Flow Solution® (FS) IV⊕ Automated Chemistry Analyzer

Feature: **Runs FIA (flow injection analysis), SFA (segmented flow analysis), and *i*SFA (injection segmented flow analysis) methods.**
Advantage: While the techniques of FIA and SFA have some overlap in capabilities where selection is based on user preference, they also have complementary strengths. The availability of both techniques on the same instrument ensures that the appropriate technique is applied to specific analytical requirements. Also, by combining flow injection sample introduction with segmented flow analysis, the best features of both techniques are realized.
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 *i*SFA methods.**
Advantage: ***i***SFA 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 worldwide.
Benefit: Ensures method quality and that methods are accepted by lab auditors.

Feature: **Unique Expanded Range™ absorbance detector with auto-ranging.**
Advantage: Enables absorbance detection over 4 orders of magnitude to increase the dynamic range of methods.
Benefit: Reduces 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: Eliminates column repacks, is easy to regenerate and reactivate, 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.

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Feature: **Expandable up to 6 analytical channels of SFA, FIA, iSFA, or a combination.**
Advantage: System modularity offers the maximum level of flexibility available in a continuous flow analyzer.
Benefit: Ability to select FIA, SFA, ***i***SFA, or any combination to optimally address the analytical requirements for each test with each channel consisting of an independent module which may be organized vertically or horizontally.

Feature: **Option to use either a 90- or 360-position X-Y-Z 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 the determination of total phosphorus.**
Advantage: Removes a step in the process by eliminating the need to decant digested samples into separate tubes.
Benefit: Saves time and cost.

Feature: **High precision multi-channel peristaltic pump with the option of 8, 16, or 24 channels.**
Advantage: Incorporates 8 closely-spaced rollers and a planetary gear drive to positively drive the individual rollers in the opposite direction of primary rotation, thus decreasing tube 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 accommodate samples brought in after a run was 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 completed before display of an accurate result.
Benefit: Saves time involved in retroactively reviewing data following a run.

Feature: **Customizable sample reporting.**
Advantage: The user can select the sample parameters to be reported.
Benefit: Allows only the information required by the lab to be included in the final report or exported to a LIMS.

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Feature: **Background operation.**

Advantage: WinFLOW™ software runs in the background, allowing other applications (such as Microsoft® Word, Microsoft® 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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