

Soxtec™ 8000 Crude Fat Solution



Tecator™ Line

The Soxtec™ 8000 crude fat solution is a versatile solution for automated fat extraction. It has a six position extraction system (expandable to 12). It has a smart, easy-to-use and enclosed system for controlling solvent volume and a wide range of accessories ensuring safe and effective sample handling. If you need to do total fat analysis, the extraction unit can be used as part of the FOSS integrated Total Fat procedure that avoids sample transfer and improves sample throughput.

Sample	Parameters
Raw Materials, Intermediates and Finished Products in Food, Animal Feed and Petfood	Crude or Free fat



The six position extraction unit can be expanded to 12.

Flexible operations

The Soxtec™ 8000 Crude Fat solution helps you to respond quickly to the demands of your customers.

With a six position extraction system (expandable to 12) it's easy to increase capacity according to customer requirements. All positions can be individually turned off if running less than a full batch. Plus, one control unit can control two extraction units. An extensive array of accessories fits your individual needs.

Fast and safe

The Soxtec™ 8000 is typically five times faster than the classical Soxhlet technique.

At the same time, the Soxtec™ 8000 follows officially approved methods for fat in feed (AOAC, ISO), and meat (AOAC). It is designed and built to surpass strict safety standards. Batch handling tools save time, simplify usage and minimise risk of operator error.

An automatic shutdown feature permits out-of-hours operations allowing up to seven batches per day. With a 12 position system, this amounts to 14 batches or 84 samples per day (subject to the application). This high capacity improves your overall throughput.

Safe and consistent dosage

Anyone working in the laboratory can control the dosage of solvent precisely. It is added in a closed¹, 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.

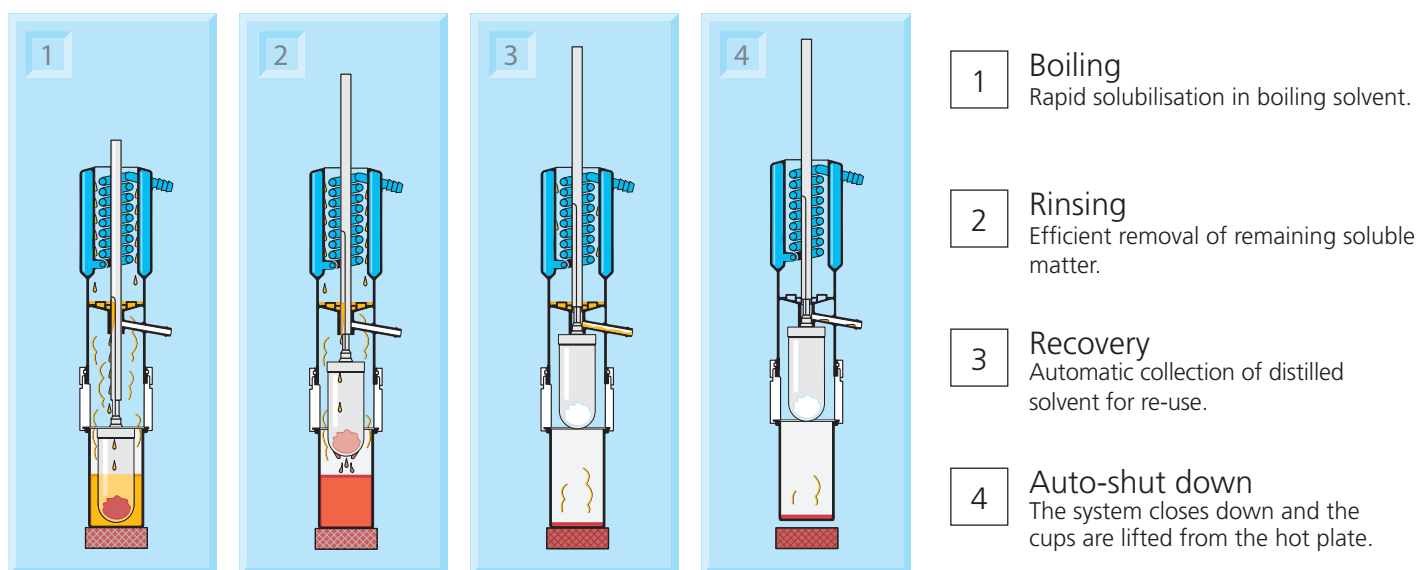
Prepared for total fat

For total fat analysis, the extraction unit can be used as part of the FOSS integrated procedure. This consists of the extraction unit, a hydrolysis unit and a FOSS HydroCap single filter system that works across both units. The system allows you to perform Acid Hydrolysis and Solvent Extraction with an integrated procedure. Sample transfer is avoided, laboratory costs are dramatically reduced and higher sample throughput improves your response time.



¹When using a suitable dispenser not supplied.

Technology



Soxtec extraction

The Soxtec™ 8000 extraction unit is a fully automated system for fast and safe extraction of soluble matter from a wide range of matrices. It performs the four extraction steps boiling, rinsing, solvent recovery and auto-shut down, fully unattended. Just load, start and walk away.

When the sample has been loaded, the solvent is added in a closed, secure system¹. Solvent is recovered automatically and limits solvent vapours to a minimum which ensures a safer working environment. Built-in water control minimises water consumption.

An automatic shutdown feature permits after-hours operation allowing for high throughput. In its fourth step, the sample cup lifts off the hot plate, eliminating boil dry oxidation risk.

Multiple options

As a Soxtec™ 8000 user, you can easily design and optimise your determination of crude fat in food and feed.

The standard model has six hotplate positions, with the option to expand to 12 positions at any time. All positions can be individually turned off if running less than a full batch. The Soxtec™ 8000 can handle sample volumes up to 3 g (Crude Fat

using a standard 33x80 mm thimble), and its high temperature range with integral over-temperature protection enables safe, effective use of high boiling point solvents, such as Toluene and Xylene or low boiling points solvents such as Petroleum fractions. Furthermore, sample adaptors and adaptor retainers are made of PFA, allowing qualitative analysis of the extract using GC or GC/MS etc.

For quantitative, gravimetric analysis most users prefer aluminium extraction cups. These aluminium cups are unbreakable, and they offer rapid heat transfer, which in turn shortens heating, cooling and drying times.

The control unit can control two units, up to 12 positions, at once by use of an intuitively simple program. The status of samples can be checked at any time with the monitoring screens and countdown indicators.

Closed Solvent addition

A solvent dispensing selector aligns to individual sample positions by simply turning the dial to the appropriate position thus avoiding solvent handling¹. Compared to classical Soxhlet, the Soxtec™ system uses a significantly less solvent. Furthermore, efficient solvent recovery allows the solvent to be reused minimizing solvent costs.

¹When using a suitable dispenser not supplied.

Approved methods

The Soxtec™ systems are approved by the following methods:

- AOAC 2003.05 & 2003.06 Crude Fat in Feed, Cereal Grain and Forage (Diethyl Ether and Hexane extraction methods)
- AOAC 991.36 Fat (Crude) in Meat and Meat products
- ISO 1444:1996 Meat and Meat products
 - Determination of free fat content
- EN ISO 11085:2008 Cereals, cereals-based products and animal feeding stuffs – Determination of Crude and Total Fat content by the Randall extraction method
- EN ISO 6492:1999 Animal feeding stuff – Fat analysis

System description

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 Extraction cups 6/set
- 1 set of condenser seals
- 1 Thimble stand
- 1 set of Thimble adapters 6/set
- 1 set of Cellulose Thimbles 33 mm Single thickness 25/set
- Docking tool for thimbles
- 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

Soxtec™ Systems

Solvent extraction systems for safe determination of soluble matter in food, feed, soil, polymers, textiles, paper pulp, and more. Whatever your solvent extraction needs, you can find the right solution.

For the accessories set, the following parts are selectable:

Choice of Extraction cups:

- Aluminium cups
- Glass cups, standard
- Glass cups, small
- Glass cups, large

Choice of Condenser seals (solvent dependant):

- Condenser seal Viton/Butyl 6/set
- Condenser seal Resel 6/set
- Condenser seal Polyurethane 6/set

Optional accessories:

- Heating jackets for glass cups, 3 different sizes (Large cup, standard cup and small cup)
- Plier for heat jacket
- Solvent dispenser
- Recovery flask

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



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	0.5-3g depending on sample type 65 ml (33x80 mm cellulose thimbles)
Measurement range	0.1-100%
Accuracy	According to officially approved methods
Reproducibility	+/-1% rel. or better (5-100% fat)
Extraction time	Typically 45-60 minutes depending on sample
Solvent volume	40-110 ml depending on cup type
Solvent recovery	Typically 80%
Capacity per batch	6/12 positions
Capacity per day	42/84 samples (One batch of 6/12 unattended out of hours)
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

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