

Soxtec™ 8000 Solvent Extraction Solution



Tecator™ Line

The Soxtec™ 8000 is a versatile solution for the determination of extractable matter in a very wide range of sample matrices. You have the option to run large sample volumes and solvent volumes when analyzing soil and waste samples. Soxtec™ 8000 is a six, expandable to twelve, position extraction unit with a smart, easy-to-use system for controlling and dispensing solvent volume without solvent handling. A wide range of accessories include thimble adapters and retainers in non corroding PFA material.

Sample	Parameters
Soil, wastewater and sludge. Plastics, petrochemicals, paper, textiles and a very wide range of other industrial matrices	Extractable Matter - Material soluble in a given solvent or range of solvents



The six position extraction unit can be expanded to 12.

Flexible operations

The Soxtec™ 8000 Solvent Extraction 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.

Safe and efficient

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

At the same time, the Soxtec™ 8000 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 extractions 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.

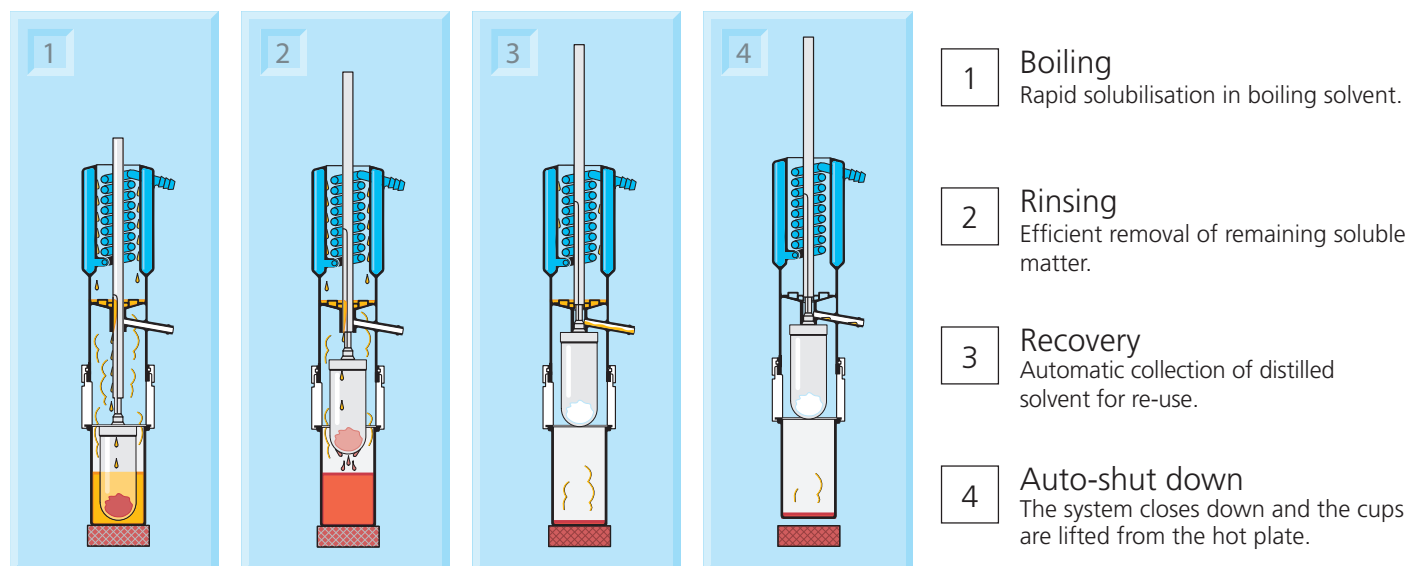
Consistent solvent volume

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 and the operator will not be exposed to solvent fumes.



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.

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

Multiple options

As a Soxtec™ user, you can easily design and optimise your determination of Extractable Matter.

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™ can handle large sample volumes (a standard 40×80

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 Petroleums. 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. Built-in water control minimises water consumption.

¹When using a suitable dispenser not supplied.

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.

Dramatically reduced extraction times

Typical Applications	Soxhlet	Soxtec™
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

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
- Set of Cellulose Thimbles 33mm Double 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

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

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.

Dedicated Analytical Solutions

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	0.5-15 g depending on sample type 65 ml (33 x 80 mm cellulose thimbles)
Measurement range	Application dependant
Accuracy	Equal to, or better than, Soxhlet
Reproducibility	Normally +/-1% relative, or better, matrix dependant
Extraction time	Application dependant
Solvent volume	70-90 ml
Solvent recovery	Typically 80 %
Capacity per batch	6/12 positions
Capacity per day	Application dependant
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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