

QUIKCHEM® 8500 SERIES 2

Flow Injection Analysis System with Integrated IC Option Available

*A Performance Advantage
from the Leaders
in Continuous
Flow Analysis*



LACHAT
INSTRUMENTS
A Hach Company Brand

QuikChem[®] 8500 Series 2 Flow Injection Analysis System



PROVEN METHOD PERFORMANCE WITH HIGH PRODUCTIVITY

The Lachat QuikChem 8500 Series 2 Flow Injection Analysis System features high sample throughput and simple, but rapid, method changeover. The QuikChem 8500 Series 2 system maximizes productivity in determining ionic species in a variety of sample types—from sub-ppb to percent concentrations. More than 500 methods are available for environmental, agronomic and industrial applications—including EPA-accepted methods.

NEW FIA FEATURES

The Series 2 system is an update to the QuikChem 8500 FIA platform.

- *Run up to 5 channels for high productivity analysis or dedicated operation.*
- *New 2-cm flow cell methods allow more signal for detection at lower levels.*
- *Run Omnion 3.0 software on Windows Vista[®] operating system.*
- *Interface Omnion software in multiple languages—including Spanish, German, French, Portuguese, and Italian.*

MAXIMUM PRODUCTIVITY WITH FIA TECHNOLOGY

The QuikChem 8500 Series 2 system uses reliable, accurate Flow Injection Analysis (FIA) technology. FIA technology was developed when scientists processing large numbers of samples experienced productivity delays while using Segmented Flow Analysis (SFA). Innovations of Flow Injection Analysis include:

- *Bubble elimination from the analytical stream.*
- *Reduced inner diameter of the reactor tubing.*
- *Precise injection of samples into the analytical stream.*

TIME SAVINGS WITH IMPROVED ACCURACY AND QUALITY CONTROL

FIA technology produces analytical peaks with very rapid rise and recovery times and provides complete inter-sample washout to prevent carry-over between samples. Other FIA productivity characteristics include:

- *Fast startup and shutdown times—approximately five minutes—for rapid method changeover.*
- *Rapid analysis times—typically 20 to 60 seconds—let samples be analyzed in near real-time while data quality can be monitored and controlled during the analysis.*
- *High sample through-put—typically 60 to 120 samples/hour.*
- *Broad working range—sub-ppb to percents.*
- *Wide dynamic range—typically two to three decades.*

OVER 500 METHOD VARIATIONS AVAILABLE

The QuikChem 8500 Series 2 system uses reliable, accurate Flow Injection Analysis (FIA) technology. FIA technology was developed when scientists processing large numbers of samples experienced productivity delays while using Segmented Flow Analysis (SFA). Innovations of Flow Injection Analysis include:

- *Methods that comply with EPA, ISO, and DIN standards.*
- *Customized method development available.*
- *Simple to run in-line preparation methods.*
- *Many new methods—including Lachat's new ultra-high throughput methods.*
- *Go to www.lachatinstruments.com to download the most current methods list and a complete list of EPA-approved and equivalent methods.*

Sample Matrices*

waters/wastewaters	pharmaceuticals
seawater/brackish water	aqueous formulations
soil extracts	plating baths/mineral processing
plant/soil digests	bioreactor solutions
fertilizer digests	extracts of air sampling filters
food stuffs	tobacco extracts
beverages	urine
detergents	non-aqueous samples
chlor-alkali	biological fluids
feeds & forages	high purity water
blood serum/plasma	

Parameters*

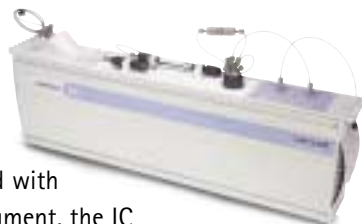
Acidity	Cations (Ion Chromatography)	Erythromycin	Humic acid	Manganese	Phosphorus	Sorbic Acid
Alkalinity	Chlorate	Ethanol	Hydrazine	Mercury	Polyvinyl Alcohol (PVA)	Sulfur
Aluminum	Chlorine	Fluorine	Hydrogen peroxide	Metals	Potassium	Sulfur Dioxide
Amylase	Chromium, Hexavalent	Formaldehyde	Hydroxide	Methanol	Protease	Surfactants
Anions (Ion Chromatography)	Chromium, Total	Free Amino Nitrogen	Hypochlorite	Molybdenum	Pyruvate	Thiocyanate
Ascorbic acid	Citric acid	Glucan (beta-Glucan)	Iodine	Nickel	Rapid IC Anions	Total amino acids
Beryllium	CMC	Glucose	Iron	Nicotine	Rapid Sulfate	Uranium
Boron	Color	Glutamate	Lactate	Nitrogen	Reducing sugars, total	Urea
Bromine	Conductivity	Glutamine	dehydrogenase (LDH)	Organic Acids	Riboflavin	Zinc
Calcium	Copper	Glycerol	Lactic acid, D(-)	Oxygen	Sebacate	
Carbon	Creatinine	Glycolate	Lowry protein (albumin)	Oxyhalides	Silicate	
Carbon dioxide	Cyanide	Hardness, Total	Magnesium	Penicillin	Sodium	
Catalase				pH		
				Phenol		

*These are not comprehensive lists of parameters or sample matrices that Lachat Applications can serve. Please contact Lachat for a comprehensive list or for a custom development request.

QuikChem 8500 Series 2 Flow Injection Analysis System Options

ION CHROMATOGRAPHY OPTION

The QC8500 Series 2 system can use an ion chromatography (IC) option to compliment the FIA technology. When integrated with FIA or as a standalone instrument, the IC option adds the power to profile samples for a class of ionic species. While FIA is ideally suited for processing relatively large numbers of samples for a single analyte per injection, ion chromatography enables the determination of multiple ions from a single injection.

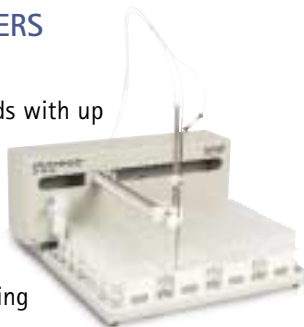


- Operation of FIA and IC simultaneously and independently on the same instrument platform.
- Shared use of several peripherals including sampler, dilutor, sampling pump, and data station.
- Uniform operating protocols.
- Training and support provided by a single, knowledgeable source.

ASX SERIES AUTOSAMPLERS

ASX-520 Autosampler

Accommodate large sample loads with up to 360 sample and 16 bulk standard positions for both calibration and QC standards. The integral wash bath ensures complete washout of the sampling line to prevent inter-sample carryover and cross-contamination.



ASX-410 Autosampler

For automated ion analysis of quantities of less than 50 samples per batch.

MICRO DIST® —A REVOLUTION IN DISTILLATION TECHNOLOGY

With the MICRO DIST system from Lachat, distill up to 21 samples for cyanides, sulfide, and ammonia in 30 minutes; and phenolics and tritium in 90 minutes. The MICRO DIST system eliminates bulky, expensive, clumsy, and time-consuming glassware-based distillation units while accommodating liquid and solid samples to save time and money while reducing complexity.



OMNION 3.0 SOFTWARE

Easy-to-use, but tremendously powerful and versatile, Omnion 3.0 software controls the operation of the QuikChem 8500 Series 2 system. This 32-bit software system is compatible with Windows 2000, XP, and Vista. Multiple language options are now available in the latest version. It is the first software package to offer a completely unified computing environment for both flow injection analysis and ion chromatography.

PRECISION DILUTOR SYSTEM

The PDS200 Dilutor System automates the preparation of working standards from a stock standard, estimates the concentration of off-scale samples, performs the required dilution, and re-runs the sample—automatically and without operator intervention.



Specifications*

Analysis Methods

FIA (Flow Injection Analysis) ; Integrated IC (Ion Chromatography)

Accuracy and Reproducibility

0.50%

Channels

5 maximum

Light Source

Tungsten halogen lamp

Detector

Dual beam photometer (340-880 nm)

Heating Unit

25 to 160°C (77 to 320°F)

Valve

High-performance 6 port injection sample valve

Filter Type

Interference filter

Reagent Pump

12 and 16 positions controlled by software

Dilutor

Dilution factor 1.6-4000 steps

Mixing Coil

Teflon® tubing

Flow Cell

10 mm or 20 mm path length

Peak Measurement

Area/Height

Tube I.D

0.8mm/0.5mm

Injected Sample Volume

2µL-250µL

Sample Throughput

90 tests/hour/channel

Data Quality Control

Real time closed-loop control of data quality

Hardware

PC required for operation

Recommended Operating System

Windows 2000, XP, Vista

Software

32-bit Omnion 3.0

Data Quality Management enabled

LIMS import/export capabilities

Multi-language supported

Dimensions (Width x depth x height)

5 channel unit= 70.1 x 61.0 x 25.1 cm (27.60 x 24.03 x 9.90 in)

2 channel unit= 70.1 x 40.6 x 25.1 cm (27.60 x 16.01 x 9.90 in)

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Local Distributor:



For Technical Assistance, Price Information and Ordering

In the U.S.A.

Call toll-free (800) 247-7613.

Outside the U.S.A.

Contact the LACHAT office or distributor serving you.

On the Worldwide Web

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