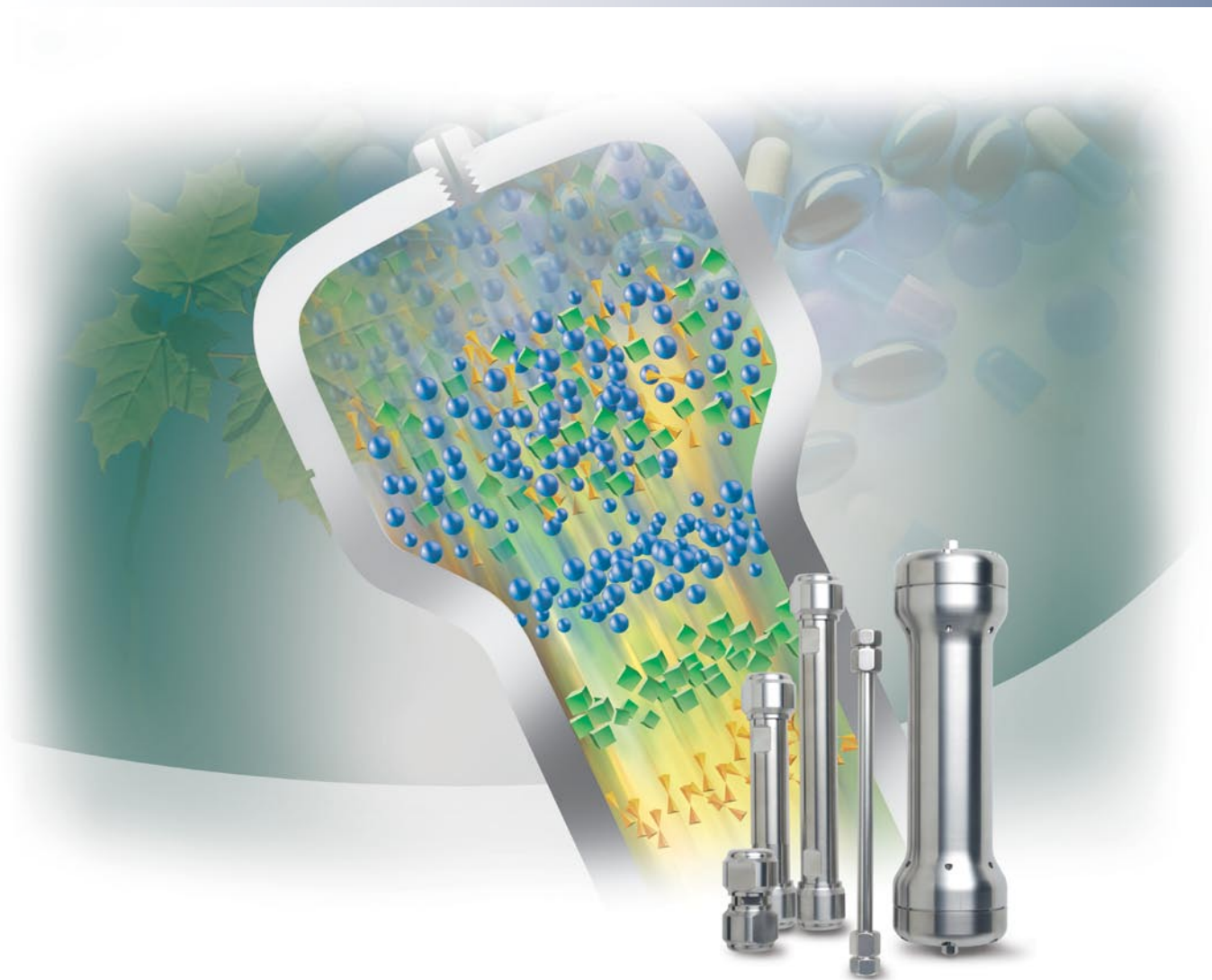


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# Pursuit® XRs

EXTRA RESOLUTION. MAXIMUM LIFETIME. ULTIMATE PERFORMANCE.



**VARIAN**

# The new standard in HPLC

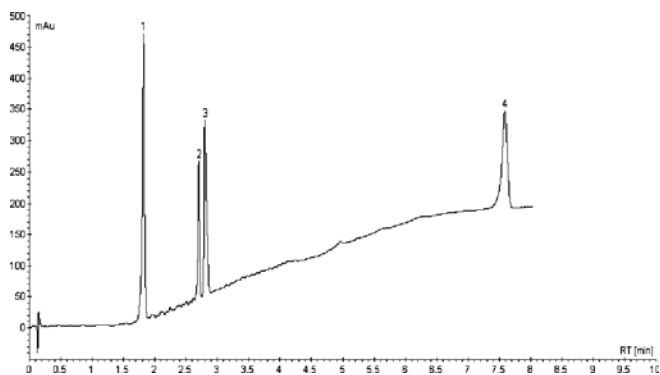
Designed to deliver ultimate performance in the most demanding laboratories, Pursuit XR HPLC columns are the key to achieving superior resolution and maximum column lifetime. By combining unique bonding technologies with extremely high surface area silica, Varian's new family of HPLC columns deliver higher resolution, greater reproducibility, and longer lifetimes than any HPLC columns in their class.

By employing Pursuit XRs, Research & Development (R&D) and Quality Control (QC) laboratories achieve better results and higher productivity. The increased resolution and reproducibility of Pursuit XRs columns accelerate and simplify method development while the greater column lifetime and excellent durability maximize production efficiency.

**Figure 2**  
Faster method development. High resolution of all 4 LPTM components

Aspartame, Cortisone, Reserpine and Dioctyl Phthalate were chosen by Tang et al. to evaluate RP-LC with a sample representative of molecules encountered in drug discovery.\* The compounds vary in polarity (Log P = -2 to +8) and molecular weight (MW 294 to 608). High quality separation of these components demonstrates the broad applicability of Pursuit XRs to a range of compounds with drug-like properties.

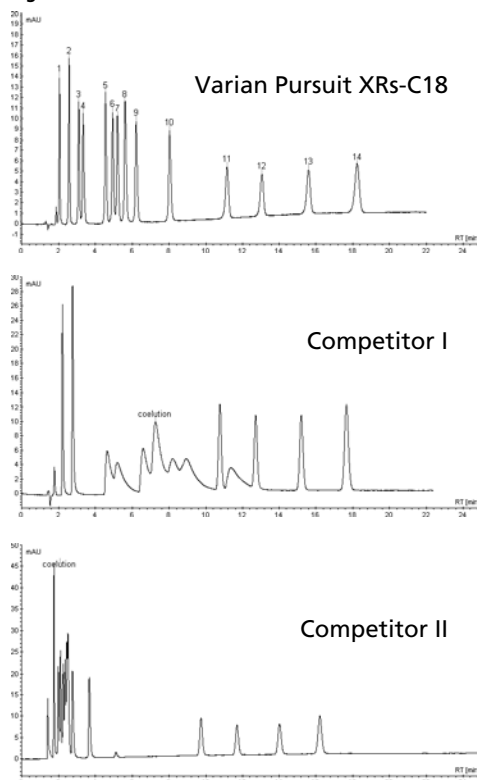
\*Tang, L.; Fitch, W.L.; Alexander, M.S.; Dolan, J.W. *Anal. Chem.*, 2000, 72, 5211-5218



## LPTM on Pursuit XR C18

**Column:** Pursuit XR-C18 **Dimensions:** 50 x 2.0 mm, 5µ **Mobile Phase:** A: H<sub>2</sub>O + 0.05% HCOOH, B: CH<sub>3</sub>CN + 0.05% HCOOH **Gradient:** Stay at 10% B from 0-1 min, ramp to 95% B from 1-6 mins, hold at 95% B from 6-10 mins **Flow Rate:** 1.0 mL/min **Temperature:** Ambient **Detection:** 220 nm **Sample:** 1. Aspartame 2. Cortisone 3. Reserpine 4. Dioctyl phthalate

**Figure 1**



## TCAs and Benzos mix on Pursuit XR-C18 and benchmark phases

**Columns:** Listed on chromatograms **Dimensions:** 150 x 4.6 mm, 5µ (all columns)

**Mobile Phase:** A: H<sub>2</sub>O + 0.1% HCOOH, B: CH<sub>3</sub>CN + 0.1% HCOOH **Gradient:** 30%

- 40% B in 15 mins, hold at 40% B for 15 mins **Flow Rate:** 1.0 mL/min **Temperature:**

Ambient **Detection:** 254 nm **Sample:** 1. 7-Aminoclonazepam 2. 7-Aminoflunitrazepam

3. Nordoxepin 4. Doxepin 5. Desipramine 6. Imipramine 7. Nortriptyline 8. Amitriptyline

9. Trimipramine 10. Clomipramine 11. Nordiazepam 12. Clonazepam 13. Flunitrazepam

14. Diazepam

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# Pursuit® XRs



## Uncompromised reproducibility...

The new state-of-the-art bonded phases of Pursuit XRs improve the productivity of your laboratory by delivering run-to-run and column-to-column reproducibility. Pursuit XRs' high carbon load shields analytes from undesirable interactions with the silica surface, resulting in better peak shapes and more consistent results. The high carbon load also creates an extremely uniform environment for the analyte to interact with the bonded phase, another major factor in achieving excellent reproducibility.

## ...and superior resolution

The superior resolution of Pursuit XRs delivers the right separation the first time, speeding up method development and validation. Through Varian's unique bonding technology, Pursuit XRs' optimized carbon load ensures more interactions between analytes and the bonded phase. The result – measurably better resolution and increased laboratory efficiency.

# Maximum column lifetime

## Evaluated to over 5000 injections

Varian's unique bonding technology provides an extremely stable ligand surface, ensuring excellent robustness. In stability studies where Pursuit XR columns were subjected to continuous operation in pH 1.5 or pH 10 mobile phases, no decline in performance was observed - even after 60 days of round-the-clock operation (see Figure 2). These same advances in column technology radically increase column endurance even under demanding ballistic gradient conditions. Demonstrated in more than 5000 sample injections in DMSO, performance consistently shows no evidence of degradation. (Figure 3).



Figure 3

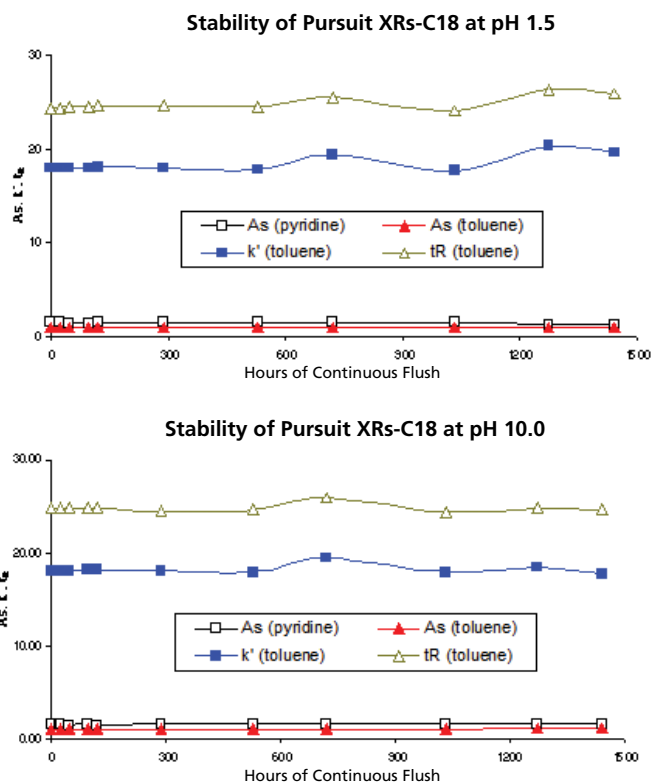
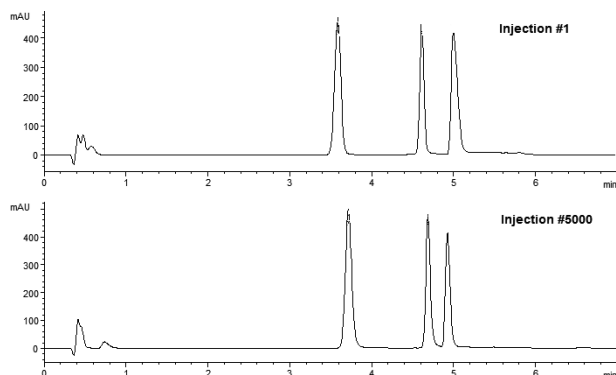


Figure 4

### Mechanical Stability of Pursuit XR-C18 in a Ballistic Gradient Environment



**Column:** Pursuit XR-C18 **Dimensions:** 50 x 2.0 mm, 5µ **Mobile Phase:** A: CH<sub>3</sub>OH: H<sub>2</sub>O - 10:90 + 0.1% HCOOH, B: CH<sub>3</sub>OH:H<sub>2</sub>O - 90:10 + 0.1% HCOOH **Gradient:** 0% - 100% B in 3 mins, back to 0% B in 0.5 mins, stay at 0% B for 3.5 mins **Flow Rate:** 0.4 mL/min **Temperature:** Ambient **Detection:** 254 nm **Sample:** DMSO mix containing 1. 4-Methoxybenzenesulfonamide 2. Methyl 3-aminothiophene-2-carboxylate 3. Trimipramine

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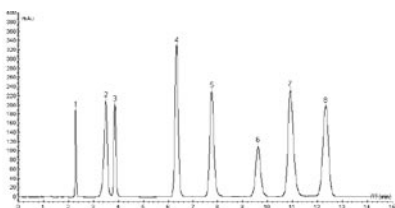
# Pursuit® XR<sub>s</sub>

## Pursuit® XR<sub>s</sub>-C18, developed for maximum resolution

Pursuit XR<sub>s</sub>-C18 is based on ultra-high-purity silica with virtually no metal contaminants present. The XR<sub>s</sub>-C18 is manufactured by means of a proprietary state-of-the-art bonding technique. This results in maximum coverage and excellent end-capping of residual silanol groups.

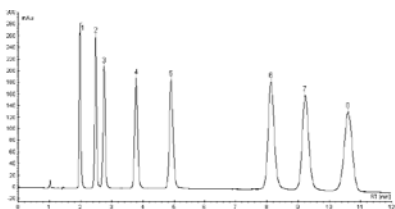
Key performance benefits:

- Maximum resolution
- Excellent peak shape
- Optimal retention



### Antipsychotics on Pursuit XR<sub>s</sub>-C18

**Column:** Pursuit XR<sub>s</sub>-C18 **Dimensions:** 150 x 4.6 mm, 5 $\mu$  **Mobile Phase:** CH<sub>3</sub>CN:5 mM NH<sub>4</sub>HCO<sub>3</sub>, pH 10 - 55:45 **Flow Rate:** 1.0 mL/min **Temperature:** Ambient **Detection:** 220 nm **Sample:** 1. Molindone 2. Norclozapine 3. Olanzapine 4. Clozapine 5. Perphenazine 6. Fluphenazine 7. Loxapine succinate 8. Phenothiazine



### $\beta$ -Blockers on Pursuit XR<sub>s</sub>-C18

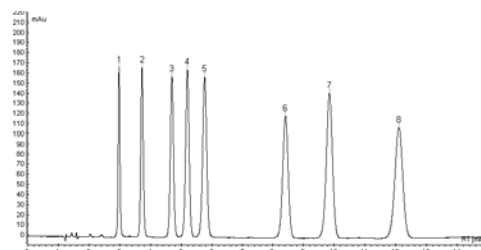
**Column:** Pursuit XR<sub>s</sub>-C18 **Dimensions:** 150 x 4.6 mm, 5 $\mu$  **Mobile Phase:** CH<sub>3</sub>OH:5 mM NH<sub>4</sub>HCO<sub>3</sub>, pH 10 - 70:30 **Flow Rate:** 1.0 mL/min **Temperature:** Ambient **Detection:** 220 nm **Sample:** 1. Practolol 2. Pindolol 3. Acebutolol 4. Metoprolol 5. Oxprenolol 6. Propranolol 7. Alprenolol 8. Verapamil

## Pursuit XR<sub>s</sub>-C8, optimized for less hydrophobic compounds

In addition to the advantages of Pursuit XR<sub>s</sub>-C18, Pursuit XR<sub>s</sub>-C8 provides increased selectivity for low hydrophobicity compounds and positional isomers, making it the column of choice for these challenging analytes.

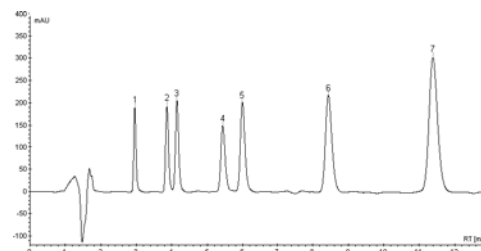
Key performance benefits:

- Improved shape selectivity
- More symmetrical peaks for polar analytes



### Local Anesthetics on Pursuit XR<sub>s</sub>-C8

**Column:** Pursuit XR<sub>s</sub>-C8 **Dimensions:** 150 x 4.6 mm, 5 $\mu$  **Mobile Phase:** CH<sub>3</sub>OH:5 mM NH<sub>4</sub>HCO<sub>3</sub>, pH 10 - 65:35 **Flow Rate:** 1.0 mL/min **Temperature:** Ambient **Detection:** 210 nm **Sample:** 1. Benzocaine 2. Procaine 3. Chlorocaine 4. Mepivacaine 5. 4-Hydroxypropivacaine 6. Cocaine 7. Lidocaine 8. Ropivacaine



### Phenoxyacid Herbicides on Pursuit XR<sub>s</sub>-C8

*(Separation with two pairs of positional isomers)*

**Column:** Pursuit XR<sub>s</sub>-C8 **Dimensions:** 150 x 4.6 mm, 5 $\mu$  **Mobile Phase:** CH<sub>3</sub>CN: H<sub>2</sub>O + 0.1% HCOOH - 50:50 **Flow Rate:** 1.0 mL/min **Temperature:** Ambient **Detection:** 220 nm **Sample:** 1. Phenoxyacetic acid 2. o-Chlorophenoxyacetic acid 3. p-Chlorophenoxyacetic acid 4. 2,3-Dichlorophenoxyacetic acid 5. 2,4-Dichlorophenoxyacetic acid 6. 2,4,5-Trichlorophenoxyacetic acid 7. 2,4,5-Trichlorophenoxypropionic acid (Silvex®)

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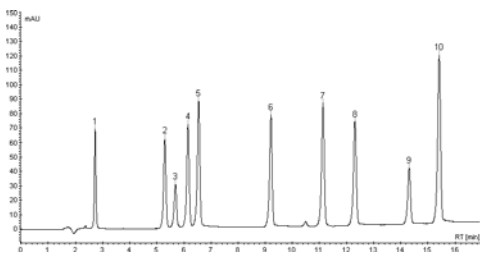
# Pursuit® XRs

## Pursuit XRs-Diphenyl, optimized for pi-pi selectivity

Pursuit XRs-Diphenyl provides superior selectivity for compounds containing double bonds or aromatic functional groups through a specific pi-pi retention mechanism. Unlike alternate phases, such as C18 and phenyl hexyl, that rely on a hydrophobic component in their retention mechanism, the diphenyl phase separates analytes primarily based on differences in their pi-electron structure.

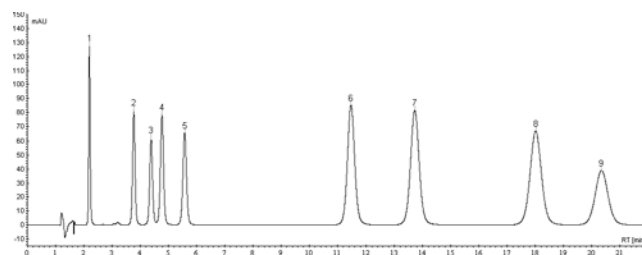
Key performance benefits:

- Unique pi-pi selectivity
- Enhanced resolution
- Improved peak symmetry



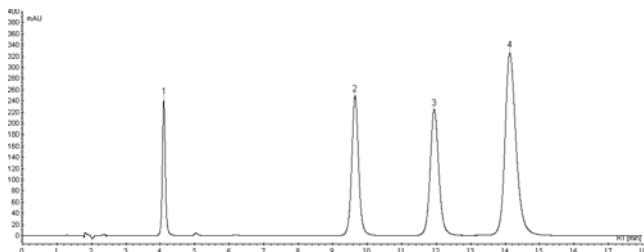
### Analgesics on Pursuit XRs-Diphenyl

**Column:** Pursuit XRs-DP **Dimensions:** 150 x 4.6 mm, 5µ **Mobile Phase:** A: H<sub>2</sub>O + 0.1% HCOOH, B: CH<sub>3</sub>CN + 0.1% HCOOH **Gradient:** 25% - 80% B in 20 mins **Flow Rate:** 1.0 mL/min **Temperature:** Ambient **Detection:** 254 nm **Sample:** 1. Acetaminophen 2. Acetanilide 3. Salicylic acid 4. Acetylsalicylic acid (Aspirin) 5. Phenacetin 6. Carbamazepine 7. Tolmetin 8. Naproxen 9. Ibuprofen 10. Diclofenac



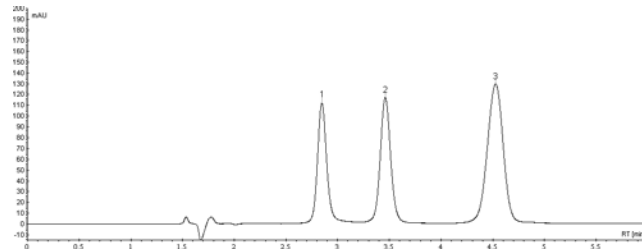
### Antibacterials on Pursuit XRs-Diphenyl

**Column:** Pursuit XRs-DP **Dimensions:** 150 x 4.6 mm, 5µ **Mobile Phase:** A: H<sub>2</sub>O + 0.1% HCOOH, B: CH<sub>3</sub>CN + 0.1% HCOOH A:B - 80:20 **Flow Rate:** 1.5 mL/min **Temperature:** Ambient **Detection:** 254 nm **Sample:** 1. Sulfanilamide 2. Sulfapyridine 3. Sulfamerazine 4. Sulfamethazine 5. Sulfamethoxy-pyridazine 6. Sulfamethoxazole 7. Sulfisoxazole 8. Sulfadimethoxine 9. Sulfaquinoxaline



### Antifungals on Pursuit XRs-Diphenyl

**Column:** Pursuit XRs-DP **Dimensions:** 150 x 4.6 mm, 5µ **Mobile Phase:** A: H<sub>2</sub>O + 0.1% HCOOH, B: CH<sub>3</sub>CN + 0.1% HCOOH A:B - 80:20 **Flow Rate:** 1.0 mL/min **Temperature:** Ambient **Detection:** 254 nm **Sample:** 1. 4-Aminobenzoic acid 2. Sorbic acid 3. Benzoic acid 4. Salicylic acid



### Antiulcers on Pursuit XRs-Diphenyl

**Column:** Pursuit XRs-DP **Dimensions:** 150 x 4.6 mm, 5µ **Mobile Phase:** CH<sub>3</sub>OH:10 mM NH<sub>4</sub>Ac, pH 7 - 50:50 **Flow Rate:** 1.0 mL/min **Temperature:** Ambient **Detection:** 214 nm **Sample:** 1. Famotidine 2. Cimetidine 3. Nizatidine

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## Ordering Information

### Pursuit XRs-C18

#### Specifications:

Particle Size(s)	Shape	Surface Area	Pore Size	Pore Volume	Purity	Chemistry	End-Capping	Carbon Load	PH Range
3, 5 µm	Spherical	440 m <sup>2</sup> /g	100Å	1.1 mL/g	99.999%	Octadecyl	Yes	25%	1.5 - 10.0
<b>2.0 mm (ID) Columns</b>		<b>Metaguard</b>	<b>30 x 2.0 mm</b>	<b>50 x 2.0 mm</b>	<b>100 x 2.0 mm</b>	<b>150 x 2.0 mm</b>	<b>250 x 2.0 mm</b>		
3 µm Pursuit XRs-C18		A6001MG2	A6001030X020	A6001050X020	A6001100X020	A6001150X020	A6001250X020		
5 µm Pursuit XRs-C18		A6000MG2	A6000030X020	A6000050X020	A6000100X020	A6000150X020	A6000250X020		
<b>4.6 mm (ID) Columns</b>		<b>Metaguard</b>	<b>30 x 4.6 mm</b>	<b>50 x 4.6 mm</b>	<b>100 x 4.6 mm</b>	<b>150 x 4.6 mm</b>	<b>250 x 4.6 mm</b>		
3 µm Pursuit XRs-C18		A6001MG	A6001030X046	A6001050X046	A6001100X046	A6001150X046	A6001250X046		
5 µm Pursuit XRs-C18		A6000MG	A6000030X046	A6000050X046	A6000100X046	A6000150X046	A6000250X046		

### Pursuit XRs-C8

#### Specifications:

Particle Size(s)	Shape	Surface Area	Pore Size	Pore Volume	Purity	Chemistry	End-Capping	Carbon Load	PH Range
3, 5 µm	Spherical	440 m <sup>2</sup> /g	100Å	1.1 mL/g	99.999%	Octyl	Yes	15%	1.5 - 10.0
<b>2.0 mm (ID) Columns</b>		<b>Metaguard</b>	<b>30 x 2.0 mm</b>	<b>50 x 2.0 mm</b>	<b>100 x 2.0 mm</b>	<b>150 x 2.0 mm</b>	<b>250 x 2.0 mm</b>		
3 µm Pursuit XRs-C8		A6011MG2	A6011030X020	A6011050X020	A6011100X020	A6011150X020	A6011250X020		
5 µm Pursuit XRs-C8		A6010MG2	A6010030X020	A6010050X020	A6010100X020	A6010150X020	A6010250X020		
<b>4.6 mm (ID) Columns</b>		<b>Metaguard</b>	<b>30 x 4.6 mm</b>	<b>50 x 4.6 mm</b>	<b>100 x 4.6 mm</b>	<b>150 x 4.6 mm</b>	<b>250 x 4.6 mm</b>		
3 µm Pursuit XRs-C8		A6011MG	A6011030X046	A6011050X046	A6011100X046	A6011150X046	A6011250X046		
5 µm Pursuit XRs-C8		A6010MG	A6010030X046	A6010050X046	A6010100X046	A6010150X046	A6010250X046		

### Pursuit XRs-Diphenyl

#### Specifications:

Particle Size(s)	Shape	Surface Area	Pore Size	Pore Volume	Purity	Chemistry	End-Capping	Carbon Load	PH Range
3, 5 µm	Spherical	440 m <sup>2</sup> /g	100Å	1.1 mL/g	99.999%	Diphenyl	Yes	15%	1.5 - 7.5
<b>2.0 mm (ID) Columns</b>		<b>Metaguard</b>	<b>30 x 2.0 mm</b>	<b>50 x 2.0 mm</b>	<b>100 x 2.0 mm</b>	<b>150 x 2.0 mm</b>	<b>250 x 2.0 mm</b>		
3 µm Pursuit XRs Diphenyl		A6021MG2	A6021030X020	A6021050X020	A6021100X020	A6021150X020	A6021250X020		
5 µm Pursuit XRs Diphenyl		A6020MG2	A6020030X020	A6020050X020	A6020100X020	A6020150X020	A6020250X020		
<b>4.6 mm (ID) Columns</b>		<b>Metaguard</b>	<b>30 x 4.6 mm</b>	<b>50 x 4.6 mm</b>	<b>100 x 4.6 mm</b>	<b>150 x 4.6 mm</b>	<b>250 x 4.6 mm</b>		
3 µm Pursuit XRs Diphenyl		A6021MG	A6021030X046	A6021050X046	A6021100X046	A6021150X046	A6021250X046		
5 µm Pursuit XRs Diphenyl		A6020MG	A6020030X046	A6020050X046	A6020100X046	A6020150X046	A6020250X046		

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# Pursuit® XRs

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