FIAlab Instruments, Inc.

Flow Injection for Agricultural Analysis

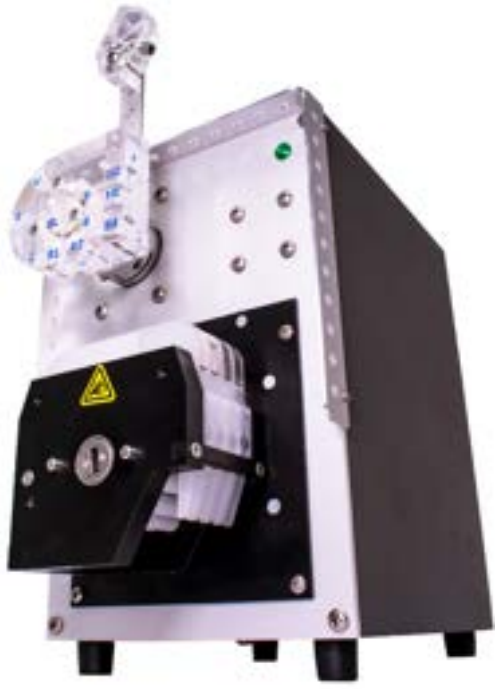
rev. date 08/2023

Come planting and growing seasons, farmers require fast, yet precise, soil and plant analytics. Their samples flood agricultural laboratories. Flow injection analysis (FIA) is a fast, accurate, and extremely reliable way to handle such demand. This technology liberates laboratory staff, saves time, and dramatically increases sample throughput. FIAlab Instruments is a leading manufacturer of this technology and has been serving the agricultural industry for over 30 years.

Products

FIAlyzer-1000 Series

The flagship of the FIA fleet is this instrument. Capable of automating the analysis of one analyte at a time, the FIAlyzer-1000 liberates the lab technician, saves time, and quickly produces consistent data



Highlights

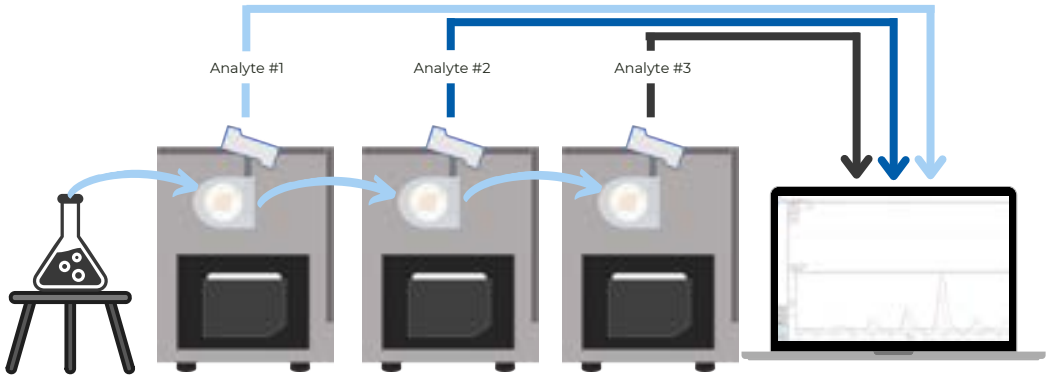
- Fast throughput - up to 240 samples/hr
- Small footprint - less than 1 sq.ft
- Wide range of assays
- Fast calibration - under 5 min
- Low reagent consumption
- Extremely robust and reliable

Multi-Channel Analysis

A multi-channel configuration is constructed by daisy-chaining single-channel units. In FIA, sample is continually pumped through an instrument. It is only injected for analysis in short, measured intervals while the rest of the sample matrix flows to waste. In a multi-channel configuration, this sample waste is pumped to another instrument where a different parameter is measured. This stepwise pattern can accommodate up to four channels.

Purposeful Redundancy

Think of these analyzers as LEGO bricks that can be stacked together to create a house. Once you implement one 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.



Method Performance

Analyte	Samples/Hour	Typical Ranges*	Notes
Ammonia	40 - 150	0.02 - 50 mg (N) / L	Salicylate Method
	45	0.015 - 10 mg (N) / L	OPA Method
Chloride	60 - 120	5 - 200 mg (Cl) / L	
Cyanide - Free	50	10 - 500 µg (CN) / L	Amperometric
Cyanide - Total	50	1 - 500 µg (CN) / L	Batch Distillation
Fluoride	60	0.06 - 5 mg (F) / L	Ion Selective Electrode
Iron	45 - 140	50 - 500 µg (Fe) / L	
Nitrate	45 - 180	0.008 - 25 mg (N) / L	Cadmium Reduction
Nitrite	80 - 220	0.015 - 40 mg (N) / L	
Nitrogen - Total	30	1 - 40 mg (N) / L	Batch Digestion
Phosphate	45 - 120	0.2 - 45 mg (P) / L	
Phosphate - Fast	240 - 360	0.2 - 45 mg (P) / L	Fast FIA Manifold
Phosphorus - Total	80	0.2 - 45 mg (P) / L	Batch Digestion
Silica	40 - 60	0.04 - 20 mg (SiO_2) / L	
Sulfate	60 - 120	2 - 20 mg (S) / L	Turbidimetric
TKN	120	0.5 - 20 mg (N) / L	Batch Digestion
	45	0.05 - 10 mg (N) / L	Batch Digestion, OPA
Urea	40	0.5 - 60 mg (Urea) / L	

*In solution, no dilution factor applied;
lower ranges for water samples available