

Evosep One Specification

The Evosep One is a novel sample purification and liquid chromatography separation device, intended for clinical or large cohort studies MS-based proteomics. The most notable features and benefits include:

- Use of disposable trap columns reduces carry-over and cycle time.
- Partial elution from trap columns leaves impurities on the disposable traps, thereby greatly increasing column life.
- Gradient offset focusing allows shorter columns and improves resolving power on analytical column.
- Fast trap-elution and gradient formation reduces cycle time.
- Large part of the system configuration is running at 30 bars or less which reduces wear and tear.
- Large sample capacity with room for six 96-tip racks.
- Optimized, fixed methods enable up to 300 samples/day and up to 93% MS utilization rate



Methods

Throughput (samples/day)	Cycle Time (min)	Gradient Length (min)	Flow rate (µl/min)	Column dimensions (length/ID/C18 bead size)
300	4,8	3	2,0	4cm / 150µm / 3µm
200	7,2	5	1,5	4cm / 150µm / 3µm
100	14,4	12	1,2	8cm / 100µm / 3µm
60	24,0	21	1,0	8cm / 100µm / 3µm
30	48,0	45	0,6	15cm / 100µm / 3µm

Technical details

Specification	Value																
Pressure range	High Pressure pump: 7.500psi/520bar Low Pressure Pump: 3.500psi/240bar																
Flow Range (flow control)	High Pressure pump: 100nl/min to 5000 nl/min Low pressure pump: 100nl/min to 80ul/min																
Flow Range (purge)	High Pressure pump: 100nl/min to 100 ul/min Low pressure pump: 100nl/min to 100ul/min																
Retention time reproducibility	STD less than 5 seconds (100 samples/day method)																
Carry-over	<0.05%, total TIC, 1ug HeLa digest <0.1%, total TIC, 1ug digested plasma (whole)																
Preventive maintenance interval	30.000 injection cycles																
Valves	1 VICI 6-port valve, 10.000 PSI (HP pump valve) 1 VICI 6-port valve, 10.000 PSI (Loop valve) 1 VICI 12-port valve, 5.000 PSI (LP pump valve)																
Solvent Compatibility	Solvent-A: 0.1% formic acid in water Solvent-B: 0.1% formic acid in Acetonitrile Only LCMS grade solvents must be used																
Sample tray format	6 boxes of Evotip (96 tips/box)																
MS drivers	Chronos (Xcalibur from Thermo Scientific, ChemStation from Agilent and Analyst from Sciex are integrated – HyStar from Bruker via CC)																
Operating Conditions	5-30 C ambient temperature 20-80% relative humidity																
Dimensions	<table border="1"> <thead> <tr> <th colspan="2">Desktop</th> <th colspan="2">Trolley</th> </tr> </thead> <tbody> <tr> <td>Depth</td> <td>880 mm</td> <td>Depth</td> <td>440 mm</td> </tr> <tr> <td>Width</td> <td>690 mm</td> <td>Width</td> <td>420 mm</td> </tr> <tr> <td>Height</td> <td>910 mm</td> <td></td> <td></td> </tr> </tbody> </table>	Desktop		Trolley		Depth	880 mm	Depth	440 mm	Width	690 mm	Width	420 mm	Height	910 mm		
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Weight	37 kg																
Main Power supply	100-240V, 50-60 Hz, 350 W (max)																

Ordering information

Description	Part Number
Evosep One	EV1000
Warranty Extention (1 year)	EV0010
Preventive Maintenance (1 visit w/consumables)	EV0011
Analytical Column - 30 samples/day	EV1074
Analytical Column - 60 & 100 samples/day	EV1064
Analytical Column - 200 & 300 samples/day	EV1075
Evotip, 1 box (96 tips)	EV2001
Evotip, 10 boxes (960 tips)	EV2003
Evotip, 50 boxes (4800 tips)	EV2005
Evotip, 100 boxes (9600 tips)	EV2008