



VION FAST LIQUID CHROMATOGRAPHY SYSTEM



PREPARED BY

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DESCRIPTION

Product Overview

The Vion Liquid Chromatography System offers quaternary solvent blending and advanced separation performance. It is specifically designed for routine analysis, research and method development, making it ideal for fast liquid chromatography applications that demand high resolution and sensitivity.

The system features a quaternary pump with an online degasser, a precise injector, and is compatible with various detectors, including UV, PDA, fluorescence (FLR), refractive index (RI), and evaporative light scattering detectors (ELSD). It also supports columns with particle sizes as small as 1.7 microns and can handle high-pressure operations. Additionally, the Vion system is fully compatible with mass spectrometers, delivering accurate and reliable results for complex analytical workflows.

Key Features

- **Quaternary Solvent Blending:** Advanced quaternary pump system with online degasser for precise solvent mixing and consistent mobile phase delivery.
- **High-Pressure Capability:** Supports high-pressure operations for use with sub-2 micron particle columns, enabling enhanced separation efficiency.
- **Multi-Detector Compatibility:** Compatible with UV, PDA, fluorescence (FLR), refractive index (RI), and evaporative light scattering detectors (ELSD), MS and HRMS.
- **Mass Spectrometer Integration:** Fully compatible with mass spectrometers for comprehensive analytical workflows.
- **Precision Injection System:** High-precision injector ensures accurate and reproducible sample introduction.
- **Advanced Column Support:** Supports columns with particle sizes as small as 1.7 microns for superior resolution.



SPECIFICATIONS

Instrument Specifications

Detailed technical specifications and performance parameters

S No.	Parameter	Value
1 - INSTRUMENT SPECIFICATIONS		
1.1	Quantum synchronization	Injection synchronization between pump and sample manager enhances retention time reproducibility
1.2	Flow rate range	0.001 to 2.000 ml/min with increment of 0.0001 ml/min
1.3	pH range	1 to 13
1.4	Cycle time	≤20 s inject-to-inject
1.5	Maximum operating pressure	18,000 psi
1.6	Leak sensors	Available
1.7	Dwell volume (total system)	≤350 µL
1.8	Gradient delay volume	≤310 µL
2 - SOLVENT PANAL		
2.1	Configuration	Four-solvent low-pressure gradient
2.2	Gradient	Quaternary gradient, Low-pressure mixing,
2.3	Gradient profiles	12 gradient curves
2.4	Pressure pulse	≤1.0%
2.5	Number of solvents	4
2.6	Solvent degassing	Automated vacuum degassing
2.7	Solvent Mixing	Automated
2.8	Flow Rate	Range: 0.01 to 2.0 ml/min
2.9	Flow precision	≤0.070% RSD
2.10	Flow accuracy	±1.0%

2.11	Composition precision	$\leq 0.10\%$ RSD
2.12	Composition accuracy	$\pm 0.25\%$
2.13	Pump seal wash	Automated Seal wash
2.14	Automated Priming	Yes

3 - SAMPLE CABINATE

3.1	Number of sample plates	Any two of the following: <ul style="list-style-type: none"> • 96 and 384 microtiter plates • 48 position 2.00-ml vial plates
3.2	Injection method	Total-volume sample injection
3.3	Precision	$\leq 1\%$ RSD
3.4	Accuracy	$\pm 0.1 \mu\text{L}$
3.5	Linearity	≥ 0.9999
3.6	Injection volume range	0.1 to 100.0 μL
3.7	Advanced Sample Manager capabilities	Auto-dilution and Auto-addition
3.8	Injection needle wash	Integral, active, programmable
3.9	Sample compartment	4.0 to 45.0 °C, settable in 0.1 °C increments
3.10	Temperature accuracy	$\pm 0.5 \text{ }^{\circ}\text{C}$ at sensor
3.11	Temperature stability	$\pm 1.0 \text{ }^{\circ}\text{C}$ at sensor
3.12	Sample carryover	$\leq 0.002\%$ caffeine (UV)

4 - COLUMN CABINATE

4.1	Column capacity	Two columns
4.2	Heating and cooling method	Forced air circulation method
4.3	Solvent conditioning program	Active pre-heating
4.4	Column tracking	Yes
4.5	Solvent conditioning	Active pre-heating
4.6	Column compartment temperature accuracy	$\pm 0.5^{\circ}\text{C}$
4.7	Column compartment temperature stability	$\pm 0.2^{\circ}\text{C}$
4.8	Column compartment temperature range	4.0 to 110.0°C, settable in 0.1°C increments.

5 - SAMPLE ORGANIZER		
5.1	Temperature accuracy	±1.0 °C at the sensor
5.2	Temperature stability	±1.0 °C at the sensor
6 - INSTRUMENTAL CONTROL		
6.1	External Control	Spera Analytical Software