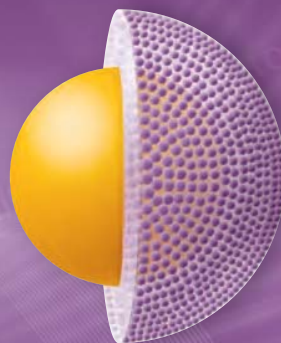


# RUGGED FAST LC PERFORMANCE FOR HPLC/UHPLC

The Measure of Confidence



## Agilent Poroshell 120 columns – Now with 4 $\mu\text{m}$ particle size

### Make every HPLC in your lab work harder

The Poroshell 120 column family gives you the benefits of exceptional efficiency – more speed *and* more resolution – on your conventional HPLC instruments, and great performance on your UHPLC, too.

Poroshell 120 columns provide the speed and resolution of a sub-2  $\mu\text{m}$  column with much less backpressure, so you can push every analysis further.

To offer you even more choices for refining challenging analytes, the Poroshell 120 family is expanding. Now, there are TWO particle sizes (2.7 and 4  $\mu\text{m}$ ) so you can choose the option to best fit your needs. Also, with 12 chemistries available in 2.7  $\mu\text{m}$  and five chemistries in 4  $\mu\text{m}$ , you have the method development flexibility you are looking for.

### Poroshell 120 highlights

- Poroshell 120, 4  $\mu\text{m}$  delivers up to twice the number of theoretical plates vs conventional 5  $\mu\text{m}$  particles
- Maintain low backpressures, even at high flow rates
- More forgiving for dirty samples, due to 2  $\mu\text{m}$  frits
- Manufactured by Agilent, to our strict quality standards, and backed by Agilent worldwide technical support

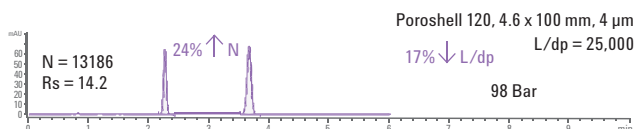
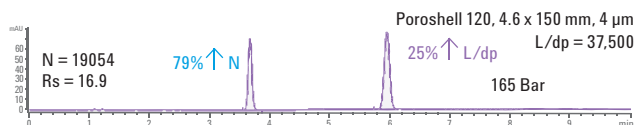
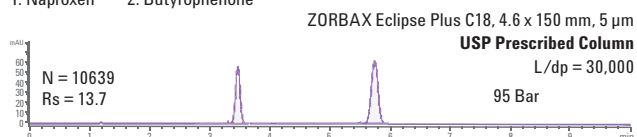
Agilent Poroshell 120 Fast Guards for UHPLC are easy to use – no special hardware – and extend column life without sacrificing performance.



### Improve performance with minimal backpressure increases

**Mobile Phase:** 50: 40: 1 MeCH: H<sub>2</sub>O: acetic acid  
**Flow Rate:** 1.2 mL/min

1. Naproxen    2. Butyrophenone



In an analysis of naproxen, the Poroshell 120, 4  $\mu\text{m}$  particles deliver a 79% increase in efficiency at the same run time in the 150 mm column, or a 24% increase in efficiency with a 40% shorter run time with the 100 mm column.

**50% OFF Poroshell 120, 4  $\mu\text{m}$ \***

Use promo code: 9393

\* offer runs 1 January to 30 April, 2015

See more information, including a demo video,  
at [agilent.com/chem/poroshell120](http://agilent.com/chem/poroshell120)



**Agilent Technologies**

## Introducing NEW Agilent Poroshell 120, 4 µm columns

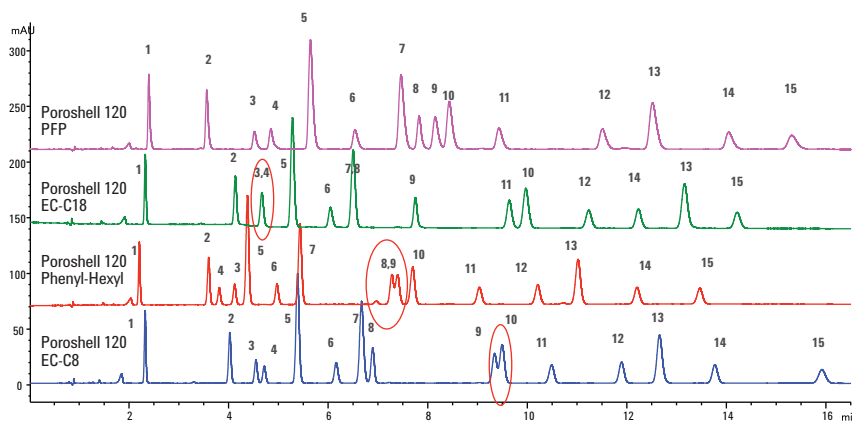
These columns greatly expand the Poroshell 120 family, providing scalable solutions for chromatographers and method developers.

The robust 4 µm columns deliver easy drop-in method replacement, with column backpressures half that of Poroshell 120, 2.7 µm and efficiencies nearly double those of traditional, totally porous 5 µm columns. If you want moderate performance increase, simply bring Poroshell 120, 4 µm columns into your method.

With its exceptional flexibility, the Poroshell 120 EC-C18, 4 µm, also offers the best place to start your method development. However, if you are working with challenging analytes, the Poroshell 120 family has many other chemistries.

## Selectivity is the most powerful tool for optimizing HPLC separations

### Positional isomers (15 compounds)



Time	%B
0	15
13	30
15	30
16	15

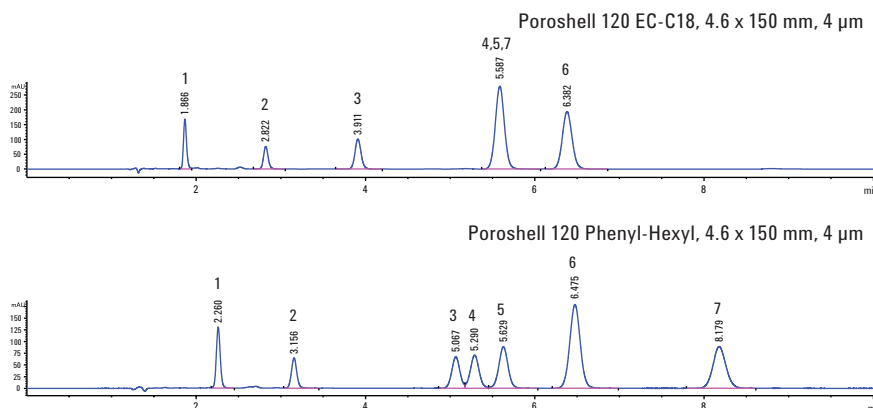
**Flow rate:** 2 mL/min  
**Column:** 4.6 x 150 mm, 4 µm

- |   |                             |
|---|-----------------------------|
| 1. 3,4-Dimethoxyphenol                        | 9. 3,5-Dimethylphenol       |
| 2. 2,6-Dimethoxyphenol                        | 10. 2,6-Dimethylphenol      |
| 3. 3,5-Dimethoxyphenol                        | 11. 2,6-Dichlorophenol      |
| 4. 2,6-Difluorophenol                         | 12. 4-Chloro-3-methylphenol |
| 5. 2,4-Difluorophenol                         | 13. 4-Chloro-2-methylphenol |
| 6. 2,3-Difluorophenol                         | 14. 3,4-Dichlorophenol      |
| 7. 3,4-Difluorophenol                         | 15. 3,5-Dichlorophenol      |
| 8. Degradation product<br>2,6-Dimethoxyphenol |                             |

This separation illustrates the benefits of the PFP phase chemistry. Here, 15 positional isomers were analyzed using four different chemistries, with PFP offering the best resolution.

Other chemistries take advantage of other aspects of your analyte. For example, Phenyl-Hexyl helps resolve compounds through pi-pi interactions, as seen in this separation of several steroid compounds.

### Isocratic test of steroid compounds



**Mobile phase:** 64% MeCN or MeOH  
36% Water with 0.1% acetic acid

**Flow rate:** 1.2 mL/min

**Temp:** 25 °C, 220 nm

1. Triamcinalone
2. Prednisolone
3. Corticosterone
4. Estradiol
5. DES
6. Dienestrol
7. Deoxycorticosterone

Separating steroids on Poroshell 120 EC-C18, 4 µm and Poroshell 120 Phenyl-Hexyl, 4 µm columns. You can see how the Phenyl-Hexyl column delivers better resolution.

## Poroshell 120 – a true problem solver

Poroshell 120 columns help you tackle some of the throughput and resolution issues you deal with every day.

! Problem	✓ Solution
You want a drop-in replacement for your older 5 µm column method, with minimal changes.	→ Poroshell 120, 4 µm will give you nearly twice the efficiency of a 5 µm particle. You'll get speed and resolution of smaller particles with low HPLC pressures, so you can push every analysis further.
You enjoy the advantages of sub-2 µm particles, but run into difficulty when you use dirty samples.	→ Poroshell 120 columns use a standard 2 µm frit and resist plugging with dirty samples. Extend your column lifetime even further with Poroshell 120 Fast Guards for UHPLC.
You need chemistries that enable broad method development flexibility, including options for high and low pH screening.	→ Now with five phases for 4 µm, and 12 phases for 2.7 µm, including Poroshell HPH-C18 and HPH-C8 up to pH 11.0, you don't have to compromise your screening choices.
You need orthogonal chemistries to help resolve highly polar analytes, halogenated compounds, and compounds with phenyl groups.	→ Orthogonal chemistries such as Bonus-RP, SB-Aq, HILIC, and now PFP give you the choices you need to refine even the most challenging analytes.



### Keep your LC system running at its best with Agilent A-Line supplies

More ways to get more done through:

- Convenience
- Simplicity
- Increased efficiency

Learn more:

[agilent.com/chem/A-Line](http://agilent.com/chem/A-Line)

## Poroshell 120 4 µm



Size (mm)	EC-C18	EC-C8	PFP	Phenyl-Hexyl	HILIC
4.6 x 250	690970-902	690970-906	690970-408	690970-912	690970-901
4.6 x 150	693970-902	693970-906	693970-408	693970-912	693970-901
4.6 x 100	695970-902	695970-906	695970-408	695970-912	695970-901
4.6 x 50	699970-902	699970-906	699970-408	699970-912	699970-901
3.0 x 250	690970-302	690970-306	690970-308	690970-312	690970-301
3.0 x 150	693970-302	693970-306	693970-308	693970-312	693970-301
3.0 x 100	695970-302	695970-306	695970-308	695970-312	695970-301
3.0 x 50	699970-302	699970-306	699970-308	699970-312	699970-301
2.1 x 250	650750-902	650750-906	650750-408	650750-912	650750-901
2.1 x 150	693770-902	693770-906	693770-408	693770-912	693770-901
2.1 x 100	695770-902	695770-906	695770-408	695770-912	695770-901
2.1 x 50	699770-902	699770-906	699770-408	699770-912	699770-901

## Guard columns for 4 µm



Size (mm)	EC-C18
4.6 x 5	820750-916
3.0 x 5	823750-916
2.1 x 5	821725-916

## Poroshell 120 2.7 µm

Size (mm)	EC-C18	EC-C8	SB-C18	SB-C8	NEW HPH-C18	NEW HPH-C8	SB-Aq	Bonus-RP	EC-CN	NEW PFP
4.6 x 150	693975-902	693975-906	683975-902	683975-906	693975-702	693975-706	683975-914	693968-901	693975-905	693975-408
4.6 x 100	695975-902	695975-906	685975-902	685975-906	695975-702	695975-706	685975-914	695968-901	695975-905	695975-408
4.6 x 75	697975-902	697975-906	687975-902							
4.6 x 50	699975-902	699975-906	689975-902	689975-906	699975-702	699975-706	689975-914	699968-901	699975-905	699975-408
4.6 x 30	691975-902	691975-906	681975-902							
3.0 x 150	693975-302	693975-306	683975-302	683975-306	693975-502	693975-506	683975-314	693968-301	693975-305	693975-308
3.0 x 100	695975-302	695975-306	685975-302	685975-306	695975-502	695975-506	685975-314	695968-301	695975-305	695975-308
3.0 x 75	697975-302	697975-306	687975-302							
3.0 x 50	699975-302	699975-306	689975-302	689975-306	699975-502	699975-506	689975-314	699968-301	699975-305	699975-308
3.0 x 30	691975-302	691975-306	681975-302							
2.1 x 150	693775-902	693775-906	683775-902	683775-906	693775-702	693775-706	683775-914	693768-901	693775-905	693775-408
2.1 x 100	695775-902	695775-906	685775-902	685775-906	695775-702	695775-706	685775-914	695768-901	695775-905	695775-408
2.1 x 75	697775-902	697775-906	687775-902							
2.1 x 50	699775-902	699775-906	689775-902	689775-906	699775-702	699775-706	689775-914	699768-901	699775-905	699775-408
2.1 x 30	691775-902	691775-906	681775-902							

Poroshell 120 Phenyl-Hexyl and HILIC columns are also available. Please visit [agilent.com/chem/poroshell120](http://agilent.com/chem/poroshell120)

## Poroshell 120 Fast Guards for UHPLC for 2.7 µm columns

Size (mm)	EC-C18	EC-C8	SB-C18	Phenyl-Hexyl	PFP
4.6 x 5	820750-911	820750-913	820750-912	820750-914	
3.0 x 5	823750-911	823750-913	823750-912	823750-914	
2.1 x 5	821725-911	821725-913	821725-912	821725-914	821725-915



Learn more about Poroshell 120 by visiting [agilent.com/chem/discoverporoshell](http://agilent.com/chem/discoverporoshell)

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Printed in the USA January 12, 2015  
5991-4352EN



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