

Welch HPLC Column Selection by USP Listing

HPLC Column	Particle Size	pH Range	Carbon Loading	Surface Area(m ² /g)	Endcapped
L1: Octadecyl silane chemically bonded to porous silica or ceramic microparticles, 1.5 to 10 µm in diameter, or a monolithic rod.					
Ultisil XB-C18	3, 5, 10 µm	1.5-10.0	17%(120Å), 8%(300Å)	320(120Å), 90(300Å)	Yes
Ultisil AQ-C18	3, 5, 10 µm	1.5-10.0	12%(120Å)	320(120Å)	Yes
Ultisil LP-C18	3, 5, 10 µm	0.5-8.0	10%(120Å), 5%(300Å)	320(120Å), 90(300Å)	No
Ultisil LP-AQ	5 µm	1.0-8.0	5%(120Å)	320(120Å)	No
Ultisil Polar-RP	3, 5 µm	1.5-10.0	18%(120Å)	320(120Å)	Yes
Ultisil AAA(Amino Acid)	5 µm	1.5-10.0	17%(120Å)	320(120Å)	Yes
Ultisil PAH	3, 5, 10 µm	1.5-10.0	22%(120Å)	320(120Å)	No
Ultisil ALK C18	5 µm	1.5-10.0	12%(120Å)	320(120Å)	Yes
Ultisil Plus C18	3.5, 5 µm	2.0-8.0	10%(130Å)	160(130Å)	Yes
Xtimate C18	3, 5, 10 µm	1.0-12.5	14%(120Å)	320(120Å)	Yes
Xtimate Polar-RP	5 µm	1.5-12.5	16%(120Å)	320(120Å)	Yes
Welchrom C18	5 µm	1.5-10.0	19%(120Å)	320(120Å)	Yes
Topsil C18	5 µm	2.0-9.5	12%(150Å)	260(150Å)	Yes
Boltimate C18(Core-shell)	2.7 µm	2.0-8.5	9%(90Å)	120(90Å)	Yes
Boltimate EXT-C18(Core-shell)	2.7 µm	1.5-12.0	8%(90Å)	120(90Å)	Yes
Boltimate LP-C18(Core-shell)	2.7 µm	1.0-8.5	7%(90Å)	120(90Å)	No
Ultisil UHPLC XB-C18	1.8 µm	1.5-10.0	17%(120Å)	320(120Å)	Yes
Ultisil UHPLC AQ-C18	1.8 µm	1.5-10.0	12%(120Å)	320(120Å)	Yes
Ultisil UHPLC LP-C18	1.8 µm	0.5-8.0	10%(120Å)	320(120Å)	No
Ultisil UHPLC Polar-RP	1.8 µm	1.5-10.0	18%(120Å)	320(120Å)	Yes
Xtimate UHPLC C18	1.8 µm	1.0-12.5	14%(120Å)	320(120Å)	Yes
Ultisil Bio-UHPLC C18	1.8 µm	2.0-9.0	8%(300Å)	100(300Å)	Yes
L3: Porous silica particles, 1.5 to 10 µm in diameter, or a monolithic silica rod.					
Ultisil SiO ₂	3, 5, 10 µm	2.0-8.0	N/A	320(120Å)	No
Ultisil HILIC	3, 5, 10 µm	2.0-8.0	N/A	320(120Å)	No
Ultisil UHPLC HILIC	1.8 µm	2.0-8.0	N/A	320(120Å)	No
Topsil Silica	5 µm	2.0-8.0	N/A	260(150Å)	No
Boltimate HILIC	2.7 µm	2.0-8.5	N/A	120(90Å)	No
L7: Octyl silane chemically bonded to totally porous silica particles, 1.5 to 10 µm in diameter, or a monolithic silica rod.					
Ultisil XB-C8	3, 5, 10 µm	1.5-10	12%(120Å), 4.5%(300Å)	320(120Å), 90(300Å)	Yes
Ultisil LP-C8	3, 5, 10 µm	1.0-8.0	5.5%(120Å), 3.5%(300Å)	320(120Å), 90(300Å)	No
Ultisil F-C8	3, 5, 10 µm	1.5-10.0	12%(120Å)	320(120Å)	Yes
Xtimate C8	3, 5, 10 µm	1.0-12.5	10%(120Å)	320(120Å)	Yes
Welchrom C8	5 µm	1.5-10.0	12%(120Å)	320(120Å)	Yes
Topsil C8	5 µm	2.0-9.5	10%(150Å)	260(150Å)	Yes
Ultisil UHPLC XB-C8	1.8 µm	1.5-10.0	12%(120Å)	320(120Å)	Yes
L8: An essentially monomolecular layer of aminopropyl-silane chemically bonded to totally porous silica gel support, 3 to 10 µm in diameter.					
Ultisil XB-NH ₂	3, 5, 10 µm	2.0-8.0	4%(120Å)	320(120Å)	No
Ultisil Hilic-NH ₂	3, 5 µm	2.0-8.0	4%(120Å)	320(120Å)	No
Topsil NH ₂	5 µm	2.0-8.0	3%(150Å)	260(150Å)	No
Topsil Hilic-NH ₂	5 µm	2.0-8.0	3%(150Å)	260(150Å)	No
Xtimate Lactose-NH ₂	5 µm	2.0-8.0	7%(120Å)	350(120Å)	No
L9: Irregular or spherical, totally porous silica gel having a chemically bonded, strongly acidic cation-exchange coating, 3 to 10 µm in diameter.					
Ultisil XB-SCX	3, 5 µm	2.0-8.0	12%(120Å), 5%(300Å)	320(120Å), 90(300Å)	No
Xtimate XB-SCX	5 µm	2.0-8.0	2%(120Å)	350(120Å)	No
L10: Nitrile groups chemically bonded to porous silica particles, 3 to 10 µm in diameter.					
Ultisil XB-CN	3, 5, 10 µm	1.5-9.0	7%(120Å)	320(120Å)	Yes
Ultisil LP-CN	5 µm	1.0-8.0	6%(120Å)	320(120Å)	No
Xtimate CN	3, 5 µm	1.0-12.5	7%(120Å)	320(120Å)	Yes
Topsil CN	5 µm	2.0-8.0	6%(150Å)	260(150Å)	Yes
L11: Phenyl groups chemically bonded to porous silica particles, 1.5 to 10 µm in diameter.					
Ultisil XB-Phenyl	3, 5, 10 µm	1.5-10.0	12%(120Å), 4%(300Å)	320(120Å), 90(300Å)	Yes
Ultisil Phenyl-Ether	5 µm	1.5-10.0	12%(120Å)	320(120Å)	Yes
Ultisil PFP	3, 5 µm	1.5-10.0	13%(120Å)	320(120Å)	Yes
Xtimate Phenyl-hexyl	3, 5 µm	1.0-12.5	12%(120Å)	320(120Å)	Yes
Topsil Phenyl-hexyl	5 µm	2.0-9.5	12%(150Å)	260(150Å)	Yes
Boltimate Phenyl-hexyl(Core-shell)	2.7 µm	2.0-8.5	7%(90Å)	120(90Å)	Yes
Boltimate EXT-PFP(Core-shell)	2.7 µm	1.5-10.0	5%(90Å)	120(90Å)	Yes
Ultisil UHPLC XB-Phenyl	1.8 µm	1.5-10.0	13%(120Å)	320(120Å)	Yes
L13: Trimethylsilane chemically bonded to porous silica particles, 3 to 10 µm in diameter.					
Ultisil XB-C1	5 µm	1.5-10.0	4%(120Å)	320(120Å)	Yes



HPLC Column	Particle Size	pH Range	Carbon Loading	Surface Area(m ² /g)	Endcapped
L14: Silica gel having a chemically bonded, strongly basic quaternary ammonium anion-exchange coating, 5 to 10 µm in diameter.					
Ultisil XB-SAX	5 µm	2.0-8.0	7.5%(120Å), 1.5%(300Å)	320(120Å), 90(300Å)	No
L17: Strong cation-exchange resin consisting of sulfonated cross-linked styrene-divinylbenzene copolymer in the hydrogen form, 7 to 11 µm in diameter.					
Xtimate Sugar-H	5, 8 µm	1.0-3.0	N/A	N/A	N/A
L19: Strong cation-exchange resin consisting of sulfonated cross-linked styrene-divinylbenzene copolymer in the calcium form, 9 µm in diameter.					
Xtimate Sugar-Ca	5, 8 µm	5.0-9.0	N/A	N/A	N/A
L20: Dihydroxypropane groups chemically bonded to porous silica particles, 1.5 to 10 µm in diameter.					
Ultisil Diol	3, 5, 10 µm	2.0-8.0	2.5%(120Å)	320(120Å)	No
L21: A rigid, spherical styrene-divinylbenzene copolymer, 3 to 30 µm in diameter.					
Xtimate PS/DVB	5, 10 µm	1.0-14.0	N/A(100Å, 300Å)	N/A	N/A
L22: A cation-exchange resin made of porous polystyrene gel with sulfonic acid groups, about 10 µm in size.					
Xtimate Sugar-H	5, 8 µm	1.0-3.0	N/A	N/A	N/A
L26: Butyl silane chemically bonded to totally porous silica particles, 3 to 10 µm in diameter.					
Ultisil XB-C4	3, 5, 10 µm	1.5-10.0	8%(120Å), 3%(300Å)	320(120Å), 90(300Å)	Yes
Xtimate C4	3, 5 µm	1.0-12.5	8%(120Å)	320(120Å)	Yes
Ultisil Bio-UHPLC C4	1.8 µm	2.0-9.0	3%(300Å)	100(300Å)	Yes
L33: Packing having the capacity to separate dextrans of 4,000 to 500,000 daltons. It is spherical, silica-based and processed to provide pH stability.					
Xtimate SEC-120	5 µm	2.0-7.5	N/A(120Å)	N/A	N/A
Xtimate SEC-300	5 µm	2.0-7.5	N/A(300Å)	N/A	N/A
Xtimate SEC-500	5 µm	2.0-7.5	N/A(500Å)	N/A	N/A
Xtimate SEC-700	5 µm	2.0-7.5	N/A(700Å)	N/A	N/A
Xtimate SEC-1000	5 µm	2.0-7.5	N/A(1000Å)	N/A	N/A
Ultisil Bio-UHPLC SEC	1.8 µm	2.0-9.0	N/A(300Å)	N/A	N/A
L40: Cellulose tris-3,5-dimethylphenylcarb-amate coated porous silica particles, 5 to 20 µm in diameter.					
Ultisil Cellu-D/Cellu-DR	5, 10 µm	2.0-9.0	N/A	320	N/A
L43: Pentafluorophenyl groups chemically bonded to silica particles 5 to 10 µm in diameter.					
Ultisil PFP	3, 5 µm	1.5-10.0	13%(120Å)	320(120Å)	Yes
Boltimate EXT-PFP(Core-shell)	2.7 µm	1.5-10.0	5%(90Å)	120(90Å)	Yes
L51: Amylose tris-3,5-dimethylphenylcarbamate-coated, porous, spherical, silica particles, 5 to 10 µm in diameter.					
Ultisil Amy-D/Amy-DR	5, 10 µm	2.0-9.0	N/A	320	N/A
L56: Propyl silane chemically bonded to totally porous silica particles, 3 to 10 µm in diameter.					
Ultisil LP-C3	5 µm	1.0-8.0	4%(120Å)	320(120Å)	No
L59: Packing having the capacity to separate proteins by molecular weight over the range of 5 to 7000 kDa. It is spherical (1.5-10 µm),silica-based, and processed to provide hydrophilic characteristicsand pH stability.					
Xtimate SEC-120	5 µm	2.0-7.5	N/A(120Å)	N/A	N/A
Xtimate SEC-300	5 µm	2.0-7.5	N/A(300Å)	N/A	N/A
Xtimate SEC-500	5 µm	2.0-7.5	N/A(500Å)	N/A	N/A
Xtimate SEC-700	5 µm	2.0-7.5	N/A(700Å)	N/A	N/A
Xtimate SEC-1000	5 µm	2.0-7.5	N/A(1000Å)	N/A	N/A
Ultisil Bio-UHPLC SEC	1.8 µm	2.0-9.0	N/A(300Å)	N/A	N/A
L60: Spherical, porous silica gel, 10 µm or less in diameter, surface has been covalently modified with alkyl amide groups and endcapped.					
Ultisil Polar-RP	3, 5 µm	1.5-10.0	18%(120Å)	320(120Å)	Yes
Xtimate Polar-RP	5 µm	1.5-12.5	16%(120Å)	320(120Å)	Yes
Ultisil UHPLC Polar-RP	1.8 µm	1.5-10.0	18%(120Å)	320(120Å)	Yes
L62: C30 silane bonded phase on a fully porous spherical silica, 3 to 15 µm in diameter.					
Ultisil XB-C30	3, 5, 10 µm	1.5-10.0	17%(120Å)	320(120Å)	Yes
L80: Cellulose tris(4-methylbenzoate)-coated, porous, spherical, silicaparticles, 5 µm in diameter.					
Ultisil Cellu-J/Cellu-JR	5, 10 µm	2.0-9.0	N/A	320	N/A
Not Included in USP List					
Ultisil HILIC Amide	3, 5 µm	2.0-8.0	7%(120Å)	320(120Å)	N/A
Ultisil HILIC Amphion	5 µm	2.0-8.0	6%(120Å)	320(120Å)	N/A
Ultisil Amy-S/Amy-SR	5, 10 µm	2.0-9.0	N/A	320	N/A
Ultisil ADME	5 µm	2.0-9.0	12%(120Å)	320(120Å)	N/A
Xtimate G-10	40-120 µm	1.0-14.0	N/A	N/A	N/A
Ultisil MM NH ₂ /CN	5 µm	2.0-8.0	N/A(120Å)	320(120Å)	N/A
Ultisil MM C18/SCX	5 µm	2.0-8.0	N/A(120Å)	320(120Å)	N/A