



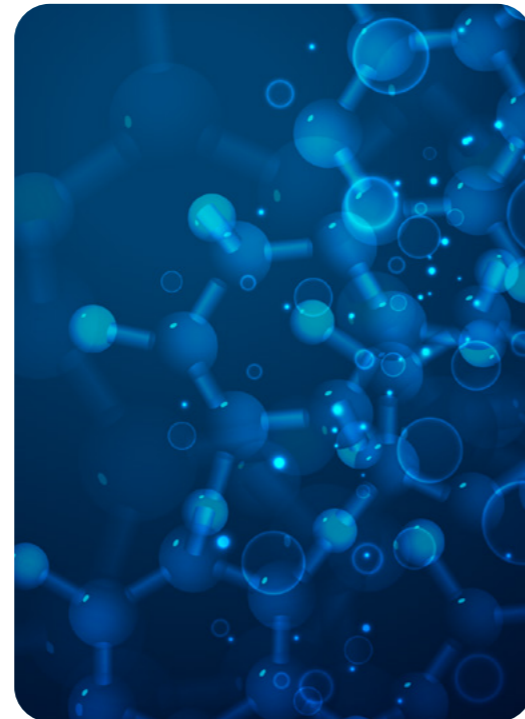
FoodAnalyzer

ACS Series 3000

SerCoLab.be

ADVANCED
CHROMATOGRAPHY
SOLUTIONS

Welcome



- **Accurate results with limited sample prep for food and feed samples**

Advanced Chromatography Solutions



Content

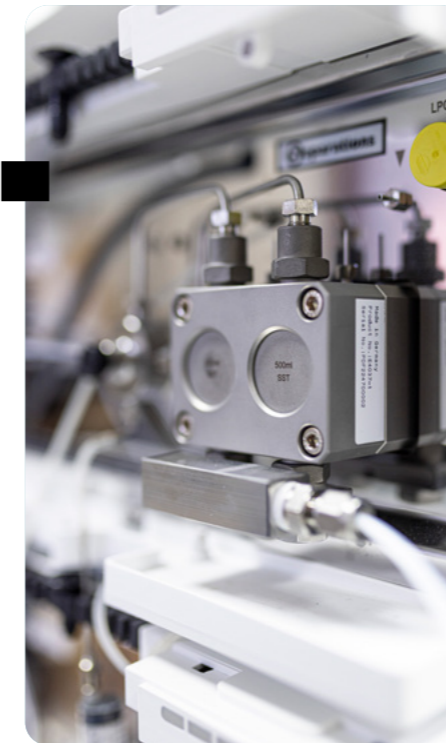
- 04 — **Simplicity** ■
- 07 — **Regulations**
- 08 — **Example Full Protocol**
- 10 — **Configurations**
- 12 — **Three Principles**
- 13 — **1D Preparation**
- 14 — **Assay Portfolio**

— Simplicity Meets Excellence

Faster in-house & immediate results

The significance of precise and fast analysis to maximize productivity and quality is now more than ever acknowledged.

ACS has created cutting-edge integrated solutions in its FoodAnalyzer to assist you in this.



Advanced HPLC technology & chemical reaction techniques

The ACS Series 3000 are built to give quality while making your daily tasks simpler.

To check the quality and safety of your food products, you can use a wide range of parameters, some of which were previously only thought to be possible with expensive and challenging techniques like LCMS/MS and GCMS. This is made possible by the combination of advanced HPLC technology and chemical reaction techniques.

Up to the test

- Offers a broad spectrum of parameters for assessing food quality and safety, rivaling expensive techniques such as LCMS/MS and GCMS.
- Utilizes advanced HPLC technology combined with chemical reaction methods for comprehensive analysis.
- Features designed to minimize manual labor for operators, enhancing operational efficiency.
- Saves time for operators by streamlining daily operations.
- Aids in producing quick and precise results by simplifying process stages.



— **Your time is precious. We help you use it wisely**



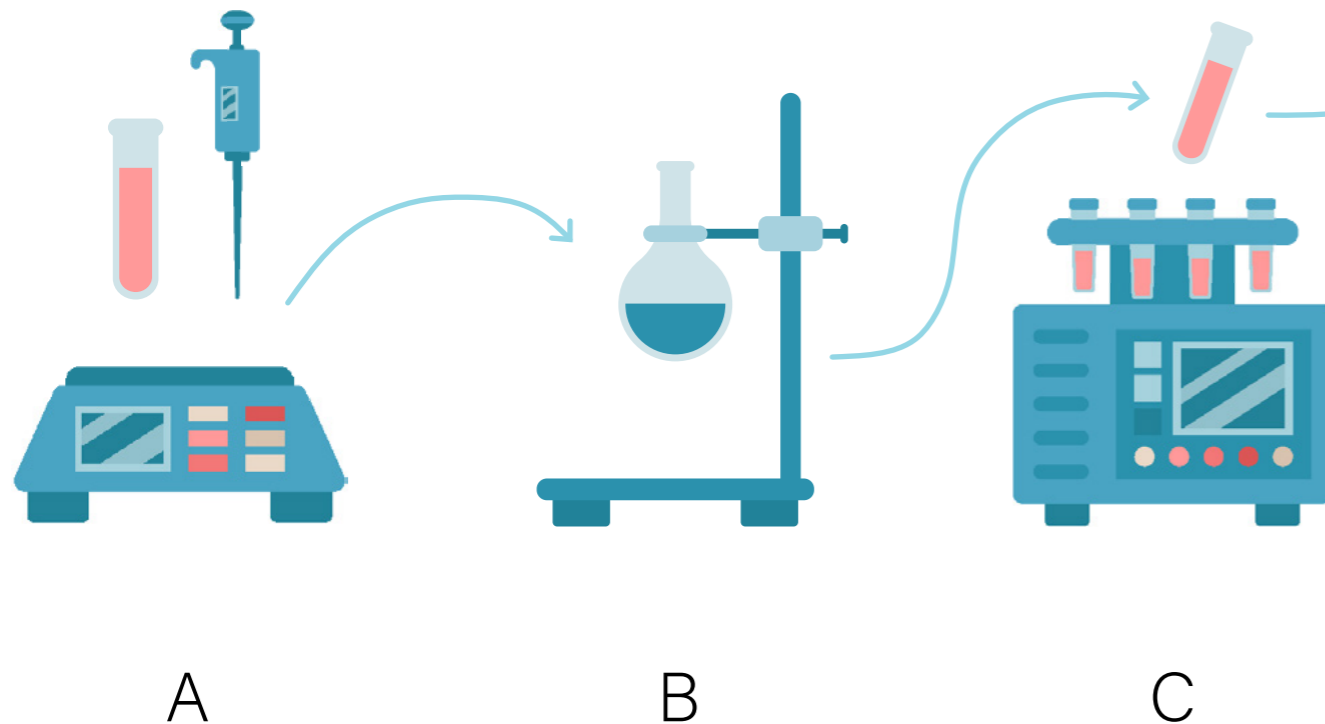
— **Empower your Quality Control to take action Faster**

Food quality and safety regulations are being raised all over the world

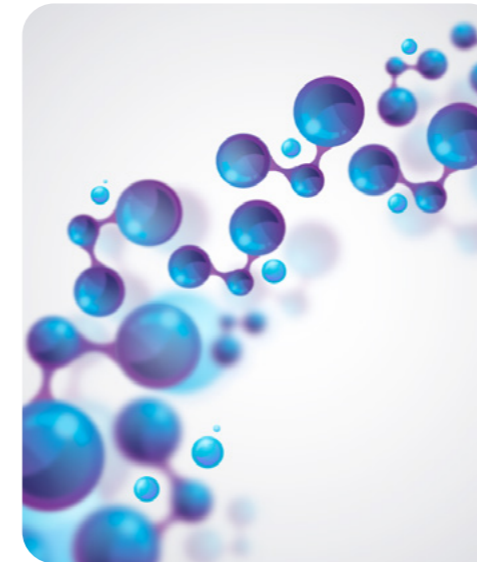
- Aids in avoiding product recalls or the destruction of bad batches, preventing direct economic losses.
- Minimizes customer dissatisfaction, protecting the company's image and preventing financial harm.
- Offers short and predictable turnaround times for analysis, even during peak periods, ensuring consistent compliance with regulations.

— Example of a full protocol for Carbohydrate profile in various foods & feeds:

- A. Weigh sample
- B. Solvent Extraction
- C. Centrifuge / Filter
- D. Analyze → Result

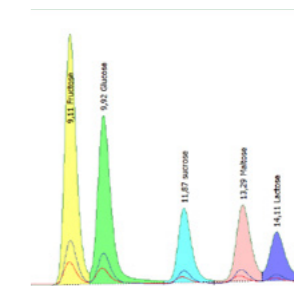


■ Get answers fast with short and predictable turnaround times



The Series 3000 FoodAnalyzer are designed to support fast and predictable turnaround times across all assays through the combination of unique hardware and smart developed sample preparations.

The provided step-by-step protocol guides the operator through a set of easy tasks before the instrument takes over and analyses the sample.



Report: Sugar Profile		Date: 17/01/2023
Sample ID	12323135	
Sample	Dry Sausage	
Glucose	Amount (g/100g)	0.3
Galactose	Amount (g/100g)	0.1
Fructose	Amount (g/100g)	-
Sucrose	Amount (g/100g)	-
Lactose	Amount (g/100g)	0.6
Maltose	Amount (g/100g)	-



D Result

1 cabinet



5 upgradeable configurations

	FA-3000 Core	FA-3001 Essential	FA-3005 FruitAnalyzer	FA-3010 Essential +	FA-3100 Advanced
Autosampler	✓	✓	✓	✓	✓
VWL UV detector	✓	✓	✓	✓	✓
1D separation	✓	✓	✓	✓	✓
Post-column RT	✓	✓	✓	✓	✓
Post-column HT			✓		✓
Fluorescence detector				✓	✓
2D separation				✓	✓

Bring more confidence to your team with reliable and standardized solutions

Some of the most stressful things that can happen are unplanned downtime and a lack of confidence in results. They shift the attention to time-consuming, hands-on workarounds or sample reruns, which can have an effect on staff morale and motivation.

Besides that, they endanger the brand's reputation and the quality of its results.

We provide distinct reliability through sound system architecture and confidence in the results through various safety features with **ACS FoodAnalyzer** solutions.

Through the consolidation of workflow, systems, and reagents, lab standardization allows you to do more work on fewer instruments. Standardization also provides efficient and compatible network cooperation solutions.

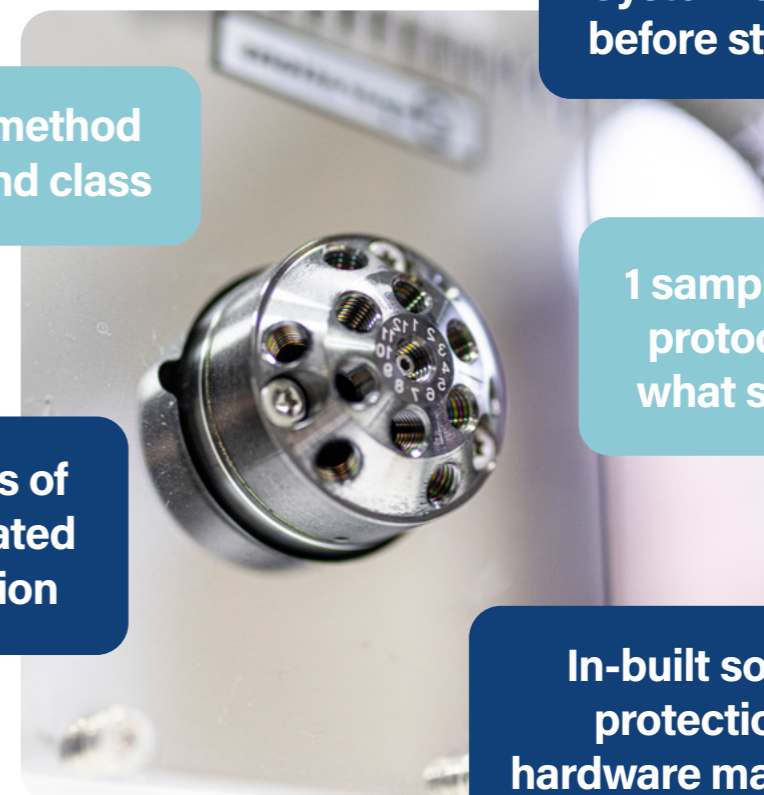
1 analytical method per compound class

System Suitability Test before start of analysis

1 sample preparation protocol no matter what sample matrix

All compounds of interest separated before detection

In-built software protection for hardware malfunction



1 Separation of compounds of interest from the sample matrix

Compared with bulk method assays like ELISA, spectrophotometric determinations, BRIX, NIR, etc... the FoodAnalyzer is based upon HPLC-methodology. This means there is no risk of matrix effects that could lead to false results.

The three principles that support the FoodAnalyzer

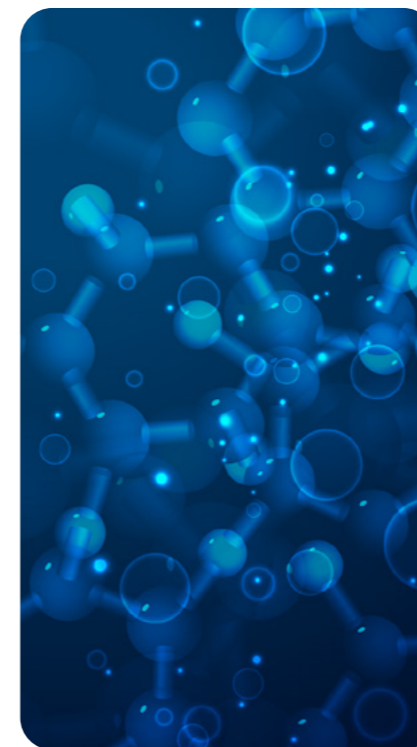
2 Specificity achieved from derivatization before or after separation

When applicable, we use chemical derivatization for the compounds of interest to improve sensitivity and selectivity. The reaction is so specific that no other compounds can interfere (e.g. carbohydrates). Derivatization can happen before or after their separation

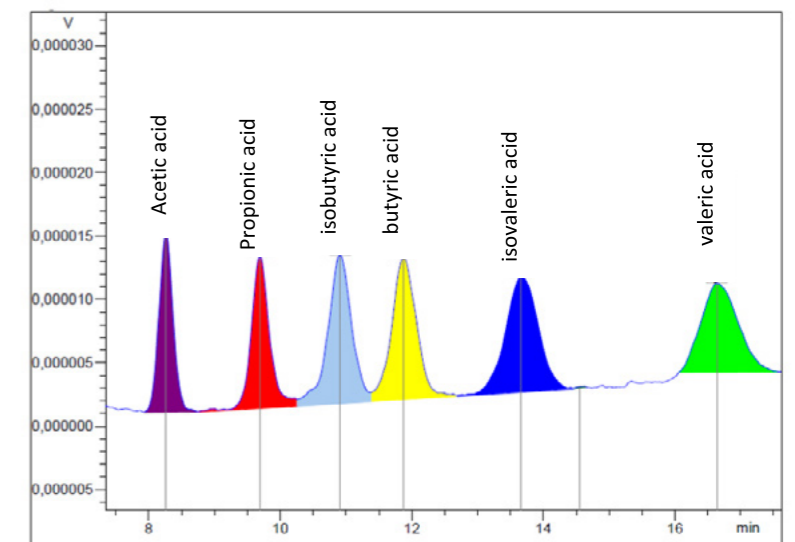
3 Multiple dimensional separation when 1D is not enough

When the amount of interferences is too numerous important and they can't be masked by simple sample preparation techniques (e.g. precipitation) or derivatization, the method is developed with a second dimension separation improving drastically the specificity and therefore eliminating errors.

— Example of the 1D separation of organic acids in a fermentation



The added reagent is specific for organic acids, therefore no interferences can be seen. While the sample contained lots of other molecules and the overall colour was brownish, the only sample preparation needed was a simple filtration step since the derivatization happens after separation of the acids.



— Assay portfolio

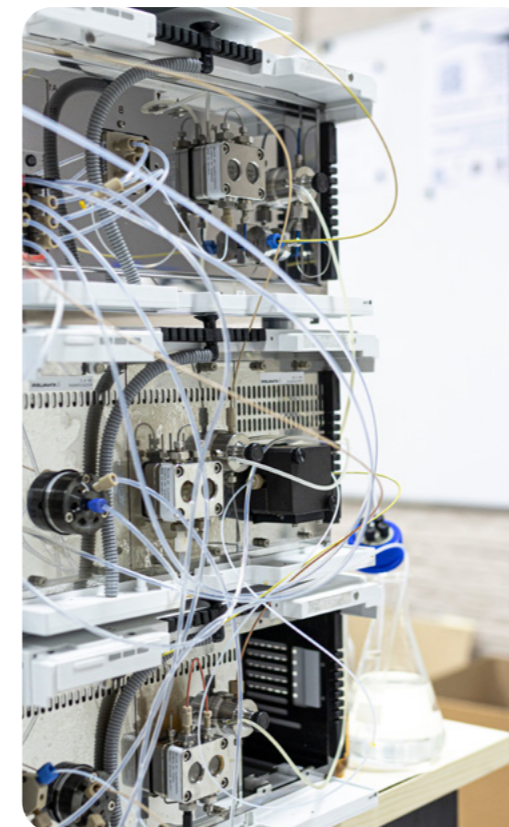
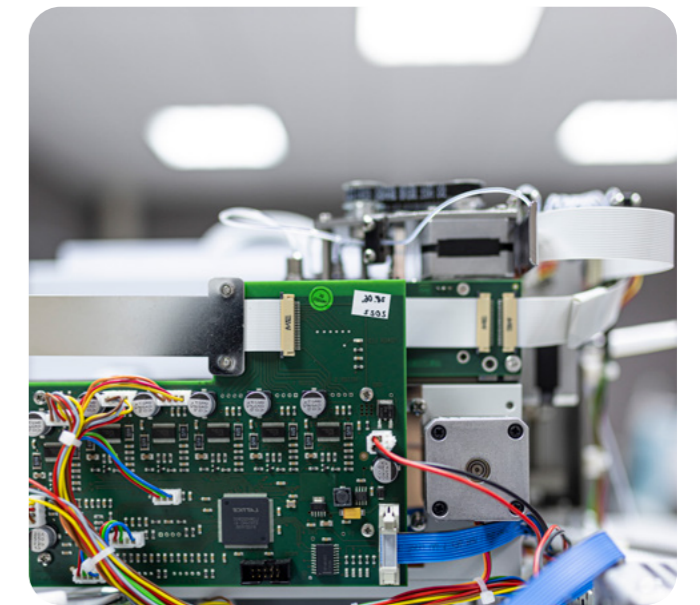
	FA-3000 Core	FA-3001 Essential	FA-3005 FruitAnalyzer	FA-3010 Essential +	FA-3100 Advanced
Vitamins ^{(1) (2)}	✓	✓	✓	✓	✓
Organic Acids ⁽³⁾⁽⁴⁾	✓	✓	✓	✓	✓
Amino Acids ⁽⁵⁾	✓	✓	✓	✓	✓
Sugars ⁽⁶⁾			✓		✓
Sweeteners ⁽⁷⁾		✓	✓	✓	✓
Acrylamide				✓	✓
Mycotoxins ⁽⁸⁾				✓	✓
Mycotoxins ⁽⁹⁾				✓	✓
Ergot Alkaloids				✓	✓
Anti-oxidants ⁽¹⁰⁾			✓	✓	✓

1. Water soluble vitamins: B1, B2, B3, B5, B6, B9, B12
2. Fat soluble vitamins: A, D, E, K
3. Organic acid kit 1: Oxalic acid, Tartaric acid, Formic acid, Malic acid, Lactic acid, Acetic acid, Diglycolic acid, Maleic acid, Citric acid, Succinic acid, Fumaric acid (analysis time: 5 min)
4. Organic acid kit 2: Oxalic acid, Citric acid, Galacturonic acid, Tartaric acid, Pyruvic acid, Malic acid, Quinic Acid, Aconitic acid, Succinic acid, Lactic acid, Formic acid, Fumaric acid, Acetic acid, Propionic acid, Butyric acid, Isobutyric acid, Valeric acid, Isovaleric acid (analysis time: 20 - 34.5 min)
5. Amino acids: Asp, Glu, Ser, Thr, Gly, Arg, Pro, Val, Met, Ile, Leu, Phe, Cys, Lys, His, Tyr, Trp
6. Included in the kit: Fructose, Glucose, Sucrose, Maltose, Lactose (ask for other combinations)
7. Acesulfame K, Saccharin, Aspartame, Sucralose
8. DON, AFB1, AFB2, AFG1, AFG2, OTA, ZON (ZEA), FB, FB2
9. DON, AFB1, AFB2, AFG1, AFG2, OTA, ZON (ZEA), FB, FB2, HT-2, T-2
10. Gallic Acid Equivalent

— Our Commitment

Extending evidence base

Extending the evidence-base for existing assays through studies to generate higher awareness and broader access to innovation.



New claims for existing assays

Generating new claims for existing assays for a wider range of applications.

Discovery of new assays

Menu expansion in the areas of unmet analytical needs and new guidelines in worldwide food safety regulations.



SerColab.be

**ADVANCED
CHROMATOGRAPHY
SOLUTIONS**

info@sercolab.be
www.sercolab.be

Westkaai 7 · 2170 Merksem · Belgium