FOSS

LABORATORY SOLUTIONS

THE COMPLETE PRODUCT RANGE

ANALYTICS BEYOND MEASURE

SmartAnalytics™ enabled solutions

This sticker indicates that an instrument is SmartAnalytics™ enabled.

Turn your data into actionable insights that give you full control of your production across sites. Increase your efficiency, accuracy and uptime to ensure the safe and consistently high-quality food and feed products your customers expect.

Contact your local sales representative to learn more about the potential value in your business.

DISTILLATION

Kjeltec™ 9 Analyser

The Kjeltec™ 9 Analyser provides fully automated Kjeldahl analysis adding advanced digital capabilities to an already brilliant technology. Take advantage of fast turnaround time, improved data handling and less risk of human error. Renowned accuracy combined with built-in colorimetric titration and an optional Autosampler makes it perfect for the busy laboratory with a large sample volume and high variation.

Sample types

Raw materials and finished products in food, feed and agriculture.
Water and wastewater and a wide range of industrial samples.

Parameters

Nitrogen, protein, ammonia.

Kjeltec™ 9 Autosamplers

Combined with an optional 20 or 60 place Kjeltec™ 9 Autosampler, the Kjeltec™ 9 Analyser provides the benefits of automation for any laboratory. Increase your throughput, improve safety and free up staff to do other work. Just load your sample racks directly from the digestion block without touching any tubes and Kjeltec 9 Analyser will perform accurate analysis unattended for more than four hours.

Kjeltec™ 9 Distillator

The Kjeltec™ 9 Distillator is an automated distillation unit designed primarily for protein analysis following the Kjeldahl method but can be widely used for many different distillation purposes. The solution is perfect for laboratories running a low to medium volume of daily samples and using many different distillation methods.

Sample types

Raw materials and finished products in food, feed, agriculture and related matrices.
Water and wastewater and a wide range of industrial samples.

Parameters

Nitrogen, protein.

ELEMENT ANALYSIS

Micral™

The Micral™ solution, consisting of a pelletizing unit, a searing unit and a LIBS analyzer, is the first fully automated solution to measure elements in a broad variety of agricultural samples such as feed and forages. Micral provides valid results for key elements in just one minute per sample.

Micral™ LIBS

Micral™ LIBS is based on Laser Induced Breakdown Spectroscopy (LIBS) with a wavelength range of 178 nm - 427 nm, and a high-energy pulse laser operating at 1064 nm. After the pelletizing and searing steps, Micral™ LIBS ionizes the sample and enables quantitative analysis of the elements.

Combined with an autosampler cassette containing 60 samples, Micral™ LIBS has a complete running time of approximately 60 minutes.

Sample types

Grass silage, corn silage, alfalfa/legume hay, hay, fresh grass, haylage, mixed hay, sorghum, straw, grass and clover and barley silage (whole crop silage).

Parameters

6 macro elements: calcium (Ca), magnesium (Mg), phospohorus (P), potassium (K), sodium (Na), sulfur (S).

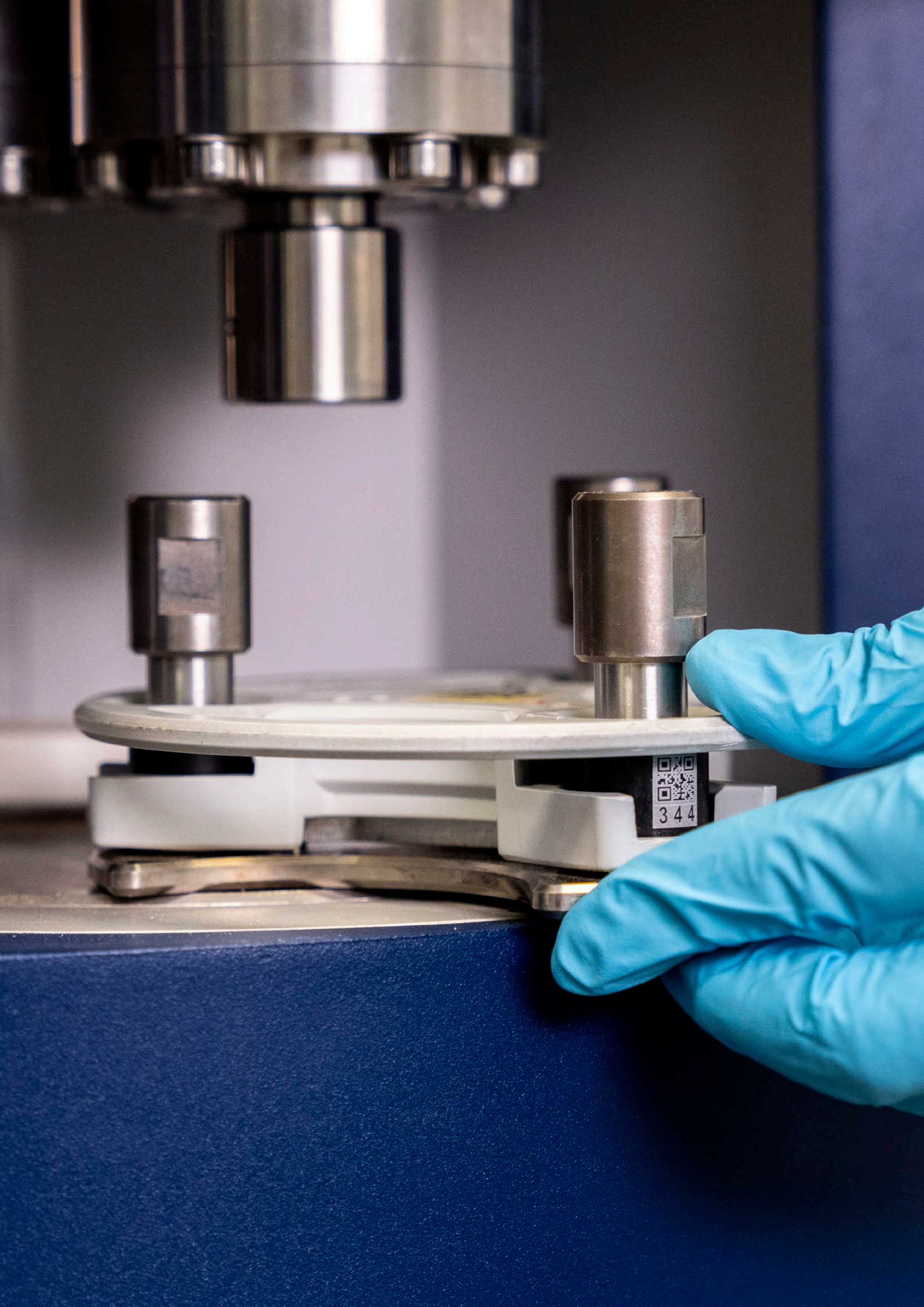
6 micro elements: aluminium (Al), boron (B), copper (Cu), iron (Fe), manganese (Mn), zinc (Zn).

Micral™ Press

The Micral™ Press handles one batching tray with 3 sample containers at a time. Each sample is pressed into a pellet to ensure a hardened, uniform surface before searing and analysis.

Micral™ Searing

After pelletizing, the batching tray is moved to the Micral™ Searing unit. Searing of the sample surface improves the level of quantification and reduces the sample matrix effect. The amount of searing is automatically adapted to the individual sample.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DIGESTION

Digestor 2508 and 2520 with lift

The Digestor with lift system is a fully automated digestion solution, available with either 8 or 20 positions and optimal for the busy laboratory.

The solution is fully programmable with true temperature ramping. An application which controls the entire process is chosen on the screen. When digestion is completed the combined tube rack and exhaust manifold moves to the cooling position. The fully automated procedure eliminates risky handling of hot chemicals. The two-way PC communication supports traceability and GLP.

Digestor 2508 and 2520 with racking system

The Digestor with racking system is a semi-automated digestion solution and is available with either 8 or 20 positions.
The racking system follows the same procedure as the Digestor with lift system. The difference is that the operator has to move the rack into a cooling position when a signal is heard and separate the rack and the exhaust manifold.

Sample types

Raw materials and finished products in food, feed, agriculture and related matrices. Water and wastewater and a wide range of industrial compounds.

Parameters

Kjeldahl digestion, chemical oxygen demand and other reflux chemistries, trace metal analysis by AAS or ICP instruments.

DT 208 and DT 220 Digestor

The Digestor is a manual digestion solution with either 8 or 20 positions. Optimal for the laboratory with a low to medium number of samples.
The operator selects the temperature and time for the digestion and all other procedures are then performed by the solution once the digestion has reached the selected temperature. The solution has a built-in, user definable time and temperature controller and display.

Sample types

Raw materials and finished products in food, feed, agriculture, related matrices as well as a wide range of industrial samples.

Parameters

Kjeldahl digestion, chemical oxygen demand and other reflux chemistries, trace metal analysis by AAS or ICP instruments.

Scrubber 2501

Improve safety and the working environment by connecting a fully-automated scrubber to your digestion. The scrubber is used in the digestion step and neutralises all corrosive fumes. The scrubber can replace the water aspirator for efficient fume removal and uses less water than the water aspirator as it is not connected directly to a water supply tap. When the Scrubber 2501 is connected to the Digestor lift or racking system the program will fully control the function including switching from high to low aspiration settings.

EM 2508 and EM 2520 Exhaust Manifolds

Exhaust manifolds designed for each digestion unit facilitate fume removal and containment and are strongly recommended for use with all digestion procedures. The exhaust must be connected to either a water aspirator or a scrubber. We strongly recommend the use of both exhaust systems and fume cupboards for these operations. This is simply Good Laboratory Practice (GLP) and avoids conflict with local Health & Safety (H&S) requirements.

RH 2508 and RH 2520 Reflux Heads

When a digestion unit is used for reflux chemistries, such as chemical oxygen demand (COD), a reflux head connected to a suitable cold water supply should be used instead of the exhaust manifold. FOSS Reflux Heads are conveniently mounted in handling racks that match the tube rack in the Digestor. The ball jointed condensers are designed for use with ball jointed digestion tubes. The Reflux Heads are compatible with FOSS Digestors with either lift, or racking systems.

SOLVENT EXTRACTION & ACID HYDROLYSIS

Soxtec™ 8000

The Soxtec™ 8000 extraction unit is a fully automated system with 6 positions. Two units can be combined to make a 12 place system for up to 84 samples per day making it perfect for the busy laboratory. The unique solvent addition feature and closed solvent handling reduces the operator's exposure to the solvents ensuring a safe and efficient work environment. For total fat analysis, the Hydrocap™ filter is transferred from the hydrolysis unit to the extraction unit using batch handling tools to ensure fast and safe handling of samples and cups, while preventing any contamination.

Sample types
All samples that are extractable in solvent: raw materials, intermediates and finished products in food, feed, soil, sludge, polymers, paper pulp, textiles and more.

Parameters
Crude, free fat and other extractables. Total fat (when used with Hydrotec™ 8000).

ST 255 Soxtec™

The semi-automated, 6 position ST 255 Soxtec™ allows for a throughput of up to 36 samples per day. The solution includes closed solvent handling and batch handling tools that ensure fast and safe handling of samples and cups.

Sample types
All samples that are extractable in solvent: raw materials, intermediates and finished products in food, feed, soil, sludge, polymers, paper pulp, textiles and more.

Parameters
Crude, free fat and other extractables. Total fat (when used with Hydrotec™ 8000).

ST 243 Soxtec™

The manual, 6 position ST 243 Soxtec™ is a reliable solvent extraction system allowing a throughput of up to 36 samples per day with some degree of attended operator time. This system uses smaller 26 mm thimbles, which reduces solvent usage. The solution is mostly relevant for laboratoties with low sample volume.

Sample types
All samples that are extractable in solvent: raw materials, intermediates and finished products in food, feed, soil, sludge, polymers, paper pulp, textiles and more.

Parameters
Crude, free fat and other extractables. Cannot be used with Hydrotec™ 8000.

Hydrotec™ 8000

The Hydrotec™ 8000, with up to 12 positions, is ideal for the busy laboratory requiring a high throughput of samples. It is an innovative, fully automated system that performs automated acid hydrolysis and neutralisation without sample transfer. It has a small footprint and unique batch-handling features that enable limited exposure to hydrochloric acid. The Hydrotec™ is designed to be used with the Soxtec™ 8000 or ST 255 Soxtec™ for final extraction.

Sample types

Intermediates and finished products in food, animal feed and petfood.

Parameters

Total fat.

CRUDE, DETERGENT AND DIETARY FIBRE ANALYSIS

Fibertec™ 8000

Fibertec™ 8000 is a fully automated filtration system following the official reference methods, perfect for the laboratory with high sample volume. The solution uses internally preheated reagents added to a closed system to minimise contact with hot reagents. It determines fibre content according to Weende, van Soest and other recognised methods. Single or sequential extractions including boiling, rinsing and filtration are performed under reproducible and controlled conditions.

Sample types

Feed, raw materials and finished products in feed and agriculture.

Parameters

Crude fibre (CF), neutral detergent fibre (NDF), amylase treated neutral detergent fibre (aNDF), acid detergent fibre (ADF), and acid detergent lignin (ADL).

FT 122 Fibertec™

The FT 122 Fibertec™ is a manual and reliable solution with a high degree of attended operator time. It is a hot extraction unit for simple determination of crude fibre and detergent fibre and related parameters according to standard reference 'crucible' methods such as Weende, van Soest etc., for use in the laboratory.

Sample types

Raw materials and finished products in feed and agriculture.

Parameters

Crude fibre (CF), neutral detergent fibre (NDF), amylase treated neutral detergent fibre (aNDF), acid detergent fibre (ADF), and acid detergent lignin (ADL).

FT 121 Fibertec™

FT 121 Fibertec™ is a cold extraction unit used in combination with Fibertec™ 8000 or FT 122 Fibertec™. It is used for defatting of samples, extraction at ambient temperature e.g. lignin determination (ADL), and for solvent dehydration of fibre residue.

Fibertec™ 1023

The Fibertec™ 1023 E is a semi-automated filtration system for dietary fibre determination and is perfect for laboratories wanting to follow official reference methods. The system includes a water bath with 12 positions for incubation and a 6 position filtration unit for quantitative determination of dietary fibre in a variety of sample types. The filtration module filters and collects six sample solutions and includes a system for rapid dehydration.

Sample types

Food and raw materials.

Parameters

Total, soluble and insoluble dietary fibre.

INDIRECT METHODS

NIRS™ DS3

The NIRS™ DS3 analyser is always ready, delivers results you can trust and offers many smart data sharing and calibration management options. Get the information you need to make the necessary decisions and get full control of your sample preparation. Shorten your turnaround time, reduce waste and reduce the use of harmful chemicals to optimise cost and ensure sustainable operations.

Sample types

A wide range of food, feed and agri matrices such as soil, bread, pasta, ready-to-go meals, sausage and more.

Parameters

Fat, protein, moisture, ash, starch plus the option to develop additional calibrations such as amino acids, NDF, ADF, dietary fibre, sugar, soil organic carbon (SOC), clay, pH and more.

FoodScan™ 2

FoodScan™ 2 is a perfect indirect method solution for screening of dairy and meat samples. It is a highly reliable and accurate solution for checking final product quality, and provides all label parameters in just seconds, including water activity for meat samples. Use FoodScan™ 2 as a new screening service for customers or in the microbiology lab for measuring water activity in meat samples. AOAC and AQIS approved for meat samples.

Sample types

Meat, dairy and similar plant-based products.

Parameters

Fat, moisture, protein, salt, ash, collagen, solids-non-fat (calculated) and total solids, pH in fermented products, saturated fat and fatty acids, carbohydrates, energy, sodium, water activity and colour measurement.

Infratec™

Solid, straightforward and reliable, Infratec™ draws on the latest advances in NIR technology, connectivity and usability. It makes the job of quality control easier and less time-consuming as a reliable nutrition label screening for any grain analysis. Enables you to offer screening services to customers and manage an Infratec™ Master Unit in the lab.

Sample types

Grains, flour, oilseeds, beans and pulses.

Parameters

Moisture, protein, oil, test weight and many more.

This instrument is SmartAnalytics™ enabled

MilkoScan™ FT3

The MilkoScan™ FT3 offers a new, intelligent approach to dairy analysis including the power to test a wide variety of liquid and semi-solid dairy and similar plant-based products at a low cost of ownership, with exceptional uptime and unprecedented consistency of results.

Sample type

Compositional analysis of liquid and semi-solid dairy products such as milk, cream, whey, yoghurt, creme fraiche, milk and whey concentrates incl. WPC, chocolate milk and similar plant-based products.

Parameters

Global calibrations: Fat, protein, lactose incl. low lactose products, total solids, solids-non-fat, freezing point, titratable acidity, density, free fatty acids, citric acids, casein, urea, sucrose, glucose, fructose and galactose. Targeted and untargeted adulteration screening.

This instrument is SmartAnalytics™ enabled

MilkoScan™ Mars

MilkoScan™ Mars is an easy to run and cost effective milk analyser. In just one minute, powerful FTIR analytical technology enables analysis of up to 6 parameters from a single sample as well as detection of deliberate or accidental adulteration of the milk supply. AOAC and IDF compliant.

Sample types

Raw and processed milk, cream and whey.

Parameters

Fat, protein, lactose, total solids, solids-non-fat and freezing point (milk only). Targeted and untargeted adulteration screening.

This instrument is SmartAnalytics™ enabled

BacSomatic™

BacSomatic™ is the first-ever integrated bacteria and somatic cell tester. It offers full automation for minimal reagent handling and consistent test results. BacSomatic™ is easy to use and a fast alternative to manual assay, providing instant, simultaneous results for bacteria count and somatic cell count within 9.5 minutes and 15 samples/hour (1.5 minutes and 40 samples/hour for somatic cell count alone). FDA/NCIMS and EURL/Microval approved.

Sample types

Raw cow milk, buffalo milk and goat milk.

Parameters

Bacteria count and somatic cell count.

WineScan™ SO_2

WineScan™ SO_2 is a highly reliable instrument ideal for accurate and efficient wine analysis, in a busy laboratory.

The unparalleled accuracy of WineScan™ SO_2 is based on a reference database of 105,000 samples. This is why 9 out of 10 wine laboratories use a FOSS wine solution for fast and reliable data generation. Options are available to suit your applications, including auto-sampling functions and the option to test colour or sulphur dioxide in parallel with other key parameters.

Sample types

Grape must, must under fermentation and finished wine.

Parameters

Key critical quality control parameters.

SAMPLE MILLS

CM 290 Cemotec™

The CM 290 Cemotec™ laboratory mill is ideal for preparation of samples with low fat and low moisture content, e.g. grain or seed samples. The Cemotec™ is designed to grind samples without losing any moisture content and is excellent for sample preparation where the requirements for fineness and uniformity of particle size are moderate.

CT 293 Cyclotec™

The CT 293 Cyclotec™ laboratory mill is ideal for rapid and flexible preparation of a wide variety of feeds, grains, leaves and other low fat and low moisture samples. Cyclotec™ has a high grinding speed and is excellent for sample preparation where the requirements for fineness and uniformity of particle size is essential. A modern design ensures easy operation and maintenance.

KN 295 Knifetec™

The KN 295 Knifetec™ laboratory mill is ideal for preparation of high fat, high moisture and fibrous samples. The grinding chamber is water cooled to protect heat sensitive high fat samples, while the robust design makes is easy to maintain and clean between samples. The built-in timer ensures consistent results.

Hammertec™

The Hammertec™ is ideal for dried, flowable, whole cereal grain samples, e.g. common wheat, common rye, durum and barley and is specially designed for falling number analysis (Alphatec™ FNo), NIR, nitrogen combustion methods, and other reference analyses.

FOSS

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