About FOSS

FOSS provides dedicated analytical solutions that ensure optimal production of food, agricultural, pharmaceutical and chemical products. FOSS solutions analyse and control your products during production – helping you to optimise both quality and profit.

FOSS is unique in offering a range of dedicated solutions based on both indirect and reference methods. Our solutions provide analysis and control throughout the production process, from raw material to finished product and from routine analysis to at-line and in-line process control.

FOSS is a privately-owned company employing over 1100 worldwide. FOSS has manufacturing and research and development facilities in Denmark, Sweden and the USA.

Solutions are sold and supported through FOSS sales and service companies in 25 countries and by more than 75 dedicated distributors.

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A Soxtec™ for every need

Dedicated Analytical Solutions

Just load, start and walk away

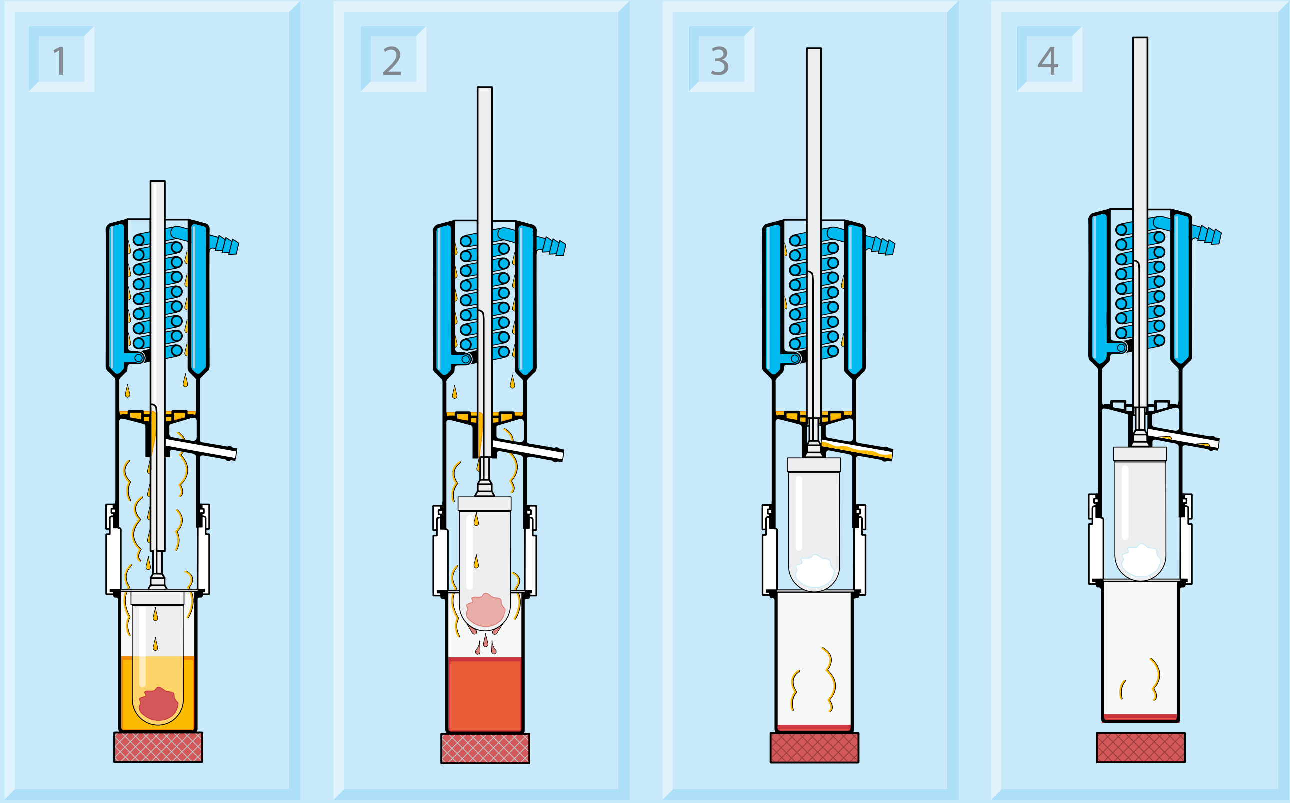
For 30 years, FOSS has developed and supplied instruments with a mission: to always make routine analysis simpler.

A great step forward

As early as 1975, we revolutionised solvent extraction by introducing Edward Randall's patented two-stage technique for boiling and rinsing. Six years later, FOSS launched an improved system, Soxtec™, based on Tecator™ technology, that also handled solvent recovery.

Soxtec 2050 is the next great step forward in solvent extraction. A solvent extractor that needs practically no handling by lab personnel. A fully automatic Soxhlet analyzer that is the fastest on the market, using less solvent and less water.

Four automatic steps



Boiling
Rapid solubilisation in boiling solvent.

Rinsing
Efficient removal of remaining soluble matter.

Recovery
Automatic collection of distilled solvent for re-use.

Pre-drying
Elimination of boil-dry risk.

Fully automated, unattended operation

The Soxtec 2050 utilises a new, patented four-step solvent extraction technique. It performs boiling, rinsing and solvent recovery.

In its fourth step, the sample cup lifts off the hot plate, using residual heat to pre-dry while eliminating boil-dry risk. The entire process is a fully automatic, unattended operation.

You just load, start and walk away. Soxtec 2050 will even shut down automatically when finished.

Because it frees operators from routine tasks, Soxtec 2050 helps to improve your laboratory's productivity. And it's very quiet – an additional bonus for the laboratory working environment.

Application flexibility

Soxtec systems are developed for maximum application flexibility.

Users can easily design and optimise their own applications for accurate, safe determination of soluble matter within the food, feed, environmental and industrial sectors.

Soxtec can handle larger sample volumes (a standard 33×80 mm thimble), and its higher temperature range even enables effective use of high-boiling point solvents, such as toluene and xylene.

Furthermore, the glass/teflon solvent interface makes it possible to run metal-sensitive applications.

Built for the purpose

Safety is important

Minimal manual handling assures safety in the process. When the sample has been loaded, the solvent is added in a closed, secure system. The solvent dispenser, automatic solvent recovery and built-in fume hood limit solvent vapour to a minimum, thus ensuring a safe working environment.
Safety has always been important to us, the only electrical part in the Extraction unit, the hot plate, is spark proof. The dual temperature sensors ensure that the set temperature is kept and that the ignition point is never reached for any solvent.

Soxtec™ 2050 guarantees a safe working environment – the entire analysis takes place in a closed, secure system. It is designed and built to surpass strict European safety standards.
There is simply no safer solvent extraction system available.

Soxtec™ 2050 and 2055 are operated through the Control Unit, with simple logic commands and a full graphical interface.

Operating convenience

Soxtec 2050's automation improves efficiency. Overall laboratory efficiency is further improved by the purpose-developed handling tools delivered with the Soxtec system. The tools for simple batch-wise sample handling save time, simplify usage and minimise risk of operator error. There is no longer any need for manual handling of thimbles or hot extraction cups.

The fastest on the market

Typically five times faster than the classical Soxhlet technique, Soxtec Systems are the fastest Soxhlet extractors on the market. With Soxtec 2050 you can extract as many as seven batches per day, with absolutely no loss in precision or accuracy. The Soxtec systems follow officially approved methods for fat in feed (AOAC), meat (AOAC), PCB (EPA) and paper pulp (SCAN).

Dramatically reduced extraction times	**Soxhlet**	**Soxtec™**
Analyte	Extraction time	Extraction time
Fat in feed	2 h to 16 h	1 h
Fat in food (eg. meat, cereals)	2 h to 16 h	1 h
PCB, PAH & Pesticides in soil	17 h	2 h
Oil & Grease in water	4 h	45 min
Extractable Matter in polymers & rubber	2 h to 48 h	1 h to 5 h
Extractable Matter in paper & pulp	2 h to 48 h	1 h to 5 h
Extractable Matter in explosives & propellants	16 h	1 h
Hydrocarbons in petroleum rock	24 h	2 h
Finishing Oil on textile & synthetic fibres	2 h	30 min
Anti-caking coating on fertilisers	3 h to 4 h	1 h
Detergent in detergent powder	5 h	1 h
Fat in leather	5 h	1 h

A profitable solution

Soxtec™ extractors range in capacity and function from the small Soxtec 2045 to the fully automatic Soxtec 2050.

All Soxtec models fully utilise our batch handling concept to make sample processing as easy and safe as possible.

Whatever your Soxhlet extraction need is, we can offer you the right solution.

Total fat analysis

The SoxCap™ 2047 is an integral part of the Soxtec systems. It offers total fat analysis in accordance with recognised methods. The SoxCap system performs hydrolysis, filtration and washing without any sample transfer. This patented technique offers high throughput together with minimum manual handling using batch handling tools.

Save time and money

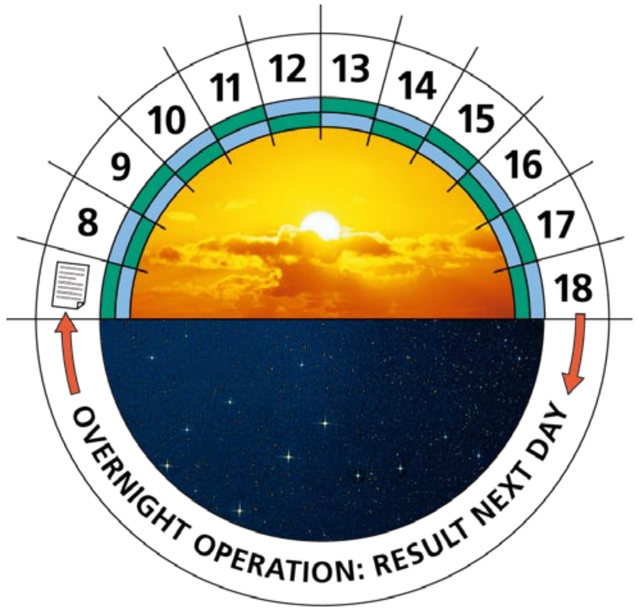
Soxtec 2050 shortens the analysis time, increasing throughput to up to seven extractions per day. Furthermore, the automatic shutdown function enables overnight operation*. Its automatic operation frees operators from time-consuming routine tasks, thereby increasing laboratory efficiency.

Most users prefer aluminium extraction cups –only environmental applications require glass cups. Aluminium cups are unbreakable, and they offer rapid heat transfer, which in turn shortens heating and drying times. The low weight of the aluminium cups also makes it possible to use a standard 120 g capacity balance.

Soxtec systems use environmentally sound technology. Compared to classical Soxhlet, these systems use a significantly lower solvent volume.

No other Soxhlet extractor on the market uses solvents so efficiently. Thanks to solvent recovery, 16 ml of solvent is typically used per sample – keeping costs for solvent purchase and disposal to a minimum. Built-in water control minimises water consumption.

*Subject to local regulation



With Soxtec™ 2050, you make the most of your laboratory – day and night!

Soxtec™ Systems

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

	Soxtec™ 2045	Soxtec™ 2043	Soxtec™ 2055	Soxtec™ 2050	SoxCap™ 2047
Sample positions	2	6	6	6	6
Capacity, samples per day	12	36	36	42	36
Solvent volume per sample	50 – 70 ml	40 – 50 ml	70 – 90 ml	70 – 90 ml	–
Solvent recovery	80%	80%	80%	80%, automatic	–
Closed solvent addition	No	No	Yes	Yes	–
Programmable	Yes	Yes	Yes	Yes	No
Fully automated	No	No	No	Yes	No
Overnight operation	No	No	No	Yes	No
Batch handling	Yes	Yes	Yes	Yes	Yes
Extraction cups	Glass & Aluminium	Glass & Aluminium	Glass & Aluminium	Glass & Aluminium	–
Thimbles	Cellulose, Glass	Cellulose, Glass	Cellulose, Glass	Cellulose, Glass	Cellulose
Thimble diameter	26, 33, 45	26	26, 33	26, 33	30
Thimble volume	120 ml	30 ml	65 ml	65 ml	50 ml
Heating	Remotely controlled electric	Remotely controlled electric	Remotely controlled electric	Remotely controlled electric	Electric
Temperature range	0 – 285ºC	0 – 285ºC	0 – 285ºC	0 – 285ºC	–
Overtemperature protection	145, 210 & 330ºC	145, 210 & 330ºC	145, 210 & 330ºC	145, 210 & 330ºC	–
Power consumption	1500 W	1500 W	1550 W	1590 W	500 W
Water consumption	2 l/min	2 l/min	2 l/min	2 l/min	0,4 l/min
Water saving system	No	No	No	Yes	No
Dimensions, cm	34×27×58	51×32×58	60×38×58	60×38×58	19×30×11
Accuracy	± 1% relative	± 1% relative	± 1% relative	± 1% relative	± 1% relative