

SFC- PICLab Hybrid 20

- New, reduced footprint
- Analytical
- Method Development
 - Automated Screening
 - 10 column selection valve
 - 6 co-solvent selection valve
- Semi-preparative
 - 20ml / min flow rate
 - 5 fractions plus waste



The PICLab Hybrid 20 system is a semi-preparative supercritical fluid chromatograph which can equally be used for semi-preparative separations as for analysis and method development.

In analytical mode, the system functions as a full-featured analytical supercritical fluid chromatograph. As with the PICLab Analytic, the PICLab Hybrid 20 has automated method development software in which columns and co-solvents for a sample are chosen by multiple selection from those configured on the system and the entire sequence is added to the table by a single mouse click.

The 20 ml/min maximum flow rate allows optimal use of the 10 mm id semi-preparative columns while the stacked injection capability ensures maximum production rate. Samples are injected using the autosampler which uses both 2.5 and 10 ml vials and has a preparative mode to allow large injection volumes.



Co-solvent is chosen from one of six inlets through the software and is introduced to the chromatograph at a constant, moderate pressure to ensure a constant, reproducible flow regardless of the system operating pressure.

Detection is by UV with 4 concurrent channels for multi-wavelength detection together with post-run DAD functions such as UV spectra of peaks, selection of chromatograms at any wavelength and 3-D chromatograms. An additional input for an external detector is available.

Fractions are collected using high-efficiency gas-liquid separators into standard screw-cap bottles. Product recovery is typically 98% +. Collection of five fractions plus a waste is standard. Other configurations are available on demand.

Software

Software for the SFC-PICLab Hybrid system incorporates the full capabilities of the SFC-PICLab Analytic with those of a semi-preparative SFC system and has been designed specifically to ease the development and scale-up of separation methods. Screening sequences can be set up in moments by selection of columns and modifier from the libraries.

At the end of the run, a search function allows selection of results using specific samples or separation conditions (column, mobile phase). The selected method development screening results are displayed on-screen, 12 chromatograms at a time with scrolling capacity for 60 experiments. A simple double click sends any chromatogram to a comparison window, allowing easy evaluation of the “best” result.

Other sequences for fraction analysis or general analytical work are set up intuitively using a sequence table containing sample and method (which includes the column and co-solvent selection) information together with the number of injections for each line.

For the “one-off” sample, both analytical and preparative, the unit can be controlled directly from the main window.

Preparative samples are run by selecting the “production” option which allows the set-up of stacked injection sequences and fraction collection either graphically or through the use of a table.

Run time can be modified on the fly and sequence lines can be added or edited during a run.

Data is acquired at 4 wavelengths simultaneously with a DAD while full DAD functions (spectra, 3-D chromatograms, chromatogram at any wavelength) are available post-run. Full integration capability, both automatic and manual is available with chromatogram overlay. Reports are printed in PDF format. The report parameters may be customized to include only the data you need.

Specifications

Maximum Flow Rate	20 ml/min
Maximum co-solvent flow rate	10 ml/min
Co-solvent selection	Up to 6 solvents
Max Pressure	350 bar
Column Size	4.6 and 10 mm id
Column Selection	Up to 10 columns
Temperature	15 to 60°C
Injection	Autosampler (60 vials)
Detection	Variable Wavelength UV (4 simultaneous wavelengths) DAD, Chiral (or other) detector
Fraction Collection	5 fractions plus waste
Production capacity	0.1 to 5 g/day

