RAS monitrix
Aquaculture Nitrate | Nitrite

REAL-TIME NITRATE & NITRITE MONITORING

Real-time **nitrate and nitrite** monitoring for healthy and profitable **aquaculture**

Aquamonitrix® is a revolution automated, real-time nitrite and nitrate analyser, enabling biofilter optimisation and consistently high water-quality in recirculating aquaculture systems (RAS).

This, in turn, provides game-changing impacts by minimising toxic nitrogen risks while supporting fish health for maximum feed conversion efficiencies and biomass gain.

Aquamonitrix® delivers highly sensitive and specific nitrate and nitrite measurements across fresh and marine (35 ppt saline) water environments, and it can be moved from one matrix to another without any recalibration.

The robust, portable analyser, is based on ion chromatography with UV-LED detection, avoiding the use of hazardous chemical reagents. The eluent is a sodium chloride (common salt) solution.

Aquamonitrix® provides real-time nitrate and nitrite monitoring, enabling you to:

- Monitor the biofilter to ensure complete conversion of nitrite to nitrate
- React immediately to protect species health
- Gain the kind of real-time, high-frequency precise and accurate data required to investigate, understand and optimise the nitrogen cycle in recirculating aquatic systems
- Monitor effluent to demonstrate environmental compliance /react instantaneously to nitrate exceedances, avoiding ecological damage and fines

Aquamonitrix® is a novel nitrate and nitrite monitoring solution

- Based on rapid ion chromatography and a novel, proprietary optical detection technology
- Offering laboratory accuracy in the field and real-time measurement
- With simultaneous, yet selective, measurement of nitrate and nitrite over an analytical range suitable for aquaculture & aquaponic applications

Real-Time | Accurate | User-Friendly

aquamonitrix® **Email:** info@aquamonitrix.com | **Tel:** +353 59 9149097 | **Web:** www.aquamonitrix.com

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Game-changing performance for real-time, accurate biofilter control

- Up to now, the RAS industry has relied on time-consuming laboratory methods, requiring hazardous chemicals. This has limited the quality of information available, while time delays have prevented instantaneous responses to nitrite spikes.
- Aquamonitrix® changes all this with automated, real-time analysis for high-resolution data, empowering process optimisation, and instantly actionable alerts and alarms for safer operations and healthier fish.
- The unique combination of ion chromatography and UV-LED enables highly sensitive and specific nitrate and nitrite measurements in fresh and salt water, without interference from organics, colour or turbidity.
- Minimal intervention operation - with low technical skill requirements and a low-cost reagent - contribute to low life-time costs.

Aquamonitrix® key performance parameters

- Capable of sampling every 10 to15 minutes for near continuous monitoring
- Laboratory quality accuracy and precision
- Data fed directly to your central control system
- And/or to your secure Datamonitrix platform, for configurable alarms and alerts, and analyser self-diagnostics, all direct to your PC

Plug n' play for instant deployment

On arriving on site, your Aquamonitrix® unit can be installed and operating in a matter of hours.

- No need for site preparation
- The only connections required are power and sample inlet and outlet
- Choice of power & communication options
- The analyser is portable, lightweight and smaller than an airline carry-on case

Low life-time costs

- Simple set-up and operation
- Equally simple servicing, which can be carried out inhouse or by an agnostic service company
- Low skills requirement and low reagent costs

View technical specifcations over the page ->

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TECHNICAL DATA SHEET

Specifications

+ Analyser technology: Ion chromatography and UV-LED
+ Maximum sampling frequency: 10 mins

+ Accuracy:
  - Fresh water ~99%
  - Wastewater & Saline Water ~95% ,
+ Precision 95%

+ Analytical Range for Fresh Water and Wastewater*
  - Nitrate: 0.6 – 500 mg/L as NO_3- (0.14 to 113 mg/L as N)
  - Nitrite: 0.05 – 100 mg/L as NO_2- (0.01 to 30 mg/L as N)

** In 35 ppt saline water, the lower limits of detection are 1.0 mg/L nitrate as NO_3^- (0.30 mg/L as N) and 0.5 mg/L nitrite as NO_2^- (0.15 mg/L as N)*

Dimensions and Features

+ External size: 23cm X 36cm X 57cm (enclosure size, without supporting cradle)
+ Weight: 12 kg
+ Portable
+ Integrated provision for mounting/securing to a fixed surface (e.g. floor, wall, etc.)
+ Integrated carry handle and lockable hinged door
+ Rugged construction: Impact, UV and corrosion-resistant
+ Eluent: Sodium Chloride (NaCl)
+ Alarms and indicators: Tri-colour Status LED

Power Source

+ 15 - 25 V dc input power, 50W max. rated power
+ Integrated battery for backup
+ Solar/battery version available for mobile and off-grid use

User Interfaces/Data Output

+ Wired output transmission: MODBUS over Serial (RS232 / RS485)
+ IoT communication capability
+ Optional IoT Datamonitrix data management platform
+ Data communications via RS232, for commissioning/ troubleshooting

Environmental

+ Operating temperature range: 10 - 40°C
+ Sample temperature range: 2 - 50°C
+ Operating humidity range: 10 - 90% RH, non-condensing
+ Storage temperature range: -20 - 60°C
+ Storage humidity range: 10 - 90% RH, non-condensing
+ IP rating: IP65 (IEC 60529)

Certifications

+ C.E. Mark, REACH

Warranty

+ One Year

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