Agilent 1260 Infinity II Multisampler

Data Sheet

Product Description

The Agilent 1260 Infinity II Multisampler can handle both vials and microtiter plates with ease and efficiency up to 800 bar system pressure, optimized for highest flexibility. This compact module has the capacity to house up to 6144 samples, all inside the Agilent stack footprint. This is more than any single sampler from any other vendor. Robotics smoothly inject each sample into the chromatograph in turn. With Agilent's unique dual-needle design, cycle time can be reduced efficiently using smart overlapped injections. With the multiwash capability, you can reduce carryover to less than 9 ppm.

Features

- **Unmatched flexibility** – you can 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 1260 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** – designed for low carryover, but you can take clean to a whole new level with our multiwash capability, cleansing 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 need to know about loading status, current activity, and accessibility.

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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)[1]	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	

[1]   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 1260 Infinity II Multisampler (G7167A)

Type	Specification
Injection range for *Single-needle* instruments	Default: 0.1 – 100 µL in 0.1 µL increments optional: 20 µL or 40 µL (using optional 40 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 *Dual-needle* instruments	Default: 0.1 – 100 µL in 0.1 µL increments; optional: 20 µL or 40 µL (using 100 µL analytical head)
	Up to 900 µL in 0.1 µL increments depending on installed loop size
Injection precision for *single-needle* instruments	<0.15 % RSD or SD <10 nL, whatever is greater
Injection precision for *dual-needle* 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 800 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 and 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 InfinityLab Companion (with firmware D.07.25 or above) Lab Advisor B.02.06 or above

Table 2   Performance Specifications Agilent 1260 Infinity II Multisampler (G7167A)

Type	Specification
Communications	Controller-area network (CAN), Local Area Network (LAN) ERI: ready, start, stop and shut-down signals
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 1260 Infinity II Multisampler

Table 5   Agilent 1260 Infinity II Multisampler Instrument

Description	Product Number	Comments
1260 Infinity II Multisampler Designed for low carryover of up to 800 bar, handles well plates and individual sample containers (for example, vials, Eppendorf tubes). Includes: • One double-height drawer for two individual sample containers and three double-height drawer-substitutes to cover the remaining drawer-slots • Single needle setup with 100 µL loop and 100 µL analytical head • Standard needle flush port and peristaltic pump • Separate position for five 2 mL reference vials	G7167A	
InfinityLab Sample Thermostat Thermostat unit for 1260 Infinity II Multisampler (G7167A and B). Slide-in device, customer installable.	G7167A #101	Thermostat to control sample temperature from 4 °C up to 40 °C
InfinityLab Sample Thermostat Upgrade Slide-in thermostat for existing Multisampler instruments. Customer installable.	G4761A	Requires FW 7.22 or higher.
1260 Infinity II Dual-Needle option Offers a second flow path with needle, seat and loop for parallel operation. Default flow path is two 100 µL loops plus one 100 µL analytical head.	G7167A #111	For alternating quantitative injections, identical loop volumes are required! Variable volumes need to be purchased and added separately.
1260 Infinity II Multiwash option Minimizes carryover adding a high-performance pump for three different solvents plus a solvent selection valve. An extra high-pressure flush head is included to allow for active needle seat back flush.	G7167A #112	

Table 6   Multisampler Drawers for the Agilent 1260 Infinity II Multisampler

Description	Product Number	Comments
Single-height drawer (1H) Comes in quantity of 2. Each drawer can hold 2 individual sample containers for: Shallow well plates (96 or 384 well plates)	G7167A #131	Maximum setup with 1H drawers is 8 per instrument.
Dual-height drawer (2H) Comes in quantity of 1. Each drawer can hold 2 individual sample containers for: • Shallow well plates (96 or 384 well plates) • Deep well plates (96 or 384 well plates) • 40 x 2 mL vial container • 54 x 2 mL vial container (6/pk) • 27 x 0.5 or 1.5 or 2 mL Eppendorf safe-lock tubes	G7167A #132	Maximum setup with 2H drawers is 4 per instrument.
Triple-height drawer (3H) Comes in quantity of 2. Each drawer can hold 2 individual sample containers for: • Shallow well plates (96 or 384 well plates) • Deep well plates (96 or 384 well plates) • 40 x 2 mL vial container • 54 x 2 mL vial container • 27 x 0.5 or 1.5 or 2 mL Eppendorf safe-lock tubes • Deep well plates for 96x 1 mL vials capped • 15 x 6 mL vial container	G7167A #133	Maximum setup with 3H drawers is 2 per Instrument

Table 7 Analytical Heads and Sample Loops for the Agilent 1260 Infinity II Multisampler

Description	Product Number	Comments
Analytical head 40 µL 40 µL metering device for use at up to 800 bar.	G7167A #162	If only small injection volumes are used this will reduce delay volums
Analytical head 900 µL 900 µL metering device for large single stroke injections at max. 400 bar.	G7167A #163	Only for single needle setup. Limits system pressure to 400 bar.
Sample Loop-flex 20 µL right (only for Single-needle) For max. 20 µL injection.	G7167A #148	Decrease delay volume of a default 100 µL loop.
Loop 20 µL right Dual-needle Calibrated Dual-needle loop right.	G7167A #143	Decrease delay volume of a default 100 µL DN loop.
Loop 20 µL left Dual-needle Calibrated Dual-needle loop left.	G7167A #149	Decrease delay volume of a default 100 µL loop.
Sample Loop-flex 40 µL right (only for Single-needle) For max. 40 µL injection.	G7167A #150	Decrease delay volume of a default 100 µL loop.
Loop 40 µL right Dual-needle Calibrated Dual-needle loop right.	G7167A #144	Decrease delay volume of a default 100 µL DN loop.
Loop 40 µL left Dual-needle Calibrated Dual-needle loop left.	G7167A #151	Decrease delay volume of a default 100 µL DN loop.
Sample Loop-flex 500 µL right (only for Single-needle) For max. 500 µL injection. • Only in combination with *900 µL analytical head* • Max. pressure limitation to *400 bar*	G7167A #154	Extending sample loop volume for standard path. Requires G7167A #163.
Loop kit 500 µL right Dual-needle Calibrated Dual-needle Loop-flex plus extension and slotted needle.	G7167A #146	Only within Dual-needle setup. Requires a 100 µL analytical head.
Loop kit 500 µL left Dual-needle Calibrated Dual-needle Loop-flex plus extension and slotted needle.	G7167A #155	Only within Dual-needle setup. Requires a 100 µL analytical head.
Sample Loop-flex 900 µL right (only for Single-needle) Sample Loop-flex 900 µL right for max. 900 µL injection. • Only in combination with *900 µL analytical head* • Max. pressure limitation to *400 bar*	G7167A #156	Requires a 900 µL analytical head (G7167A #163). System pressure limited to maximum 400 bar.

Table 7 Analytical Heads and Sample Loops for the Agilent 1260 Infinity II Multisampler

Description	Product Number	Comments
Loop kit 900 µL right Dual-needle Calibrated Dual-needle flex-loop plus extension and slotted needle. • Only in combination with *900 µL analytical head* • Max. pressure limitation to *400 bar*	G7167A #147	Only within Dual-needle setup DN loop. Requires a 900 µL analytical head (G7167A #163). System pressure limited to maximum 400 bar
Loop kit 900 µL left Dual-needle Calibrated Dual-needle flex-loop plus extension and slotted needle. • Only in combination with *900 µL analytical head* • Max. pressure limitation to *400 bar*	G7167A #157	Requires a 900 µL Analytical head (G7167A #163). System pressure limited to maximum 400 bar.

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