



Cartridge Options

Identify the ideal cartridge for your **Axcend Focus LC[®]**



**FIXED COLUMN CARTRIDGE
(FCC)**



**HEATED COLUMN CARTRIDGE
(HCC)**



FEATURES

- Fixed solution for routine assays
- Simple construction and operation
- Lower cost
- On-capillary UV-absorption detection (path length determined by column i.d.)
- 235, 255, or 275 nm LED light sources
- Single or dual detectors

- Exchangeable column for assay flexibility
- Added column temperature control
- Long-path flow cell UV-absorption detection (improved sensitivity)
- 235, 255, or 275 nm LED light sources
- Single detector



COLUMNS

- Manufacturer-installed capillary column (exchangeable)
- Teflon-coated fused-silica capillaries
- 150 μm i.d., 5 – 25 cm long
- 1.8 μm dp fully porous C18 particles (other packing materials are possible upon request)
- Transfer line from detector to waste or to MS
- Column temperature determined by internal cartridge ambient temperature

- User-installed capillary column (exchangeable)
- Variable capillary column materials
- 150 – 300 μm i.d., 5 – 15 cm long
- Variable particle size and morphology
- Coupling kits for 360 μm , 1/16 in., or 1/32 in. o.d. capillary column sheathings
- Transfer line from detector to waste, or to DAD or MS
- Column temperature control +5°C above ambient to 80°C



FIXED COLUMN CARTRIDGE (CONT.)



HEATED COLUMN CARTRIDGE (CONT.)



USE CASES

- Routine assays
- Very small sample volumes (4, 10 and 40 nL internal sample loop injection volumes)
- Greatly reduced solvent consumption
- Portable assays
- Flexible column exchange
- Very small sample volumes (4, 10 and 40 nL internal sample loop injection volumes)
- Greatly reduced solvent consumption
- Portable assays
- Temperature-sensitive separations
- Reduced analysis times
- Improved peak shapes



APPLICATIONS

FCC applications:

- **Targeted proteomics and metabolomics:** Simple separation device that is ideal for analyzing very small sample volumes and for augmenting MS detection.
- **Pharmaceutical analysis:** Small and simple device for monitoring chemical reactions used in drug discovery and for quality control analysis in drug manufacturing.
- **On-line/at-line monitoring:** Perfect device for routine at-line cleaning validation or on-line process monitoring by itself or as a confirmatory assay (can be used where traditional LC is too large or too complex).
- **Hands-on education tool:** Either type of cartridge coupled with the Focus LC® provides a full HPLC system in a very small form factor that is flexible, portable, and easily utilized in both graduate and undergraduate teaching labs as well as in faculty research projects.

All FCC applications, and:

- **Temperature-sensitive separations:** Columns can be maintained at specific temperatures that are ideal for separating compounds that are sensitive to temperature changes in the mobile and stationary phases.
- **Improving peak shapes:** By controlling the column temperature, chromatographic peak tailing can be significantly reduced and the peaks narrowed, yielding better chromatographic resolution.
- **Reducing analysis times:** Elevated temperatures can increase solubility and reduce viscosity of the mobile phase to improve the speed of the separation and reduce the overall analysis time.
- **Pharmaceutical and chemical analysis:** Heated columns are used in the pharmaceutical and chemical industries for the analysis of complex mixtures where temperature control enhances separation efficiency.



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