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Portable

Applications

Aquaread Water Quality Range

AQUAREAD
water monitoring instruments

A company of nke GROUP

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PRECISION. RELIABILITY. QUALITY.

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Aquaprobe Range

AP-LITE
Single-parameter kit for optical measurement

AQUAPLUS
Combined Dissolved oxygen conductivity and temperature probe

AP-700 & AP-800
Cost-efficient multiparameter kits

AP-2000 & AP-2000-D
Our bestseller
Measure up to 14 parameters with a probe only 42 mm in diameter

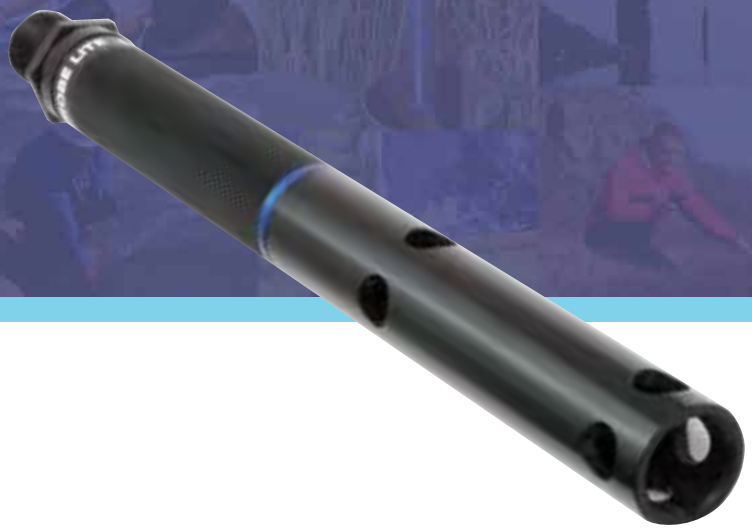
AP-5000
Measure up to 16 parameters simultaneously

AP-PRO
New titanium probe
Up to 16 parameters at depths of up to 300m

AP-LITE

Choose one from eight different optical sensors for advanced single parameter monitoring

Single parameter water quality monitoring package



Simple, single parameter monitoring with the versatile, portable AP-LITE system

AP-LITE

The AP-LITE is a simple probe with a single optical socket. This socket is able to house any of our optical electrodes, including turbidity and chlorophyll. A temperature sensor is also included on the probe. The AP-LITE package includes our rugged 3m cable, our GPS Aquameter, a range of accessories and a rugged carry case.

The AP-LITE is commonly used with our sapphire lensed turbidity sensor, chlorophyll sensor or blue-green algae sensors. Whilst the package includes an Aquameter the AP-LITE can also be used with one of our AquaLoggers for unmanned monitoring. Choose from any of our optical sensors.

Screw in sensors make it easy to install the various sensors available

Choose from a range of optical sensors for use in the AP-LITE, see the full range in the specifications section

AP-LITE Mechanical Specification

Protection Class	IP68 (permanent immersion)
Immersion Depth	Min 75mm. Max 100m* *
Operating Temperature	-5˚C - +70˚C
Dimensions (L x Dia)	250mm x 24mm
Weight	400g

* *100m submersion for period of 12 hours, 30m submersion suitable for permanent deployment.

AquaPlus

optical dissolved oxygen • conductivity • TDS • SSG • resistivity • salinity • temperature

Optical Dissolved oxygen water quality monitoring package

Combined optical dissolved oxygen, conductivity and temperature sensor for portable field use. Package comes complete with 3m cable, GPS meter and carry case

Why Optical?

Traditionally, DO measurement in portable field equipment has been done using membrane covered detectors known as Clark Cells. This type of cell suffers from problems including membrane fouling, calibration instability and worst of all, oxygen consumption. During measurement, a Clark Cell will consume oxygen making it necessary to have a constant flow of water over the cell.

Optical technology eliminates all these problems allowing high precision, membrane-free, long-term stability along with infrequent calibration and immunity to fouling by sulphides and other gases.

The Aquaread AquaPlus is the only Optical DO system that measures salinity directly. This allows for automatic salinity compensation giving you the highest accuracy in any type of water.

The Tech Behind AquaPlus

The Aquaread AquaPlus works on the principle of Dynamic Luminescence Quenching. A gas-permeable material known as a luminophore is excited with short bursts of blue light, which causes molecules in the luminophore to emit red photons. By measuring the delay of the returned red photons with respect to the blue excitation, the level of dissolved oxygen present can be determined.

AquaPlus Mechanical Specification

Protection Class	IP68 (permanent immersion)
Immersion Depth	Min 75mm. Max 10m**
Operating Temperature	-5˚C - +70˚C
Dimensions (L x Dia)	250mm x 24mm
Weight	400g

**100m submersion for period of 12 hours, 30m submersion suitable for permanent deployment.

AquaPlus with the sleeve removed reveals the combined dissolved oxygen, conductivity & temperature sensors. The end cap is replaceable however you can expect more than 2 years life from one cap

AP-700 / 800

pH • ORP • conductivity • TDS • SSG • resistivity • salinity • dissolved oxygen (DO) • temperature • turbidity

The cost effective, complete water quality monitoring package

Affordable multiparameter water quality testing packages that cover all the basics

AP-700 vs 800

The AP-700

pH • ORP • conductivity • TDS • SSG • Res • salinity • dissolved oxygen • temperature

The AP-800

pH • ORP • conductivity • TDS • SSG • Res • salinity • dissolved oxygen • temperature • TURBIDITY

See back pages for Sensor Specifications

These packages are ideal if you are new to water quality monitoring. They will provide you with measurements for all of the commonly monitored parameters.

Both Aquaprobes come fitted with pH/ORP sensor, a conductivity sensor, a dissolved oxygen sensor and a temperature sensor. The AP-800 also features our sapphire lensed turbidity sensor.

A package includes the Aquaprobe and its included sensors, a GPS Aquameter, a hard wired 3m cable with AquaConn connector all supplied in a carry case.

AP-700 / 800 Mechanical Specification

Protection Class	IP68 (permanent immersion)
Immersion Depth	Min 75mm. Max 50m*
Operating Temperature	-5°C - +70°C
Dimensions (L x Dia)	290mm x 42mm
Weight	700g

*50m submersion for period of 12 hours, 10m submersion suitable for permanent deployment.

www.aquaread.com • info@aquaread.com • +44 (0) 1843 600 030

AP-2000 / AP-2000-D

pH • ORP • conductivity • TDS • SSG • resistivity • salinity
• optical dissolved oxygen • temperature • depth

Measures more parameters than any other 2" diameter multiparameter probe

Take your portable water quality monitoring to the next level by using the advanced AP-2000 multiparameter probe

AP-2000 / AP-2000-D

The AP-2000 comes pre-loaded with a selection of sensors:

pH • ORP • conductivity • TDS • SSG • Res • salinity
• optical dissolved oxygen • temperature • depth (AP-2000-D Only)

See back pages for Sensor Specifications

Package comes complete with Aquaprobe, GPS Aquameter, 3m cable, rugged case and accessories. Various cable lengths are available; 10, 20 and 30m as standard.

There are an additional 2 ports allowing you to add more:

Aux port 1 can be fitted with either an optical sensor or an ion selective sensor (ISE)

Aux port 2 can be fitted with only an ISE sensor

ISE Electrode Options:

Ammonium / Ammonia,
Chloride,
Nitrate,
Fluoride,
Calcium.

Optical Electrode Options:

Turbidity,
Chlorophyll,
Blue Green Algae,
Rhodamine,
Fluorescein,
Refined Oil,
CDOM / FDOM.

Aquaprobe Facts

- *The IP68 rated Aquaprobe is constructed of marine grade aluminium and is designed for use in fresh, marine and waste-water applications.*

- *Its metal construction and weight reflect the superior build quality of the instrument.*

AP-2000 / AP-2000-D

pH • ORP • conductivity • TDS • SSG • resistivity • salinity
• optical dissolved oxygen • temperature • depth

Measures more parameters than any other 2" diameter multiparameter probe

GPS Aquameter

Every Aquaprobe package comes with a GPS Aquameter for live readings, automatic data recording and probe calibration

"Record the location of every data set using the GPS Aquameter."

3m Cable with AquaConn Connectors

The AP-2000 is fitted with our robust AquaConn metal connectors, each package comes with a 3m cable with AquaConn connectors at each end and Kevlar strands running the length of the cable for extra tensile strength

Flowcell available for every Aquaprobe

Every water quality testing probe has its own flowcell allowing you to bring sample water straight to the probe. This is ideal for ground water monitoring and some process applications

Optical Dissolved Oxygen (DO) Sensor

The AP-2000 has a factory installed and fully calibrated optical DO sensor. The sensor requires much less maintenance than the galvanic version, gives more stable readings and requires cap changes only once every 2 years

AP-2000/2000-D Mechanical Specification

Protection Class	IP68 (permanent immersion)
Immersion Depth	Min 75mm. Max 100m*
Operating Temperature	-5°C - +70°C
Dimensions (L x Dia)	290mm x 42mm
Weight	700g

*100m submersion for period of 12 hours, 30m submersion suitable for permanent deployment, depth measurement displayed up to 60m on Aquameter.

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AP-5000

pH • ORP • conductivity • TDS • SSG • resistivity • salinity
• optical dissolved oxygen • temperature • depth

Add even more sensors to your portable water quality monitoring package

Maximise your water quality data collection using the extra sensor ports of the portable AP-5000 Aquaprobe

AP-5000 Package

The AP-5000 comes pre-loaded with a selection of sensors:

pH • ORP • conductivity • TDS • SSG • Res • salinity
• optical dissolved oxygen • temperature • depth

See back pages for Sensor Specifications

Package comes complete with Aquaprobe, GPS Aquameter, 3m cable, rugged case and accessories. Various cable lengths are available; 10, 20 and 30m as standard.

There are an additional 4 ports allowing you to add more:

All 4 Aux ports can be fitted with either an optical sensor or an ISE from the list below

ISE Electrode Options:

Ammonium,
Ammonia,
Chloride,
Nitrate,
Fluoride,
Calcium.

Optical Electrode Options:

Turbidity,
Chlorophyll,
Blue Green Algae,
Rhodamine,
Fluorescein,
Refined Oil,
CDOM / FDOM.

Aquaprobe Facts

- *All Aquaprobes are completely filled with resin protecting the circuitry and processors within the probe. The resin also make the probe completely water tight ensuring no leaks even at depth.*

- *The weight of the Aquaprobe means no external weights are required to allow the probe to drop below the surface.*

AP-5000

pH • ORP • conductivity • TDS • SSG • resistivity • salinity
• optical dissolved oxygen • temperature • depth

Add even more sensors to your portable water quality monitoring package

AP-5000 Package Contents

Full range of accessories in every package

Every Aquaprobe package comes with a range of relevant accessories including a 3m cable, calibration vessels, USB cable to connect the GPS Aquameter to your PC, RapidCal calibration solution and batteries

AP-5000 can house more than one optical sensor

The AP-5000 has one major advantage over the AP-2000, it can house more than one optical sensor in it's unrestricted Aux ports. Many applications require both turbidity and chlorophyll monitoring at the same time, this is made possible using the AP-5000. Seen to the left is the AP-5000 fully loaded with 2 ISE and 2 optical sensors connected

The hidden depth sensor

With all of the sensors removed, in the image to the right, the depth sensor hole can be seen in the centre of the probe body

AP-5000 Mechanical Specification

Protection Class	IP68 (permanent immersion)
Immersion Depth	Min 75mm. Max 100m*
Operating Temperature	-5˚C - +70˚C
Dimensions (L x Dia)	340mm x 55mm
Weight	950g

*100m submersion for period of 12 hours, 30m submersion suitable for permanent deployment, depth measurement displayed up to 60m on Aquameter.

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AP-PRO

Smart Sensors • pH • ORP • conductivity • TDS • SSG • resistivity • salinity • optical dissolved oxygen • temperature • 300m depth

Our most advanced self cleaning water monitoring probe

The PRO range builds on the success of the Aquaprobe series, elevating every aspect of the construction, design, features and specifications.

Every Aspect of Design Levelled Up

They bring with them new-to-industry materials allowing measurement at far greater depths, a unique measurement chamber for improved sensor stability in the most demanding applications and smart sensors that hold their calibration data, allowing for simple sensor exchange in the field.

Constructed Using Titanium and Carbon Fibre

The AP PRO is built using combination of titanium and carbon fibre, offering both exceptional corrosion resistance and high compressive strength. As a result both are capable of measuring at extreme depths of up to 1000ft (300m).

Full range of Smart Sensors

The range sees the introduction of smart sensors, sensors that hold calibration data allowing exchange without the need to recalibrate.

Sensors can be carefully calibrated in the lab and taken to the deployment site for simple exchange removing the need to calibrate in the field.

Four Auxiliary ports allow extra smart sensors to be installed diversifying monitoring options.

Unique Measurement Chamber

The protective end cap, found on all Aquaprobes, has been extended along the inside of the sleeve. When screwed onto the sleeve it creates a more stable measurement chamber for all installed sensors.

Its matt black design prevents reflection and the multiple holes in the cap allow good water flow through the system.

Measurement chamber removed from probe sleeve

AP-PRO

Smart Sensors • pH • ORP • conductivity • TDS • SSG • resistivity • salinity • optical dissolved oxygen • temperature • 300m depth

Our most advanced self cleaning water monitoring probe

Measurement Chamber as a Calibration Vessel

The measurement chamber can also be used for sensor calibration using the calibration cup that push-fits to the base of the probe. This surrounds and seals the holes and allows the probe to stand upright.

Utilising the measurement chamber in this way reduces the volume of calibration solution required, reducing maintenance costs and improves the quality of the calibration.

Calibration cup seals measurement chamber and allows probe to stand during calibration.

The Perfect Choice for Telemetry

Whilst the AP-PRO is the most advanced portable water quality monitoring probe in the range, it is also a perfect choice for deployment with the AquaTel telemetry device.

The AP-PRO connects directly to the Aquatel and is automatically recognised by the device. The Aquatel houses a barometric pressure sensor for live compensations for % saturation of Dissolved oxygen readings and for depth measurement.

The measurement chamber, advanced data handling software, automatic self cleaning and smart sensors make the AP-PRO the best choice for remote unmanned data collection.

AquaTel telemetry device

AP-PRO Mechanical Specification

Protection Class	IP68 (permanent immersion)
Immersion Depth	Max 1000ft (300m)
Operating Temperature	-5˚C - +70˚C
Dimensions (L x Dia)	410mm x 70mm
Weight	950g
Power	Aquameter/Blackbox

Data & Communications

Bluetooth paired with a mobile app and classic wired handheld options available

Wireless communication options helping to bring your data to you

Bluelink - Bluetooth Module

View live readings on your mobile device and perform sensor calibrations

BlueLink adaptor will allow you to view probe data on your Apple or Android device

Use the mobile app to automate low flow sampling making your job easier in the field

Bluelink features a built in pressure sensor for barometric data compensations

GPS Aquameter

The GPS Aquameter is a hand held device with a display for live data viewing and data recording. It is designed to be very simple to use and to make your job easier in the field

All currently measured data can be recorded by pressing the M+ button, as you record your dataset the Aquameter uses its built in GPS receiver to record the precise location that the measurements were taken from, with data being viewable in Google Earth

Portable Applications

Some examples of portable applications ideal for the Aquaprobe range

Specifications

Standard Parameters

Dissolved Oxygen	Range	0 – 500.0% / 0 – 50.00 mg/L
	Resolution	0.1% / 0.01mg/L
	Accuracy	0 - 200%: ± 1% of reading. 200% - 500%: ± 10%
Depth AP-2000/ AP-5000	Range	± 0 – 60.00 m (60m max displayed depth, max probe immersion 100m)
	Resolution	1cm
	Accuracy	± 0.5% FS
Depth AP-7000	Range	± 0 – 99.99 m
	Resolution	1cm
	Accuracy	± 0.2% FS
Conductivity (EC)	Range	0 – 200 mS/cm (0 - 200,000 µS/cm)
	Resolution	3 Auto-range scales: 0 – 9999 µS/cm, 10.00 – 99.99 mS/cm, 100.0 – 200.0mS/cm
	Accuracy	± 1% of reading
TDS*	Range	0 – 100,000 mg/L (ppm)
	Resolution	2 Auto-range scales: 0 – 9999mg/L, 10.00 – 100.00g/L
	Accuracy	± 1% of reading
Resistivity*	Range	5 Ω • cm – 1 MΩ • cm
	Resolution	2 Auto-range scales: 5 – 9999 Ω • cm, 10.0 – 1000.0 KΩ • cm
	Accuracy	± 1% of reading
Salinity*	Range	0 – 70 PSU / 0 – 70.00 ppt (g/Kg)
	Resolution	0.01 PSU / 0.01 ppt
	Accuracy	± 1% of reading
Seawater Specific Gravity*	Range	0 – 50 σt
	Resolution	0.1 σt
	Accuracy	± 1.0 σt
pH	Range	0 – 14 pH / ± 625mV
	Resolution	0.01 pH / ± 0.1mV
	Accuracy	± 0.1 pH / ± 5mV
ORP	Range	± 2000mV
	Resolution	0.1mV
	Accuracy	± 5mV
Temperature (non freezing)	Range	-5°C – +50°C (23°F – 122°F)
	Resolution	0.01°C / 0.1°F
	Accuracy	± 0.1 °C

* Readings calculated from EC and temperature electrode values

ISE

Ammonium	Range	0 – 9,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 8,999.9 mg/L
	Accuracy	± 10% of reading or 2ppm (whichever is greater)
Ammonia†	Range	0 – 9,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 8,999.9 mg/L
	Accuracy	± 10% of reading or 2ppm (whichever is greater)
Chloride	Range	0 – 20,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 19,999.9 mg/L
	Accuracy	± 10% of reading or 2ppm (whichever is greater)
Fluoride	Range	0 – 1,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 999.9 mg/L
	Accuracy	± 10% of reading or 2ppm (whichever is greater)
Nitrate	Range	0 – 30,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 29,999.9 mg/L
	Accuracy	± 10% of reading or 2ppm (whichever is greater)
Calcium	Range	0 – 2,000mg/L (ppm)
	Resolution	2 Auto-range scales: 0.00 - 99.99 mg/L, 100.0 – 1,999.9 mg/L
	Accuracy	± 10% of reading or 2ppm (whichever is greater)

† Ammonium electrode required. Readings calculated from ammonium, pH and temperature values.

Optical

Turbidity	Range	0 – 4000 NTU
	Resolution	2 Auto-range scales: 0.0 - 99.9 NTU, 100 - 4000 NTU
	Accuracy	± 5% of auto-ranged scale
Chlorophyll	Range	0 – 500.0 µg/L (ppb)
	Resolution	2 Auto-range scales: 0.00 - 99.99 µg/L, 100.0 - 500.0 µg/L
	Repeatability	± 5% of reading
Phycocyanin (freshwater BGA)	Range	0 – 300,000 cells/mL
	Resolution	1 cell/mL
	Repeatability	± 10% of reading
Phycerythrin (marine BGA)	Range	200,000 cells/mL
	Resolution	1 cell/mL
	Repeatability	± 10% of reading
Rhodamine WT Dye	Range	0 – 500 µg/L (ppb)
	Resolution	2 Auto-range scales: 0.00 - 99.99 µg/L, 100.0 - 500.0 µg/L
	Accuracy	± 5% of reading
Fluorescein Dye	Range	0 – 500 µg/L (ppb)
	Resolution	2 Auto-range scales: 0.00 - 99.99 µg/L, 100.0 - 500.0 µg/L
	Accuracy	± 5% of reading
Refined Oil	Range	0 – 10,000 µg/L (ppb) (Napthalene)
	Resolution	0.1 µg/L
	Repeatability	± 10% of reading
CDOM / FDOM	Range	0 – 20,000 µg/L (ppb) (Quinine Sulphate)
	Resolution	2 Auto-range scales: 0.0 – 9,999.9 µg/L, 10,000 – 20,000 µg/L
	Repeatability	± 10% of reading

The accuracy figures quoted throughout this document represent the equipment's capability at the calibration points at 25°C. These figures do not take into account errors introduced by variations in the accuracy of calibration solutions and errors beyond the control of the manufacturer that may be introduced by environmental conditions in the field. Accuracy in the field is also dependent upon full calibration and minimal time between calibration and use.

A little space for your notes

Jot down the products you are interested in and give us a call to discuss your requirements on +44 (0) 1843 600 030

Notes...

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water monitoring instruments

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Aquameter® - UK Trade Mark Registration No. 00003000627
LoggerLink® - UK Trade Mark Registration No. 3081814
Leveline-CTD® - Community Trade Mark Registration No. 0161873380

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