SYSTEA CONTINOUS FLOW ANALYSIS

FLOWSYS

Third generation continous flow analyzer

FLOWSYS: 3rd generation CFA analyzer

FLOWSYS is a microflow automated CFA analyzer for water, soil, plants extracts and other industrial samples.

More than 800 applications are available on various matrix.

FLOWSYS is a unique CFA analyzer combining higher performances and low running costs with a friendly user interface.
The segmented technique offers all the various possibilities of flow-analysis, what basically is a highly integrated, modular sample preparation and handling technique, with outstanding repeatability.

3rd Generation hydraulics and Microflow CFA

The Microflow CFA technique carries out all steps of the analytical procedure in a reaction line of 1.0 mm inner diameter. These flow-conditions results in several advantages, for analytic process, design and easy operation.

The reduction of flow-volume to 40% of the previous second CFA generation reduces the required dimensions for the pump. A high precision, multichannel pump separately for each determination provides maximum flexibility and easy maintenance.

The physical properties of flow line and segmentation in Microflow provides high effective, continuous mixing and faster kinetics reaction.

Microflow provides easier and safer conditions for today's most interesting CFA applications, using inline distillation (cyanide, phenolindex) or UV-digestion (total-P, total-N).

Features/Benefits

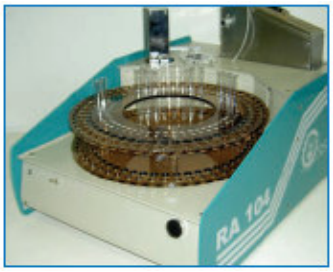
- Dual-speed pump, for quick set-up or shut-down.
- Random access Automatic Sampler, with 104 positions for single sampling probe, or 52 positions for dual probe option.
- Microflow
- Low reagent consumption
- Low cost for reagent discharge
- Special pump design/new manifold connectors
- Low maintenance cost
- Easier and friendly approach, no problems from bubble pattern, tubes connections etc.
- Micro flow & Multiwavelength option
- Fast method changeover
- Wash reagents valves & Micro flow
- Fast shutdown and Start up
- Independent analytical module
- Pump/s activated only for running channel/s;
- Pump tubes saving

SYSTEA

Thanks to the full modularity Flowsys configuration can be defined exactly on customer need.
Each analytical module includes the necessary wash/reagents valves, 12 positions peristaltic pump, and a colorimeter complete of flow cell.

Each analytical module is totally independent and they can be left switched off if not used for the current analysis, allowing pump tube saving.

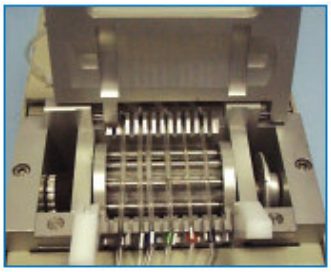
The system upgrading is easy and trouble-less.
A new complete analytical module can be delivered tested and ready for installation.



SAMPLER - RA104

Automatic Sampler for higher sampling rate on standard sample tube 16 x 75 mm (15 ml) including:

- Number of positions: 104 (52+52 with dual probe option)
- Dual probe sampling: standard
- Type of sampling: Random Access
- Manual sampling selector: available as standard
- Sample tray autozero available as standard
- Autodilution option for off scale sample reanalyze & automatic calibrant dilution.



PERISTALTIC PUMP

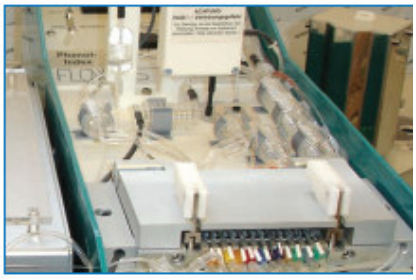
New generation peristaltic pump virtually eliminates any hydraulic pulsation inside the manifold, including:

- Special plate design increase
- pump tube life.
- 12 pump tubes position are enough also for complex chemistry.
- New hydraulic air injection system, allows a precise and noise-less air injection.
- Wash/Reagent valves allow a fast shutdown and start up, no error on reagents positioning.

OPTOELECTRONICS

High sensitivity dual beam colorimeter low drift, including:

- Bubble trough low volume flow cell 15, 30 or 50 mm
- One or more LED, user selectable, to support the multiwavelength & multitest option
- Optional holder for interferential filters
- Baseline & Gain control
- Set of electronics boards for signal conditioning and electronic debubbling.
- Display to check colorimeter energy, heating bath T° and T° set.



Multitest methods: more that 800 methods are available.

MANIFOLD

Includes all the necessary device for the specific reaction as mixing coils, heating bath, dialyzer, distillation bath, UV digestor, solvent extraction.
The analytic method procedure is arranged on the 'manifold', in some cases different ranges or parameters can be combined on one manifold Some of them are specifically developed to run on the same manifold. Several types of multitest manifolds are available, only reagents have to be replaced between tests.

CONTINOUS FLOW ANALYSIS

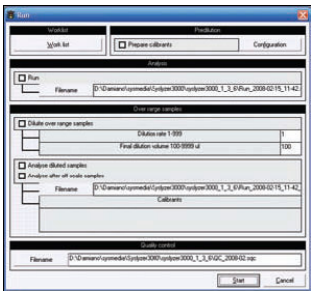
SYSLYZER 3000 - CFA software

The Syslyzer 3000 software has been developed on CFA users suggestions, collected through many years of application engineers activities.

Systea in house software department programmed a 32 bit software for MS Windows XP /2000/98SE.

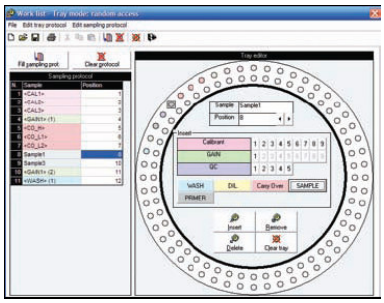
EASY TO USE

All the functions and symbols are familiar to all the laboratory operators.
Set up a run is easy and quick: all work lists prepared for run can be changed at any time.
Stored methods settings can define up to 9 standards and up to 5 controls. Calibration can be linear or polynomial. Corrections can be selected to re-calculate results compensating measured BL drift.



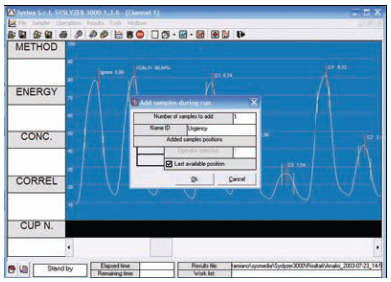
QUICK START

Start a run is simple and friendly the operator can use a master work list and simply insert the samples to be analyzed. After starting analysis, the flow chart displays the colorimeter graphic and the calibration function if already processed.



WORK LIST

A complete work list including sample ID can be generated easily. In the worklist the operator defines the order of the batch to be analysed. Standard worklists can be stored and used repeatedly when needed.

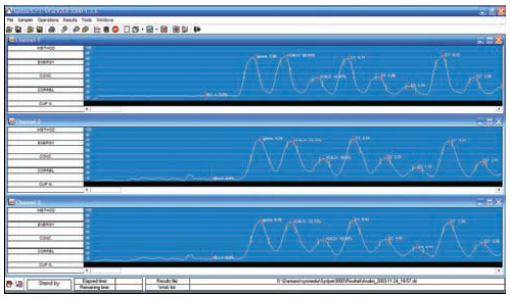


URGENT SAMPLES

Urgent samples can be added during a run. Just click on Add Samples and digit the number of samples to add. Results, identified as QC are automatically stored in QC files, to be available as controls chart.

MAIN FEATURES

- 3 level password: operator, supervisor, manager
- Up to 6 channel
- Up to 9 standards for each channels
- Automatic calibration
- Calibration curve stored for each channel for each run
- Reanalyze function for calibration, and/or samples
- Peaks and results showed on the screen during run
- On Line Quality control and QC chart
- Peaks and results stored for each run



SYSTEA

Technical data

Sampler			
Dimensions/ Weight: *Power:*	56x44x22 cm; 15 Kg 12/24 V DC power supply included	*Positioning:*	Tray and probe stepper motor controlled
Dual row sampling:	Yes, standard	*Number of cups:*	104 or 52+52
Sample tray Autozero:	Yes	*Operation:*	Random access
Manual sampling:	Yes	*Autodilution module:*	Yes, option

Analytical module	
Dimensions:	32x52x17
Weight:	15 Kg
Power:	12 Vcc and 24 Vac Power supply included as standard
Each analytical module includes	
Peristaltic pump	
Pump tube positions:	12
Pump platen:	Removable, and adjustable; special profile for low pump tube consumption.
Platen latch:	Two latches spring adjusted
Rollers:	12 stainless steel
Colorimeter	
Flow Cell:	15, 30 or 50 mm quartz
Debubbling:	Electronic type sample & hold
Wavelength range:	340 - 880 nm
Wavelength source::	LED diode emitetters + filters (optional)
Detector:	Silicon detector
Settings:	Baseline, Gain, Sample & Hold
OD display:	LCD on front panel
Electronics	
LCD:	On front panel, selector for multifunctions display LCD can display: Setting temperature of each heating bath Actual temperature of each heating bath Colorimeter energy in real time
Heating or distillation bath:	Temperature setting displayed on the front panel Actual temperature displayed on front panel LCD Heating on/off on led
Wash/reagent selection:	Safety selector on the front panel
Sample and Hold:	Setting on front panel, status on led
Flowdata Interface	
Number of channels:	Up to 6 for each module
Input signals:	Analog (standard), serial or parallel input on request for external detector connection
PC communication:	Through RS232 serial port
Power supply analyt. Module:	Integrated
Transmission status (TX/RX):	On led

Subject to change without notice

SYSTEA S.p.A.

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