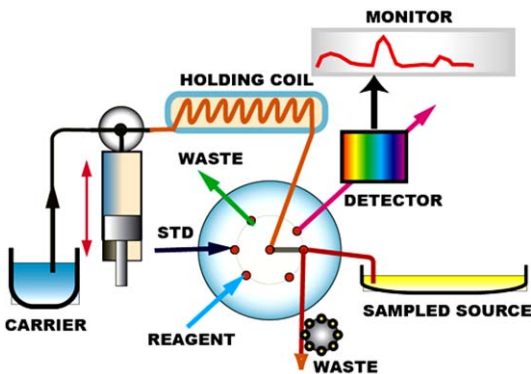


FIAlab-4000 – For Monitoring System or Process Control System

The Sequential Injection technique is the core of any advanced chemical monitoring system. Flow programming allows sampling and data acquisition to be carried out at selected data points, while in the meantime the SI system is at idle, not consuming reagents. FIAlab monitoring systems are miniaturized, further reducing space, power and material consumption.



SI based monitoring system

The FIAlab-4000 Sequential Injection Analysis instrument, is available in two versions:

- 1) as a monitoring system that reports changes in chemical composition of the sampled source
- 2) as a process control system that adjusts composition of the sampled source within required specifications

FIAlab Monitoring System



Built to customer specifications, with an embedded PC in a NEMA 4X enclosure, brings SIA to the industrial setting. The internal or external computer and customizable software create a complete command/control center where other external instruments can be interfaced.

Electrical/communication interfaces typically include RS-232, RS-485, ADC (0-5 VDC, 4-20 mA), DAC (0-5 VDC, 4-20 mA), TTL and contact closure. The internal fluidic components typically include one or more precision syringe pumps, multiposition valves, flow cells, and a UV/VIS or PMT based detector. The Lab-On-Valve is optionally available with the FIAlab-4000 system, especially where application requirements include small volumes and low maintenance.

Detection Systems Include

UV-VIS Spectrophotometry
Fluorescence and Conductivity

FIAlab 4000 Process Instruments

have been developed and deployed for :

- 1) monitoring of bioreactors
(proteins, amino acids, ammonia, and glucose.)
- 2) surfactant monitoring for electronic industry
- 3) remote site monitoring of bacteria in streams
- 4) aquaculture and agriculture
- 5) chloride content in ethanol production.



FIAlab 4000 dual chloride Analyzer

Colifax Monitoring System (CALM)

is a stand-alone bioanalyzer, used to detect the presence, and to measure the quantity of fecal coliforms in water discharged by municipalities and aquacultures. The method is based on monitoring Beta-galactosidase activity using fluorometric detection. The instrument, developed by FIALab for Colifast is designed for unattended monitoring at remote sites.

A number of instruments have been deployed in Scandinavia, running typically 24/7 for up to one year with 100% uptime.

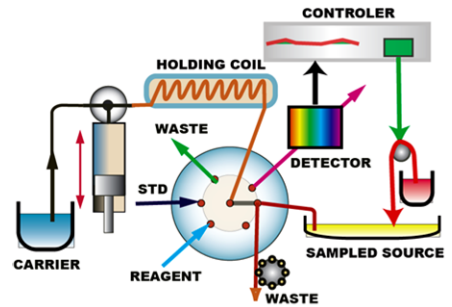


Colifax CALM deployed at a stream in Norway

Process Control Instruments

Acidity, alkalinity, and pH are the most frequently monitored parameters in the chemical industry, followed by glucose, ammonia, other nutrients and biomass in biotechnology, surfactants and polyammonium compounds in the electronic industry and dyes in the textile industry.

Very large quantities of dyes are used in textiles, paint pigments, printing inks and food coloring. The textile industry consumes two-thirds of all dye production. The parameters to be monitored vary depending on whether the dye is being manufactured or used for dyeing. Since dyes are expensive and difficult to discard, it is critical to blend them to exact spectral specifications – and not only to monitor the composition of the blend, but also control the blending process in real time. During the on-line monitoring of dye composition, FIALab 4000 automatically monitors multiple dyes and doses them accordingly.



FIALab 4000 Process Control Instrument

External components are interfaced to the FIALab-4000 including mass-flow, pH and temperature sensors. Dye component concentrations are measured to an accuracy of better than one percent.