

Remote Water Quality Monitoring made Hassle Free

The AquaStation independent monitoring station is a breakthrough in remote water quality monitoring. The AquaStation is able to independently collect data, keep its sensors clear of fouling, and calibrate its sensors remotely via its built in telemetry system.

“The AquaStation is set to revolutionise remote water quality monitoring by further increasing the duration of unmanned deployments thanks to its automated probe cleaning and, most importantly, its ability to be calibrated via the Internet automatically or by a user.”

Water quality monitoring in remote and isolated locations can be an expensive task. At its most basic form, an engineer is required to visit the site and manually monitor the water using a multiparameter water monitoring probe such as the Aquaread AP-5000. This is a costly approach due to the frequent site visits and constant traveling required.

A more advanced option is to install a self contained water monitoring station that pumps water into a flow cell across a multiparameter probe in order to take readings automatically. Data is then sent via mobile networks and can be viewed from your desk on a PC over the Internet. This approach does reduce the number of site visits required for taking measurements, but regular site visits are still required in order to clean and calibrate the water monitoring probes.

The AquaStation takes a large step in further reducing the number of site visits required by utilising a self cleaning probe and, more importantly, by allowing users to command individual sensor calibration from their desk via the built in telemetry system.

The AquaStation can be left monitoring whilst unattended for many months, without the need for regular cleaning and calibration. Regular automatic cleaning and calibration keeps the system recording accurately for longer than was previously possible.

Monitoring parameters such as ammonium or nitrate remotely was, until now, unfeasible because these sensors are liable to drift and require fortnightly calibrations. The ability of the AquaStation to hold calibration solution, pump it into the flow cell and calibrate the sensor without anyone on site means that using ISE electrodes in a remote monitoring station is now a reality.

Power is not an issue for the AquaStation thanks to the 12V, 115Ah battery that's installed in the unit; in addition, the battery is kept topped up using solar or wind power meaning you should never have to charge the battery.



An example remote monitoring site only accessible by helicopter

System features

- Fully automatic remote water quality analysis
- Self contained and self powered (solar / wind)
- Self-calibrating
- Self cleaning
- User configurable sampling times, cleaning intensity and calibration frequency
- Analysis results viewable 24/7 on line from any location
- Low maintenance
- Long, unattended deployment
- Various sample pump options to suit all applications
- Various telemetry options
- Configurable alarms with user-specified set points generate Email or SMS alerts
- Live data available on site with built-in Aquameter
- Measurement of up to 16 individual parameters simultaneously
- Secure, weatherproof, lockable enclosure

Author/Contact Details:
Chris Peacock
 Director at Aquaread Limited
 Aquaread® Limited
 Kent Innovation Centre,
 Thanet Reach Business Park
 Millennium Way, Broadstairs,
 Kent, CT10 2QQ
 United Kingdom
 Tel: +44 (0) 1843 609695
 Email: info@aquaread.com
 Web: www.aquaread.co.uk





Two Deployed AquaStations, featuring solar panels for long-term continuous use

The water monitoring is taken care of by the self cleaning AP-7000 Aquaprobe. The probe can measure up to 16 parameters at once - providing a staggering amount of information. The probe's basic sensor layout offers optical dissolved oxygen, pH, ORP, conductivity, resistivity, salinity, TDS, SSG, and temperature. The Aquaprobe then has 6 user configurable sensor ports that allow you to install any combination of our optical or ionic sensors, such as turbidity, chlorophyll, ammonium and nitrate to name a few.

Viewing the data is very straightforward. Data collected by the probe is sent via GPRS/3G to a secure server; it can then be accessed via Timeview online. This web-based application displays all of the data at a glance and allows you to drill down on each sensor's trace with increasing control and detail.



Timeview screen shows historic traces for each of the sensors installed on the AP-7000

This helpful application allows users to re-configure their logging intervals as they see fit as well as setting up alarm trigger points which can automatically increase logging rates and send out notifications as both email and sms.

The AquaStation is set to revolutionise remote water quality monitoring by further increasing the duration of unmanned

deployments thanks to its automated probe cleaning and, most importantly, its ability to be calibrated via the Internet automatically or by a user.

Reducing site visits means reduced costs for any company looking to streamline their remote water monitoring monitoring régime. With a host of different pump and deployment options the AquaStation is suitable for many different applications and deployment locations.



Inside view of the cabinet showing AP-7000 probe secured within the flowcell, the pumping system, the controller box, battery and calibration solution. Above: detailed view of the sophisticated controller box that features 2 micro processors and direct pumping controls.

Read, Print, Share or Comment on this Article at: Envirotech-Online.com/Articles



Take a look at our website www.envirotech-online.com

Flow Meters Now with Full Suite of Global Agency Approvals

Sierra Instruments (USA), global mass flow meter manufacturer, is pleased to announce its evolutionary QuadraTherm 640i/780i air flow meters have received global approvals for the following standards of safe operation in potentially hazardous environments: cFMus (USA and Canada), ATEX (European Union) and IECEx (International). This signifies that the QuadraTherm is certified as flame-proof and protected from dust ignition sources and meets all design criteria for electrically-powered flow meters used in areas where combustible gases may be present.



The IECEx and ATEX certification programs ensure explosion-proof and hazardous area compliance in the European Union and international destinations. The cFMus certification program ensures explosion-proof and hazardous area compliance in the United States and Canada. With approvals, QuadraTherm is approved for applications in hazardous plant areas like facilities management, chemical processing, oil & gas, wastewater, and natural gas throughout the European Union and international communities.

"We designed and tested the QuadraTherm air flow meter for safe operation in heavy industrial applications. The global approvals are a recognition that years of hard work in design and testing were right on target. Now our customers can use the QuadraTherm in even more heavy industrial application across the globe," says Scott Rouse, Product Line Director.

The QuadraTherm thermal mass flow meter's approvals are as follows:

cFMus - Class I, Division 1, Groups B,C, and D; Process Temperature Range: -40°C to 200°C (-40°F to 392°F); T3C Ta = -40°C to 60°C (-40°F to 140°F), and Type 4x.

ATEX and IECEx Approvals - II 2 G Ex d IIC T3 Gb; II 2 D Ex tb IIIC T200°C Db; Ta = -20°C to 60°C (-4°F to 140°F); Process Temperature Range: -40°C to 200°C (-40°F to 392°F).

With these global approvals, Sierra's QuadraTherm air flow meter can be used throughout the world where hazardous or explosive environments may be present, expanding the market for our customers.

The QuadraTherm provides the best accuracy +/- 0.5% of reading above 50% of full scale for flow meter air measurement and other gases; built-in flow conditioning (inline version); multivariable outputs; flow ranges up to 60,000 sfpm (305 smps); qTherm, Dial-A-Gas, Dial-A-Pipe; and Hazardous Area approvals. The QuadraTherm is available in two models: the 640i insertion and 780i inline. The QuadraTherm family has a no-drift sensor with lifetime warranty; has multivariable output: mass flow, temperature, pressure (optional); measures all inert and all non-condensing clean gases; flammable gases (methane, propane, hydrogen, and digester gas); repeatability for mass flow rate is +/- 0.15% ; ValidCal Diagnostics to validate calibration in the field; and gas accuracy is +/- 1°C (1.8°F).

email: 31294pr@reply-direct.com

Automatic Online

HEAVY METAL ANALYZER

Accurate • Reliable • Low operating cost

Ni Cr⁶⁺
Cr Mn Cu

HMA Series

Copper / Chrome / Chrome(VI) / Manganese / Nickel



- Based on Colorimetric method
- High-temperature digestion treatment, total heavy metal content detectable
- Low reagent consumption, low waste solution and low operating cost
- Proven track record of reliability and stability
- Fully automatic and easy maintenance

DKK-TOA CORPORATION

Your trustworthy partner in Environmental Measurement



website : www.toadkk.co.jp/english
e-mail address : intsales@dkktoa.com

Contact in China

哈希水质分析仪器(上海)有限公司
Hach Water Quality Analytical Instruments (Shanghai) Co., Ltd
cccsupport@hachservice.com / 86-4006868899

email: 3192ad@reply-direct.com