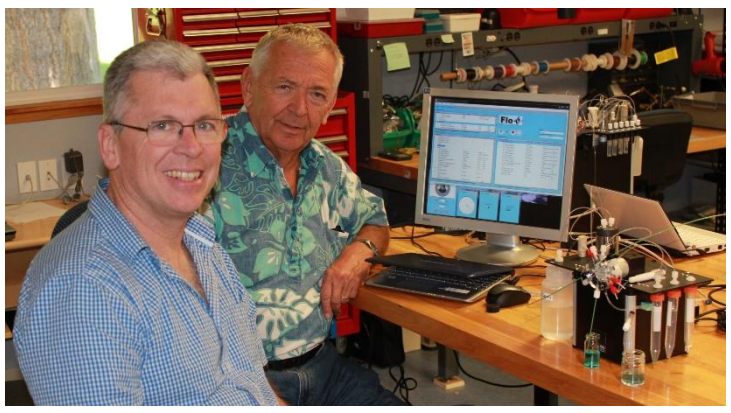
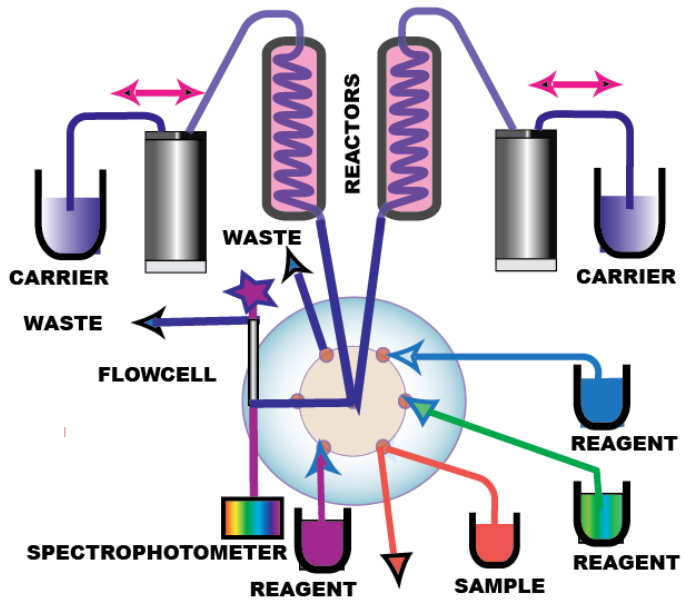
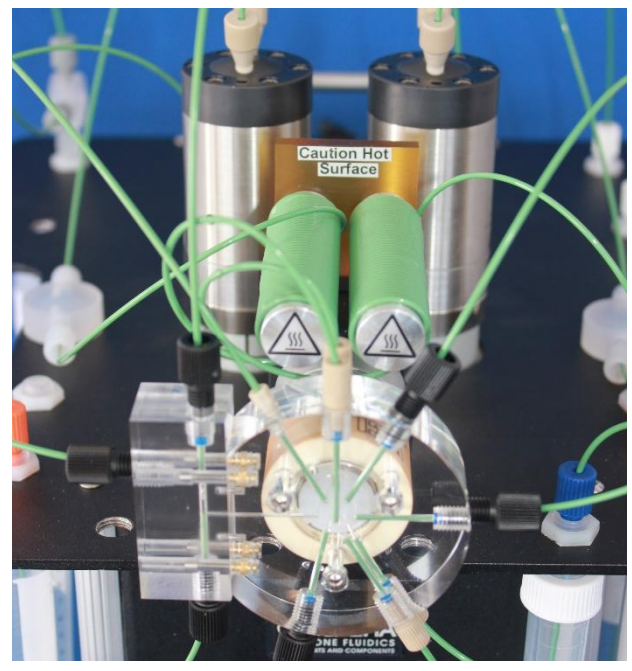
Multipurpose Flow Analyzer for Research, Monitoring and Serial Assays



The inventors of Sequential Injection Analysis combined their experience and developed a new multipurpose laboratory instrument that allows its use in either **Sequential Injection** or **Flow Injection** mode **without physical reconfiguration**. The instrument is available from Global FIA in one of two models, **miniSIA-2** equipped with two milliGAT pumps and a Chem-on-Valve manifold, and **miniSIA-1** with a single milliGAT pump designed for those wishing to explore sequential injection mode alone.

The **miniSIA-2** instrument shown here, is equipped with flow cell for spectrophotometry and with two temperature controlled coiled reactors. Since miniSIA uses deionized water as carrier, reagent consumption is minimized. When idle, the flow path including pumps and flow cell are filled with DI water, a feature that simplifies start up and maintenance.



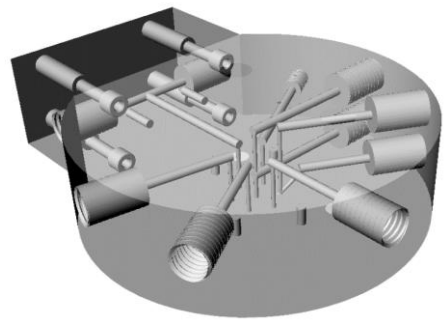


miniSIA instruments are compatible with wide variety of detectors, including UV-VIS spectrophotometry, fluorescence and chemiluminescence and can be used as a "front end" sample processing unit for Atomic Absorption, ICP-MS and Mass Spectrometry. Detectors and certain sample processing unit operations bolt onto the Chem-on-Valve manifold allowing easy configuration and expansion of the instruments capabilities. Portability and a small footprint (size of an iPad) facilitate deployment and use where bench space is limited.

The performance characteristics of the **miniSIA instruments** – versatility, rapid response, high sensitivity, low reagent consumption (and thus reduced waste generation), rapid startup and shut down, long term stability, robustness and small footprint are result of ***combination of three crucial components,*** integrated by GLOBAL FIA precise engineering, Briefly:

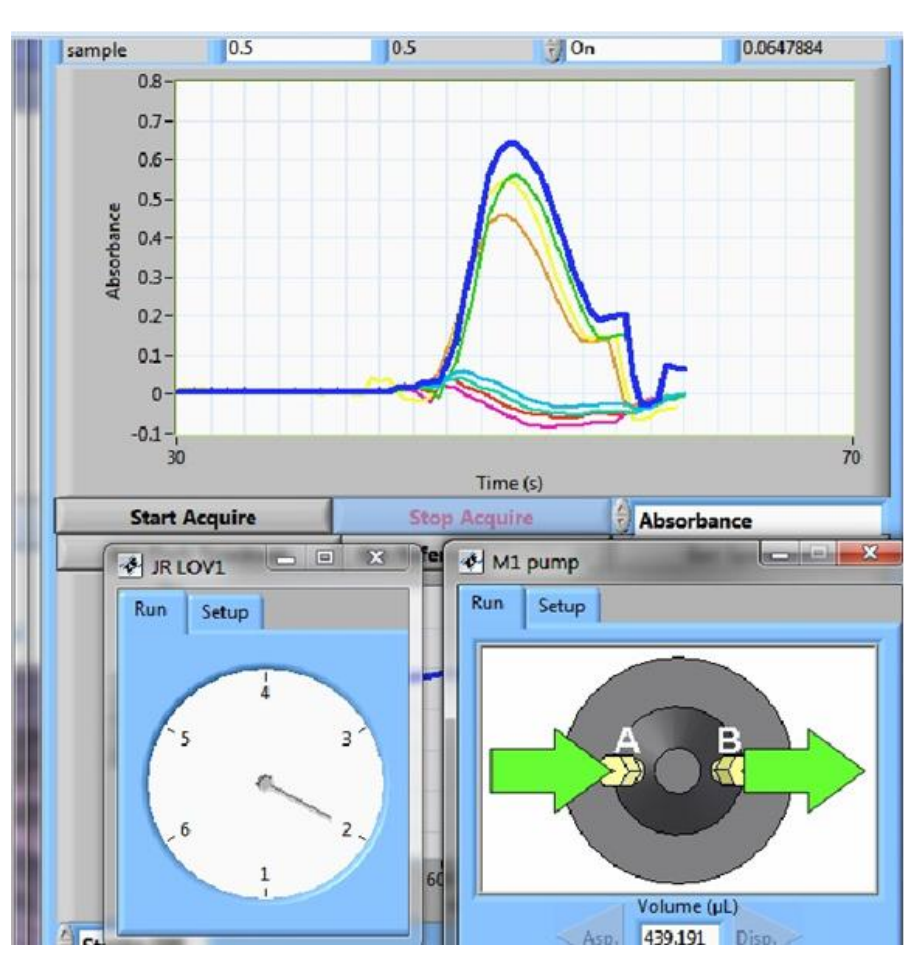
1. The **milliGAT pump** is a precision bi-directionally pump with an exceptionally wide flow rate range that extends across six orders of magnitude allowing the accurate metering and manipulation of tiny volumes or rapid flush out of the manifold. It features a combination of performance capabilities unmatched by any other commercial pump, specifically it does away with the refill cycle of syringe pumps and the maintenance requirements of peristaltic pumps.

2. The **manifold** integrates the essential microfluidic manipulations of sample with regents in a microfluidic path designed to optimize mixing of fluids and control the resulting concentration gradients. The monolithic module is designed to accommodate bolt-on flow cells, sensors and micro columns providing researchers and end-users with a degree of modularity while still benefiting form the advantages of a monolithic manifold. Flow cell for spectrophotometry is available with 1 cm, 5cm and 15cm light path.



3. **FloZF** software controls devices and data acquisition :

- Flow programming
- Sample and reagent metering
- Data collection and manipulation
- Automated calibration routines including single standard calibration
- Data evaluation
- Experimental design and optimization using Excel



Applications of miniSIA technology include:

- Nutrient assays (ammonia, nitrate, phosphate)
- Enzymatic assays
- Pharmaceutical research
- Biotechnology and fermentation
- Chemical Oceanography
- Monitoring of Industrial Processes

For further information contact please:
Global FIA, www.globalfia.com Tel: 253-549-2223,
684 Sixth Ave FI Fox Island WA 98333 USA