



Real-time **nitrate** and **nitrite** based **monitoring** & **process optimisation** for intake, in-process and wastewater operations

Aquamonitrix® combines ion chromatography, UV-LED detection and micro-fluidics - to bring laboratory accuracy to a compact and robust field-based instrument. Long-term operation is virtually maintenance- and intervention-free even in challenging wastewater and saline environments.

The chromatography separation step allows nitrate and nitrite to be measured separately at the UV-LED detector, providing exceptional high accuracy and specificity for both anions. This enables real-time monitoring of nitrate and/or nitrite in intake, process and wastewater as well as nitrate and nitrite based process control of biological nitrogen removal (BNR) in wastewater treatment for significantly reduced aeration energy requirements through short-cut BNR.

- Perform real-time monitoring of nitrate and /or nitrite in the water entering your plant - or in a closed-loop circulation system
- Optimise nitrogen removal in the wastewater treatment process for reduced energy usage
- Investigative the source of nitrate upstream from your water abstraction point
- Monitor nitrate levels in your treated effluent - for reuse - or for peace of mind - and to be the first to know in the event of an accidental exceedance
- Have the ability to provide full visibility and transparency on nitrate performance to regulators, customers and communities

**Aquamonitrix® is a new type of real-time nitrate and nitrite analyser**

- Based on rapid ion chromatography and a novel, UV-LED-based optical detection technology
- Offering laboratory accuracy in the field
- With simultaneous, yet selective, detection of nitrate and nitrite over a broad analytical range suitable for environmental, potable and effluent water applications



Real-Time

| Accurate

| User-Friendly

## When we say it's user friendly, we mean it

- Laboratory-quality accuracy (~ 99% in fresh water; ~95% in challenging septic and saline matrices).
- The ion chromatography step allows for separate optical detection of nitrate and nitrite.
- Low blockage and bio-fouling potential in wastewater. None of the accuracy loss or interference associated with standard UV detection. No requirement for specialised pretreatment or high-cost, add-on sampling equipment.
- Holds calibration - even when moved to a different location or sample matrix.
- Straight-forward vendor-neutral servicing and long intervals between services, with low intervention requirements - All that is needed is to simply top up the reagent, empty the waste sample, and change out the sample syringe as required, depending on the sampling frequency.

### Virtually plug n' play for instant deployment

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

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

### Low life-time costs

- No sampling or lab analysis costs for nitrate and nitrite
- Simple set-up and operation
- Equally simple vendor-neutral servicing - can be by an agnostic service company or in-house
- Low skills requirement
- Low-cost, non hazardous (NaCl) reagent

### Aquamonitrix<sup>®</sup> key performance parameters

- Maximum sampling frequency: 10 minutes
- Lab quality accuracy and precision
- Data fed directly to your SCADA/ central control system
- And/or to your secure Datamonitrix data management platform, for configurable alarms and alerts, and analyser self-diagnostics, all direct to your PC



## Want to know more?

Call us on **+353 59 9149097**

Email us at **info@aquamonitrix.com**  
Visit **www.aquamonitrix.com**

View more technical specifications over the page ->

# 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  $\text{NO}_3^-$  (0.14 to 113 mg/L as N)
  - Nitrite: 0.05 – 100 mg/L  $\text{NO}_2^-$  (0.01 to 23 mg/L as N)

*\*In 35 ppt saline water, the lower limits of detection are 1.0 mg/L nitrate as  $\text{NO}_3^-$  (0.23 mg/L as N) and 0.5 mg/L nitrite as  $\text{NO}_2^-$  (0.15 mg/L as N)*

## 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

## 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)

## 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

## 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

## Certifications

- + C.E. Mark, REACH

## Warranty

- + One Year

## Want to know more?

Call us on +353 59 9149097 (Europe)

Email us at [info@aquamonitrix.com](mailto:info@aquamonitrix.com)

Visit [www.aquamonitrix.com](http://www.aquamonitrix.com)