



HPLC columns

Thermo Scientific μ PAC HPLC Columns

Benefits

- Sample coverage
- Column-to-column reproducibility
- High flow rate flexibility

Keywords

μ PAC HPLC columns, micro pillar array, bottom-up proteomics, top-down proteomics

μ PAC separations—better by design

Thermo Scientific™ μ PAC™ (micro Pillar Array Column) technology is unique, it is built by precise micromachining chromatographic separation beds in to silicon. This approach brings three crucial and unique characteristics:

- **Perfect order**—Thermo Scientific™ μ PAC™ HPLC Columns are designed with a high degree of order, eliminating heterogeneous flow paths. The ordered flow path of the μ PAC columns adds very little dispersion to the overall separation, resulting in sharper and more intense chromatographic peaks.
- **High permeability**— μ PAC columns operate at moderate pressures, typically lower than 350 bar. Long separation channels are therefore possible, which are folded onto a small footprint by interconnected bed segments.
- **Solid backbone**—The micromachined backbone of the separation bed forms a rigid structure that is not influenced by pressure, providing robust performance.

μPAC columns

Sample coverage

μPAC columns provide comprehensive coverage. For example, in single shot proteome analysis nearly 10,000 identifications can be achieved.

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 350 bar over a wide range of flow rates:

- 50 cm μPAC nano LC column: 0.1–1.5 μL/min
- 200 cm μPAC nano LC column: 0.1–1.0 μL/min
- 50 cm μPAC CapLC column: 1.0–15.0 μL/min

Specifications

Description	Column specification		
Column type	Micro Pillar Array		
Packing material	Silicon chip		
Phase	Reversed-phase		
Stationary phase	Reversed-phase C18		
Endcapped	Yes		
Maximum pressure	350 bar		
Pillar diameter	5 μm		
Interpillar distance	2.5 μm		
pH	1.5–7.0		
Pore size	100–200 Å		
Porosity	59%		
Temperature	60 °C		
	50 cm μPAC nano LC column	200 cm μPAC nano LC column	50 cm μPAC CapLC column
Pillar length	18 μm	18 μm	28 μm
Bed width	315 μm	315 μm	1 mm
Bed length	50 cm	200 cm	50 cm
Flow rate range	0.1–1.5 μL/min	0.1–1.0 μL/min	1.0–15.0 μL/min

Learn more at [thermofisher.com/lowflowHPLCcolumns](https://www.thermofisher.com/lowflowHPLCcolumns)

thermo scientific