

Ultisil® Series HPLC Column

Ultisil® Series HPLC Columns are based on ultra-pure (purity > 99.999%) spherical and totally porous silica, unique bonding chemistry and proprietary surface modification techniques, producing excellent peak shape, column efficiency and exceptional lot-to-lot reproducibility. Ultisil® column is the best choice for method development, owing to complete bonding chemistries and stable performance.

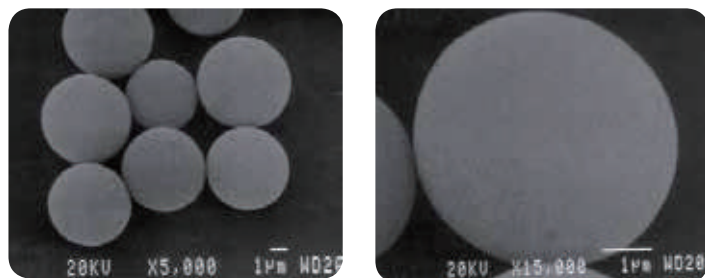
Features:

- Ultra-pure spherical porous silica, purity > 99.999%
- Unique bonding chemistry and endcapping technology
- High efficiency: theoretical plate > 80000/m
- Excellent peak symmetry: tailing factor=0.95~1.05
- Wide pH range: 1.5~10
- Long column lifetime
- Exceptional lot-to-lot reproducibility
- Complete bonding chemistries with different selectivities

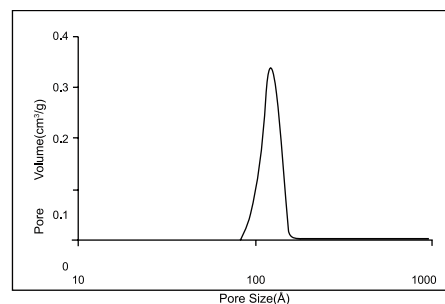
Ultisil® HPLC Column Packing Materials

Pictures below show size uniformity and surface smoothness of the packing particles, characteristics that enable more uniform packing with less channeling effect, resulting in lower back pressure and higher column efficiency.

SEM Pictures of Ultisil® Particles

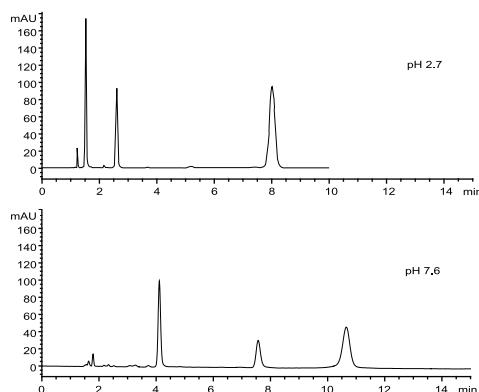


Ultisil® Pore Size Distribution



Trace Amount Metal Contents Test

A useful chromatographic test of trace amount of metal contents in the column is to compare the peak symmetry of one pair of positional isomers, 4,4'-dipyridyl and 2,2'-dipyridyl, and a neutral chelating reagent, 1,2-dihydroxynaphthalene. 4,4'-dipyridyl, which cannot form chelating complex with metal, is used as a reference. 2,2'-dipyridyl and 1,2-dihydroxynaphthalene, which are chelating reagents, are sensitive to trace amount metal in silica. When a C18 column based on type A silica or other so-called type B silica with higher metal content is used, the peaks of 2,2'-dipyridyl and 1,2-dihydroxynaphthalene would tail or even totally disappear.



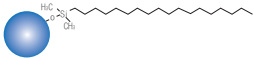
Column:	Ultisil® XB-C18, 4.6 × 150 mm, 5 µm
Mobile Phase:	20 mM phosphate(pH 7.6) / methanol=55/45
Flow rate:	1.0 mL/min
Detector:	215 nm
Temperature:	25°C
Injection Volume:	1 µL
Samples:	1) 4,4'-Dipyridyl 2) 2,2'-Dipyridyl 3) 1,2-Dihydroxynaphthalene

Ultisil® XB-C18 provides good peak shapes in the separation of these three compounds under pH 7.6, which indicates Ultisil silica contains hardly any metals.

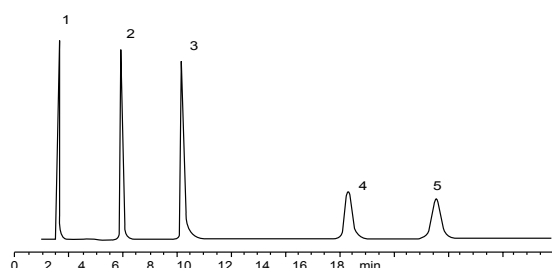
Ultisil® XB-C18—Universal HPLC Analytical Column

Ultisil®XB-C18 is the most commonly used column in the market. It can substitute Waters Symmetry C18, Agilent Zorbax XDB C18, Phenomenex Luna C18, Supelcosil LC-18-DB, YMC ODS-AM, Alltima C18, GL, Inertsil ODS-2 etc. XB-C18 has high theoretical plates and peak capacity, so it's suitable for analysis of complex samples.

Ultisil®XB-C18

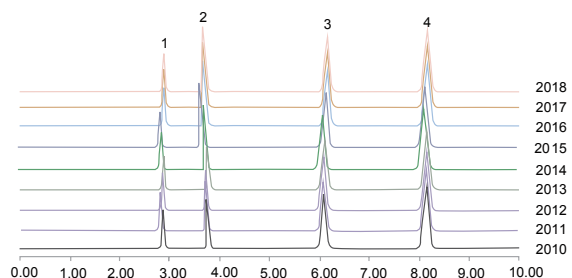
Structural Formula	
pH Range	1.5-10.0
Particle Size	3 µm, 5 µm, 10 µm
Surface Area(m²/g)	320(120 Å), 90(300 Å)
Carbon Loading(%)	17(120 Å), 8(300 Å)
USP List	L1
Endcapped	Yes

Separation of Basic Compounds Antidepressant at pH 7.0



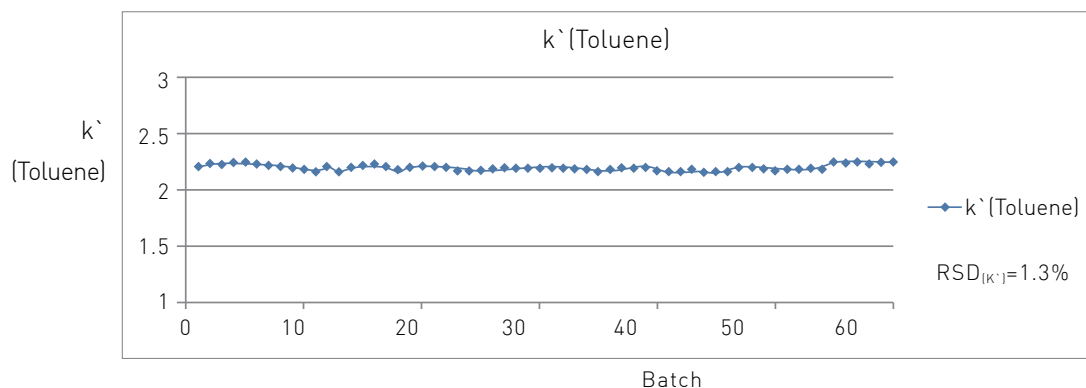
Column:	Ultisil®XB-C18, 4.6 ×150 mm, 5 µm	
Mobile Phase:	20 mM phosphate(pH 7.0) / methanol=20 / 80	
Flow rate:	1.0 mL/min	
Detector:	215 nm	
Temperature:	25°C	
Samples:	1) Uracil 3) Ortriptyline 5) Trimipramine	2) Ropranolol 4) Amitriptyline

Comparison of Peak Shape between Batch to Batch

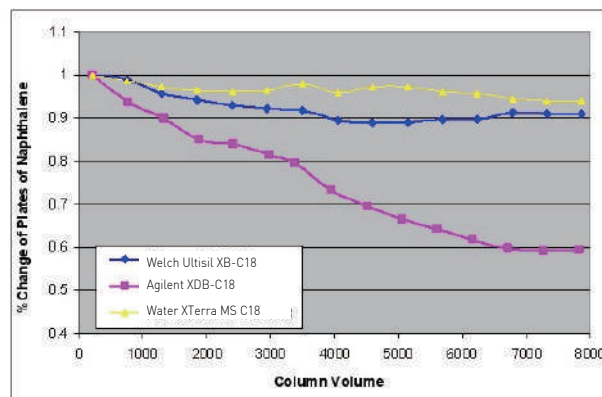
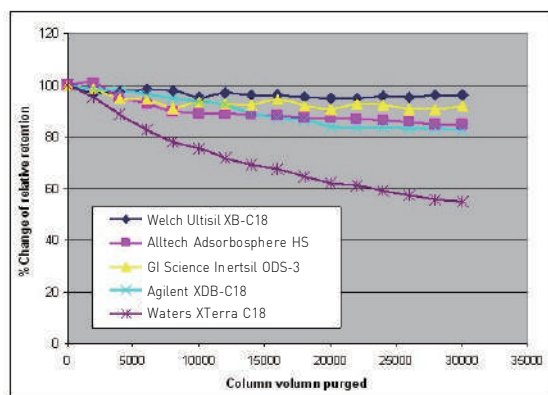


Column:	Ultisil®XB-C18, 4.6 ×250 mm, 5 µm	
Mobile Phase:	Methanol / water=75 / 25	
Flow rate:	1.0 mL/min	
Detector:	254 nm	
Temperature:	25°C	
Samples:	1) Uracil 3) 4-chloronitrobenzen	2) Phenol 4) Methylbenzene

Capacity Factor(K') of Batch to Batch Reproducibility

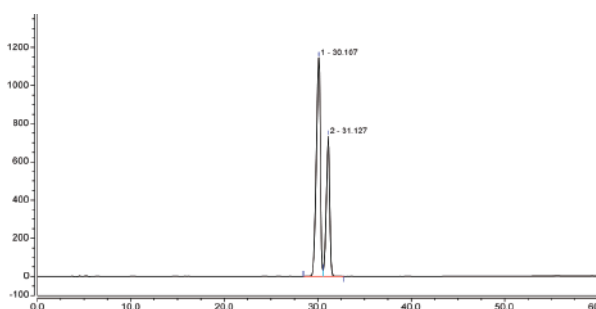


Excellent Stability at Low pH and High pH



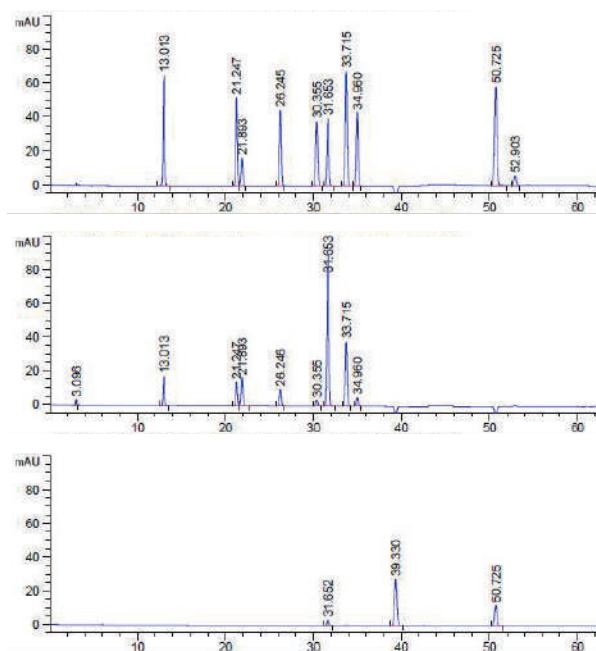
The stability of XB-C18 is better than other brand columns under pH 1.3 or under pH 10.

Argatroban



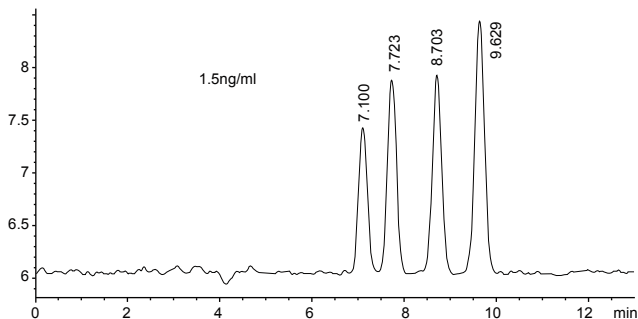
Column:	Ultisil® XB-C18, 4.6 ×250 mm, 3 µm		
Mobile Phase:	Mobile Phase A: 10 mmol/L ammonium acetate Mobile Phase B: acetonitrile/methanol=50/30		
Gradient Program:	Time(min)	A	B
	0	60	40
	20	60	40
	35	50	50
	50	20	80
	60	20	80
	60.1	60	40
	80	60	40
Flow Rate:	0.6 mL/min		
Detector:	259 nm		
Temperature:	50 °C		
Injection Volume:	10 µL		
Reference Sample:	S-argatroban, R-argatroban,		

Paracetamol Injection USP 36



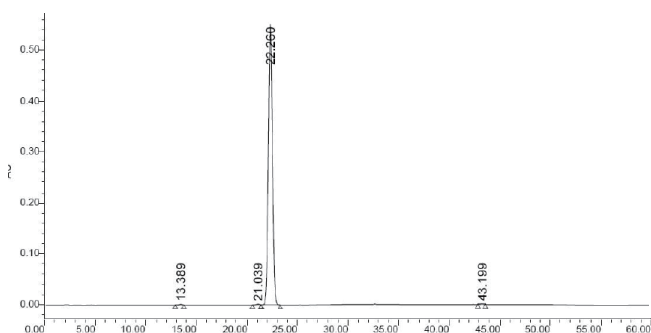
Column:	Ultisil® XB-C18, 4.6 ×250 mm, 5 µm		
Mobile Phase:	A: methanol / water / acetic acid =50/950/1 B: methanol / water / acetic acid =50/500/1		
Gradient Program:	Time(min)	A	B
	0	82	18
	8	82	18
	53	0	100
	58	0	100
	59	82	18
	73	82	18
Flow Rate:	0.9 mL/min		
Detector:	254 nm, 275 nm, 317 nm		
Temperature:	40°C		
Injection Volume:	20 µL		
Reference Sample:	L-hydroxyproline, glycine, alanine, L-proline		

Aflatoxin



Column:	Ultisil® XB-C18, 4.6 ×250 mm, 5 µm
Mobile Phase:	Water / methanol / acetonitrile=46/40/14
Flow Rate:	1.0 mL/min
Detector:	Excitation wavelength: 360 nm Emission wavelength: 450 nm Gain:17
Temperature:	30°C
Injection Volume:	Post-column photo chemical derivation (254 nm)
Aflatoxin B1, B2, G1, G2 mixed standards, meets separation requirements	

Progesterone(EP 5.0)



Column:	Ultisil® XB-C18, 4.6 ×150 mm, 5 µm															
Mobile Phase:	A: water B: acetonitrile															
Gradient Program:	<table><tr><th>Time(min)</th><th>A</th><th>B</th></tr><tr><td>0-20</td><td>50</td><td>50</td></tr><tr><td>20-27</td><td>50-20</td><td>50-80</td></tr><tr><td>27-45</td><td>20</td><td>80</td></tr><tr><td>45-50</td><td>50</td><td>50</td></tr></table>	Time(min)	A	B	0-20	50	50	20-27	50-20	50-80	27-45	20	80	45-50	50	50
Time(min)	A	B														
0-20	50	50														
20-27	50-20	50-80														
27-45	20	80														
45-50	50	50														
Flow Rate:	0.9 mL/min															
Detector:	254 nm, 275 nm, 317 nm															
Temperature:	40°C															
Injection Volume:	20 µL															
Reference Sample:	L-hydroxyproline, glycine, alanine, L-proline															

Ordering Information

Ultisil® XB-C18

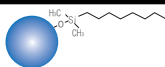
Particle size	Column ID (mm)	Column Length (mm)										Guard Cartridge	Cartridge holder
		30	33	50	75	100	125	150	200	250	300		
3 µm 120 Å	2.1	H00201-21009	H09201-21009	H00201-21010	H00201-21011	H00201-21012	H00201-21013	H00201-21014	H00201-21015	H00201-21016	-	H00808-23001	00808-01107
	3.0	H00201-21018	-	H00201-21019	H00201-21020	H00201-21021	H00201-21022	H00201-21023	H00201-21024	H00201-21025	-	H00808-23001	00808-01107
	4.0	H00201-21027	-	H00201-21028	H00201-21029	H00201-21030	H00201-21031	H00201-21032	H00201-21033	H00201-21034	-	H00808-03001	00808-01101
	4.6	H00201-21036	H11201-21036	H00201-21037	H00201-21038	H00201-21039	H00201-21040	H00201-21041	H00201-21042	H00201-21043	-	H00808-03001	00808-01101
5 µm 120 Å	2.1	H00201-31009	H09201-31009	H00201-31010	H00201-31011	H00201-31012	H00201-31013	H00201-31014	H00201-31015	H00201-31016	-	H00808-24001	00808-01107
	3.0	H00201-31018	-	H00201-31019	H00201-31020	H00201-31021	H00201-31022	H00201-31023	H00201-31024	H00201-31025	-	H00808-24001	00808-01107
	4.0	H00201-31027	-	H00201-31028	H00201-31029	H00201-31030	H00201-31031	H00201-31032	H00201-31033	H00201-31034	H00201-31035	H00808-04001	00808-01101
	4.6	H00201-31036	H11201-31036	H00201-31037	H00201-31038	H00201-31039	H00201-31040	H00201-31041	H00201-31042	H00201-31043	H00201-31044	H00808-04001	00808-01101
10 µm 120 Å	4.0	-	-	-	-	-	-	H00201-41032	H00201-41033	H00201-41034	H00201-41035	H00808-05001	00808-01101
	4.6	-	-	-	-	-	-	H00201-41041	H00201-41042	H00201-41043	H00201-41044	H00808-05001	00808-01101

300 Å pore size column provided. Please contact Welch or your local distributor for other dimensions.

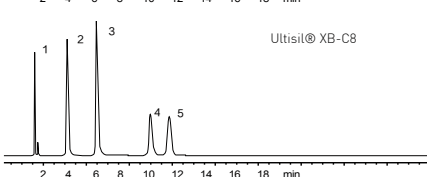
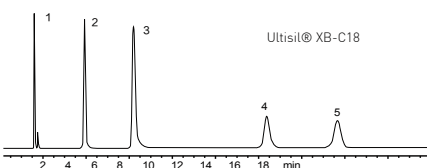
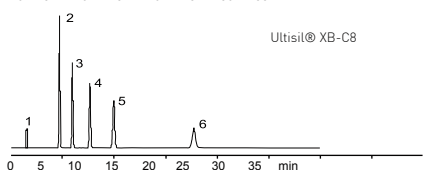
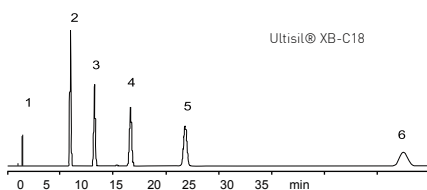
Ultisil® XB-C8--Less retentive than XB-C18

The XB-C8 phase is less retentive than XB-C18 phase, useful for strong hydrophobic compounds that are too strongly retained on C18 phase, and for LC/MS applications, where long retention is not desired. When separating neutral or other highly retained compounds, XB-C8 can save analytical time. However, when separating polar compounds, XB-C8 column provides different selectivity than does XB-C18 column.

Ultisil® XB-C8

Structural Formula	
pH Range	1.5-10.0
Particle Size	3 µm, 5 µm, 10 µm
Surface Area(m²/g)	320(120 Å), 90(300 Å)
Carbon Loading(%)	12(120 Å), 4(300 Å)
USP List	L7
Endcapped	Yes

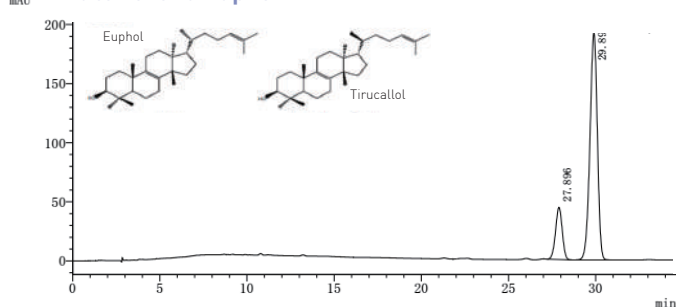
Comparison of Retention of XB-C18 and XB-C8



Column:	4.6 ×150 mm, 5 µm	
Mobile Phase:	Water / acetonitrile=30/70	
Flow rate:	1.0 mL/min	
Detector:	344 nm	
Temperature:	25°C	
Samples:	1) Uracil 2) Ethylbenzene 3) Propylbenzene	4) Butylbenzene 5) Amylbenzene 6) Heptylbenzene

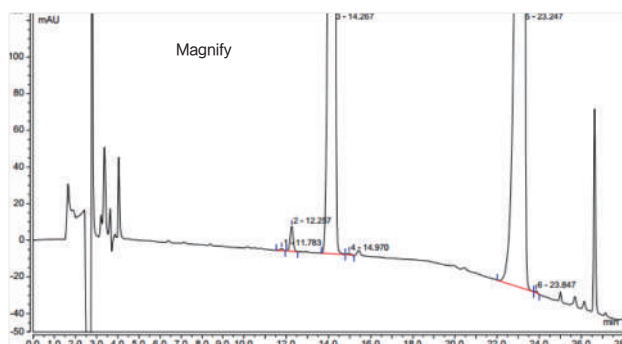
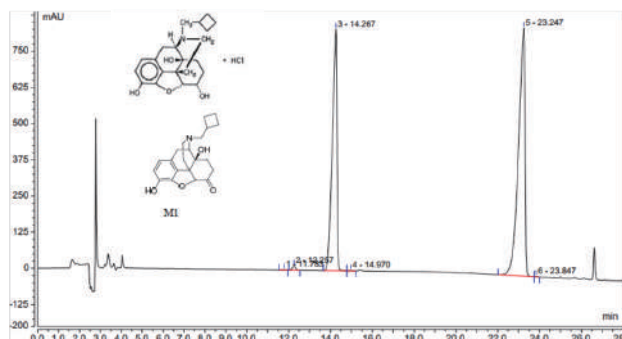
Column:	4.6 ×150 mm, 5 µm	
Mobile Phase:	20 mM phosphate(pH 7.0) / methanol=20 / 80	
Flow rate:	1.0 mL/min	
Detector:	215 nm	
Temperature:	25°C	
Samples:	1) Uracil 2) Ropranolol 3) Ortriptyline	4) Amitriptyline 5) Trimipramine

Tirucallol and Euphol



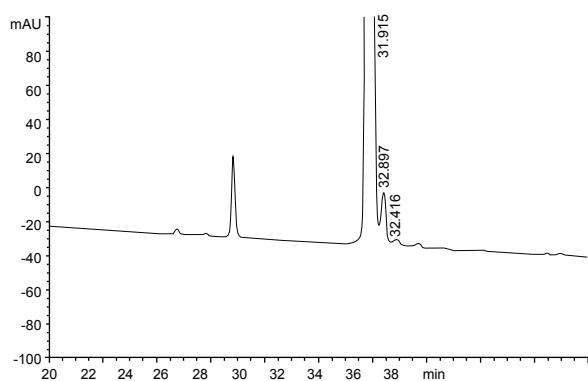
Column:	Ultisil® XB-C8, 4.6 ×250 mm, 5 µm
Mobile Phase:	Acetonitrile/water=90/10
Flow Rate:	1.0 mL/min
Detector:	210 nm
Temperature:	30°C
Injection Volume:	10 µL

Nalbuphine HCl



Column:	Ultisil® XB-C8, 4.6 ×250 mm, 5 µm		
Mobile Phase:	A: 0.02 mol/L KH ₂ PO ₄ buffer(pH 6.5)(%) B: acetonitrile		
Gradient Program:	Time(min)	A	B
	0	80	20
	15	70	30
	25	40	60
	28	40	60
	30	80	20
	45	80	20
Flow Rate:	1.0 mL/min		
Detector:	220 nm		
Temperature:	30°C		
Injection Volume:	10 µL		

Analysis of Insulin Detemir



Column:	Ultisil®XB-C8, 4.6 ×150 mm, 5 µm		
Mobile Phase:	A: 20g (NH ₄) ₂ SO ₄ , 900mL water, 100 mL acetonitrile, adjust pH 2.3 B: acetonitrile/water=80/20; %B=0(0 min) , 30(9 min), 60(40 min)		
Flow Rate:	1.0 mL/min		
Detector:	214 nm		
Temperature:	30 °C		
Injection Volume:	20 µL		

Ordering Information

Ultisil® XB-C8

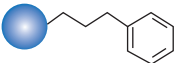
Particle size	Column ID (mm)	Column Length (mm)										Guard Cartridge	Cartridge holder
		30	33	50	75	100	125	150	200	250	300	10mm length	
3 μm 120 Å	2.1	H00202-21009	H09202-21009	H00202-21010	H00202-21011	H00202-21012	H00202-21013	H00202-21014	H00202-21015	H00202-21016	-	H00808-23002	00808-01107
	3.0	H00202-21018	-	H00202-21019	H00202-21020	H00202-21021	H00202-21022	H00202-21023	H00202-21024	H00202-21025	-	H00808-23002	00808-01107
	4.0	H00202-21027	-	H00202-21028	H00202-21029	H00202-21030	H00202-21031	H00202-21032	00202-21033	H00202-21034	-	H00808-03002	00808-01101
	4.6	H00202-21036	H11202-21036	H00202-21037	H00202-21038	H00202-21039	H00202-21040	H00202-21041	H00202-21042	H00202-21043	-	H00808-03002	00808-01101
5 μm 120 Å	2.1	H00202-31009	H09202-31009	H00202-31010	H00202-31011	H00202-31012	H00202-31013	H00202-31014	H00202-31015	H00202-31016	-	H00808-24002	00808-01107
	3.0	H00202-31018	-	H00202-31019	H00202-31020	H00202-31021	H00202-31022	H00202-31023	H00202-31024	H00202-31025	-	H00808-24002	00808-01107
	4.0	H00202-31027	-	H00202-31028	H00202-31029	H00202-31030	00202-31031	H00202-31032	H00202-31033	H00202-31034	H00202-31035	H00808-04002	00808-01101
	4.6	H00202-31036	H11202-31036	H00202-31037	H00202-31038	H00202-31039	00202-31040	H00202-31041	H00202-31042	H00202-31043	H00202-31044	H00808-04002	00808-01101
10 μm 120 Å	4.0	-	-	-	-	-	-	H00202-41032	H00202-41033	H00202-41034	H00202-41035	H00808-05002	00808-01101
	4.6	-	-	-	-	-	-	H00202-41041	H00202-41042	H00202-41043	H00202-41044	H00808-05002	00808-01101

300 Å HPLC column provided. Please contact Welch or your local distributor for other dimensions.

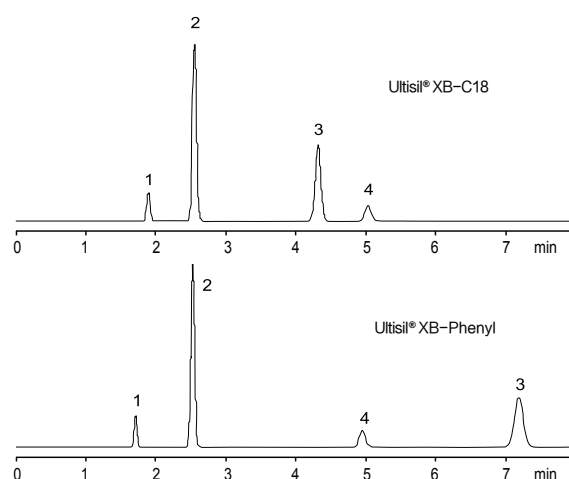
Ultisil® XB-Phenyl--Different Selectivity to Alkyl Phase

Ultisil® XB-Phenyl phase is less retentive than conventional C18 or C8 phases, but more retentive than standard cyano phase. Due to their ability to participate in π - π interactions, XB-Phenyl columns may actually be more retentive than C18 or C8 columns towards certain polar aromatic compounds, depending on running conditions. The selectivity for highly polar aromatics, which are poorly retained on alkyl-bonded phases, together with reduced retentivity towards non-polar compounds, make XB-Phenyl an excellent choice for the analysis of complex mixtures of polar and non-polar analytes. Additionally, this bonding phase boasts high surface coverage and exhaustive double end-capping, leading to better performance.

Ultisil® XB-Phenyl

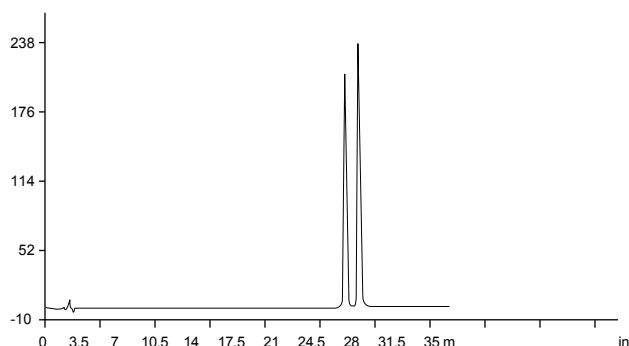
Structural Formula	
pH Range	1.5-10.0
Particle Size	3 μ m, 5 μ m, 10 μ m
Surface Area(m ² /g)	320(120 Å), 90(300 Å)
Carbon Loading(%)	12(120 Å), 4(300 Å)
USP List	L11
Endcapped	Yes

Unique Selectivity for Aromatic Compounds of Ultisil® XB-Phenyl Phase



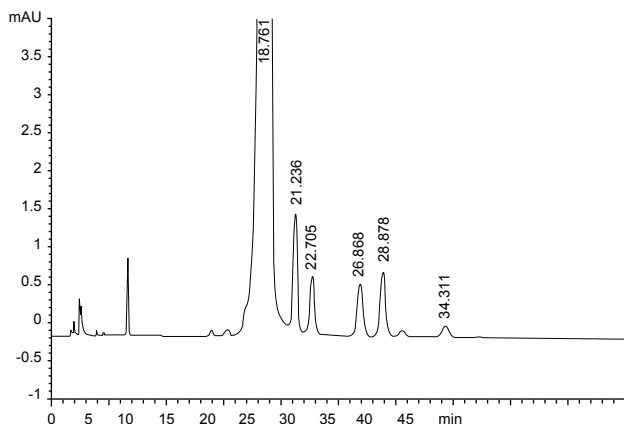
Column:	4.6 × 150 mm, 5 μ m
Mobile Phase:	Methanol / water=70/30
Flow Rate:	1.0 mL/min
Detector:	254 nm
Temperature:	24°C
Samples:	1. Uracil 2. Phenol 3. Paranitrotoluene 4. Toluene

Montelukast Sodium Isomers



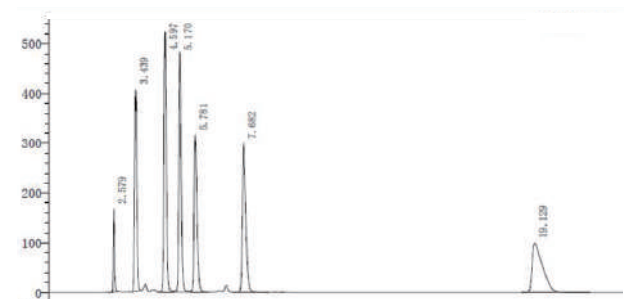
Column:	Ultisil®XB-Phenyl, 4.6 ×150 mm, 3 μm																								
Mobile Phase:	A: 0.2% TFA B: methanol / acetonitrile=60/40																								
	<table><tr><td>Time(min)</td><td>A(%)</td><td>B(%)</td></tr><tr><td>0</td><td>48</td><td>52</td></tr><tr><td>5</td><td>45</td><td>55</td></tr><tr><td>12</td><td>45</td><td>55</td></tr><tr><td>22</td><td>25</td><td>75</td></tr><tr><td>23</td><td>25</td><td>75</td></tr><tr><td>25</td><td>48</td><td>52</td></tr><tr><td>30</td><td>48</td><td>52</td></tr></table>	Time(min)	A(%)	B(%)	0	48	52	5	45	55	12	45	55	22	25	75	23	25	75	25	48	52	30	48	52
Time(min)	A(%)	B(%)																							
0	48	52																							
5	45	55																							
12	45	55																							
22	25	75																							
23	25	75																							
25	48	52																							
30	48	52																							
Flow Rate:	1.0 mL/min																								
Detector:	255 nm																								
Temperature:	30°C																								
Injection Volume:	10 μL																								

Moxifloxacin Hydrochloride



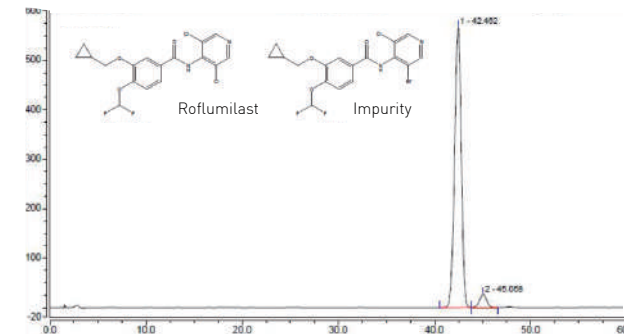
Column:	Ultisil® XB-Phenyl, 4.6 ×250 mm, 5 µm
Mobile Phase:	(0.5g TBAHS, 1g KH ₂ PO ₄ , 3.4 g(2 mL) H ₃ PO ₄ , 1000 mL water) / methanol=72/28
Flow Rate:	1.3 mL/min
Detector:	293 nm
Temperature:	45°C
Samples:	10 µL

Fenticonazole Nitrate



Column:	Ultisil® XB-Phenyl, 4.6 ×250 mm, 5 µm
Mobile Phase:	KH ₂ PO ₄ buffer solution*/acetonitrile=30/70 *Dissolve 3.4 g of KH ₂ PO ₄ in 900 mL water, adjust pH 3.3 with H ₃ PO ₄ , then add water to 1000 mL.
Flow Rate:	1.0 mL/min
Detector:	229nm
Temperature:	30°C
Injection Volume:	20 µL

Roflumilast



Column:	Ultisil® XB-Phenyl, 4.6 ×250 mm, 5 µm
Mobile Phase:	Acetonitrile/water=40/60
Flow Rate:	1.0 mL/min
Detector:	215 nm
Temperature:	30 °C
Samples:	10 µL

Ordering Information

Ultisil® XB-Phenyl

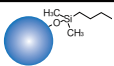
Particle size	Column ID (mm)	Column Length (mm)										Guard Cartridge	Cartridge holder
		30	33	50	75	100	125	150	200	250	300		
3 µm 120 Å	2.1	H00203-21009	H09203-21009	H00203-21010	H00203-21011	H00203-21012	H00203-21013	H00203-21014	H00203-21015	H00203-21016	-	H00808-23006	00808-01107
	3.0	H00203-21018	-	H00203-21019	H00203-21020	H00203-21021	H00203-21022	H00203-21023	H00203-21024	H00203-21025	-	H00808-23006	00808-01107
	4.0	H00203-21027	-	H00203-21028	H00203-21029	H00203-21030	H00203-21031	H00203-21032	H00203-21033	H00203-21034	-	H00808-03006	00808-01101
	4.6	H00203-21036	H11203-21036	H00203-21037	H00203-21038	H00203-21039	H00203-21040	H00203-21041	H00203-21042	H00203-21043	-	H00808-03006	00808-01101
5 µm 120 Å	2.1	H00203-31009	H09203-31009	H00203-31010	H00203-31011	H00203-31012	H00203-31013	H00203-31014	H00203-31015	H00203-31016	-	H00808-24006	00808-01107
	3.0	H00203-31018	-	H00203-31019	H00203-31020	H00203-31021	H00203-31022	H00203-31023	H00203-31024	H00203-31025	-	H00808-24006	00808-01107
	4.0	H00203-31027	-	H00203-31028	H00203-31029	H00203-31030	H00203-31031	H00203-31032	H00203-31033	H00203-31034	H00203-31035	H00808-04006	00808-01101
	4.6	H00203-31036	H11203-31036	H00203-31037	H00203-31038	H00203-31039	H00203-31040	H00203-31041	H00203-31042	H00203-31043	H00203-31044	H00808-04006	00808-01101
10 µm 120 Å	4.0	-	-	-	-	-	-	H00203-41032	H00203-41033	H00203-41034	H00203-41035	H00808-05006	00808-01101
	4.6	-	-	-	-	-	-	H00203-41041	H00203-41042	H00203-41043	H00203-41044	H00808-05006	00808-01101

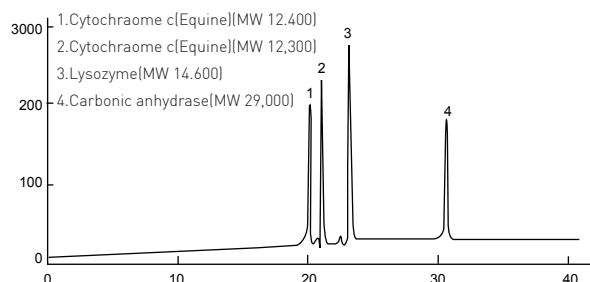
300 Å HPLC column provided. Please contact Welch or your local distributor for other dimensions.

Ultisil® XB-C4--suitable for separation of bio-samples

- Strong retention for hydrophobic and polar compounds
- Column packing of 300Å big pore size particles is appropriate for separation of peptide and protein samples with sharp peak shape
- Minibore column can be used for LC/MS(/MS)

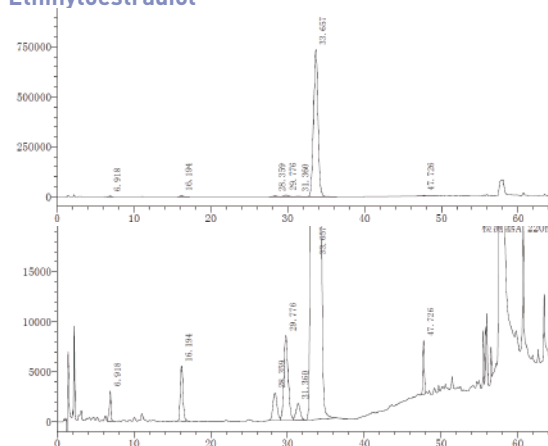
Ultisil® XB-C4

Structural Formula			
pH Range	1.5-10.0	Carbon Loading(%)	8(120 Å), 3(300 Å)
Particle Size	3 µm, 5 µm, 10 µm	USP List	L26
Surface Area(m ² /g)	320(120 Å), 90(300 Å)	Endcapped	Yes



Column:	Ultisil® XB-C4(300Å), 4.6 ×250 mm, 5 µm
Mobile Phase:	A: water / acetonitrile / TFA=90/10/0.05 B: water / acetonitrile / TFA=20/80/0.05 0%-100%B(0-15 min)
Flow Rate:	1.0 mL/min
Temperature:	45°C
Injection Volume:	10 µL

Ethinylestradiol



Column:	Ultisil®XB-C4, 4,6 ×250 mm, 5 µm		
Mobile Phase:	Mobile phase A: acetonitrile/water=30/70 Mobile phase B: acetonitrile/water=75/25		
	Time(min)	A(%)	B(%)
	0	100	0
	35	100	0
	65	0	100
Flow Rate:	1.5 mL/min		
Detector:	220 nm		
Temperature:	30°C		
Injection Volume:	30 µL		

Ordering Information

Ultisil® XB-C4

Particle size	Column ID (mm)	Column Length (mm)									Guard Cartridge	Cartridge holder
		30	33	50	75	100	125	150	200	250	10mm length	
3 μm 120 Å	2.1	H00216-21009	H09216-21009	H00216-21010	H00216-21011	H00216-21012	H00216-21013	H00216-21014	H00216-21015	H00216-21016	H00808-23011	00808-01107
	3.0	H00216-21018	-	H00216-21019	H00216-21020	H00216-21021	H00216-21022	H00216-21023	H00216-21024	H00216-21025	H00808-23011	00808-01107
	4.0	H00216-21027	-	H00216-21028	H00216-21029	H00216-21030	H00216-21031	H00216-21032	H00216-21033	H00216-21034	H00808-03030	00808-01101
	4.6	H00216-21036	H11216-21036	H00216-21037	H00216-21038	H00216-21039	H00216-21040	H00216-21041	H00216-21042	H00216-21043	H00808-03030	00808-01101
5 μm 120 Å	2.1	H00216-31009	H09216-31009	H00216-31010	H00216-31011	H00216-31012	H00216-31013	H00216-31014	H00216-31015	H00216-31016	H00808-24008	00808-01107
	3.0	H00216-31018	-	H00216-31019	H00216-31020	H00216-31021	H00216-31022	H00216-31023	H00216-31024	H00216-31025	H00808-24008	00808-01107
	4.0	H00216-31027	-	H00216-31028	H00216-31029	H00216-31030	H00216-31031	H00216-31032	H00216-31033	H00216-31034	H00808-04008	00808-01101
	4.6	H00216-31036	H11216-31036	H00216-31037	H00216-31038	H00216-31039	H00216-31040	H00216-31041	H00216-31042	H00216-31043	H00808-04008	00808-01101
10 μm 120 Å	4.0	-	-	-	-	-	-	H00216-41032	H00216-41033	H00216-41034	H00808-05008	00808-01101
	4.6	-	-	-	-	-	-	H00216-41041	H00216-41042	H00216-41043	H00808-05008	00808-01101

300 Å HPLC column provided. Please contact Welch or your local distributor for other dimensions.

Ultisil® XB-C1

- Lowest hydrophobicity among reversed phases
- Intermediate polarity between normal phase silica and other alkyl bonded reversed phase
- Alternative selectivity to C18 phase

Ultisil® XB-C1

Structural Formula	
pH Range	1.5-10.0
Particle Size	5 µm
Surface Area(m²/g)	320(120 Å)
Carbon Loading(%)	4(120 Å)
USP List	L13
Endcapped	Yes

Ordering Information

Ultisil® XB-C1

Particle size	Column ID (mm)	Column Length (mm)										Guard Cartridge	Cartridge holder
		30	33	50	75	100	125	150	200	250	300		
5 µm 120 Å	2.1	H00217-31009	H09217-31009	H00217-31010	H00217-31011	H00217-31012	H00217-31013	H00217-31014	H00217-31015	H00217-31016	-	H00808-24023	00808-01107
	3.0	H00217-31018	-	H00217-31019	H00217-31020	H00217-31021	H00217-31022	H00217-31023	H00217-31024	H00217-31025	-	H00808-24023	00808-01107
	4.0	H00217-31027	-	H00217-31028	H00217-31029	H00217-31030	H00217-31031	H00217-31032	H00217-31033	H00217-31034	H00217-31035	H00808-04026	00808-01101
	4.6	H00217-31036	H11217-31036	H00217-31037	H00217-31038	H00217-31039	H00217-31040	H00217-31041	H00217-31042	H00217-31043	H00217-31044	H00808-04026	00808-01101

Don't see your needed size or format? Contact Welch or your local distributor for other dimensions.



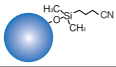
Ultisil® XB-CN--unique selectivity for polar compounds

Ultisil®XB-CN column can be used in either reversed or normal phase. Reversed phase CN column has special selectivity for polar compounds, and due to its low hydrophobicity, elution of hydrophobic molecules is fast. Furthermore, XB-CN column shows perfect peak shape for strong basic analytes (including quaternary ammonium salts). Polarity of XB-CN column is the strongest among all reversed columns. It is a good choice for compounds that are strongly retained on standard reversed columns.

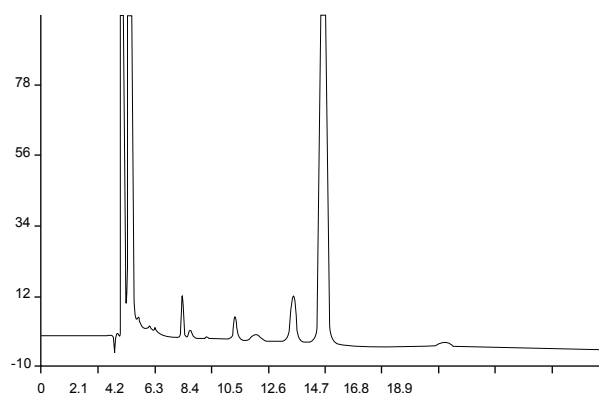
Normal phase CN column can replace SiO₂ column. Equilibrium of normal phase column is fast, and the silica surface activity is better than that of silica column. To prolong column life time, alternation between reversed phase and normal phase uses should be avoided. While XB-CN column can be used in either reversed or normal phase, elution sequence is different in different separation mode.

- Can be used in either reversed or normal phases
- Stable bonding chemistry and excellent surface coverage
- Low hydrophobicity, unique selectivity

Ultisil®XB-CN

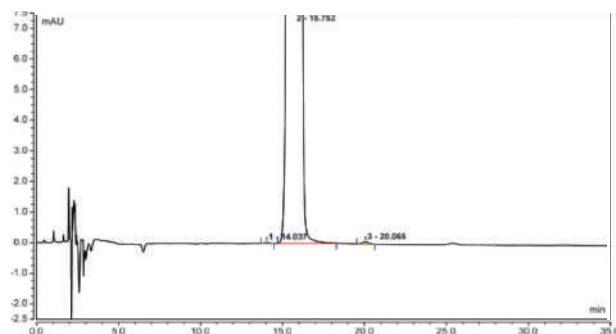
Structural Formula	
pH Range	1.5-9.0
Particle Size	3 µm, 5 µm, 10 µm
Surface Area(m ² /g)	320(120 Å)
Carbon Loading(%)	7(120 Å)
USP List	L10
Endcapped	Yes

Rifampicin Isoniazid and Pyrazinamide



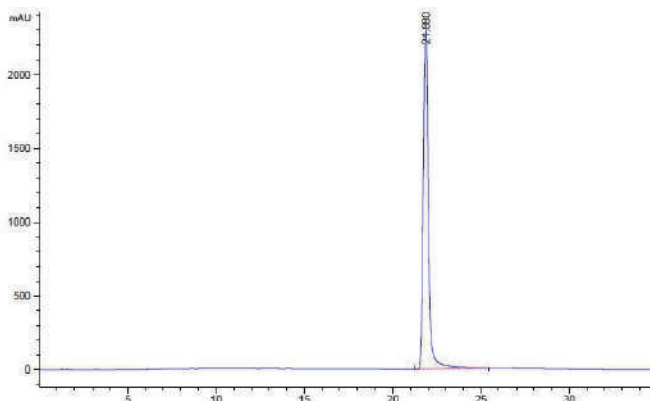
Column:	Ultisil® XB-CN, 4.6 ×250 mm, 5 µm
Mobile Phase:	0.01 mol/L sodium heptanesulfonate solution* / acetonitrile=54/46 * Dissolve 2.0225 g of sodium heptanesulfonate in 1000 mL water, adjust pH 1.85 with H ₃ PO ₄
Flow Rate:	0.6 mL/min
Detector:	254 nm
Temperature:	30°C
Injection Volume:	20 µL

Carbamazepine



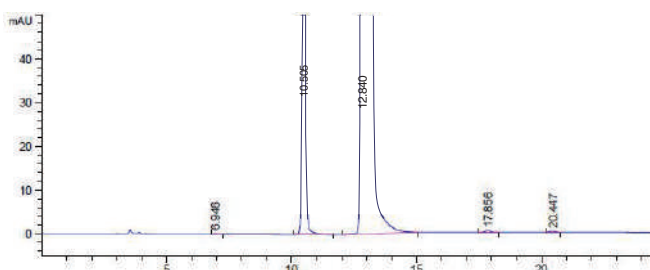
Column:	Ultisil® XB-CN, 4.6 ×250 mm, 5 µm
Mobile Phase:	Water/methanol/tetrahydrofuran = 850/120/30 Add 0.2ml formic acid and 0.5ml triethylamine for every 1000ml
Flow Rate:	1.5 mL/min
Detector:	230 nm
Temperature:	40°C
Injection Volume:	20 µL

Cetilistat



Column:	Ultisil® XB-CN, 4.6 ×250 mm, 5 µm		
Mobile Phase:	Mobile phase A: water Mobile Phase B: acetonitrile		
	Time(min)	A(%)	B(%)
	0	60	40
	30	20	80
	40	20	80
Flow Rate:	1.0 ml/min		
Detector:	221 nm		
Temperature:	35°C		
Injection Volume:	10 µL		

Alogliptin Benzoate



Column:	Ultisil®XB-CN, 4.6 ×250 mm, 5 μm															
Mobile Phase:	Mobile phase A: acetonitrile/water/TFA=100/1900/1 Mobile Phase B: acetonitrile/water/TFA=1900/100/1															
	<table><tr><td>Time(min)</td><td>A(%)</td><td>B(%)</td></tr><tr><td>0</td><td>99</td><td>1</td></tr><tr><td>30</td><td>80</td><td>20</td></tr><tr><td>50</td><td>10</td><td>90</td></tr><tr><td>51</td><td>99</td><td>1</td></tr></table>	Time(min)	A(%)	B(%)	0	99	1	30	80	20	50	10	90	51	99	1
Time(min)	A(%)	B(%)														
0	99	1														
30	80	20														
50	10	90														
51	99	1														
Flow Rate:	1.0 mL/min															
Detector:	278 nm															
Temperature:	35°C															
Injection Volume:	20 μL															

Ordering Information

Ultisil® XB-CN

Particle size	Column ID (mm)	Column Length (mm)										Guard Cartridge	Cartridge holder
		30	33	50	75	100	125	150	200	250	300		
3 µm 120 Å	2.1	H00205-21009	H09205-21009	H00205-21010	H00205-21011	H00205-21012	H00205-21013	H00205-21014	H00205-21015	H00205-21016	-	H00808-23005	00808-01107
	3.0	H00205-21018	-	H00205-21019	H00205-21020	H00205-21021	H00205-21022	H00205-21023	H00205-21024	H00205-21025	-	H00808-23005	00808-01107
	4.0	H00205-21027	-	H00205-21028	H00205-21029	H00205-21030	H00205-21031	H00205-21032	H00205-21033	H00205-21034	-	H00808-03005	00808-01101
	4.6	H00205-21036	H11205-21036	H00205-21037	H00205-21038	H00205-21039	H00205-21040	H00205-21041	H00205-21042	H00205-21043	-	H00808-03005	00808-01101
5 µm 120 Å	2.1	H00205-31009	H09205-31009	H00205-31010	H00205-31011	H00205-31012	H00205-31013	H00205-31014	H00205-31015	H00205-31016	-	H00808-24005	00808-01107
	3.0	H00205-31018	-	H00205-31019	H00205-31020	H00205-31021	H00205-31022	H00205-31023	H00205-31024	H00205-31025	-	H00808-24005	00808-01107
	4.0	H00205-31027	-	H00205-31028	H00205-31029	H00205-31030	H00205-31031	H00205-31032	H00205-31033	H00205-31034	H00205-31035	H00808-04005	00808-01101
	4.6	H00205-31036	H11205-31036	H00205-31037	H00205-31038	H00205-31039	H00205-31040	H00205-31041	H00205-31042	H00205-31043	H00205-31044	H00808-04005	00808-01101
10 µm 120 Å	4.0	-	-	-	-	-	-	H00205-41032	H00205-41033	H00205-41034	H00205-41035	H00808-05005	00808-01101
	4.6	-	-	-	-	-	-	H00205-41041	H00205-41042	H00205-41043	H00205-41044	H00808-05005	00808-01101

Don't see your needed size or format? Contact Welch or your local distributor for other dimensions.