

PREP SFC 250

Preparative Scale Separation – Compact Design



PREP SFC 250 SYSTEM

Sepiatec's new Prep SFC 250 system is a compact benchtop unit designed for preparative separations using supercritical fluid chromatography.

Measuring just 72 x 60 x 88 cm (W x D x H) the system offers all advantages of SFC technology such as fast separations, reduced consumption of organic solvents, lower costs, improved environmental compatibility and increased safety.

The Prep SFC 250 system uses two high-pressure pumps fitted with 150 ml pump heads. Total flow rates of up to 250 ml of supercritical fluid per minute can be achieved at a modifier portion of 40 %. This allows the operator to use separation columns with internal diameters of 15 to 30 mm and lengths of 250 mm.

Due to its compact design the footprint of the Prep SFC 250 system is comparatively small and precious laboratory space can be saved. The clearly arranged assembly of the Prep SFC 250 system allows easy access to all of its modules.

The column oven, containing the chromatography columns together with the injection valve and the UV flow cell, is heatable up to 70° C so that a uniform temperature is ensured.

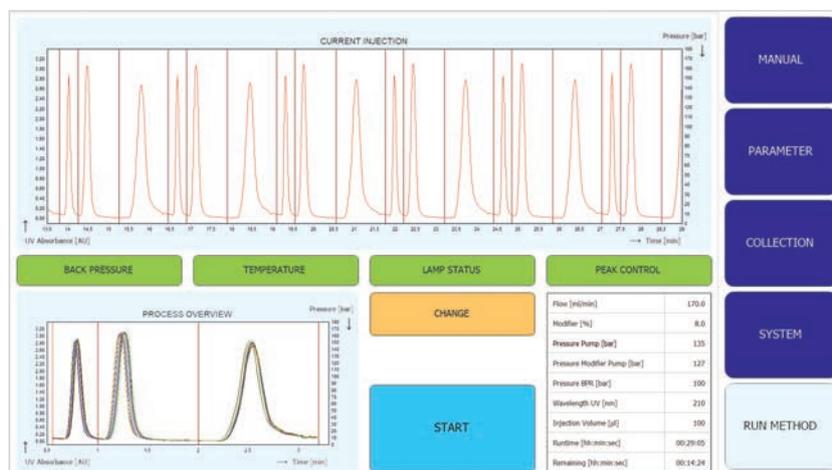
The fractionation module includes a selector valve and 9 gas-liquid separators (1 for waste). It is designed for 8 fraction bottles with a volume of 1 litre each. Due to the flexible outlets even bigger sample containers with volumes up to several litres can be used.

A system controller with current performance characteristics is built into the device. There is no need for a separate computer, and no additional bench space is required.

Data is entered via the 15.6" touch screen, which is placed ergonomically on the upper front of the Prep SFC 250 system.

An additional monitor at a separate work site can also be connected.





PREP SFC 250 SOFTWARE

The Prep SFC 250 system is controlled entirely by means of the Prep SFC control software which offers a clear menu structure enabling simple and intuitive operation. All input options are presented on just a few screens. The Prep SFC control software includes a sequence editor

for inputting separation parameters for different samples, functions such as stack injection with automatic suggestions for stack times, multiple options for fractionation and on-the-fly editing for changing parameters during the course of a run.

PREP SFC 250 SYSTEM WITH MASS SPECTROMETER

As an option Sepiatec's Prep SFC 250 system can be combined with Advion's expression CMS.

The expression CMS is a very compact mass spectrometer featuring the latest single quadrupole technology. The system as a whole, consisting of Prep SFC 250 and expression CMS, allows users to perform mass-directed-, mass-confirmed- and UV-controlled fractionation.

The exact molecular weights of the separated substances are quickly and reliably measured, and even UV-inactive targets can be fractionated. The ion source consists of an ESI option and an APCI option, which can both produce anions or cations as required.

All the modules needed to connect the expression CMS to the Prep SFC 250 system, such as a make-up flow pump and a split valve, are included. The expression CMS mass spectrometer is operated and the data obtained are displayed using the Prep SFC 250 system software.



The expression CMS software allows users to perform a wide range of assessments. The compact size of the Prep SFC 250 and the expression CMS means that they can be installed together in a standard laboratory fume hood.

TECHNICAL DATA

PREP SFC 250

Operating mode	1 semi-preparative or preparative column
Suitable columns	15 to 30 mm ID, max. 250 mm in length
Solvents	CO ₂ and organic solvents
Number of modifier solvents	1 standard, 4 with optional solvent selection valve
Total flow rate	250 ml/min at a modifier portion of 40 %
CO ₂ pump	150 ml pump head, 400 bar
Modifier pump	150 ml pump head, 400 bar
Add-on pump	30 ml pump head, 400 bar (optional)
Operating pressure	Up to 300 bar, back pressure regulator online adjustable
Injection	Partial loop with syringe pump
Column oven	Ambient temperature to 70° C, 2 columns standard, 6 columns with optional valves
UV detector	Wavelength range 190 to 500 nm
Other detectors	DAD, ELSD or mass spectrometer optional
Fractionation	1 to 8 fractions, unlimited volumes, pressure-less fraction collection
CO ₂ Recycling	With additional CO ₂ recycling module (optional), gaseous to liquid CO ₂ conversion, about 85 % recovery
Software	Prep SFC control software
System controller	Integrated controller, Windows 10
Screen	15.6" touch screen, 16:9 format
Connections	3 USB ports, Ethernet, HDMI
Dimensions	72 x 60 x 88 cm (W x D x H)