

SEPBOX 2D-2000

Automated Purification of Natural Compounds



SEPBOX 2D-2000

Sepiatec's unique Sepbox systems allow samples to be processed automatically, and significantly accelerate the purification process. The Sepbox 2D product line includes the three models 2D-250, 2D-2000 and 2D-5000.

The Sepbox concept is based on a patented combination of High Performance Liquid Chromatography (HPLC) and Solid Phase Extraction (SPE) reliable and proven techniques that provide a universal platform suitable for processing large sample numbers.

The purification of compounds from natural sources which usually takes weeks or months with conventional methods can be obtained in just a few days – or even one day – with a Sepbox system.

The Sepbox 2D-2000 is designed for the isolation of compounds from up to 2,000 milligram of extract made from plants, marine organisms, microbiological or animal material.

If required, highly polar substances can be separated using the Polar Setup. The Sepbox 2D-2000 is equipped with two detectors: UV detection (ultraviolet) and optional ELSD detection (evaporative light scattering detection), which can detect almost all substances.

Due to the automated and highly reproducible process, one extract can be completely separated per day using twodimensional separation. The recovery rate for both polar and non-polar substances is usually above 90 per cent.

Up to 576 fractions with a very high yield of pure compounds can be collected in vials for subsequent High Throughput Screening.

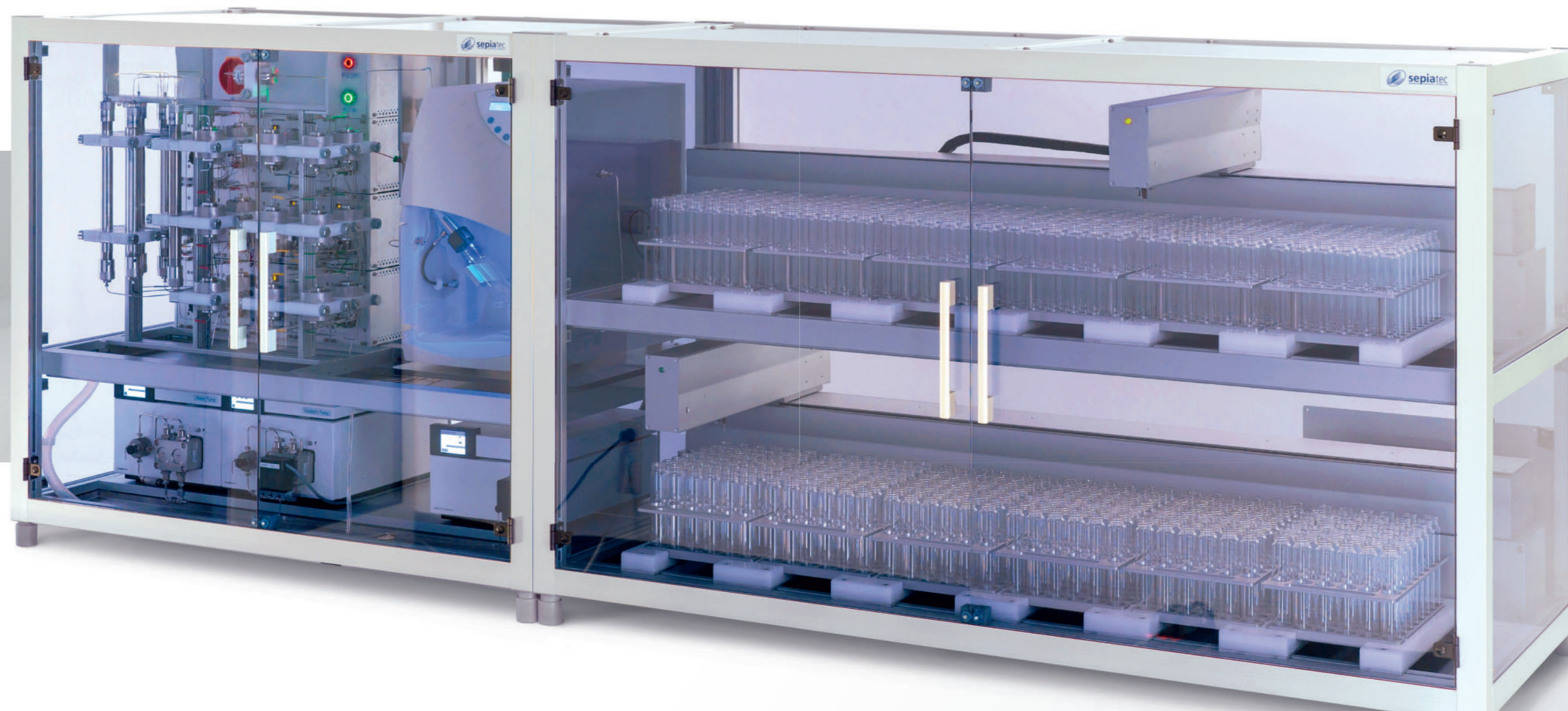
On average after one Sepbox run, up to 20 per cent of all fractions from plant extracts are 90 to 99 per cent pure (ELSD*), and from extracts made of marine organisms, up to 30 per cent are 90 to 99 per cent pure (ELSD).

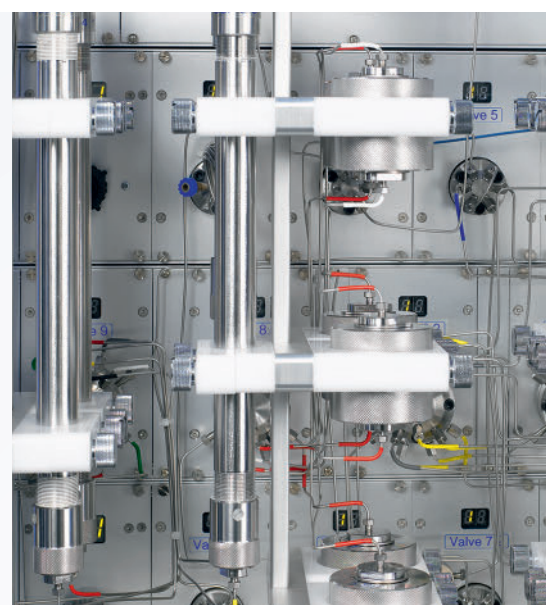
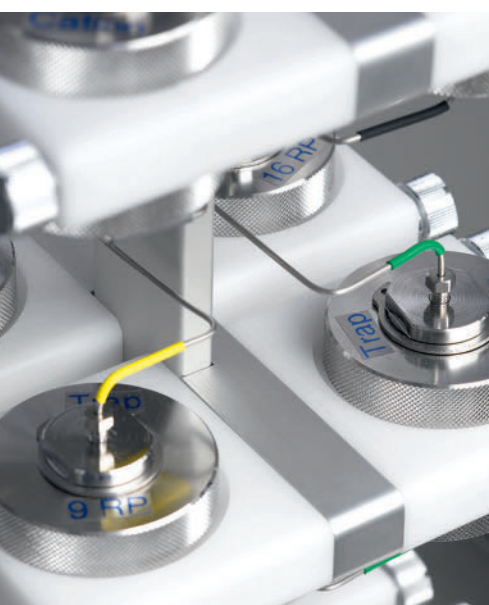
As well as these highly purified compounds, the user will usually find a large number of fractions with compounds whose purity levels are between 50 and 90 per cent in ELSD detection. Results vary depending on the extract and the examined organism.

Advantages:

- Isolation of compounds with a speed and accuracy unachievable with conventional chromatography methods
- On average 20 to 30 per cent pure fractions (ELSD) per run
- Isolation of large quantities possible
- Reproducible separations
- Cost advantages due to automation

*The purity levels quoted here were calculated using the 100 per cent method with ELSD detection, as UV detection does not provide reliable purity levels due to different adsorption coefficients.





TECHNICAL DATA

SEPBOX 2D-2000

Gradient pump	100 ml head, 400 bar, ternary gradient
Water pump	100 ml head, 400 bar
Valves	13 electrically actuated valves
Injection	Up to 2,000 mg of extract with injection column technique or liquid injection using a 1 ml loop
1st separation column	1 column, 150 x 32 mm
2nd separation column	6 columns, 250 x 16 mm
Trap columns	18 columns, 30 x 32 mm
UV detector	3 mm flow cell
ELSD detector	Splitted flow for ELSD
Fraction collector	12 racks, 48 vials each, max. capacity 60 ml/vial, max. 576 fractions
Dimensions	266 x 65 x 89 cm / 105 x 26 x 35 inch (W x D x H)

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