



HPLC columns

Thermo Scientific μPAC Neo HPLC Columns

Benefits

- Sample coverage with excellent sensitivity
- Column-to-column reproducibility
- Robust performance

Keywords

μPAC Neo HPLC columns, micro pillar array, bottom-up proteomics, retention time stability

μPAC separations—better by design

Thermo Scientific™ μPAC™ (micro Pillar Array Column) technology is unique, it is built by precise micromachining chromatographic separation beds from silicon. This approach brings three critical and unique characteristics:

- **Perfect order**—Thermo Scientific™ μPAC™ Neo HPLC Columns are designed with a perfect order, eliminating heterogeneous flow paths. The ordered flow path of the μPAC columns minimizes the dispersion to the overall separation resulting in sharper and more intense chromatographic peaks.
- **Reproducibility**—The unique micromachining manufacturing results in columns which are virtually identical. The increased injection-to-injection and column-to-column reproducibility provides increased confidence in results throughout the duration of a research study.
- **Performance and robustness**—μPAC columns operate at moderate pressure allowing longer flow paths for increased separation performance and sensitivity. Operating at lower back pressures also allows for longer column lifetime.

μPAC Neo columns

Sample coverage

μPAC Neo columns provide comprehensive coverage with enhanced separating power compared to previous generation μPAC columns.

Column-to-column reproducibility

Each column is manufactured using the same lithographic mask, making every column identical and providing consistent chromatographic performance from column-to-column.

High flow rate flexibility

The column can be operated at moderate LC pump pressures up to 450 bar over a wide range of flow rates:

- 50 cm μPAC Neo LC column: 0.1–0.75 μL/min
- 110 cm μPAC Neo LC column: 0.1–0.75 μL/min
- 50 cm low-load μPAC Neo column: 0.1–0.75 μL/min

Specifications

Description	Column specification		
Column type	Micro Pillar Array		
Packing material	Silicon chip		
Stationary phase	Reversed-phase C18		
Endcapped	Yes		
Maximum pressure	450 bar		
Pillar diameter	2.5 μm		
Interpillar distance	1.25 μm		
pH	2.0–7.0		
Porosity	59%		
Maximum temperature	60 °C		
	50 cm μPAC Neo column	110 cm μPAC Neo column	50 cm low-load μPAC Neo column
Pillar height	16 μm	30 μm	16 μm
Bed width	180 μm	180 μm	180 μm
Bed length	50 cm	110 cm	50 cm
Pore size	100–300 Å	100–300 Å	Non-porous
Flow rate range	0.1–0.75 μL/min	0.1–0.75 μL/min	0.1–0.75 μL/min
Gradient length	15–60 min	90–150 min	15–60 min
Sample load	10–500 ng	500–2000 ng	0.1–10 ng

Learn more at thermofisher.com/lowflowHPLCcolumns

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