

Flow Solution® 3100 (FS 3100) Automated Ion Analyzer

Feature: **Unique VersaChem Multi-Test Manifold™**

Advantage: Provides a unified analysis platform for USEPA/ISO/DIN accepted methods for the determination of inorganic ionic species in waters for both flow injection analysis (FIA) and segmented flow analysis (SFA). VersaChem is the only available multi-test manifold for FIA.

Benefit: Improves ease-of-use and saves money.

Feature: **Runs both FIA and SFA Methods**

Advantage: FIA and SFA techniques overlap in their capabilities and have some complementary strengths. Selection is generally based on user preference. The availability of both techniques on the same instrument ensures that the appropriate technique is applied to specific analytical requirements.

Benefit: Provides the user with an unbiased selection of techniques and saves money by not requiring the purchase of two different analyzers.

Feature: **Runs Unique iSFA Methods**

Advantage: iSFA (injection segmented flow analysis) combines the precision of volumetric sample injection with SFA chemistry.

Benefit: Improves precision and enables chemistries that benefit from SFA such as nitrate cadmium reduction where reduction time is reduced and efficiency is significantly improved by the mass transfer made possible by the bolus flow of SFA.

Feature: **Runs chemistries approved for compliance monitoring of waters and wastes by USEPA, ISO, DIN, ASTM, and Standard Methods**

Advantage: Meets requirements of regulatory agencies and organizations worldwide.

Benefit: Ensures method compliance quality and acceptance by lab auditors.

Feature: **Unique Expanded Range™ (ER) Detector with Auto-Ranging**

Advantage: Enables absorbance detection over 4 orders of magnitude to increase the dynamic range of methods.

Benefit: Reduces the number of off-scale peaks and time-consuming sample dilutions and re-runs, which saves on run time and reagent consumption and reduces waste generation.

Feature: **Nitrate Cadmium Reduction Coil**

Advantage: Regenerates and reactivates easily while eliminating column repacks. Lasts through thousands of samples and eliminates exposure to and disposal of toxic cadmium.

Benefit: Increases safety and convenience and saves time and money.

Feature: **Unique cyanide determination with ligand exchange/gas diffusion and amperometric detection**

Advantage: Decreases method complexity by eliminating the need for double distillation.

Benefit: Prevents operator exposure to noxious pyridine, reduces pump tube channels required, and eliminates the heating step required for the colorimetric chemistry.

Feature: **Compact System Design**

Advantage: Occupies significantly less bench space than other models.

Benefit: In most laboratories, bench space is at a premium due to its cost. By minimizing the bench space required, space is liberated for other uses.

Feature: **Expandable up to 2 analytical channels of FIA, 3 channels of SFA, or a combination of both**

Advantage: System modularity offers the maximum level of flexibility available in a continuous flow analyzer.

Benefit: Ability to select FIA, SFA, iSFA, or any combination of these analyses to optimally address the analytical requirements of each test. Each channel of the FS 3100 consists of an independent module which may be organized vertically or horizontally.

Features, Advantages, and Benefits

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- Feature:** Option to use either a 90 or 360 position XYZ Autosampler
Advantage: Flexibility to select the appropriate size autosampler for the laboratory's sample load.
Benefit: Lower volume labs save money, while larger volume labs gain the required sample capacity.
- Feature:** Available sample racks accommodate autoclave tubes used for persulfate digestion prior to total phosphorus determination
Advantage: Removes a step in the process by eliminating the need to decant digested samples into a separate tube.
Benefit: Reduces handling time and operating cost.
- Feature:** High precision multi-channel peristaltic pump with 8 or 16 channels
Advantage: Incorporates 8 closely-spaced rollers and a planetary gear drive to move the individual rollers in the opposite direction of primary rotation, decreasing tubing wear and increasing flow rate precision.
Benefit: Reduces consumables cost of pump tubes and increases the quality of analysis.
- Feature:** Autoscaling of peak displays
Advantage: Provides a real-time view of peaks that go beyond the screen viewing range.
Benefit: Saves time by eliminating the need to manually rescale the display.
- Feature:** Autosave of Data Files
Advantage: Prevents the loss of data if a hardware or power problem is encountered during a run.
Benefit: Saves time by eliminating the need to rerun samples because of lost data.
- Feature:** Adding samples to a run
Advantage: Enables the lab to add samples to a run that has already started.
Benefit: Saves time by not requiring restarting and recalibrating the system and generating a separate data file.
- Feature:** Real-time data reporting
Advantage: No need to wait for an entire run to be complete before display of an accurate result.
Benefit: Saves time in retroactively reviewing data following a run.
- Feature:** Customizable sample reporting
Advantage: The customer can select the sample parameters that will be reported.
Benefit: Allows only the information required by the lab to be included in the final report or exported to a LIMS.
- Feature:** Background operation
Advantage: WinFLOW™ software runs in the background, allowing other applications such as Microsoft® Office Word, Microsoft® Office Excel, or LIMS data transmission to be used simultaneously.
Benefit: Increases productivity by eliminating the requirement for a run to end before the computer can be used for another application.

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