



FIAlab[®]

Fluidics Intelligently Automated

ENVIRONMENTAL ANALYSIS

Water Testing with Flow Injection Technology

Providing analytical solutions and products.

Environmental Analysis

At FIALab, we aim to carry our share of the growing need to care for the environment. The instrumentation and methods we have established will allow our customers to make increasingly more sensitive, precise and accurate measurements of environmental parameters. Our products are particularly useful for the analysis of water samples. The wide range of analytes we monitor (listed on back), the low detection limits we achieve, and the standardization of our methods with institutions, like the EPA, make our instruments valuable assets in any laboratory.

Sample Types

- Drinking Water
- Wastewater
- Runoff
- Lake/River Water
- Seawater
- and more...

Customer Service Promise

Our guiding principle is that you, our customer, will succeed in your business. FIALab will be a partner that supports your efforts in reaching that goal. We provide superior tools for our customers' analytical operations, as well as steadfast support when questions and special needs arise. Whether it be patching our software, training new employees, or performing maintenance, we promise to be there for you.



“FIALab is open to feedback from their customers and applies it to better their products. They have prompt customer service that is very helpful for our operations.”

*Jackie, Lab Manager
Brookside Laboratories*



FIAlyzer-FLEX

Named for its flexibility, the FIAlyzer-FLEX is a flow injection analyzer optimized for low-level colorimetric assays. Built specifically for detailed environmental analysis, this analyzer is a capable machine. Here are some of the advantages for using a FLEX:

1. Low detection limits
2. Wide range of assays
3. Quick switching between assays
4. Fast calibration - under 5 min
5. Low reagent consumption
6. EPA method compatible

Flexibility

The sheer number of required methods for environmental analysis calls for adaptable instrumentation. It calls for instruments that can not only hit low detection limits but that can switch between assays, stack together, and serve you without issues. The FIAlyzer-FLEX is that instrument. The FLEX is a valuable addition to any laboratory.



This instrument combines a high-performance spectrometer, a high-precision pump and heater, and optimized fluidic arrangements to offer detection limits in the *fractions of parts per billion*. These components allow it to hit detection targets for most environmental assays.



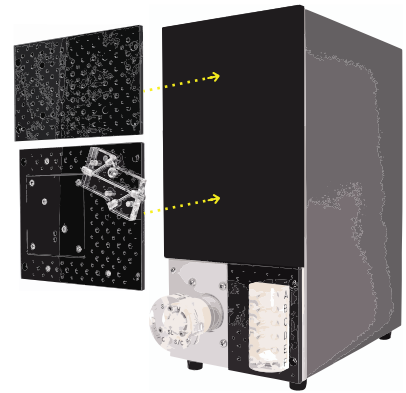
Ismatec IP High-Precision Pump

Many assays require a large number of fluidic channels to combine reagents, carrier, sample, or buffers.

The FIAlyzer-FLEX comes equipped with a 24-channel, high-precision peristaltic pump. The pump provides a range of flow rates and number of channels suitable for any colorimetric assay. Plus, each channel has an individual pump clamp, allowing for the use of various-sized tubing.

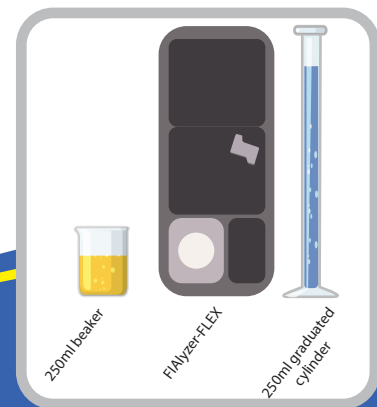
Assay Panels for Flexibility

The FIAlyzer-FLEX uses assay “plates”, which allow the instrument to be quickly switched from one assay to another. These plates have pre-installed fluidic configurations for any assay. Simply snap these plates on and off to change between different methods.



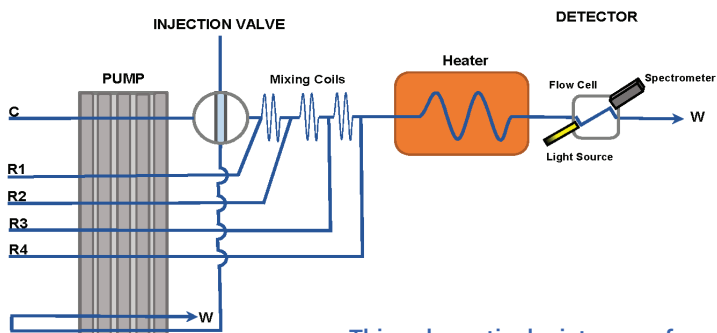
Minimal Footprint

In many labs, bench space is limited. At just six inches wide, the FIAlyzer-FLEX is designed vertically to minimize its footprint while still allowing easy access to all the critical components.



drawn to scale

Example Application: Phosphate Fluidics



Fluid Key:

- C** Carrier
- R** Reagent
- Regular Flow
- W** Waste (disposal)
- ⓪** Valve with sample loop

This schematic depicts one of the many fluidic arrangements for this analyzer. This particular setup utilizes 6 fluidic lines and a heater to analyze phosphate concentrations as low as **300 parts per trillion (ppt)**.

User Experience

As with all our instruments, the FLEX is built for optimal user experience. The instrument is designed to be robust and user friendly. All parts are user accessible and, when possible, transparent to aid maintenance efforts. Components are easily reconfigured for method changes.



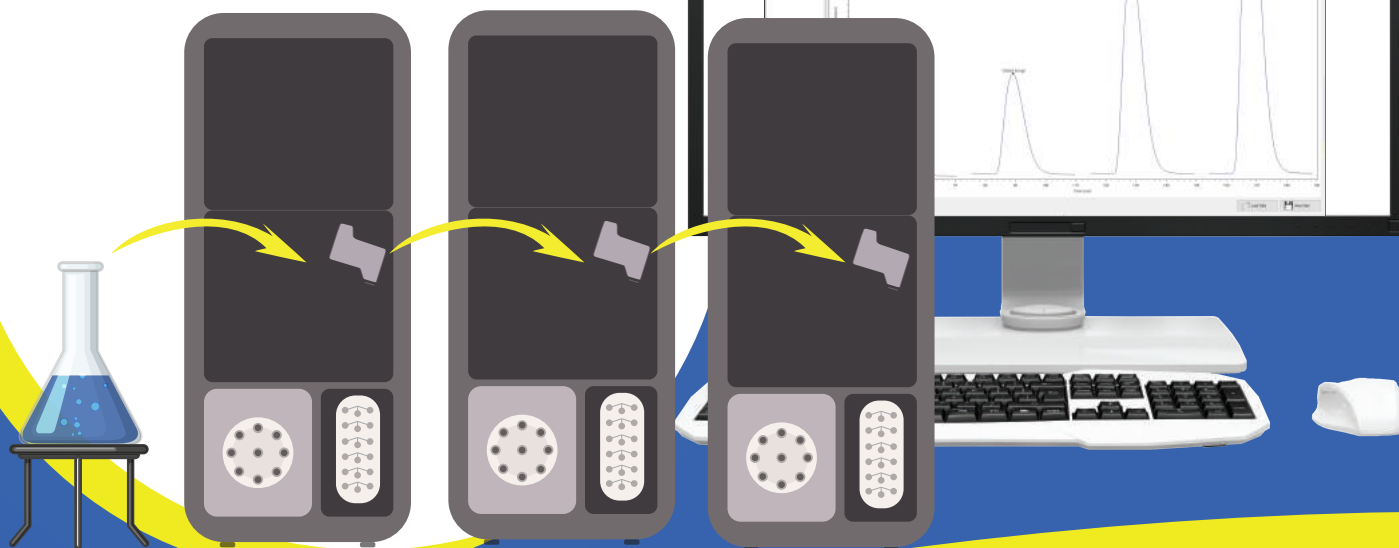
Multi-Channel Analysis

Multi-Channel Analysis links FIALab instruments into an efficient, in-line configuration. Such a setup allows you to simultaneously test many analytes from one sample. This saves bench space, instrument cost, and preparation time. By running multiple methods at once and by preparing only one set of samples, you multiply your efficiency.

Run up to 4 methods at once!

Example Configuration

This diagram demonstrates how FLEX units can be daisy-chained together. All data is collected on a single computer for streamlined processing.



Purposeful Redundancy



Think of FLEX units as bricks that can be stacked together to create a house. Once you implement one FLEX unit, you can easily add another to create a comprehensive analysis of a sample. Start by analyzing one compound, add another next year with no hassle! This is especially useful for growing laboratories that want to expand their scope or match demand.

Common Multi-Channel Setups

Cyanide & Phosphate
Total Phosphate & TKN
Nitrate & Ammonia
...and much more!

FIAsoft

Software is just as important as hardware nowadays. In order to provide complete analytical solutions, we understand that we have to deliver quality hardware *and* polished software. Our instruments operate on the newest, most intuitive FIA software ever. This program will change the way you use flow injection.

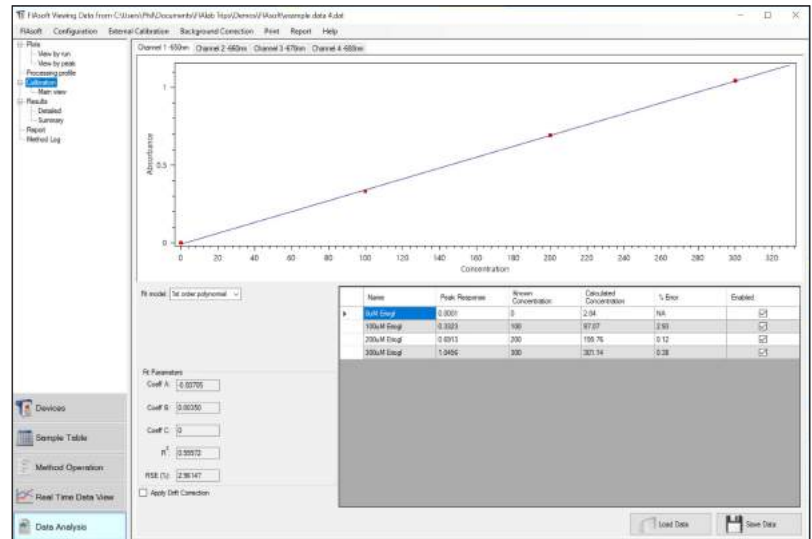


Fig 1 : Calibration curve after method completion

Software Features



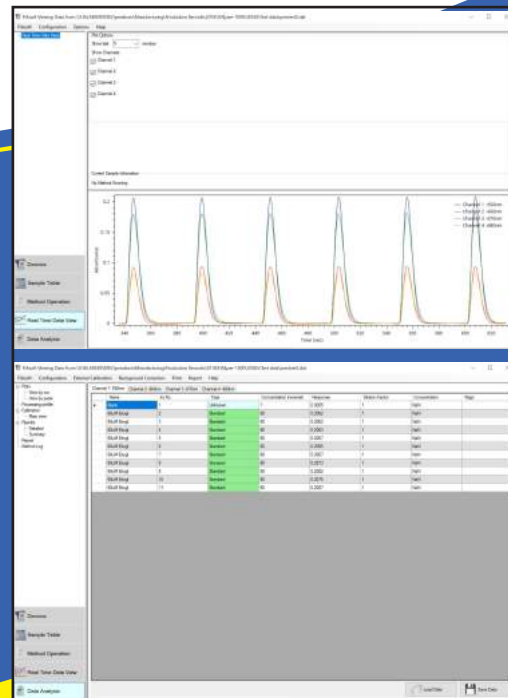
Real-time Data Analysis

Observe the method as it runs. With immediate feedback, it is easy to view trends and check your samples. This tool will help you spot miscalculated standards and contaminated samples without having to wait for the run to complete.



Easy Sample Entry

Edit samples tables in your choice of program. Excel, Notepad and LibreOffice are all compatible with FIAsoft. You can edit these tables within FIAsoft too. For sample entry, csv documents, barcode scans, or manual entries are most common. However, if you have specific modes of entry you want, we are willing to customize that function for you.

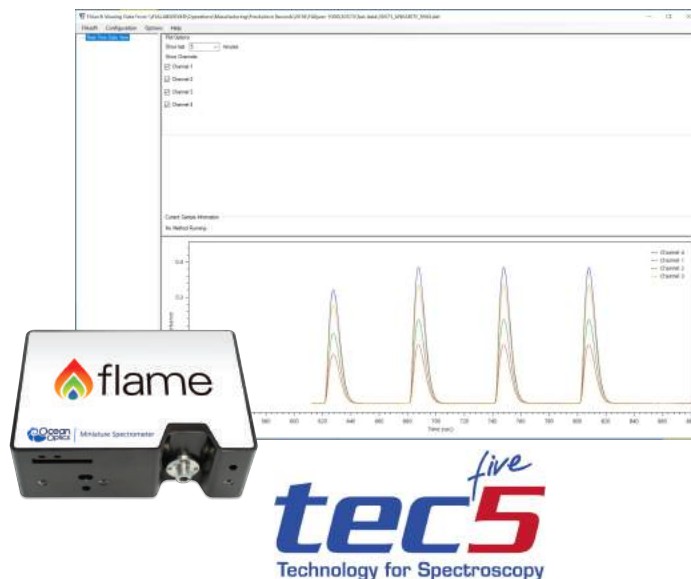


Spectrometer Capabilities

Unlike other FIA instruments, we use a spectrometer instead of a photodiode. A spectrometer scans multiple absorbance measures across different wavelengths at the same time. This results in more data collection and, ultimately, a better picture of your sample. You

can scan intensely-colored samples at one wavelength and less-colored samples at another. FIAsoft will then calculate the concentration of these samples with their respective wavelengths in mind. Along those lines, reference scans can be taken as well. These scans are used to observe noise, silence it in the data, and, ultimately, increase accuracy.

Using a spectrometer is useful for lab operations as well. Firstly, you are able to broaden your sample concentration range. This results in less sample preparation. Secondly, you do not have to switch clumsy filters on your light source. It's entirely software controlled.



Reputable Partners

The spectrometers in our instruments are sourced from our partners at Ocean Optics and Tec5.

Palpable Method Operation

The method script is a set of instructions that is sent to the instrument. It tells the instrument to perform certain actions at specific times. Every instrument we deliver is equipped with a customized method script for your application. Upon instrument installation, we will test the method and create profiles for your applications. Just load and go!

Streamline Data Export

Data is processed and automatically uploaded to your choice of information management system (LIMS). Reports can be generated in a variety of formats including: csv, excel, or print.

Custom Software

As a company dedicated to providing complete analytical solutions, we take great measures to ensure that our customers get the products they need. That's why we have dedicated developers ready to hear your input and implement changes to our software. Want to use a bar code scanner for sample entry? Want to automate washing procedures after a method run? Or maybe you need an entirely new program to control a host of instruments that pre-treat, process, and analyze your samples? Whatever it is and whatever the scale, our software team is there for any custom project.



Method Performance

Analyte	Available Ranges*	Compliance
Ammonia	0.05 to 50 mg (N)/L	USEPA 350.1, 351.2; SM 4500-Norg D
Chloride	0.1 to 50 mg (Cl)/L	SM 4500-Cl-
Cyanide - Free	0.005 to 1 mg (CN)/L	USEPA OIA-1677; ASTM D6888-09; ISO 14403
Cyanide - Total	0.01 to 1 mg (CN)/L	ASTM D7511-12, D7284; ISO 14403
Fluoride	1 to 100 mg (F)/L	SM 4500-F-F
Iron	0.05 to 100 mg (Fe)/L	N/A
Nitrate	0.0006 to 0.4 mg (N)/L	USEPA 353.2; SM 4500-NO3- I; ISO 13395
Nitrite	0.0003 to 0.2 mg (N)/L	USEPA 353.2; SM 4500-NO3- I; ISO 13395
Phenol	0.002 to 0.5 mg/L	USEPA 420.4
Phosphate	0.0005 to 0.5 mg (P)/L	USEPA 365.1; SM 4500-P G; ISO 15681-1
Phosphorus - Total	0.001 to 1 mg (P)/L	USEPA 365.1; SM 4500-P; ISO 15681-1
Silica	0.001 to 1 mg (Si)/L	SM 4500-SiO ₂ F; ISO 16264:2002E
Sulfate	0.5 to 25 mg (SO ₄)/L	EPA 375.2; SM SO42- G
Surfactants, Anionic (MBAS)	0.03 to 5 mg/L	N/A
TKN	0.05 to 50 mg (N)/L	USEPA 351.2; SM 4500-Norg D
Urea	0.5 to 10 mM	N/A

*In most cases, measurement ranges can easily be extended to analyze higher concentrations if necessary.

** Listed are only FIA^{lab}'s most popular methods. Please inquire for a full list.

Contact Us

✉ sales@flowinjection.com

🌐 www.flowinjection.com

📞 1-206-258-2290
1-800-963-1101

🏠 *FIA^{lab} Instruments, INC.*
2151 N Northlake Way
Seattle, WA 98103 USA

Distributor Contact



ATS Scientific Inc.
4030 Mainway
Burlington, ON
Canada L7M 4B9
1-800-661-6700
ats-scientific.com