

PREP SFC 360

The Efficient Solution For Preparative Separations



PREP SFC 360

The Prep SFC 360 system, developed by Sepiatec, represents a powerful solution for preparative separations by means of supercritical fluid chromatography. The unit has been designed for flow rates of up to 360 ml of supercritical fluid per minute. Depending on the modifier portion, even up to 600 ml/min may be achieved (in the case of a modifier portion of 40 %).

All of the advantages of the 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 360 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.

A CO₂ - as well as a modifier pump are provided, each of them equipped with a 360 ml pump head and approved for a pressure of 360 bar. Up to three different organic modifiers can be mixed and used for separations.

Beside the column mounting, the injection valve and the UV flow cell are also integrated within the column oven, which is heatable up to 50 °C.

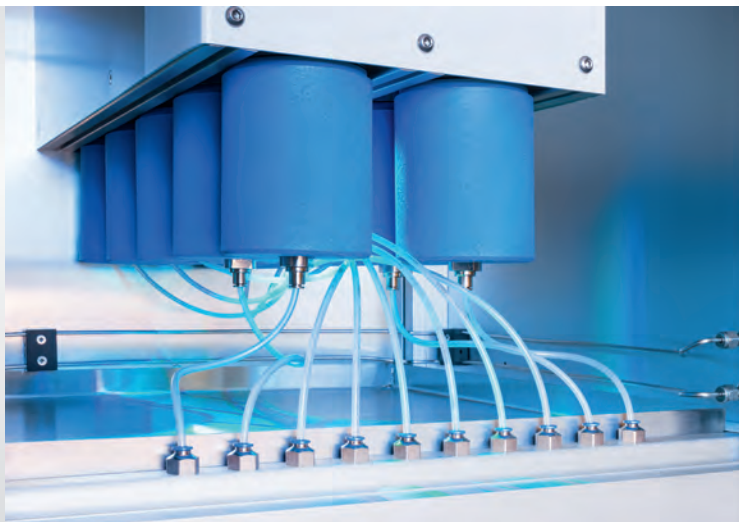
Separation columns with inner diameters between 25 and 50 mm and a length of up to 800 mm are admissible.

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).

The collection of the fractions is performed in unpressurised state; therefore screening of the vessels for reasons of safety is not necessary. The fraction volume in the Prep SFC 360 system is not limited. Fractions of any size may be collected and simply be tapped for further processing.

The equipment of the Prep SFC 360 system includes:

- a high pressure pump for CO₂
- a high pressure pump for organic modifiers
- a gradient module for the mixing of modifiers
- a heatable column oven
- a back pressure regulator
- a syringe pump for sample injection
- a UV detector
- 8 gas-liquid-separators for fractions
- a powerful cooling module
- an integrated computer with 15" touch-screen
- the Prep SFC 360 control software





PREP SFC 360 THE USER-FRIENDLY SOFTWARE

The unit is subjected to the control of the Prep SFC control software, which has been developed with maximum 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 injection 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 computer is integrated within the unit; further space for supplementary electronics is not required. The 15" TFT touch-screen is placed in an ergonomically favorable position on the front of the unit. A separate monitor may be connected via HDMI, three USB sockets and a network connection are provided, too.

TECHNICAL DATA

PREP SFC 360

Operating mode	1 preparative column
Solvents	CO ₂ and organic solvents
Number of modifier solvents	3 solvents, mixable
Total flow rates	Up to 600 ml/min (40 % modifier)
CO ₂ pump	360 ml pump head, 360 bar
Modifier pump	360 ml pump head, 360 bar
Operating pressure	Up to 300 bar, adjustable online backpressure control
Injection	Total loop with syringe pump
Columns	25 to 50 mm ID up to 800 mm length
Column oven	Up to 50 °C, integrated heating module, injection valve and UV flow cell
Detection	UV detector, wavelength 190 to 500 nm
Fraction collection	1 to 8 fractions (single mode), 1 to 4 fractions (tandem mode)
Software	Prep SFC 360 control software
System controller	Integrated PC, 15" TFT touch-screen
Connections	3 USB ports, ethernet
Dimensions	150 x 68 x 178 cm (W x D x H)
Weight	298 kg

INTEGRATED WATER COOLED CHILLER

Model	Huber Unichiller 015w-MPC plus (or successor model)
Temperature range	- 20 °C to 40 °C
Temperature consistency	± 0.5 °C
Cooling performance	15 °C / 1.5 KW, 0 °C / 1.0 KW, - 10 °C / 0.7 KW, - 20 °C / 0.3 KW
Cooling device	Water-cooled, CFC- and HCFC-free
Refrigerant	R507
Dimensions	35 x 43 x 62 cm (W x D x H)
Weight	52 kg