

# FOSS

## LABORATORY SOLUTIONS

THE COMPLETE PRODUCT RANGE

ANALYTICS BEYOND MEASURE







# DISTILLATION



## Kjeltec™ 8400

■ Tecator™ Line

The Kjeltec™ 8400 is a fully automated Kjeldahl analyser with built-in colorimetric titration and optional autosampler perfect for the laboratory with a large sample volume and high variation. Access new levels of efficiency with renowned accuracy, cost effectiveness and safety. Improve traceability with optional Compass PC software for easy data handling, reporting and connectivity with any LIMS system.

### 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.



## Kjeltec™ 8420/8460

■ Tecator™ Line

This innovative auto sampler with either 20 or 60 positions, designed to be used together with Kjeltec™ 8400, is ideal for the very busy laboratory focused on efficiency and productivity. The auto samplers improve laboratory efficiency as overnight operations are possible with completely unattended operations for hours. In addition, the racks can be loaded directly from the digestion block into the auto sampler without touching any tube. This improves operator safety, prevents cross-contamination and mixing of samples.



## Kjeltec™ 8200

■ Tecator™ Line

Kjeltec™ 8200 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. Can be connected to an external titration unit and is upgradeable to a Kjeltec™ 8400, offering a completely automated distillation unit.

### 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.





## Kjeltec™ 8100

■ Tecator™ Line

Kjeltec™ 8100 is a semi-automated distillation unit designed primarily for Kjeldahl analysis, but widely used for many different distillation methods. A simple, yet versatile solution, it provides the possibility to pre-program alkali and dilution water addition, distillation, and tube drainage. The solution is perfect for laboratories with low daily sample volume.

### 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.



## KT 200 Kjeltec™

■ Labtec™ Line

The manual Kjeltec™ 200 distillation unit is perfect for the smaller laboratory with a low sample volume. It is a simple and reliable solution for occasional testing.

### 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.

# DIGESTION



## Digester 2508 and 2520 with Lift ■ Tecator™ Line

The Tecator™ Line Digester 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.

## Digester 2508 and 2520 with Racking system

The Tecator™ Line Digester 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 digester with the Lift system, but 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 digestions, chemical oxygen demand and other reflux chemistries, trace metal analysis by AAS or ICP instruments.



## DT 208 and DT 220 Digester ■ Labtec™ Line

The Labtec™ Line Digester is a manual digestion solution with either 8 or 20 positions. Optimal for the laboratory with a low to medium amount 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 digestions, chemical oxygen demand and other reflux chemistries, trace metal analysis by AAS or ICP instruments.



## Scrubber 2501

■ Tecator™ Line

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 Tecator™ Line Digestor Lift or Rack system the program will fully control the function including switching from high to low aspiration settings.



## SR 210 Scrubber

■ Labtec™ Line

The SR 210 Scrubber is a manually controlled version of Scrubber 2501.

The operator has to manually start and stop the SR 210 and switch from high to low aspiration settings. All other procedures are performed automatically.



## 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 which match the tube rack in the digester. The ball jointed condensers are designed for use with ball jointed digestion tubes. The reflux heads are compatible with Tecator™ Line Digestors with Lift, Tecator™ Line Digestors with Rack and Labtec™ Line Digestors.

# COMBUSTION



## Dumatec™ 8000

■ Tecator™ Line

The fully automated Dumatec™ 8000 is based on the combustion principle for nitrogen determination and improves laboratory efficiency and productivity, making it the perfect choice for busy laboratories. Provides reliable and rapid results in just 3-5 minutes with instantaneous analysis of all resulting gases. The Dumatec is very reliable ensuring a high level of accuracy across a full range of calibrations. A rapid start up time of 30 minutes as well as high unattended operator time with the 117 position auto sampler, ensures high uptime.

Dumatec™ is connected to FossManager™ networking software allowing you to remotely access the instrument fleet and manage results from anywhere, anytime. With this new service, the laboratory can ensure standard operating procedures across laboratory sites, traceability and improved quality control.

### Sample type

Raw materials and finished products, both in solid and liquid form, in food, feed and agriculture

### Parameters

Nitrogen/protein.

# SOLVENT EXTRACTION & ACID HYDROLYSIS



## Soxtec™ 8000

■ Tecator™ Line

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 type

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™

■ Labtec™ Line

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 type

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™

■ Labtec™ Line

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 laboratories with low sample volume.

### Sample type

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

■ Tecator™ Line

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 type

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

### Parameters

Total fat.

# CRUDE, DETERGENT AND DIETARY FIBRE ANALYSIS



## Fibertec™ 8000

■ Tecator™ Line

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 type

Feed and 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).



## Fibertec™ 122

■ Labtec™ Line

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 type

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).



## Fibertec™ 121

■ Labtec™ Line

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

■ Tecator™ Line

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 type

Food and raw materials.

### Parameters

Total, soluble and insoluble dietary fibre.

# INDIRECT METHODS



## NIRS™ DS2500

The NIRS™ DS2500 provides rapid NIR analysis with exceptional accuracy for a wide range of samples. As the NIRS™ DS2500 is highly versatile, it is perfect for rapid screening of product content. Enables you to offer screening services to customers, optimise laboratory processes and improve internal quality control. Connected to FossManager™.

### Sample types:

Feed, forage, flour, grains, dairy powder, ice cream mix and many more homogenous food and agriculture products

### Parameters [depending on sample types]:

Protein, fat, ash, moisture, starch and crude fibre. Possible to develop advanced models for parameters such as amino acids, NDF, ADF, wet gluten, water absorption, lactose and acidity.



## 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. Connected to FossManager™. AOAC and AQIS approved for meat samples.

### Sample types:

Meat and dairy 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. Connected to FossManager™.

### Sample types:

Grains, flour, oilseeds, beans and pulses.

### Parameters:

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





## 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. Connected to FossManager™. AOAC and IDF compliant.

### Sample type

Raw & processed milk, cream and whey.

### Parameters

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



## 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. Connected to FossManager™.

### Sample type

Raw cow milk and buffalo milk.

### Parameters

Bacteria count and somatic cell count.



## WineScan™ SO<sub>2</sub>

WineScan™ SO<sub>2</sub> is a highly reliable instrument ideal for accurate and efficient wine analysis, in a busy laboratory.

The unparalleled accuracy of WineScan™ SO<sub>2</sub> 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. Connected to FossManager™.

### Sample type

Grape must, must under fermentation and finished wine.

### Parameters

Key critical quality control parameters.

# SAMPLE MILLS



## CM 290 Cemotec™

■ Labtec™ Line

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™

■ Labtec™ Line

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™

■ Labtec™ Line

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 it easy to maintain and clean between samples. The built-in timer ensures consistent results.



## Hammertec™

■ Tecator™ Line

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.



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