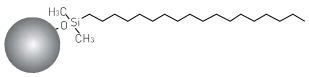
UHPLC Column

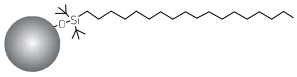
Welch also offers Ultisil™ UHPLC (1.8 μm) columns. With high column efficiency and good lot-to-lot reproducibility, Ultisil™ UHPLC can generate high quality data, decreasing the probability of repeated sample analyses while reducing the consumption of solvent at the same time. Ultisil™ UHPLC series offer 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.

- 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 column of 5μm and 3.5μm packings, respectively.

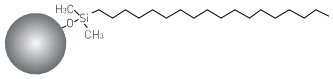
Ultisil™ UHPLC XB-C18

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

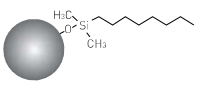
Ultisil™ UHPLC LP-C18

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

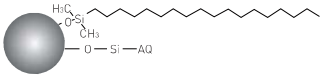
Xtimate® UHPLC C18

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

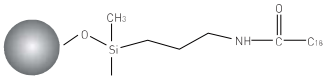
Ultisil™ UHPLC XB-C8

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 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

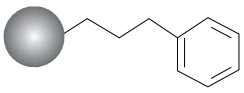
Ultisil™ UHPLC Polar-RP

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

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-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

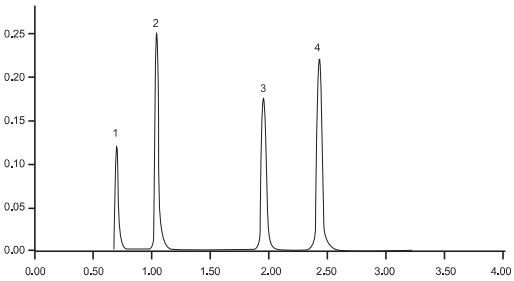
Hardware Features:

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



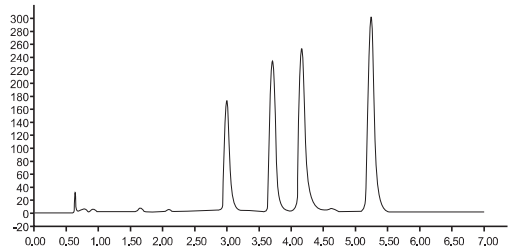
Packing Materials Features:
- High efficiency 1.8μm particles
- High column efficiency and excellent strength
- Variety of bonding chemistries
- Stable column bed, highest pressure: 15000psi

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



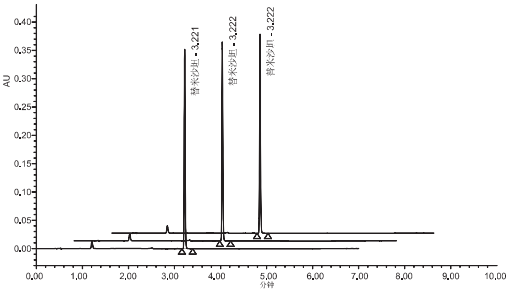
Column:	Ultisil™ UHPLC XB-C18, 2.1 ×100 mm, 1.8 μm
Mobile Phase:	Acetonitrile/water=65/35
Gradient Program:	254 nm
Temperature:	Ambient
Flow Rate:	0.35 mL/min
Injection Volume:	2 μL
Back Pressure:	5000 psi
Instrument:	Water Acquity UPLC
Samples in Order:	Uracil Phenol 4-chloronitrobenzene Toluene

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 Holder
		30	50	75	100	150		
Ultisil XB-C18	2.1	00201-11009	00201-11010	00201-11011	00201-11012	00201-11014	U808-201-25	00808-01109
	3.0	00201-11018	00201-11019	00201-11020	00201-11021	00201-11023	U808-201-25	00808-01109
	4.6	00201-11036	00201-11037	00201-11038	00201-11039	00201-11041	U808-201-45	00808-01109
Ultisil XB-C8	2.1	00202-11009	00202-11010	00202-11011	00202-11012	00202-11014	U808-202-25	00808-01109
	3.0	00202-11018	00202-11019	00202-11020	00202-11021	00202-11023	U808-202-25	00808-01109
	4.6	00202-11036	00202-11037	00202-11038	00202-11039	00202-11041	U808-202-45	00808-01109
Ultisil AQ-C18	2.1	00207-11009	00207-11010	00207-11011	00207-11012	00207-11014	U808-207-25	00808-01109
	3.0	00207-11018	00207-11019	00207-11020	00207-11021	00207-11023	U808-207-25	00808-01109
	4.6	00207-11036	00207-11037	00207-11038	00207-11039	00207-11041	U808-207-45	00808-01109
Ultisil XB-Phenyl	2.1	00203-11009	00203-11010	00203-11011	00203-11012	00203-11014	U808-203-25	00808-01109
	3.0	00203-11018	00203-11019	00203-11020	00203-11021	00203-11023	U808-203-25	00808-01109
	4.6	00203-11036	00203-11037	00203-11038	00203-11039	00203-11041	U808-203-45	00808-01109
Ultisil LP-C18	2.1	00208-11009	00208-11010	00208-11011	00208-11012	00208-11014	U808-208-25	00808-01109
	3.0	00208-11018	00208-11019	00208-11020	00208-11021	00208-11023	U808-208-25	00808-01109
	4.6	00208-11036	00208-11037	00208-11038	00208-11039	00208-11041	U808-208-45	00808-01109
Ultisil Polar-RP	2.1	00215-11009	00215-11010	00215-11011	00215-11012	00215-11014	U808-215-25	00808-01109
	3.0	00215-11018	00215-11019	00215-11020	00215-11021	00215-11023	U808-215-25	00808-01109
	4.6	00215-11036	00215-11037	00215-11038	00215-11039	00215-11041	U808-215-45	00808-01109
Ultisil HILIC	2.1	00200-11009	00200-11010	00200-11011	00200-11012	00200-11014	U808-209-25	00808-01109
	3.0	00200-11018	00200-11019	00200-11020	00200-11021	00200-11023	U808-209-25	00808-01109
	4.6	00200-11036	00200-11037	00200-11038	00200-11039	00200-11041	U808-209-45	00808-01109
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)