

Fast and High-Resolution LC-MS Separation of PFAS

Ascentis® Express PFAS HPLC Columns

PFAS (Per- and poly-fluoroalkyl substances) are persistent, man-made organic compounds, widely found in the environment. Recent awareness has brought attention to the toxicity of these substances. The U.S. Food and Drug Administration (FDA) and the U.S. Environmental Protection Agency (EPA) have initiated actions against PFAS. For determination of PFASs, liquid chromatography–mass spectrometry (LC-MS) is a commonly used technique.

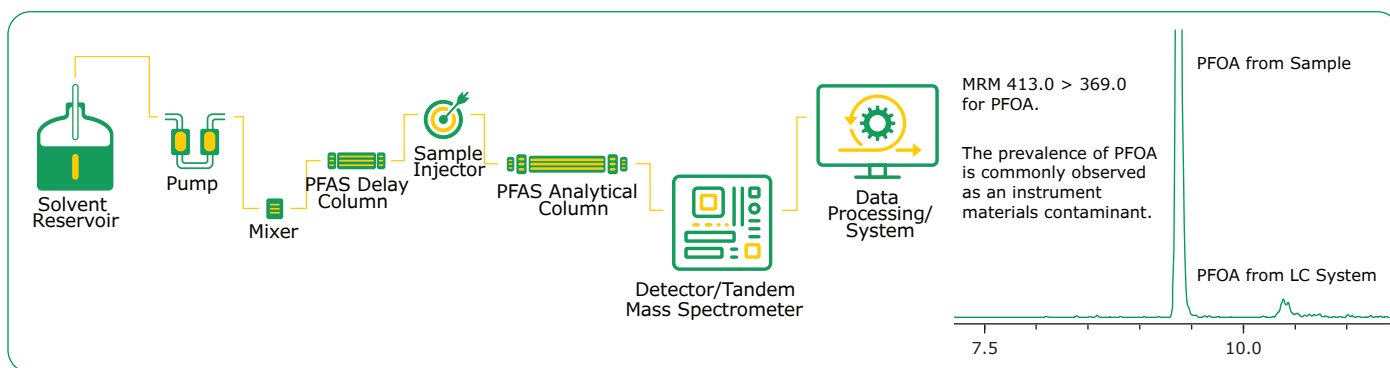
The new Ascentis® Express PFAS HPLC column, with its Fused-Core® technology and a particle size of 2.7 µm, delivers fast and high-resolution separations with excellent selectivity, peak shape, and necessary retention to perform in EPA methods 537.1, 533 and 8327.

Key benefits of Ascentis® Express PAH columns include:

- 2.7 µm Fused-Core® particle for reliable and high efficiency separations and lower column back pressure compared to sub-2 µm particles.
- Excellent suitability for MS detection
- Application-related Lot analysis and single column performance testing
- Pressure limit: 600 bar

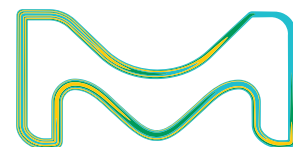
Ascentis® Express PFAS HPLC columns enable precise MS results

The Ascentis® Express PFAS HPLC column is designed for the separation of novel and legacy short chain and long chain PFAS compounds containing branched and linear isomers, whilst adhering to EPA methodology requirements. Furthermore, a specific PFAS delay column prevents background PFAS contamination from interfering with the sample results in quantitative LC-MS methods.



The highly retentive endcapped silane of the Ascentis® Express PFAS Delay column provides high retention of PFAS compounds across various mobile phase conditions and is used to delay background instrument

PFAS contamination from interference with analyzed samples. For this reason, the Ascentis® Express PFAS Delay column is placed upstream of the sample injector and after the mixer.



Analysis of PFAS Compounds in EPA 537.1:

LC Conditions:

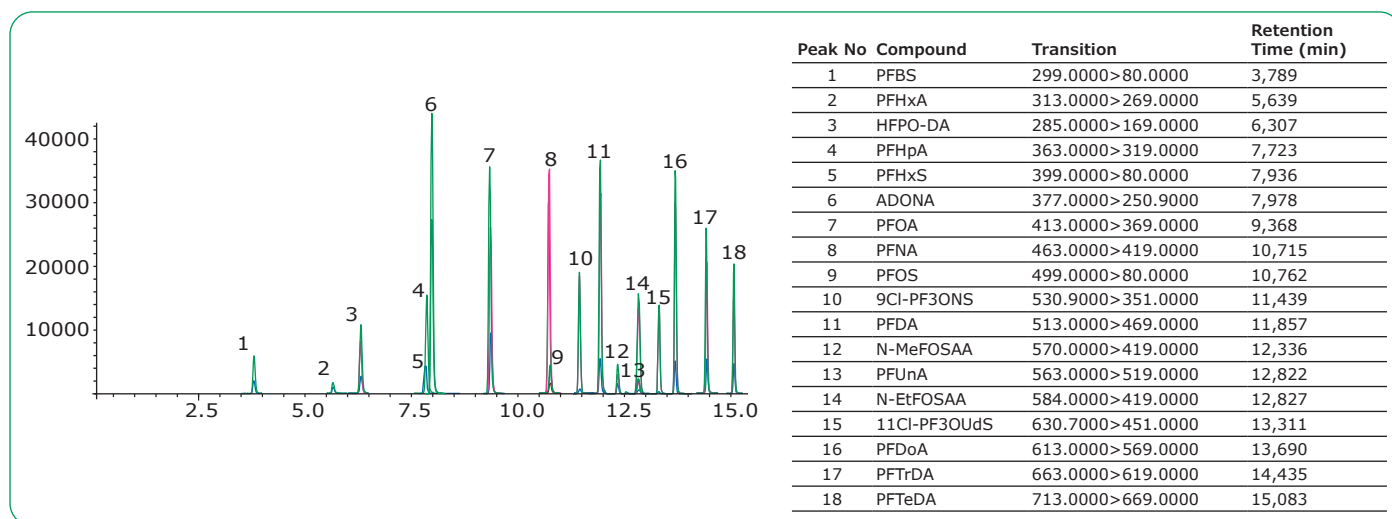
Analytical Column	Ascentis® Express PFAS, 2.7 µm, 10 cm x 2.1 mm, 90A
Delay Column	Ascentis® Express PFAS Delay, 2.7 µm, 5 cm x 3 mm
Mobile Phase	A: 10 mM Ammonium Acetate B: Methanol
Flow Rate	0.4 mL/min
Pressure	485 bar
Temperature	35 °C
Injection Volume	2.0 µL
Sample Solvent	Methanol (96%) Water (4%)

Gradient

Time	% B
0.0	33.0
18.0	98.0
18.1	100.0
21.0	100.0
21.1	33.0
26.0	End

MS Condition:

Detection	-ESI MS/MS
ESI LCMS system	Shimadzu LCMS-8040
Spray Voltage	-2.0 kV
Nebulizing gas	2 L/min
Drying gas	15 L/min
DL temp	250 °C
Heat Block	400 °C



Ordering Information

Ascentis® Express PFAS, 2.7 µm

Length (mm)	ID (mm)	Cat. No.
50 x	2.1	53557-U
100 x	2.1	53559-U
150 x	2.1	53560-U
250 x	2.1	53562-U
50 x	3	53563-U
100 x	3	53564-U
150 x	3	53565-U
250 x	3	53570-U

Ascentis® Express PFAS Delay columns, 2.7 µm

Length (mm)	ID (mm)	Cat. No.
5 x	3	53572-U
5 x	4.6	53573-U

Typically, the delay column is used with a larger ID than the analytical column:

Analytical column	-	Delay Column
2.1 mm ID	-	3 mm ID
3 mm ID	-	4.6 mm ID

To place an order or receive technical assistance

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Safety-related Information: [SigmaAldrich.com/safetycenter](https://sigmaaldrich.com/safetycenter)

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