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nanoLC system specifications

configuration

NanoLC-1D 1-Dimensional System: Includes binary gradient pump, and temperature controlled autosampler with 6-port bio-compatible sample injection valve.

NanoLC-2D 2-Dimensional System: Includes 2 independent binary gradient pump systems with a 10-port column switching valve accommodating 2 trap columns and an analytical column, and an integrated temperature controlled autosampler with 6-port bio-compatible sample injection valve.

flow rate range

NanoLC-1D System: 20–1000 nL/min (other ranges available with flow module swap)

NanoLC-2D System: First dimension 1–20 μ L/min, second dimension 20–1000 nL/min

pump type

Microfluidic direct pumping system with independent flow control feedback for each mobile phase. Retention time RSD < 0.5% at 500 nL/min

gradient formation

High pressure gradient mixing, no flow splitting

delay volume

NanoLC-1D System: 65 nL from mixer to column. Delay time <25 sec at 500 nL/min using 5 cm column and low port-to-port volume injection valve.

NanoLC-2D System: First dimension 300 nL from mixer to column. Low flow dimension 65 nL from mixer to column.

mobile phase compatibility

All mobile phases compatible with 316 stainless steel, PEEK, and silica

injections

Standard, metered and rapid injection modes. Sample injection volumes 200–50 μ L. Option for larger sample volumes available.

columns

NanoLC-1D System: Optimized for use with 50–150 μ m i.d. columns, 5–15 cm in length

NanoLC-2D System: First dimension is optimized for use with 300–500 μ m i.d. traps or columns (5 cm). Second dimension 50–150 micron id columns, 5–15 cm in length

peak parking

Peak parking flow rate user settable, as low as 5 nL/min. Triggered manually or through mass spectrometer.

peak parking response

Response time from 500–100 nL/min, typically <4 seconds at spray tip. Response time can vary with external hardware configuration.

autosampler

One 96- or 384-well plate capacity. Peltier type temperature maintained sample compartment, 5–40 °C; cooling capacity 12 °C below ambient. Dual needle design for seal piercing. Integral 6-port bio-compatible injection valve.

system control

Computer with graphical user interface for control of all system parameters. Software allows import of run tables and creates CDF, text, and Excel files for data export and analysis. Tracking of instrument runtime, column usage, total injections, solvent usage, and error codes. System drivers available for Thermo Electron's Xcalibur and Applied Biosystems/MDS SCIEX Analyst 1.4.1 mass spectrometer software.

dimensions

NanoLC-1D System: 12" (30 cm) wide, 15" (38 cm) deep, 8" (20 cm) high

NanoLC-2D Autosampler: Additional 18" (45 cm) in height

NanoLC-2D System: 18" (46 cm) wide, 22" (56 cm) deep, 8" (20 cm) high

NanoLC-2D Autosampler: Additional 18" (45 cm) in height

computer

Additional lab space needed for keyboard, mouse and monitor