

# 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<sup>®</sup> 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 XP, Vista, or Windows 7 operating systems.*
- *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](http://www.lachatinstruments.com) to download the most current methods list and a complete list of EPA-approved and equivalent methods.*

### Sample Matrices\*

waters/wastewaters

seawater/brackish water

soil extracts

plant/soil digests

fertilizer digests

food stuffs

beverages

detergents

chlor-alkali

feeds & forages

blood serum/plasma

pharmaceuticals

aqueous formulations

plating baths/mineral processing

bioreactor solutions

extracts of air sampling filters

tobacco extracts

urine

non-aqueous samples

biological fluids

high purity water

## Parameters\*

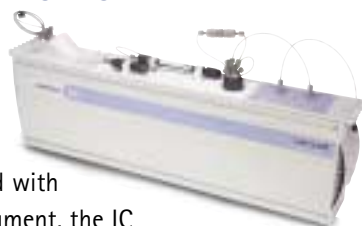
Acidity	Cations (Ion Chromatography)	Erythromycin	Humic acid	Manganese	Phosphorus	Sorbic Acid
Alkalinity	Chlorate	Ethanol	Hydrazine	Mercury	Polyvinyl Alcohol (PVA)	Sulfur
Aluminum	Chlorine	Fluorine	Hydrogen peroxide	Metals	Potassium	Sulfur Dioxide
Amylase	Chromium, Hexavalent	Formaldehyde	Hydroxide	Methanol	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.

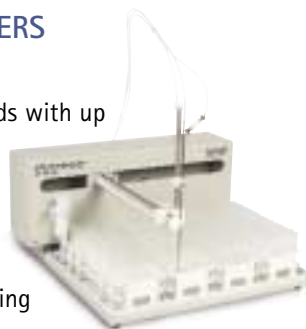


- Operation of FIA and IC simultaneously and independently on the same instrument platform.
- Shared use of several peripherals including sampler, dilutor, sampling pump, and data station.
- Uniform operating protocols.
- Training and support provided by a single, knowledgeable source.

### 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-260 Autosampler

Accommodate up to 180 samples and 10 standards in a compact, space-saving footprint.

### 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, Vista, and Windows 7. 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, Windows 7

### 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)

*Teflon® is a registered trademark and brand name of the DuPont Company.*

*\*Subject to change without notice.*

## 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

[www.lachatinstruments.com](http://www.lachatinstruments.com)

### E-mail for Support

[support@lachatinstruments.com](mailto:support@lachatinstruments.com)

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