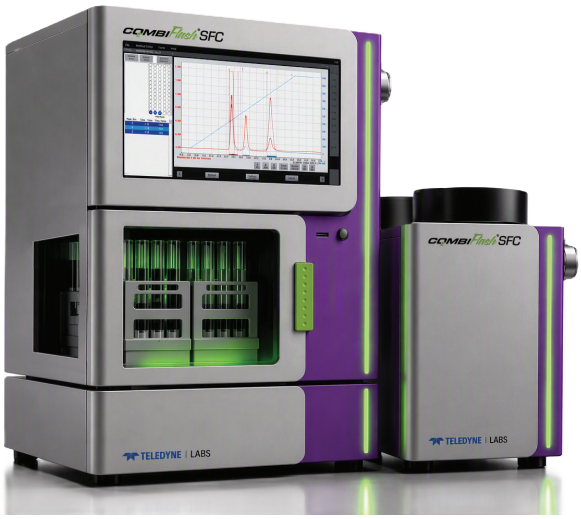
Combi*Flash*® SFC

Flash SFC

The Simplicity of Flash Chromatography with the Power of Supercritical Fluid Chromatography



The Combi*Flash*® SFC is the first purification system designed to make supercritical fluid chromatography as approachable as flash chromatography. Combining familiar Combi*Flash* operation, proven PeakTrak® software, and the performance advantages of SFC, it enables users to transition easily from normal-phase flash chromatography while leveraging existing purification knowledge and silica column expertise.

Using carbon dioxide as the primary mobile phase, Combi*Flash* SFC delivers rapid separations while reducing organic solvent consumption by up to 95%. Fast purification cycles, simplified operation, and intuitive software make advanced purification accessible without specialized SFC experience.

Because bare silica stationary phases are widely used in both normal-phase flash chromatography and many achiral SFC separations, Combi*Flash* SFC provides a natural bridge between these purification techniques. Chemists can apply familiar column selection strategies and workflows while benefiting from the speed, efficiency, and selectivity of supercritical fluid chromatography.

Combi*Flash* SFC combines disposable columns, solid sample loading, open-bed fraction collection, and intuitive software with the performance advantages of SFC. Integrated thermal management maintains the mobile phase, column, and evaporative regions at a fixed 40 °C operating temperature, simplifying method development and routine operation. The result is a faster, greener purification platform that allows laboratories to adopt SFC using familiar tools and workflows while increasing productivity.

CO2 COMBIFlash® SFC

- **Green Chromotography**
  CO_2 is affordable, environmentally friendly and reduces "strong" solvent use by up to 95%
- **Ultra Compact**
  Footprint optimized for research laboratories
- **Simplified SFC**
  Combines familiar flash workflows with SFC performance

Standard Features:

- **Flow rates** from 40 to 200 mL/min for disposable flash columns from 4 to 220 g
- **Four different cosolvent options** with gradients from 0 to 70% modifier composition for elution of more polar compounds than other systems
- **Enclosed integrated open-bed** fraction collection
- **Solid load cartridge** capability from 5 g to 65 g for poorly soluble samples
- **Choice of UV or UV-Vis** PDA detectors with optional ELSD or MS detection capability
- **PeakTrak® software** with guided method development tools.

TELEDYNE LABS

CombiFlash® SFC

SYSTEM

System Flow Rate Range	40–200 mL/min
Gradient Linearity	±3%
System Co-Solvent Range	0–70%
System Backpressure Range	Fixed 100 bar
Maximum System Operating Pressure	138 bar
Supported Column Sizes	4 g–220 g
Column Selector Valve	Integrated mobile phase, column, and evaporator heating
Operating Temperature	Fixed 40 °C

CO_2 DELIVERY PUMP

CO_2 Inlet Pressure	55–85 bar (3–10 °C)
CO_2 Flow Accuracy	±5%

CO-SOLVENT PUMP

Flow Rate Range	0.5–165 mL/min
Co-Solvent Pump Accuracy	±2%
Co-solvent Selection	4 solvents with quaternary blending
GLS Makeup Pump	Standard; Automated up to 7.5 mL/min

SAMPLE INTRODUCTION

Liquid Injection	Modifier stream injection with 5 mL injection loop; other sizes may be installed and configured on the system
Solid Load Cartridge	Supported; mixed stream injection
Injection at 0% Capability	Suported

DETECTOR

Detector Options	Variable UV PDA (200-400 nm) or Variable UV-VIs PDA (200-800 nm) Optional ELSD Optional Mass Spectrometer (MS)

SYSTEM DIMENSIONS

Component Dimensions (cm W x D x H)	Pump and Control Module: 41 x 56 x 73 Column Module: 21 x 47 x 36

TYPICAL APPLICATIONS

Pharmaceutical intermediates
Medicinal chemistry compounds
Natural products
Specialty chemicals
Synthetic reaction mixtures
Lipophilic compounds

FRACTION COLLECTION

Open-Bed Fraction Collection	Standard; Internal	
Number of Collection Racks	Up to 2*	
Maximum number of collection tubes	16 x 150mm: 18 x 150mm: 25 x 150mm: 480 mL bottles:	150 140 60 12

NUMBER OF SAMPLE RACKS

Maximum number of sample vessels	13 mm tubes: 28 mm scintillation vials: 125 mL square bottles:	28 12 4

CONTROL SOFTWARE

Integrated Screen and Processor	15" High Res Touchscreen; Internal CPU; Red Hat Linux
Software	PeakTrak
Free Software Updates	Yes (as available)
Gradient Optimization	Standard; Focused Gradient Generator
Scale Up Wizard	Standard

MISCELLANEOUS

Active Cosolvent and Waste Level Sensing	Standard
RFID Rack Sensing	Standard

SELECTION INFORMATION

CombiFlash SFC Pump and Control box with 200-400 nm—UV PDA Detector 685264001

CombiFlash SFC Pump and Control box with 200-800 nm—UV PDA Detector 685264002

CombiFlash SFC Pump and Control box with 200-400 nm—UV PDA Detector -MS/ELSD Ready 685264003

CombiFlash SFC Pump and Control box with 200-800 nm—UV PDA Detector—MS/ELSD Ready 685264004

CombiFlash SFC Column-only Box.....685264005

CombiFlash SFC Column and Solid Load Cartridge Box.....685264006

CombiFlash SFC Solid Load Cartridge Field Upgrade.....685264007

CombiFlash SFC AutoInjector Upgrade.....685264008

CombiFlash SFC ELSD Option. To be installed in units when ordered with the CombiFlash SFC. Installation cost to be added for field installations.....605267009

Purlon Mass Spectrometer "S" with fluid interface for operation with CombiFlash SFC. Mass range from 10-1200 Dalton, Positive or negative Polarity, Probe must be ordered separately. Requires MS/ELSD-ready CombiFlash SFC 685287010

Purlon Mass Spectrometer "L" with fluid interface for operation with CombiFlash SFC. Mass range from 10-2000 Dalton, Positive or negative Polarity, Probe must be ordered separately. Requires MS/ELSD-ready CombiFlash SFC 685287011

ACCQPrep SFC External Chiller.....605267014

* Includes two sets of collection racks (default is: 18 x 150 mm tubes—117 V;1 68 x 150 mm tubes—234 V

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