

The background of the page features a complex, abstract network of teal-colored spheres and lines, resembling a molecular or crystalline structure. The spheres are connected by thin lines, creating a web-like pattern that is more prominent on the left side and fades towards the right. The overall color palette is a range of teal and light green tones.

# 2.x $\mu\text{m}$ UHPLC Columns

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## 2.x μm UHPLC Columns

Choosing the correct column configuration, one that matches a particular LC system, significantly improves the chromatographic results. System dispersion is inherent to all chromatographic instrumentation and contributes to measured losses in column efficiency. The cumulative dispersion from tubing, valves, and instrument components, such as detector flow cells, causes sample peaks to broaden through dilution in a process that begins at the sample injector and ends at the detector's outflow. As column particle size is reduced, or the internal diameter and length of the column decreases, the potential peak broadening in a non-optimized LC system increases.

The full benefit of higher-efficiency UHPLC columns is realized only when system dispersion does not substantially degrade column performance. For smaller particle columns, the increased efficiency produces narrower peaks and improves resolution; however, the narrower peaks are more susceptible to extra-column dispersion. Therefore, matching the column configuration to the system dispersion is critical to maintain separation performance.

### Column Selection Guide



System	HPLC	UHPLC	UPLC
Measured Dispersion	>40 μL	22–29 μL	<20 μL
Routine Pressure	<6000 psi	<10,000 psi	<18,000 psi
Particle Size	3–5 μm	2–3 μm	<2 μm
Column I.D.	4.6 mm (3.0 mm)	3.0 mm (2.1 mm)	2.1 mm (1.0 mm)
Column Length	75–250 mm	50–100 mm	≤150 mm

Recommended column dimension matched for Waters LC Systems.

### Ideal Column Configurations for Any LC System

When transferring LC methods, instrument bandspread is one of the most practical LC instrument parameters to determine. Knowing the bandspread value gives the separation scientist the ability to develop compatible methods on any LC system, independent of the instrument manufacturer. The following table recommends column configurations based on nominal instrument bandspread values.



Select 2.x μm columns are available with MaxPeak High Performance Surface Technology. A complete list of the MaxPeak Premier Columns can be found on [page 99](#).

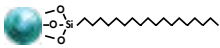
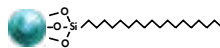

System	LC Technique	Bandspread*	Recommended Column Particle Sizes and I.D.s
Shimadzu Prominence UFLC	HPLC	41 μL	XBridge 3.5, 5 μm; XSelect 3.5, 5 μm; CORTECS 2.7 μm 3.0–4.6 mm I.D.
Arc HPLC or Alliance 2695 HPLC	HPLC	29 μL	
Agilent 1260 UHPLC (600 bar)	HPLC	28 μL	
Thermo Accela UHPLC	HPLC	21 μL	XBridge 2.5, 3.5, 5 μm; XSelect 2.5, 3.5, 5 μm; CORTECS 2.7 μm 3.0 mm I.D.
Agilent 1290 UHPLC (1200 bar)	UHPLC	17 μL	
Arc Premier or ACQUITY Arc	UHPLC	23 μL	XBridge 2.5, 3.5, 5 μm; XSelect 2.5, 3.5, 5 μm; ACQUITY UPLC HSS 1.8 μm, CORTECS 2.7 μm 3.0 mm I.D.
ACQUITY Premier or ACQUITY UPLC	UHPLC	12 μL	ACQUITY UPLC BEH 1.7 μm; ACQUITY UPLC CSH 1.7 μm; ACQUITY UPLC HSS 1.8 μm, CORTECS 1.6 μm 2.1 mm I.D.
ACQUITY UPLC H-Class w/Column Manager	UPLC	12 μL	
ACQUITY UPLC H-Class	UPLC	9 μL	

\*These data are based on nominal values for unmodified systems, and are intended for reference only. Any adjustment to the system's plumbing, connectivity and configuration changes the instrument bandspread.

## CORTECS 2.7 $\mu\text{m}$ Columns

CORTECS 2.7  $\mu\text{m}$  Solid-Core Particle Columns maximize resolution and peak capacity for all LC separations. Optimized to extend the performance of HPLC and UHPLC instruments, their innovative, solid-core technology and bonding chemistry is available in both reversed-phase and HILIC phases, offering the flexibility to rapidly separate a wide range of compound classes. Compared with columns using fully-porous substrates, the improved efficiency of CORTECS 2.7  $\mu\text{m}$  Solid-Core Columns produces sharper and narrower peaks, allowing faster flow rates at lower operational backpressure.

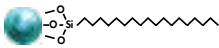
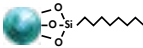
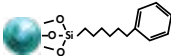

### Column Characteristics

	<b>C<sub>18</sub><sup>+</sup>, 90 Å</b>	<b>C<sub>18</sub>, 90 Å</b>	<b>Shield RP18, 90 Å</b>
	UPLC: 1.6 $\mu\text{m}$ , UHPLC: 2.7 $\mu\text{m}$	UPLC: 1.6 $\mu\text{m}$ , UHPLC: 2.7 $\mu\text{m}$	UPLC: 1.6 $\mu\text{m}$ , UHPLC: 2.7 $\mu\text{m}$
Particle/Ligand			
Ligand Density*	2.4 $\mu\text{mol}/\text{m}^2$	2.7 $\mu\text{mol}/\text{m}^2$	3.2 $\mu\text{mol}/\text{m}^2$
Carbon Load*	5.7%	6.6%	6.4%
Endcapped	Yes	Yes	Yes
USP Class No.	L1	L1	L1
pH Range	2–8	2–8	2–8
Temperature Limits	Low pH = 45 °C, High pH = 45 °C	Low pH = 45 °C, High pH = 45 °C	Low pH = 45 °C, High pH = 45 °C
Surface Area*	100 $\text{m}^2/\text{g}$	100 $\text{m}^2/\text{g}$	100 $\text{m}^2/\text{g}$
Performance Standards	<b>Neutrals QC Reference Material</b> p/n: <a href="#">186006360</a>	<b>Neutrals QC Reference Material</b> p/n: <a href="#">186006360</a>	<b>Neutrals QC Reference Material</b> p/n: <a href="#">186006360</a>
Application Standards	<b>Reversed-Phase QC Reference Material</b> p/n: <a href="#">186006363</a>	<b>Reversed-Phase QC Reference Material</b> p/n: <a href="#">186006363</a>	<b>Reversed-Phase QC Reference Material</b> p/n: <a href="#">186006363</a>

\*Expected or approximate value.

 For more information on CORTECS Columns, [refer to page 108](#).



T3, 120 Å	C <sub>8</sub> , 90 Å	Phenyl, 90 Å	HILIC, 90 Å
UPLC: 1.6 µm, UHPLC: 2.7 µm	UPLC: 1.6 µm, UHPLC: 2.7 µm	UPLC: 1.6 µm, UHPLC: 2.7 µm	UPLC: 1.6 µm, UHPLC: 2.7 µm
			
1.6 µmol/m <sup>2</sup>	3.4 µmol/m <sup>2</sup>	3.2 µmol/m <sup>2</sup>	N/A
4.7%	4.5%	5.9%	Unbonded
Yes	Yes	Yes	N/A
L1	L7	L11	L3
2-8	2-8	2-8	1-5
Low pH = 45 °C, High pH = 45 °C	Low pH = 45 °C, High pH = 45 °C	Low pH = 45 °C, High pH = 45 °C	Low pH = 45 °C, High pH = 45 °C
100 m <sup>2</sup> /g	100 m <sup>2</sup> /g	100 m <sup>2</sup> /g	100 m <sup>2</sup> /g
Neutrals QC Reference Material p/n: <a href="#">186006360</a>	Neutrals QC Reference Material p/n: <a href="#">186006360</a>	Neutrals QC Reference Material p/n: <a href="#">186006360</a>	HILIC QC Reference Material p/n: <a href="#">186007226</a>
Reversed-Phase QC Reference Material p/n: <a href="#">186006363</a>	Reversed-Phase QC Reference Material p/n: <a href="#">186006363</a>	Reversed-Phase QC Reference Material p/n: <a href="#">186006363</a>	—

## Ordering Information

### CORTECS Columns

	Particle Size: 1.6 $\mu\text{m}$			Particle Size: 2.7 $\mu\text{m}$		
	Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	P/N (3/pk)
<b>C<sub>18</sub>+</b>	2.1 × 30 mm	<a href="#">186007113</a>	<a href="#">176003166</a>	2.1 × 30 mm	<a href="#">186007394</a>	<a href="#">176003289</a>
	2.1 × 50 mm	<a href="#">186007114</a>	<a href="#">176003167</a>	2.1 × 50 mm	<a href="#">186007395</a>	<a href="#">176003290</a>
	2.1 × 75 mm	<a href="#">186007115</a>	<a href="#">176003168</a>	2.1 × 75 mm	<a href="#">186007396</a>	<a href="#">176003291</a>
	2.1 × 100 mm	<a href="#">186007116</a>	<a href="#">176003169</a>	2.1 × 100 mm	<a href="#">186007397</a>	<a href="#">176003292</a>
	2.1 × 150 mm	<a href="#">186007117</a>	<a href="#">176003170</a>	2.1 × 150 mm	<a href="#">186007398</a>	<a href="#">176003293</a>
	3.0 × 30 mm	<a href="#">186007118</a>	<a href="#">176003171</a>	3.0 × 30 mm	<a href="#">186007399</a>	<a href="#">176003294</a>
	3.0 × 50 mm	<a href="#">186007119</a>	<a href="#">176003172</a>	3.0 × 50 mm	<a href="#">186007400</a>	<a href="#">176003295</a>
	3.0 × 75 mm	<a href="#">186007120</a>	<a href="#">176003173</a>	3.0 × 75 mm	<a href="#">186007401</a>	<a href="#">176003296</a>
	3.0 × 100 mm	<a href="#">186007121</a>	<a href="#">176003174</a>	3.0 × 100 mm	<a href="#">186007402</a>	<a href="#">176003297</a>
	3.0 × 150 mm	<a href="#">186007122</a>	<a href="#">176003175</a>	3.0 × 150 mm	<a href="#">186007403</a>	<a href="#">176003298</a>
				4.6 × 30 mm	<a href="#">186007404</a>	<a href="#">176003322</a>
				4.6 × 50 mm	<a href="#">186007405</a>	<a href="#">176003323</a>
				4.6 × 75 mm	<a href="#">186007406</a>	<a href="#">176003324</a>
				4.6 × 100 mm	<a href="#">186007407</a>	<a href="#">176003325</a>
				4.6 × 150 mm	<a href="#">186007408</a>	<a href="#">176003326</a>
<b>C<sub>18</sub></b>	2.1 × 30 mm	<a href="#">186007092</a>	<a href="#">176003146</a>	2.1 × 30 mm	<a href="#">186007364</a>	<a href="#">176003269</a>
	2.1 × 50 mm	<a href="#">186007093</a>	<a href="#">176003147</a>	2.1 × 50 mm	<a href="#">186007365</a>	<a href="#">176003270</a>
	2.1 × 75 mm	<a href="#">186007094</a>	<a href="#">176003148</a>	2.1 × 75 mm	<a href="#">186007366</a>	<a href="#">176003271</a>
	2.1 × 100 mm	<a href="#">186007095</a>	<a href="#">176003149</a>	2.1 × 100 mm	<a href="#">186007367</a>	<a href="#">176003272</a>
	2.1 × 150 mm	<a href="#">186007096</a>	<a href="#">176003150</a>	2.1 × 150 mm	<a href="#">186007368</a>	<a href="#">176003273</a>
	3.0 × 30 mm	<a href="#">186007097</a>	<a href="#">176003151</a>	3.0 × 30 mm	<a href="#">186007369</a>	<a href="#">176003274</a>
	3.0 × 50 mm	<a href="#">186007098</a>	<a href="#">176003152</a>	3.0 × 50 mm	<a href="#">186007370</a>	<a href="#">176003275</a>
	3.0 × 75 mm	<a href="#">186007099</a>	<a href="#">176003153</a>	3.0 × 75 mm	<a href="#">186007371</a>	<a href="#">176003276</a>
	3.0 × 100 mm	<a href="#">186007100</a>	<a href="#">176003154</a>	3.0 × 100 mm	<a href="#">186007372</a>	<a href="#">176003277</a>
	3.0 × 150 mm	<a href="#">186007102</a>	<a href="#">176003155</a>	3.0 × 150 mm	<a href="#">186007373</a>	<a href="#">176003278</a>
				4.6 × 30 mm	<a href="#">186007374</a>	<a href="#">176003312</a>
				4.6 × 50 mm	<a href="#">186007375</a>	<a href="#">176003313</a>
				4.6 × 75 mm	<a href="#">186007376</a>	<a href="#">176003314</a>
				4.6 × 100 mm	<a href="#">186007377</a>	<a href="#">176003315</a>
				4.6 × 150 mm	<a href="#">186007378</a>	<a href="#">176003316</a>

CORTECS Columns *Continued*

	Particle Size: 1.6 $\mu$ m			Particle Size: 2.7 $\mu$ m		
	Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	P/N (3/pk)
<b>C<sub>8</sub></b>	2.1 × 30 mm	<a href="#">186008398</a>	<a href="#">176003829</a>	2.1 × 30 mm	<a href="#">186008348</a>	<a href="#">176003804</a>
	2.1 × 50 mm	<a href="#">186008399</a>	<a href="#">176003830</a>	2.1 × 50 mm	<a href="#">186008349</a>	<a href="#">176003805</a>
	2.1 × 75 mm	<a href="#">186008400</a>	<a href="#">176003831</a>	2.1 × 75 mm	<a href="#">186008350</a>	<a href="#">176003806</a>
	2.1 × 100 mm	<a href="#">186008401</a>	<a href="#">176003832</a>	2.1 × 100 mm	<a href="#">186008351</a>	<a href="#">176003807</a>
	2.1 × 150 mm	<a href="#">186008402</a>	<a href="#">176003833</a>	2.1 × 150 mm	<a href="#">186008352</a>	<a href="#">176003808</a>
	3.0 × 30 mm	<a href="#">186008408</a>	<a href="#">176003834</a>	3.0 × 30 mm	<a href="#">186008358</a>	<a href="#">176003809</a>
	3.0 × 50 mm	<a href="#">186008409</a>	<a href="#">176003835</a>	3.0 × 50 mm	<a href="#">186008359</a>	<a href="#">176003810</a>
	3.0 × 75 mm	<a href="#">186008410</a>	<a href="#">176003836</a>	3.0 × 75 mm	<a href="#">186008360</a>	<a href="#">176003811</a>
	3.0 × 100 mm	<a href="#">186008411</a>	<a href="#">176003837</a>	3.0 × 100 mm	<a href="#">186008361</a>	<a href="#">176003812</a>
	3.0 × 150 mm	<a href="#">186008412</a>	<a href="#">176003838</a>	3.0 × 150 mm	<a href="#">186008362</a>	<a href="#">176003813</a>
				4.6 × 30 mm	<a href="#">186008368</a>	<a href="#">176003814</a>
				4.6 × 50 mm	<a href="#">186008369</a>	<a href="#">176003815</a>
				4.6 × 75 mm	<a href="#">186008370</a>	<a href="#">176003816</a>
				4.6 × 100 mm	<a href="#">186008371</a>	<a href="#">176003817</a>
				4.6 × 150 mm	<a href="#">186008372</a>	<a href="#">176003818</a>
	<b>HILIC</b>	2.1 × 30 mm	<a href="#">186007103</a>	<a href="#">176003156</a>	2.1 × 30 mm	<a href="#">186007379</a>
2.1 × 50 mm		<a href="#">186007104</a>	<a href="#">176003157</a>	2.1 × 50 mm	<a href="#">186007380</a>	<a href="#">176003280</a>
2.1 × 75 mm		<a href="#">186007105</a>	<a href="#">176003158</a>	2.1 × 75 mm	<a href="#">186007381</a>	<a href="#">176003281</a>
2.1 × 100 mm		<a href="#">186007106</a>	<a href="#">176003159</a>	2.1 × 100 mm	<a href="#">186007382</a>	<a href="#">176003282</a>
2.1 × 150 mm		<a href="#">186007107</a>	<a href="#">176003160</a>	2.1 × 150 mm	<a href="#">186007383</a>	<a href="#">176003283</a>
3.0 × 30 mm		<a href="#">186007108</a>	<a href="#">176003161</a>	3.0 × 30 mm	<a href="#">186007384</a>	<a href="#">176003284</a>
3.0 × 50 mm		<a href="#">186007109</a>	<a href="#">176003162</a>	3.0 × 50 mm	<a href="#">186007385</a>	<a href="#">176003285</a>
3.0 × 75 mm		<a href="#">186007110</a>	<a href="#">176003163</a>	3.0 × 75 mm	<a href="#">186007386</a>	<a href="#">176003286</a>
3.0 × 100 mm		<a href="#">186007111</a>	<a href="#">176003164</a>	3.0 × 100 mm	<a href="#">186007387</a>	<a href="#">176003287</a>
3.0 × 150 mm		<a href="#">186007112</a>	<a href="#">176003165</a>	3.0 × 150 mm	<a href="#">186007388</a>	<a href="#">176003288</a>
				4.6 × 30 mm	<a href="#">186007389</a>	<a href="#">176003317</a>
				4.6 × 50 mm	<a href="#">186007390</a>	<a href="#">176003318</a>
				4.6 × 75 mm	<a href="#">186007391</a>	<a href="#">176003319</a>
				4.6 × 100 mm	<a href="#">186007392</a>	<a href="#">176003320</a>
				4.6 × 150 mm	<a href="#">186007393</a>	<a href="#">176003321</a>

CORTECS Columns *Continued*

	Particle Size: 1.6 $\mu$ m			Particle Size: 2.7 $\mu$ m		
	Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	P/N (3/pk)
Phenyl	2.1 $\times$ 30 mm	<a href="#">186008378</a>	<a href="#">176003819</a>	2.1 $\times$ 30 mm	<a href="#">186008318</a>	<a href="#">176003789</a>
	2.1 $\times$ 50 mm	<a href="#">186008379</a>	<a href="#">176003820</a>	2.1 $\times$ 50 mm	<a href="#">186008319</a>	<a href="#">176003790</a>
	2.1 $\times$ 75 mm	<a href="#">186008380</a>	<a href="#">176003821</a>	2.1 $\times$ 75 mm	<a href="#">186008320</a>	<a href="#">176003791</a>
	2.1 $\times$ 100 mm	<a href="#">186008381</a>	<a href="#">176003822</a>	2.1 $\times$ 100 mm	<a href="#">186008321</a>	<a href="#">176003792</a>
	2.1 $\times$ 150 mm	<a href="#">186008382</a>	<a href="#">176003823</a>	2.1 $\times$ 150 mm	<a href="#">186008322</a>	<a href="#">176003793</a>
	3.0 $\times$ 30 mm	<a href="#">186008388</a>	<a href="#">176003824</a>	3.0 $\times$ 30 mm	<a href="#">186008328</a>	<a href="#">176003794</a>
	3.0 $\times$ 50 mm	<a href="#">186008389</a>	<a href="#">176003825</a>	3.0 $\times$ 50 mm	<a href="#">186008329</a>	<a href="#">176003795</a>
	3.0 $\times$ 75 mm	<a href="#">186008390</a>	<a href="#">176003826</a>	3.0 $\times$ 75 mm	<a href="#">186008330</a>	<a href="#">176003796</a>
	3.0 $\times$ 100 mm	<a href="#">186008391</a>	<a href="#">176003827</a>	3.0 $\times$ 100 mm	<a href="#">186008331</a>	<a href="#">176003797</a>
	3.0 $\times$ 150 mm	<a href="#">186008392</a>	<a href="#">176003828</a>	3.0 $\times$ 150 mm	<a href="#">186008332</a>	<a href="#">176003798</a>
				4.6 $\times$ 30 mm	<a href="#">186008338</a>	<a href="#">176003799</a>
				4.6 $\times$ 50 mm	<a href="#">186008339</a>	<a href="#">176003800</a>
				4.6 $\times$ 75 mm	<a href="#">186008340</a>	<a href="#">176003801</a>
				4.6 $\times$ 100 mm	<a href="#">186008341</a>	<a href="#">176003802</a>
				4.6 $\times$ 150 mm	<a href="#">186008342</a>	<a href="#">176003803</a>
	Shield RP18	2.1 $\times$ 30 mm	<a href="#">186008691</a>	<a href="#">176003927</a>	2.1 $\times$ 30 mm	<a href="#">186008661</a>
2.1 $\times$ 50 mm		<a href="#">186008692</a>	<a href="#">176003928</a>	2.1 $\times$ 50 mm	<a href="#">186008662</a>	<a href="#">176003913</a>
2.1 $\times$ 75 mm		<a href="#">186008693</a>	<a href="#">176003929</a>	2.1 $\times$ 75 mm	<a href="#">186008663</a>	<a href="#">176003914</a>
2.1 $\times$ 100 mm		<a href="#">186008694</a>	<a href="#">176003930</a>	2.1 $\times$ 100 mm	<a href="#">186008664</a>	<a href="#">176003915</a>
2.1 $\times$ 150 mm		<a href="#">186008695</a>	<a href="#">176003931</a>	2.1 $\times$ 150 mm	<a href="#">186008665</a>	<a href="#">176003916</a>
3.0 $\times$ 30 mm		<a href="#">186008701</a>	<a href="#">176003932</a>	3.0 $\times$ 30 mm	<a href="#">186008671</a>	<a href="#">176003917</a>
3.0 $\times$ 50 mm		<a href="#">186008702</a>	<a href="#">176003933</a>	3.0 $\times$ 50 mm	<a href="#">186008672</a>	<a href="#">176003918</a>
3.0 $\times$ 75 mm		<a href="#">186008703</a>	<a href="#">176003934</a>	3.0 $\times$ 75 mm	<a href="#">186008673</a>	<a href="#">176003919</a>
3.0 $\times$ 100 mm		<a href="#">186008704</a>	<a href="#">176003935</a>	3.0 $\times$ 100 mm	<a href="#">186008674</a>	<a href="#">176003920</a>
3.0 $\times$ 150 mm		<a href="#">186008705</a>	<a href="#">176003936</a>	3.0 $\times$ 150 mm	<a href="#">186008675</a>	<a href="#">176003921</a>
				4.6 $\times$ 30 mm	<a href="#">186008681</a>	<a href="#">176003922</a>
				4.6 $\times$ 50 mm	<a href="#">186008682</a>	<a href="#">176003923</a>
				4.6 $\times$ 75 mm	<a href="#">186008683</a>	<a href="#">176003924</a>
				4.6 $\times$ 100 mm	<a href="#">186008684</a>	<a href="#">176003925</a>
				4.6 $\times$ 150 mm	<a href="#">186008685</a>	<a href="#">176003926</a>



	Particle Size: 1.6 $\mu$ m			Particle Size: 2.7 $\mu$ m		
	Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	P/N (3/pk)
T3	2.1 $\times$ 30 mm	<a href="#">186008496</a>	<a href="#">176003891</a>	2.1 $\times$ 30 mm	<a href="#">186008481</a>	<a href="#">176003876</a>
	2.1 $\times$ 50 mm	<a href="#">186008497</a>	<a href="#">176003892</a>	2.1 $\times$ 50 mm	<a href="#">186008482</a>	<a href="#">176003877</a>
	2.1 $\times$ 75 mm	<a href="#">186008498</a>	<a href="#">176003893</a>	2.1 $\times$ 75 mm	<a href="#">186008483</a>	<a href="#">176003878</a>
	2.1 $\times$ 100 mm	<a href="#">186008499</a>	<a href="#">176003894</a>	2.1 $\times$ 100 mm	<a href="#">186008484</a>	<a href="#">176003879</a>
	2.1 $\times$ 150 mm	<a href="#">186008500</a>	<a href="#">176003895</a>	2.1 $\times$ 150 mm	<a href="#">186008485</a>	<a href="#">176003880</a>
	3.0 $\times$ 30 mm	<a href="#">186008501</a>	<a href="#">176003896</a>	3.0 $\times$ 30 mm	<a href="#">186008486</a>	<a href="#">176003881</a>
	3.0 $\times$ 50 mm	<a href="#">186008502</a>	<a href="#">176003897</a>	3.0 $\times$ 50 mm	<a href="#">186008487</a>	<a href="#">176003882</a>
	3.0 $\times$ 75 mm	<a href="#">186008503</a>	<a href="#">176003898</a>	3.0 $\times$ 75 mm	<a href="#">186008488</a>	<a href="#">176003883</a>
	3.0 $\times$ 100 mm	<a href="#">186008504</a>	<a href="#">176003899</a>	3.0 $\times$ 100 mm	<a href="#">186008489</a>	<a href="#">176003884</a>
	3.0 $\times$ 150 mm	<a href="#">186008505</a>	<a href="#">176003900</a>	3.0 $\times$ 150 mm	<a href="#">186008490</a>	<a href="#">176003885</a>
				4.6 $\times$ 30 mm	<a href="#">186008491</a>	<a href="#">176003886</a>
				4.6 $\times$ 50 mm	<a href="#">186008492</a>	<a href="#">176003887</a>
				4.6 $\times$ 75 mm	<a href="#">186008493</a>	<a href="#">176003888</a>
				4.6 $\times$ 100 mm	<a href="#">186008494</a>	<a href="#">176003889</a>
				4.6 $\times$ 150 mm	<a href="#">186008495</a>	<a href="#">176003890</a>

# BioAdvisor

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## CORTECS Columns Method Validation Kits\*

	Particle Size: 1.6 $\mu$ m		Particle Size: 2.7 $\mu$ m	
	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
<b>C<sub>18</sub></b> <sup>+</sup>	2.1 × 30 mm	<a href="#">186007176</a>	2.1 × 30 mm	<a href="#">186007439</a>
	2.1 × 50 mm	<a href="#">186007177</a>	2.1 × 50 mm	<a href="#">186007440</a>
	2.1 × 75 mm	<a href="#">186007178</a>	2.1 × 75 mm	<a href="#">186007441</a>
	2.1 × 100 mm	<a href="#">186007179</a>	2.1 × 100 mm	<a href="#">186007442</a>
	2.1 × 150 mm	<a href="#">186007180</a>	2.1 × 150 mm	<a href="#">186007443</a>
	3.0 × 30 mm	<a href="#">186007181</a>	3.0 × 30 mm	<a href="#">186007444</a>
	3.0 × 50 mm	<a href="#">186007182</a>	3.0 × 50 mm	<a href="#">186007445</a>
	3.0 × 75 mm	<a href="#">186007183</a>	3.0 × 75 mm	<a href="#">186007446</a>
	3.0 × 100 mm	<a href="#">186007184</a>	3.0 × 100 mm	<a href="#">186007447</a>
	3.0 × 150 mm	<a href="#">186007185</a>	3.0 × 150 mm	<a href="#">186007448</a>
			4.6 × 30 mm	<a href="#">186007449</a>
			4.6 × 50 mm	<a href="#">186007450</a>
			4.6 × 75 mm	<a href="#">186007451</a>
			4.6 × 100 mm	<a href="#">186007452</a>
			4.6 × 150 mm	<a href="#">186007453</a>
	<b>C<sub>18</sub></b>	2.1 × 30 mm	<a href="#">186007156</a>	2.1 × 30 mm
2.1 × 50 mm		<a href="#">186007157</a>	2.1 × 50 mm	<a href="#">186007410</a>
2.1 × 75 mm		<a href="#">186007158</a>	2.1 × 75 mm	<a href="#">186007411</a>
2.1 × 100 mm		<a href="#">186007159</a>	2.1 × 100 mm	<a href="#">186007412</a>
2.1 × 150 mm		<a href="#">186007160</a>	2.1 × 150 mm	<a href="#">186007413</a>
3.0 × 30 mm		<a href="#">186007161</a>	3.0 × 30 mm	<a href="#">186007414</a>
3.0 × 50 mm		<a href="#">186007162</a>	3.0 × 50 mm	<a href="#">186007415</a>
3.0 × 75 mm		<a href="#">186007163</a>	3.0 × 75 mm	<a href="#">186007416</a>
3.0 × 100 mm		<a href="#">186007164</a>	3.0 × 100 mm	<a href="#">186007417</a>
3.0 × 150 mm		<a href="#">186007165</a>	3.0 × 150 mm	<a href="#">186007418</a>
			4.6 × 30 mm	<a href="#">186007419</a>
			4.6 × 50 mm	<a href="#">186007420</a>
			4.6 × 75 mm	<a href="#">186007421</a>
			4.6 × 100 mm	<a href="#">186007422</a>
			4.6 × 150 mm	<a href="#">186007423</a>

\*Each Method Validation Kit contains 3 columns, each from a different batch.

CORTECS Columns Method Validation Kits\* *Continued*

	Particle Size: 1.6 $\mu$ m		Particle Size: 2.7 $\mu$ m	
	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
<b>C<sub>8</sub></b>	2.1 $\times$ 30 mm	<a href="#">186008403</a>	2.1 $\times$ 30 mm	<a href="#">186008353</a>
	2.1 $\times$ 50 mm	<a href="#">186008404</a>	2.1 $\times$ 50 mm	<a href="#">186008354</a>
	2.1 $\times$ 75 mm	<a href="#">186008405</a>	2.1 $\times$ 75 mm	<a href="#">186008355</a>
	2.1 $\times$ 100 mm	<a href="#">186008406</a>	2.1 $\times$ 100 mm	<a href="#">186008356</a>
	2.1 $\times$ 150 mm	<a href="#">186008407</a>	2.1 $\times$ 150 mm	<a href="#">186008357</a>
	3.0 $\times$ 30 mm	<a href="#">186008413</a>	3.0 $\times$ 30 mm	<a href="#">186008363</a>
	3.0 $\times$ 50 mm	<a href="#">186008414</a>	3.0 $\times$ 50 mm	<a href="#">186008364</a>
	3.0 $\times$ 75 mm	<a href="#">186008415</a>	3.0 $\times$ 75 mm	<a href="#">186008365</a>
	3.0 $\times$ 100 mm	<a href="#">186008416</a>	3.0 $\times$ 100 mm	<a href="#">186008366</a>
	3.0 $\times$ 150 mm	<a href="#">186008417</a>	3.0 $\times$ 150 mm	<a href="#">186008367</a>
			4.6 $\times$ 30 mm	<a href="#">186008373</a>
			4.6 $\times$ 50 mm	<a href="#">186008374</a>
			4.6 $\times$ 75 mm	<a href="#">186008375</a>
			4.6 $\times$ 100 mm	<a href="#">186008376</a>
			4.6 $\times$ 150 mm	<a href="#">186008377</a>
	<b>HILIC</b>	2.1 $\times$ 30 mm	<a href="#">186007166</a>	2.1 $\times$ 30 mm
2.1 $\times$ 50 mm		<a href="#">186007167</a>	2.1 $\times$ 50 mm	<a href="#">186007425</a>
2.1 $\times$ 75 mm		<a href="#">186007168</a>	2.1 $\times$ 75 mm	<a href="#">186007426</a>
2.1 $\times$ 100 mm		<a href="#">186007169</a>	2.1 $\times$ 100 mm	<a href="#">186007427</a>
2.1 $\times$ 150 mm		<a href="#">186007170</a>	2.1 $\times$ 150 mm	<a href="#">186007428</a>
3.0 $\times$ 30 mm		<a href="#">186007171</a>	3.0 $\times$ 30 mm	<a href="#">186007429</a>
3.0 $\times$ 50 mm		<a href="#">186007172</a>	3.0 $\times$ 50 mm	<a href="#">186007430</a>
3.0 $\times$ 75 mm		<a href="#">186007173</a>	3.0 $\times$ 75 mm	<a href="#">186007431</a>
3.0 $\times$ 100 mm		<a href="#">186007174</a>	3.0 $\times$ 100 mm	<a href="#">186007432</a>
3.0 $\times$ 150 mm		<a href="#">186007175</a>	3.0 $\times$ 150 mm	<a href="#">186007433</a>
			4.6 $\times$ 30 mm	<a href="#">186007434</a>
			4.6 $\times$ 50 mm	<a href="#">186007435</a>
			4.6 $\times$ 75 mm	<a href="#">186007436</a>
			4.6 $\times$ 100 mm	<a href="#">186007437</a>
			4.6 $\times$ 150 mm	<a href="#">186007438</a>

CORTECS Columns Method Validation Kits\* *Continued*

	Particle Size: 1.6 $\mu$ m		Particle Size: 2.7 $\mu$ m	
	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
Phenyl	2.1 $\times$ 30 mm	<a href="#">186008383</a>	2.1 $\times$ 30 mm	<a href="#">186008323</a>
	2.1 $\times$ 50 mm	<a href="#">186008384</a>	2.1 $\times$ 50 mm	<a href="#">186008324</a>
	2.1 $\times$ 75 mm	<a href="#">186008405</a>	2.1 $\times$ 75 mm	<a href="#">186008325</a>
	2.1 $\times$ 100 mm	<a href="#">186008386</a>	2.1 $\times$ 100 mm	<a href="#">186008326</a>
	2.1 $\times$ 150 mm	<a href="#">186008387</a>	2.1 $\times$ 150 mm	<a href="#">186008327</a>
	3.0 $\times$ 30 mm	<a href="#">186008393</a>	3.0 $\times$ 30 mm	<a href="#">186008333</a>
	3.0 $\times$ 50 mm	<a href="#">186008394</a>	3.0 $\times$ 50 mm	<a href="#">186008334</a>
	3.0 $\times$ 75 mm	<a href="#">186008395</a>	3.0 $\times$ 75 mm	<a href="#">186008335</a>
	3.0 $\times$ 100 mm	<a href="#">186008396</a>	3.0 $\times$ 100 mm	<a href="#">186008336</a>
	3.0 $\times$ 150 mm	<a href="#">186008397</a>	3.0 $\times$ 150 mm	<a href="#">186008337</a>
			4.6 $\times$ 30 mm	<a href="#">186008343</a>
			4.6 $\times$ 50 mm	<a href="#">186008344</a>
			4.6 $\times$ 75 mm	<a href="#">186008345</a>
			4.6 $\times$ 100 mm	<a href="#">186008346</a>
			4.6 $\times$ 150 mm	<a href="#">186008347</a>
	Shield RP18	2.1 $\times$ 30 mm	<a href="#">186008696</a>	2.1 $\times$ 30 mm
2.1 $\times$ 50 mm		<a href="#">186008697</a>	2.1 $\times$ 50 mm	<a href="#">186008667</a>
2.1 $\times$ 75 mm		<a href="#">186008698</a>	2.1 $\times$ 75 mm	<a href="#">186008668</a>
2.1 $\times$ 100 mm		<a href="#">186008699</a>	2.1 $\times$ 100 mm	<a href="#">186008669</a>
2.1 $\times$ 150 mm		<a href="#">186008700</a>	2.1 $\times$ 150 mm	<a href="#">186008670</a>
3.0 $\times$ 30 mm		<a href="#">186008706</a>	3.0 $\times$ 30 mm	186008676
3.0 $\times$ 50 mm		<a href="#">186008707</a>	3.0 $\times$ 50 mm	<a href="#">186008677</a>
3.0 $\times$ 75 mm		<a href="#">186008708</a>	3.0 $\times$ 75 mm	<a href="#">186008678</a>
3.0 $\times$ 100 mm		<a href="#">186008709</a>	3.0 $\times$ 100 mm	<a href="#">186008679</a>
3.0 $\times$ 150 mm		<a href="#">186008710</a>	3.0 $\times$ 150 mm	<a href="#">186008680</a>
			4.6 $\times$ 30 mm	186008686
			4.6 $\times$ 50 mm	<a href="#">186008687</a>
			4.6 $\times$ 75 mm	<a href="#">186008688</a>
			4.6 $\times$ 100 mm	<a href="#">186008689</a>
			4.6 $\times$ 150 mm	<a href="#">186008690</a>

\*Each Method Validation Kit contains 3 columns, each from a different batch.

CORTECS Columns Method Validation Kits\* *Continued*

	Particle Size: 1.6 $\mu$ m		Particle Size: 2.7 $\mu$ m	
	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
<b>T3</b>	2.1 $\times$ 30 mm	<a href="#">186008529</a>	2.1 $\times$ 30 mm	<a href="#">186008509</a>
	2.1 $\times$ 50 mm	<a href="#">186008530</a>	2.1 $\times$ 50 mm	<a href="#">186008510</a>
	2.1 $\times$ 75 mm	<a href="#">186008531</a>	2.1 $\times$ 75 mm	<a href="#">186008516</a>
	2.1 $\times$ 100 mm	<a href="#">186008536</a>	2.1 $\times$ 100 mm	<a href="#">186008517</a>
	2.1 $\times$ 150 mm	<a href="#">186008537</a>	2.1 $\times$ 150 mm	<a href="#">186008518</a>
	3.0 $\times$ 30 mm	<a href="#">186008538</a>	3.0 $\times$ 30 mm	<a href="#">186008519</a>
	3.0 $\times$ 50 mm	<a href="#">186008539</a>	3.0 $\times$ 50 mm	<a href="#">186008520</a>
	3.0 $\times$ 75 mm	<a href="#">186008540</a>	3.0 $\times$ 75 mm	<a href="#">186008521</a>
	3.0 $\times$ 100 mm	<a href="#">186008541</a>	3.0 $\times$ 100 mm	<a href="#">186008522</a>
	3.0 $\times$ 150 mm	<a href="#">186008542</a>	3.0 $\times$ 150 mm	<a href="#">186008523</a>
			4.6 $\times$ 30 mm	<a href="#">186008524</a>
			4.6 $\times$ 50 mm	<a href="#">186008525</a>
			4.6 $\times$ 75 mm	<a href="#">186008526</a>
			4.6 $\times$ 100 mm	<a href="#">186008527</a>
			4.6 $\times$ 150 mm	<a href="#">186008528</a>

## CORTECS VanGuard Cartridges

	Particle Size: 2.7 $\mu$ m	
	Dimension	P/N (1/pk)
<b>C<sub>18</sub><sup>+</sup></b>	2.1 $\times$ 5 mm	<a href="#">186007685</a>
	3.9 $\times$ 5 mm	<a href="#">186007687</a>
<b>C<sub>18</sub></b>	2.1 $\times$ 5 mm	<a href="#">186007682</a>
	3.9 $\times$ 5 mm	<a href="#">186007684</a>
<b>C<sub>8</sub></b>	2.1 $\times$ 5 mm	<a href="#">186008421</a>
	3.9 $\times$ 5 mm	<a href="#">186008422</a>
<b>HILIC</b>	2.1 $\times$ 5 mm	<a href="#">186007688</a>
	3.9 $\times$ 5 mm	<a href="#">186007690</a>
<b>Phenyl</b>	2.1 $\times$ 5 mm	<a href="#">186008418</a>
	3.9 $\times$ 5 mm	<a href="#">186008419</a>
<b>Shield RP18</b>	2.1 $\times$ 5 mm	<a href="#">186008712</a>
	3.9 $\times$ 5 mm	<a href="#">186008711</a>
<b>T3</b>	2.1 $\times$ 5 mm	<a href="#">186008506</a>
	3.9 $\times$ 5 mm	<a href="#">186008507</a>

## Universal VanGuard Cartridge Holder

Description	P/N (1/pk)
Universal VanGuard Cartridge Holder	<a href="#">186007949</a>

## XBridge BEH *XP* Columns

XBridge BEH *XP* [eXtended Performance] Columns offer rugged and repeatable performance that maximize efficiency and retention for all HPLC and UHPLC separation conditions. The 2.5 µm particle columns are fully scalable and complement the full range of XBridge BEH particle sizes.



**i** Select XBridge MaxPeak Premier Columns can be found on [page 101](#).

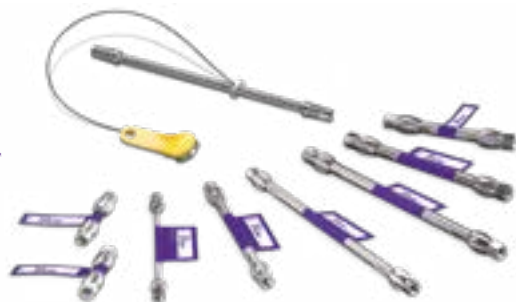
### Column Characteristics

	General-Purpose Columns			Application-Specific Columns		
	BEH C <sub>18</sub> <sup>®</sup> 130 Å	BEH C <sub>8</sub> <sup>®</sup> 130 Å	BEH Shield RP18, 130 Å	Peptide BEH C <sub>18</sub> <sup>®</sup> 130 Å	Peptide BEH C <sub>18</sub> <sup>®</sup> 300 Å	Protein BEH C <sub>8</sub> <sup>®</sup> 300 Å
	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5, 5, 10 µm	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5, 5, 10 µm	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5, 5, 10 µm	HPLC: 3.5, 5, 10 µm	HPLC: 3.5, 5, 10 µm	HPLC: 3.5 µm
Particle/Ligand						
Ligand Density*	3.1 µmol/m <sup>2</sup>	3.2 µmol/m <sup>2</sup>	3.3 µmol/m <sup>2</sup>	3.1 µmol/m <sup>2</sup>	3.1 µmol/m <sup>2</sup>	2.4 µmol/m <sup>2</sup>
Carbon Load*	18%	13%	17%	18%	12%	8%
Endcapped	Yes	Yes	Yes	Yes	Yes	No
USP Class No.	L1	L7	L1	L1	L1	L26
pH Range	1–12	1–12	2–11	1–12	1–12	1–10
Temperature Limits	Low pH = 80 °C, High pH = 60 °C	Low pH = 60 °C, High pH = 60 °C	Low pH = 50 °C, High pH = 45 °C	Low pH = 80 °C, High pH = 60 °C	Low pH = 80 °C, High pH = 60 °C	Low pH = 80 °C, High pH = 50 °C
Surface Area*	185 m <sup>2</sup> /g	185 m <sup>2</sup> /g	185 m <sup>2</sup> /g	185 m <sup>2</sup> /g	90 m <sup>2</sup> /g	90 m <sup>2</sup> /g
Performance Standards	Neutrals QC Reference Material p/n: <a href="#">186006360</a>	Neutrals QC Reference Material p/n: <a href="#">186006360</a>	Neutrals QC Reference Material p/n: <a href="#">186006360</a>	Cytochrome c Digestion Standard p/n: <a href="#">186006371</a>	Cytochrome c Digestion Standard p/n: <a href="#">186006371</a>	MassPREP Protein Standard Mix p/n: <a href="#">186004900</a>
Application Standards	Reversed-Phase QC Reference Material p/n: <a href="#">186006360</a>	Reversed-Phase QC Reference Material p/n: <a href="#">186006360</a>	Reversed-Phase QC Reference Material p/n: <a href="#">186006360</a>	Peptide Retention Standard p/n: <a href="#">186006555</a>	Peptide Retention Standard p/n: <a href="#">186006555</a>	—

BEH Technology is also available in UPLC particle sizes (ACQUITY UPLC BEH 1.7 µm), please refer to [page 96](#).

\*Expected or approximate value.

**i** For more information on XBridge BEH HPLC Columns, [refer to page 181](#).



Application-Specific Columns							
Protein BEH SEC, 125 Å	Protein BEH SEC, 200 Å	Protein BEH SEC, 450 Å	Oligonucleotide BEH C <sub>18</sub> , 130 Å	Glycan BEH Amide, 130 Å	BEH Phenyl, 130 Å	BEH HILIC, 130 Å	BEH Amide, 130 Å
HPLC: 3.5 µm	HPLC: 3.5 µm	HPLC: 3.5 µm	HPLC: 2.5 µm	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5 µm	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5, 5, 10 µm	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5 µm	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5 µm
4.9 µmol/m <sup>2</sup>	5.5 µmol/m <sup>2</sup>	4.8 µmol/m <sup>2</sup>	3.1 µmol/m <sup>2</sup>	7.5 µmol/m <sup>2</sup>	3.0 µmol/m <sup>2</sup>	N/A	7.5 µmol/m <sup>2</sup>
15%	12%	9%	18%	12%	15%	Unbonded	12%
No	No	No	Yes	No	Yes	N/A	No
L33	L33	L33	L1	L68	L11	L3	L68
1-8	1-8	1-8	1-12	2-11	1-12	1-9	2-11
Low pH = 60 °C, High pH = 60 °C	Low pH = 60 °C, High pH = 60 °C	Low pH = 60 °C, High pH = 60 °C	Low pH = 80 °C, High pH = 60 °C	Low pH = 90 °C, High pH = 90 °C	Low pH = 80 °C, High pH = 60 °C	Low pH = 45 °C, High pH = 45 °C	Low pH = 90 °C, High pH = 90 °C
395 m <sup>2</sup> /g	220 m <sup>2</sup> /g	80 m <sup>2</sup> /g	90 m <sup>2</sup> /g	185 m <sup>2</sup> /g	185 m <sup>2</sup> /g	185 m <sup>2</sup> /g	185 m <sup>2</sup> /g
<b>BEH 125 Protein Standard Mix</b> p/n: <a href="#">186006519</a>	<b>BEH200 SEC Protein Standard Mix</b> p/n: <a href="#">186006518</a>	<b>BEH450 SEC Protein Standard Mix</b> p/n: <a href="#">186006842</a>	<b>MassPREP OST Standard</b> p/n: <a href="#">186004135</a>	<b>HILIC QC Reference Material</b> p/n: <a href="#">186007226</a>	<b>Neutrals QC Reference Material</b> p/n: <a href="#">186006360</a>	<b>HILIC QC Reference Material</b> p/n: <a href="#">186007226</a>	<b>HILIC QC Reference Material</b> p/n: <a href="#">186007226</a>
—	—	—	—	—	<b>Reversed-Phase QC Reference Material</b> p/n: <a href="#">186006363</a>	—	—



**APPLICATION AREA:** Oligonucleotides (Preparation and Analytical)

"Gold standard for separation of oligos."

**REVIEWER:** Jan Zimmermann

**ORGANIZATION:** ADX

## Ordering Information

### XBridge Columns

ANALYTICAL COLUMNS						
Particle Size: 2.5 µm			Particle Size: 3.5 µm		Particle Size: 5 µm	
Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
2.1 × 30 mm <i>XP</i>	<a href="#">186006028</a>	<a href="#">176002546</a>	2.1 × 20 mm <i>JS</i>	<a href="#">186003019</a>	2.1 × 20 mm <i>JS</i>	<a href="#">186003107</a>
2.1 × 50 mm <i>XP</i>	<a href="#">186006029</a>	<a href="#">176002547</a>	2.1 × 30 mm	<a href="#">186003020</a>	2.1 × 30 mm	<a href="#">186003129</a>
2.1 × 75 mm <i>XP</i>	<a href="#">186006030</a>	<a href="#">176002548</a>	2.1 × 50 mm	<a href="#">186003021</a>	2.1 × 50 mm	<a href="#">186003108</a>
2.1 × 100 mm <i>XP</i>	<a href="#">186006031</a>	<a href="#">176002549</a>	2.1 × 100 mm	<a href="#">186003022</a>	2.1 × 100 mm	<a href="#">186003109</a>
2.1 × 150 mm <i>XP</i>	<a href="#">186006709</a>	<a href="#">176002879</a>	2.1 × 150 mm	<a href="#">186003023</a>	2.1 × 150 mm	<a href="#">186003110</a>
3.0 × 30 mm <i>XP</i>	<a href="#">186006032</a>	<a href="#">176002550</a>	3.0 × 30 mm	<a href="#">186003025</a>	3.0 × 30 mm	<a href="#">186003111</a>
3.0 × 50 mm <i>XP</i>	<a href="#">186006033</a>	<a href="#">176002551</a>	3.0 × 50 mm	<a href="#">186003026</a>	3.0 × 50 mm	<a href="#">186003131</a>
3.0 × 75 mm <i>XP</i>	<a href="#">186006034</a>	<a href="#">176002552</a>	3.0 × 100 mm	<a href="#">186003027</a>	3.0 × 100 mm	<a href="#">186003132</a>
3.0 × 100 mm <i>XP</i>	<a href="#">186006035</a>	<a href="#">176002553</a>	3.0 × 150 mm	<a href="#">186003028</a>	3.0 × 150 mm	<a href="#">186003112</a>
3.0 × 150 mm <i>XP</i>	<a href="#">186006710</a>	<a href="#">176002880</a>	4.6 × 30 mm	<a href="#">186003030</a>	3.0 × 250 mm	<a href="#">186003133</a>
4.6 × 30 mm <i>XP</i>	<a href="#">186006036</a>	—	4.6 × 50 mm	<a href="#">186003031</a>	4.6 × 30 mm	<a href="#">186003135</a>
4.6 × 50 mm <i>XP</i>	<a href="#">186006037</a>	—	4.6 × 75 mm	<a href="#">186003032</a>	4.6 × 50 mm	<a href="#">186003113</a>
4.6 × 75 mm <i>XP</i>	<a href="#">186006038</a>	—	4.6 × 100 mm	<a href="#">186003033</a>	4.6 × 75 mm	<a href="#">186003114</a>
4.6 × 100 mm <i>XP</i>	<a href="#">186006039</a>	—	4.6 × 150 mm	<a href="#">186003034</a>	4.6 × 100 mm	<a href="#">186003115</a>
4.6 × 150 mm <i>XP</i>	<a href="#">186006711</a>	—	4.6 × 250 mm	<a href="#">186003943</a>	4.6 × 150 mm	<a href="#">186003116</a>
					4.6 × 250 mm	<a href="#">186003117</a>

PREPARATIVE COLUMNS					
Particle Size: 5 µm			Particle Size: 10 µm		
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)
10 × 10 mm	Guard Cartridge	<a href="#">186002972</a> <sup>1</sup>	10 × 10 mm	Guard Cartridge	<a href="#">186003889</a> <sup>1</sup>
10 × 50 mm	OBD Column	<a href="#">186008164</a>	19 × 10 mm	Guard Cartridge	<a href="#">186003892</a> <sup>2</sup>
10 × 100 mm	OBD Column	<a href="#">186008165</a>	30 × 10 mm	Guard Cartridge	<a href="#">186006892</a> <sup>3</sup>
10 × 150 mm	OBD Column	<a href="#">186008166</a>	10 × 150 mm	OBD Column	<a href="#">186008210</a>
10 × 250 mm	OBD Column	<a href="#">186008167</a>	10 × 250 mm	OBD Column	<a href="#">186008211</a>
19 × 10 mm	Guard Cartridge	<a href="#">186002975</a> <sup>2</sup>	19 × 50 mm	OBD Column	<a href="#">186003893</a>
19 × 50 mm	OBD Column	<a href="#">186002977</a>	19 × 100 mm	OBD Column	<a href="#">186003901</a>
19 × 100 mm	OBD Column	<a href="#">186002978</a>	19 × 150 mm	OBD Column	<a href="#">186003894</a>
19 × 150 mm	OBD Column	<a href="#">186002979</a>	19 × 250 mm	OBD Column	<a href="#">186003895</a>
19 × 250 mm	OBD Column	<a href="#">186004021</a>	30 × 75 mm	OBD Column	<a href="#">186004711</a>
30 × 10 mm	Guard Cartridge	<a href="#">186006893</a> <sup>3</sup>	30 × 100 mm	OBD Column	<a href="#">186003930</a>
30 × 50 mm	OBD Column	<a href="#">186002980</a>	30 × 150 mm	OBD Column	<a href="#">186003896</a>
30 × 75 mm	OBD Column	<a href="#">186002981</a>	30 × 250 mm	OBD Column	<a href="#">186003897</a>
30 × 100 mm	OBD Column	<a href="#">186002982</a>	50 × 50 mm	OBD Column	<a href="#">186003898</a>
30 × 150 mm	OBD Column	<a href="#">186003284</a>	50 × 100 mm	OBD Column	<a href="#">186003902</a>
30 × 250 mm	OBD Column	<a href="#">186004025</a>	50 × 150 mm	OBD Column	<a href="#">186003899</a>
50 × 50 mm	OBD Column	<a href="#">186003933</a>	50 × 250 mm	OBD Column	<a href="#">186003900</a>
50 × 100 mm	OBD Column	<a href="#">186003937</a>			
50 × 150 mm	OBD Column	<a href="#">186003929</a>			
50 × 250 mm	OBD Column	<a href="#">186004107</a>			

<sup>1</sup> Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup> Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup> Requires 30 × 10 mm Prep Guard Holder, p/n: [186006912](#).



XBridge Columns *Continued*

BEH C <sub>8</sub>						
ANALYTICAL COLUMNS						
Particle Size: 2.5 µm			Particle Size: 3.5 µm		Particle Size: 5 µm	
Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
2.1 × 30 mm <i>XP</i>	<a href="#">186006040</a>	<a href="#">176002554</a>	2.1 × 30 mm	<a href="#">186003046</a>	2.1 × 30 mm	<a href="#">186003187</a>
2.1 × 50 mm <i>XP</i>	<a href="#">186006041</a>	<a href="#">176002555</a>	2.1 × 50 mm	<a href="#">186003047</a>	2.1 × 50 mm	<a href="#">186003011</a>
2.1 × 75 mm <i>XP</i>	<a href="#">186006042</a>	<a href="#">176002556</a>	2.1 × 100 mm	<a href="#">186003048</a>	2.1 × 100 mm	<a href="#">186003012</a>
2.1 × 100 mm <i>XP</i>	<a href="#">186006043</a>	<a href="#">176002557</a>	2.1 × 150 mm	<a href="#">186003049</a>	2.1 × 150 mm	<a href="#">186003013</a>
2.1 × 150 mm <i>XP</i>	<a href="#">186006712</a>	<a href="#">176002881</a>	3.0 × 30 mm	<a href="#">186003182</a>	3.0 × 30 mm	<a href="#">186003189</a>
3.0 × 30 mm <i>XP</i>	<a href="#">186006044</a>	<a href="#">176002558</a>	3.0 × 50 mm	<a href="#">186003050</a>	3.0 × 50 mm	<a href="#">186003190</a>
3.0 × 50 mm <i>XP</i>	<a href="#">186006045</a>	<a href="#">176002559</a>	3.0 × 100 mm	<a href="#">186003051</a>	3.0 × 100 mm	<a href="#">186003191</a>
3.0 × 75 mm <i>XP</i>	<a href="#">186006046</a>	<a href="#">176002560</a>	3.0 × 150 mm	<a href="#">186003052</a>	3.0 × 150 mm	<a href="#">186003014</a>
3.0 × 100 mm <i>XP</i>	<a href="#">186006047</a>	<a href="#">176002561</a>	4.6 × 30 mm	<a href="#">186003184</a>	3.0 × 250 mm	<a href="#">186003192</a>
3.0 × 150 mm <i>XP</i>	<a href="#">186006713</a>	<a href="#">176002882</a>	4.6 × 50 mm	<a href="#">186003053</a>	4.6 × 30 mm	<a href="#">186003194</a>
4.6 × 30 mm <i>XP</i>	<a href="#">186006048</a>	—	4.6 × 75 mm	<a href="#">186003185</a>	4.6 × 50 mm	<a href="#">186003015</a>
4.6 × 50 mm <i>XP</i>	<a href="#">186006049</a>	—	4.6 × 100 mm	<a href="#">186003054</a>	4.6 × 75 mm	<a href="#">186003195</a>
4.6 × 75 mm <i>XP</i>	<a href="#">186006050</a>	—	4.6 × 150 mm	<a href="#">186003055</a>	4.6 × 100 mm	<a href="#">186003016</a>
4.6 × 100 mm <i>XP</i>	<a href="#">186006051</a>	—	4.6 × 250 mm	<a href="#">186003963</a>	4.6 × 150 mm	<a href="#">186003017</a>
4.6 × 150 mm <i>XP</i>	<a href="#">186006714</a>	—			4.6 × 250 mm	<a href="#">186003018</a>
PREPARATIVE COLUMNS						
Particle Size: 5 µm			Particle Size: 10 µm			
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)	
10 × 10 mm	Guard Cartridge	<a href="#">186002991</a> <sup>1</sup>	10 × 10 mm	Guard Cartridge	<a href="#">186004003</a> <sup>1</sup>	
10 × 50 mm	OBD Column	<a href="#">186008172</a>	19 × 10 mm	Guard Cartridge	<a href="#">186004006</a> <sup>2</sup>	
10 × 100 mm	OBD Column	<a href="#">186008173</a>	30 × 10 mm	Guard Cartridge	<a href="#">186006894</a> <sup>3</sup>	
10 × 150 mm	OBD Column	<a href="#">186008174</a>	10 × 150 mm	OBD Column	<a href="#">186008215</a>	
10 × 250 mm	OBD Column	<a href="#">186008175</a>	10 × 250 mm	OBD Column	<a href="#">186008216</a>	
19 × 10 mm	Guard Cartridge	<a href="#">186002992</a> <sup>2</sup>	19 × 50 mm	OBD Column	<a href="#">186004007</a>	
19 × 50 mm	OBD Column	<a href="#">186002993</a>	19 × 100 mm	OBD Column	<a href="#">186004008</a>	
19 × 100 mm	OBD Column	<a href="#">186002994</a>	19 × 150 mm	OBD Column	<a href="#">186004009</a>	
19 × 150 mm	OBD Column	<a href="#">186002995</a>	19 × 250 mm	OBD Column	<a href="#">186004010</a>	
19 × 250 mm	OBD Column	<a href="#">186004023</a>	30 × 150 mm	OBD Column	<a href="#">186004011</a>	
30 × 10 mm	Guard Cartridge	<a href="#">186006895</a> <sup>3</sup>	30 × 250 mm	OBD Column	<a href="#">186004012</a>	
30 × 50 mm	OBD Column	<a href="#">186002996</a>	50 × 50 mm	OBD Column	<a href="#">186004013</a>	
30 × 75 mm	OBD Column	<a href="#">186003269</a>	50 × 100 mm	OBD Column	<a href="#">186004014</a>	
30 × 100 mm	OBD Column	<a href="#">186002997</a>	50 × 150 mm	OBD Column	<a href="#">186004015</a>	
30 × 150 mm	OBD Column	<a href="#">186003083</a>	50 × 250 mm	OBD Column	<a href="#">186004016</a>	
50 × 50 mm	OBD Column	<a href="#">186003934</a>				
50 × 100 mm	OBD Column	<a href="#">186003938</a>				

<sup>1</sup>Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30 × 10 mm Prep Guard Holder, p/n: [186006912](#).

BEH Shield RP18

ANALYTICAL COLUMNS						
Particle Size: 2.5 µm			Particle Size: 3.5 µm		Particle Size: 5 µm	
Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
2.1 × 30 mm <i>XP</i>	<a href="#">186006052</a>	<a href="#">176002562</a>	2.1 × 30 mm	<a href="#">186003035</a>	2.1 × 30 mm	<a href="#">186003157</a>
2.1 × 50 mm <i>XP</i>	<a href="#">186006053</a>	<a href="#">176002563</a>	2.1 × 50 mm	<a href="#">186003036</a>	2.1 × 50 mm	<a href="#">186002999</a>
2.1 × 75 mm <i>XP</i>	<a href="#">186006054</a>	<a href="#">176002564</a>	2.1 × 100 mm	<a href="#">186003037</a>	2.1 × 100 mm	<a href="#">186003002</a>
2.1 × 100 mm <i>XP</i>	<a href="#">186006055</a>	<a href="#">176002565</a>	2.1 × 150 mm	<a href="#">186003038</a>	2.1 × 150 mm	<a href="#">186003003</a>
2.1 × 150 mm <i>XP</i>	<a href="#">186006715</a>	<a href="#">176002883</a>	3.0 × 30 mm	<a href="#">186003153</a>	3.0 × 50 mm	<a href="#">186003160</a>
3.0 × 20 mm <i>IS</i>	<a href="#">186003140</a>	—	3.0 × 50 mm	<a href="#">186003039</a>	3.0 × 100 mm	<a href="#">186003004</a>
3.0 × 30 mm <i>XP</i>	<a href="#">186006056</a>	<a href="#">176002566</a>	3.0 × 100 mm	<a href="#">186003040</a>	3.0 × 150 mm	<a href="#">186003005</a>
3.0 × 50 mm <i>XP</i>	<a href="#">186006057</a>	<a href="#">176002567</a>	3.0 × 150 mm	<a href="#">186003041</a>	3.0 × 250 mm	<a href="#">186003161</a>
3.0 × 75 mm <i>XP</i>	<a href="#">186006058</a>	<a href="#">176002568</a>	4.6 × 30 mm	<a href="#">186003155</a>	4.6 × 50 mm	<a href="#">186003006</a>
3.0 × 100 mm <i>XP</i>	<a href="#">186006059</a>	<a href="#">176002569</a>	4.6 × 50 mm	<a href="#">186003042</a>	4.6 × 75 mm	<a href="#">186003007</a>
3.0 × 150 mm <i>XP</i>	<a href="#">186006716</a>	<a href="#">176002884</a>	4.6 × 75 mm	<a href="#">186003043</a>	4.6 × 100 mm	<a href="#">186003008</a>
4.6 × 20 mm <i>IS</i>	<a href="#">186003144</a>	—	4.6 × 100 mm	<a href="#">186003044</a>	4.6 × 150 mm	<a href="#">186003009</a>
4.6 × 30 mm <i>XP</i>	<a href="#">186006060</a>	—	4.6 × 150 mm	<a href="#">186003045</a>	4.6 × 250 mm	<a href="#">186003010</a>
4.6 × 50 mm <i>XP</i>	<a href="#">186006061</a>	—	4.6 × 250 mm	<a href="#">186003964</a>		
4.6 × 75 mm <i>XP</i>	<a href="#">186006062</a>	—				
4.6 × 100 mm <i>XP</i>	<a href="#">186006063</a>	—				
4.6 × 150 mm <i>XP</i>	<a href="#">186006717</a>	—				

PREPARATIVE COLUMNS					
Particle Size: 5 µm			Particle Size: 10 µm		
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)
10 × 10 mm	Guard Cartridge	<a href="#">186002983</a> <sup>1</sup>	10 × 10 mm	Guard Cartridge	<a href="#">186003988</a> <sup>1</sup>
10 × 50 mm	OBD Column	<a href="#">186008168</a>	19 × 10 mm	Guard Cartridge	<a href="#">186003991</a> <sup>2</sup>
10 × 100 mm	OBD Column	<a href="#">186008169</a>	30 × 10 mm	Guard Cartridge	<a href="#">186006897</a> <sup>3</sup>
10 × 150 mm	OBD Column	<a href="#">186008170</a>	10 × 150 mm	OBD Column	<a href="#">186008213</a>
10 × 250 mm	OBD Column	<a href="#">186008171</a>	10 × 250 mm	OBD Column	<a href="#">186008214</a>
19 × 10 mm	Guard Cartridge	<a href="#">186002984</a> <sup>2</sup>	19 × 50 mm	OBD Column	<a href="#">186003992</a>
19 × 50 mm	OBD Column	<a href="#">186002985</a>	19 × 100 mm	OBD Column	<a href="#">186003993</a>
19 × 100 mm	OBD Column	<a href="#">186002986</a>	19 × 150 mm	OBD Column	<a href="#">186003994</a>
19 × 150 mm	OBD Column	<a href="#">186002987</a>	19 × 250 mm	OBD Column	<a href="#">186003995</a>
19 × 250 mm	OBD Column	<a href="#">186004022</a>	30 × 150 mm	OBD Column	<a href="#">186003996</a>
30 × 10 mm	Guard Cartridge	<a href="#">186006898</a> <sup>3</sup>	30 × 250 mm	OBD Column	<a href="#">186003997</a>
30 × 50 mm	OBD Column	<a href="#">186002988</a>	50 × 50 mm	OBD Column	<a href="#">186003998</a>
30 × 75 mm	OBD Column	<a href="#">186003262</a>	50 × 100 mm	OBD Column	<a href="#">186003999</a>
30 × 100 mm	OBD Column	<a href="#">186002989</a>	50 × 150 mm	OBD Column	<a href="#">186004001</a>
30 × 150 mm	OBD Column	<a href="#">186002990</a>	50 × 250 mm	OBD Column	<a href="#">186004002</a>
50 × 50 mm	OBD Column	<a href="#">186003935</a>			
50 × 100 mm	OBD Column	<a href="#">186003939</a>			

<sup>1</sup> Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).  
<sup>2</sup> Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).  
<sup>3</sup> Requires 30 × 10 mm Prep Guard Holder, p/n: [186006912](#).

XBridge Columns *Continued*

BEH Phenyl

ANALYTICAL COLUMNS						
Particle Size: 2.5 µm			Particle Size: 3.5 µm		Particle Size: 5 µm	
Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
2.1 × 30 mm <i>XP</i>	<a href="#">186006064</a>	<a href="#">176002570</a>	2.1 × 30 mm	<a href="#">186003321</a>	2.1 × 50 mm	<a href="#">186003338</a>
2.1 × 50 mm <i>XP</i>	<a href="#">186006065</a>	<a href="#">176002571</a>	2.1 × 50 mm	<a href="#">186003322</a>	2.1 × 100 mm	<a href="#">186003339</a>
2.1 × 75 mm <i>XP</i>	<a href="#">186006066</a>	<a href="#">176002572</a>	2.1 × 100 mm	<a href="#">186003323</a>	2.1 × 150 mm	<a href="#">186003340</a>
2.1 × 100 mm <i>XP</i>	<a href="#">186006067</a>	<a href="#">176002573</a>	2.1 × 150 mm	<a href="#">186003324</a>	3.0 × 50 mm	<a href="#">186003343</a>
2.1 × 150 mm <i>XP</i>	<a href="#">186006718</a>	<a href="#">176002885</a>	3.0 × 50 mm	<a href="#">186003327</a>	3.0 × 100 mm	<a href="#">186003344</a>
3.0 × 30 mm <i>XP</i>	<a href="#">186006068</a>	<a href="#">176002574</a>	3.0 × 100 mm	<a href="#">186003328</a>	3.0 × 150 mm	<a href="#">186003345</a>
3.0 × 50 mm <i>XP</i>	<a href="#">186006069</a>	<a href="#">176002575</a>	3.0 × 150 mm	<a href="#">186003329</a>	3.0 × 250 mm	<a href="#">186003346</a>
3.0 × 75 mm <i>XP</i>	<a href="#">186006070</a>	<a href="#">176002576</a>	4.6 × 30 mm	<a href="#">186003331</a>	4.6 × 50 mm	<a href="#">186003349</a>
3.0 × 100 mm <i>XP</i>	<a href="#">186006071</a>	<a href="#">176002577</a>	4.6 × 50 mm	<a href="#">186003332</a>	4.6 × 75 mm	<a href="#">186003350</a>
3.0 × 150 mm <i>XP</i>	<a href="#">186006719</a>	<a href="#">176002886</a>	4.6 × 75 mm	<a href="#">186003333</a>	4.6 × 100 mm	<a href="#">186003351</a>
4.6 × 30 mm <i>XP</i>	<a href="#">186006072</a>	—	4.6 × 100 mm	<a href="#">186003334</a>	4.6 × 150 mm	<a href="#">186003352</a>
4.6 × 50 mm <i>XP</i>	<a href="#">186006073</a>	—	4.6 × 150 mm	<a href="#">186003335</a>	4.6 × 250 mm	<a href="#">186003353</a>
4.6 × 75 mm <i>XP</i>	<a href="#">186006074</a>	—	4.6 × 250 mm	<a href="#">186003965</a>		
4.6 × 100 mm <i>XP</i>	<a href="#">186006075</a>	—				
4.6 × 150 mm <i>XP</i>	<a href="#">186006720</a>	—				

PREPARATIVE COLUMNS		
Particle Size: 5 µm		
Dimension	Type	P/N (1/pk)
10 × 10 mm	Guard Cartridge	<a href="#">186003354</a> <sup>1</sup>
10 × 50 mm	OBD Column	<a href="#">186008176</a>
10 × 100 mm	OBD Column	<a href="#">186008177</a>
10 × 150 mm	OBD Column	<a href="#">186008178</a>
10 × 250 mm	OBD Column	<a href="#">186008179</a>
19 × 10 mm	Guard Cartridge	<a href="#">186003355</a> <sup>2</sup>
19 × 50 mm	OBD Column	<a href="#">186003356</a>
19 × 100 mm	OBD Column	<a href="#">186003357</a>
19 × 150 mm	OBD Column	<a href="#">186003358</a>
19 × 250 mm	OBD Column	<a href="#">186004024</a>
30 × 10 mm	Guard Cartridge	<a href="#">186006891</a> <sup>3</sup>
30 × 50 mm	OBD Column	<a href="#">186003277</a>
30 × 75 mm	OBD Column	<a href="#">186003278</a>
30 × 100 mm	OBD Column	<a href="#">186003279</a>
30 × 150 mm	OBD Column	<a href="#">186003276</a>
50 × 50 mm	OBD Column	<a href="#">186003936</a>
50 × 100 mm	OBD Column	<a href="#">186003940</a>

<sup>1</sup>Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30 × 10 mm Prep Guard Holder, p/n: [186006912](#).

BEH HILIC						
ANALYTICAL COLUMNS						
Particle Size: 2.5 $\mu$ m			Particle Size: 3.5 $\mu$ m		Particle Size: 5 $\mu$ m	
Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
2.1 $\times$ 30 mm <i>XP</i>	<a href="#">186006076</a>	<a href="#">176002578</a>	2.1 $\times$ 50 mm	<a href="#">186004432</a>	2.1 $\times$ 50 mm	<a href="#">186004444</a>
2.1 $\times$ 50 mm <i>XP</i>	<a href="#">186006077</a>	<a href="#">176002579</a>	2.1 $\times$ 100 mm	<a href="#">186004433</a>	2.1 $\times$ 100 mm	<a href="#">186004445</a>
2.1 $\times$ 75 mm <i>XP</i>	<a href="#">186006078</a>	<a href="#">176002580</a>	2.1 $\times$ 150 mm	<a href="#">186004434</a>	2.1 $\times$ 150 mm	<a href="#">186004446</a>
2.1 $\times$ 100 mm <i>XP</i>	<a href="#">186006079</a>	<a href="#">176002581</a>	3.0 $\times$ 100 mm	<a href="#">186004436</a>	3.0 $\times$ 100 mm	<a href="#">186004448</a>
2.1 $\times$ 150 mm <i>XP</i>	<a href="#">186006721</a>	<a href="#">176002887</a>	4.6 $\times$ 50 mm	<a href="#">186004439</a>	4.6 $\times$ 50 mm	<a href="#">186004451</a>
3.0 $\times$ 30 mm <i>XP</i>	<a href="#">186006080</a>	<a href="#">176002582</a>	4.6 $\times$ 100 mm	<a href="#">186004440</a>	4.6 $\times$ 100 mm	<a href="#">186004452</a>
3.0 $\times$ 50 mm <i>XP</i>	<a href="#">186006081</a>	<a href="#">176002583</a>	4.6 $\times$ 150 mm	<a href="#">186004441</a>	4.6 $\times$ 150 mm	<a href="#">186004453</a>
3.0 $\times$ 75 mm <i>XP</i>	<a href="#">186006082</a>	<a href="#">176002584</a>			4.6 $\times$ 250 mm	<a href="#">186004454</a>
3.0 $\times$ 100 mm <i>XP</i>	<a href="#">186006083</a>	<a href="#">176002585</a>				
3.0 $\times$ 150 mm <i>XP</i>	<a href="#">186006722</a>	<a href="#">176002888</a>				
4.6 $\times$ 30 mm <i>XP</i>	<a href="#">186006084</a>	—				
4.6 $\times$ 50 mm <i>XP</i>	<a href="#">186006085</a>	—				
4.6 $\times$ 75 mm <i>XP</i>	<a href="#">186006086</a>	—				
4.6 $\times$ 100 mm <i>XP</i>	<a href="#">186006087</a>	—				
4.6 $\times$ 150 mm <i>XP</i>	<a href="#">186006723</a>	—				
PREPARATIVE COLUMNS						
Particle Size: 5 $\mu$ m						
Dimension	Type	P/N (1/pk)				
10 $\times$ 10 mm	Guard Cartridge	<a href="#">186004720</a> <sup>1</sup>				
10 $\times$ 50 mm	OBD Column	<a href="#">186008217</a>				
10 $\times$ 100 mm	OBD Column	<a href="#">186008218</a>				
19 $\times$ 10 mm	Guard Cartridge	<a href="#">186004723</a> <sup>2</sup>				
19 $\times$ 50 mm	OBD Column	<a href="#">186004724</a>				
19 $\times$ 100 mm	OBD Column	<a href="#">186004725</a>				
19 $\times$ 150 mm	OBD Column	<a href="#">186004726</a>				
19 $\times$ 250 mm	OBD Column	<a href="#">186004730</a>				
30 $\times$ 10 mm	Guard Cartridge	<a href="#">186006896</a> <sup>3</sup>				
30 $\times$ 50 mm	OBD Column	<a href="#">186004727</a>				
30 $\times$ 100 mm	OBD Column	<a href="#">186004728</a>				
30 $\times$ 150 mm	OBD Column	<a href="#">186004729</a>				
30 $\times$ 250 mm	OBD Column	<a href="#">186004731</a>				
50 $\times$ 50 mm	OBD Column	<a href="#">186004732</a>				
50 $\times$ 100 mm	OBD Column	<a href="#">186004733</a>				
50 $\times$ 150 mm	OBD Column	<a href="#">186004734</a>				
50 $\times$ 250 mm	OBD Column	<a href="#">186004735</a>				

<sup>1</sup>Requires 10  $\times$  10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19  $\times$  10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30  $\times$  10 mm Prep Guard Holder, p/n: [186006912](#).

XBridge Columns *Continued*

BEH Amide						
ANALYTICAL COLUMNS						
Particle Size: 2.5 $\mu\text{m}$			Particle Size: 3.5 $\mu\text{m}$		Particle Size: 5 $\mu\text{m}$	
Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
2.1 $\times$ 30 mm <i>XP</i>	<a href="#">186006088</a>	<a href="#">176002586</a>	2.1 $\times$ 30 mm	<a href="#">186004858</a>	2.1 $\times$ 30 mm	<a href="#">186006587</a>
2.1 $\times$ 50 mm <i>XP</i>	<a href="#">186006089</a>	<a href="#">176002587</a>	2.1 $\times$ 50 mm	<a href="#">186004859</a>	2.1 $\times$ 50 mm	<a href="#">186006588</a>
2.1 $\times$ 75 mm <i>XP</i>	<a href="#">186006090</a>	<a href="#">176002588</a>	2.1 $\times$ 100 mm	<a href="#">186004860</a>	2.1 $\times$ 100 mm	<a href="#">186006589</a>
2.1 $\times$ 100 mm <i>XP</i>	<a href="#">186006091</a>	<a href="#">176002589</a>	2.1 $\times$ 150 mm	<a href="#">186004861</a>	2.1 $\times$ 150 mm	<a href="#">186006590</a>
2.1 $\times$ 150 mm <i>XP</i>	<a href="#">186006724</a>	<a href="#">176002889</a>	3.0 $\times$ 50 mm	<a href="#">186004863</a>	3.0 $\times$ 50 mm	<a href="#">186006591</a>
3.0 $\times$ 30 mm <i>XP</i>	<a href="#">186006092</a>	<a href="#">176002590</a>	3.0 $\times$ 100 mm	<a href="#">186004864</a>	3.0 $\times$ 100 mm	<a href="#">186006592</a>
3.0 $\times$ 50 mm <i>XP</i>	<a href="#">186006093</a>	<a href="#">176002591</a>	4.6 $\times$ 50 mm	<a href="#">186004867</a>	4.6 $\times$ 50 mm	<a href="#">186006593</a>
3.0 $\times$ 75 mm <i>XP</i>	<a href="#">186006094</a>	<a href="#">176002592</a>	4.6 $\times$ 100 mm	<a href="#">186004868</a>	4.6 $\times$ 100 mm	<a href="#">186006594</a>
3.0 $\times$ 100 mm <i>XP</i>	<a href="#">186006095</a>	<a href="#">176002593</a>	4.6 $\times$ 150 mm	<a href="#">186004869</a>	4.6 $\times$ 150 mm	<a href="#">186006595</a>
3.0 $\times$ 150 mm <i>XP</i>	<a href="#">186006725</a>	<a href="#">176002890</a>	4.6 $\times$ 250 mm	<a href="#">186004870</a>	4.6 $\times$ 250 mm	<a href="#">186006596</a>
4.6 $\times$ 30 mm <i>XP</i>	<a href="#">186006096</a>	—				
4.6 $\times$ 50 mm <i>XP</i>	<a href="#">186006097</a>	—				
4.6 $\times$ 75 mm <i>XP</i>	<a href="#">186006098</a>	—				
4.6 $\times$ 100 mm <i>XP</i>	<a href="#">186006099</a>	—				
4.6 $\times$ 150 mm <i>XP</i>	<a href="#">186006726</a>	—				
PREPARATIVE COLUMNS						
Particle Size: 5 $\mu\text{m}$						
Dimension	Type	P/N (1/pk)				
10 $\times$ 10 mm	Guard Cartridge	<a href="#">186006597</a> <sup>1</sup>				
10 $\times$ 50 mm	OBD Column	<a href="#">186008260</a>				
10 $\times$ 100 mm	OBD Column	<a href="#">186008261</a>				
10 $\times$ 150 mm	OBD Column	<a href="#">186008262</a>				
10 $\times$ 250 mm	OBD Column	<a href="#">186008263</a>				
19 $\times$ 10 mm	Guard Cartridge	<a href="#">186006598</a> <sup>2</sup>				
19 $\times$ 50 mm	OBD Column	<a href="#">186006603</a>				
19 $\times$ 100 mm	OBD Column	<a href="#">186006604</a>				
19 $\times$ 150 mm	OBD Column	<a href="#">186006605</a>				
19 $\times$ 250 mm	OBD Column	<a href="#">186006606</a>				
30 $\times$ 10 mm	Guard Cartridge	<a href="#">186006890</a> <sup>3</sup>				
30 $\times$ 50 mm	OBD Column	<a href="#">186006607</a>				
30 $\times$ 75 mm	OBD Column	<a href="#">186006608</a>				
30 $\times$ 100 mm	OBD Column	<a href="#">186006609</a>				
30 $\times$ 150 mm	OBD Column	<a href="#">186006610</a>				
30 $\times$ 250 mm	OBD Column	<a href="#">186006611</a>				

<sup>1</sup>Requires 10  $\times$  10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19  $\times$  10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30  $\times$  10 mm Prep Guard Holder, p/n: [186006912](#).

XBridge Columns *Continued*

Glycan BEH Amide, 130 Å	ANALYTICAL COLUMNS			
	Particle Size: 2.5 µm		Particle Size: 3.5 µm	
	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
	2.1 × 50 mm <i>XP</i>	<a href="#">186007263</a>	2.1 × 50 mm	<a href="#">186007502</a>
	2.1 × 100 mm <i>XP</i>	<a href="#">186007264</a>	2.1 × 100 mm	<a href="#">186007503</a>
	2.1 × 150 mm <i>XP</i>	<a href="#">186007265</a>	2.1 × 150 mm	<a href="#">186007504</a>
	3.0 × 30 mm <i>XP</i>	<a href="#">186008038</a>	4.6 × 50 mm	<a href="#">186007273</a>
	3.0 × 75 mm <i>XP</i>	<a href="#">186008039</a>	4.6 × 100 mm	<a href="#">186007274</a>
	3.0 × 150 mm <i>XP</i>	<a href="#">186008040</a>	4.6 × 150 mm	<a href="#">186007275</a>
	4.6 × 50 mm <i>XP</i>	<a href="#">186007268</a>	4.6 × 250 mm	<a href="#">186007276</a>
	4.6 × 100 mm <i>XP</i>	<a href="#">186007269</a>		
	4.6 × 150 mm <i>XP</i>	<a href="#">186007270</a>		

Peptide BEH C <sub>18</sub> , 130 Å	ANALYTICAL COLUMNS				PREPARATIVE COLUMNS					
	Particle Size: 3.5 µm		Particle Size: 5 µm		Particle Size: 5 µm			Particle Size: 10 µm		
	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)	Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)
	1.0 × 50 mm	<a href="#">186003560</a>	1.0 × 50 mm	<a href="#">186003571</a>	10 × 10 mm	Guard Cartridge	<a href="#">186004469</a> <sup>1</sup>	4.6 × 50 mm	OBD Column	<a href="#">186003648</a>
	1.0 × 100 mm	<a href="#">186003561</a>	1.0 × 100 mm	<a href="#">186003572</a>	10 × 50 mm	OBD Column	<a href="#">186008186</a>	4.6 × 100 mm	OBD Column	<a href="#">186003649</a>
	1.0 × 150 mm	<a href="#">186003562</a>	1.0 × 150 mm	<a href="#">186003573</a>	10 × 100 mm	OBD Column	<a href="#">186008187</a>	4.6 × 150 mm	OBD Column	<a href="#">186003650</a>
	2.1 × 50 mm	<a href="#">186003563</a>	2.1 × 50 mm	<a href="#">186003574</a>	10 × 150 mm	OBD Column	<a href="#">186008188</a>	4.6 × 250 mm	OBD Column	<a href="#">186003651</a>
	2.1 × 100 mm	<a href="#">186003564</a>	2.1 × 100 mm	<a href="#">186003575</a>	10 × 250 mm	OBD Column	<a href="#">186008189</a>	10 × 10 mm	Guard Cartridge	<a href="#">186004465</a> <sup>1</sup>
	2.1 × 150 mm	<a href="#">186003565</a>	2.1 × 150 mm	<a href="#">186003576</a>	19 × 10 mm	Guard Cartridge	<a href="#">186004468</a> <sup>2</sup>	10 × 50 mm	OBD Column	<a href="#">186008194</a>
	2.1 × 250 mm	<a href="#">186003566</a>	2.1 × 250 mm	<a href="#">186003577</a>	19 × 50 mm	OBD Column	<a href="#">186003586</a>	10 × 100 mm	OBD Column	<a href="#">186008195</a>
	4.6 × 50 mm	<a href="#">186003567</a>	4.6 × 50 mm	<a href="#">186003578</a>	19 × 100 mm	OBD Column	<a href="#">186003587</a>	10 × 150 mm	OBD Column	<a href="#">186008196</a>
	4.6 × 100 mm	<a href="#">186003568</a>	4.6 × 100 mm	<a href="#">186003579</a>	19 × 150 mm	OBD Column	<a href="#">186003945</a>	10 × 250 mm	OBD Column	<a href="#">186008197</a>
	4.6 × 150 mm	<a href="#">186003569</a>	4.6 × 150 mm	<a href="#">186003580</a>				19 × 10 mm	Guard Cartridge	<a href="#">186004464</a> <sup>2</sup>
	4.6 × 250 mm	<a href="#">186003570</a>	4.6 × 250 mm	<a href="#">186003581</a>				19 × 50 mm	OBD Column	<a href="#">186003656</a>
								19 × 150 mm	OBD Column	<a href="#">186003657</a>
								19 × 250 mm	OBD Column	<a href="#">186003658</a>
								30 × 50 mm	OBD Column	<a href="#">186003659</a>
								30 × 100 mm	OBD Column	<a href="#">186003660</a>
								30 × 150 mm	OBD Column	<a href="#">186003661</a>
								30 × 250 mm	OBD Column	<a href="#">186003662</a>

<sup>1</sup>Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).



**APPLICATION AREA:** Analyze Marine Biotoxins

"High quality and repeatability. We are accredited by ISO 17025. Great results and necessary for our Institute! The most important is the support and the seminars that Waters offers."

**REVIEWER:** Anna Safont

**ORGANIZATION:** IRTA

XBridge Columns *Continued*

Peptide BEH C<sub>18</sub>,  
300 Å

ANALYTICAL COLUMNS			
Particle Size: 2.5 µm		Particle Size: 3.5 µm	
Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
2.1 × 30 mm <i>XP</i>	<a href="#">186006028</a>	1.0 × 50 mm	<a href="#">186003604</a>
2.1 × 50 mm <i>XP</i>	<a href="#">186006029</a>	1.0 × 100 mm	<a href="#">186003605</a>
2.1 × 75 mm <i>XP</i>	<a href="#">186006030</a>	1.0 × 150 mm	<a href="#">186003606</a>
2.1 × 100 mm <i>XP</i>	<a href="#">186006031</a>	2.1 × 50 mm	<a href="#">186003607</a>
2.1 × 150 mm <i>XP</i>	<a href="#">186006709</a>	2.1 × 100 mm	<a href="#">186003608</a>
3.0 × 30 mm <i>XP</i>	<a href="#">186006032</a>	2.1 × 150 mm	<a href="#">186003609</a>
3.0 × 50 mm <i>XP</i>	<a href="#">186006033</a>	2.1 × 250 mm	<a href="#">186003610</a>
3.0 × 75 mm <i>XP</i>	<a href="#">186006034</a>	4.6 × 50 mm	<a href="#">186003611</a>
3.0 × 100 mm <i>XP</i>	<a href="#">186006035</a>	4.6 × 100 mm	<a href="#">186003612</a>
3.0 × 150 mm <i>XP</i>	<a href="#">186006710</a>	4.6 × 150 mm	<a href="#">186003613</a>
4.6 × 30 mm <i>XP</i>	<a href="#">186006036</a>	4.6 × 250 mm	<a href="#">186003614</a>
4.6 × 50 mm <i>XP</i>	<a href="#">186006037</a>		
4.6 × 75 mm <i>XP</i>	<a href="#">186006038</a>		
4.6 × 100 mm <i>XP</i>	<a href="#">186006039</a>		
4.6 × 150 mm <i>XP</i>	<a href="#">186006711</a>		

PREPARATIVE COLUMNS					
Particle Size: 5 µm			Particle Size: 10 µm		
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)
10 × 10 mm	Guard Cartridge	<a href="#">186004471</a> <sup>1</sup>	4.6 × 50 mm	OBD Column	<a href="#">186003663</a>
10 × 50 mm	OBD Column	<a href="#">186008190</a>	4.6 × 100 mm	OBD Column	<a href="#">186003664</a>
10 × 100 mm	OBD Column	<a href="#">186008191</a>	4.6 × 150 mm	OBD Column	<a href="#">186003665</a>
10 × 150 mm	OBD Column	<a href="#">186008192</a>	4.6 × 250 mm	OBD Column	<a href="#">186003666</a>
10 × 250 mm	OBD Column	<a href="#">186008193</a>	10 × 10 mm	Guard Cartridge	<a href="#">186004467</a> <sup>1</sup>
19 × 10 mm	Guard Cartridge	<a href="#">186004470</a> <sup>2</sup>	10 × 50 mm	OBD Column	<a href="#">186008198</a>
19 × 50 mm	OBD Column	<a href="#">186003630</a>	10 × 100 mm	OBD Column	<a href="#">186008199</a>
19 × 100 mm	OBD Column	<a href="#">186003631</a>	10 × 150 mm	OBD Column	<a href="#">186008200</a>
19 × 150 mm	OBD Column	<a href="#">186003946</a>	10 × 250 mm	OBD Column	<a href="#">186008201</a>
			19 × 10 mm	Guard Cartridge	<a href="#">186004466</a> <sup>2</sup>
			19 × 50 mm	OBD Column	<a href="#">186003671</a>
			19 × 150 mm	OBD Column	<a href="#">186003672</a>
			19 × 250 mm	OBD Column	<a href="#">186003673</a>
			30 × 10 mm	Guard Cartridge	<a href="#">186006882</a> <sup>3</sup>
			30 × 50 mm	OBD Column	<a href="#">186003674</a>
			30 × 100 mm	OBD Column	<a href="#">186003675</a>
			30 × 150 mm	OBD Column	<a href="#">186003676</a>
			30 × 250 mm	OBD Column	<a href="#">186003677</a>

<sup>1</sup>Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30 × 10 mm Cartridge Holder, p/n: [186006912](#).

XBridge Columns *Continued*

Protein BEH C <sub>4</sub> , 300 Å	ANALYTICAL COLUMNS		PREPARATIVE COLUMNS					
	Particle Size: 3.5 µm		Particle Size: 5 µm			Particle Size: 10 µm		
	Dimension	P/N (1/pk)	Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)
	2.1 × 50 mm	<a href="#">186004498</a>	10 × 10 mm	Guard Cartridge	<a href="#">186007305</a> <sup>1</sup>	10 × 10 mm	Guard Cartridge	<a href="#">186007325</a> <sup>1</sup>
	2.1 × 100 mm	<a href="#">186004499</a>	10 × 50 mm	OBD Column	<a href="#">186008272</a>	10 × 50 mm	OBD Column	<a href="#">186008276</a>
	2.1 × 150 mm	<a href="#">186004500</a>	10 × 100 mm	OBD Column	<a href="#">186008273</a>	10 × 100 mm	OBD Column	<a href="#">186008277</a>
	2.1 × 250 mm	<a href="#">186004501</a>	10 × 150 mm	OBD Column	<a href="#">186008274</a>	10 × 150 mm	OBD Column	<a href="#">186008278</a>
	4.6 × 50 mm	<a href="#">186004502</a>	10 × 250 mm	OBD Column	<a href="#">186008275</a>	10 × 250 mm	OBD Column	<a href="#">186008279</a>
	4.6 × 100 mm	<a href="#">186004503</a>	19 × 10 mm	Guard Cartridge	<a href="#">186007310</a> <sup>2</sup>	19 × 10 mm	Guard Cartridge	<a href="#">186007330</a> <sup>2</sup>
	4.6 × 150 mm	<a href="#">186004504</a>	19 × 50 mm	OBD Column	<a href="#">186007311</a>	19 × 50 mm	OBD Column	<a href="#">186007331</a>
	4.6 × 250 mm	<a href="#">186004505</a>	19 × 100 mm	OBD Column	<a href="#">186007312</a>	19 × 100 mm	OBD Column	<a href="#">186007332</a>
			19 × 150 mm	OBD Column	<a href="#">186007313</a>	19 × 150 mm	OBD Column	<a href="#">186007333</a>
			19 × 250 mm	OBD Column	<a href="#">186007314</a>	19 × 250 mm	OBD Column	<a href="#">186007334</a>
			30 × 10 mm	Guard Cartridge	<a href="#">186007315</a> <sup>3</sup>	30 × 10 mm	Guard Cartridge	<a href="#">186007335</a> <sup>3</sup>
			30 × 50 mm	OBD Column	<a href="#">186007316</a>	30 × 50 mm	OBD Column	<a href="#">186007336</a>
			30 × 75 mm	OBD Column	<a href="#">186007317</a>	30 × 75 mm	OBD Column	<a href="#">186007337</a>
			30 × 100 mm	OBD Column	<a href="#">186007318</a>	30 × 100 mm	OBD Column	<a href="#">186007338</a>
			30 × 150 mm	OBD Column	<a href="#">186007319</a>	30 × 150 mm	OBD Column	<a href="#">186007339</a>
			30 × 250 mm	OBD Column	<a href="#">186007320</a>	30 × 250 mm	OBD Column	<a href="#">186007340</a>

Oligonucleotide BEH C <sub>18</sub> , 130 Å	PREPARATIVE COLUMNS		
	Particle Size: 2.5 µm		
	Dimension	Type	P/N (1/pk)
	10 × 50 mm	OBD Column	<a href="#">186008212</a>

<sup>1</sup>Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30 × 10 mm Prep Guard Holder, p/n: [186006912](#).



**APPLICATION AREA:** Analyte/Metabolite Analysis from Human Plasma Samples

"I've always been a big fan of XBridge columns. Their versatility across wide pH ranges and ruggedness to withstand thousands of injections is ideal for our fast paced CRO environment. High plate counts demonstrate great column efficiency allowing us the versatility to forgo UPLC applications. Column durability and applicability across highly variable analyte chemistries make XBridge columns very attractive for our workflows."

**REVIEWER:** Matthew Mascarié

**ORGANIZATION:** Syneos Health



XBridge Columns Method Validation Kits\*

	Particle Size: 2.5 $\mu$ m		Particle Size: 3.5 $\mu$ m		Particle Size: 5 $\mu$ m	
	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)
<b>BEH C<sub>18</sub></b>	2.1 $\times$ 50 mm <i>XP</i>	<a href="#">186006197</a>	2.1 $\times$ 100 mm	<a href="#">186003766</a>	2.1 $\times$ 150 mm	<a href="#">186003771</a>
	2.1 $\times$ 100 mm <i>XP</i>	<a href="#">186006198</a>	3.0 $\times$ 100 mm	<a href="#">186003767</a>	3.0 $\times$ 100 mm	<a href="#">186003772</a>
	2.1 $\times$ 150 mm <i>XP</i>	<a href="#">186006757</a>	3.0 $\times$ 150 mm	<a href="#">186003768</a>	3.0 $\times$ 150 mm	<a href="#">186003773</a>
	3.0 $\times$ 50 mm <i>XP</i>	<a href="#">186006199</a>	4.6 $\times$ 100 mm	<a href="#">186003769</a>	4.6 $\times$ 100 mm	<a href="#">186003774</a>
	3.0 $\times$ 100 mm <i>XP</i>	<a href="#">186006200</a>	4.6 $\times$ 150 mm	<a href="#">186003770</a>	4.6 $\times$ 150 mm	<a href="#">186003775</a>
	3.0 $\times$ 150 mm <i>XP</i>	<a href="#">186006758</a>			4.6 $\times$ 250 mm	<a href="#">186003776</a>
	4.6 $\times$ 50 mm <i>XP</i>	<a href="#">186006201</a>				
	4.6 $\times$ 100 mm <i>XP</i>	<a href="#">186006202</a>				
	4.6 $\times$ 150 mm <i>XP</i>	<a href="#">186006759</a>				
<b>BEH C<sub>8</sub></b>	2.1 $\times$ 50 mm <i>XP</i>	<a href="#">186006203</a>	2.1 $\times$ 100 mm	<a href="#">186003777</a>	2.1 $\times$ 150 mm	<a href="#">186003782</a>
	2.1 $\times$ 100 mm <i>XP</i>	<a href="#">186006204</a>	3.0 $\times$ 100 mm	<a href="#">186003778</a>	3.0 $\times$ 100 mm	<a href="#">186003783</a>
	2.1 $\times$ 150 mm <i>XP</i>	<a href="#">186006760</a>	3.0 $\times$ 150 mm	<a href="#">186003779</a>	3.0 $\times$ 150 mm	186003784
	3.0 $\times$ 50 mm <i>XP</i>	<a href="#">186006205</a>	4.6 $\times$ 100 mm	<a href="#">186003780</a>	4.6 $\times$ 100 mm	<a href="#">186003785</a>
	3.0 $\times$ 100 mm <i>XP</i>	<a href="#">186006206</a>	4.6 $\times$ 150 mm	<a href="#">186003781</a>	4.6 $\times$ 150 mm	<a href="#">186003786</a>
	3.0 $\times$ 150 mm <i>XP</i>	<a href="#">186006761</a>			4.6 $\times$ 250 mm	<a href="#">186003787</a>
	4.6 $\times$ 50 mm <i>XP</i>	<a href="#">186006207</a>				
	4.6 $\times$ 100 mm <i>XP</i>	<a href="#">186006208</a>				
	4.6 $\times$ 150 mm <i>XP</i>	<a href="#">186006762</a>				
<b>BEH Shield RP18</b>	2.1 $\times$ 50 mm <i>XP</i>	<a href="#">186006209</a>	2.1 $\times$ 100 mm	<a href="#">186003788</a>	2.1 $\times$ 150 mm	<a href="#">186003793</a>
	2.1 $\times$ 100 mm <i>XP</i>	<a href="#">186006210</a>	3.0 $\times$ 100 mm	<a href="#">186003789</a>	3.0 $\times$ 100 mm	186003794
	2.1 $\times$ 150 mm <i>XP</i>	<a href="#">186006763</a>	3.0 $\times$ 150 mm	<a href="#">186003790</a>	3.0 $\times$ 150 mm	<a href="#">186003795</a>
	3.0 $\times$ 50 mm <i>XP</i>	<a href="#">186006211</a>	4.6 $\times$ 100 mm	<a href="#">186003791</a>	4.6 $\times$ 100 mm	<a href="#">186003796</a>
	3.0 $\times$ 100 mm <i>XP</i>	<a href="#">186006212</a>	4.6 $\times$ 150 mm	<a href="#">186003792</a>	4.6 $\times$ 150 mm	<a href="#">186003797</a>
	3.0 $\times$ 150 mm <i>XP</i>	<a href="#">186006774</a>			4.6 $\times$ 250 mm	<a href="#">186003798</a>
	4.6 $\times$ 50 mm <i>XP</i>	<a href="#">186006213</a>				
	4.6 $\times$ 100 mm <i>XP</i>	<a href="#">186006214</a>				
	4.6 $\times$ 150 mm <i>XP</i>	<a href="#">186006775</a>				
<b>BEH Phenyl</b>	2.1 $\times$ 50 mm <i>XP</i>	<a href="#">186006215</a>	2.1 $\times$ 100 mm	<a href="#">186003799</a>	2.1 $\times$ 150 mm	<a href="#">186003804</a>
	2.1 $\times$ 100 mm <i>XP</i>	<a href="#">186006216</a>	3.0 $\times$ 100 mm	<a href="#">186003800</a>	3.0 $\times$ 100 mm	<a href="#">186003805</a>
	2.1 $\times$ 150 mm <i>XP</i>	<a href="#">186006776</a>	3.0 $\times$ 150 mm	<a href="#">186003801</a>	3.0 $\times$ 150 mm	186003806
	3.0 $\times$ 50 mm <i>XP</i>	<a href="#">186006217</a>	4.6 $\times$ 100 mm	<a href="#">186003802</a>	4.6 $\times$ 100 mm	<a href="#">186003807</a>
	3.0 $\times$ 100 mm <i>XP</i>	<a href="#">186006218</a>	4.6 $\times$ 150 mm	<a href="#">186003803</a>	4.6 $\times$ 150 mm	<a href="#">186003808</a>
	3.0 $\times$ 150 mm <i>XP</i>	<a href="#">186006777</a>			4.6 $\times$ 250 mm	<a href="#">186003809</a>
	4.6 $\times$ 50 mm <i>XP</i>	<a href="#">186006219</a>				
	4.6 $\times$ 100 mm <i>XP</i>	<a href="#">186006220</a>				
	4.6 $\times$ 150 mm <i>XP</i>	<a href="#">186006778</a>				

\*Each Method Validation Kit contains 3 columns, each from a different batch.

XBridge Columns Method Validation Kits\* *Continued*

Particle Size: 2.5 µm		
	Dimension	P/N (3/pk)
HILIC	2.1 × 50 mm <i>XP</i>	<a href="#">186006221</a>
	2.1 × 100 mm <i>XP</i>	<a href="#">186006222</a>
	2.1 × 150 mm <i>XP</i>	<a href="#">186006779</a>
	3.0 × 50 mm <i>XP</i>	<a href="#">186006223</a>
	3.0 × 100 mm <i>XP</i>	<a href="#">186006224</a>
	3.0 × 150 mm <i>XP</i>	<a href="#">186006780</a>
	4.6 × 50 mm <i>XP</i>	<a href="#">186006225</a>
	4.6 × 100 mm <i>XP</i>	<a href="#">186006226</a>
	4.6 × 150 mm <i>XP</i>	<a href="#">186006781</a>

\*Each Method Validation Kit contains 3 columns, each from a different batch.

Particle Size: 2.5 µm			
	Dimension	P/N (3/pk)	
Amide	2.1 × 50 mm <i>XP</i>	<a href="#">186006227</a>	
	2.1 × 100 mm <i>XP</i>	<a href="#">186006228</a>	
	2.1 × 150 mm <i>XP</i>	<a href="#">186006782</a>	
	3.0 × 50 mm <i>XP</i>	<a href="#">186006229</a>	
	3.0 × 100 mm <i>XP</i>	<a href="#">186006230</a>	
	3.0 × 150 mm <i>XP</i>	<a href="#">186006783</a>	
	4.6 × 50 mm <i>XP</i>	<a href="#">186006231</a>	
	4.6 × 100 mm <i>XP</i>	<a href="#">186006232</a>	
		4.6 × 150 mm <i>XP</i>	<a href="#">186006784</a>
	Glycan BEH Amide, 130 Å	2.1 × 150 mm <i>XP</i>	<a href="#">186007266</a>
4.6 × 150 mm <i>XP</i>		<a href="#">186007271</a>	
Oligonucleotide BEH C <sub>18</sub> , 130 Å	4.6 × 50 mm	<a href="#">186004906</a>	

XBridge VanGuard Cartridges

	Particle Size: 2.5 µm		Particle Size: 3.5 µm		Particle Size: 5 µm	
	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)
BEH C <sub>18</sub>	2.1 × 5 mm <i>XP</i>	<a href="#">186007772</a>	2.1 × 5 mm	<a href="#">186007766</a>	2.1 × 5 mm	<a href="#">186007769</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007774</a>	3.9 × 5 mm	<a href="#">186007768</a>	3.9 × 5 mm	<a href="#">186007771</a>
BEH C <sub>8</sub>	2.1 × 5 mm <i>XP</i>	<a href="#">186007781</a>	2.1 × 5 mm	<a href="#">186007775</a>	2.1 × 5 mm	<a href="#">186007778</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007783</a>	3.9 × 5 mm	<a href="#">186007777</a>	3.9 × 5 mm	<a href="#">186007780</a>
BEH Shield RP18	2.1 × 5 mm <i>XP</i>	<a href="#">186007808</a>	2.1 × 5 mm	<a href="#">186007802</a>	2.1 × 5 mm	<a href="#">186007805</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007810</a>	3.9 × 5 mm	<a href="#">186007804</a>	3.9 × 5 mm	<a href="#">186007807</a>
BEH Phenyl	2.1 × 5 mm <i>XP</i>	<a href="#">186007799</a>	2.1 × 5 mm	<a href="#">186007793</a>	2.1 × 5 mm	<a href="#">186007796</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007801</a>	3.9 × 5 mm	<a href="#">186007795</a>	3.9 × 5 mm	<a href="#">186007798</a>
BEH HILIC	2.1 × 5 mm <i>XP</i>	<a href="#">186007790</a>	2.1 × 5 mm	<a href="#">186007784</a>	2.1 × 5 mm	<a href="#">186007787</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007792</a>	3.9 × 5 mm	<a href="#">186007786</a>	3.9 × 5 mm	<a href="#">186007789</a>
BEH Amide	2.1 × 5 mm <i>XP</i>	<a href="#">186007763</a>	2.1 × 5 mm	<a href="#">186007757</a>	2.1 × 5 mm	<a href="#">186007760</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007765</a>	3.9 × 5 mm	<a href="#">186007759</a>	3.9 × 5 mm	<a href="#">186007762</a>

Universal VanGuard Cartridge Holder

Description	P/N (1/pk)
Universal VanGuard Cartridge Holder	<a href="#">186007949</a>

## XSelect CSH *XP* and HSS *XP* Columns



For the method developer, columns that maximize separation selectivity are among the most powerful tools for influencing chromatographic behavior. The carefully chosen bonded ligands used for XSelect CSH *XP* and XSelect HSS *XP* Columns redefine the broadly selective phases tailored for modern UHPLC separations. With a selection of two base particle technologies combined with eight selectivity optimized bonded phases, XSelect Columns help reduce method development effort.



**i** Select XSelect CSH and HSS MaxPeak Premier Columns can be found on [page 101](#).

### Column Characteristics

	<b>CSH C<sub>18</sub><sup>+</sup> 130 Å</b>	<b>CSH Phenyl-Hexyl, 130 Å</b>	<b>CSH Fluoro-Phenyl, 130 Å</b>
	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5, 5, 10 µm	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5, 5 µm	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5, 5 µm
Particle/Ligand			
Ligand Density*	2.3 µmol/m <sup>2</sup>	2.3 µmol/m <sup>2</sup>	2.3 µmol/m <sup>2</sup>
Carbon Load*	15%	14%	10%
Endcapped	Yes	Yes	No
USP Class No.	L1	L11	L43
pH Range	1-11	1-11	1-8
Temperature Limits	Low pH = 80 °C, High pH = 45 °C	Low pH = 80 °C, High pH = 45 °C	Low pH = 60 °C, High pH = 45 °C
Surface Area*	185 m <sup>2</sup> /g	185 m <sup>2</sup> /g	185 m <sup>2</sup> /g
Performance Standards	Neutrals QC Reference Material p/n: <a href="#">186006360</a>	Neutrals QC Reference Material p/n: <a href="#">186006360</a>	Neutrals QC Reference Material p/n: <a href="#">186006360</a>
Application Standards	Reversed-Phase QC Reference Material p/n: <a href="#">186006363</a>	Reversed-Phase QC Reference Material p/n: <a href="#">186006363</a>	Reversed-Phase QC Reference Material p/n: <a href="#">186006363</a>

XSelect Columns are also available in UPLC particle sizes (ACQUITY UPLC CSH 1.7 µm and ACQUITY UPLC HSS 1.8 µm), [refer to pages 113 and 120](#).

\*Expected or approximate value.



**APPLICATION AREA:** Analyze PAH Metabolites in Water Samples

"The XSelect (column) has been very effective in proper chromatographic separation of OHPAHs."

**REVIEWER:** Lisandra Trine

**ORGANIZATION:** Oregon State University

**i** For more information on XSelect CSH and HSS HPLC Columns, [refer to page 196](#).

## Ordering Information

### XSelect CSH Columns

ANALYTICAL COLUMNS						
Particle Size: 2.5 $\mu$ m			Particle Size: 3.5 $\mu$ m		Particle Size: 5 $\mu$ m	
Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
2.1 $\times$ 30 mm <i>XP</i>	<a href="#">186006100</a>	<a href="#">176002594</a>	1.0 $\times$ 50 mm	<a href="#">186005249</a>	2.1 $\times$ 50 mm	<a href="#">186005274</a>
2.1 $\times$ 50 mm <i>XP</i>	<a href="#">186006101</a>	<a href="#">176002595</a>	1.0 $\times$ 150 mm	<a href="#">186005251</a>	2.1 $\times$ 100 mm	<a href="#">186005275</a>
2.1 $\times$ 75 mm <i>XP</i>	<a href="#">186006102</a>	<a href="#">176002596</a>	2.1 $\times$ 30 mm	<a href="#">186005254</a>	2.1 $\times$ 150 mm	<a href="#">186005276</a>
2.1 $\times$ 100 mm <i>XP</i>	<a href="#">186006103</a>	<a href="#">176002597</a>	2.1 $\times$ 50 mm	<a href="#">186005255</a>	3.0 $\times$ 30 mm	<a href="#">186005279</a>
2.1 $\times$ 150 mm <i>XP</i>	<a href="#">186006727</a>	<a href="#">176002891</a>	2.1 $\times$ 75 mm	<a href="#">186005644</a>	3.0 $\times$ 50 mm	<a href="#">186005280</a>
3.0 $\times$ 30 mm <i>XP</i>	<a href="#">186006104</a>	<a href="#">176002598</a>	2.1 $\times$ 100 mm	<a href="#">186005256</a>	3.0 $\times$ 100 mm	<a href="#">186005281</a>
3.0 $\times$ 50 mm <i>XP</i>	<a href="#">186006105</a>	<a href="#">176002599</a>	2.1 $\times$ 150 mm	<a href="#">186005257</a>	3.0 $\times$ 150 mm	<a href="#">186005282</a>
3.0 $\times$ 75 mm <i>XP</i>	<a href="#">186006106</a>	<a href="#">176002600</a>	3.0 $\times$ 30 mm	<a href="#">186005260</a>	3.0 $\times$ 250 mm	<a href="#">186005283</a>
3.0 $\times$ 100 mm <i>XP</i>	<a href="#">186006107</a>	<a href="#">176002601</a>	3.0 $\times$ 50 mm	<a href="#">186005261</a>	4.6 $\times$ 50 mm	<a href="#">186005287</a>
3.0 $\times$ 150 mm <i>XP</i>	<a href="#">186006728</a>	<a href="#">176002892</a>	3.0 $\times$ 75 mm	<a href="#">186005647</a>	4.6 $\times$ 100 mm	<a href="#">186005289</a>
4.6 $\times$ 30 mm <i>XP</i>	<a href="#">186006108</a>	—	3.0 $\times$ 100 mm	<a href="#">186005262</a>	4.6 $\times$ 150 mm	<a href="#">186005290</a>
4.6 $\times$ 50 mm <i>XP</i>	<a href="#">186006109</a>	—	3.0 $\times$ 150 mm	<a href="#">186005263</a>	4.6 $\times$ 250 mm	<a href="#">186005291</a>
4.6 $\times$ 75 mm <i>XP</i>	<a href="#">186006110</a>	—	4.6 $\times$ 50 mm	<a href="#">186005267</a>		
4.6 $\times$ 100 mm <i>XP</i>	<a href="#">186006111</a>	—	4.6 $\times$ 75 mm	<a href="#">186005268</a>		
4.6 $\times$ 150 mm <i>XP</i>	<a href="#">186006729</a>	—	4.6 $\times$ 100 mm	<a href="#">186005269</a>		
			4.6 $\times$ 150 mm	<a href="#">186005270</a>		

PREPARATIVE COLUMNS					
Particle Size: 5 $\mu$ m			Particle Size: 10 $\mu$ m		
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)
10 $\times$ 10 mm	Guard Cartridge	<a href="#">186005491</a> <sup>1</sup>	Guard Cartridge	10 $\times$ 10 mm	<a href="#">186007285</a>
10 $\times$ 50 mm	OBD Column	<a href="#">186008236</a>	OBD Column	10 $\times$ 50 mm	<a href="#">186008268</a>
10 $\times$ 100 mm	OBD Column	<a href="#">186008237</a>	OBD Column	10 $\times$ 100 mm	<a href="#">186008269</a>
10 $\times$ 150 mm	OBD Column	<a href="#">186008238</a>	OBD Column	10 $\times$ 150 mm	<a href="#">186008270</a>
10 $\times$ 250 mm	OBD Column	<a href="#">186008239</a>	OBD Column	10 $\times$ 250 mm	<a href="#">186008271</a>
19 $\times$ 10 mm	Guard Cartridge	<a href="#">186005418</a> <sup>2</sup>	Guard Cartridge	19 $\times$ 10 mm	<a href="#">186007290</a>
19 $\times$ 50 mm	OBD Column	<a href="#">186005420</a>	OBD Column	19 $\times$ 50 mm	<a href="#">186007291</a>
19 $\times$ 100 mm	OBD Column	<a href="#">186005421</a>	OBD Column	19 $\times$ 100 mm	<a href="#">186007292</a>
19 $\times$ 150 mm	OBD Column	<a href="#">186005422</a>	OBD Column	19 $\times$ 150 mm	<a href="#">186007293</a>
19 $\times$ 250 mm	OBD Column	<a href="#">186005492</a>	OBD Column	19 $\times$ 250 mm	<a href="#">186007294</a>
30 $\times$ 10 mm	Guard Cartridge	<a href="#">186006899</a> <sup>3</sup>	Guard Cartridge	30 $\times$ 10 mm	<a href="#">186007295</a>
30 $\times$ 50 mm	OBD Column	<a href="#">186005423</a>	OBD Column	30 $\times$ 50 mm	<a href="#">186007296</a>
30 $\times$ 75 mm	OBD Column	<a href="#">186005424</a>	OBD Column	30 $\times$ 75 mm	<a href="#">186007297</a>
30 $\times$ 100 mm	OBD Column	<a href="#">186005425</a>	OBD Column	30 $\times$ 100 mm	<a href="#">186007298</a>
30 $\times$ 150 mm	OBD Column	<a href="#">186005426</a>	OBD Column	30 $\times$ 150 mm	<a href="#">186007299</a>
30 $\times$ 250 mm	OBD Column	<a href="#">186005493</a>	OBD Column	30 $\times$ 250 mm	<a href="#">186007300</a>
50 $\times$ 50 mm	OBD Column	<a href="#">186005494</a>	OBD Column	50 $\times$ 50 mm	<a href="#">186007301</a>
50 $\times$ 100 mm	OBD Column	<a href="#">186005495</a>	OBD Column	50 $\times$ 100 mm	<a href="#">186007302</a>
50 $\times$ 150 mm	OBD Column	<a href="#">186005496</a>	OBD Column	50 $\times$ 150 mm	<a href="#">186007303</a>
50 $\times$ 250 mm	OBD Column	<a href="#">186005497</a>	OBD Column	50 $\times$ 250 mm	<a href="#">186007304</a>

<sup>1</sup>Requires 10  $\times$  10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19  $\times$  10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30  $\times$  10 mm Prep Guard Holder, p/n: [186006912](#).

XSelect CSH Columns *Continued*

CSH Fluoro-Phenyl	ANALYTICAL COLUMNS						
	Particle Size: 2.5 $\mu\text{m}$			Particle Size: 3.5 $\mu\text{m}$		Particle Size: 5 $\mu\text{m}$	
	Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
	2.1 $\times$ 30 mm <i>XP</i>	<a href="#">186006112</a>	<a href="#">176002602</a>	2.1 $\times$ 50 mm	<a href="#">186005310</a>	2.1 $\times$ 50 mm	<a href="#">186005329</a>
	2.1 $\times$ 50 mm <i>XP</i>	<a href="#">186006113</a>	<a href="#">176002603</a>	2.1 $\times$ 75 mm	<a href="#">186005646</a>	2.1 $\times$ 100 mm	<a href="#">186005330</a>
	2.1 $\times$ 75 mm <i>XP</i>	<a href="#">186006114</a>	<a href="#">176002604</a>	2.1 $\times$ 100 mm	<a href="#">186005311</a>	2.1 $\times$ 150 mm	<a href="#">186005331</a>
	2.1 $\times$ 100 mm <i>XP</i>	<a href="#">186006115</a>	<a href="#">176002605</a>	2.1 $\times$ 150 mm	<a href="#">186005312</a>	3.0 $\times$ 50 mm	<a href="#">186005335</a>
	2.1 $\times$ 150 mm <i>XP</i>	<a href="#">186006730</a>	<a href="#">176002893</a>	3.0 $\times$ 50 mm	<a href="#">186005316</a>	3.0 $\times$ 100 mm	<a href="#">186005336</a>
	3.0 $\times$ 30 mm <i>XP</i>	<a href="#">186006116</a>	<a href="#">176002606</a>	3.0 $\times$ 75 mm	<a href="#">186005649</a>	3.0 $\times$ 150 mm	<a href="#">186005337</a>
	3.0 $\times$ 50 mm <i>XP</i>	<a href="#">186006117</a>	<a href="#">176002607</a>	3.0 $\times$ 100 mm	<a href="#">186005317</a>	3.0 $\times$ 250 mm	186005338
	3.0 $\times$ 75 mm <i>XP</i>	<a href="#">186006118</a>	<a href="#">176002608</a>	3.0 $\times$ 150 mm	<a href="#">186005318</a>	4.6 $\times$ 50 mm	<a href="#">186005342</a>
	3.0 $\times$ 100 mm <i>XP</i>	<a href="#">186006119</a>	<a href="#">176002609</a>	4.6 $\times$ 50 mm	<a href="#">186005322</a>	4.6 $\times$ 75 mm	<a href="#">186005343</a>
	3.0 $\times$ 150 mm <i>XP</i>	<a href="#">186006731</a>	<a href="#">176002894</a>	4.6 $\times$ 75 mm	<a href="#">186005323</a>	4.6 $\times$ 100 mm	<a href="#">186005344</a>
	4.6 $\times$ 30 mm <i>XP</i>	<a href="#">186006120</a>	—	4.6 $\times$ 100 mm	<a href="#">186005324</a>	4.6 $\times$ 150 mm	<a href="#">186005345</a>
	4.6 $\times$ 50 mm <i>XP</i>	<a href="#">186006121</a>	—	4.6 $\times$ 150 mm	<a href="#">186005325</a>	4.6 $\times$ 250 mm	<a href="#">186005346</a>
	4.6 $\times$ 75 mm <i>XP</i>	<a href="#">186006122</a>	—				
	4.6 $\times$ 100 mm <i>XP</i>	<a href="#">186006123</a>	—				
	4.6 $\times$ 150 mm <i>XP</i>	<a href="#">186006732</a>	—				
PREPARATIVE COLUMNS							
Particle Size: 5 $\mu\text{m}$							
Dimension	Type	P/N (1/pk)					
10 $\times$ 10 mm	Guard Cartridge	<a href="#">186005498</a> <sup>1</sup>					
10 $\times$ 50 mm	OBD Column	<a href="#">186008240</a>					
10 $\times$ 100 mm	OBD Column	<a href="#">186008241</a>					
10 $\times$ 150 mm	OBD Column	<a href="#">186008242</a>					
10 $\times$ 250 mm	OBD Column	<a href="#">186008243</a>					
19 $\times$ 10 mm	Guard Cartridge	<a href="#">186005431</a> <sup>2</sup>					
19 $\times$ 50 mm	OBD Column	<a href="#">186005433</a>					
19 $\times$ 100 mm	OBD Column	<a href="#">186005434</a>					
19 $\times$ 150 mm	OBD Column	<a href="#">186005435</a>					
19 $\times$ 250 mm	OBD Column	<a href="#">186005499</a>					
30 $\times$ 10 mm	Guard Cartridge	<a href="#">186006900</a> <sup>3</sup>					
30 $\times$ 50 mm	OBD Column	<a href="#">186005436</a>					
30 $\times$ 75 mm	OBD Column	<a href="#">186005437</a>					
30 $\times$ 100 mm	OBD Column	<a href="#">186005438</a>					
30 $\times$ 150 mm	OBD Column	<a href="#">186005439</a>					
30 $\times$ 250 mm	OBD Column	<a href="#">186005500</a>					
50 $\times$ 50 mm	OBD Column	<a href="#">186005501</a>					
50 $\times$ 100 mm	OBD Column	<a href="#">186005502</a>					
50 $\times$ 150 mm	OBD Column	<a href="#">186005503</a>					
50 $\times$ 250 mm	OBD Column	<a href="#">186005504</a>					

<sup>1</sup>Requires 10  $\times$  10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19  $\times$  10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30  $\times$  10 mm Prep Guard Holder, p/n: [186006912](#).

XSelect CSH Columns *Continued*

CSH Phenyl-Hexyl	ANALYTICAL COLUMNS						
	Particle Size: 2.5 µm			Particle Size: 3.5 µm		Particle Size: 5 µm	
	Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
	2.1 × 30 mm <i>XP</i>	<a href="#">186006124</a>	<a href="#">176002610</a>	2.1 × 50 mm	<a href="#">186005365</a>	2.1 × 50 mm	<a href="#">186005384</a>
	2.1 × 50 mm <i>XP</i>	<a href="#">186006125</a>	<a href="#">176002611</a>	2.1 × 75 mm	<a href="#">186005645</a>	2.1 × 100 mm	<a href="#">186005385</a>
	2.1 × 75 mm <i>XP</i>	<a href="#">186006126</a>	<a href="#">176002612</a>	2.1 × 100 mm	<a href="#">186005366</a>	2.1 × 150 mm	<a href="#">186005386</a>
	2.1 × 100 mm <i>XP</i>	<a href="#">186006127</a>	<a href="#">176002613</a>	2.1 × 150 mm	<a href="#">186005367</a>	3.0 × 50 mm	<a href="#">186005390</a>
	2.1 × 150 mm <i>XP</i>	<a href="#">186006733</a>	<a href="#">176002895</a>	3.0 × 50 mm	<a href="#">186005371</a>	3.0 × 100 mm	<a href="#">186005391</a>
	3.0 × 30 mm <i>XP</i>	<a href="#">186006128</a>	<a href="#">176002614</a>	3.0 × 75 mm	<a href="#">186005648</a>	3.0 × 150 mm	<a href="#">186005392</a>
	3.0 × 50 mm <i>XP</i>	<a href="#">186006129</a>	<a href="#">176002615</a>	3.0 × 100 mm	<a href="#">186005372</a>	3.0 × 250 mm	<a href="#">186005393</a>
	3.0 × 75 mm <i>XP</i>	<a href="#">186006130</a>	<a href="#">176002616</a>	3.0 × 150 mm	<a href="#">186005373</a>	4.6 × 50 mm	<a href="#">186005397</a>
	3.0 × 100 mm <i>XP</i>	<a href="#">186006131</a>	<a href="#">176002617</a>	4.6 × 50 mm	<a href="#">186005377</a>	4.6 × 75 mm	<a href="#">186005398</a>
	3.0 × 150 mm <i>XP</i>	<a href="#">186006734</a>	<a href="#">176002896</a>	4.6 × 75 mm	<a href="#">186005378</a>	4.6 × 100 mm	<a href="#">186005399</a>
	4.6 × 30 mm <i>XP</i>	<a href="#">186006132</a>	—	4.6 × 100 mm	<a href="#">186005379</a>	4.6 × 150 mm	<a href="#">186005400</a>
	4.6 × 50 mm <i>XP</i>	<a href="#">186006133</a>	—	4.6 × 150 mm	<a href="#">186005380</a>	4.6 × 250 mm	<a href="#">186005401</a>
	4.6 × 75 mm <i>XP</i>	<a href="#">186006134</a>	—				
	4.6 × 100 mm <i>XP</i>	<a href="#">186006135</a>	—				
	4.6 × 150 mm <i>XP</i>	<a href="#">186006735</a>	—				
PREPARATIVE COLUMNS							
Particle Size: 5 µm							
Dimension	Type	P/N (1/pk)					
10 × 10 mm	Guard Cartridge	<a href="#">186005505</a> <sup>1</sup>					
10 × 50 mm	OBD Column	<a href="#">186008244</a>					
10 × 100 mm	OBD Column	<a href="#">186008245</a>					
10 × 150 mm	OBD Column	<a href="#">186008246</a>					
10 × 250 mm	OBD Column	<a href="#">186008247</a>					
19 × 10 mm	Guard Cartridge	<a href="#">186005444</a> <sup>2</sup>					
19 × 50 mm	OBD Column	<a href="#">186005446</a>					
19 × 100 mm	OBD Column	<a href="#">186005447</a>					
19 × 150 mm	OBD Column	<a href="#">186005448</a>					
19 × 250 mm	OBD Column	<a href="#">186005506</a>					
30 × 10 mm	Guard Cartridge	<a href="#">186006901</a> <sup>3</sup>					
30 × 50 mm	OBD Column	<a href="#">186005520</a>					
30 × 75 mm	OBD Column	<a href="#">186005450</a>					
30 × 100 mm	OBD Column	<a href="#">186005451</a>					
30 × 150 mm	OBD Column	<a href="#">186005452</a>					
30 × 250 mm	OBD Column	<a href="#">186005507</a>					
50 × 50 mm	OBD Column	<a href="#">186005508</a>					
50 × 100 mm	OBD Column	<a href="#">186005509</a>					
50 × 150 mm	OBD Column	<a href="#">186005510</a>					
50 × 250 mm	OBD Column	<a href="#">186005511</a>					

<sup>1</sup>Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30 × 10 mm Prep Guard Holder, p/n: [186006912](#).

XSelect CSH Columns *Continued*

Peptide CSH C <sub>18</sub> , 130 Å					
ANALYTICAL COLUMNS					
Particle Size: 2.5 µm			Particle Size: 3.5 µm		
Dimension	P/N (1/pk)		Dimension	P/N (1/pk)	
2.1 × 50 mm <i>XP</i>	<a href="#">186006941</a>		2.1 × 50 mm	<a href="#">186006950</a>	
2.1 × 100 mm <i>XP</i>	<a href="#">186006942</a>		2.1 × 100 mm	<a href="#">186006951</a>	
2.1 × 150 mm <i>XP</i>	<a href="#">186006943</a>		2.1 × 150 mm	<a href="#">186006952</a>	
4.6 × 50 mm <i>XP</i>	<a href="#">186006946</a>		4.6 × 50 mm	<a href="#">186006955</a>	
4.6 × 100 mm <i>XP</i>	<a href="#">186006947</a>		4.6 × 100 mm	<a href="#">186006956</a>	
4.6 × 150 mm <i>XP</i>	<a href="#">186007038</a>		4.6 × 150 mm	<a href="#">186006957</a>	
PREPARATIVE COLUMNS					
Particle Size: 5 µm			Particle Size: 5 µm		
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)
4.6 × 50 mm	Column	<a href="#">186007076</a> <sup>4</sup>	19 × 250 mm	OBD Column	<a href="#">186007031</a>
4.6 × 100 mm	Column	<a href="#">186007077</a> <sup>4</sup>	30 × 50 mm	OBD Column	<a href="#">186007026</a>
4.6 × 150 mm	Column	<a href="#">186007078</a> <sup>4</sup>	30 × 100 mm	OBD Column	<a href="#">186007025</a>
10 × 10 mm	Guard	<a href="#">186007015</a> <sup>1</sup>	30 × 150 mm	OBD Column	<a href="#">186007023</a>
10 × 50 mm	OBD Column	<a href="#">186008264</a>	30 × 250 mm	OBD Column	<a href="#">186007024</a>
10 × 100 mm	OBD Column	<a href="#">186008265</a>	50 × 50 mm	OBD Column	<a href="#">186007030</a>
10 × 150 mm	OBD Column	<a href="#">186008266</a>	50 × 100 mm	OBD Column	<a href="#">186007027</a>
10 × 250 mm	OBD Column	<a href="#">186008267</a>	50 × 150 mm	OBD Column	<a href="#">186007028</a>
19 × 10 mm	Guard	<a href="#">186007019</a> <sup>3</sup>	50 × 250 mm	OBD Column	<a href="#">186007029</a>
19 × 50 mm	OBD Column	<a href="#">186007022</a>			
19 × 100 mm	OBD Column	<a href="#">186007020</a>			
19 × 150 mm	OBD Column	<a href="#">186007021</a>			

<sup>1</sup>Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

<sup>3</sup>Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).

<sup>4</sup>For use in developing lab-scale preparative chromatography.



**APPLICATION AREA:** HPLC Method Development

"The XSelect *XP* series of columns is definitely what you are looking for when seeking sharp peaks and great resolution with small particle size. The information provided with the column is easy to understand and utilize for best performance and the Waters staff is always willing to help in any way possible. I always have a few of these on hand and have developed multiple methods utilizing them!"

**REVIEWER:** Zahuindanda DeForrest

**ORGANIZATION:** Moses Lake Industries

XSelect CSH Columns Method Validation Kits\*

	Particle Size: 2.5 $\mu$ m		Particle Size: 3.5 $\mu$ m		Particle Size: 5 $\mu$ m	
	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)
<b>CSH C<sub>18</sub></b>	2.1 $\times$ 50 mm <i>XP</i>	<a href="#">186006233</a>	2.1 $\times$ 100 mm	<a href="#">186005538</a>	2.1 $\times$ 150 mm	<a href="#">186005543</a>
	2.1 $\times$ 100 mm <i>XP</i>	<a href="#">186006234</a>	3.0 $\times$ 100 mm	<a href="#">186005539</a>	3.0 $\times$ 100 mm	186005544
	2.1 $\times$ 150 mm <i>XP</i>	<a href="#">186006785</a>	3.0 $\times$ 150 mm	<a href="#">186005540</a>	3.0 $\times$ 150 mm	<a href="#">186005545</a>
	3.0 $\times$ 50 mm <i>XP</i>	<a href="#">186006235</a>	4.6 $\times$ 100 mm	<a href="#">186005541</a>	4.6 $\times$ 100 mm	<a href="#">186005546</a>
	3.0 $\times$ 100 mm <i>XP</i>	<a href="#">186006236</a>	4.6 $\times$ 150 mm	<a href="#">186005542</a>	4.6 $\times$ 150 mm	<a href="#">186005547</a>
	3.0 $\times$ 150 mm <i>XP</i>	<a href="#">186006786</a>			4.6 $\times$ 250 mm	<a href="#">186005548</a>
	4.6 $\times$ 50 mm <i>XP</i>	<a href="#">186006237</a>				
	4.6 $\times$ 100 mm <i>XP</i>	<a href="#">186006238</a>				
	4.6 $\times$ 150 mm <i>XP</i>	<a href="#">186006787</a>				
<b>CSH Fluoro-Phenyl</b>	2.1 $\times$ 50 mm <i>XP</i>	<a href="#">186006239</a>	2.1 $\times$ 100 mm	<a href="#">186005549</a>	2.1 $\times$ 150 mm	<a href="#">186005554</a>
	2.1 $\times$ 100 mm <i>XP</i>	<a href="#">186006240</a>	3.0 $\times$ 100 mm	186005550	3.0 $\times$ 100 mm	186005555
	2.1 $\times$ 150 mm <i>XP</i>	<a href="#">186006788</a>	3.0 $\times$ 150 mm	186005551	3.0 $\times$ 150 mm	<a href="#">186005556</a>
	3.0 $\times$ 50 mm <i>XP</i>	<a href="#">186006241</a>	4.6 $\times$ 100 mm	<a href="#">186005552</a>	4.6 $\times$ 100 mm	<a href="#">186005557</a>
	3.0 $\times$ 100 mm <i>XP</i>	<a href="#">186006242</a>	4.6 $\times$ 150 mm	<a href="#">186005553</a>	4.6 $\times$ 150 mm	<a href="#">186005558</a>
	3.0 $\times$ 150 mm <i>XP</i>	<a href="#">186006789</a>			4.6 $\times$ 250 mm	<a href="#">186005559</a>
	4.6 $\times$ 50 mm <i>XP</i>	<a href="#">186006243</a>				
	4.6 $\times$ 100 mm <i>XP</i>	<a href="#">186006244</a>				
		4.6 $\times$ 150 mm <i>XP</i>	<a href="#">186006790</a>			
<b>CSH Phenyl-Hexyl</b>	2.1 $\times$ 50 mm <i>XP</i>	<a href="#">186006245</a>	2.1 $\times$ 100 mm	<a href="#">186005560</a>	2.1 $\times$ 150 mm	<a href="#">186005565</a>
	2.1 $\times$ 100 mm <i>XP</i>	<a href="#">186006246</a>	3.0 $\times$ 100 mm	<a href="#">186005561</a>	3.0 $\times$ 100 mm	186005566
	2.1 $\times$ 150 mm <i>XP</i>	<a href="#">186006791</a>	3.0 $\times$ 150 mm	<a href="#">186005562</a>	3.0 $\times$ 150 mm	186005567
	3.0 $\times$ 50 mm <i>XP</i>	<a href="#">186006247</a>	4.6 $\times$ 100 mm	<a href="#">186005563</a>	4.6 $\times$ 100 mm	<a href="#">186005568</a>
	3.0 $\times$ 100 mm <i>XP</i>	<a href="#">186006248</a>	4.6 $\times$ 150 mm	<a href="#">186005564</a>	4.6 $\times$ 150 mm	<a href="#">186005569</a>
	3.0 $\times$ 150 mm <i>XP</i>	<a href="#">186006792</a>			4.6 $\times$ 250 mm	<a href="#">186005570</a>
	4.6 $\times$ 50 mm <i>XP</i>	<a href="#">186006249</a>				
	4.6 $\times$ 100 mm <i>XP</i>	<a href="#">186006250</a>				
	4.6 $\times$ 150 mm <i>XP</i>	<a href="#">186006793</a>				
<b>Peptide CSH C<sub>18</sub></b>	2.1 $\times$ 100 mm <i>XP</i>	<a href="#">186006945</a>	2.1 $\times$ 100 mm	<a href="#">186006953</a>		
	4.6 $\times$ 100 mm <i>XP</i>	<a href="#">186006966</a>	4.6 $\times$ 100 mm	<a href="#">186006959</a>		

\*Each Method Validation Kit contains 3 columns, each from a different batch.



## XSelect VanGuard Cartridges

	Particle Size: 2.5 µm		Particle Size: 3.5 µm		Particle Size: 5 µm	
	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)
CSH C <sub>18</sub>	2.1 × 5 mm <i>XP</i>	<a href="#">186007817</a>	2.1 × 5 mm	<a href="#">186007811</a>	2.1 × 5 mm	<a href="#">186007814</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007819</a>	3.9 × 5 mm	<a href="#">186007813</a>	3.9 × 5 mm	<a href="#">186007816</a>
CSH Fluoro-Phenyl	2.1 × 5 mm <i>XP</i>	<a href="#">186007827</a>	2.1 × 5 mm	<a href="#">186007820</a>	2.1 × 5 mm	<a href="#">186007824</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007829</a>	3.9 × 5 mm	<a href="#">186007822</a>	3.9 × 5 mm	<a href="#">186007826</a>
CSH Phenyl-Hexyl	2.1 × 5 mm <i>XP</i>	<a href="#">186007839</a>	2.1 × 5 mm	<a href="#">186007830</a>	2.1 × 5 mm	<a href="#">186007836</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007841</a>	3.9 × 5 mm	<a href="#">186007832</a>	3.9 × 5 mm	<a href="#">186007838</a>

## Universal VanGuard Cartridge Holder

Description	P/N (1/pk)
Universal VanGuard Cartridge Holder	<a href="#">186007949</a>

**APPLICATION AREA:** Analyze Main Product and Its Impurities

"Basically, XSelect (columns) saved my job. I couldn't separate main products of its impurities but with XSelect I have managed to do it. Peaks are sharp and well separated."

**REVIEWER:** Michał Irzyłowski

**ORGANIZATION:** OncoArendi Therapeutics SA



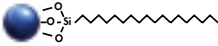
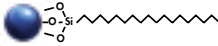
**APPLICATION AREA:** Pharmaceuticals and Metabolites

"This (XSelect *XP*) column has provided amazing and very reproducible results when coupling HPLC to MS. Great peak shapes and no retention time drifts after long batches of analysis."

**REVIEWER:** Javier Jimenez Villarin

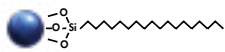
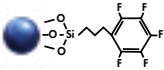
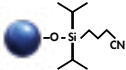
**ORGANIZATION:** University of Barcelona

Column Characteristics

	HSS C <sub>18</sub> r 100 Å	HSS C <sub>18</sub> SB, 100 Å
	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5, 5 µm	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5, 5 µm
Particle/Ligand		
Ligand Density*	3.2 µmol/m <sup>2</sup>	1.6 µmol/m <sup>2</sup>
Carbon Load*	15%	8%
Endcapped	Yes	No
USP Class No.	L1	L1
pH Range	1-8	2-8
Temperature Limits	Low pH = 45 °C, High pH = 45 °C	Low pH = 45 °C, High pH = 45 °C
Surface Area*	230 m <sup>2</sup> /g	230 m <sup>2</sup> /g
Performance Standards	<b>Neutrals QC Reference Material</b> p/n: <a href="#">186006360</a>	<b>Neutrals QC Reference Material</b> p/n: <a href="#">186006360</a>
Application Standards	<b>Reversed-Phase QC Reference Material</b> p/n: <a href="#">186006363</a>	<b>Reversed-Phase QC Reference Material</b> p/n: <a href="#">186006363</a>

The HSS Technology is available in UPLC particle sizes (ACQUITY UPLC HSS 1.8 µm).

\*Expected or approximate value.

HSS T3, 100 Å	HSS PFP, 100 Å	HSS CN, 100 Å
UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5, 5 µm	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5, 5 µm	UHPLC: 2.5 µm <i>XP</i> HPLC: 3.5, 5 µm
		
1.6 µmol/m <sup>2</sup>	3.2 µmol/m <sup>2</sup>	2.0 µmol/m <sup>2</sup>
11%	7%	5%
Yes	No	No
L1	L43	L10
2-8	2-8	2-8
Low pH = 45 °C, High pH = 45 °C	Low pH = 45 °C, High pH = 45 °C	Low pH = 45 °C, High pH = 45 °C
230 m <sup>2</sup> /g	230 m <sup>2</sup> /g	230 m <sup>2</sup> /g
<b>Neutrals QC Reference Material</b> p/n: <a href="#">186006360</a>	<b>Neutrals QC Reference Material</b> p/n: <a href="#">186006360</a>	<b>Neutrals QC Reference Material</b> p/n: <a href="#">186006360</a>
<b>Reversed-Phase QC Reference Material</b> p/n: <a href="#">186006363</a>	<b>Reversed-Phase QC Reference Material</b> p/n: <a href="#">186006363</a>	—

## Ordering Information

### XSelect HSS Columns

HSS C <sub>18</sub> ANALYTICAL COLUMNS						
Particle Size: 2.5 µm			Particle Size: 3.5 µm		Particle Size: 5 µm	
Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
2.1 × 30 mm <i>XP</i>	<a href="#">186006136</a>	<a href="#">176002618</a>	2.1 × 30 mm	<a href="#">186006380</a>	2.1 × 50 mm	<a href="#">186006391</a>
2.1 × 50 mm <i>XP</i>	<a href="#">186006137</a>	<a href="#">176002619</a>	2.1 × 50 mm	<a href="#">186006381</a>	2.1 × 100 mm	<a href="#">186006392</a>
2.1 × 75 mm <i>XP</i>	<a href="#">186006138</a>	<a href="#">176002620</a>	2.1 × 75 mm	<a href="#">186006382</a>	2.1 × 150 mm	<a href="#">186006393</a>
2.1 × 100 mm <i>XP</i>	<a href="#">186006139</a>	<a href="#">176002621</a>	2.1 × 100 mm	<a href="#">186006383</a>	3.0 × 50 mm	<a href="#">186006396</a>
2.1 × 150 mm <i>XP</i>	<a href="#">186006736</a>	<a href="#">176002897</a>	2.1 × 150 mm	<a href="#">186006384</a>	3.0 × 100 mm	<a href="#">186006397</a>
3.0 × 30 mm <i>XP</i>	<a href="#">186006140</a>	<a href="#">176002622</a>	3.0 × 30 mm	<a href="#">186004765</a>	3.0 × 150 mm	<a href="#">186006398</a>
3.0 × 50 mm <i>XP</i>	<a href="#">186006141</a>	<a href="#">176002623</a>	3.0 × 50 mm	<a href="#">186004766</a>	3.0 × 250 mm	<a href="#">186006399</a>
3.0 × 75 mm <i>XP</i>	<a href="#">186006142</a>	<a href="#">176002624</a>	3.0 × 75 mm	<a href="#">186005642</a>	4.6 × 50 mm	<a href="#">186004852</a>
3.0 × 100 mm <i>XP</i>	<a href="#">186006143</a>	<a href="#">176002625</a>	3.0 × 100 mm	<a href="#">186004762</a>	4.6 × 75 mm	<a href="#">186006402</a>
3.0 × 150 mm <i>XP</i>	<a href="#">186006737</a>	<a href="#">176002898</a>	3.0 × 150 mm	<a href="#">186004763</a>	4.6 × 100 mm	<a href="#">186006403</a>
4.6 × 30 mm <i>XP</i>	<a href="#">186006144</a>	—	4.6 × 50 mm	<a href="#">186004772</a>	4.6 × 150 mm	<a href="#">186004773</a>
4.6 × 50 mm <i>XP</i>	<a href="#">186006145</a>	—	4.6 × 75 mm	<a href="#">186006387</a>	4.6 × 250 mm	<a href="#">186004775</a>
4.6 × 75 mm <i>XP</i>	<a href="#">186006146</a>	—	4.6 × 100 mm	<a href="#">186004767</a>		
4.6 × 100 mm <i>XP</i>	<a href="#">186006147</a>	—	4.6 × 150 mm	<a href="#">186004768</a>		
4.6 × 150 mm <i>XP</i>	<a href="#">186006738</a>	—	4.6 × 250 mm	<a href="#">186004770</a>		

#### PREPARATIVE COLUMNS

Particle Size: 5 µm			Particle Size: 5 µm		
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)
10 × 10 mm	Guard Cartridge	<a href="#">186004776</a> <sup>1</sup>	10 × 100 mm	OBD Column	<a href="#">186008223</a>
10 × 50 mm	OBD Column	<a href="#">186008222</a>	10 × 150 mm	OBD Column	<a href="#">186008224</a>

### HSS C<sub>18</sub> SB

ANALYTICAL COLUMNS						
Particle Size: 2.5 µm			Particle Size: 3.5 µm		Particle Size: 5 µm	
Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
2.1 × 30 mm <i>XP</i>	<a href="#">186006160</a>	<a href="#">176002634</a>	2.1 × 50 mm	<a href="#">186006422</a>	2.1 × 50 mm	<a href="#">186006432</a>
2.1 × 50 mm <i>XP</i>	<a href="#">186006161</a>	<a href="#">176002635</a>	2.1 × 75 mm	<a href="#">186006423</a>	2.1 × 100 mm	<a href="#">186006433</a>
2.1 × 75 mm <i>XP</i>	<a href="#">186006162</a>	<a href="#">176002636</a>	2.1 × 100 mm	<a href="#">186006424</a>	2.1 × 150 mm	<a href="#">186006434</a>
2.1 × 100 mm <i>XP</i>	<a href="#">186006163</a>	<a href="#">176002637</a>	2.1 × 150 mm	<a href="#">186006425</a>	3.0 × 50 mm	<a href="#">186006437</a>
2.1 × 150 mm <i>XP</i>	<a href="#">186006742</a>	<a href="#">176002901</a>	3.0 × 50 mm	<a href="#">186004747</a>	3.0 × 100 mm	<a href="#">186006438</a>
3.0 × 30 mm <i>XP</i>	<a href="#">186006164</a>	<a href="#">176002638</a>	3.0 × 75 mm	186005643	3.0 × 150 mm	<a href="#">186006439</a>
3.0 × 50 mm <i>XP</i>	<a href="#">186006165</a>	<a href="#">176002639</a>	3.0 × 100 mm	<a href="#">186004743</a>	3.0 × 250 mm	<a href="#">186006440</a>
3.0 × 75 mm <i>XP</i>	<a href="#">186006166</a>	<a href="#">176002640</a>	3.0 × 150 mm	<a href="#">186004744</a>	4.6 × 50 mm	<a href="#">186004757</a>
3.0 × 100 mm <i>XP</i>	<a href="#">186006167</a>	<a href="#">176002641</a>	4.6 × 50 mm	<a href="#">186004753</a>	4.6 × 75 mm	<a href="#">186006443</a>
3.0 × 150 mm <i>XP</i>	<a href="#">186006743</a>	<a href="#">176002902</a>	4.6 × 75 mm	<a href="#">186006428</a>	4.6 × 100 mm	<a href="#">186006444</a>
4.6 × 30 mm <i>XP</i>	<a href="#">186006168</a>	—	4.6 × 100 mm	<a href="#">186004748</a>	4.6 × 150 mm	<a href="#">186004754</a>
4.6 × 50 mm <i>XP</i>	<a href="#">186006169</a>	—	4.6 × 150 mm	<a href="#">186004749</a>	4.6 × 250 mm	<a href="#">186004756</a>
4.6 × 75 mm <i>XP</i>	<a href="#">186006170</a>	—	4.6 × 250 mm	<a href="#">186004751</a>		
4.6 × 100 mm <i>XP</i>	<a href="#">186006171</a>	—				
4.6 × 150 mm <i>XP</i>	<a href="#">186006744</a>	—				

#### PREPARATIVE COLUMNS

Particle Size: 5 µm			Particle Size: 5 µm		
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)
10 × 10 mm	Guard Cartridge	<a href="#">186004758</a> <sup>1</sup>	10 × 100 mm	OBD Column	<a href="#">186008220</a>
10 × 50 mm	OBD Column	<a href="#">186008219</a>	10 × 150 mm	OBD Column	<a href="#">186008221</a>

<sup>1</sup> Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#). <sup>2</sup> Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#). <sup>3</sup> Requires 30 × 10 mm Prep Guard Holder, p/n: [186006912](#).

XSelect HSS Columns *Continued*

HSS T3						
ANALYTICAL COLUMNS						
Particle Size: 2.5 µm			Particle Size: 3.5 µm		Particle Size: 5 µm	
Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
2.1 × 30 mm <i>XP</i>	<a href="#">186006148</a>	<a href="#">176002626</a>	1.0 × 100 mm	<a href="#">186006459</a>	2.1 × 50 mm	<a href="#">186006473</a>
2.1 × 50 mm <i>XP</i>	<a href="#">186006149</a>	<a href="#">176002627</a>	1.0 × 150 mm	<a href="#">186006460</a>	2.1 × 100 mm	<a href="#">186006474</a>
2.1 × 75 mm <i>XP</i>	<a href="#">186006150</a>	<a href="#">176002628</a>	2.1 × 30 mm	<a href="#">186006462</a>	2.1 × 150 mm	<a href="#">186006475</a>
2.1 × 100 mm <i>XP</i>	<a href="#">186006151</a>	<a href="#">176002629</a>	2.1 × 50 mm	<a href="#">186006463</a>	3.0 × 50 mm	<a href="#">186006478</a>
2.1 × 150 mm <i>XP</i>	<a href="#">186006739</a>	<a href="#">176002899</a>	2.1 × 75 mm	<a href="#">186006464</a>	3.0 × 100 mm	<a href="#">186006479</a>
3.0 × 30 mm <i>XP</i>	<a href="#">186006152</a>	<a href="#">176002630</a>	2.1 × 100 mm	<a href="#">186006465</a>	3.0 × 150 mm	<a href="#">186006480</a>
3.0 × 50 mm <i>XP</i>	<a href="#">186006153</a>	<a href="#">176002631</a>	2.1 × 150 mm	<a href="#">186006466</a>	3.0 × 250 mm	<a href="#">186006481</a>
3.0 × 75 mm <i>XP</i>	<a href="#">186006154</a>	<a href="#">176002632</a>	3.0 × 30 mm	<a href="#">186004783</a>	4.6 × 50 mm	<a href="#">186004794</a>
3.0 × 100 mm <i>XP</i>	<a href="#">186006155</a>	<a href="#">176002633</a>	3.0 × 50 mm	<a href="#">186004784</a>	4.6 × 75 mm	<a href="#">186006484</a>
3.0 × 150 mm <i>XP</i>	<a href="#">186006740</a>	<a href="#">176002900</a>	3.0 × 75 mm	<a href="#">186005641</a>	4.6 × 100 mm	<a href="#">186006485</a>
4.6 × 30 mm <i>XP</i>	<a href="#">186006156</a>	—	3.0 × 100 mm	<a href="#">186004780</a>	4.6 × 150 mm	<a href="#">186004791</a>
4.6 × 50 mm <i>XP</i>	<a href="#">186006157</a>	—	3.0 × 150 mm	<a href="#">186004781</a>	4.6 × 250 mm	<a href="#">186004793</a>
4.6 × 75 mm <i>XP</i>	<a href="#">186006158</a>	—	4.6 × 50 mm	<a href="#">186004790</a>		
4.6 × 100 mm <i>XP</i>	<a href="#">186006159</a>	—	4.6 × 75 mm	<a href="#">186006469</a>		
4.6 × 150 mm <i>XP</i>	<a href="#">186006741</a>	—	4.6 × 100 mm	<a href="#">186004785</a>		
			4.6 × 150 mm	<a href="#">186004786</a>		
			4.6 × 250 mm	<a href="#">186004788</a>		
PREPARATIVE COLUMNS						
Particle Size: 5 µm			Particle Size: 5 µm			
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)	
10 × 10 mm	Guard Cartridge	<a href="#">186004795</a> <sup>1</sup>	10 × 150 mm	OBD Column	<a href="#">186008227</a>	
10 × 50 mm	OBD Column	<a href="#">186008225</a>	10 × 250 mm	OBD Column	<a href="#">186008280</a>	
10 × 100 mm	OBD Column	<a href="#">186008226</a>				

HSS PFP						
ANALYTICAL COLUMNS						
Particle Size: 2.5 µm			Particle Size: 3.5 µm		Particle Size: 5 µm	
Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
2.1 × 30 mm <i>XP</i>	<a href="#">186006172</a>	<a href="#">176002642</a>	2.1 × 50 mm	<a href="#">186005847</a>	2.1 × 50 mm	<a href="#">186005869</a>
2.1 × 50 mm <i>XP</i>	<a href="#">186006173</a>	<a href="#">176002643</a>	2.1 × 75 mm	<a href="#">186005848</a>	2.1 × 100 mm	<a href="#">186005871</a>
2.1 × 75 mm <i>XP</i>	<a href="#">186006174</a>	<a href="#">176002644</a>	2.1 × 100 mm	<a href="#">186005849</a>	2.1 × 150 mm	<a href="#">186005872</a>
2.1 × 100 mm <i>XP</i>	<a href="#">186006175</a>	<a href="#">176002645</a>	2.1 × 150 mm	<a href="#">186005850</a>	3.0 × 50 mm	<a href="#">186005875</a>
2.1 × 150 mm <i>XP</i>	<a href="#">186006745</a>	<a href="#">176002903</a>	3.0 × 30 mm	<a href="#">186005852</a>	3.0 × 100 mm	<a href="#">186005877</a>
3.0 × 30 mm <i>XP</i>	<a href="#">186006176</a>	<a href="#">176002646</a>	3.0 × 50 mm	<a href="#">186005853</a>	3.0 × 150 mm	<a href="#">186005878</a>
3.0 × 50 mm <i>XP</i>	<a href="#">186006177</a>	<a href="#">176002647</a>	3.0 × 75 mm	<a href="#">186005854</a>	3.0 × 250 mm	<a href="#">186005879</a>
3.0 × 75 mm <i>XP</i>	<a href="#">186006178</a>	<a href="#">176002648</a>	3.0 × 100 mm	<a href="#">186005855</a>	4.6 × 50 mm	<a href="#">186005882</a>
3.0 × 100 mm <i>XP</i>	<a href="#">186006179</a>	<a href="#">176002649</a>	3.0 × 150 mm	<a href="#">186005856</a>	4.6 × 75 mm	<a href="#">186005883</a>
3.0 × 150 mm <i>XP</i>	<a href="#">186006746</a>	<a href="#">176002904</a>	4.6 × 50 mm	<a href="#">186005859</a>	4.6 × 100 mm	<a href="#">186005884</a>
4.6 × 30 mm <i>XP</i>	<a href="#">186006180</a>	—	4.6 × 75 mm	<a href="#">186005860</a>	4.6 × 150 mm	<a href="#">186005885</a>
4.6 × 50 mm <i>XP</i>	<a href="#">186006181</a>	—	4.6 × 100 mm	<a href="#">186005861</a>	4.6 × 250 mm	<a href="#">186005886</a>
4.6 × 75 mm <i>XP</i>	<a href="#">186006182</a>	—	4.6 × 150 mm	<a href="#">186005862</a>		
4.6 × 100 mm <i>XP</i>	<a href="#">186006183</a>	—	4.6 × 250 mm	<a href="#">186005863</a>		
4.6 × 150 mm <i>XP</i>	<a href="#">186006747</a>	—				

<sup>1</sup>Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

XSelect HSS Columns *Continued*

HSS CN	ANALYTICAL COLUMNS						
	Particle Size: 2.5 µm			Particle Size: 3.5 µm		Particle Size: 5 µm	
	Dimension	P/N (1/pk)	P/N (3/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
	2.1 × 30 mm <i>XP</i>	<a href="#">186006184</a>	<a href="#">176002650</a>	2.1 × 50 mm	<a href="#">186005907</a>	2.1 × 50 mm	<a href="#">186005929</a>
	2.1 × 50 mm <i>XP</i>	<a href="#">186006185</a>	<a href="#">176002651</a>	2.1 × 75 mm	<a href="#">186005908</a>	2.1 × 100 mm	<a href="#">186005931</a>
	2.1 × 75 mm <i>XP</i>	<a href="#">186006186</a>	<a href="#">176002652</a>	2.1 × 100 mm	<a href="#">186005909</a>	2.1 × 150 mm	<a href="#">186005932</a>
	2.1 × 100 mm <i>XP</i>	<a href="#">186006187</a>	<a href="#">176002653</a>	2.1 × 150 mm	<a href="#">186005910</a>	3.0 × 50 mm	<a href="#">186005935</a>
	2.1 × 150 mm <i>XP</i>	<a href="#">186006748</a>	<a href="#">176002905</a>	3.0 × 50 mm	<a href="#">186005913</a>	3.0 × 100 mm	<a href="#">186005937</a>
	3.0 × 30 mm <i>XP</i>	<a href="#">186006188</a>	<a href="#">176002654</a>	3.0 × 75 mm	<a href="#">186005914</a>	3.0 × 150 mm	<a href="#">186005938</a>
	3.0 × 50 mm <i>XP</i>	<a href="#">186006189</a>	<a href="#">176002655</a>	3.0 × 100 mm	<a href="#">186005915</a>	3.0 × 250 mm	<a href="#">186005939</a>
	3.0 × 75 mm <i>XP</i>	<a href="#">186006190</a>	<a href="#">176002656</a>	3.0 × 150 mm	<a href="#">186005916</a>	4.6 × 50 mm	<a href="#">186005942</a>
	3.0 × 100 mm <i>XP</i>	<a href="#">186006191</a>	<a href="#">176002657</a>	4.6 × 50 mm	<a href="#">186005919</a>	4.6 × 75 mm	<a href="#">186005943</a>
	3.0 × 150 mm <i>XP</i>	<a href="#">186006749</a>	<a href="#">176002906</a>	4.6 × 75 mm	<a href="#">186005920</a>	4.6 × 100 mm	<a href="#">186005944</a>
	4.6 × 30 mm <i>XP</i>	<a href="#">186006192</a>	—	4.6 × 100 mm	<a href="#">186005921</a>	4.6 × 150 mm	<a href="#">186005945</a>
	4.6 × 50 mm <i>XP</i>	<a href="#">186006193</a>	—	4.6 × 150 mm	<a href="#">186005922</a>	4.6 × 250 mm	<a href="#">186005946</a>
	4.6 × 75 mm <i>XP</i>	<a href="#">186006194</a>	—	4.6 × 250 mm	<a href="#">186005923</a>		
	4.6 × 100 mm <i>XP</i>	<a href="#">186006195</a>	—				
	4.6 × 150 mm <i>XP</i>	<a href="#">186006750</a>	—				

Universal VanGuard Cartridge Holder

Description	P/N (1/pk)
Universal VanGuard Cartridge Holder	<a href="#">186007949</a>

XSelect HSS Columns Method Validation Kits\*

	Particle Size: 2.5 µm		Particle Size: 3.5 µm		Particle Size: 5 µm	
	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)
HSS C <sub>18</sub>	2.1 × 50 mm <i>XP</i>	<a href="#">186006251</a>	2.1 × 100 mm	<a href="#">186006406</a>	2.1 × 150 mm	<a href="#">186006411</a>
	2.1 × 100 mm <i>XP</i>	<a href="#">186006252</a>	3.0 × 100 mm	186006407	3.0 × 100 mm	186006412
	2.1 × 150 mm <i>XP</i>	<a href="#">186006794</a>	3.0 × 150 mm	186006408	3.0 × 150 mm	186006413
	3.0 × 50 mm <i>XP</i>	<a href="#">186006253</a>	4.6 × 100 mm	<a href="#">186006409</a>	4.6 × 100 mm	<a href="#">186006414</a>
	3.0 × 100 mm <i>XP</i>	<a href="#">186006254</a>	4.6 × 150 mm	<a href="#">186006410</a>	4.6 × 150 mm	<a href="#">186006415</a>
	3.0 × 150 mm <i>XP</i>	<a href="#">186006795</a>			4.6 × 250 mm	<a href="#">186006416</a>
	4.6 × 50 mm <i>XP</i>	<a href="#">186006255</a>				
	4.6 × 100 mm <i>XP</i>	<a href="#">186006256</a>				
	4.6 × 150 mm <i>XP</i>	<a href="#">186006796</a>				
HSS C <sub>18</sub> SB	2.1 × 50 mm <i>XP</i>	<a href="#">186006263</a>	2.1 × 100 mm	<a href="#">186006447</a>	2.1 × 150 mm	<a href="#">186006452</a>
	2.1 × 100 mm <i>XP</i>	<a href="#">186006264</a>	3.0 × 100 mm	186006448	3.0 × 100 mm	186006453
	2.1 × 150 mm <i>XP</i>	<a href="#">186006800</a>	3.0 × 150 mm	<a href="#">186006449</a>	3.0 × 150 mm	186006454
	3.0 × 50 mm <i>XP</i>	<a href="#">186006265</a>	4.6 × 100 mm	<a href="#">186006450</a>	4.6 × 100 mm	<a href="#">186006455</a>
	3.0 × 100 mm <i>XP</i>	<a href="#">186006266</a>	4.6 × 150 mm	<a href="#">186006451</a>	4.6 × 150 mm	<a href="#">186006456</a>
	3.0 × 150 mm <i>XP</i>	<a href="#">186006801</a>			4.6 × 250 mm	<a href="#">186006457</a>
	4.6 × 50 mm <i>XP</i>	<a href="#">186006267</a>				
	4.6 × 100 mm <i>XP</i>	<a href="#">186006268</a>				
	4.6 × 150 mm <i>XP</i>	<a href="#">186006802</a>				

\*Each Method Validation Kit contains 3 columns, each from a different batch.

XSelect HSS Columns Method Validation Kits\* *Continued*

	Particle Size: 2.5 µm		Particle Size: 3.5 µm		Particle Size: 5 µm	
	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)
<b>HSS T3</b>	2.1 × 50 mm <i>XP</i>	<a href="#">186006257</a>	2.1 × 100 mm	<a href="#">186006488</a>	2.1 × 150 mm	<a href="#">186006493</a>
	2.1 × 100 mm <i>XP</i>	<a href="#">186006258</a>	3.0 × 100 mm	<a href="#">186006489</a>	3.0 × 100 mm	186006494
	2.1 × 150 mm <i>XP</i>	<a href="#">186006797</a>	3.0 × 150 mm	<a href="#">186006490</a>	3.0 × 150 mm	186006495
	3.0 × 50 mm <i>XP</i>	<a href="#">186006259</a>	4.6 × 100 mm	<a href="#">186006491</a>	4.6 × 100 mm	<a href="#">186006496</a>
	3.0 × 100 mm <i>XP</i>	<a href="#">186006260</a>	4.6 × 150 mm	<a href="#">186006492</a>	4.6 × 150 mm	<a href="#">186006497</a>
	3.0 × 150 mm <i>XP</i>	<a href="#">186006798</a>			4.6 × 250 mm	<a href="#">186006498</a>
	4.6 × 50 mm <i>XP</i>	<a href="#">186006261</a>				
	4.6 × 100 mm <i>XP</i>	<a href="#">186006262</a>				
	4.6 × 150 mm <i>XP</i>	<a href="#">186006799</a>				
<b>HSS PFP</b>	2.1 × 50 mm <i>XP</i>	<a href="#">186006815</a>	2.1 × 100 mm	<a href="#">186005890</a>	2.1 × 150 mm	186005895
	2.1 × 100 mm <i>XP</i>	<a href="#">186006816</a>	3.0 × 100 mm	186005891	3.0 × 100 mm	186005896
	2.1 × 150 mm <i>XP</i>	<a href="#">186006803</a>	3.0 × 150 mm	186005892	3.0 × 150 mm	186005897
	3.0 × 50 mm <i>XP</i>	<a href="#">186006817</a>	4.6 × 100 mm	186005893	4.6 × 100 mm	<a href="#">186005898</a>
	3.0 × 100 mm <i>XP</i>	<a href="#">186006818</a>	4.6 × 150 mm	<a href="#">186005894</a>	4.6 × 150 mm	<a href="#">186005899</a>
	3.0 × 150 mm <i>XP</i>	<a href="#">186006804</a>			4.6 × 250 mm	<a href="#">186005900</a>
	4.6 × 50 mm <i>XP</i>	<a href="#">186006273</a>				
	4.6 × 100 mm <i>XP</i>	<a href="#">186006274</a>				
		4.6 × 150 mm <i>XP</i>	<a href="#">186006805</a>			
	<b>HSS CN</b>	2.1 × 50 mm <i>XP</i>	<a href="#">186006275</a>	2.1 × 100 mm	<a href="#">186005950</a>	2.1 × 150 mm
2.1 × 100 mm <i>XP</i>		<a href="#">186006276</a>	3.0 × 100 mm	186005951	3.0 × 100 mm	<a href="#">186005956</a>
2.1 × 150 mm <i>XP</i>		<a href="#">186006806</a>	3.0 × 150 mm	<a href="#">186005952</a>	3.0 × 150 mm	186005957
3.0 × 50 mm <i>XP</i>		<a href="#">186006277</a>	4.6 × 100 mm	<a href="#">186005953</a>	4.6 × 100 mm	<a href="#">186005958</a>
3.0 × 100 mm <i>XP</i>		<a href="#">186006278</a>	4.6 × 150 mm	<a href="#">186005954</a>	4.6 × 150 mm	<a href="#">186005959</a>
3.0 × 150 mm <i>XP</i>		<a href="#">186006807</a>			4.6 × 250 mm	<a href="#">186005960</a>
4.6 × 50 mm <i>XP</i>		<a href="#">186006279</a>				
4.6 × 100 mm <i>XP</i>		<a href="#">186006280</a>				
	4.6 × 150 mm <i>XP</i>	<a href="#">186006808</a>				

\*Each Method Validation Kit contains 3 columns, each from a different batch.

XSelect HSS VanGuard Cartridges

	Particle Size: 2.5 µm		Particle Size: 3.5 µm		Particle Size: 5 µm	
	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)
<b>HSS C<sub>18</sub></b>	2.1 × 5 mm <i>XP</i>	<a href="#">186007857</a>	2.1 × 5 mm	<a href="#">186007851</a>	2.1 × 5 mm	<a href="#">186007854</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007859</a>	3.9 × 5 mm	<a href="#">186007853</a>	3.9 × 5 mm	<a href="#">186007856</a>
<b>HSS C<sub>18</sub> SB</b>	2.1 × 5 mm <i>XP</i>	<a href="#">186007848</a>	2.1 × 5 mm	<a href="#">186007842</a>	2.1 × 5 mm	<a href="#">186007845</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007850</a>	3.9 × 5 mm	<a href="#">186007844</a>	3.9 × 5 mm	<a href="#">186007847</a>
<b>HSS T3</b>	2.1 × 5 mm <i>XP</i>	<a href="#">186007884</a>	2.1 × 5 mm	<a href="#">186007878</a>	2.1 × 5 mm	<a href="#">186007881</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007886</a>	3.9 × 5 mm	<a href="#">186007880</a>	3.9 × 5 mm	<a href="#">186007883</a>
<b>HSS PFP</b>	2.1 × 5 mm <i>XP</i>	<a href="#">186007875</a>	2.1 × 5 mm	<a href="#">186007869</a>	2.1 × 5 mm	<a href="#">186007872</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007877</a>	3.9 × 5 mm	<a href="#">186007871</a>	3.9 × 5 mm	<a href="#">186007874</a>
<b>HSS CN</b>	2.1 × 5 mm <i>XP</i>	<a href="#">186007866</a>	2.1 × 5 mm	<a href="#">186007860</a>	2.1 × 5 mm	<a href="#">186007863</a>
	3.9 × 5 mm <i>XP</i>	<a href="#">186007868</a>	3.9 × 5 mm	<a href="#">186007862</a>	3.9 × 5 mm	<a href="#">186007865</a>

# MaxPeak™ Premier Columns Featuring MaxPeak High Performance Surfaces

Good chromatography is as much about preventing the interactions you don't want, as it is creating the ones you do.



## MaxPeak Premier Columns provide:

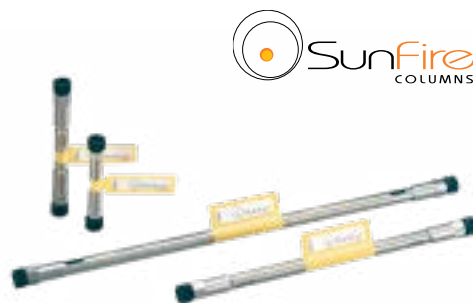
- Reduced column conditioning and passivation times
- Improved sensitivity and peak shapes
- Simpler mobile phases, without complex additives
- Time savings in method development
- Reduced risk and greater confidence in data and decision making

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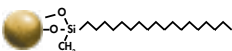
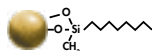


## SunFire Columns

SunFire™ Columns set the standard for state-of-the-art bonded C<sub>18</sub> and C<sub>8</sub> silica HPLC columns. Benefiting from years of research and product development, SunFire Columns represent the best in particle and bonding expertise and deliver the industry-leading level of chromatographic performance. The smaller 2.5 µm particle size allows chromatographers to gain improved sensitivity and greater efficiency. SunFire Columns with 2.5 µm particle size enable faster run times while maintaining the same resolution.



### Column Characteristics

	C <sub>18</sub> 100 Å	C <sub>8</sub> 100 Å
	HPLC: 2.5, 3.5, 5, 10 µm	HPLC: 2.5, 3.5, 5, 10 µm
Particle/Ligand		
Ligand Density*	3.5 µmol/m <sup>2</sup>	3.5 µmol/m <sup>2</sup>
Carbon Load*	16%	12%
Endcapped	Yes	Yes
USP Class No.	L1	L7
pH Range	2-8	2-8
Temperature Limits	Low pH = 50 °C, High pH = 40 °C	Low pH = 40 °C, High pH = 40 °C
Surface Area*	340 m <sup>2</sup> /g	340 m <sup>2</sup> /g
Performance Standards	Neutrals QC Reference Material p/n: <a href="#">186006360</a>	Neutrals QC Reference Material p/n: <a href="#">186006360</a>
Application Standards	Reversed-Phase QC Reference Material p/n: <a href="#">186006363</a>	Reversed-Phase QC Reference Material p/n: <a href="#">186006363</a> HILIC QC Reference Material p/n: <a href="#">186007226</a>

SunFire HPLC Columns are rated for pressures up to 6000 psi (410 bar).

\*Expected or approximate value.



**APPLICATION AREA:** Analyze Small Molecules from Engineered Bacterial Fermentation Broth

"The column is very easy to use and the separation reproduces very well from run to run. The separation of small molecules is great with very sharp peaks. This is a very good C<sub>18</sub> column as well as XBridge C<sub>18</sub> column for isolating small molecules."

**REVIEWER:** Ende Pan

**ORGANIZATION:** Warp Drive Bio

 For more information on SunFire Columns, [refer to page 211](#).

SunFire Columns

ANALYTICAL COLUMNS						
Particle Size: 2.5 µm*			Particle Size: 3.5 µm		Particle Size: 5 µm	
Dimension	P/N (1/pk)		Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
2.1 × 30 mm	<a href="#">186003399</a>		2.1 × 50 mm	<a href="#">186002533</a>	2.1 × 50 mm	<a href="#">186002539</a>
2.1 × 50 mm	<a href="#">186003401</a>		2.1 × 100 mm	<a href="#">186002534</a>	2.1 × 100 mm	<a href="#">186002540</a>
2.1 × 75 mm	<a href="#">186005634</a>		2.1 × 150 mm	<a href="#">186002535</a>	2.1 × 150 mm	<a href="#">186002541</a>
3.0 × 30 mm	<a href="#">186003407</a>		3.0 × 50 mm	<a href="#">186002542</a>	3.0 × 50 mm	<a href="#">186002545</a>
3.0 × 50 mm	<a href="#">186003409</a>		3.0 × 100 mm	<a href="#">186002543</a>	3.0 × 100 mm	<a href="#">186002546</a>
3.0 × 75 mm	<a href="#">186005636</a>		3.0 × 150 mm	<a href="#">186002544</a>	3.0 × 150 mm	<a href="#">186002547</a>
4.6 × 50 mm	<a href="#">186003417</a>		4.6 × 20 mm /S	<a href="#">186002549</a>	3.0 × 250 mm	<a href="#">186002548</a>
			4.6 × 50 mm	<a href="#">186002551</a>	4.6 × 30 mm	<a href="#">186002556</a>
			4.6 × 75 mm	<a href="#">186002552</a>	4.6 × 50 mm	<a href="#">186002557</a>
			4.6 × 100 mm	<a href="#">186002553</a>	4.6 × 100 mm	<a href="#">186002558</a>
			4.6 × 150 mm	<a href="#">186002554</a>	4.6 × 150 mm	<a href="#">186002559</a>
					4.6 × 250 mm	<a href="#">186002560</a>

PREPARATIVE COLUMNS						
Particle Size: 5 µm			Particle Size: 10 µm			
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)	
10 × 10 mm	Guard Cartridge	<a href="#">186002565</a> <sup>1</sup>	10 × 10 mm	Guard Cartridge	<a href="#">186002663</a> <sup>1</sup>	
10 × 50 mm	OBD Column	<a href="#">186008152</a>	10 × 50 mm	OBD Column	<a href="#">186008208</a>	
10 × 100 mm	OBD Column	<a href="#">186008153</a>	10 × 150 mm	OBD Column	<a href="#">186008156</a>	
10 × 150 mm	OBD Column	<a href="#">186008154</a>	10 × 250 mm	OBD Column	<a href="#">186008157</a>	
10 × 250 mm	OBD Column	<a href="#">186008155</a>	19 × 10 mm	Guard Cartridge	<a href="#">186002666</a> <sup>2</sup>	
19 × 10 mm	Guard Cartridge	<a href="#">186002569</a> <sup>2</sup>	19 × 50 mm	OBD Column	<a href="#">186002667</a>	
19 × 50 mm	OBD Column	<a href="#">186002566</a>	19 × 150 mm	OBD Column	<a href="#">186002668</a>	
19 × 100 mm	OBD Column	<a href="#">186002567</a>	19 × 250 mm	OBD Column	<a href="#">186002669</a>	
19 × 150 mm	OBD Column	<a href="#">186002568</a>	30 × 10 mm	Guard Cartridge	<a href="#">186006884</a> <sup>3</sup>	
19 × 250 mm	OBD Column	<a href="#">186004027</a>	30 × 50 mm	OBD Column	<a href="#">186003854</a>	
30 × 10 mm	Guard Cartridge	<a href="#">186006885</a> <sup>3</sup>	30 × 100 mm	OBD Column	<a href="#">186003971</a>	
30 × 50 mm	OBD Column	<a href="#">186002570</a>	30 × 150 mm	OBD Column	<a href="#">186002670</a>	
30 × 75 mm	OBD Column	<a href="#">186002571</a>	30 × 250 mm	OBD Column	<a href="#">186002671</a>	
30 × 100 mm	OBD Column	<a href="#">186002572</a>	50 × 50 mm	OBD Column	<a href="#">186002871</a>	
30 × 150 mm	OBD Column	<a href="#">186002797</a>	50 × 100 mm	OBD Column	<a href="#">186003972</a>	
30 × 250 mm	OBD Column	<a href="#">186003969</a>	50 × 150 mm	OBD Column	<a href="#">186002672</a>	
50 × 50 mm	OBD Column	<a href="#">186002867</a>	50 × 250 mm	OBD Column	<a href="#">186002673</a>	
50 × 100 mm	OBD Column	<a href="#">186002869</a>				
50 × 150 mm	OBD Column	<a href="#">186003941</a>				
50 × 250 mm	OBD Column	<a href="#">186003970</a>				

\*Recommended maximum pressure of 6000 psi (400 bar).

<sup>1</sup>Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30 × 10 mm Prep Guard Holder, p/n: [186006912](#).

SunFire Columns *Continued*

C<sub>8</sub>

ANALYTICAL COLUMNS						
Particle Size: 2.5 µm*			Particle Size: 3.5 µm		Particle Size: 5 µm	
Dimension	P/N (1/pk)		Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
3.0 × 50 mm	<a href="#">186003410</a>		2.1 × 50 mm	<a href="#">186002710</a>	2.1 × 50 mm	<a href="#">186002715</a>
			2.1 × 100 mm	<a href="#">186002711</a>	2.1 × 100 mm	<a href="#">186002716</a>
			2.1 × 150 mm	<a href="#">186002712</a>	2.1 × 150 mm	<a href="#">186002717</a>
			3.0 × 50 mm	<a href="#">186002719</a>	3.0 × 50 mm	<a href="#">186002723</a>
			3.0 × 100 mm	<a href="#">186002720</a>	3.0 × 100 mm	<a href="#">186002724</a>
			3.0 × 150 mm	<a href="#">186002721</a>	3.0 × 150 mm	<a href="#">186002725</a>
			4.6 × 50 mm	<a href="#">186002729</a>	4.6 × 30 mm	<a href="#">186002734</a>
			4.6 × 75 mm	<a href="#">186002730</a>	4.6 × 50 mm	<a href="#">186002735</a>
			4.6 × 100 mm	<a href="#">186002731</a>	4.6 × 100 mm	<a href="#">186002736</a>
			4.6 × 150 mm	<a href="#">186002732</a>	4.6 × 150 mm	<a href="#">186002737</a>
					4.6 × 250 mm	<a href="#">186002738</a>
PREPARATIVE COLUMNS						
Particle Size: 5 µm			Particle Size: 10 µm			
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)	
10 × 10 mm	Guard Cartridge	<a href="#">186002750</a> <sup>1</sup>	10 × 10 mm	Guard Cartridge	<a href="#">186002758</a> <sup>1</sup>	
10 × 50 mm	OBD Column	<a href="#">186008158</a>	10 × 50 mm	OBD Column	<a href="#">186008209</a>	
10 × 100 mm	OBD Column	<a href="#">186008159</a>	10 × 150 mm	OBD Column	<a href="#">186008162</a>	
10 × 150 mm	OBD Column	<a href="#">186008160</a>	10 × 250 mm	OBD Column	<a href="#">186008163</a>	
10 × 250 mm	OBD Column	<a href="#">186008161</a>	19 × 10 mm	Guard Cartridge	<a href="#">186002761</a> <sup>2</sup>	
19 × 10 mm	Guard Cartridge	<a href="#">186002754</a> <sup>2</sup>	19 × 150 mm	OBD Column	<a href="#">186002763</a>	
19 × 50 mm	OBD Column	<a href="#">186002751</a>	19 × 250 mm	OBD Column	<a href="#">186002764</a>	
19 × 100 mm	OBD Column	<a href="#">186002752</a>	30 × 10 mm	Guard Cartridge	<a href="#">186006886</a> <sup>3</sup>	
19 × 150 mm	OBD Column	<a href="#">186002753</a>	30 × 50 mm	OBD Column	<a href="#">186003853</a>	
19 × 250 mm	OBD Column	<a href="#">186004028</a>	30 × 150 mm	OBD Column	<a href="#">186002765</a>	
30 × 10 mm	Guard Cartridge	<a href="#">186006887</a> <sup>3</sup>	30 × 250 mm	OBD Column	<a href="#">186002766</a>	
30 × 50 mm	OBD Column	<a href="#">186002755</a>	50 × 50 mm	OBD Column	<a href="#">186002872</a>	
30 × 75 mm	OBD Column	<a href="#">186002756</a>	50 × 150 mm	OBD Column	<a href="#">186002767</a>	
30 × 100 mm	OBD Column	<a href="#">186002757</a>	50 × 250 mm	OBD Column	<a href="#">186002768</a>	
30 × 150 mm	OBD Column	<a href="#">186002795</a>				
50 × 50 mm	OBD Column	<a href="#">186002868</a>				
50 × 100 mm	OBD Column	<a href="#">186002870</a>				

\*Recommended maximum pressure of 6000 psi (400 bar).

<sup>1</sup>Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30 × 10 mm Prep Guard Holder, p/n: [186006912](#).

SunFire Columns *Continued*

Silica						
ANALYTICAL COLUMNS						
Particle Size: 3.5 µm			Particle Size: 5 µm			
Dimension	P/N (1/pk)		Dimension	P/N (1/pk)		
4.6 × 150 mm	<a href="#">186003453</a>		4.6 × 150 mm	<a href="#">186003467</a>		
4.6 × 250 mm	<a href="#">186003454</a>		4.6 × 250 mm	<a href="#">186003468</a>		
PREPARATIVE COLUMNS						
Particle Size: 5 µm			Particle Size: 10 µm			
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)	
10 × 10 mm	Guard Cartridge	<a href="#">186003429</a> <sup>1</sup>	10 × 10 mm	Guard Cartridge	<a href="#">186003441</a> <sup>1</sup>	
10 × 50 mm	OBD Column	<a href="#">186008180</a>	10 × 150 mm	OBD Column	<a href="#">186008184</a>	
10 × 100 mm	OBD Column	<a href="#">186008181</a>	10 × 250 mm	OBD Column	<a href="#">186008185</a>	
10 × 150 mm	OBD Column	<a href="#">186008182</a>	19 × 10 mm	Guard Cartridge	<a href="#">186003444</a> <sup>2</sup>	
10 × 250 mm	OBD Column	<a href="#">186008183</a>	19 × 50 mm	OBD Column	<a href="#">186003445</a>	
19 × 10 mm	Guard Cartridge	<a href="#">186003434</a> <sup>2</sup>	19 × 150 mm	OBD Column	<a href="#">186003446</a>	
19 × 50 mm	OBD Column	<a href="#">186003431</a>	19 × 250 mm	OBD Column	<a href="#">186003447</a>	
19 × 100 mm	OBD Column	<a href="#">186003432</a>	30 × 10 mm	Guard Cartridge	<a href="#">186006888</a> <sup>3</sup>	
19 × 150 mm	OBD Column	<a href="#">186003433</a>	30 × 50 mm	OBD Column	186003855	
19 × 250 mm	OBD Column	<a href="#">186004029</a>	30 × 150 mm	OBD Column	<a href="#">186003448</a>	
30 × 10 mm	Guard Cartridge	<a href="#">186006889</a> <sup>3</sup>	30 × 250 mm	OBD Column	<a href="#">186003449</a>	
30 × 50 mm	OBD Column	<a href="#">186003435</a>	50 × 50 mm	OBD Column	<a href="#">186003450</a>	
30 × 75 mm	OBD Column	<a href="#">186003436</a>	50 × 150 mm	OBD Column	<a href="#">186003451</a>	
30 × 100 mm	OBD Column	<a href="#">186003437</a>	50 × 250 mm	OBD Column	<a href="#">186003452</a>	
30 × 150 mm	OBD Column	<a href="#">186003438</a>				
50 × 50 mm	OBD Column	<a href="#">186003439</a>				
50 × 100 mm	OBD Column	<a href="#">186003440</a>				

\*Recommended maximum pressure of 6000 psi (400 bar).

<sup>1</sup>Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30 × 10 mm Prep Guard Holder, p/n: [186006912](#).

SunFire Preparative Scouting Columns

C <sub>18</sub>				
PREPARATIVE COLUMNS				
Particle Size: 10 µm				
Dimension	P/N (1/pk)			
4.6 × 150 mm	<a href="#">186003390</a>			
4.6 × 250 mm	<a href="#">186003391</a>			
Silica				
Particle Size: 5 µm		Particle Size: 10 µm		
Dimension	P/N (1/pk)	Dimension	P/N (1/pk)	
4.6 × 150 mm	<a href="#">186003453</a>	4.6 × 150 mm	<a href="#">186003467</a>	
4.6 × 250 mm	<a href="#">186003454</a>	4.6 × 250 mm	<a href="#">186003468</a>	

### SunFire Columns Method Validation Kits\*

	Particle Size: 3.5 $\mu$ m		Particle Size: 5 $\mu$ m	
	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)
<b>C<sub>18</sub></b>	4.6 $\times$ 100 mm	<a href="#">186002675</a>	4.6 $\times$ 150 mm	<a href="#">186002679</a>
	4.6 $\times$ 150 mm	<a href="#">186002676</a>	4.6 $\times$ 250 mm	<a href="#">186002680</a>
<b>C<sub>8</sub></b>	4.6 $\times$ 100 mm	<a href="#">186002740</a>	4.6 $\times$ 150 mm	<a href="#">186002744</a>
	4.6 $\times$ 150 mm	<a href="#">186002741</a>	4.6 $\times$ 250 mm	<a href="#">186002745</a>

\*Each Method Validation Kit contains 3 columns, each from a different batch.

### SunFire VanGuard Cartridges

	Particle Size: 2.5 $\mu$ m		Particle Size: 3.5 $\mu$ m		Particle Size: 5 $\mu$ m	
	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)
<b>C<sub>18</sub></b>	2.1 $\times$ 5 mm	<a href="#">186007691</a>	2.1 $\times$ 5 mm	<a href="#">186007694</a>	2.1 $\times$ 5 mm	<a href="#">186007697</a>
	3.9 $\times$ 5 mm	<a href="#">186007693</a>	3.9 $\times$ 5 mm	<a href="#">186007696</a>	3.9 $\times$ 5 mm	<a href="#">186007699</a>
<b>C<sub>8</sub></b>	2.1 $\times$ 5 mm	<a href="#">186007700</a>	2.1 $\times$ 5 mm	<a href="#">186007703</a>	2.1 $\times$ 5 mm	<a href="#">186007706</a>
	3.9 $\times$ 5 mm	<a href="#">186007702</a>	3.9 $\times$ 5 mm	<a href="#">186007705</a>	3.9 $\times$ 5 mm	<a href="#">186007708</a>

### Universal VanGuard Cartridge Holder

Description	P/N (1/pk)
Universal VanGuard Cartridge Holder	<a href="#">186007949</a>

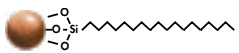
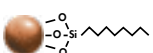
## XTerra Columns



XTerra™ MS and Phenyl 2.5 µm Columns combine the best properties of silica- and polymeric-bonded phases with patented Hybrid Particle Technology (HPT), which replaces one out of every three silanol groups with a methyl group during particle synthesis. HPT overcomes the limitations of silica-based materials while maintaining its best attributes for mechanical strength, chemical resistance, and easy scale up from analytical to preparative chromatography.



### Column Characteristics

	MS C <sub>18</sub> 125 Å	MS C <sub>8</sub> 125 Å
	HPLC: 2.5, 3.5, 5, 10 µm	HPLC: 2.5, 3.5, 5, 10 µm
Particle/Ligand		
Carbon Load*	15.5%	12%
Endcapped	Yes	Yes
USP Class No.	L1	L7
Performance Standards	Neutrals QC Reference Material p/n: <a href="#">186006360</a>	Neutrals QC Reference Material p/n: <a href="#">186006360</a>
Application Standards	Reversed-Phase QC Reference Material p/n: <a href="#">186006363</a>	Reversed-Phase QC Reference Material p/n: <a href="#">186006363</a>

XTerra HPLC Columns are rated for pressures up to 6000 psi (410 bar).



**APPLICATION AREA:** High Performance Liquid Chromatography

"These columns are the best value for your money. The reproducible results you get, along with the sharp peaks can't be matched. I highly recommend these to anyone looking for great results. The prices I feel are right on target with other columns that work as awesome as these."

**REVIEWER:** Michael Parsowith

**ORGANIZATION:** Akorn

 For more information on XTerra Columns, [refer to page 221](#).

## Ordering Information

### XTerra Columns

MS C <sub>18</sub>	ANALYTICAL COLUMNS						
	Particle Size: 2.5 µm*			Particle Size: 3.5 µm		Particle Size: 5 µm	
	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)	
	2.1 × 30 mm	<a href="#">186000592</a>	2.1 × 30 mm	<a href="#">186000398</a>	2.1 × 20 mm JS	<a href="#">186001979</a>	
	4.6 × 20 mm JS	<a href="#">186001889</a>	2.1 × 50 mm	<a href="#">186000400</a>	2.1 × 50 mm	<a href="#">186000446</a>	
	4.6 × 30 mm	<a href="#">186000600</a>	2.1 × 100 mm	<a href="#">186000404</a>	2.1 × 100 mm	<a href="#">186000450</a>	
	4.6 × 50 mm	<a href="#">186000602</a>	2.1 × 150 mm	<a href="#">186000408</a>	2.1 × 150 mm	<a href="#">186000454</a>	
	4.6 × 75 mm	<a href="#">186000981</a>	3.0 × 50 mm	<a href="#">186000414</a>	2.1 × 250 mm	<a href="#">186000458</a>	
			3.0 × 100 mm	<a href="#">186000418</a>	3.0 × 50 mm	<a href="#">186000462</a>	
			3.0 × 150 mm	<a href="#">186000422</a>	3.0 × 100 mm	<a href="#">186000466</a>	
			3.9 × 100 mm	<a href="#">186000426</a>	3.0 × 150 mm	<a href="#">186000470</a>	
			4.6 × 30 mm	<a href="#">186000430</a>	3.0 × 250 mm	<a href="#">186000474</a>	
			4.6 × 50 mm	<a href="#">186000432</a>	3.9 × 150 mm	<a href="#">186000478</a>	
			4.6 × 100 mm	<a href="#">186000436</a>	4.6 × 50 mm	<a href="#">186000482</a>	
			4.6 × 150 mm	<a href="#">186000440</a>	4.6 × 100 mm	<a href="#">186000486</a>	
			4.6 × 250 mm	<a href="#">186001470</a>	4.6 × 150 mm	<a href="#">186000490</a>	
					4.6 × 250 mm	<a href="#">186000494</a>	
PREPARATIVE COLUMNS							
Particle Size: 5 µm			Particle Size: 10 µm				
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)		
7.8 × 10 mm	Guard Cartridge	<a href="#">186001168</a> <sup>5</sup>	7.8 × 10 mm	Guard Cartridge	<a href="#">186001172</a> <sup>5</sup>		
7.8 × 50 mm	Column	<a href="#">186001152</a>	7.8 × 150 mm	Column	<a href="#">186001160</a>		
7.8 × 100 mm	Column	<a href="#">186001156</a>	7.8 × 300 mm	Column	<a href="#">186001164</a>		
7.8 × 150 mm	Column	<a href="#">186001475</a>	10 × 10 mm	Guard Cartridge	<a href="#">186001002</a> <sup>1</sup>		
10 × 10 mm	Guard Cartridge	<a href="#">186001001</a> <sup>1</sup>	10 × 150 mm	OBD Column	<a href="#">186008129</a>		
10 × 50 mm	OBD Column	<a href="#">186008103</a>	10 × 250 mm	OBD Column	<a href="#">186008133</a>		
10 × 100 mm	OBD Column	<a href="#">186008107</a>	10 × 300 mm	OBD Column	<a href="#">186008137</a>		
10 × 150 mm	OBD Column	<a href="#">186008141</a>	19 × 10 mm	Guard Cartridge	<a href="#">186001034</a> <sup>2</sup>		
19 × 10 mm	Guard Cartridge	<a href="#">186001104</a> <sup>2</sup>	19 × 50 mm	OBD Column	<a href="#">186002254</a>		
19 × 50 mm	OBD Column	<a href="#">186001930</a>	19 × 150 mm	OBD Column	<a href="#">186002255</a>		
19 × 100 mm	OBD Column	<a href="#">186001934</a>	19 × 250 mm	OBD Column	<a href="#">186002259</a>		
19 × 150 mm	OBD Column	<a href="#">186002379</a>	19 × 300 mm	OBD Column	<a href="#">186002263</a>		
30 × 10 mm	Guard Cartridge	<a href="#">186006903</a> <sup>3</sup>	30 × 10 mm	Guard Cartridge	<a href="#">186006902</a> <sup>3</sup>		
30 × 50 mm	OBD Column	<a href="#">186001938</a>	30 × 150 mm	OBD Column	<a href="#">186002267</a>		
30 × 100 mm	OBD Column	<a href="#">186001942</a>	30 × 250 mm	OBD Column	<a href="#">186002271</a>		
50 × 50 mm	OBD Column	<a href="#">186002218</a>	30 × 300 mm	OBD Column	<a href="#">186002275</a>		
50 × 100 mm	OBD Column	<a href="#">186002222</a>	50 × 50 mm	OBD Column	<a href="#">186002279</a>		
			50 × 150 mm	OBD Column	<a href="#">186002843</a>		
			50 × 250 mm	OBD Column	<a href="#">186002847</a>		

\*Recommended maximum pressure of 6000 psi (400 bar).

<sup>1</sup>Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30 × 10 mm Prep Guard Holder, p/n: [186006912](#).

<sup>5</sup>Requires 7.8 × 10 mm Cartridge Holder, p/n: [186000708](#).

MS C <sub>8</sub>						
ANALYTICAL COLUMNS						
Particle Size: 2.5 µm*			Particle Size: 3.5 µm		Particle Size: 5 µm	
Dimension	P/N (1/pk)		Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
4.6 × 50 mm	<a href="#">186000603</a>		2.1 × 50 mm	<a href="#">186000401</a>	2.1 × 50 mm	<a href="#">186000447</a>
			2.1 × 100 mm	<a href="#">186000405</a>	2.1 × 100 mm	<a href="#">186000451</a>
			2.1 × 150 mm	<a href="#">186000409</a>	2.1 × 150 mm	<a href="#">186000455</a>
			3.9 × 100 mm	<a href="#">186000427</a>	2.1 × 250 mm	<a href="#">186000459</a>
			4.6 × 50 mm	<a href="#">186000433</a>	3.9 × 150 mm	<a href="#">186000479</a>
			4.6 × 100 mm	<a href="#">186000437</a>	4.6 × 50 mm	<a href="#">186000483</a>
			4.6 × 150 mm	<a href="#">186000441</a>	4.6 × 100 mm	<a href="#">186000487</a>
			4.6 × 250 mm	<a href="#">186001471</a>	4.6 × 150 mm	<a href="#">186000491</a>
					4.6 × 250 mm	<a href="#">186000495</a>
PREPARATIVE COLUMNS						
Particle Size: 5 µm			Particle Size: 10 µm			
Dimension	Type	P/N (1/pk)	Dimension	Type	P/N (1/pk)	
7.8 × 10 mm	Guard Cartridge	<a href="#">186001169</a> <sup>5</sup>	7.8 × 10 mm	Guard Cartridge	<a href="#">186001173</a> <sup>5</sup>	
7.8 × 50 mm	Column	<a href="#">186001153</a>	7.8 × 150 mm	Column	<a href="#">186001161</a>	
7.8 × 100 mm	Column	<a href="#">186001157</a>	7.8 × 300 mm	Column	<a href="#">186001165</a>	
7.8 × 150 mm	Column	<a href="#">186001476</a>	10 × 150 mm	OBD Column	<a href="#">186008130</a>	
10 × 50 mm	OBD Column	<a href="#">186008104</a>	10 × 250 mm	OBD Column	<a href="#">186008134</a>	
10 × 150 mm	OBD Column	<a href="#">186008142</a>	10 × 300 mm	OBD Column	<a href="#">186008138</a>	
19 × 10 mm	Guard Cartridge	<a href="#">186001105</a> <sup>2</sup>	19 × 10 mm	Guard Cartridge	<a href="#">186001035</a> <sup>2</sup>	
19 × 50 mm	OBD Column	<a href="#">186001931</a>	19 × 150 mm	OBD Column	<a href="#">186002256</a>	
19 × 100 mm	OBD Column	<a href="#">186001935</a>	19 × 250 mm	OBD Column	<a href="#">186002260</a>	
19 × 150 mm	OBD Column	<a href="#">186002380</a>	19 × 300 mm	OBD Column	<a href="#">186002264</a>	
30 × 10 mm	Guard Cartridge	<a href="#">186006904</a> <sup>3</sup>	30 × 150 mm	OBD Column	<a href="#">186002268</a>	
30 × 75 mm	OBD Column	<a href="#">186002388</a>	30 × 250 mm	OBD Column	<a href="#">186002272</a>	
30 × 100 mm	OBD Column	<a href="#">186001943</a>	30 × 300 mm	OBD Column	<a href="#">186002276</a>	
50 × 50 mm	OBD Column	<a href="#">186002219</a>	50 × 50 mm	OBD Column	<a href="#">186002280</a>	
50 × 100 mm	OBD Column	<a href="#">186002223</a>	50 × 150 mm	OBD Column	<a href="#">186002844</a>	

\*Recommended maximum pressure of 6000 psi (400 bar).

<sup>1</sup>Requires 10 × 10 mm Cartridge Holder, p/n: [289000779](#).

<sup>2</sup>Requires 19 × 10 mm Cartridge Holder, p/n: [186000709](#).

<sup>3</sup>Requires 30 × 10 mm Prep Guard Holder, p/n: [186006912](#).

<sup>5</sup>Requires 7.8 × 10 mm Cartridge Holder, p/n: [186000708](#).



XTerra Columns *Continued*

Phenyl	ANALYTICAL COLUMNS			
	Particle Size: 3.5 µm		Particle Size: 5 µm	
	Dimension	P/N (1/pk)	Dimension	P/N (1/pk)
	2.1 × 50 mm	<a href="#">186001179</a>	3.9 × 150 mm	<a href="#">186001184</a>
	2.1 × 100 mm	<a href="#">186001180</a>	4.6 × 50 mm	<a href="#">186001144</a>
	2.1 × 150 mm	<a href="#">186001181</a>	4.6 × 100 mm	<a href="#">186001145</a>
	3.0 × 100 mm	<a href="#">186001142</a>	4.6 × 150 mm	<a href="#">186001146</a>
	3.0 × 150 mm	<a href="#">186001143</a>	4.6 × 250 mm	<a href="#">186001147</a>
	3.9 × 150 mm	<a href="#">186001178</a>		
	4.6 × 50 mm	186001138		
	4.6 × 100 mm	<a href="#">186001139</a>		
	4.6 × 150 mm	<a href="#">186001140</a>		
	4.6 × 250 mm	<a href="#">186001474</a>		

XTerra Columns Method Validation Kits\*

	Particle Size: 3.5 µm		Particle Size: 5 µm	
	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)
MS C <sub>18</sub>	4.6 × 150 mm	<a href="#">186000826</a>	4.6 × 150 mm	<a href="#">186000829</a>
			4.6 × 250 mm	<a href="#">186000830</a>
Shield RP18	4.6 × 150 mm	<a href="#">186000861</a>	4.6 × 150 mm	<a href="#">186000862</a>
			4.6 × 250 mm	<a href="#">186000863</a>

\*Each Method Validation Kit contains 3 columns, each from a different batch.

XTerra VanGuard Cartridges

	Particle Size: 2.5 µm		Particle Size: 3.5 µm		Particle Size: 5 µm	
	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)	Dimension	P/N (3/pk)
MS C <sub>18</sub>	2.1 × 5 mm	<a href="#">186007887</a>	2.1 × 5 mm	<a href="#">186007892</a>	2.1 × 5 mm	<a href="#">186007896</a>
	3.9 × 5 mm	<a href="#">186007889</a>	3.9 × 5 mm	<a href="#">186007894</a>	3.9 × 5 mm	<a href="#">186007899</a>
MS C <sub>8</sub>	2.1 × 5 mm	<a href="#">186007901</a>	2.1 × 5 mm	<a href="#">186007905</a>	2.1 × 5 mm	<a href="#">186007909</a>
	3.9 × 5 mm	<a href="#">186007903</a>	3.9 × 5 mm	<a href="#">186007735</a>	3.9 × 5 mm	<a href="#">186007739</a>
Shield RP18			2.1 × 5 mm	<a href="#">186007929</a>	2.1 × 5 mm	<a href="#">186007933</a>
			3.9 × 5 mm	<a href="#">186007931</a>	3.9 × 5 mm	<a href="#">186007935</a>
Shield RP8			2.1 × 5 mm	<a href="#">186007941</a>	3.9 × 5 mm	<a href="#">186007947</a>
			3.9 × 5 mm	<a href="#">186007943</a>		
Phenyl			2.1 × 5 mm	<a href="#">186007917</a>	2.1 × 5 mm	<a href="#">186007921</a>
			3.9 × 5 mm	<a href="#">186007919</a>	3.9 × 5 mm	<a href="#">186007923</a>

Universal VanGuard Cartridge Holder

Description	P/N (1/pk)
Universal VanGuard Cartridge Holder	<a href="#">186007949</a>

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