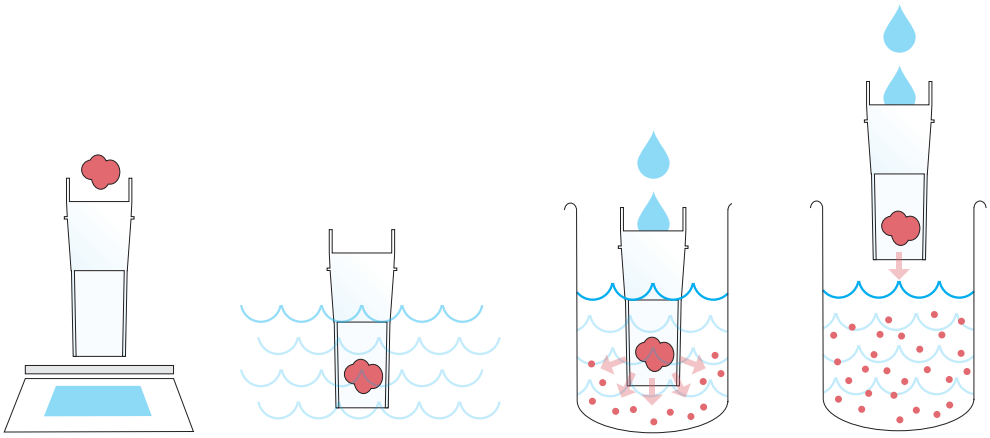
FOSS

Soxtec/Hydrotec™ 8000 Total Fat Solution

Tecator™ Line

The FOSS Total Fat solution automates and simplifies total fat analysis. Consisting of an extraction unit, a hydrolysis unit and a FOSS single filter system that is common to both units, the FOSS Total Fat solution allows you to perform Acid Hydrolysis and Solvent Extraction with one integrated procedure. The system reduces the potential for human error in total fat analysis while reducing costs and improving overall sample throughput.

Sample	Parameters
Raw Materials, Intermediates and Finished Products in Food, Animal Feed and Petfood	Total Fat (Free and Bound Fat)



The unique, patented Hydrocap filter contains the sample from the initial weighing, through hydrolysis to final extraction; avoiding sample transfer errors. It is a fully automated system that performs addition of acid, heating, boiling, rinsing and draining.

Simplified process improves safety and reduces costs

Consisting of an extraction unit, a hydrolysis unit and a single filter that is common to both units, the Soxtec™ 8000 and Hydrotec™ 8000 solution allows you to perform total fat analysis with one integrated process. The unique, patented Hydrocap filter avoids sample transfer so reducing the risk of human error. Laboratory costs are dramatically reduced and higher sample throughput improves cost effectiveness. The hydrocap holder enables traceability by keeping and remaining the individual samples in the holder througout the weighing, hydrolysing and drying, all the way to docking the samples in the extraction unit.

The compact hydrolysis unit is about the size of a small food processor, saving valuable space in the laboratory. And a comprehensive range of handling tools make routine operations safer and more efficient.

Faster

The hydrolysis stage is often considered the bottleneck in total fat analysis because a limited flow of samples here means limited flow in the subsequent extraction phase. The unique Hydrocap single filter improves throughput by containing the sample all the way through from the initial weighing, through hydrolysis to final extraction. The filter fits into an easy-to-handle holder. This is placed in a 12 positions Hydrolysis system and then transferred directly to the extraction unit which has up to 12 positions.
The virtually seamless sample transfer from hydrolysis to extraction improves speed by reducing manual handling and avoids potential human error while the high capacity throughput improves your overall response time.

More versatile

The Soxtec™ 8000 total fat solution helps you to respond to the demands of your customers, for example, you can do total or crude fat analysis or both. It's easy to increase capacity according to customer requirements with up to 12 position hydrolysis and six position extraction that is expandable to 12, all with individual hotplate control.

The extraction unit has a speed dial for safe and consistent solvent addition so avoiding manual handling of chemicals. Anyone working in the laboratory can control the dosage of solvent precisely. It is added in a closed[1], secure system using a smart solvent dispensing selector that aligns the solvent addition tubes to individual sample positions. This avoids solvent handling and potential human error. Because it is an enclosed system, the operator will not be exposed to solvent fumes during addition of solvents to the cups prior to extraction. One control unit can control two extraction units.

It has an extensive range of accessories with glass and aluminium cups and thimbles in different sizes to fit individual laboratory needs and applications.

Technology

Soxtec integrated total fat analysis

The FOSS total fat solution allows you to perform total fat analysis with one integrated process.
There are three main elements to the solution: the Hydrotec™ 8000 hydrolysis unit, the Soxtec™ 8000 extraction unit and the Hydrocap that works in both. The extraction unit has an external controller and a broad range of accessories.

The Hydrotec™ 8000 unit performs automated acid hydrolysis of samples to break up bonds between fat and other components. Traditionally, hydrolysis units have a capacity of up to six samples and, at this capacity, instruments take up a lot of bench space in the laboratory. The Hydrotec™ 8000 changes that paradigm. It has a twelve place sample holder with a folding action so that samples to fit neatly into the hydrolysis unit.

Chemicals are added and removed by pump, improving safety and reducing the risk of human error.

After hydrolysis the samples and Hydrocaps are dried and placed in the specially designed tool for transferring to the extraction unit in sets of six hydrolysed samples.

The filter is made of an inert material that retains the fat during hydrolysis, but releases it during extraction.

The Soxtec™ 8000 extraction unit is a fully automated system for fast and safe determinations of extractable matter. For total fat analysis, the Hydrocap filter is transferred from the hydrolysis unit to the extraction unit which then performs the four extraction steps boiling, rinsing, solvent recovery and auto shut down, fully unattended. Just load and start.

Closed Solvent addition

Some users simply add solvent to the extraction cups before starting the extraction. When used with an external dispenser[1], a solvent dispensing selector aligns to individual sample positions by simply turning the dial to the appropriate position thus avoiding solvent handling. Compared to classical Soxhlet, the Soxtec system uses significantly less solvent. Solvent is recovered automatically.

[1]When using the solvent dispenser not supplied.
[2]Subject to Application.

The standard model has six hotplate positions, but users have the option to extend to 12. All positions can be individually temperature controlled. An automatic shutdown feature permits out-of-hours operations allowing for high throughput of up to 14 batches or 284 samples per day.

System description

Hydrolysis:

Hydrotec™ 8000, 120 or 230V including 1 set of accessories.

The accessories set comprise:
- Hydrolysis beaker
- 2 Capsule holders (6 position)
- Tongs
- Weighing Support
- Cotton
- Docking tool for capsules
- Extension pipe
- 1 set of Hydrocaps (60/set)
- Owners Guide
- Application Note
- User Manual
- Quick Guide
- Spare Parts Manual

For the accessories set, the following parts are selectable:
- User manuals and Quick Guides: English, French, Spanish or German versions

Optional choices:
- 1 set of Hydrocaps (60/set) designed for use with Soxhlet, Soxtec 2050 and ST 255 Soxtec™ (the former Soxtec 2055) (incl. adapters)

SC SoxCap™ 247, 115V or 230 V 50-60 Hz including Hot plate with condenser and 1 set of accessories

The accessories set comprise:
- Hydrolysis beaker
- Boiling stand
- Capsule tray
- Drying stand
- Glass capsules 6/set
- 1 set of Filters 100/set
- 1 set of Cellulose Thimbles 28x22 mm, 25/set
- 2 set of Adapters for Soxtec™ 8000, 6/set
- 6/set, Cotton
- Water aspirator
- User manual

Solvent Extraction:

Soxtec™ 8000 6-position Extraction system, 230V or 120V comprising one Soxtec™ 8000 Basic unit, one Control Unit and 1 set of accessories.
Soxtec™ 8000 12-position Extraction system, 230V or 120V comprising two Soxtec™ 8000 Basic units, one Control Unit and 2 sets of accessories.

The accessories set comprise:
- 1 set of extraction cups 6/set
- 1 set of condenser seals
- 1 thimble stand
- 1 set of Thimble adapters 6/set (for Crude Fat),
- 1 set of Thimble adapters 6/set (for Crude Fat)
- Docking tool for thimbles (Crude Fat)
- Thimble Support
- Cup holder
- Cup stand
- Cup tool
- Cotton
- Solvent addition tube
- Solvent Recovery flask
- Owners Guide
- Application Note
- User Manual
- Quick Guide
- Spare Parts Manual

For the accessories set, the following parts are selectable:

Choice of Extraction cups:
- Aluminium cups
- Glass cups, standard

Choice of Condenser seals (solvent dependant):
- Condenser seal Viton/Butyl 6/set
- Condenser seal Resel 6/set
- Condenser seal Polyuretane 6/set

User manuals and Quick Guides: English, French, Spanish or German versions

Secure your investment with a FossCare™ Support Agreement

Let FOSS take care of you for a maximum return on your analytical investment. Get a four year warranty as part of the new FossCare Premium Preventive Maintenance Agreement or two years as part of any other FossCare agreement. In addition to the peace of mind afforded by the warranty period, the continual preventive maintenance pays off by keeping your analytical instruments working perfectly every day, year after year.

Why preventive maintenance?

As with any analytical solution, it is essential that your FOSS instrument receives regular maintenance to ensure optimal performance and extended lifetime. Avoiding expensive downtime is a matter of following factory standards and preventively replacing parts before they wear out. In turn, this helps ensure reliable and consistent results at the highest level.

Preventive and predictive maintenance combined with global support from 300 dedicated service, application, software and calibration specialists keeps your instrument running perfectly all year round.

Benefits of a FossCare™ Support Agreement:

- Extended Warranty (two or four years depending on the chosen agreement)
- Regular maintenance; the instrument is diagnosed, cleaned, adjusted, tested, fine tuned and recalibrated
- Minimal downtime from replacing components before they are worn out
- Consistent, accurate and reliable results you can always trust
- Preventative maintenance visits when it suits you (your business)
- 24/7 phone support - no need to worry about closing hours or PO
- Low, fixed service budget prevents unexpected expenses
- Discounts on additional services, spares, training, reagents, consumables and software upgrades

Contact your local Foss office for more information.

Specifications Soxtec™ 8000

Feature	Specification
Dimensions (W x D x H)	Extraction Unit: 640 x 350 x 630 mm Control Unit: 280 x 200 x 190 mm
Weight	Extraction Unit: 35 kg Control Unit: 4 kg
Power rating	1500 W (120 VAC version) 1800 W (230 VAC version)
Internal fuses (CU)	120 VAC/60 Hz: T15AH125V 230 VAC/50 Hz: T10AH250V
Sample size	0.5-2g (for total fat)
Measurement range	0.1-100%
Accuracy	According to officially approved methods
Reproducibility	+/-1% rel. or better (5-100% fat)
Extraction time	Typically 45-60 min.
Solvent volume	70-90 ml
Solvent recovery	Typically 80%
Capacity per batch	6/12 positions
Capacity per day	42/84 samples
Programs	1-9
Temperature range	0-285 °C
Heating up time	From 20-285 °C in 5 min (230 V)

Installation requirements

Soxtec™ 8000	
Voltage	100-120 VAC 50/60Hz or 200-240 VAC 50/60Hz depending on ordered version
Water supply	One water tap - for cooling water
Cooling water	2 litre/min, <25 °C (minimum flow)
Drain	One drain/sink for cooling water
Ventilation	Fume hood. Mains power interlocked to the airflow which must be at least 0.5 m/sec
Use	Indoor
Altitude	Up to 2000 m
Temperature	5-40 °C
Relative humidity	Maximum 80%
Transient overvoltage	Category II
Pollution degree	2
Protection Class	IP41

Legal data

The equipment is CE labelled and complies with the following directives:

- ElectroMagnetic Compatibility (EMC) Directive 2004/108/EC
- Low Voltage Directive (LVD) 2006/95/EC
- Machinery Directive (MD) 2006/42/EC
- Packaging and packaging waste Directive 94/62/EC
- WEEE Directive 2002/96/EC

Specifications Hydrotec™ 8000

Feature	Specification
Dimensions (W x D x H)	430 x 340 x 310 mm. Height with lid open is 600 mm
Weight	18 kg
Power rating	1860 W (230 VAC version) 1660 W (120 VAC version)
Internal fuses (CU)	F10A250V (230 VAC version) F15A125V (120 VAC version)
Sample size	0.5-2 g
Measurement range	0.1-100% fat in combination with extraction
Repeatability	Typically ±1% relative standard deviation for 10-100% fat content in combination with extraction
Capacity per batch	12 samples simultaneously
Hydrolysis time	Typically 2 hours, or as stated in Application
Modes	2 modes; Automatic/Manual
Programs	1-9

Installation requirements

Hydrotec™ 8000	
Voltage	100-120 VAC 50/60Hz or 220-240 VAC 50/60Hz depending on ordered version
Water supply	Two water taps - for cooling and also for rinsing water. Alternatively one tap equipped with a T-connector. Deionized or distilled water is not needed
Cooling and rinsing water	Water tap: 1litre/min, <25 °C (pressure 50 to 500 kPa or 0.5 to 5 bar). Circulating Water Cooler: 1 litre/min, <25 °C (max backpressure 20 kPa or 0.2 bar)
Drain	One drain/sink for rinse, acid and cooling water
Ventilation	Fume hood.
Use	Indoor
Altitude	Up to 2000 m
Temperature	5-40 °C
Relative humidity	Maximum 80%
Transient overvoltage	Category II
Pollution degree	2
Protection Class	IP41

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