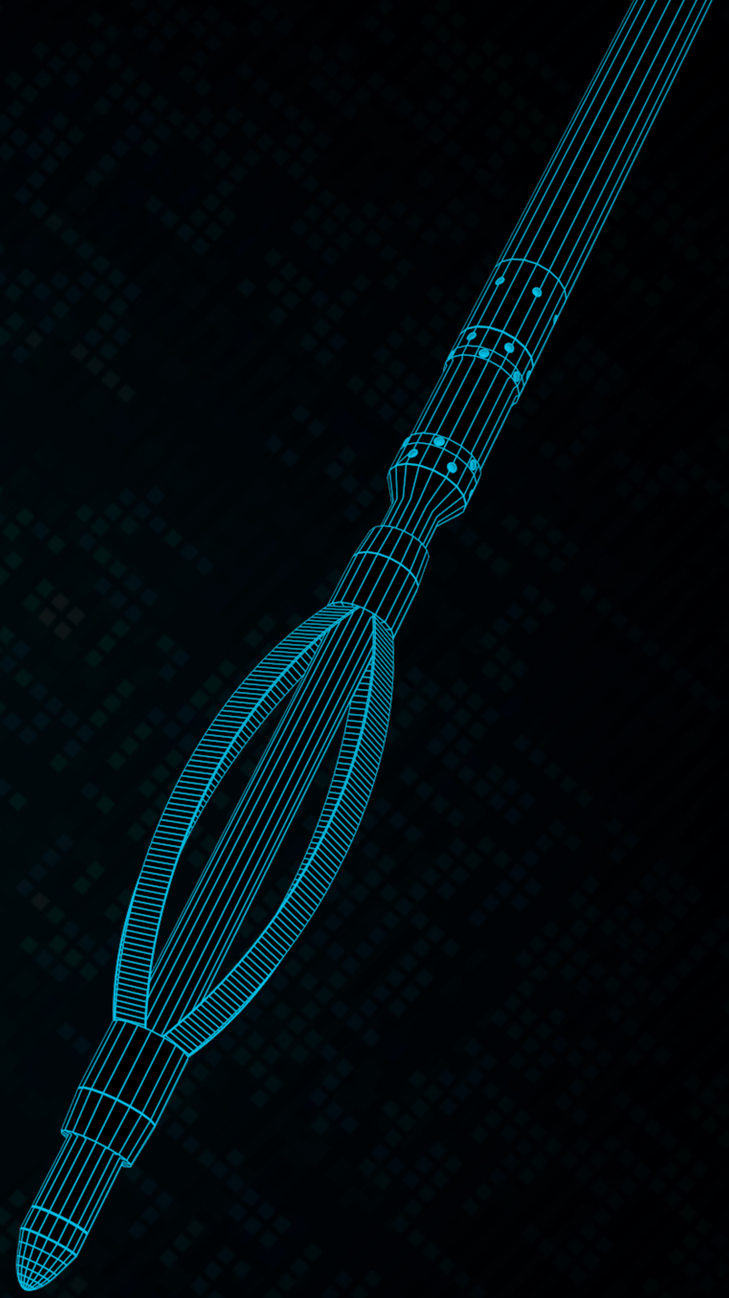
Diameter (transducers / tool body)	60 mm / 42 mm
Length (depends on confguration)	2 610 mm (3RX)
	2 960 mm (3RX + gamma)
	3 060 mm (4RX)
	3 360 mm (4RX + gamma)
Weight	up to 35 kg
Max operating temperature	70 °C
Max operating pressure	150 bar

Data / Sensor parameters

Transmitter – receiver spacings	0.6, 0.9, 1.2 m (3RX)
	0.6, 0.9, 1.2, 1.5 m (4RX)
Signal frequency	12 to 15 kHz
Acquisition resolution	16-bit / 96dB dynamic range
Sampling frequency	250 kHz (4 µs sampling)
Sampling period	256, 512 or 1024 samples

Accessories / Options

Natural gamma detector	ø25 x 50 mm NaI(Tl) crystal
Bowspring centralisers	



DIL 38/38G — Dual Induction

The DIL38 induction conductivity probe generates an electromagnetic field in the vicinity of the borehole and measures the response of the formations to this applied field. On both long (ILD) and medium spacing (ILM) receivers in-phase and quadrature measurements are taken and digitised by the sonde electronics for transmission to the surface equipment.

Specification

Diameter	38 mm
Length	2 150 mm
Weight	6 kg
Max operating temperature	70 °C
Max operating pressure	200 bar

Data / Sensor parameters

ILD efective spacing	810 mm
ILM efective spacing	510 mm
Operating frequency	39.1 kHz
Measuring range (conductivity)	0.2 to 5 500 mmho/m
Measurement resolution	0.25 mmho/m
Efective range (resistivity	0.2 to 200 Ω·m

Accessories / Options

Natural gamma detector	ø25 x 50 mm NaI(Tl) crystal
Field calibrator	

MAG 43/43G — Magnetic Susceptibility

Magnetic susceptibility is a physical parameter that can provide useful information in a number of mining-related contexts. These include uranium and iron ore (BIF) exploration and cases where high- susceptibility minerals such as magnetite are associated with a primary target mineral. The MAG43 probe incorporates the industry-leading BSS02 detector from Bartington Instruments.

Specifications

Diameter (sensor / tool body)	43 mm / 38 mm
Length	1 900 mm
Weight	6 kg
Max. operating temperature	70 °C
Max. operating pressure	200 bar
Power supply	70 to 100 Vdc

Data / Sensor parameters

Operating frequency	1.439 kHz
Vertical resolution	25 mm
Measuring range	1.25*10 -4 to 1.25 SI units
Measurement resolution	1.25*10 -4 SI units

Accessories / Options

Natural gamma detector	ø25 x 50 mm NaI(Tl) crystal
Field calibrator	

GR 38 — Natural Gamma Radioactivity

In addition to its primary role as a lithological or clay indicator, a natural gamma measurement is frequently used as the basis for establishing correlations between boreholes and to ensure accurate depth matching between diferent logging runs made in the same borehole. For these reasons, many LIM probes provide this measurement as an additional log along with other parameters.

Specifications	
Diameter	38 mm
Length	1 200 mm
Weight	3.0 kg
Max. operating temperature	70 °C
Max. operating pressure	200 bar
Data / Sensor parameters	
Detector size	ø25 x 50 mm
Accessories / Options	
Calibration	factory calibration in API units

GRS 42/60/73 — Spectral Gamma Ray

The detector assembly comprises of a 25 x 50 mm (GRS42) or 50 x 150 mm (GRS 60 / GRS73) cylindrical NaI crystal coupled to a thermally stabilised photomultiplier tube. According to type (see below) the probe is capable of resolving 250 or 500 discrete gamma ray energy levels over the range 60 to 3 060 keV; count rates from all of which are transmitted to the surface during Logging.

Specifications

Diameter	42 mm (GRS42)
	60 mm (GRS60)
	73 mm (GRS73)
Length	1 120 mm
Weight	7 kg
Max. operating temperature	70 °C
Max. operating pressure	200 bar

Data / Sensor parameters

Detector GRS42	ø25 x 50 mm NaI(Tl) crystal
Detector GRS60 / GRS73	ø50 x 150 mm NaI(Tl) crystal
Spectral energy range	60 to 3 060 keV
Spectral resolution	250 ch * 12 keV (GRS42)
	500 ch * 6 keV (GRS60/73)

Accessories / Options

Pre-delivery calibration carried out according to international standards

Borehole conditions

Dry or fluid-filled borehole

Cased or open borehole

GUIP 38/38G — Focussed resistivity

The defining element of the GUIP38 probe, the use of a pair of equipotential “guard” electrodes, ensures a reliable formation resistivity measurement by focussing the injected current in a way that maximises vertical resolution and penetration into the formations while avoiding dissipation in the borehole fluid. As well as providing high-resolution and full-range focussed resistivity measurements, an onboard processor calculates formation conductivity (in mmho/m) and capacitance (µF) values.

Specifications

Diameter	38 mm
Length	2 380 mm
Weight	7 kg
Max operating temperature	70 °C
Max operating pressure	200 bar

Data / Sensor parameters

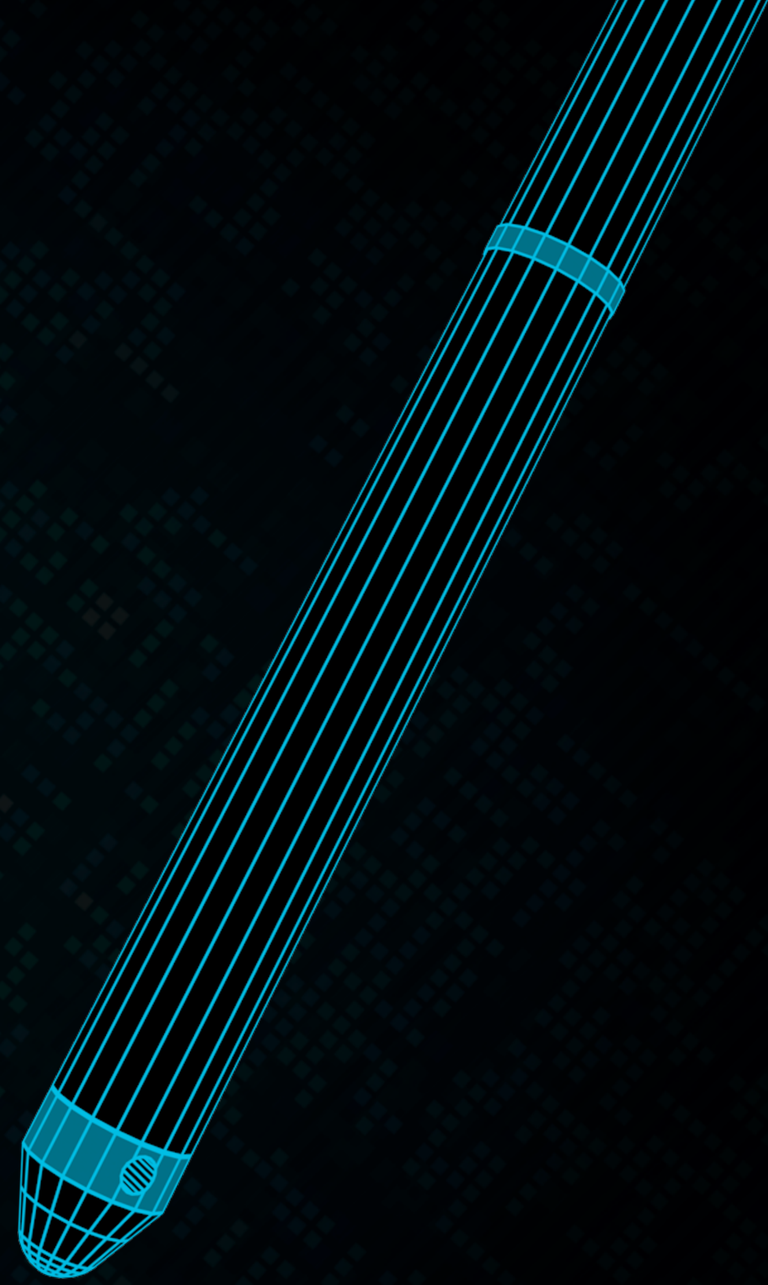
Resistivity measurement range	0 to 8 kΩ·m (high-resolution)
	0 to 32 kΩ·m (full-range)
Resistivity precision	0.125 Ω·m (high-resolution)
	0.5 Ω·m (full-range)

Accessories / Options

Natural gamma detector	ø25 x 50 mm NaI(Tl) crystal

Borehole conditions

Fluid-filled, open borehole



IP 38/38G — Induced Polarisation

The formations surrounding the borehole are subjected to an alternating squarewave voltage applied via the upper and lower injection electrodes. Following each injection cycle, the resulting potential difference over a section of the formations is analysed as it decays with time. The form of this decay curve is related to the chargeability of the formations.

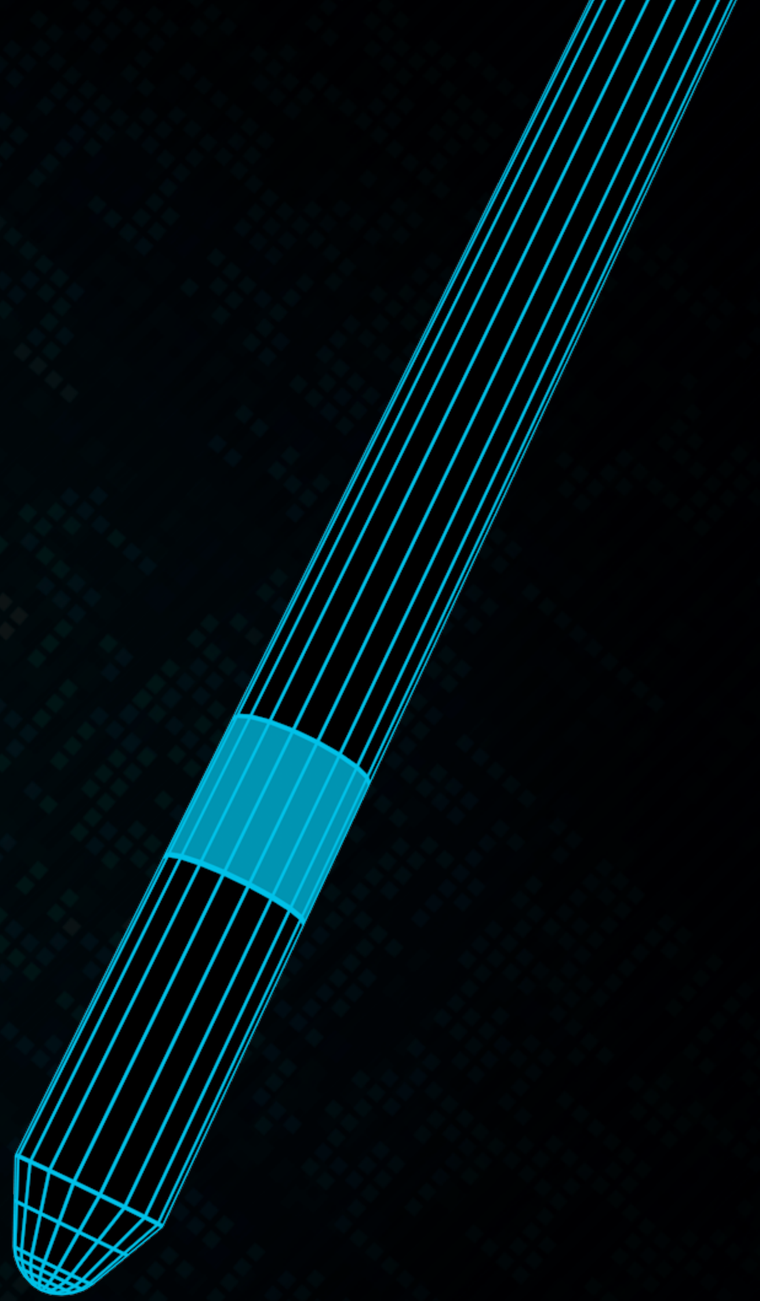
A high chargeability indicates that induced electrochemical potentials are able to develop within the formations as a result of ion transfer between pore fuids and semi-conductive metallic mineral grains present within the rocks.

Specifications	
Diameter	38 mm
Length	2 380 mm
Weight	7 kg
Max operating temperature	70 °C
Max operating pressure	200 bar
Data / Sensor parameters	
ILD efective spacing	810 mm
ILM efective spacing	510 mm
Operating frequency	39.1 kHz
Measuring range (conductivity)	0.2 to 5 500 mmho/m
Measurement resolution	0.25 mmho/m
Efective range (resistivity)	0.2 to 200 Ω·m
Accessories / Options	
Natural gamma detector	ø25 a 50 mm NaI(Tl) crystal
Field calibrator	

Borehole conditions

Dry or fuid-filled borehole

Open or PVC-cased borehole



ELG 46/46G — Electric Logging

This probe represents the latest generation of fully digital, high precision electric logging probes. As standard, the ELG46 probe provides long (64") and short (16") normal resistivity, single-point resistance (SPR) and self-potential (SP) data. By means of a simple software command, the probe can be switched to « passive » mode. In this configuration the injection signal is switched off, allowing an unperturbed and representative SP measurement to be obtained. Widely employed in the domain of groundwater resources exploration and evaluation, the probe is suitable for use in formations having resistivities comprised between 10 and 25 000 Ω·m.

The novel electrode arrangement and compact electronics section reduce the overall length of the probe and make for easier transport.

Specifications

Diameter	46 mm
Length	1 990 mm
Weight	8 kg
Max. operating temperature	70 °C
Max. operating pressure	200 bar
Power supply	70 to 100 Vdc

Data / Sensor parameters

Resistivity injection signal	200 Hz sine wave with ALC
Resistivity measuring range	0 to 25 kΩ·m (16-bit)
Resistivity resolution	0.4 Ω·m
SP measuring range	± 1 500 mV
SP resolution	0.05 mV

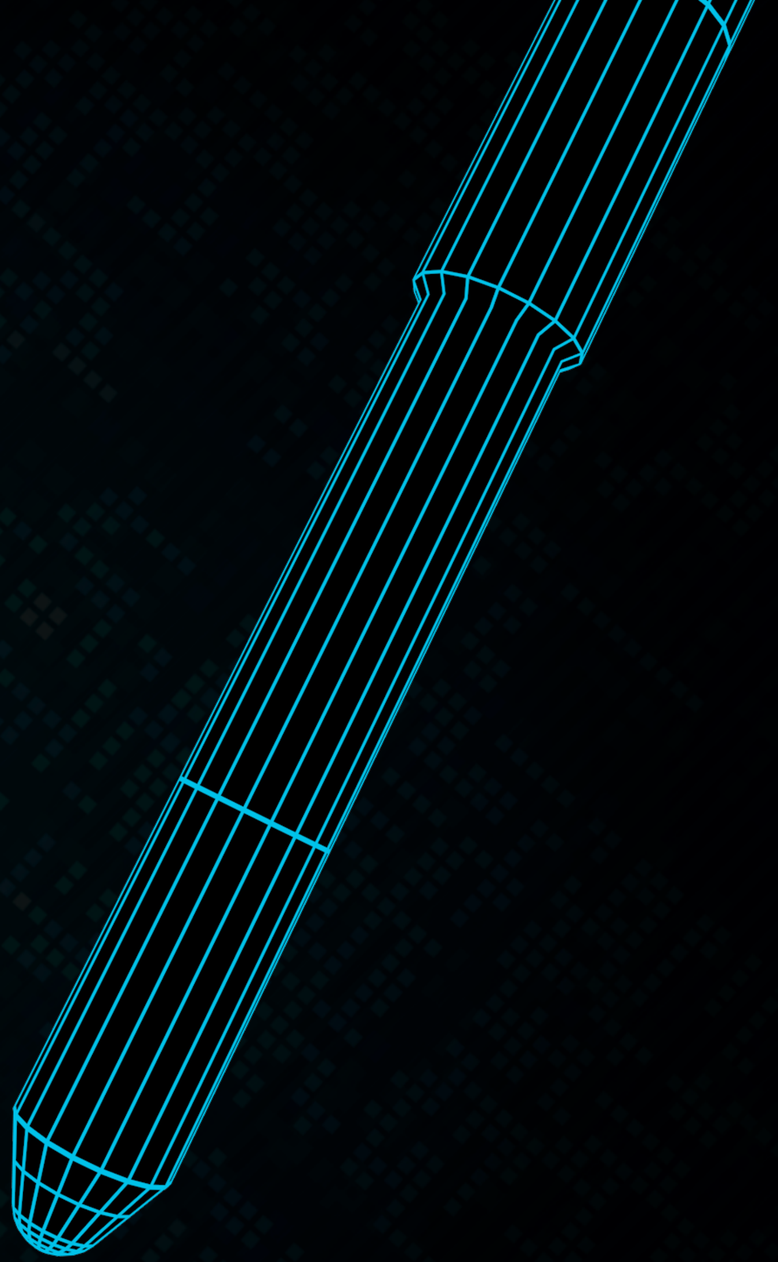
Accessories / Options

Natural gamma detector ø25 x 50 mm NaI(Tl) crystal

Calibration box 10 – 10 000 Ω·m

Borehole conditions

Fluid-filled, open borehole



FTC 60/60G — Flow / Temperature / Conductivity

The FTC60 probe provides precise readings of the temperature, electrical conductivity and fow speed of the fuid contained in the borehole. Its main applications are in obtaining groundwater quality and production data in hydrogeological or pollution studies, either on a single or multi-well regional basis. Another possible application is the detection of setting cement by means of the heat given of during this process; for example in a borehole after casing installation and grouting or in quality control of cement piling works.

The lightweight impeller and low friction bearing assembly permit this sonde to react almost instantly to any vertical movement within the fuid column of a well or borehole. The direction of fow relative to the sonde can be determined from the sense of rotation of the impeller.

Specifications

Diameter (impeller / tool body)	60 mm / 38 mm
Length	1 220 mm
Weight	5.5 kg
Max. operating temperature	70 °C
Max. operating pressure	100 bar

Data / Sensor parameters

Temperature range / resolution	0 to 65°C / 0.001°C
Conductivity linear range	0 to 4 500 µS/cm
Conductivity full range	0 to 12 000 µS/cm
Conductivity resolution	1 µS/cm
Fluid fow range	± 1 to 30 m/min
Fluid fow resolution	0.1 m/min

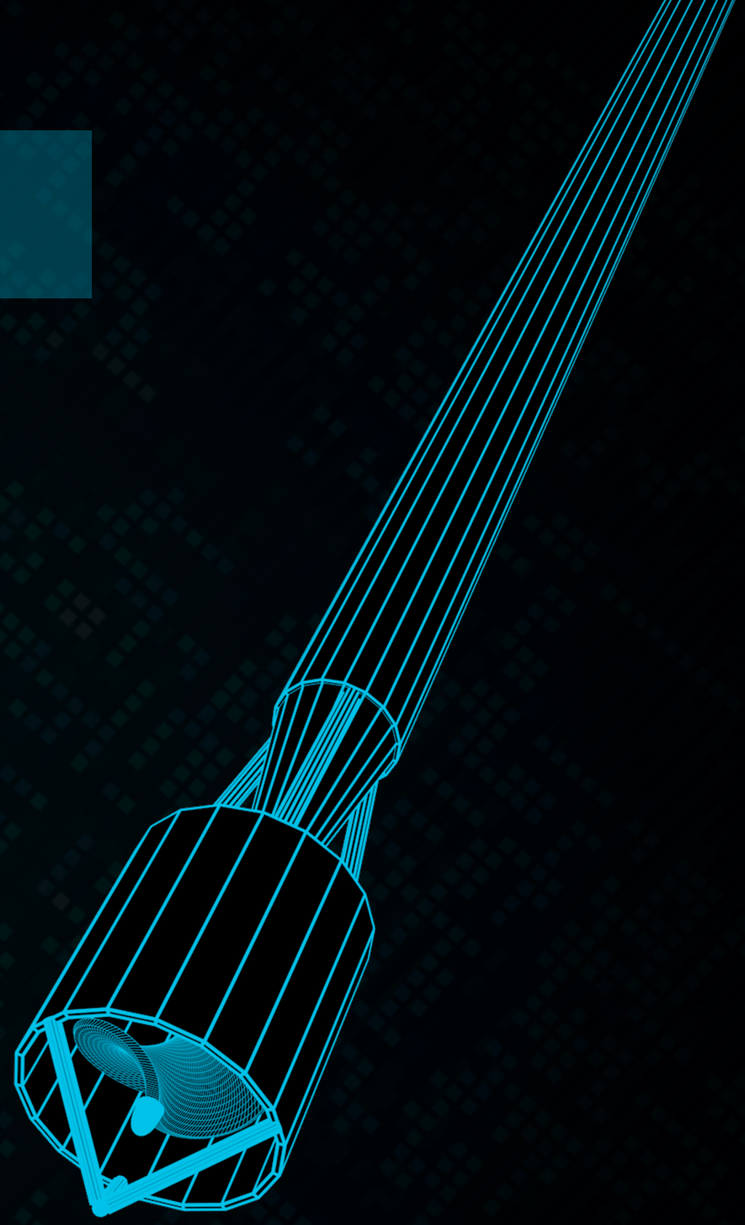
Accessories / Options

Natural gamma detector	ø25 x 50 mm NaI(Tl) crystal
Bowspring centralisers	
Ballast weight	

Borehole conditions

Fluid-flled borehole

Open or cased borehole



GRT 38 — Natural Gamma / Temperature

In addition to its primary role as a lithological or clay indicator, a natural gamma measurement is frequently used as the basis for establishing correlations between boreholes and to ensure accurate depth matching between different logging runs made in the same borehole. For these reasons, many LIM probes provide this measurement as an additional log along with other parameters.

The GRT38 probe provides a solution for cases where only a basic, total counts natural gamma log is required and also provides a borehole fluid temperature measurement useful for correcting certain other logs.

Specifications

Diameter	38 mm
Length	1 180 mm
Weight	3 kg
Max. operating temperature	70 °C
Max. operating pressure	200 bar

Data / Sensor parameters

Natural gamma detector	ø25 x 50 mm NaI(Tl) crystal
Temperature range / resolution	0 to 65°C / 0.001°C

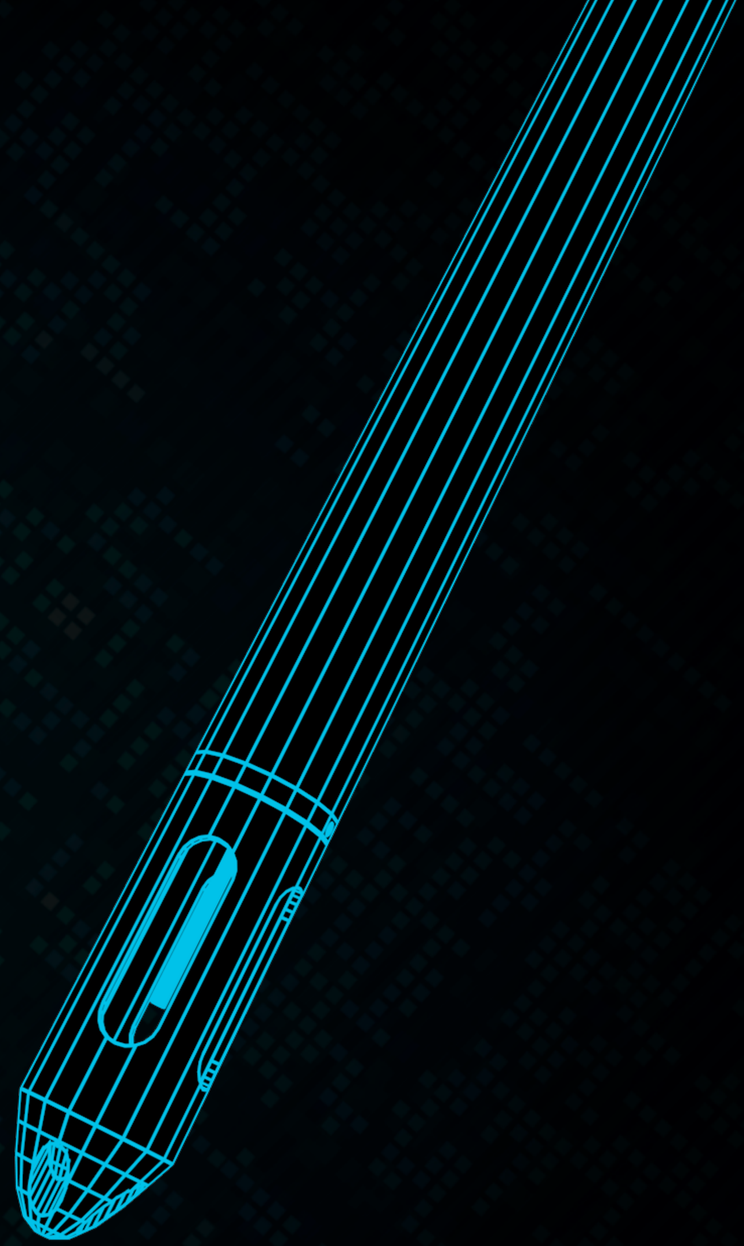
Accessories / Options

CCL detector	
Calibration	Factory calibration in API units

Borehole conditions

Dry or fluid-filled borehole

Open or cased borehole



WPQ 48 — Water quality

The WQP48 probe provides precise readings of the principal fuid parameters of interest in a hydrogeological or environmental context (see list below).

A calibration interface cable, standard solutions and maintenance kit are provided with the probe to ensure performance remains within specifications. Several optional sensors are available, one of which can be factory-installed on the probe if required. These sensors are, however, limited to fresh water operation at pressures not exceeding 100 bar.

Specifications

Diameter (sensor cage : Tool body)	48 mm / 42 mm
Length	1 670 mm
Weight	7,5 kg
Max. operating temperature	70 °C
Max. operating pressure	150 bar

Data / Sensor parameters

Pressure range / resolution	1500 dbar / 0.03 dbar
Temperature range / resolution	-1 to 50°C / 0.001°C
Conductivity range / resolution	0 to 70 mS/cm / 0.001 mS/cm
Dissolved 02 range / resolution	0 to 50 ppm / 0.01 ppm
pH range / resolution	0 to 14 pH / 0.001 pH
Redox potential range / resolution	± 1000 mV / 0.1 mV

Accessories / Options

Additional sensors available	Nitrate, Ammonia, Chloride
Sulphide, Iodide, Copper	
Bowspring centralisers	

Borehole conditions

Dry or fluid-filled borehole

Open or cased borehole

BDV 42/42G — Borehole deviation

The BDV42 probe is used to determine the exact drilled trajectory of a borehole in the subterranean space. Boreholes drilled close to infrastructure such as cables or tunnels can be surveyed before reaching the critical point. Another application of this method lies in water well quality control by ensuring that well deviation and curvature criteria are met so that problems with lowering pumps and other equipment can be avoided.

The probe is based on a high-precision combination magnetometer and accelerometer sensor providing a continuous measurement of borehole inclination and azimuth. Because of the magnetic disturbance generated by the casing, reliable azimuth data can not be obtained in steel-cased wells.

Specifications

Diameter : 42 mm	
Length	1 800 mm (probe only)
	2 070 mm (with sinker weights)
Weight	7 kg (probe only)
	11 kg (with sinker weights)
Max. operating temperature	70 °C
Max. operating pressure	200 bar
Housing type	titanium and non-magnetic brass

Data / Sensor parameters

Orientation sensor	triple magnetometers / accelerometers
Measurement range	full 360° inclination / azimuth
Orientation precision	± 0.1° inclination, ± 0.5° azimuth

Accessories / Options

Natural gamma detector: ø25 x 50 mm NaI(Tl) crystal

Non-magnetic centralisers

Sinker weights

Borehole conditions

Dry or fluid-filled borehole

Open hole or PVC casing: if azimuth required

Steel casing: if azimuth not required

3AC 38/38G — Three-Arm Caliper

By means of three spring-loaded arms maintained in contact with the borehole wall, the 3AC38 probe provides a representative measurement of the borehole diameter. The probe is supplied with two nose cones and sets of arms to ensure a high resolution measurement over the diameter range from 40 to 700 mm.

As an indicator of enlarged zones or fractures, this log is useful both in assessing the competence of the formations and as a basis for calculating environmental corrections for other logging parameters such as fluid flow and production assessment. The basic open-hole diameter log can be integrated over depth to calculate an accurate borehole volume for cementing or gravel-packing operations.

The tool is also useful for quality control purposes, for example to verify the depth and diameter of casings and screens installed in a water well.

Specifications

Diameter	38 mm
Length	2 160 mm (short arms)
	2 470 mm (long arms)
Weight	8 kg
Max. operating temperature	70 °C
Max. operating pressure	200 bar
Power supply	70 to 100 Vdc

Data / Sensor parameters

Diameter measuring range	40 to 700 mm
Diameter resolution	0.1 mm

Accessories / Options

Natural gamma detector : ø25 x 50 mm NaI(Tl) crystal

Calibration jig

Borehole conditions

Dry or fluid-filled borehole

Open or cased borehole

4AC 60/60G — Four-Arm Caliper

The 4AC60 borehole geometry probe incorporates two pairs of caliper arms giving independent, perpendicular X-Y diameter measurements, while a magnetometer/accelerometer orientation system provides the borehole azimuth, inclination and X-Y arm directions.

In a non-circular borehole, because of differing spring tensions in the two pairs of arms, the tool will rotate in the borehole until the X-Y directions coincide with the maximum and minimum diameter axes.

Where a borehole becomes ovalised or develops breakout-type features, it can provide information on stress magnitudes and directions within the geological formations.

Specifications	
Diameter	60 mm
Length	3 000 mm
Weight	18 kg
Max. operating temperature	70 °C
Max. operating pressure	200 bar
Power supply	70 to 100 Vdc
Data / Sensor parameters	
Diameter measuring range	60 to 450 mm
Diameter resolution	0.1 mm
Orientation sensor	Triple magnetometers/accelerometers
Measurement range	full 360° inclination/azimuth
Orientation precision	± 0.1° inclination, ± 0.5° azimuth

Accessories / Options

Natural gamma detector : ø25 x 50 mm NaI(Tl) crystal

Non-magnetic centralisers

Calibration jig

Borehole conditions

Dry or fluid-filled borehole

Open or cased borehole: if azimuth required

Steel casing: if azimuth not required

TRS 38G — Trisonde

The TRS38G probe provides long-spaced (LSD) and high-resolution (HRD) 4 global density measurements, based on the Compton scattering principle, as well as a natural gamma log.

This probe is intended for use in open and cased-hole conditions where a focussed sidewall density probe can not be deployed, or where calibrated results in g/cm 3 are not necessary. It is widely used in the geotechnical sector where boreholes are drilled for reconnaissance, diagnostic or remedial works.

In cases where the customer is not already in possession of these items, a source holder and Type A-approved source transport container are supplied with the probe. As standard, the source holder is designed to receive a Cs7.P03 capsule manufactured by Eckert & Ziegler Cesio and is shipped empty. Source capsule approvisioning, installation of the capsule in the source holder and all necessary licencing remain the responsibility of the customer. We recommend a source activity of 3.7 GBq (100 mCi) in normal operating conditions.

Specifications	
Diameter	38 mm
Length	2 330 mm
Weight	12 kg
Max. operating temperature	70 °C
Max. operating pressure	200 bar
Power supply	70 to 100 Vdc
Data / Sensor parameters	
Density / natural gamma detectors	ø25 x 50 mm NaI(Tl) crystal
Source – detector spacings	24 cm (HRD), 48 cm (LSD)
Source type	Cs-137 (energy 660 keV)
Recommended source activity	3.7 GBq (100 mCi)

Accessories / Options

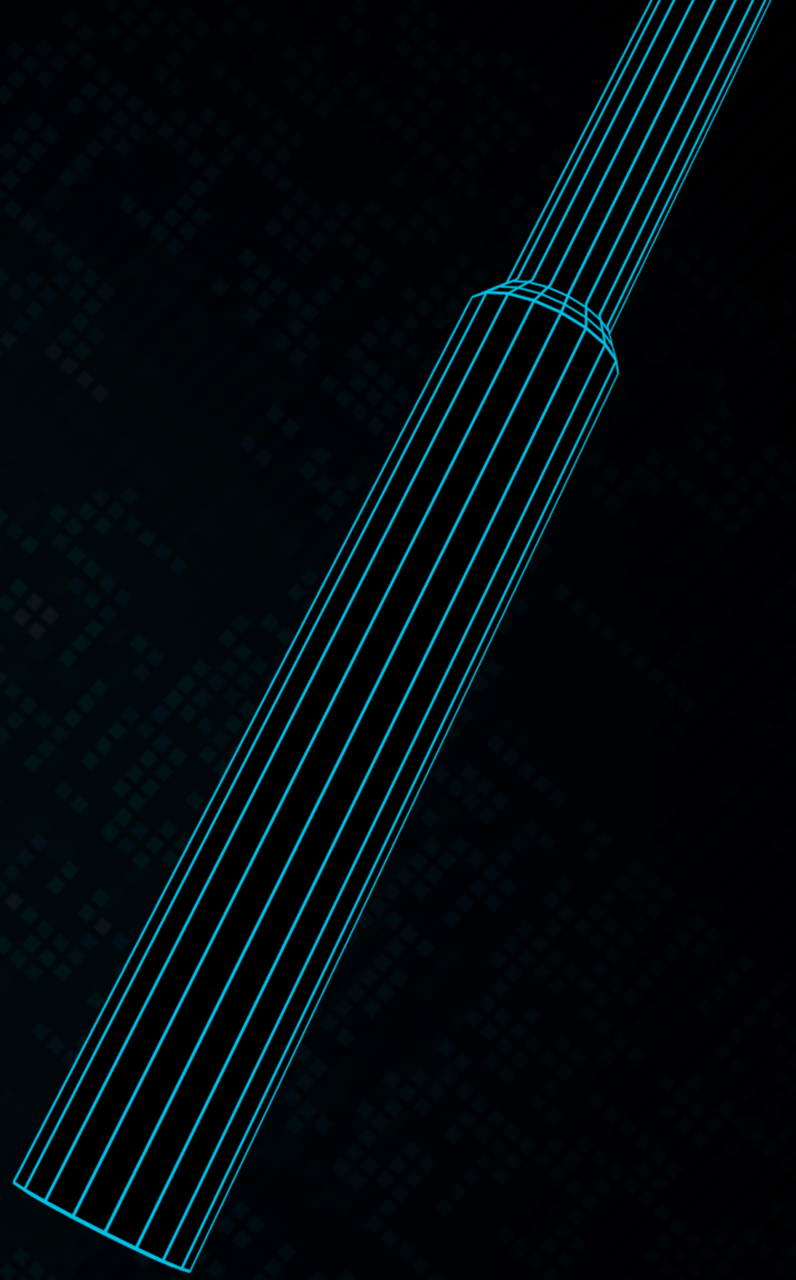
Source holder

Source transport container

Borehole conditions

Open or cased borehole

Dry or fluid-filled borehole

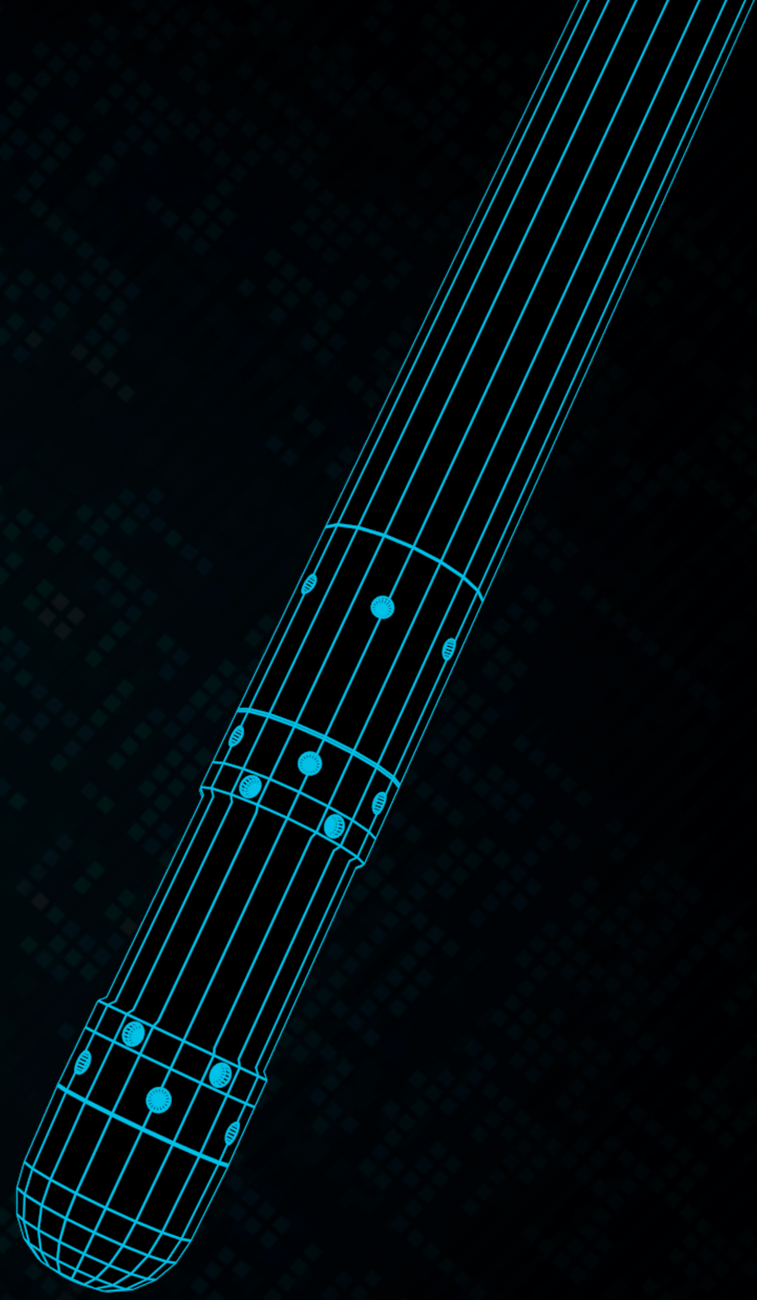


PDGC 50 — Photo-Electric Density

This probe provides a classic triple-spacing sidewall focussed formation density measurement, with the additional advantage of incorporating a photo-electric effect energy detection window on the medium-spacing detector. The photoelectric effect (Pe) measurement is a reliable indication of the apparent formation atomic number, meaning that formation lithology and an accurate porosity can often be deduced directly from the results given by the probe. When the Pe log results are combined with those obtained from other probes (eg spectral gamma) a considerable number of specifc heavy » minerals can be identifed.

A gamma ray source (Cs 137 , typically 3.7 GBq), is fxed to the lower extremity of the probe during logging. The source capsule itself is supplied separately by a specialist partner.

The mechanical side-walling arm provides a caliper measurement, useful for diameter correction purposes and mud-cake evaluation, and a natural gamma log is also obtained by means of a scintillation detector located in the uppermost part of the probe body.



Specifications

Diameter	50 mm
Length	2 500 mm
Weight	20 kg
Max. operating temperature	70 °C
Max. operating pressure	200 bar
Power supply	70 to 100 Vdc

Data / Sensor parameters

Long-spacing density	25 x 50 mm NaI(Tl) crystal
Medium-spacing density + Pe	10 x 50 mm NaI(Tl) crystal
Bed resolution density	10 x 25 mm NaI(Tl) crystal
Caliper range	50 to 450 mm
Natural gamma detector	25 x 50 mm NaI(Tl) crystal

Accessories / Options

Workshop calibration blocks : plexiglass, aluminium + iron

Caliper calibration jig

Borehole conditions

Open uncased borehole

Dry or fluid-filled (preferred) borehole

DTN 38/38G — Dual Thermal Neutron

The standard DTN38 probe provides long-(LSN) and short- spaced(SSN) 4 thermal neutron measurements.
Since the probe reacts strongly to hydrogen content, the principal application of this method is for formation water content (porosity) measurement. As an option (highly recommended), the probe can be supplied with a natural gamma detector to permit the infuence of clay content on the results to be evaluated.

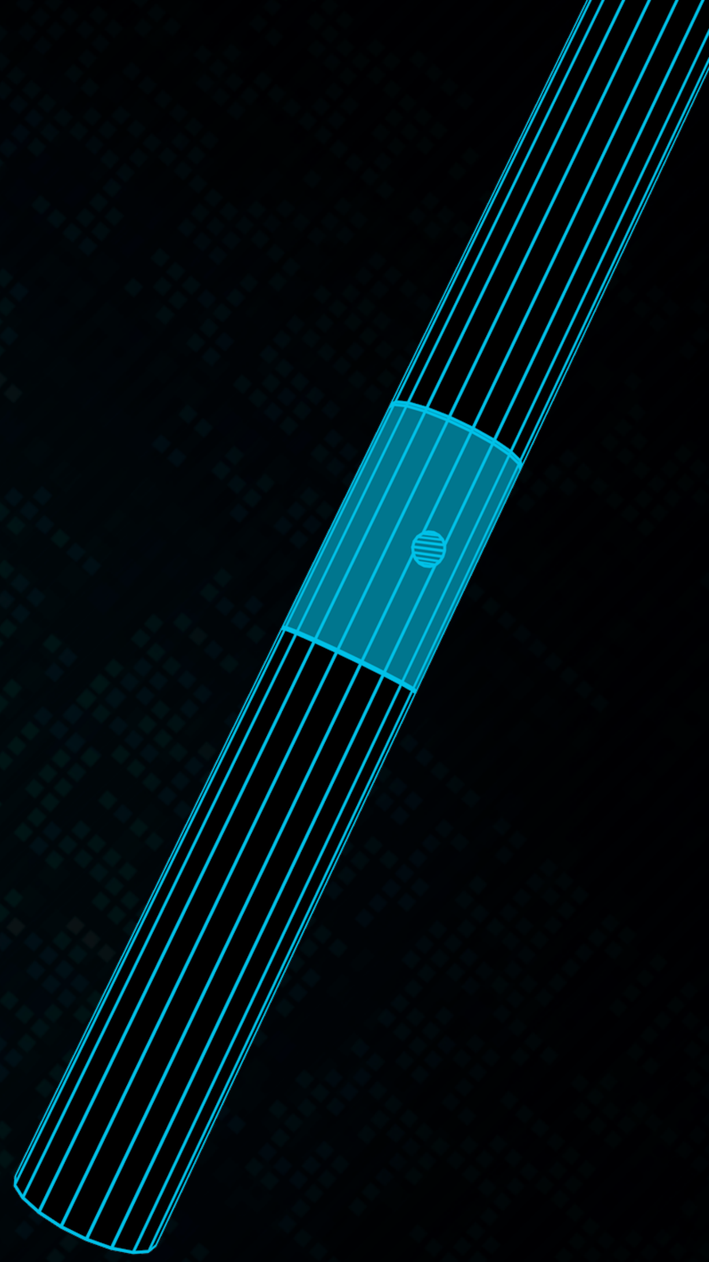
Useful when the probe is deployed for through-tubing oil/water/air contact measurements, a casing collar locator (CCL) detector is also available as a factory-ftted option for this probe.

In cases where the customer is not already in possession of these items, a source holder and Type A-approved source transport container are supplied with the probe. As standard, the source holder is designed to receive an Am1.N20 capsule manufactured by Eckert & Ziegler Cesio and is shipped empty. Source capsule approvisioning, installation of the capsule in the source holder and all necessary licencing remain the responsibility of the customer. We recommend a source activity of 37 GBq (1 Ci) for normal operating conditions.

Specifications	
Diameter	50 mm
Length	2 330 mm
Weight	12 kg (incl source holder)
Max. operating temperature	70 °C
Max. operating pressure	200 bar
Power supply	70 to 100 Vdc
Data / Sensor parameters	
Thermal neutron detectors	25 x 200 mm He3 tube (4 bar)
Source – detector spacings	24 cm (SSN), 48 cm (LSN)
Source type	Am/Be (mean energy 4MeV)
Recommended source activity	37 GBq (1 Ci)

Accessories / Options

- Source holder
- Source transport container
- Natural gamma detector : ø25 x 50 mm NaI(Tl) crystal
- CCL detector



UEP 42 — Uranium Exploration Probe

The UEP42 probe provides a set of data parameters responding perfectly to the needs of both uranium exploration and in-mine grade control. The probe is equipped with two complementary high and low sensitivity gamma radioactivity sensors to allow reliable results to be obtained over a wide range of uranium concentration values.

In addition, the probe provides borehole inclination and azimuth, as well as a focussed resistivity / chargeability measurement for the detection and evaluation of alteration zones.

The probe can be supplied having been calibrated using computational methods in order to provide a uranium concentration value in ppm.

Specifications

Diameter	42 mm
Length	2 260 mm
Weight	11 kg
Max. operating temperature	70 °C
Max. operating pressure	200 bar
Power supply	70 to 100 Vdc

Data / Sensor parameters

Gamma detector #1	ø25 x 50 mm NaI(Tl) crystal
Gamma detector #2	dual ZP1200 G-M tubes
B/h inclination range / accuracy	0 to 180° / ± 0.5°
B/h azimuth range / accuracy	0 to 360° / ± 1°
Resistivity injection signal	200 Hz sine wave with ALC
Resistivity measuring range	0 to 25 kΩ·m (16-bit)

Accessories / Options

Pre-delivery calibration	for U ppm
Resistivity calibration box	

Borehole conditions

Dry or fluid-flled borehole: resistivitity in fluid-flled b/h only

Cased or open borehole: open b/h required for resistivity

PocketLIM 5G — Data Recorder

The PocketLIM 5G is a multi-application display and data acquisition device specifically designed for outdoor use in harsh site conditions.

The main uses are measurements and acquisitions of:

> drilling parameters (cabin or exterior);
> geotechnical in-situ tests;
> data resulting from special and deep foundation processes;
> machine parameters;
> HP GPS data for navigation.

The recorded data is stored and automatically transferred via mobile networks, Wifi or USB over the internet to be automatically processed in the cloud with Geo-log 4 web application.

The PocketLIM 5G is available in two versions 5” and 7” depending on the size of the screen.

MiniLIM 5G — Data Recorder

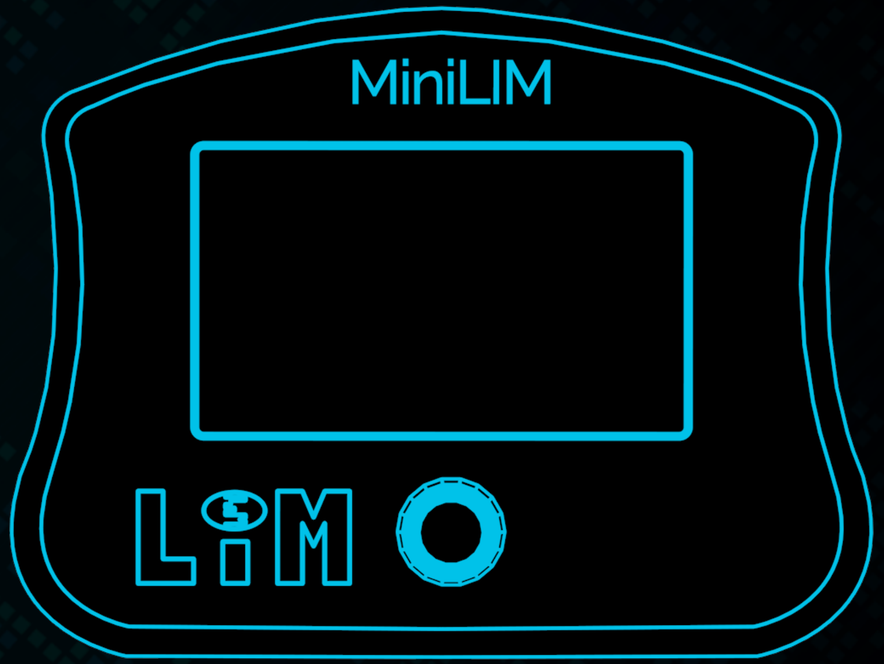
Like the PocketLIM 5G, the MiniLIM 5G is a multi-application display and data acquisition system specially designed for outdoor use in harsh site conditions.

It is in range below the PocketLIM 5G in order to offer a more economical solution.

The main differences with the PocketLIM 5G are:

> A smaller screen, 4.3“ instead of 5” or 7“;
> No buttons to access the various menus, single use of the touch screen;
> No 3G/4G GPRS modem;
> Wifi module optional;
> No access to NaviLIM & Drill@LIM functions.

The recorded data is stored and transferred via USB to be processed with LIMSoft windows software or in the cloud with Geo-log 4 web application.



DeviaLIM — Borehole Deviation

The DeviaLIM features a rugged removable probe with a detachable cable head and datalogger which allows for instant access and logging of borehole deviation.

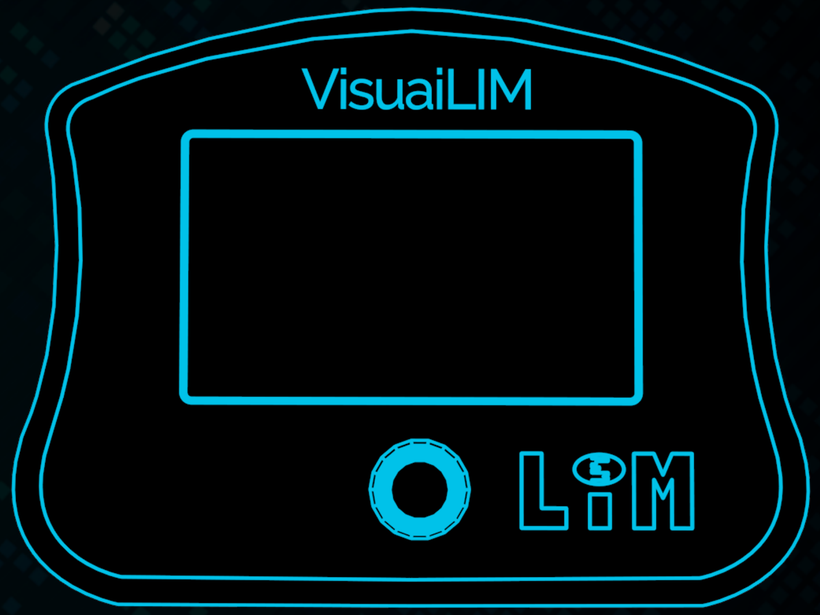
The probe contains a dual axis 0-360° inclinometer and digital compass.

The probe, cable and datalogger comme delivered in a sturdy transport.

VisuaLIM 5G — Drilling Indicator

The VisuaLIM 5G is a drilling indicator which combines the drill mast 3D positioning and hole depth display functions.

The VisuaLIM 5G is specifically designed to be installed on production drill & blast rigs with cabin (surface mining, quarrying and construction), whatever the brand and model.



WinchLIM

LIM Instrumentation offers the WinchLIM, a model of 4 conductors cable winch suitable for lengths between 500 and 1200 meters (1640 and 3937 ft).

On request, LIM Instrumentation can supply winches with a capacity of 175 meters and 300 meters.