

## MULTI-CHANNEL SEGMENTED FLOW ANALYSER

It is the technical innovation and performance characteristics that set SFA2000 apart from other analysers. SFA2000 is the modern laboratory chemical analyser that provides total flexibility. It offers the professional edge to traditional segmented flow technology.

SFA2000 is employed in a variety of laboratory applications that include waters, sewage, agriculture, pharmaceuticals, food & beverages, industrial processes and effluents. In general internationally recognised methods are employed.

The established methods enable you to measure rapidly over a wide concentration range with the benefit of sensitive detectors that include fluorescence, UV & visible colorimetry, and flame photometry. Levels down to ppb are readily achievable. The concentration range should be specified when ordering. Burkard method sheets provide information on flow rates, reagents, sample sizes and manifold configurations for standard or specific analyses.

A major benefit of this modular system is the way by which it can be purchased. You can expand your system with ease - purchase one chemistry channel and "add on" to accommodate additional workloads. The modular construction makes it highly suitable for industry research and clinical use. The elements of the system combine new features that maintain the high sensitivity expected from Burkard fast routine analysers. The system is simple to operate. Every protected control is conveniently accessible from the front. Every parameter may be set either individually or through the computer keyboard.

SFA2000 can be fitted with the computer controlled automatic start-up and shut-down. A motorised wash/reagent changeover system ensures that all reagent lines are automatically connected to a water-wash on completion of analysis. The computer returns the valve to reagents for restart. Other computer control options are possible, including reagent level sensing, special functions and interfacing to other instruments.

### FEATURES

- 80 or 140 place sample changer (or 300 place XYZ)
- 15, 30, 45 channel pump
- 1-4 channel chemistry base offering
  - Dialysis
  - Distillation
  - Extraction
  - UV Digestion
  - Conductivity & pH
  - Automated column evaluation
- 1-4 channel detector (Colorimeter)
- MicroStream for Windows data handling

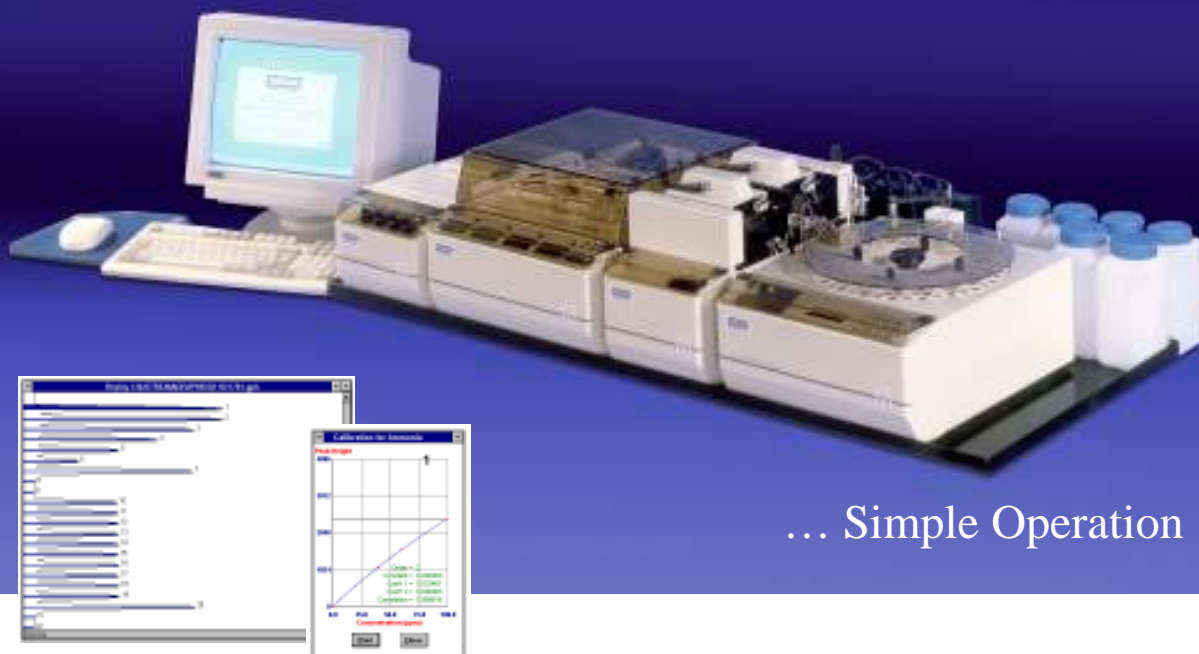
### APPLICATIONS

- Water - drinking water, waste water, sea water, estuarine water and feed waters
- Industrial Effluents
- Food and Beverages
- Soils
- Pharmaceuticals
- Industrial Processing
- Waste Management

### BENEFITS

- Full range of chemistries including distillation, extraction, anionic and cationic detergents, Phenols and Cyanides.
- Choice of detection – colorimetry, flame photometry, fluorescence.
- Optional comprehensive data processing and system control.
- Optional full automatic control, start-up and close-down functions.
- Supplied with convenience components such as a chemical resistant analyser tray with centralising power distribution and reagent racks.

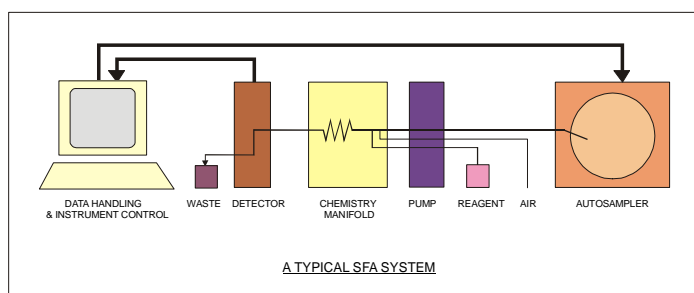
### Choice of Instrumentation ...



... Simple Operation

## Standard Equipment Includes:

- Choice of autosampler (80 place, 140 place carousel or 300 place XYZ)
- Choice of Detectors - colorimetry, flame photometry, fluorescence.
- Data Acquisition (MicroStream for Windows) or flat-bed recorder



## Sampling options

SFA2000 offers you fully automatic sampling with a choice of carousel or XYZ sample changer. An automated system will present standards and samples in sequence. Automatic dilution of over-range samples is available as an option on the XYZ. However to alleviate the need for dilution the MicroStream data-processor has an extended concentration range enabling the results to be printed out at up to 10 times the normal calibration standard.

## Precision pump

Burkard pumps are recognised as giving the highest quality pumping precision. 24 powered rollers deliver smooth and precise volumes while keeping tube wear to a minimum. During non-analysing periods a tube detensioning lever allows instant relief for all tubes simultaneously and the standby facility provides pulsed pumping action maintaining the system in a ready-to-use state while minimising reagent consumption. Drive is supplied by a quality geared motor resulting in a low maintenance & high reliability

## The chemistry manifold

A variety of chemistry manifold types and combinations are offered. 1 to 4 channel chemistry bases accommodate high performance UV digestion, high and low temperature dry heating baths, distillation heads, Anidet components and cadmium columns. All controls are housed and conveniently positioned away from liquids at the front of the case. A see through cover allows the operator to view the temperatures and indicator lamps. Each base has a fixed number of acrylic manifold platens which have safety spillage galleries that couple to a common waste manifold. Any overflow or leakage of liquid materials passes out through the rear of the unit. An acrylic cover is supplied with each base to protect the glassware.

## Detectors

The standard high sensitivity colorimetric and UV detectors used with SFA2000 use filter technology and flow through cells with a range of path lengths from 3-50mm. Alternative detectors include fluorescence or flame photometer.

## Data acquisition

SFA2000 can be fully automated with the MicroStream for Windows™ data processor providing full system control in addition to data acquisition. MicroStream is powerful and multi-tasking offering real time analysis where primary data acquisition, graphics, peak detection, calibration and calculation take place in the background so results are produced immediately upon a peak being detected. Results box, chart display and calibration graphs can be viewed by the operator during a run. MicroStream will speed up your calculating and reporting. Starting with a low-cost package for single-channel use, this system can be expanded to run up to four independent multi-channel analysers. New quality control software checks the accuracy of analysis and all results can be downloaded to other software packages and LIMS. MicroStream is compatible with Windows™ based networks.

## Standard chemistry methods

Data sheets are available and supplied with every method. Full information on the make-up of standards, preparation of individual chemicals and wash materials, sampler settings, optical filters and manifold connections is included. Method development is available for specific applications.

## Servicing

The design of Series 2000 analysers mean that your servicing routine is minimal. Only the regular change of pump tubes by the user is required for routine operation. Annual and bi-annual service contracts will keep your instrument professionally maintained.

On site installation and training in the use of the systems is available. Contact Burkard for full details. For details on flow injection systems, continuous flow analysers, data handling systems and specialised process control equipment please contact Burkard Scientific. Burkard Scientific reserves the right to change specification without notice.

## SFA2000 SPECIFICATIONS

<b>Sample Changer</b>	<b>80+, S140 or XYZ</b>	
<b>Capacity</b>	Carousel: 8-140 place (sample cups 2ml - 35ml volume), XYZ: 300 place	
<b>Sample time</b>	1-999 secs	
<b>Wash time</b>	1-999 secs	
<b>Sample setting</b>	Keyboard entry	
<b>Dimensions</b>	Carousel: 330 x 330 x 200 mm, XYZ: 560 x 480 x 340mm	
<b>Supply voltage</b>	110/240V, 50/60Hz (to be specified)	
<b>Peristaltic Pump</b>	<b>PP15</b>	<b>PP30</b>
<b>Number of channels</b>	15/17	30/34
<b>Overall size (mm)</b>	85 x 280 x 270	85 x 400 x 270
<b>Net weight (Kg)</b>	9	13.5
<b>Fuse ratings</b>	2A @ 240V, 4A @ 110V	
<b>Input supply voltage</b>	110/240V, 50/60Hz	
<b>Tube types</b>	PVC, Viton, Solvaflex, Silicone	
<b>Chemistry Base</b>		
<b>No. of channels</b>	1-4	
<b>No. of heating baths</b>	1-3	
<b>Temperature range</b>	30-160°C	
<b>Temperature Control</b>	Programmable with digital display	
<b>Options</b>	Dual channel distillation, UV digestion, Anidet components, and specialisation columns,	
<b>Dimensions (4ch)</b>	515 x 330 x 165mm	
<b>Supply voltages</b>	110/240V, 50/60Hz (to be specified)	
<b>Detector</b>	<b>Colorimeter</b>	
<b>Light sources</b>	Halogen or deuterium (UV)	
<b>Flow cells</b>	12mm sq. quartz window (flow through), Burkard non-debubbling flow cells 3, 5, 15 and 50mm path length	
<b>Output</b>	Analogue 0-13V with variable gain and damping	
<b>Dimensions</b>	410mm x 180mm x 160mm	
<b>Supply voltages</b>	110/240V, 50/60Hz (to be specified)	
<b>Optional detectors</b>	Fluorescence, Flame Photometer	
<b>Flat Bed Recorder</b>		
<b>Input sensitivity</b>	0-1, 2, 5, 10, 20, 50, 100, 200, 500mV, 1, 2, 5, 10, 20, 50V. Full scale deflection 250mm	
<b>Chart speeds</b>	1, 2, 3, 6, 10, 15, 30, 60cm/min & hr	
<b>Dimensions</b>	376 x 425 x 105mm	
<b>Supply voltages</b>	240V, 50/60Hz	
<b>Data Analyser</b>	<b>MicroStream for Windows™</b>	
<b>Computer</b>	Microsoft Windows™ based PC. (Please call for latest spec.)	
<b>Processor</b>	Second analogue processor board (ISA) for peak analysis.	
<b>Channels</b>	Up to 16 independent channels. Channels distributed in any combination over systems	
<b>Speed</b>	Measures narrow (2-10 seconds) and wide (several minutes) peaks at up to 300 peaks per hour per channel	
<b>Resolution</b>	Separate 16 bit ADC on each channel gives 0.025% resolution over normal range with x5 extension for over-range samples	
<b>Sampler control</b>	Included as standard, also random access control	
<b>System control</b>	Options for automatic start-up and close-down	
<b>Results output</b>	Configurable print-out modes and export to spreadsheet or database management software	
<b>LIMS interface</b>	Configurable bi-directional link to LIMS for worksheet acquisition and down-loading of results	
<b>Internal correction</b>	Full baseline and sensitivity drift correction plus carry-over compensation	
<b>Supply voltages</b>	110/240V, 50/60Hz	

**Manufactured by:**

**Distributed by:**

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