

Liquid Chromatography

Flexar LC Autosamplers

**Flexar LC Autosampler**

A flexible, high-throughput autosampler with excellent injection-to-injection precision and remarkably low carryover. Supports a wide variety of injection modes, autosampler trays and vials. Compatible with Peltier cooling and heating options.

Flexar Peltier LC Autosampler

A Flexar LC Autosampler with Peltier cooling built-in. Peltier thermostating assures that a pre-defined temperature is maintained for all samples throughout the duration of an automated run. Sample chamber cooling can reduce sample degradation or eliminate errors from evaporative losses which might occur during extended batch runs.

Flexar FX-UHPLC Autosampler

A powerful high-throughput UHPLC autosampler capable of operation at up to 18,000 psi. Comes standard with Peltier cooling, and a high-pressure injection valve for the most advanced UHPLC applications.

Hardware

Specifications

Flexar LC Autosampler

Flexar Peltier LC Autosampler

Flexar FX UHPLC Autosampler

Pressure limits	Up to 6,100 psi (428 bar)	Up to 6,100 psi (428 bar)	18,000 psi (1,240 bar)
Injection modes	Fixed Loop: 5x sample overflow Partial Fill: Variable injection volumes µL Pickup: Injections without any excess sample waste	Fixed Loop: 5x sample overflow Partial Fill: Variable injection volumes µL Pickup: Injections without any excess sample waste	Fixed Loop: 5x sample overflow Partial Fill: Variable injection volumes µL Pickup: Injections without any excess sample waste
Injection volume	Fixed Loop mode: 2 µL to 500 µL, depending on loop volume Partial Fill mode: 0.1 µL to 2.45 mL (up to half loop volume) µL Pickup mode (no sample waste): 1 µL to 977 µL, depending on loop volume	Fixed Loop mode: 2 µL to 500 µL, depending on loop volume Partial Fill mode: 0.1 µL to 2.45 mL (up to half loop volume) µL Pickup mode (no sample waste): 1 µL to 977 µL, depending on loop volume	Fixed Loop mode: 2 µL to 500 µL, depending on loop volume Partial Fill mode: 0.1 µL to 2.45 mL (up to half loop volume) µL Pickup mode (no sample waste): 1 µL to 977 µL, depending on loop volume
Injection cycle time	As fast as 12 seconds in Partial Fill mode or 35 seconds in µL Pickup mode	As fast as 12 seconds in Partial Fill mode or 35 seconds in µL Pickup mode	As fast as 12 seconds in Partial Fill mode or 35 seconds in µL Pickup mode
Loop volumes	2 µL to 5 mL, 100 µL standard	2 µL to 5 mL, 100 µL standard	2 µL to 5 mL, 10 µL standard
Sample/flush syringes	100, 250, 500, 1000 and 2500 µL; 250 µL standard	100, 250, 500, 1000 and 2500 µL; 250 µL standard	100, 250, 500, 1000 and 2500 µL; 250 µL standard
Injection repeatability	Fixed loop mode: 0.3% RSD Partial loop mode: 0.5% RSD for ≥5 µL injections 1.0% RSD for 1-4 µL injections µL Pickup mode: 0.5% RSD for ≥5 µL injections 1.5% RSD for 1 µL injection	Fixed loop mode: 0.3% RSD Partial loop mode: 0.5% RSD for ≥5 µL injections 1.0% RSD for 1-4 µL injections µL Pickup mode: 0.5% RSD for ≥5 µL injections 1.5% RSD for 1 µL injection	Fixed loop mode: 0.3% RSD Partial loop mode: 0.5% RSD for ≥5 µL injections 1.0% RSD for 1-4 µL injections µL Pickup mode: 0.5% RSD for ≥5 µL injections 1.5% RSD for 1 µL injection
Sample carryover	<0.005% (caffeine), using programmable needle wash	<0.005% (caffeine), using programmable needle wash	<0.005% (caffeine), using programmable needle wash
Sample capacity	2 x 96-well high (deep) and low (shallow) microtiter plates; 100 2 mL vials; 200 0.2 mL vials; 25 6 mL vials	2 x 96-well high (deep) and low (shallow) microtiter plates; 100 2 mL vials; 200 0.2 mL vials; 25 6 mL vials	2 x 96-well high (deep) and low (shallow) microtiter plates; 100 2 mL vials; 200 0.2 mL vials; 25 6 mL vials
Tray types/ microtiter plates supported	100-vial tray: 2 mL vials (standard) 85-vial tray: 80 2 mL vials plus 5 6 mL vials 80-vial dilution tray: 80 2 mL vials plus 60 mL dilution tank 205-vial tray: 200 0.2 mL micro vials plus 5 2 mL vials 25-vial tray: 25 6 mL vials 2 x 96-well microtiter plate, high (deep) 2 x 96-well microtiter plate, low (shallow) 2 x 384-well microtiter plate *All the above trays and plates are supported by Peltier Cooling and Heating options. All trays and plates are supported by missing-vial detection.	100-vial tray: 2 mL vials (standard) 85-vial tray: 80 2 mL vials plus 5 6mL vials 80-vial dilution tray: 80 2 mL vials plus 60 mL dilution tank 205-vial tray: 200 0.2 mL micro vials plus 5 2 mL vials 25-vial tray: 25 6 mL vials 2 x 96-well microtiter plate, high (deep) 2 x 96-well microtiter plate, low (shallow) *All the above trays and plates are supported by Peltier Cooling and Heating options. All trays and plates are supported by missing-vial detection.	100-vial tray: 2 mL vials (standard) 85-vial tray: 80 2 mL vials plus 5 6 mL vials 80-vial dilution tray: 80 2 mL vials plus 60 mL dilution tank 205-vial tray: 200 0.2 mL micro vials plus 5 2 mL vials 25-vial tray: 25 6 mL vials 2 x 96-well microtiter plate, high (deep) 2 x 96-well microtiter plate, low (shallow) *All the above trays and plates are supported by Peltier Cooling and Heating options. All trays and plates are supported by missing-vial detection.

Hardware

Specifications

Flexar LC Autosampler

Flexar Peltier LC Autosampler

Flexar FX UHPLC Autosampler

Derivatization/ serial dilution	Both automated pre-column derivatization and serial dilution are supported using liquid mixing. No additional hardware is required other than an optional sample tray if desired. Tray used must provide large enough vials or a dilution tank for the diluent and/or derivatization reagent(s). Supported in Chromera® version 4.1 or higher, TotalChrom® and Agilent® EZChrom® 3.3.2	Both automated pre-column derivatization and serial dilution are supported using liquid mixing. No additional hardware is required other than an optional sample tray if desired. Tray used must provide large enough vials or a dilution tank for the diluent and/or derivatization reagent(s). Supported in Chromera® version 4.1 or higher, TotalChrom® and Agilent® EZChrom® 3.3.2	Both automated pre-column derivatization and serial dilution are supported using liquid mixing. No additional hardware is required other than an optional sample tray if desired. Tray used must provide large enough vials or a dilution tank for the diluent and/or derivatization reagent(s). Supported in Chromera® version 4.1 or higher, TotalChrom® and Agilent® EZChrom® 3.3.2
Needle height above vial well/plate	2-6 mm above vial well bottom or above bottom edge of microtiter plate	2-6 mm above vial well bottom or above bottom edge of microtiter plate	2-6 mm above vial well bottom or above bottom edge of microtiter plate
Injections per vial/plate	Limited only by sample volume and injection mode	Limited only by sample volume and injection mode	Limited only by sample volume and injection mode
Wetted materials in contact w/sample	316 SS, Vespel™, Tefzel™ (Biocompatible sample flow path available: SiIC-coated steel, PEEK™, Tefzel™)	316 SS, Vespel™, Tefzel™ (Biocompatible sample flow path available: SiIC-coated steel, PEEK™, Tefzel™)	Ceramic, 316 SS, PEEK™, Tefzel™ (Biocompatible flow path not available)
Needle washes/ flushes	Programmable: up to 9 each of pre- and post-injection and between-method needle washes/flushes. All washes are followed by air drying of needle via built-in air compressor	Programmable: up to 9 each of pre- and post-injection and between-method needle washes/flushes. All washes are followed by air drying of needle via built-in air compressor	Programmable: up to 9 each of pre- and post-injection and between-method needle washes/flushes. All washes are followed by air drying of needle via built-in air compressor
Peltier options	Cooling-only and Cooling/ Heating options available	Cooling-only capability standard; Heating options available	Cooling-only capability standard; Heating options available
Peltier temperature range	Cooling-only: 4 °C to ambient -3 °C (will reach 4 °C ±2 °C with ambient temperature up to 25 °C at relative humidity of 80%). Cooling/Heating: 4 °C to 40 °C (will reach 4 °C ±2 °C with Injection start synchronized to start pump program).	Cooling-only: 4 °C to ambient -3 °C (will reach 4 °C ±2 °C with ambient temperature up to 25 °C at relative humidity of 80%). Cooling/Heating: 4 °C to 40 °C (will reach 4 °C ±2 °C with Injection start synchronized to start pump program).	Cooling-only: 4 °C to ambient -3 °C (will reach 4 °C ±2 °C with ambient temperature up to 25 °C at relative humidity of 80%). Cooling/Heating: 4 °C to 40 °C (will reach 4 °C ±2 °C with Injection start synchronized to start pump program).
Pump piston injection synchronization	N/A	N/A	Injection timing synchronized to pump piston position to optimize retention time reproducibility.*
Second solvent flush	Supported in Chromera version 4.1 or higher	Supported in Chromera version 4.1 or higher	Supported in Chromera version 4.1 or higher

Operating Specifications

Flexar LC Autosampler

Flexar Peltier LC Autosampler

Flexar FX UHPLC Autosampler

Output	Injection start, typically used to start pump program	Injection start, typically used to start pump program	Injection start, typically used to start pump program
Input	Ready or Inject input, depending on how configured	Ready or Inject input, depending on how configured	Ready or Inject input, depending on how configured
Audible noise level	LeAq <70 dB	LeAq <70 dB	LeAq <70 dB
Working temperature	10 °C to 40 °C (indoor use only)	10 °C to 40 °C (indoor use only)	10 °C to 40 °C (indoor use only)
Storage temperature	-25 °C to 60 °C	-25 °C to 60 °C	-25 °C to 60 °C
Humidity	20% to 80% RH, non-condensing	20% to 80% RH, non-condensing	20% to 80% RH, non-condensing
Safety and EMC compatibility	According to EC directives; CSA (UL) approved	According to EC directives; CSA (UL) approved	According to EC directives; CSA (UL) approved

*Available only with Flexar FX-20 UHPLC Pump

Operating Specifications

	Flexar LC Autosampler	Flexar Peltier LC Autosampler	Flexar FX UHPLC Autosampler
Power requirements	95-245 VAC, 50/60 Hz ($\pm 1\%$), 200 VA maximum power consumption	95-245 VAC, 50/60 Hz ($\pm 1\%$), 200 VA maximum power consumption	95-245 VAC, 50/60 Hz ($\pm 1\%$), 200 VA maximum power consumption
Viscosity range	0.1-5 cP	0.1-5 cP	0.1-5 cP
Dimensions (HxWxD)	With Peltier cooling/heating option: 36 x 30 x 57.5 cm (14.2 x 11.8 x 22.6 in) Without Peltier cooling/heating option: 36 x 30 x 51 cm (14.2 x 11.8 x 20.1 in)	With Peltier cooling/heating option: 36 x 30 x 57.5 cm (14.2 x 11.8 x 22.6 in) Without Peltier cooling/heating option: 36 x 30 x 51 cm (14.2 x 11.8 x 20.1 in)	With Peltier cooling/heating option: 36 x 30 x 57.5 cm (14.2 x 11.8 x 22.6 in) Without Peltier cooling/heating option: 36 x 30 x 51 cm (14.2 x 11.8 x 20.1 in)
Weight	With Peltier cooling/heating option: 21.0 kg (46.2 lbs) Without Peltier cooling/heating option: 19.0 kg (41.8 lbs)	With Peltier cooling/heating option: 21.0 kg (46.2 lbs) Without Peltier cooling/heating option: 19.0 kg (41.8 lbs)	With Peltier cooling/heating option: 21.0 kg (46.2 lbs) Without Peltier cooling/heating option: 19.0 kg (41.8 lbs)
Maximum weight which can be stacked on top of autosampler	65 kg (143 lbs)	65 kg (143 lbs)	65 kg (143 lbs)

Software, System Control and Communication Specifications

	Flexar LC Autosampler	Flexar Peltier LC Autosampler	Flexar FX UHPLC Autosampler
Service Manager software	Autosampler setup and troubleshooting using dedicated user interface	Autosampler setup and troubleshooting using dedicated user interface	Autosampler setup and troubleshooting using dedicated user interface
CDS system environments supported	TotalChrom and Chromera®	TotalChrom and Chromera	TotalChrom and Chromera
Interface for TotalChrom environment	RS232 via dotLINK™	RS232 via dotLINK	RS232 via dotLINK
Interface for Chromera environment	RS232	RS232	RS232

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