



Fast Supercritical Fluid Chromatograph

Determinate For Aromatics and Olefins

The PAC SFC - Supercritical Fluid Chromatograph is a chromatographic system which uses supercritical fluids to determine both aromatics in diesel fuels and olefins in gasoline in a single system according to ASTM D5186 and D6550. This will allow refiners to combine two applications into one instrument, which reduces the amount of investment required for the fuel analysis. The SFC is a chromatographic system which uses supercritical CO₂ as the carrier, which allows for higher throughput of samples, shorter cycle time, and uses moderate pressures which enhances column life. The operating software provides a smooth, seamless operation between pump, oven, auto-sampler, and data collection.

Application

An analyzer used for testing both aromatics in diesel fuels and olefins in gasoline all in a single system exceeding ASTM D5186 and D6550 standards. The cost-effective design of the PAC SFC allows refiners to combine two applications into one system, which reduces the amount of investment required for the fuel analysis.

Advantages:

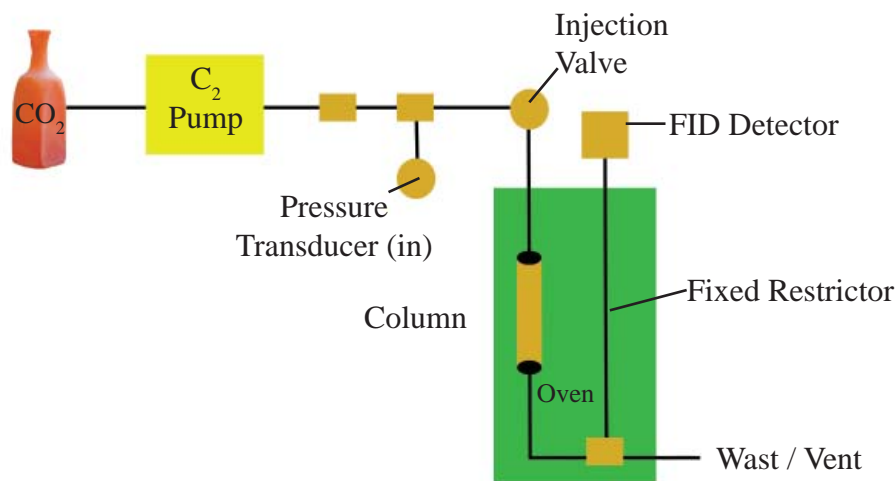
- Distinct advantages over gas chromatography and liquid chromatography
- Fast, robust and easy to use
- System performances exceed ASTM specifications
- No external cooling source needed
- Pump system allows precise and reliable control
- User-friendly software reduced operator involvement



SFC

Features and Benefits

- Lower costs to operate
- Single check valve that is not integrated into pump design, last much longer than reciprocating pumps
- Fewer moving parts to wear, less downtime
- Uses 2-4 ml. of CO₂ per analysis, so one tank of CO₂ usually lasts 9 – 12 months
- Less down time due to continuous flow and no dampening needed?????
- Optional on-line remote support by modem connection



Fast

Tested and installed for specific application

- Save methods development time
- Guarantees system performance
- Faster re-equilibration
- Shorter cycle time
- More stable retention times (results)
- Fully automated injection for up to 96 (1.5 mL) sample vials
- Easy to use EZChrom software for complete control of the instrument

Accurate

- Burns compounds more efficiently, consistent chromatography over longer periods of time so less calibration of instrument required
- Higher repeatability of retention times and peak area
- Great retention time reproducibility 24 hours a day thus less operator involvement to recalculate results

Safe

Eliminate pump dry run with automatic shut down when sensing low carbon dioxide pressure.

Specifications

Analysis Performance	
Measurement Cycle Time	Less than 20 minutes
Repeatability	Equal or better than ASTM D5186 and D6550
Accuracy	Equal or better than ASTM D5186 and D6550
Pump	
Volume	10-mL
Pressure range	80 to 400 atm
Pump type	Pulse-free syringe pump
Pump-head cooling	Built-in Peltier cooling, -5°C
Oven	
Temperature range	5°C above ambient to 200°C
Temperature Programming	40°C to 200°C in 0.1°C Increments
Heated zones	Two
Gas control	Electronic pressure control
Detector	Flame ionization detector (FID)
FID characteristics	
Temperature	400°C, increments of 1°C
Dynamic range	Better than 10 ⁶
Min. detection amount	>5 pg carbon/sec
Design	Grounded jet
Flow rate compatibility	Capillary to 2mm packed columns
Data acquisition software	
EzChrom Elite	Complete system control
Dimensions	L: 68 cm X H: 42 cm X W: 57 cm (?? in. X ?? X ??)
Weight	80 kg (???) lb.)
Operating Temperature	5 to 35° C, non-condensing



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