



# Agilent 1290 Infinity II Flexible Pump

## Data Sheet



### Product Description

The Agilent 1290 Infinity II Flexible Pump is the ultimate pump to boost your efficiency by combining the maximum performance of a high-pressure mixing UHPLC pump with the flexibility of a low-pressure mixing UHPLC pump. The new 1290 Infinity II LC power range guarantees highest instrument efficiency, allowing you to run any HPLC and UHPLC method. ISET enables you to seamlessly transfer existing methods from different instrument instruments - current Agilent systems as well as instruments from other manufacturers. Furthermore, proven technologies, such as the Agilent Inlet Weaver mixer, active damping or the optional Agilent V380 Jet Weaver mixer for additional mixing capacity achieve highest analytical efficiency. The established multipurpose valve enhances laboratory efficiency by adding useful functionalities, for example, mixer in/out switch, filter backflush or automatic purge, and BlendAssist software simplifies your workflow with accurate buffer/additive blending.

### Features

- Ultimate performance in terms of accuracy and precision for flow and composition.
- Infinite power range combining ultrahigh pressure up to 1300 bar and high analytical flow rates up to 5 mL/min for maximum chromatographic performance.
- Integrated high efficiency degasser with low internal volume is based on PTFE AF technology and offers fast change-over of solvents for purging and priming the pump.
- Highest solvent mixing efficiency before reaching the pump head due to the established Inlet Weaver technology.
- Active damping with independently controllable high resolution pump drives and firmware-embedded tuning algorithms significantly reduce ripples and associated UV noise, switchable V380 Jet Weaver for extra mixing volume.
- A multipurpose valve enables automatic software-embedded functionalities such as switching the optional mixer in and out, flushing back the inline filter or automatic purging.

- The unique Intelligent System Emulation Technology (ISET) enables the emulation of existing Agilent 1100, 1200 and 1260 Infinity Series instruments, as well as Waters Alliance, Waters H-Class and Shimadzu Prominence instruments.
- Convenient, precise and accurate buffer/additive blending using the new software feature BlendAssist, implemented in the pump driver.
- Built-in active seal-wash for increased uptime.

## Specifications

**Table 1** Physical Specifications

Type	Specification	Comments
Weight	16.1 kg (35.5 lbs)	
Dimensions (height × width × depth)	180 x 396 x 436 mm (7.1 x 15.6 x 17.2 inches)	
Line voltage	100 – 240 V~, ± 10 %	Wide-ranging capability
Line frequency	50 or 60 Hz, ± 5 %	
Power consumption	120 VA / 110 W	
Ambient operating temperature	4 – 55 °C (39 – 131 °F)	
Ambient non-operating temperature	-40 – 70 °C (-40 – 158 °F)	
Humidity	< 95 % r.h. at 40 °C (104 °F)	Non-condensing
Operating altitude	Up to 3000 m (9842 ft)	
Non-operating altitude	Up to 4600 m (15092 ft)	For storing the module
Safety standards: IEC, EN, CSA, UL	Installation category II, Pollution degree 2	For indoor use only.

**Table 2** Agilent 1290 Infinity II Flexible Pump (G7104A)  
Performance Specifications

<b>Feature</b>	<b>Specification</b>
Hydraulic system	Dual pistons in series pump with proprietary servo-controlled variable stroke design and smooth motion control for active damping.
Pump resolution step size	300 pL step size
Settable flow range	0.001 – 5 mL/min, in 0.001 mL/min increments (executed in 300 pL/step increments).
Flow precision	≤0.07 % RSD or 0.01 min SD, whatever is greater
Flow accuracy	±1 % or ±10 µL/min, whatever is greater
Pressure range	up to 130 MPa (1300 bar) at 0 – 2 mL/min ramping down to 80 MPa (800 bar) at 5 mL/min
Pressure pulsation	<1 % amplitude or <0.5 MPa (5 bar), whatever is greater
Compressibility compensation	Automatic
Recommended pH-range	1.0 – 12.5, solvents with pH <2.3 should not contain acid which attack stainless steel.
Gradient formation	Low pressure quaternary mixing
Delay volume	As low as 350 µL
Composition range	Settable range: 0 – 100 % Recommended range: 1 – 99 % or 5 µL/min
Composition precision	<0.15 % RSD or 0.02 min SD, whatever is greater
Composition accuracy	±0.4 % absolute (1 – 99 % B)
Number of solvent	4 out of maximum 26 solvents
Solvent selection valve	Internal 4-solvent gradient formation valve included. External 2x 12 solvent valve as option, fully integrated in the pump control interface.
Degassing unit	Integrated. Number of channels: 4, Internal volume per channel: 1.5 mL
Materials in contact with solvent	TFE/PDD copolymer, FEP, PEEK, PPS, stainless steel, polyimide
Automatic Purge Valve	Included, allows automatic inline-filter back-flush and automatic mixer change, e.g. for optional TFA-mixer
Active Seal wash	Included
Intelligent System Emulation Technology (ISET)	Included

**Table 2** Agilent 1290 Infinity II Flexible Pump (G7104A)  
Performance Specifications

<b>Feature</b>	<b>Specification</b>
Communications	Controller-area network (CAN), RS232C, APG remote: ready, start, stop and shutdown signals, LAN
Safety and maintenance	Extensive diagnostics, error detection and display through included Agilent LabAdvisor, leak detection, safe leak handling, leak output signal for shutdown of the pumping system. Low voltage 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 pre-defined and user settable limits and feedback messages. Electronic records of maintenance and errors.
Housing	All materials are recyclable.

## Ordering Details

<b>Description</b>	<b>Product Number</b>
<b>Agilent 1290 Infinity II Flexible Pump</b>	
Maximum pressure 1300 bar	G7104A
Agilent Lab Advisor Advanced Software	G7104A#004
Ultra-low Dispersion Kit	G7104A#006
Ultra-clean Tubing Kit	G7104A#033
Safety Caps	G7104A#034
V380 Jet Weaver Mixer Upgrade Kit	G7104A#070

[www.agilent.com/chem/1200](http://www.agilent.com/chem/1200)

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