

Smart LifeLC™

Complete, Portable High Performance Liquid Chromatography System for A_{1c} Testing (marker for diabetes) and Screening of Inherited Blood Disorders



- Compact, Low Cost and Mobile for the Lab or Field
- Fully Featured HPLC – High End Components
- 415 nm Fixed Wavelength Detector
- Manual Injector with Replaceable Injection Loop
- Binary High Pressure Gradient Pumps
- On Board Reagent, Wash and Waste Bottles
- Tablet PC or Laptop with Installed Control Software
- Easy End User Service or Send the Entire HPLC to Factory for Repair – Just Close the Case and Ship!

The **Smart LifeLC** instrument offers a complete HPLC system, with all the functionality required by any laboratory, packaged in portable, ergonomic hard shell case, specifically designed to measure A_{1c} and other attributes in your hemoglobin sample. The **Smart LifeLC** system is rugged and compact, and includes in the enclosures: Pumps, Fluid Path, Manual Injector, Column Holder, High Performance Detector and Tablet PC with full instrument control and data acquisition software (pre-installed and tested). Additional features are: On-Board Reagent, Wash and Waste Containers, External USB Ports, 100 –240 VAC Power Source, Automotive Power Jack, and Storage Compartment for power sources, injection syringe and sample prep items.

The **Smart LifeLC** is easy to service with all major components (Pumps, Detector, Injector and other key parts) easily accessible for service or swap-out replacement. A hinged door exposes the interior, and the chassis is removable from the case with two fasteners and quick disconnect electrical/fluid fittings. Alternatively, the entire system can be readily sent to the factory for repair. Just close the case and ship!

The **Smart LifeLC** is designed and built for consistent performance and reliability. Automatic Piston Wash with on-board Wash Bottle, provides extended pump seal life. Reagents are filtered to prevent fluid clogging. Pump seal change, filter replacements and other maintenance items are trouble-free with easy access to Pumps and other components. The Injection Valve has a replaceable sample port and an external injection loop. The system has rugged fittings on all bottles and fluid path connections to prevent leakage during system transport.



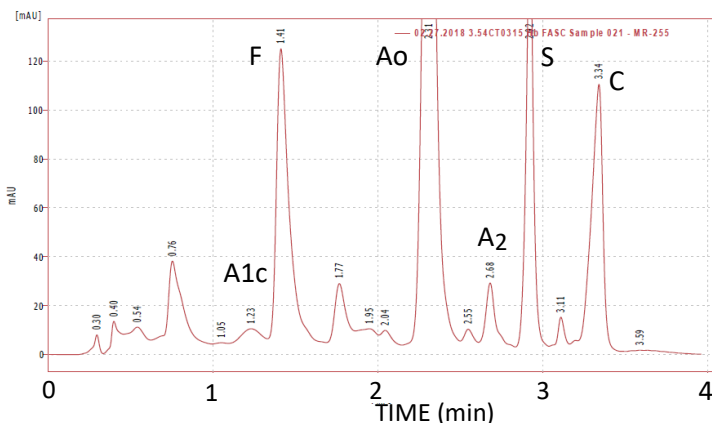
Easy Component Serviceability through Access Door

Reagent Pumps and Flow Path

- Binary High Performance Pumps
- Flow Rate Range: 0.001 – 5.000 mL/min
- Flow Rate Accuracy: < +/- 2% of Set Point
- Pressure of Operation: 3,000psi
- Automatic Piston Wash
- Prime Purge Valve
- Analog Pressure Gauge
- High Pressure Injector with External Loop

Detector (separate case)

- 415 nm Fixed Wavelength Standard
- Easily Interchangeable with Other Wavelength Models
- LED Light Source – USB Powered
- 50,000+ hours of Operation
- Virtually No Requirement for Light Source Replacement
- Flow Cell: 10 mm (tapered); PEEK; 15 µl Volume
- Noise: < 3 x 10⁻⁵ AU RMS
- Drift: < 1.5 x 10⁻⁴ AU RMS
- Data Rate: Up to 40 Samples/sec



	F Peak R/T (min)	A ₀ Peak R/T (min)	A ₂ Peak R/T (min)
Run 1	1.424 (4)	2.664 (7)	3.044 (8)
Run 2	1.378 (5)	2.684 (8)	3.077 (9)
Run 3	1.407 (6)	2.764 (10)	3.122 (11)

Gradient Optimization for Hemoglobin Samples on **Smart LifeLC**

FASC Standard (above)

Reproducibility Results From Three Consecutive Runs (left)

Interactive User Interface

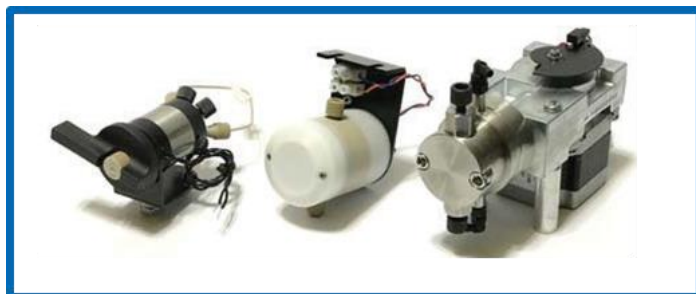
- Dell Venue 8 Tablet PC
- Windows 10 Operating System
- Clarity Instrument Control & Data
- Binary High Pressure Gradients
- Simple New Method Development
- Automatic Peak Detection
- Automatic Area Integration
- Detector Zero and Calibration
- Comprehensive Report Generation

Smart LifeLC Physical Specifications

- Dimensions: 16.20" x 12.70" x 6.60" (L x W x H) - completely enclosed in Pelican Case
- Weight: 25lbs (11.3Kg)
- Electrical: 100-240 VAC, 50/60 Hz; or 12 VDC Power Source (3.0 A) - Optional Mobile Power Pack

Smart LifeLC Optional Items

- Higher Flow Pumps and Isocratic Models
- 255 nm and 280 nm Wavelength Detectors available (interchangeable)
- Custom Software and Applications
- Battery Pack for 9 hours of continuous operation in the field without access to power sources
- 12-Volt Automobile Adaptor for remote locations



All **Smart LifeLC** critical components are individually available and easily replaceable by the user