

Performance Specifications Agilent 1100 Series Capillary Pump

Table 86 Performance Specification Agilent 1100 Series Capillary LC System

Type	Specification
System delay volume	Typically 5 μ l from EFC to column head, for flow rates up to 20 μ l/min (default setup). Typically 14 μ l from EFC to column head, for flow rates up to 100 μ l/min (default setup).

Table 87 Performance Specification Agilent 1100 Series Capillary Pump

Type	Specification
Hydraulic system	Two dual piston in series, with proprietary servo-controlled variable stroke drive, floating piston, active inlet valve, solvent selection valve and electronic flow control for flow rates up to 100 μ l/min
Settable column flow range	0.01 – 20 μ l/min 0.01 – 100 μ l/min (with the extended flow range kit) 0.001 – 2.5 μ l/min (with the electronic flow control bypassed)
Recommended column flow range	1 – 20 μ l/min 10 – 100 μ l/min (with extended flow range kit) 0.1 – 2.5 ml/min (with the electronic flow sensor bypassed)
Column flow precision	< 0.7 % RSD or 0.03 % SD (typically 0.4 % RSD or 0.02 % SD), at 10 μ l/min and 50 μ l/min column flow (based on RT, default setting)
Optimum composition range	1 to 99% or 5 μ l/min per channel (primary flow), whatever is greater
Composition precision	< 0.2 % SD, at 10 μ l/min (20 μ l flow sensor), 50 μ l/min (100 μ l flow sensor) and 1 ml/min (normal mode) default setting

Table 87 Performance Specification Agilent 1100 Series Capillary Pump (continued)

Type	Specification
Delay volume	Typically 3 μ l from the electronic flow control to the pump outlet for flow rates up to 20 μ l/min. Typically 12 μ l from the electronic flow control to the pump outlet for flow rates up to 100 μ l. for flow rates up to 100 μ l/min and electronic flow control active: primary flow path 180 - 480 μ l without mixer, 600 - 900 μ l with mixer (system pressure dependant) Typically 180 to 480 μ l (system pressure dependent) without mixer for flow rates up to 2.5 ml/min. (Mixer delay volume 420 μ l)
Pressure range	20 to 400 bar (5880 psi) system pressure
Compressibility compensation	User-selectable, based on mobile phase compressibility
Recommended pH range	1.0 – 8.5, solvents with pH < 2.3 should not contain acids which attack stainless steel. Upper pH range is limited by fused silica capillaries.
Control and data evaluation	Agilent ChemStation for LC
Analog output	For pressure monitoring, 2 mV/bar, one output
Communications	Controller-area network (CAN), GPIB, RS-232C, APG Remote: ready, start, stop and shut-down signals, LAN optional
Safety and maintenance	Extensive diagnostics, error detection and display (through control module and Agilent ChemStation), leak detection, safe leak handling, leak output signal for shutdown of pumping system. Low voltages in major maintenance areas.
GLP features	Early maintenance feedback (EMF) for continuous tracking of instrument usage in terms of seal wear and volume of pumped mobile phase with user-settable limits and feedback messages. Electronic records of maintenance and errors.
Housing	All materials recyclable.