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2707 Autosampler

The Waters™ 2707 Autosampler is a compact, versatile module for highly precise and reproducible injections into an LC or LC-MS system controlled by Empower™ Chromatography Data System (CDS). Perfect for automated, routine LC requirements, this easy-to-use and rugged autosampler meets a wide variety of sampling needs in pharmaceutical, chemical, and environmental laboratories.

OPERATING FEATURES

Audible noise level	<65 dBA	
Working temperature	10 to 40 °C (indoor use only)	
Storage temperature	–25 to +60 °C	
Humidity	20% to 80% RH	
Safety and EMC compatibility	According to EC-directives; CSA (UL) approved	
Installation class	II	
Pollution degree	2	
Altitude	Up to 2000 m	
Dimensions	Without thermal control: Height: 36.0 cm (14.2 in.) Depth: 51.0 cm (20.1 in.) Width: 30.0 cm (11.8 in.)	With thermal control: Height: 57.5 cm (22.6 in.) Depth: 36.0 cm (14.2 in.) Width: 30.0 cm (11.8 in.)
Weight	Without thermal control: 19.0 kg (41.8 pounds) With thermal control: 21.0 kg (46.2 pounds)	
Max. weight that can be placed on top of 2707	65 kg (143 pounds)	
Power requirements	95 to 240 VAC ± 10%; 50 to 60 Hz; 200VA	
Viscosity range	0.1 to 5.0 cP	
Back pressure (maximum)	5000 psi (345 bar)	

SAMPLING

Sample capacity	Two microtiter plates according to SBS standards; 96-well high/low and 384-well low formats, 48-vial or 12-vial trays; any combination of plates is allowed
Vial/plate dimensions (includes cap)	Maximum vial/plate height: 4.7 cm (1.9 in.) (includes septa or cap mat)
Loop volumes	5, 10, 20, 100 (standard), and 500 µL; 10 mL loop (standard) for prep option

Dispenser syringe	500 µL standard or 2500 µL optional
Vial detection	Missing vial/well plate detection by sensor
Headspace pressure	Built-in compressor, only used for vials with septa
Switching time injection valve	Electrically <100 msec
Wash solvent	Integrated wash solvent bottle
Wetted parts in flow path	SS316, PTFE, TEFZEL, PEEK, Glass
Injection cycle time	<60 s for one injection, ≤100 µL including 300 µL wash

ANALYTICAL PERFORMANCE

Injection modes	Full loop, partial loopfill, and partial loop needle overfill mode
Reproducibility (valid at 1.0 cP, standard configuration, and de-gassed wash solvents)	RSD ≤0.3% for full loop injections RSD ≤0.5% for partial loop needle overfill injections, injection volumes >10 µL RSD ≤1.0% for partial loopfill injections, injection volumes >10 µL
Carryover	<0.05% with programmable needle wash

PROGRAMMING

Injection methods	Full loop, partial loopfill, and partial loop needle overfill
Injection volume	0 to 9999 µL (with 1 µL increment), depending on system settings
Maximum injection volume	Full loop = loop volume Partial loop needle overfill = 1/2 x loop volume Partial loopfill = (loop volume – 3 x needle volume)/2
Injections per vial/well	Maximum 99 injections
Analysis time	Maximum 650 minutes
Wash	Wash between injections, programmable volumes
Priority sample	Programmable

COMMUNICATION

Outputs	One programmable relay output, 28 VAC/DC max, I = 0.25A max
Inputs	Two programmable TTL inputs, programmable as Hold inject (default) or Stop inject
Communication port	Ethernet

OPTIONS (FACTORY INSTALLED)

Sample tray thermal control	Built-in Peltier thermal control Range: 4 °C to ambient -3 °C Temp.: air temperature in sample compartment: 4 ± 2 °C (at temperature sensor) (Temperature at relative humidity of 80% and ambient temperature of 25 °C)

OPTIONS (USER-INSTALLABLE)

Bio-compatible sample flow path	Inert sample needle (silco steel) and bio-compatible valve (PEEK) and valve
Prep kit (see specifications for prep)	2.5-mL syringe, prep valve 10-mL sample loop, LSV needle, and sample tray for 10-mL vials

2707 AUTOSAMPLER FOR PREPARATIVE INJECTION

Note that this specification only lists items that are different from the standard 2707 Autosampler specification. The preparative version of the 2707 Autosampler is designed for large sample volumes (LSV).

SAMPLING

Sampling capacity	24 vials of 10 mL (LSV)
Vial dimensions (cap included):	Maximum vial height: 4.7 cm (1.9 in.) Minimum vial height: 3.2 cm (1.3 in.)
Loop volume	Not programmable, injection volume determines the aspirated sample volume
Dispenser syringe	2500 µL syringe
Injection volume	0 to 9999 µL, with 1 µL increments
Valve	Valco 0.75 bore valve
Sample loop	Valco 10-mL SS sample loop, 0.3175 cm (0.125-in.) tubing with 0.1588 cm (0.0625-in.) tubing ends and fittings
Buffer tubing	2 mL
Needle	LSV needle with LSV air needle and seal

ANALYTICAL PERFORMANCE

Injection method	Partial loopfill injection mode
Reproducibility	RSD ≤1.0% for partial loopfill injections, injection volumes >10 µL up to 50% of the installed sample loop
Viscosity range	0.1 to 5 cP
Carryover	<0.1% with programmable needle wash

ORDERING INFORMATION	PART NUMBER
2707 Autosampler	176001563
2707 Autosampler with Sample Cooling	176001564

Options

Preparative Injection Kit	205000550
Bio-Compatible Injection Kit	205000564

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