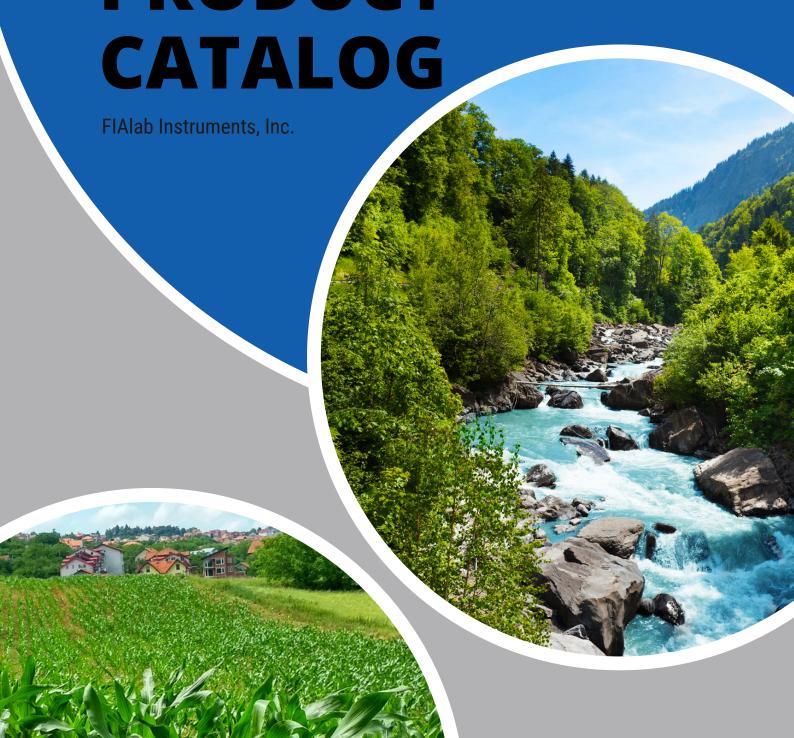


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FIALAB INSTRUMENTS, INC.

Our mission is to provide scientists with automated and intelligent fluidic instrumentation by focusing on analytical solutions – not just products.



ABOUT US

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WELCOME!

FIAlab Instruments is a leading manufacturer of flow injection analysis (FIA) and sequential injection analysis (SIA) instrumentation. These instruments are used to automate and streamline many liquid-handling procedures. Our instruments are mostly used for environmental and agricultural analysis.

However, research departments and industries ranging from fertilizer to semiconductor manufacturing have found our instruments vital to their operations. Other applications include online process monitoring and sensor development.

Fluidics Intelligently Automated

Flow injection analysis and sequential injection analysis technologies provide essential and unique solutions to many problems scientists face when dealing with precise liquid-handling procedures. By combining our instruments with powerful software, we can solve many of these problems. FIAlab's technologies can greatly increase the productivity and efficiency of laboratories across the world.

More Than an Instrument

Your laboratory deserves more than a measurement device when purchasing a new instrument. You deserve a solution backed by support and software to maximize its potential. We understand this and strive to deliver solutions - not just products. With that in mind, our instruments come backed with cutting-edge software, dependable service, and a team of support experts.

Founding History

FIAlab holds one of the strongest roots in flow injection. The inventor of these techniques founded FIAlab in 1987. For over 30 years, we have remained on the cutting-edge of these techniques and continue to improve these technologies.

FIALYZER-1000



The World's

FLOW INJECTION ANALYZER

- TYPICAL SETUP
- 1. Analyzer
- 2. Computer
- 3. Autosampler
- 4. Service Contract

The FIAlyzer-1000

is a modular analyzer that offers full automation of flow injection analysis. The complete system includes the pump, valve, light source, spectrometer, and other components needed for measuring liquid samples by flow injection analysis.

The system is controlled by our state-of-the-art software, **FIAsoft**, which is also compatible with all standard autosamplers.

The robust design, affordable cost, and adaptability make the FIAlyzer-1000 the best choice for agricultural and environmental laboratories performing routine assays.

COMMON ASSAYS	MATRICES	
AMMONIA (NH3/TKN)	X 00	
CHLORIDE	X %	
CYANIDE (TOTAL, FREE/AVAILABLE/WAD)	⊘ o	
NITRATE+NITRITE (NO3, NO2, TN)	X 0%	
PHOSPHATE (ORTHO, TP, TKP)	X %	
SULFATE	X \%	

RAPID THROUGHPUT



Our systems can handle up to 240 samples/hour without sacrificing accuracy.

ULTRAMODERN SOFTWARE



Our control software, FlAsoft, is seamlessly integrated with our analytical equipment.

MODULAR CHANNEL DESIGN



Channels are standalone and can be combined and split apart to meet your analysis needs.

SMALL FOOTPRINT



At just 6 inches wide, the FIAlyzer-1000 was built for optimizing bench space in laboratories.

Industries Served

Agricultural

Environmental

Pharmaceutical

Research

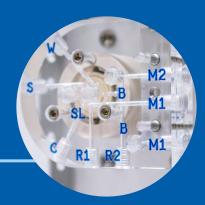
Education

INSTRUMENT HIGHLIGHTS



LIGHT SOURCE

LAB-ON-VALVE





PUMP

For **agricultural** laboratories, the FIAlyzer-1000 analyzes soil, plant tissue, manure samples, and other substances related to the growing of crops. These include nutrients like **nitrate**, **phosphate**, **ammonia**, and other soil fertility indicators such as **sulfate** and **chloride**. For **environmental** laboratories, the FIAlyzer-1000 analyzes a wide variety of nutrients and toxic substances in **runoff**, **drinking water**, and **wastewater**.

The FIAlyzer-1000 primarily uses **colorimetric detection** for common assays. In addition, certain assays can be performed using **fluorometric**, **amperometric**, **flame photometric**, and **potentiometric** detection methods.

See our complete FIAlyzer-1000 Methods List on our website here



FIALYZER-FLEX



FLEXIBLE FLOW INJECTION ANALYZER

The

SETUP

1. Analyzer

TYPICAL

- 2. Computer
- 3. Autosampler
- 4. Service Contract

The FIAlyzer-FLEX combines a high-performance spectrometer, high-precision pump and heater, optimized fluidic arrangements

to offer detection limits in the fractions of parts per billion

Named for its flexibility, the FIAlyzer-FLEX is a flow injection analyzer optimized for low-level colorimetric assays. Built specifically for detailed environmental analysis, this analyzer is a capable machine. The FIAlyzer-FLEX is well-suited for FIAlab's in-line chemistries.

> See our complete FIAlyzer-FLEX Methods List on our website



INSTRUMENT HIGHLIGHTS

DETECTION PLATE



LIGHT SOURCE

SPECTROMETER



ASSAY PLATE

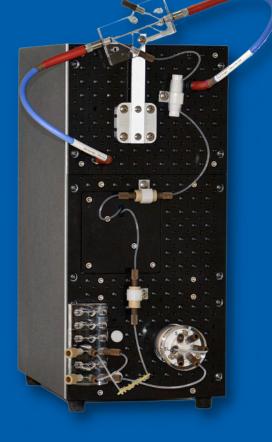


BUILT-IN HEATER

REAGENT MANIFOLD



LAB-ON-VALVE



QUICKLY SWITCH
BETWEEN ASSAYS



The assay "plates" allow the instrument to quickly switch between assays with pre-installed fluidic configurations

FLEXIBLE DESIGN



The FIAlyzer-FLEX can hit low detection limits on assays that switch, stack together, and operate with no issues.

SFA COMPATIBLE



The FIAlyzer-FLEX is capable of performing both SFA (segmented flow analysis) and FIA (flow injection analysis). SMALL FOOTPRINT



At just 6 inches wide, the FIAlyzer-FLEX is designed vertically to minimize footprint while allowing easy access to critical components

IDEAL

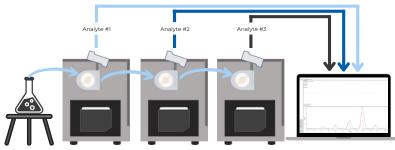
for environmental laboratories with low detection limits and frequent switchovers

MULTI-CHANNEL ANALYSIS

Both the FIAlyzer-1000 series and FIAlyzer-FLEX series are **modular**, by design, whereby the instruments can be combined into a 1-4 channel system with a combination of methods.

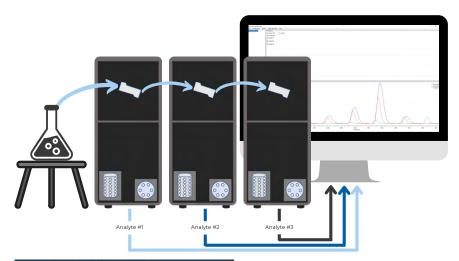
Multi-channel analysis combines various assays into an efficient, in-line configuration. Such a setup allows you to test multiple analytes on one sample simultaneously, which saves **bench space**, **instrument cost**, and **time**.

OUR FLOW INJECTION ANALYZERS CAN BE STACKED & CONNECTED FOR SIMULTANEOUS ANALYSIS OF MULTIPLE ASSAYS



Example multi-channel FIAlyzer-1000 set-up

Multi-channel set-ups for the FIAlyzer-1000 series can greatly benefit labs with high sample loads on several assays. It can accommodate multiple detection types; such as, colorimetric (standard, low-level, LED), fluorometric, amperometric, turbidimetric, potentiometric, and more.



Example multi-channel FIAlyzer-FLEX set-up

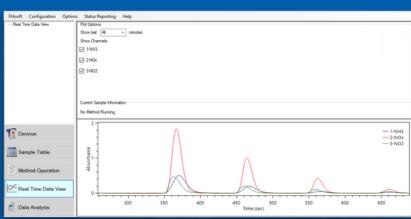
Multi-channel set-ups for the FIAlyzer-FLEX series highlight versatility and concurrent analysis, with up to 3 assays per FIAlyzer-FLEX. Labs such as water quality testing labs have seen great success for measuring several assays in different combinations.

A multi-channel set-up consists of daisy-chaining single-channel units together.

SINGLE-CHANNEL VS. MULTI-CHANNEL

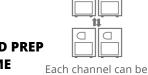
In a single-channel configuration, the sample continuously pumps through an instrument. It is only injected for analysis in short, specified intervals while the rest of the sample matrix flows to waste.

In a multi-channel configuration, the sample waste is utilized for further analysis in another instrument where a different parameter is measured. This stepwise pattern can accommodate up to eight channels.



Example Data for simultaneous analysis of Ammonia, Nitrate, and Nitrite on a FIAlyzer-3000

— TIME — - SAMPLES -**CONSUMABLES**



REDUCED PREP TIME

Less time and materials needed for filtration and preparation of samples, and decreased sample

used together or stand alone as workstations, and can be repurposed for redundancy.

BUILT-IN REDUNDANCY

INCREASED EFFICIENCY



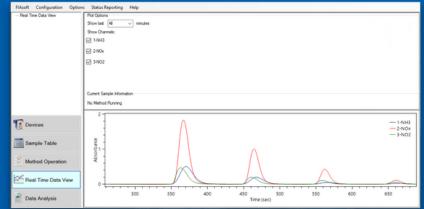
CONSECUTIVE SAMPLE PATH

load production.

Instead of running multiple runs on the same sample, save time with concurrent analysis.



With modular channels, a single sample can be used to analyze several different assays at the same time.





Example 3-channel FIAlyzer-1000 (FIAlyzer-3000) setup featuring accessories for Nitrate+Nitrite and Ammonia/TKN

FIASOFT

IN-HOUSE SOFTWARE MADE BY CHEMISTS FOR CHEMISTS

ON-THE-FLY
INTUITIVE
QUALITY CONTROL
FULL
SPECTRAL RANGE
COMPATIBLE
DATA MANAGEMENT



REAL TIME ANALYSIS



Save time and monitor data in real time, across multiple wavelengths.

STREAMLINED USER INTERFACE



Naturally guides operator through the necessary steps to perform measurements.

EFFICIENT DATA COLLECTION



Extremely efficient data collection, resulting in greatly improved signal quality.

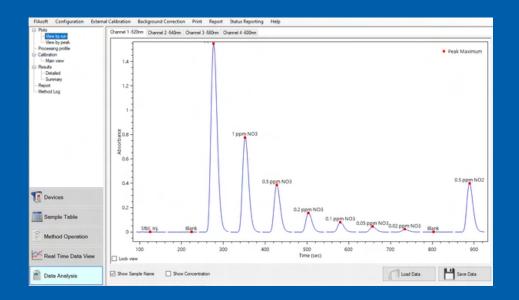
AUTOMATED DEVICE DETECTION



Quickly connect al of your devices to

FIAsoft operates
FIAlab's flow injection
analyzers. It is a
powerful and userfriendly software
package based on
state-of-the-art
programming
technology.

An instrument can only be fully utilized when quality hardware meets polished computer control. Our instruments feature the newest, most intuitive flow injection software available. Our simplistic software, FIAsoft, streamlines assays and reduces workload.



SOFTWARE FEATURES



DETECTION TYPES

- -COLORIMETRIC-
 - -FLUORMETRIC-
- -AMPEROMETRIC-
- -POTENTIOMETRIC-
 - -PHOTOMETRIC-



analysis is the primary form of detection used in flow injection analysis.

This process determines the concentration of an analyte via color intensity of the sample solution. It is measured as light absorbance across a certain wavelength range, using a spectrometer.

Typical light source is a tungsten halogen light, although some methods utilize an LED source.



ASSAYS INCLUDE:

AMMONIA, CHLORIDE, NITRATE, NITRITE, NITROGEN, PHENOL, PHOSPHATE, PHOSPHORUS, SILICA, SULFATE,

AND MORE ...



FLUOROMETRIC

analysis is used in cases where high sensitivity is of prime importance. The detector illuminates the sample with excitation light and measures the fluorescence emission using an ultra-sensitive, photomultiplier detection system.

The fluorescence detector can also be configured for **chemiluminescence** or **bioluminescence** measurements.

ASSAYS INCLUDE:

EPA APPROVED

OPA AMMONIA

FIAlab100

AMPEROMETRIC

analysis is a highly sensitive detection technique applicable to redox-active analytes. The sample is brought in contact with an electrode that oxidizes/reduces the analyte, giving rise to an electric current proportionate to the concentration.

ASSAYS INCLUDE: CYANIDE

FREE/AVAILABLE/ACID DISSOCIABLE TOTAL



Amperometric Flow Cell & Electrode



FLAME PHOTOMETRIC

analysis entails directing the sample solution to a burner flame and measuring the characteristic color that ensues in the presence of metal ions.

The technique is applicable to **alkali** and **earth alkali metals**.

POTASSIUM

POTENTIOMETRIC

analysis utilizes ion-selective electrodes that develop an electric potential in response to the ionic analyte that the electrode is specific for.

ASSAYS INCLUDE: FLUORIDE



FLOW CELLS

FIAlab Instruments manufactures flow cells with a variety of alignments, path lengths, and materials to best suit your analytical needs.



FIAlab's

FLOW INJECTION ANALYZERS

utilize in-line flow cells for absorbance measurements

PATH LENGTH AND DETECTION TYPE

LENGTH

Typical lengths range from 2.5 - 100mm optical path



SMA-Z 50mm uvol flow cell

Ultra Short Path flow cells range from 0.1 - 2.0mm optical path



Ultra Short Path flow cell

TYPE

SMA-Z Series



High-Performance Industrial



Fluorescence



MATERIALS

Material types range to cater to different chemical resistances, as well as mechanical durability.



+ complete transparency

ULTEM + good chemical resistance + filters UV light





PEEK
+ best chemical resistance

TEFLON
+ excellent chemical resistance

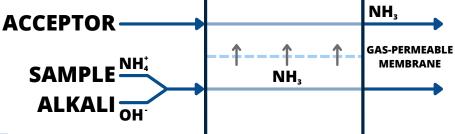




+ mechanical durability + excellent resistance to organic solvents

GAS DIFFUSION





Gas Diffusion Cell with built-in mixing manifold

Sandwich membranes are used for incorporating permselective membranes for in-line gas diffusion and dialysis; both of which provide a secure and efficient way of reducing interference originating from the sample matrix.

IN-LINE GAS DIFFUSION REPLACES DISTILLATION

DIALYSIS SANDWICH MEMBRANES ALSO AVAILABLE

See next page for in-line distillation of Phenol



Pump for FIAlyzer-1000

HIGH-PRECISION,
SOFTWARE CONTROLLED
PERSITALTIC PUMPS FOR
EASY
START-UP
SHUT-DOWN

USER CONTROL

The FIAlyzer-FLEX features a 16-channel high-precision peristaltic pump, with a wide range of flow rates and enough channels for any colorimetric assay.

PUMPS



16-channel Pump for FIAlyzer-FLEX

The FIAlyzer-1000 has a builtin pump that can utilize up to 8-channels. This pump features a planetary drive for less pulsation and longer tubing life.

HEATERS



FLOW-THROUGH HEATERS FOR RELIABLE AND PRECISE REACTION COIL HEATING

Flow-through heater: standard heater that is easily manageable **High-precision heater**: enclosed flow through heater with separated heating and measuring units for sensitive assays

DIGESTION

IN-LINE DIGESTION



In-line UV Digester

The in-line digester is an automated unit for performing UV-mediated digestion of water samples.

In the digestion apparatus, samples are heated and then exposed to UV irradiation. Following digestion, samples are injected into the flow injection analyzer.

FIAlab offers in-line digestion chemistries for:

- TOTAL CYANIDE -
- TOTAL NITROGEN -
- TOTAL PHOSPHORUS -

40-WELL BLOCK DIGESTER

FEATURES:

- BUILT TO RESIST CORROSION
- -TWO-TIER ARRANGEMENT
- TOUCH SCREEN CONTROL

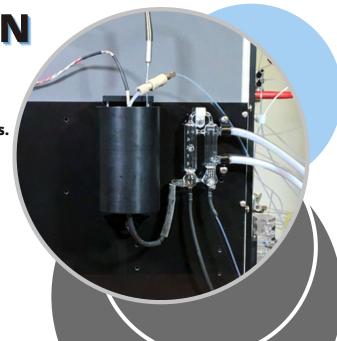


IN-LINE DISTILLATION

for - PHENOLICS —

In-line automated distillation designed for the determination of volatile phenolics in water samples.

Liquid samples are heated, with the gaseous samples routed through the distillation apparatus to separate the total recoverable phenolics. The phenolics fraction is condensed then injected into the flow injection analyzer.



AUTODILUTOR



KEEP LIFE SIMPLE AND AUTOMATE YOUR DILUTIONS

THE AD-100

is used to carry out dilution operations in an automated fashion. It is compatible with all of our flow injection analyzers and can be used as a standalone dilution station.

AUTOMATE YOUR:

CALIBRATIONDILUTIONS

PRE-RUN DILUTIONS

POST-RUN DILUTIONS

FEATURES:

- FULLY INTEGRATED INTO FIASOFT
- -2-100 DILUTION FACTOR
- DILUTION TIME ESTIMATES
- AUTOMATED METHOD STARTUP
- AUTOMATED CLOSEOUT QUALITY CONTROL CHECKS

AD-100



CAN BE ADDED TO A NEW OR EXISTING FIALYZER SETUP

AUTOSAMPLERS

THE ASX SERIES

autosamplers are the best on the market. Whether your lab is small, mid-sized, or very large, there's a model to meet your needs!

CETAC Automation provides immediate solutions to the various challenges typical in laboratory environments with a variety of products and accessories including autodilutors, liquid handling stations, and anti-contamination enclosures.

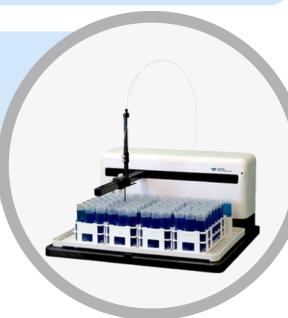


The compact ASX-280 Autosampler builds upon the reliability of its predecessors with latest generation electronics, improved accessory interfaces, enhanced pumping capabilities, easier serviceability, and a sleek new design. The compact and efficient design of the ASX-280 Two-Rack Autosampler preserves precious laboratory bench space. Ideal for low to medium volume sample applications, these autosamplers provide all of the fully automated features of a CETAC Autosampler in a compact, easy to use sample introduction

The unit holds up to 180 samples.



The ASX-560 features a metal-free liquid flow path, corrosion resistant coating on all metal parts and can withstand the harshest chemical environments while maintaining unsurpassed accuracy. This autosampler is ideal for medium to high volume sample applications. It holds up to 360 samples.





XLR-8₆₀

A complete 8 rack autosampler that holds up to 720 samples and 10 standards, freeing valuable personnel from the task of manual sample manipulation.

See why users call Teledyne CETAC Autosamplers the best on the market. Put the most reliable, longest-lasting autosampler to work in your lab for the seemingly endless demands of sample analyses.



COLUMNS

FIALAB COLUMNS ARE

LESS LEAKY, LONGER LASTING & ABLE TO WITHSTAND CRACKING

CADMIUM COLUMNS

FOR NITRATE REDUCTION

With FIAlab's manufactured Cadmium Columns, our goal is that you experience improve seals, zero leakage, and long-term accuracy. Compatible with QuikChem instruments using adaption kit add-on.

PRODUCT HIGHLIGHTS:

- -LONG TERM
 RELIABILITY WITH
 LESS DETERIORATION
- EVENLY COATED CADMIUM VIA SUPERIOR MANUFACTURING PROCESS
- DECREASE COST PER SAMPLE
- -RUN MORE SAMPLES AND MAINTAIN OVER 90% EFFICIENCY



ION EXCHANGE COLUMNS

FIAlab manufactures our Ion-Exchange Columns in-house.

This column is long-lasting and packed with resin to capture specific ions.

MEMBRANES

FIAlab offers a variety of membrane types for chemistries that require special method features.

MEMBRANE TYPES:

- -GAS DIFFUSION
- -DIALYSIS
- -PHASE SEPERATION
- -DEBUBBLERS





NE SHOP

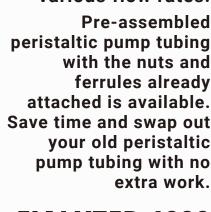
SEE ALL OF OUR **ACCESSORIES & CONSUMABLES**

FLUIDICS

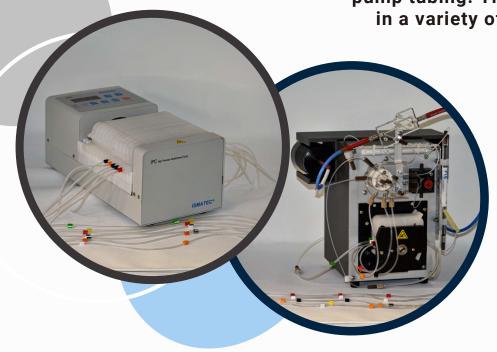
FIAlab sells all fluidics connectors to accommodate functional operation. All of the fluidic connectors are chemically inert (PEEK). Our short flangeless fittings are designed to include both a nut and ferrule for your convenience. Flangeless fittings are dependable, simple to use, and easy to replace.

PUMP TUBING

Flalab offers a range of chemical resistant and contamination-free grade pump tubing. These tubes are available in a variety of sizes to accommodate various flow rates.



FIALYZER-1000 3-STOP TUBING FIALYZER-FLEX 2-STOP TUBING



REPLACEMENT KITS

Our pre-assembled kits contain all necessary parts for maintaining a FIAlab analyzer.



FIALAB SERVICE PLANS

Purpose

Our service plans are designed to:

- Ensure a positive customer experience by providing expedited and thorough support from a knowledgeable service team member
- **Method-specific support** from well-versed FIAlab service engineers.
- Minimize downtime by performing regular preventative maintenance (PM) visits
- Maximize confidence in instrument performance by running quality control tests during each PM visit
- Keep customers up-to-date by ensuring they are on the latest software platform
- Maximize lifetime of instruments

SERVICE DESCRIPTION	SILVER PLAN	GOLD PLAN
PREVENTATIVE MAINTENANCE VISIT EVERY 12 MONTHS		
EMAIL SUPPORT		
PHONE SUPPORT		
REMOTE DESKTOP SUPPORT		
3-YEAR WARRANTY ON NEW EQUIPMENT		
FREE SOFTWARE UPGRADES		
REDUCED FEES FOR ADDITIONAL VISITS		
72 HOUR ON-SITE RESPONSE TIME		
PREVENTATIVE MAINTENANCE VISIT EVERY 6 MONTHS		
24 HOUR ON-SITE RESPONSE TIME		

Support Benefits



Scheduled PM Visits

Service scheduling is for an individual visit, determined by the plan choice and customer demand. If a visit is scheduled at least 6 weeks in advance, travel fees are waived; otherwise, billed separately.



Additional Visits

If visits beyond those included in the service plan are required, such as training visits, they will be billed separately, including travel. Reduced fees compared to non-service plan customers.



Quality Control (QC) Tests

At each PM visit, a thorough set of QC tests will be performed to ensure the equipment is operating up to standard. The exact parameters depend on the instrument set-up, and a detailed service document is provided at the time of service.



Additional Parts

A PM inspection may reveal an immediate need to repair or replace parts. Any such parts and related labor are billed separately. Work outside of the PM schedule is only performed once authorized by a representative of the Customer.



Phone and Email Support

Service Plan customers receive prioritized assistance for any issue regarding their instrument. Email support encompasses FIAlab scientists and technicians being available to provide assistance by email.



Remote Desktop Support

Customers experiencing issues can be assisted in real time via remote desktop sessions to expedite troubleshooting and minimize downtime.



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CONTACT FIALAB

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