



# Agilent 1290 Infinity II Multisampler

## Data Sheet



### Product Description

The Agilent 1290 Infinity II Multisampler can handle both vials and microtiter plates with ease and efficiency up to 1300 bar system pressure, optimized on chromatographic performance. In fact, this compact module has the capacity to house up to 6144 samples, all inside the Agilent stack footprint – more than any single sampler from any other vendor – and the robotics to smoothly inject each into the chromatograph in turn. With our multi-wash capability, you can reduce carryover to less than 9 parts per million.

### Features

- **Unmatched flexibility** – You choose how you want to introduce samples for injection, whether you prefer vials, microtiter plates, or any combination of formats. Sample drawers are available in three heights, and you can mix shallow drawers with deeper ones to accommodate different sample sizes.
- **High capacity** – Using shallow well-plate drawers, the 1290 Infinity II Multisampler takes a maximum load of 16 microtiter plates and up to 6144 samples—the most of any single system.
- **Seamless automation** – Internal robotics move microtiter plates and other sample containers from the sample hotel to the central workspace for sample processing steps and injections.
- **Dual-needle injection** – By running samples alternately through one or the other injection path, you can reduce cycle times to mere seconds, virtually eliminating conventional wait times—whether for large volume loadings or flushing procedures.
- **Scalable injection volumes** – The Agilent unique dual-needle setup also enhances flexibility by providing two differently optimized injectors in a single instrument. You can, for example, optimize one path for large volume injections and the other for low delay volumes.
- **Ultralow carryover** – The 1290 Infinity II Multisampler is designed for low carryover, but you can take clean to a whole new level with our multi-wash capability, cleaning all relevant injection parts between runs. This sophisticated, integrated feature flushes the injection needle outside with three solvents, and uses seat backflush procedures to reduce carryover to less than 9 ppm.
- **Integrated sample thermostat** – available as option or upgrade, providing cooling and heating in the range from 4 °C - 40 °C.
- **Instant information** – Lights on each drawer tell you all you need to know about loading status, current activity, and accessibility.



## Specifications

**Table 1** Physical Specifications

Type	Specification	Comments
Weight	22 kg (48.5 lbs)	w/o sample thermostat
Dimensions (height × width × depth)	320 x 396 x 468 mm (12.6 x 15.6 x 18.4 inches)	
Line voltage	100 – 240 V~, ± 10 %	Wide-ranging capability
Line frequency	50 or 60 Hz, ± 5 %	
Power consumption	180 VA, 180 W	
Ambient operating temperature	4 – 40 °C (39 – 104 °F)	
Ambient non-operating temperature	-40 – 70 °C (-40 – 158 °F)	
Humidity	< 95 % r.h. at 40 °C (104 °F) <sup>1</sup>	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.
ISM Classification	ISM Group 1 Class B	According to CISPR 11
Permitted solvents	Auto-ignition temperature ≥200 °C Boiling point ≥56 °C	

<sup>1</sup> If a sample thermostat is included the upper value for humidity can be reduced. Please check your lab conditions to stay beyond dew point values for non-condensing operation.

**Table 2** Performance Specifications Agilent 1290 Infinity II Multisampler (G7167B)

Type	Specification
Injection range for <i>Single-needle</i> instruments	Default: 0.1 – 20 µL in 0.1 µL increments; optional: 40 µL or 100 µL (using optional 100 µL analytical head)
	0.1 – 500 µL or 900 µL in 0.1 µL increments (using 900 µL analytical head)
	0.1 – 120 µL in 0.1 µL increments with 1290 Infinity II large volume injection kit (hardware modification required) G4216-68711
	0.1 – 500 µL or 1500 µL in 0.1 µL increments with 100 µL upgrade kit (hardware modification required) G7167-68711
Injection range for <i>Dual-needle</i> instruments	Default: 0.1 – 20 µL in 0.1 µL increments; optional: 40 µL or 100 µL
	Up to 500 µL in 0.1 µL increments depending on installed loop size
Injection precision for <i>Single-needle</i> instruments	<0.15 % RSD or SD <10 nL, whatever is greater
Injection precision for <i>Dual-needle</i> instruments	<0.2 % RSD or SD <10 nL, whatever is greater
Injection linearity	0.9999 in the range of 0.1 – 100 µL
Pressure range	Up to 1300 bar
Sample viscosity range	0.2 – 5 cp
Sample capacity	1H Drawer up to 8 drawers and 16 positions Shallow well plates (MTP)
	2H Drawer up to 4 drawers and 8 positions MTP, deep well plates, vials, Eppendorf
	3H Drawer up to 2 drawers and 4 positions MTP, deep well plates, vials up to 6 mL, Eppendorf
Injection cycle time	<10 s using following standard conditions: Default draw speed: 100 µL/min Default eject speed: 400 µL/min Injection volume: 1 µL
Carry Over	<0.003 % (30 ppm) Multisampler Standard and Dual Needle <0.0009 % (9 ppm) Multisampler Multiwash
Multiwash	Outer needle wash and seat backflush for carryover reduction with up to 3 different solvents
Instrument Control	LC & CE Drivers A.02.10 or above Instrument Control Framework (ICF) A.02.03 or above Instant Pilot (G4208A) with firmware B.02.19 or above Lab Advisor B.02.06 or above
Communications	Controller-area network (CAN), Local Area Network (LAN) ERI: ready, start, stop and shut-down signals

**Table 2** Performance Specifications Agilent 1290 Infinity II Multisampler (G7167B)

<b>Type</b>	<b>Specification</b>
Maintenance and safety-related features	Extensive diagnostics, error detection and display with Agilent Lab Advisor software Leak detection, safe leak handling, leak output signal for shutdown of pumping system, and low voltages in major maintenance areas
GLP features	Early maintenance feedback (EMF) for continuous tracking of instrument usage with user-settable limits and feedback messages. Electronic records of maintenance and errors.
Housing	All materials recyclable.

**Table 3** Physical Specifications of the Sample Thermostat

Type	Specification	Comment
Weight	<6 kg	
Dimensions (height x width x depth)	205 mm x 340 mm x 370 mm	
Refrigerant gas	R600a (0.030 kg)	Ozone depletion potential (ODP) =0 Global warming potential (GWP) =3
Supply voltage	24VDC	
Current	10 A max.	
Ambient operating temperature	4 – 40 °C (39.2 – 104 °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 (15091 ft)	
Safety standards: IEC, EN, CSA, UL	Installation category II, Pollution degree 2	For indoor use only
ISM Classification	ISM Group 1 Class B	According to CISPR 11

**Table 4** Performance Specifications for the Sample Thermostat

Type	Specifications
Operating principle	High performance, low-energy consumption micro-compressor based cooler with natural R600a coolant (Butane 30 g), user-upgradable
Temperature range	from 4 – 40 °C
Temperature settable	from 4 – 40 °C in 1 ° increments
Temperature accuracy (<25 °C, <50 % r.H.)	2 – 6 °C at a setpoint of 4 °C

## Ordering Details

**Table 5** Agilent 1290 Infinity II Multisampler Instrument

Description	Product Number	Comments
<b>1290 Infinity II Multisampler</b>		
<p>Designed for low carryover of up to 1300 bar, handles well plates and individual sample containers (e.g. vials, Eppendorf tubes).</p> <p>Includes:</p> <ul style="list-style-type: none"> <li>• One double-height drawer for 2 individual sample containers and 3x 2H drawer-substitutes to cover the remaining drawer-slots</li> <li>• Single needle setup with 20 µL loop and 40 µL analytical head</li> <li>• Standard needle flush port and peristaltic pump</li> <li>• Separate position for 5x 2 mL reference vials</li> <li>• One 54-vial container for 2 mL vials</li> </ul>	G7167B	
<b>InfinityLab Sample Thermostat</b>		
Thermostat unit for 1290 Infinity II Multisampler (G7167A and B). Slide-in device, customer installable.	G7167B #101	Thermostat to control sample temperature from 4 °C up to 40 °C
<b>InfinityLab Sample Thermostat Upgrade</b>		
Slide-in thermostat for existing Multisampler instruments. Customer installable.	G4761A	Requires FW 7.22 or higher.
<b>1290 Infinity II Dual-needle option</b>		
Offers a second flow path with needle, seat and loop for parallel operation. Default flow path is 2x 20 µL loops plus one 100 µL analytical head.	G7167B #111	For alternating quantitative injections, identical loop volumes are required! Variable volumes need to be purchased and added separately. Combinations of Dual-needle with Multi-wash require an additional external valve mounted via rail.
<b>1290 Infinity II Multi-wash option</b>		
Minimizes carryover adding a high performance pump for 3 different solvents plus a solvent selection valve. An extra high pressure flush head is included to allow for active needle seat back flush.	G7167B #112	Combinations of Multi-wash with Dual-needle require an additional external valve mounted via rail.

**Table 6** Multisampler Drawers for the Agilent 1290 Infinity II Multisampler

Description	Product Number	Comments
<b>Single-height drawer (1H)</b>		
Comes in quantity of 2. Each drawer can hold 2 individual sample containers for: Shallow well plates (96 or 384 well plates)	G7167B #131	Maximum setup with 1H drawers is 8 per instrument.
<b>Dual-height drawer (2H)</b>		
Comes in quantity of 1. Each drawer can hold 2 individual sample containers for: <ul style="list-style-type: none"><li>• Shallow well plates (96 or 384 well plates)</li><li>• Deep well plates (96 or 384 well plates)</li><li>• 40 x 2 mL vial container</li><li>• 54 x 2 mL vial container (6/pk)</li><li>• 27 x 0.5 or 1.5 or 2 mL Eppendorf safe-lock tubes</li></ul>	G7167B #132	Maximum setup with 2H drawers is 4 per instrument.
<b>Triple-height drawer (3H)</b>		
Comes in quantity of 2. Each drawer can hold 2 individual sample containers for: <ul style="list-style-type: none"><li>• Shallow well plates (96 or 384 well plates)</li><li>• Deep well plates (96 or 384 well plates)</li><li>• 40 x 2 mL vial container</li><li>• 54 x 2 mL vial container</li><li>• 27 x 0.5 or 1.5 or 2 mL Eppendorf safe-lock tubes</li><li>• Deep well plates for 96x 1 mL vials capped</li><li>• 15 x 6 mL vial container</li></ul>	G7167B #133	Maximum setup with 3H drawers is 2 per Instrument

**Table 7** Analytical Heads and Sample Loops for the Agilent 1290 Infinity II Multisampler

<b>Description</b>	<b>Product Number</b>	<b>Comments</b>
<b>Analytical head 100 µL</b>		
100 µL metering device for use at up to 1300 bar.	G7167B #161	
<b>Analytical head 900 µL</b>		
900 µL metering device for large single stroke injections at max. 400 bar.	G7167B #163	Only for single needle setup. Limits system pressure to 400 bar.
<b>Sample Loop-flex 40 µL right</b>		
(only for Single-needle) For max. 40 µL injection.	G7167B #150	Extension of a default 20 µL loop
<b>Loop 40 µL right Dual-needle</b>		
Calibrated Dual-needle loop right.	G7167B #144	Extension of a default 20 µL DN-loop
<b>Loop 40 µL left Dual-needle</b>		
Calibrated Dual-needle loop left.	G7167B #151	Extension of a default 20 µL DN-loop
<b>Sample Loop-flex 100 µL right</b>		
(only for Single-needle) For max. 100 µL injection.	G7167B #152	Extension of a default 20 µL loop. Requires a 100 µL analytical head.
<b>Loop 100 µL right Dual-needle</b>		
Calibrated Dual-needle loop 100 µL right.	G7167B #145	Extension of a default 20 µL DN-loop. Requires a 100 µL analytical head.
<b>Loop 100 µL left Dual-needle</b>		
Calibrated Dual-needle loop left.	G7167B #153	Extension of a default 20 µL loop. Requires a 100 µL analytical head.
<b>Loop kit 500 µL right Dual-needle</b>		
Calibrated Dual-needle flex-loop plus extension and slotted needle.	G7167B #146	Only within Dual-needle setup DN-loop. Requires a 100 µL analytical head.
<b>Loop kit 500 µL left Dual-needle</b>		
Calibrated Dual-needle flex-loop plus extension and slotted needle.	G7167B #155	Only within Dual-needle setup. Requires a 100 µL analytical head.



**Table 7** Analytical Heads and Sample Loops for the Agilent 1290 Infinity II Multisampler

Description	Product Number	Comments
<b>Sample Loop-flex 900 µL right</b>		
(only for Single-needle) Sample Loop-flex 900 µL right for max. 900 µL injection. <ul style="list-style-type: none"> <li>• Only in combination with <i>900 µL analytical head</i></li> <li>• Max. pressure limitation to <i>400 bar</i></li> </ul>	G7167B #156	For Single-needle setup only. Requires G7167B #163. System pressure limited to max. 400 bar.
<b>Multi-draw option adding 400 µL / 1400 µL</b>		
Includes 2 seat capillary extensions to inject up to 500 µL or to 1500 µL volume. (G1313-68711).	G7167B #121	Only for single-needle instruments. Max. sample volume depends on installed loop capillary. Caution: Large volume injection at high pressures can shorten LC-column lifetime.
<b>Multi-draw option adding 80 µL</b>		
Includes seat capillary to inject up to 120 µL volume (G4216-68711).	G7167B #122	Only for single-needle instruments. Maximum sample volume depends on installed loop capillary.

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