



# CONTINUOUS FLOW RANGE

THE NEW GENERATION  
CFA ANALYZERS



# CFA



## VERSATILITY & EFFICIENCY

This range is the result of AMS Alliance know-how, manufacturer of analytical instruments with over 35 years' experience.

We offer a wide range of CFA Analyzers with four instruments, Proxima and Futura range, which run with a new analytical software launched in 2017, to give the best technology in CFA analysis: fully automated, integrated system, high modularity, high precision, versatile and user-friendly instruments, for a minimum analytical cost.

They have been designed to run with high productivity and efficiency all chemistries from the easiest to the most complex ones: Phenols, Cyanide, Detergents, Total Phosphorus, Total Nitrogen, free & total SO<sub>2</sub>, Volatile acidity...

These instruments are compliant with most reference methods and government regulations.

### THE BEST CONTINUOUS FLOW ANALYSIS

- 1 parameter by analytical channel (console)
- Up to 16 consoles in any combination can run simultaneously
- Integrated reagent drawer (removable)
- Choice between Micro Flow, Macro Flow or both
- Optional dual probe on all auto-samplers
- Physical and software debubbling techniques available
- Wide range of samplers & accessories
- Fully automated instruments
- Compliance with reference methods
- Cost-effective solution
- Made in France



Our advanced automation improves efficiency and productivity:

- Fully automation of all chemistries: dialysis, distillation, UV digestion, injection, dilution, mixing, incubation and liquid/liquid extraction... all Inline, all 100% automated
- The automation of complex chemistries is facilitated by the «full auto» module (option) which handles automatically the external modules and accessories (run by the software)
- The fully automated process includes programmable start-up and shut-down, preparation of standard solutions, pre- and post-dilution of off-scale samples, and automatic rinsing.

## AUTOMATION



## & MODULARITY

Our advanced innovation provides successful analyzers that combine automation and modularity:

- High precision peristaltic pump including independent electronic and detector module, with single or three-speed (depending on model)
- Multiple path length flow cells 10 to 100 mm (extendable to 1 m or 5 m) for a wide variety of analytical ranges, which guarantees the best accuracy (according to the parameter)
- Dilution or in-line distillation modules for automatic sample preparation (integrated on some devices or samplers)
- 3 detectors available:
  - UV/Vis colorimeter (in standard)
  - Flame photometer for Potassium and Sodium analysis
  - Fluorometer





# FUTURA 3

## ADVANCED TECHNOLOGY FOR AUTOMATED ANALYSIS



Configuration example: Futura 3 with 3 channels (3 simultaneous analyzes) + 1045 autosampler + in-line distillation + Full auto module

Launched in 2016, Futura 3 is the last generation which benefits from the last innovation in Continuous Flow analysis by AMS Alliance.

Coupled with our auto-samplers, its sample throughput can reach **120 samples/hour**.

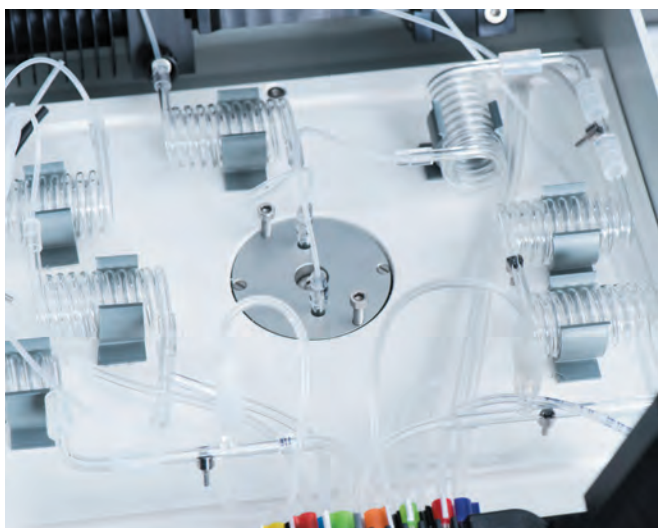
Sample preparation and operating are fully **automated**, including for the most complex chemistries. **Its modularity is exemplary** : we can use up to 16 consoles in parallel in order to multiply simultaneous analyses. Switch from one parameter to another is easy with the analytical manifold quick change.

The **new high precision peristaltic pump** offers **three speeds**: **regular**, **rapid** (startup and washout more speed) and **slow** (for a low consumption of reagents).

### ALL CHEMISTRIES EASILY

The Futura 3 is able to run all chemistries from the easiest to the most complex ones: **Phenols, Cyanide, Detergents, Total Phosphorus, Total Nitrogen, Free & Total SO<sub>2</sub>, Volatile acidity, Formaldehyde** ...

With its different channels (up to 16), the instrument can run chemistry combination such as Nitrate + Nitrite, Phenols + Cyanide or TN + TP.



Analytical manifold quick change

### MAIN ADVANTAGES

- From 1 to 16 analytical channels
- New large color screen
- New analytical software (2017 edition)
- New three-speed high precision pump
- Fully automated instrument
- Choice between Micro Flow, Macro Flow or both
- Integrated reagents removable drawer
- Multiple path length flow cells (10 to 100 mm) for a wide variety of analytical ranges
- Compliance with reference methods
- Cost-effective solution



Integrated reagents removable drawer

### TOTAL AUTOMATION

With Futura 3, you can **fully automate** the most complex chemistries : dialysis, distillation, UV digestion, injection, dilution, mixing, incubation and liquid/liquid extraction. The fully automated process includes programmable start-up and shut-down, preparation of standard solutions, pre- and post-dilution of off-scale samples, and automatic rinsing.

The **full auto** module (in option) handles automatically the external modules and accessories for the automation of complex chemistries.

# FUTURA 2

## THE PROVEN CFA ANALYZER

Futura 2 is the most renowned AMS Alliance' CFA analyzer. Its performance and efficiency are proven in many laboratories since many years.

It is the best choice for regulatory analyses with this versatile and reliable instrument: **total automation**, **high throughput** (up to 120 samples/h), **high precision**, **cost-effective solution**, versatility and **modularity** (up to 16 analytical channels in any combination can be run simultaneously).



### MAIN ADVANTAGES

- From 1 to 16 analytical channels
- New analytical software (2017 edition)
- High precision one-speed peristaltic pump
- Fully automated instrument
- Choice between Micro Flow, Macro Flow or both
- Integrated reagents removable drawer
- Multiple path length flow cells (10 to 100 mm) for a wide variety of analytical ranges
- Compliance with reference methods

# PROXIMA

## ECONOMICAL SOLUTION WITH 5 CHANNELS INTEGRATED



Based on widely used Futura technology, the Proxima has been designed to offer the most effective solution at the most attractive price, for **simultaneous analyses**. It has been designed to reduce cost of analysis without decreasing performance.

It is equipped of **two double pumps** and up to five colorimeters to ensure 5 analyses in the same time.

The possibility to change quickly the analytical manifold multiplies the analytical capacities.

### MAIN ADVANTAGES

- Up to 5 parameters in the same module
- Two optimized 26 positions pumps (52 tubes in total)
- Compact & modular (easy analytical manifold change over to extend the number of parameters)
- Multiple path length flow cells (10 to 100 mm)
- High throughput (20 to 500 tests/hour)
- Low consumption of reagents
- New analytical software (2017 edition)
- Compliance with reference methods

# SAMPLERS & ACCESSORIES

A wide range for increase the analytical rate (autosamplers), automate the sample preparation, or expand the analytical capabilities (detector range). All accessories are connected to the analyzer and run automatically by the software with the full auto module.

## FULL AUTO MODULE



Full auto TN/TP autoclave

Automatic handling of external modules and accessories for automation of complex chemistries and sample preparation.

3 modules:

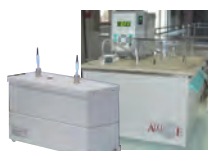
- Full auto standard version
- Full auto detergents
- Full auto TN/TP

## ACCESSORIES



### DILUTOR

For XYZ autosampler. Automatic preparation of standard solutions and automatic dilution of off-scale samples.



### UV DIGESTION OR AUTOCLAVE

In-line digestion.



### DISTILLATION MODULE

Simple or double in-line distillation with integrated temperature regulation, for measurement of Phenol index and Cyanides in water, and Volatile Acidity + Free SO<sub>2</sub> in wine.



### DETECTORS

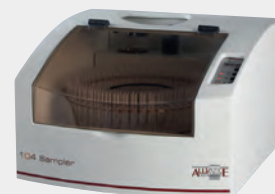
- Standard: UV/Vis colorimeter
- Option: Flame photometer for Potassium & Sodium analysis
- Option: Fluorometer

## AUTOSAMPLERS RANGE

Available for all Futura & Proxima analyzers.

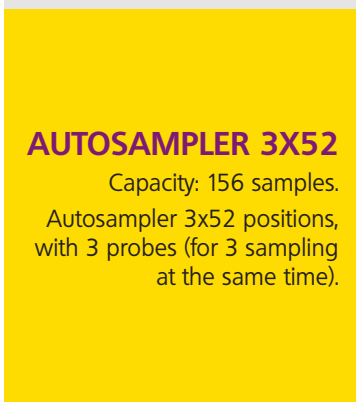
### AUTOSAMPLER 104

Capacity: 104 samples.  
Optional dual probe (up to 4 probes).



### AUTOSAMPLER 104S

Capacity: 104 samples.  
Complete version with integrated dilutor and ultrasonic processor.



### AUTOSAMPLER 3X52

Capacity: 156 samples.  
Autosampler 3x52 positions, with 3 probes (for 3 sampling at the same time).



### AUTOSAMPLER XYZ

- Capacity: 360 samples.
- Optional dilutor
- Optional dual probe (up to 4 probes)



### AUTOSAMPLER XYZ XL

With high capacity of 720 samples: the best capacity of the market!



# TECHNICAL SPECIFICATIONS

<b>PRINCIPLE</b>		Wet chemistry automation using continuous flow	
<b>OPERATION</b>		By multi parametric batches in parallel	
<b>SAMPLES</b>	<b>Analytical rate</b>	From 15 to 120 samples/hour	
	<b>Sample loading capacity</b>	104, 156, 360 or 720 samples (depending on selected autosampler)	
	<b>2, 3 or 4 probes</b>	Optional on all autosamplers	
	<b>Sample volume</b>	From 0.5 ml to 100 ml	
	<b>Identification</b>	Alphanumerical - Barcode in option	
<b>REAGENT DRAWER</b>	<b>Removable drawer</b>	On all instruments	
	<b>Loading capacity</b>	Depends on the analyzer	
	<b>Containers</b>	From 200 ml to 1000 ml	
	<b>Leak retention volume</b>	Made of chemically inert plastic material	
<b>PUMP</b>	<b>Number of pump tubes</b>	13 per console (Futura Duo: 40)	
	<b>Automatic valve</b>	On Futura 2 & 3	
	<b>Auxiliary valve</b>	Optional	
	<b>Leak detector</b>	Optional	
	<b>Automatic start-up &amp; shut-down</b>	Yes	
	<b>Speed</b>	one-speed (variable on Futura 3)	
	<b>Flow rates</b>	From 50 µl to 3 000 µl/minute	
<b>MEASUREMENT</b>	<b>ANALYTICAL MANIFOLD</b>		
	Injection, dilution, mixing, incubation, distillation, dialysis, UV digestion, extraction liquid/liquid		
	<b>COLORIMETER</b>	<b>Standard spectral range</b>	140 - 1100 nm
		<b>Type</b>	Monochromatic or dichromatic
		<b>Analog/digital converter resolution</b>	24 bits (16.8 million points)
		<b>Optical path</b>	From 10 to 100 mm (up to 1 m or 5 m for cyanides & phenols)
		<b>Flow cell volume</b>	From 15 to 150 µl
<b>Linearity</b>	From 0 to 2.5 absorbance units		
<b>Debubbling</b>	Via mechanical or software control; hardware bubble detection		
<b>DETECTORS</b>		UV/Vis (standard), optional: Flame photometer or Fluorometer	
<b>DIMENSIONS</b>		Futura 2 & 3: 24 x 65 x 41 cm (LxWxH) Proxima: 75 x 50 x 50 cm (LxWxH)	
<b>WEIGHT</b>		17 kg (Futura 2 & 3), 45 kg (Proxima)	

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