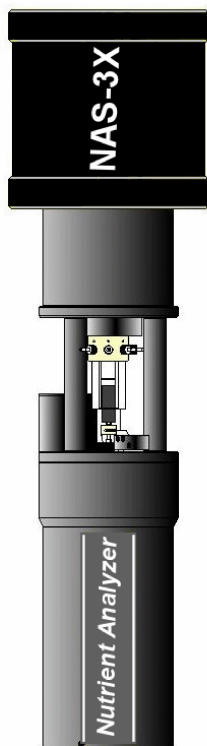




EnviroTech Instruments

NAS-3X

In-Situ Nutrient Analyzer



NAS-3X Benefits

- ♦ Improved Precision and Resolution
- ♦ New Analysis Sequences
- ♦ More Programmability & Control
- ♦ Larger Memory
- ♦ Easy Interfacing to Loggers & Telemetry
- ♦ Better Support for External Sensors
- ♦ New NutrientDATA 2 Software
- ♦ Free Firmware Updates via E-mail
- ♦ Proven Track Record

Benefit from our unrivalled experience!

Enhanced Field Proven In-situ Nutrient Analyzer

The **NAS-3X** is the latest version of the leading in-situ nutrient analyzer for high-frequency time-series determination of nutrient concentrations in marine and fresh waters. Four versions are available for the measurement of nitrate phosphate, silicate and ammonia. The NAS-3X is typically deployed unattended for periods of 1 to 3 months, although much longer deployments can be achieved. The NAS-3X has also been used near surface in many buoy and riverine applications or moored at depths down to 250m.

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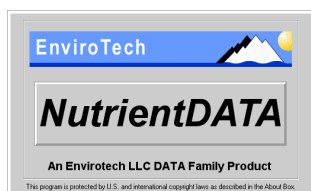
Benefits

- Captures episodic events and complex dynamics
- Enables greater understanding of ecosystem function
- Provides accurate high frequency nutrient data
- Allows cost-effective monitoring programs
- Reliability as the only field proven device of its kind

Applications

- Phytoplankton blooms
- Eutrophication
- TMDL assessment
- Monitoring run-off
- Detection of environmental change

Description



The NAS-3X is a robust submersible wet-chemistry robot for nutrient analysis. The system utilizes a syringe pump and novel rotary valve to acquire and react individual water samples. Once the reaction takes place the sample is injected into the detector where fluorescence or optical beam attenuation is measured. The NAS-3X incorporates an ALL NEW fully scriptable electronic controller and data logger. The new model also introduces new higher resolution & lower noise detector electronics for increases resolution and precision. The Eco-Script control language allows the analysis to be tailored to any application, the sampling cycle to be completely customized and easy interfacing to many popular telemetry systems. The standard analysis routines include blank measurements for turbidity and optical fouling. An on-board calibration standard is analyzed throughout the deployment to ensure continuous integrity of the results. All data are recorded as raw numbers representing the transmission or florescence signal. NAS technology has been proven to be extremely resistant to the effects of biofouling and high turbidity in a vast range of applications around the world. The internal chemical system provides an environment with intrinsic anti-fouling characteristics and all the moving parts have been carefully designed to be self-cleaning. The pressure balanced design of the chemical system enable deployment to depths of 250 m. Data is quickly converted to nutrient concentration in either μMol or mg/l using the new **NutrientDATA 2** software supplied as standard. Other new features include free serial port upgradable firmware for the life of your instrument!

Specification

	Nitrate	Silicate	Phosphate	Ammonium
Ranges (μMol)	0-10, 30, 60, 120, 300	0-10, 60	0-1, 3, 6	0-10, 0-50, 0-100
Pathlengths (mm)	5, 10, 20	10, 20	20	N/A
Wavelength (nm)	543	810	880	N/A
Precision (% range)	2%	3%	3%	1%
Sensitivity (μMol)	0.05	0.06	0.06	0.05
Endurance (max)	6 months	2 months	2 months	4 months
Dimensions	9.6" (246 mm) diameter x 31.4" (799 mm)			
Weight	Air: 31 lbs (14 kg) - Water: 12 lbs (5.5kg)			
Depth capability	100 m standard - 250 m optional - <i>Deeper on request</i>			
Power consumption	Analysis: 285 mA / Sleep: 0.15 mA / Mean: 19 mA (for 8 weeks)			
Communications	RS232 - ASCII - 19,200 baud (N81) / 300 baud - 115.2 kbaud			
Power supply	12 volt DC (range 9.5 - 15.0 volts)			
Materials	uPVC & polypropylene (housings), titanium (fittings)			
Scope of Supply	NAS-3X main instrument, power & comms deck-leads, toolkit, spares kit, NutrientDATA 2 software, scientific transit case			
Optional extras	Mooring frames, telemetry links, external sensors (e.g. temperature & fluorescence) training course			