

Agilent 1220 HPLC Specifications



Agilent 1220 Infinity LC System - Performance Specifications	
Safety features	Extensive diagnostics, error detection and display, leak detection, safe leak handling, leak output signal for shutdown of pumping system. Low voltages in major maintenance areas.
Control and data evaluation	Agilent EZChrom Compact, Agilent Lab Advisor, Agilent ChemStation, Agilent EZChrom Elite
Communications	Controller-area network (CAN), RS-232C, APG Remote: ready, start, stop and shut-down signals, LAN
GLP features	Early maintenance feedback (EMF), electronic records of maintenance and errors

Agilent 1220 Infinity LC System – Performance Specifications Pumps (isocratic and gradient)	
Hydraulic system	Dual plunger in series pump with proprietary servo-controlled variable stroke drive, floating plungers and passive inlet valve
Settable flow range	0.001 – 10 mL/min, in 0.001 mL/ min increments
Flow range	0.2 – 10.0 mL/min
Flow precision	<0.07% RSD, or < 0.02 min SD whatever is greater, based on retention time at constant room temperature
Flow accuracy	± 1% or 10 µl/min whatever is greater
Pressure	Operating range 0 – 60 MPa (0 – 600 bar, 0 – 8700 psi) up to 5 mL/min Operating range 0 – 40 MPa (0 – 400 bar, 0 – 5880 psi) up to 5 mL/min Operating range 0 – 20 MPa (0 – 200 bar, 0 – 2950 psi) up to 10 mL/min (all versions)
Pressure pulsation	< 2 % amplitude (typically < 1 %), at 1 mL/min isopropanol, at all pressures > 1 MPa (10 bar)
Compressibility compensation	User-selectable, based on mobile phase compressibility
Recommended pH range	1.0 – 12.5, solvents with pH < 2.3 should not contain acids which attack stainless steel
Gradient formation (gradient pump or optional; two solvents)	Low pressure dual mixing/gradient capability using proprietary high-speed proportioning valve Pump delay volume 600 – 900 µl, system delay volume 800 – 1100 µl, dependent on back pressure
Composition range	0 – 95 % or 5 – 100 %, user selectable
Composition precision	< 0.2 % RSD or < 0.04 min SD, whatever is greater, at 1 mL/min; based on retention time at constant room temperature

Agilent 1220 Infinity LC System Performance Specifications – Integrated degassing unit (gradient pump only)	
Maximum flow rate	10 mL/ min per channel
Number of channels	2
Internal volume	1.5 mL/ channel

Agilent 1220 Infinity LC System - Performance Specifications Autosampler	
Pressure	Operating range 0 – 60 MPa (0 – 600 bar, 0 – 8700 psi)
Injection range	0.1 – 100 μ L in 0.1 μ L increments Up to 1500 μ L with multiple draw (hardware modification required)
Replicate injections	1 – 99 from one vial
Precision	< 0.25% RSD from 5 – 100 μ L, < 1% RSD 1 – 5 μ L variable volume
Minimum sample volume	1 μ L from 5 μ L sample in 100 μ L microvial, or 1 μ L from 10 μ L sample in 300 μ L microvial
Carryover	Typically < 0.1%, < 0.05% with external needle cleaning
Sample viscosity range	0.2 – 50 cp
Sample capacity	100 \times 2-mL vials in 1 tray 40 \times 2-mL vials in $\frac{1}{2}$ tray 15 \times 6-mL vials in $\frac{1}{2}$ tray (Agilent vials only)
Injection cycle time	Typically 50 s depending on draw speed and injection volume

Agilent 1220 Infinity LC System - Performance Specifications Oven	
Temperature range	5 $^{\circ}$ C above ambient to 80 $^{\circ}$ C
Temperature stability	\pm 0.15 $^{\circ}$ C
Temperature accuracy	\pm 0.8 $^{\circ}$ C with calibration \pm 0.5 $^{\circ}$ C
Column capacity	One 25-cm column
Internal volume	6 μ L

Agilent 1220 Infinity LC System Performance Specifications Variable Wavelength Detector	
Detection type	Double-beam photometer
Light source	Deuterium lamp
Wavelength range	190 – 600 nm
Short term noise	\pm 0.35 \times 10 ⁻⁵ AU, at 230 nm
Drift	3 \times 10 ⁻⁴ AU/hr, at 254 nm
Linearity	> 2 AU (5%) upper limit
Wavelength accuracy	\pm 1 nm; Self-calibration with deuterium lines, verification with holmium oxide filter
Band width	6.5 nm typical
Flow cells	Standard: 14- μ L volume, 10-mm cell path length and 40 bar (588 psi) pressure maximum High pressure: 14- μ L volume, 10-mm cell path length and 400 bar (5880 psi) pressure maximum Semi-micro: 5- μ L volume, 6-mm cell path length and 40 bar (588 psi) pressure maximum

Agilent 1220 Infinity LC System Performance Specifications Diode Array Detector (G4294B only)	
Detector type	1024-element diode array
Light source	Deuterium and tungsten
Number of signals	8
Maximum sampling rate	80 Hz
Short-term noise	< \pm 0.7 \times 10 ⁻⁵ AU at 254/4 nm and at 750 nm, TC 2 s
Drift	< 0.9 \times 10 ⁻³ AU/hr at 254 nm
Linearity	> 2.0 AU (5 %) at 265 n
Wavelength range	190-950 nm
Wavelength accuracy	\pm 1 nm, self-calibration with deuterium lines verification with holmium oxide filter
Slit width	Programmable: 1, 2, 4, 8, 16 nm
Diode width	< 1 nm