Welch
Bridging Separation Techniques

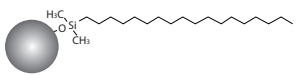
UHPLC Column

Welch also offers Ultisil® UHPLC (1.8 µm) columns. With high column efficiency and good lot-to-lot reproducibility, Ultisil® UHPLC can generate high quality data, decreasing the probability of repeated sample analyses while reducing the consumption of solvent at the same time. Ultisil® UHPLC series offer a variety of bonded phases, specified guard columns and pre-columns for the users to design and realize faster and more environmentally friendly chromatography applications with higher resolution.

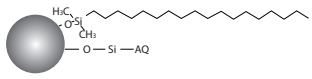
Feature

- Ultra resolution: same resolution as or better than that of conventional column which has more packing materials.
- Ultra speed: UHPLC offers more information per unit time and higher speed owing to its smaller particles.
- Sensitivity: higher N, narrower peak width (W), higher peak height. The system sensitivity of 1.8 µm UHPLC is 70% and 40% higher than that of conventional colµmn of 5µm and 3.5µm packings, respectively.

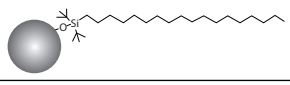
Ultisil® UHPLC XB-C18

Structural Formula	
pH Range	1.5-10.0
Particle Size	1.8 µm
Surface Area(m^2/g)	320(120 Å)
Carbon Loading(%)	17(120 Å)
USP List	L1
Endcapped	Yes

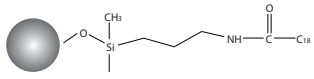
Ultisil® UHPLC AQ-C18

Structural Formula	
pH Range	1.5-10.0
Particle Size	1.8 µm
Surface Area(m^2/g)	320(120 Å)
Carbon Loading(%)	12(120 Å)
USP List	L1
Endcapped	Yes

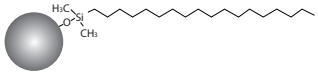
Ultisil® UHPLC LP-C18

Structural Formula	
pH Range	0.5-8.0
Particle Size	1.8 µm
Surface Area(m^2/g)	320(120 Å)
Carbon Loading(%)	10(120 Å)
USP List	L1
Endcapped	No

Ultisil® UHPLC Polar-RP

Structural Formula	
pH Range	1.5-10.0
Particle Size	1.8 µm
Surface Area(m^2/g)	320(120 Å)
Carbon Loading(%)	18(120 Å)
USP List	L1
Endcapped	Yes

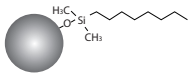
Xtimate® UHPLC C18

Structural Formula	
pH Range	1.0-12.5
Particle Size	1.8 µm
Surface Area(m^2/g)	320(120 Å)
Carbon Loading(%)	14(120 Å)
USP List	L1
Endcapped	Yes

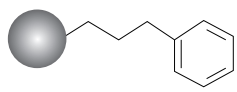
Ultisil® UHPLC HILIC

Structural Formula	
pH Range	2.0-8.0
Particle Size	1.8 µm
Surface Area(m^2/g)	320(120 Å)
Carbon Loading(%)	N/A
USP List	L3
Endcapped	No

Ultisil® UHPLC XB-C8

Structural Formula	
pH Range	1.5-10.0
Particle Size	1.8 µm
Surface Area(m^2/g)	320(120 Å)
Carbon Loading(%)	12(120 Å)
USP List	L7
Endcapped	Yes

Ultisil® UHPLC XB-Phenyl

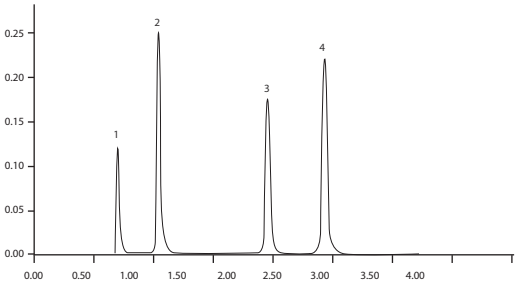
Structural Formula	
pH Range	1.5-10.0
Particle Size	1.8 µm
Surface Area(m^2/g)	320(120 Å)
Carbon Loading(%)	12(120 Å)
USP List	L11
Endcapped	Yes

Hardware Features:

Hardware Features:
- New design
- Low dead volume
- New special frit

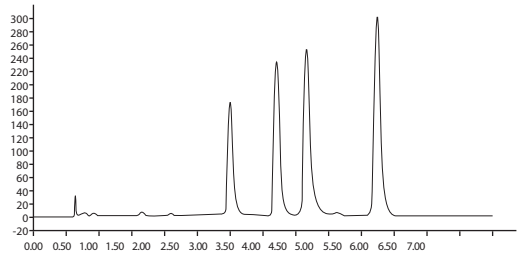
Packing Materials Features:
- High efficiency 1.8μm particles
- High column efficiency and excellent strength
- Variety of bonding chemistries
- Stable column bed, highest pressure: 15000psi

Column Packing Features:
- Unique column packing technique
- Withstand ultra-high pressure of UHPLC instruments



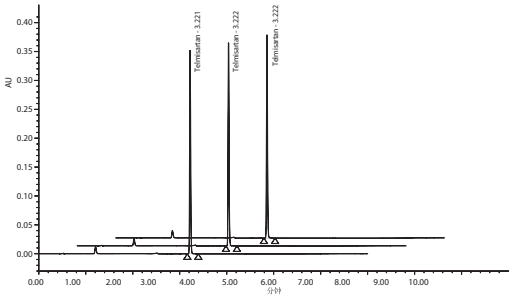
Column:	Ultisil® UHPLC XB-C18, 2.1 ×100 mm, 1.8 μm
Mobile Phase:	Acetonitrile/water=65/35
Gradient Program:	254 nm
Temperature:	Ambient
Flow Rate:	0.35 mL/min
Injection Volume:	2 μL
Back Pressure:	5000 psi
Instrument:	Water Acquity UPLC
Samples in Order:	Uracil Phenol 4-chloronitrobenzene Toluene

Analysis of Aflatoxin



Column:	Ultisil® UHPLC XB-C18, 2.1 ×100 mm, 1.8 μm
Mobile Phase:	Methanol/acetonitirile/water=18/18/64
Detector:	FLD Excitation:365 nm Emission:450 nm
Temperature:	35°C
Flow Rate:	0.35 mL/min
Injection Volume:	2 μL
Instrument:	Water UPLC
Samples in Order:	G2, G1, B2, B1

Analysis of Telmisartan Tablets



	Sample Name	Retention Time	Area	USP Theoretical plate number
1	Telmisartan	3.222	487938	126585
2	Telmisartan	3.222	487646	126607
3	Telmisartan	3.221	488317	126791

Ordering Information

1.8 µm UHPLC column

Bonded phase	Column ID (mm)	Column Length (mm)					Guard Cartridge	Guard Column
		30	50	75	100	150		
Ultisil XB-C18	2.1	H00201-11009	H00201-11010	H00201-11011	H00201-11012	H00201-11014	HU808-201-25	H00808-01109
	3.0	H00201-11018	H00201-11019	H00201-11020	H00201-11021	H00201-11023	HU808-201-25	H00808-01109
	4.6	H00201-11036	H00201-11037	H00201-11038	H00201-11039	H00201-11041	HU808-201-45	H00808-01109
Ultisil XB-C8	2.1	H00202-11009	H00202-11010	H00202-11011	H00202-11012	H00202-11014	HU808-202-25	H00808-01109
	3.0	H00202-11018	H00202-11019	H00202-11020	H00202-11021	H00202-11023	HU808-202-25	H00808-01109
	4.6	H00202-11036	H00202-11037	H00202-11038	H00202-11039	H00202-11041	HU808-202-45	H00808-01109
Ultisil AQ-C18	2.1	H00207-11009	H00207-11010	H00207-11011	H00207-11012	H00207-11014	HU808-207-25	H00808-01109
	3.0	H00207-11018	H00207-11019	H00207-11020	H00207-11021	H00207-11023	HU808-207-25	H00808-01109
	4.6	H00207-11036	H00207-11037	H00207-11038	H00207-11039	H00207-11041	HU808-207-45	H00808-01109
Ultisil XB-Phenyl	2.1	H00203-11009	H00203-11010	H00203-11011	H00203-11012	H00203-11014	HU808-203-25	H00808-01109
	3.0	H00203-11018	H00203-11019	H00203-11020	H00203-11021	H00203-11023	HU808-203-25	H00808-01109
	4.6	H00203-11036	H00203-11037	H00203-11038	H00203-11039	H00203-11041	HU808-203-45	H00808-01109
Ultisil LP-C18	2.1	H00208-11009	H00208-11010	H00208-11011	H00208-11012	H00208-11014	HU808-208-25	H00808-01109
	3.0	H00208-11018	H00208-11019	H00208-11020	H00208-11021	H00208-11023	HU808-208-25	H00808-01109
	4.6	H00208-11036	H00208-11037	H00208-11038	H00208-11039	H00208-11041	HU808-208-45	H00808-01109
Ultisil Polar-RP	2.1	H00215-11009	H00215-11010	H00215-11011	H00215-11012	H00215-11014	HU808-215-25	H00808-01109
	3.0	H00215-11018	H00215-11019	H00215-11020	H00215-11021	H00215-11023	HU808-215-25	H00808-01109
	4.6	H00215-11036	H00215-11037	H00215-11038	H00215-11039	H00215-11041	HU808-215-45	H00808-01109
Ultisil HILIC	2.1	H00200-11009	H00200-11010	H00200-11011	H00200-11012	H00200-11014	HU808-209-25	H00808-01109
	3.0	H00200-11018	H00200-11019	H00200-11020	H00200-11021	H00200-11023	HU808-209-25	H00808-01109
	4.6	H00200-11036	H00200-11037	H00200-11038	H00200-11039	H00200-11041	HU808-2 09-45	H00808-01109
Xtimate C18	2.1	00101-01009	00101-01010	00101-01011	00101-01012	00101-01014	U808-101-25	00808-01109
	3.0	00101-01018	00101-01019	00101-01020	00101-01021	00101-01023	U808-101-25	00808-01109
	4.6	00101-01036	00101-01037	00101-01038	00101-01039	00101-01041	U808-101-45	00808-01109

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

Inline Filter for UHPLC

	P/N	Description
	00808-01221	UltraShield inline Fliter, SS, 0.5 µm stainless steel frit, 15000 psi
	00808-01222	Direct Connect Precolumn inline Fliter, with 0.2µm Replacement Frits×5, 18000 psi
	00808-UF020	Replaceable firts (0.2 µm)