PREP SFC 660

The Efficient Solution for Preparative Separations

sepiatec

PREP SFC 660 SYSTEM

The Prep SFC 660 system, developed by Sepiatec, represents a powerful solution for preparative separations by means of supercritical fluid chromatography (SFC). The unit has been designed for flow rates of up to 660 ml/min at a modifier portion of 40 %.

All the advantages of SFC technology are combined: Quick separation, a reduced consumption of organic solvents and thus cost, increased safety and an environmentally friendly process.In spite of its remarkable capacity, the Prep SFC 660 system features a compact design with measurements of 150 x 68 x 178 cm (W x D x H), so that integration within a walk-in laboratory hood does not create any problem. Additionally, below the unit, several large fraction vessels or a safety cabinet for solvents may be placed.
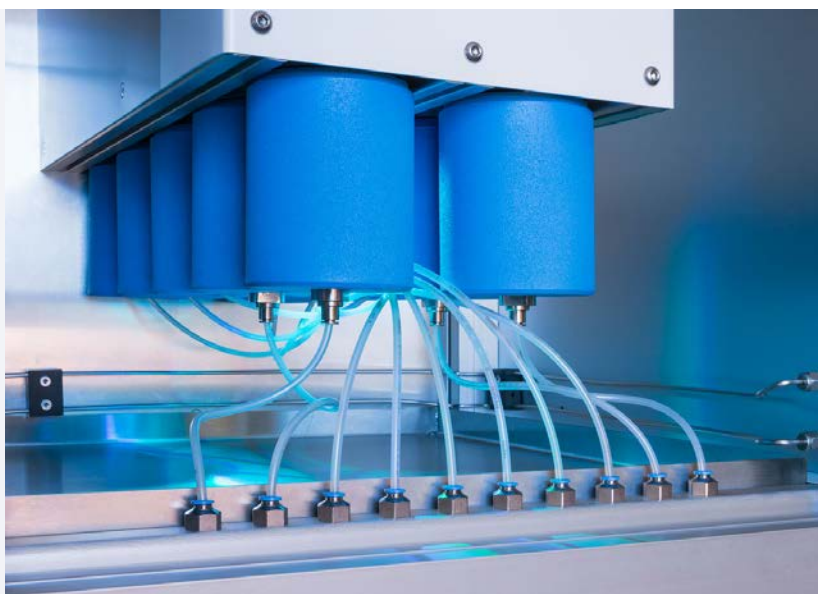
The Prep SFC 660 is equipped with three 400 bar high-pressure pumps. A CO2 pump with 400 ml pump head, a modifier pump with 250 ml pump head and a modifier/add-on pump with 150 ml pump head. The total flow – at a modifier portion of 40 % – amounts to 660 ml/min. Up to three different organic modifiers can be mixed and used for separations.

Besides the column mounting, the injection valve and the UV flow cell are also integrated within the column oven, which is heatable up to 50° Celsius.
Separation columns with inner diameters between 25 and 50 mm and a length of up to 800 mm are admissible.

When working in "Single Mode", up to 8 fractions can be collected (CO2 flow < 180 ml/min); in "Tandem Mode" 4 fractions are available (CO2 flow > 180 ml/min).

As fractions are collected in unpressurised state, not only safety is increased, but also handling is simplified, and limitations with respect to the size of fraction volumes do not exist. This option proves to be extremely convenient when working with stack injections.
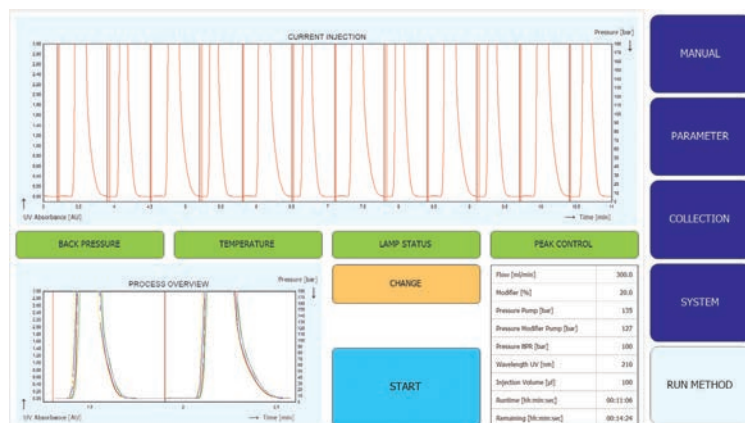
PREP SFC 660 THE USER-FRIENDLY SOFTWARE

The unit is subjected to the control of the Prep SFC control software, which has been developed with a maximum of user friendliness in mind. Information required, like separation parameters, system setup and fractionating conditions, is selected via touch-screen in no time.

The intuitive menu structure allows entry of the values in consecutively appearing windows, thus enabling also users not permanently involved with these works, to use the software without particular support.

The flexibility is considerably enhanced by numerous functions useful for preparative SFC separations, e.g. stack injections and different modes for collection of fractions. Before starting a new batch, parameters can be tested and optimized by means of a particular

"Manual Screen". A powerful system controller is integrated within the Prep SFC 660 system; further space for supplementary electronics is not required. The 15.6" TFT touch-screen is placed in an ergonomically favorable position on the front of the unit. A separate monitor may be connected via HDMI.

TECHNICAL DATA

PREP SFC 660

Operating mode	1 preparative column
Suitable columns	30 to 50 mm ID, max. 800 mm in length
Solvents	CO_2 and organic solvents
Number of modifier solvents	3 solvents, mixable, solvent selection valves included
Total flow rate	667 ml/ min at a modifier portion of 40 %
Pump 1, CO2	400 ml pump head, 400 bar
Pump 2, modifier	250 ml pump head, 400 bar
Pump 3, modifier/ add-on	150 ml pump head, 400 bar
Operating pressure	Up to 300 bar, back pressure regulator online adjustable
Injection	Partial and total loop with syringe pump
Column oven	Ambient temperature to 50° C, 1 column standard, 2 columns with optional valves
UV detector	Wavelength range 190 to 500 nm
Other detectors	DAD, ELSD or mass spectrometer optional
Number of fractions	Single mode: 1 to 8 fractions, tandem mode: 1 to 4 fractions
CO2 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	150 x 68 x 178 cm (W x D x H)