



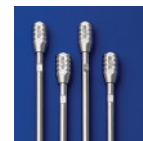
HPLC & UHPLC Columns



**Allure Acrylamide LC Column**

Particle: 5 μ m, spherical
Pore Size: 60 Å
Carbon Load: proprietary
End-cap: no

Surface Area: 450 m²/g
pH Range: 2.5 to 8.0
Maximum Temperature: 80 °C

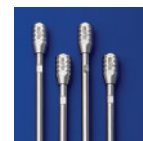


ID	Length	qty.	cat.#
2.1 mm	50 mm	ea.	9167552
3.0 mm	150 mm	ea.	916756E

Allure AK Columns

Particle: 5 μ m, spherical
Pore Size: 60 Å
Carbon Load: proprietary
End-Cap: yes

Surface Area: 450 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C

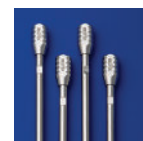


ID	Length	Guard	qty.	cat.#
4.6 mm	200 mm	with Trident Inlet Fitting	ea.	9159525-700

Allure Organic Acids Columns

Particle: 5 μ m, spherical
Pore Size: 60 Å
Carbon Load: proprietary
End-Cap: no

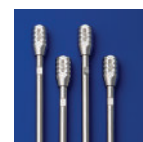
Surface Area: 450 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3.0 mm	150 mm	ea.	916556E
	150 mm	ea.	916556S
4.6 mm	250 mm	ea.	916557S
	300 mm	ea.	916558S

Allure PFP Propyl Columns (USP L43)

ID	Length	qty.	cat.#
2.1 mm	30 mm	ea.	9169532
	50 mm	ea.	9169552
	100 mm	ea.	9169512
	150 mm	ea.	9169562
	250 mm	ea.	9169572
3.0 mm	30 mm	ea.	916953E
	50 mm	ea.	916955E
	100 mm	ea.	916951E
	150 mm	ea.	916956E
	200 mm	ea.	916952E
4.6 mm	250 mm	ea.	916957E
	30 mm	ea.	916953S
	50 mm	ea.	916955S
	100 mm	ea.	916951S
	150 mm	ea.	916956S
	250 mm	ea.	916957S

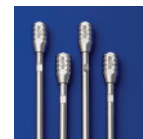




Allure Silica Columns (USP L3)

Particle: 5 μm , spherical
Pore Size: 60 Å
Carbon Load: n/a
End-cap: n/a

Surface Area: 450 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
2.1 mm	30 mm	ea.	9160532
	50 mm	ea.	9160552
	100 mm	ea.	9160512
	150 mm	ea.	9160562
	200 mm	ea.	9160522
	250 mm	ea.	9160572
3.0 mm	30 mm	ea.	916053E
	50 mm	ea.	916055E
	100 mm	ea.	916051E
	150 mm	ea.	916056E
	200 mm	ea.	916052E
	250 mm	ea.	916057E
4.6 mm	30 mm	ea.	9160535
	50 mm	ea.	9160555
	100 mm	ea.	9160515
	150 mm	ea.	9160565
	200 mm	ea.	9160525
	250 mm	ea.	9160575

Force Biphenyl LC Columns (USP L11)

Stationary Phase Category: Phenyl (L11)
Ligand Type: Biphenyl
Particle: 1.8 μm , 3 μm , or 5 μm fully porous silica
Pore Size: 100 Å
Carbon Load: 15%
End-Cap: yes
Surface Area: 300 m^2/g
Recommended Usage:
pH Range: 2.0–8.0
Maximum Temperature: 80 °C
Maximum Pressure: 1034 bar/15,000 psi* (1.8 μm), 600 bar/8700 psi (3 μm); 400 bar/5800 psi

(5 μm)
* For maximum lifetime, recommended maximum pressure for 1.8 μm particles is 830 bar/12,000 psi.
Properties:

- Increased retention for dipolar, unsaturated, or conjugated solutes.
- Enhanced selectivity when used with methanolic mobile phase.
- Ideal for increasing sensitivity and selectivity in LC-MS analyses.

Switch to a Biphenyl when:

- Limited selectivity is observed on a C18.
- You need to increase retention of hydrophilic aromatics.



ID	Length	qty.	cat.#
1.8 μm Particles			
2.1 mm	30 mm	ea.	9629232
	50 mm	ea.	9629252
	100 mm	ea.	9629212
3.0 mm	50 mm	ea.	962925E
	100 mm	ea.	962921E
3 μm Particles			
2.1 mm	30 mm	ea.	9629332
	50 mm	ea.	9629352
	100 mm	ea.	9629312
	150 mm	ea.	9629362
	50 mm	ea.	962935E
3.0 mm	100 mm	ea.	962931E
	150 mm	ea.	962936E
4.6 mm	100 mm	ea.	9629315
	150 mm	ea.	9629365
5 μm Particles			
2.1 mm	50 mm	ea.	9629552
	100 mm	ea.	9629512
	150 mm	ea.	9629562
	50 mm	ea.	962955E
3.0 mm	100 mm	ea.	962951E
	150 mm	ea.	962956E
	100 mm	ea.	9629515
4.6 mm	150 mm	ea.	9629565
	250 mm	ea.	9629575



Force C18 LC Columns (USP L1)

Stationary Phase Category: C18, octadecylsilane (L1)
Ligand Type: End-capped C18
Particle: 1.8 μ m, 3 μ m, or 5 μ m fully porous silica
Pore Size: 100 Å
Carbon Load: 20%
End-Cap: yes
Surface Area: 300 m²/g
Recommended Usage:
pH Range: 2.0–8.0
Maximum Temperature: 80 °C

Maximum Pressure: 1034 bar/15,000 psi* (1.8 μ m), 600 bar/8700 psi (3 μ m); 400 bar/5800 psi (5 μ m)

* For maximum lifetime, recommended maximum pressure for 1.8 μ m particles is 830 bar/12,000 psi.

Properties:

- Compatible with moderately acidic to neutral mobile phases (pH 2–8).
- Excellent data quality in food, environmental, bioanalytical, and other applications.

Switch to a C18 when:

- You need a general-purpose column for reversed-phase chromatography.
- You need to increase retention of hydrophobic compounds.



ID	Length	qty.	cat.#
1.8 μm Particles			
2.1 mm	30 mm	ea.	9634232
	50 mm	ea.	9634252
	100 mm	ea.	9634212
3.0 mm	50 mm	ea.	963425E
	100 mm	ea.	963421E
3 μm Particles			
2.1 mm	30 mm	ea.	9634332
	50 mm	ea.	9634352
	100 mm	ea.	9634312
	150 mm	ea.	9634362
3.0 mm	50 mm	ea.	963435E
	100 mm	ea.	963431E
	150 mm	ea.	963436E
4.6 mm	100 mm	ea.	9634315
	150 mm	ea.	9634365
5 μm Particles			
2.1 mm	50 mm	ea.	9634552
	100 mm	ea.	9634512
	150 mm	ea.	9634562
3.0 mm	50 mm	ea.	963455E
	100 mm	ea.	963451E
	150 mm	ea.	963456E
4.6 mm	100 mm	ea.	9634515
	150 mm	ea.	9634565
	250 mm	ea.	9634575

Force FluoroPhenyl LC Columns (USP L43)

Stationary Phase Category: Pentafluorophenyl propyl (L43)
Ligand Type: Fluorophenyl
Particle: 1.8 μ m, 3 μ m, or 5 μ m fully porous silica
Pore Size: 100 Å
Carbon Load: 10%
End-Cap: no
Surface Area: 300 m²/g
Recommended Usage:
pH Range: 2.0–8.0
Maximum Temperature: 80 °C
Maximum Pressure: 1034 bar/15,000 psi* (1.8 μ m), 600 bar/8700 psi (3 μ m); 400 bar/5800 psi

(5 μ m)

* For maximum lifetime, recommended maximum pressure for 1.8 μ m particles is 830 bar/12,000 psi.

Properties:

- Capable of both reversed-phase and HILIC separations.
- Ideal for increasing sensitivity and selectivity in LC-MS analyses.
- Offers increased retention for charged bases.

Switch to a FluoroPhenyl LC column when:

- Limited retention and selectivity are observed on a C18 for basic compounds.
- You need increased retention of hydrophilic compounds.



ID	Length	qty.	cat.#
1.8 μm Particles			
2.1 mm	30 mm	ea.	9639232
	50 mm	ea.	9639252
	100 mm	ea.	9639212
3.0 mm	50 mm	ea.	963925E
	100 mm	ea.	963921E
3 μm Particles			
2.1 mm	30 mm	ea.	9639332
	50 mm	ea.	9639352
	100 mm	ea.	9639312
	150 mm	ea.	9639362

Continued



ID	Length	qty.	cat.#
3.0 mm	50 mm	ea.	963935E
	100 mm	ea.	963931E
	150 mm	ea.	963936E
4.6 mm	100 mm	ea.	963931S
	150 mm	ea.	963936S
5 µm Particles			
2.1 mm	50 mm	ea.	9639552
	100 mm	ea.	9639512
	150 mm	ea.	9639562
3.0 mm	50 mm	ea.	963955E
	100 mm	ea.	963951E
	150 mm	ea.	963956E
4.6 mm	100 mm	ea.	963951S
	150 mm	ea.	963956S
	250 mm	ea.	963957S

PFAS Delay Column

Particle: 5 µm, spherical, fully porous
pH Range: 2.5 to 8

Maximum Temperature: 80 °C
Maximum Pressure: 1034 bar/15,000 psi



ID	Length	qty.	cat.#
2.1 mm	50 mm	ea.	27854

Pinnacle DB Aqueous C18 Columns (USP L1)

Stationary Phase Category: modified C18 (L1)
Ligand Type: proprietary polar modified and functionally bonded C18
Particle: 1.9 µm, 3 µm, or 5 µm, spherical
Pore Size: 140 Å
Carbon Load: 6%

End-Cap: no
Surface Area: 150 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
1.9 µm Particles			
2.1 mm	30 mm	ea.	9418232
	50 mm	ea.	9418252
	100 mm	ea.	9418212
3 µm Particles			
2.1 mm	30 mm	ea.	9418332
	50 mm	ea.	9418352
	100 mm	ea.	9418312
	150 mm	ea.	9418362
3.0 mm	30 mm	ea.	941833E
	50 mm	ea.	941835E
	100 mm	ea.	941831E
	150 mm	ea.	941836E
4.6 mm	30 mm	ea.	941833S
	50 mm	ea.	941835S
	100 mm	ea.	941831S
	150 mm	ea.	941836S
5 µm Particles			
2.1 mm	30 mm	ea.	9418532
	50 mm	ea.	9418552
	100 mm	ea.	9418512
	150 mm	ea.	9418562
	200 mm	ea.	9418522
	250 mm	ea.	9418572
3.0 mm	30 mm	ea.	941853E
	50 mm	ea.	941855E
	100 mm	ea.	941851E
	150 mm	ea.	941856E
	200 mm	ea.	941852E
	250 mm	ea.	941857E

Continued



ID	Length	qty.	cat.#
4.6 mm	30 mm	ea.	9418535
	50 mm	ea.	9418555
	100 mm	ea.	9418515
	150 mm	ea.	9418565
	200 mm	ea.	9418525
	250 mm	ea.	9418575

Pinnacle DB Biphenyl Columns (USP L11)

Stationary Phase Category: phenyl (L11)
Ligand Type: unique Biphenyl
Particle: 1.9 μ m, 3 μ m, or 5 μ m, spherical
Pore Size: 140 Å
Carbon Load: 8%

End-Cap: yes
Surface Area: 150 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
1.9 μm Particles			
2.1 mm	30 mm	ea.	9409232
	50 mm	ea.	9409252
	100 mm	ea.	9409212
3 μm Particles			
2.1 mm	30 mm	ea.	9409332
	50 mm	ea.	9409352
	100 mm	ea.	9409312
	150 mm	ea.	9409362
4.6 mm	30 mm	ea.	9409335
	50 mm	ea.	9409355
	100 mm	ea.	9409315
	150 mm	ea.	9409365
3.0 mm	30 mm	ea.	940933E
	50 mm	ea.	940935E
	100 mm	ea.	940931E
	150 mm	ea.	940936E
5 μm Particles			
2.1 mm	30 mm	ea.	9409532
	50 mm	ea.	9409552
	100 mm	ea.	9409512
	150 mm	ea.	9409562
	200 mm	ea.	9409522
	250 mm	ea.	9409572
4.6 mm	30 mm	ea.	9409535
	50 mm	ea.	9409555
	100 mm	ea.	9409515
	150 mm	ea.	9409565
	200 mm	ea.	9409525
	250 mm	ea.	9409575
3.0 mm	30 mm	ea.	940953E
	50 mm	ea.	940955E
	100 mm	ea.	940951E
	150 mm	ea.	940956E
	200 mm	ea.	940952E
	250 mm	ea.	940957E



Pinnacle DB C18 Columns (USP L1)

Stationary Phase Category: C18, octadecylsilane (L1)
Ligand Type: monomeric C18
Particle: 1.9 μm , 3 μm , or 5 μm , spherical
Pore Size: 140 Å
Carbon Load: 11%

End-Cap: yes
Surface Area: 150 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
1.9 μm Particles			
2.1 mm	30 mm	ea.	9414232
	50 mm	ea.	9414252
	100 mm	ea.	9414212
3 μm Particles			
2.1 mm	30 mm	ea.	9414332
	50 mm	ea.	9414352
	100 mm	ea.	9414312
4.6 mm	30 mm	ea.	9414335
	50 mm	ea.	9414355
	100 mm	ea.	9414315
3.0 mm	30 mm	ea.	941433E
	50 mm	ea.	941435E
	100 mm	ea.	941431E
5 μm Particles			
2.1 mm	30 mm	ea.	9414532
	50 mm	ea.	9414552
	100 mm	ea.	9414512
	150 mm	ea.	9414562
	200 mm	ea.	9414522
	250 mm	ea.	9414572
3.0 mm	30 mm	ea.	941453E
	50 mm	ea.	941455E
	100 mm	ea.	941451E
	150 mm	ea.	941456E
	200 mm	ea.	941452E
	250 mm	ea.	941457E
4.6 mm	30 mm	ea.	9414535
	50 mm	ea.	9414555
	100 mm	ea.	9414515
	150 mm	ea.	9414565
	200 mm	ea.	9414525
	250 mm	ea.	9414575

Pinnacle DB C8 Columns (USP L7)

Stationary Phase Category: C8, octylsilane (L7)
Ligand Type: monomeric C8
Particle: 3 μm or 5 μm , spherical
Pore Size: 140 Å
Carbon Load: 6%

End-Cap: yes
Surface Area: 150 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 μm Particles			
2.1 mm	30 mm	ea.	9413332
	50 mm	ea.	9413352
	100 mm	ea.	9413312
3.0 mm	30 mm	ea.	941333E
	50 mm	ea.	941335E
	100 mm	ea.	941331E
4.6 mm	30 mm	ea.	9413335
	50 mm	ea.	9413355
	100 mm	ea.	9413315

Continued



ID	Length	qty.	cat.#
5 µm Particles			
2.1 mm	30 mm	ea.	9413532
	50 mm	ea.	9413552
	100 mm	ea.	9413512
	150 mm	ea.	9413562
	200 mm	ea.	9413522
	250 mm	ea.	9413572
3.0 mm	30 mm	ea.	941353E
	50 mm	ea.	941355E
	100 mm	ea.	941351E
	150 mm	ea.	941356E
	200 mm	ea.	941352E
	250 mm	ea.	941357E
4.6 mm	30 mm	ea.	941353S
	50 mm	ea.	941355S
	100 mm	ea.	941351S
	150 mm	ea.	941356S
	200 mm	ea.	941352S
	250 mm	ea.	941357S

Pinnacle DB Cyano Columns (USP L10)

Stationary Phase Category: cyano (L10)
Ligand Type: cyanopropylsilane
Particle: 5 µm, spherical
Pore Size: 140 Å
Carbon Load: 4%

End-Cap: yes
Surface Area: 150 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
2.1 mm	30 mm	ea.	9416532
	50 mm	ea.	9416552
	100 mm	ea.	9416512
	150 mm	ea.	9416562
	200 mm	ea.	9416522
	250 mm	ea.	9416572
3.0 mm	30 mm	ea.	941653E
	50 mm	ea.	941655E
	100 mm	ea.	941651E
	150 mm	ea.	941656E
	200 mm	ea.	941652E
	250 mm	ea.	941657E
4.6 mm	30 mm	ea.	941653S
	50 mm	ea.	941655S
	100 mm	ea.	941651S
	150 mm	ea.	941656S
	200 mm	ea.	941652S
	250 mm	ea.	941657S

Pinnacle DB IBD UHPLC Columns (USP L68)

Stationary Phase Category: polar-embedded alkyl (L68)
Ligand Type: proprietary polar functional embedded alkyl
Particle: 1.9 µm, spherical
Pore Size: 140 Å
Carbon Load: proprietary

End-Cap: no
Surface Area: 150 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
2.1 mm	30 mm	ea.	9425232
	50 mm	ea.	9425252
	100 mm	ea.	9425212



Pinnacle DB PAH UHPLC Columns

Particle: 1.9 μm , spherical
Pore Size: 140 Å
Carbon Load: proprietary
End-Cap: no

Surface Area: 150 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
2.1 mm	30 mm	ea.	9470232
	50 mm	ea.	9470252
	100 mm	ea.	9470212

Pinnacle DB PFP Propyl Columns (USP L43)

Stationary Phase Category: fluorophenyl propyl (L43)
Ligand Type: pentafluorophenyl propyl
Particle: 1.9 μm , 3 μm , or 5 μm , spherical
Pore Size: 140 Å
Carbon Load: 6%

End-Cap: yes
Surface Area: 150 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
1.9 μm Particles			
2.1 mm	30 mm	ea.	9419232
	50 mm	ea.	9419252
	100 mm	ea.	9419212
3 μm Particles			
2.1 mm	30 mm	ea.	9419332
	50 mm	ea.	9419352
	100 mm	ea.	9419312
	150 mm	ea.	9419362
4.6 mm	30 mm	ea.	9419335
	50 mm	ea.	9419355
	100 mm	ea.	9419315
	150 mm	ea.	9419365
3.0 mm	30 mm	ea.	941933E
	50 mm	ea.	941935E
	100 mm	ea.	941931E
	150 mm	ea.	941936E
5 μm Particles			
2.1 mm	30 mm	ea.	9419532
	50 mm	ea.	9419552
	100 mm	ea.	9419512
	150 mm	ea.	9419562
	200 mm	ea.	9419522
	250 mm	ea.	9419572
3.0 mm	30 mm	ea.	941953E
	50 mm	ea.	941955E
	100 mm	ea.	941951E
	150 mm	ea.	941956E
	200 mm	ea.	941952E
	250 mm	ea.	941957E
4.6 mm	30 mm	ea.	9419535
	50 mm	ea.	9419555
	100 mm	ea.	9419515
	150 mm	ea.	9419565
	200 mm	ea.	9419525
	250 mm	ea.	9419575



Pinnacle DB Silica Columns (USP L3)

Stationary Phase Category: bare silica (L3)
Ligand Type: none
Particle: 1.9 μm , 3 μm , or 5 μm , spherical
Pore Size: 140 Å
Carbon Load: n/a

End-Cap: n/a
Surface Area: 150 m^2/g
pH Range: 2.5 to 8.0
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
1.9 μm Particles			
2.1 mm	30 mm	ea.	9410232
	50 mm	ea.	9410252
	100 mm	ea.	9410212
3 μm Particles			
2.1 mm	30 mm	ea.	9410332
	50 mm	ea.	9410352
	100 mm	ea.	9410312
	150 mm	ea.	9410362
3.0 mm	30 mm	ea.	941033E
	50 mm	ea.	941035E
	100 mm	ea.	941031E
	150 mm	ea.	941036E
4.6 mm	30 mm	ea.	9410335
	50 mm	ea.	9410355
	100 mm	ea.	9410315
	150 mm	ea.	9410365
5 μm Particles			
2.1 mm	30 mm	ea.	9410532
	50 mm	ea.	9410552
	100 mm	ea.	9410512
	150 mm	ea.	9410562
	200 mm	ea.	9410522
3.0 mm	250 mm	ea.	9410572
	30 mm	ea.	941053E
	50 mm	ea.	941055E
	100 mm	ea.	941051E
	150 mm	ea.	941056E
4.6 mm	200 mm	ea.	941052E
	250 mm	ea.	941057E
	30 mm	ea.	9410535
	50 mm	ea.	9410555
	100 mm	ea.	9410515
4.6 mm	150 mm	ea.	9410565
	200 mm	ea.	9410525
	250 mm	ea.	9410575

Pinnacle II PAH HPLC Columns

Particle: 4 μm , spherical
Pore Size: 110 Å
Carbon Load: proprietary
End-Cap: no

Surface Area: 180 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
2.1 mm	50 mm	ea.	9219452
	100 mm	ea.	9219412
	150 mm	ea.	9219462
	200 mm	ea.	9219422
	250 mm	ea.	9219472
3.0 mm	50 mm	ea.	921945E
	100 mm	ea.	921941E
	150 mm	ea.	921946E
	200 mm	ea.	921942E
	250 mm	ea.	921947E

Continued



ID	Length	qty.	cat.#
4.6 mm	50 mm	ea.	9219455
	100 mm	ea.	9219415
	150 mm	ea.	9219465
	200 mm	ea.	9219425
	250 mm	ea.	9219475

Raptor ARC-18 LC Columns (USP L1)

Stationary Phase Category: C18, octadecylsilane (L1)

Ligand Type: Sterically protected C18

Particle: 1.8 μ m, 2.7 μ m, or 5 μ m superficially porous particle (SPP or "core-shell" particle) silica

Pore Size: 90 Å

Carbon Load: 7% (1.8 μ m), 7% (2.7 μ m), 5% (5 μ m)

End-Cap: no

Surface Area: 125 m²/g (1.8 μ m), 130 m²/g (2.7 μ m), or 100 m²/g (5 μ m)**Recommended Usage:**

pH Range: 1.0–8.0

Maximum Temperature: 80 °C

Maximum Pressure: 1034 bar/15,000 psi* (1.8 μ m), 600 bar/8700 psi (2.7 μ m); 400 bar/5800psi (5 μ m)* For maximum lifetime, recommended maximum pressure for 1.8 μ m particles is 830 bar/12,000 psi.**Properties:**

- Well-balanced retention profile.
- Sterically protected and acid resistant to resist harsh, low-pH mobile phases.
- Ideal for use with sensitive detectors like mass spec.

Switch to an ARC-18 column when:

- You are analyzing large, multiclass lists by LC-MS/MS.
- Strongly acidic (pH 1–3) mobile phases are required.



ID	Length	qty.	cat.#
1.8 μm Particles			
2.1 mm	30 mm	ea.	9314232
	50 mm	ea.	9314252
	100 mm	ea.	9314212
	150 mm	ea.	9314262
3.0 mm	50 mm	ea.	931425E
	100 mm	ea.	931421E
2.7 μm Particles			
2.1 mm	30 mm	ea.	9314A32
	50 mm	ea.	9314A52
	100 mm	ea.	9314A12
	150 mm	ea.	9314A62
3.0 mm	30 mm	ea.	9314A3E
	50 mm	ea.	9314A5E
	100 mm	ea.	9314A1E
	150 mm	ea.	9314A6E
4.6 mm	30 mm	ea.	9314A35
	50 mm	ea.	9314A55
	100 mm	ea.	9314A15
	150 mm	ea.	9314A65
5 μm Particles			
2.1 mm	50 mm	ea.	9314552
	100 mm	ea.	9314512
	150 mm	ea.	9314562
3.0 mm	30 mm	ea.	931453E
	50 mm	ea.	931455E
	100 mm	ea.	931451E
	150 mm	ea.	931456E
	50 mm	ea.	9314555
4.6 mm	100 mm	ea.	9314515
	150 mm	ea.	9314565
	250 mm	ea.	9314575



Raptor Biphenyl LC Columns (USP L11)

Stationary Phase Category: Phenyl (L11)

Ligand Type: Biphenyl

Particle: 1.8 μ m, 2.7 μ m, or 5 μ m superficially porous particle (SPP or "core-shell" particle) silica

Pore Size: 90 Å

Carbon Load: 7% (1.8 μ m); 7% (2.7 μ m); 5% (5 μ m)

End-Cap: yes

Surface Area: 125 m²/g (1.8 μ m); 130 m²/g (2.7 μ m); or 100 m²/g (5 μ m)

Recommended Usage:

pH Range: 2.0 to 8.0

Maximum Temperature: 80 °C

Maximum Pressure: 1034 bar/15,000 psi* (1.8 μ m); 600 bar/8700 psi (2.7 μ m); 400 bar/5800

psi (5 μ m)

* For maximum lifetime, recommended maximum pressure for 1.8 μ m particles is 830 bar/12,000 psi.

Properties:

- Increased retention for dipolar, unsaturated, or conjugated solutes.
- Enhanced selectivity when used with methanolic mobile phase.
- Ideal for increasing sensitivity and selectivity in LC-MS analyses.

Switch to a Biphenyl column when:

- Limited selectivity is observed on a C18.
- You need to increase retention of hydrophilic aromatics.



ID	Length	qty.	cat.#
1.8 μm Particles			
2.1 mm	30 mm	ea.	9309232
	50 mm	ea.	9309252
	100 mm	ea.	9309212
	150 mm	ea.	9309262
3.0 mm	50 mm	ea.	930925E
	100 mm	ea.	930921E
2.7 μm Particles			
2.1 mm	30 mm	ea.	9309A32
	50 mm	ea.	9309A52
	100 mm	ea.	9309A12
	150 mm	ea.	9309A62
3.0 mm	30 mm	ea.	9309A3E
	50 mm	ea.	9309A5E
	100 mm	ea.	9309A1E
	150 mm	ea.	9309A6E
	30 mm	ea.	9309A3S
4.6 mm	50 mm	ea.	9309A5S
	100 mm	ea.	9309A1S
	150 mm	ea.	9309A6S
5 μm Particles			
2.1 mm	50 mm	ea.	9309S52
	100 mm	ea.	9309S12
	150 mm	ea.	9309S62
3.0 mm	30 mm	ea.	9309S3E
	50 mm	ea.	9309S5E
	100 mm	ea.	9309S1E
	150 mm	ea.	9309S6E
	50 mm	ea.	9309S5S
4.6 mm	100 mm	ea.	9309S1S
	150 mm	ea.	9309S6S
	250 mm	ea.	9309S7S

Raptor C18 LC Columns (USP L1)

Stationary Phase Category: C18, octadecylsilane (L1)

Ligand Type: End-capped C18

Particle: 1.8 μ m, 2.7 μ m, or 5 μ m superficially porous particle (SPP or "core-shell" particle) silica

Pore Size: 90 Å

Carbon Load: 9% (1.8 μ m); 7% (2.7 μ m); 5% (5 μ m)

End-Cap: yes

Surface Area: 125 m²/g (1.8 μ m); 130 m²/g (2.7 μ m); or 100 m²/g (5 μ m)

Recommended Usage:

pH Range: 2.0–8.0

Maximum Temperature: 80 °C

Maximum Pressure: 1034 bar/15,000 psi* (1.8 μ m); 600 bar/8700 psi (2.7 μ m); 400 bar/5800 psi (5 μ m)

* For maximum lifetime, recommended maximum pressure for 1.8 μ m particles is 830 bar/12,000 psi.

Properties:

- Compatible with moderately acidic to neutral mobile phases (pH 2–8).
- Excellent data quality in food, environmental, bioanalytical, and other applications.

Switch to a C18 column when:

- You need a general-purpose column for reversed-phase chromatography.
- You need to increase retention of hydrophobic compounds.



ID	Length	qty.	cat.#
1.8 μm Particles			
2.1 mm	30 mm	ea.	9304232
	50 mm	ea.	9304252
	100 mm	ea.	9304212
	150 mm	ea.	9304262

Continued



ID	Length	qty.	cat.#
3.0 mm	50 mm	ea.	930425E
	100 mm	ea.	930421E
2.7 µm Particles			
2.1 mm	30 mm	ea.	9304A32
	50 mm	ea.	9304A52
	100 mm	ea.	9304A12
	150 mm	ea.	9304A62
3.0 mm	30 mm	ea.	9304A3E
	50 mm	ea.	9304A5E
	100 mm	ea.	9304A1E
	150 mm	ea.	9304A6E
4.6 mm	30 mm	ea.	9304A35
	50 mm	ea.	9304A55
	100 mm	ea.	9304A15
	150 mm	ea.	9304A65
5 µm Particles			
2.1 mm	50 mm	ea.	9304552
	100 mm	ea.	9304512
	150 mm	ea.	9304562
3.0 mm	30 mm	ea.	930453E
	50 mm	ea.	930455E
	100 mm	ea.	930451E
	150 mm	ea.	930456E
4.6 mm	50 mm	ea.	9304555
	100 mm	ea.	9304515
	150 mm	ea.	9304565
	250 mm	ea.	9304575

Raptor EtG/EtS LC Column

Stationary Phase Category: Proprietary
Ligand Type: Proprietary
Particle: 2.7 µm superficially porous particle (SPP or “core-shell” particle) silica
Pore Size: 90 Å
Carbon Load: Proprietary
End-Cap: Proprietary
Surface Area: 130 m²/g
Recommended Usage:
pH Range: 2.0–8.0

Maximum Temperature: 40 °C
Maximum Pressure: 600 bar/8700 psi

Properties:

- Resolution of EtG and EtS from matrix interferences.
- Increased retention of EtG and EtS compared to traditional phases.

Switch to the Raptor EtG/EtS column when:

- Other columns can't resolve EtG and EtS from matrix components.
- You need high-throughput EtG/EtS analysis.
- Low-level detection limits are desired.



ID	Length	qty.	cat.#
2.1 mm	100 mm	ea.	9325A12

Raptor FluoroPhenyl LC Columns (USP L43)

Stationary Phase Category: Pentafluorophenyl propyl (L43)
Ligand Type: Fluorophenyl
Particle: 1.8 µm, 2.7 µm, or 5 µm superficially porous particle (SPP or “core-shell” particle) silica
Pore Size: 90 Å
Carbon Load: 4% (1.8 µm), 4% (2.7 µm), 3% (5 µm)
End-Cap: no
Surface Area: 125 m²/g (1.8 µm), 130 m²/g (2.7 µm), or 100 m²/g (5 µm)
Recommended Usage:
pH Range: 2.0–8.0
Maximum Temperature: 80 °C
Maximum Pressure: 1034 bar/15,000 psi* (1.8 µm), 600 bar/8700 psi (2.7 µm); 400 bar/5800

psi (5 µm)

* For maximum lifetime, recommended maximum pressure for 1.8 µm particles is 830 bar/12,000 psi.

Properties:

- Capable of both reversed-phase and HILIC separations.
- Ideal for increasing sensitivity and selectivity in LC-MS analyses.
- Offers increased retention for charged bases.

Switch to a Raptor FluoroPhenyl LC column when:

- Limited retention and selectivity are observed on a C18 for basic compounds.
- You need increased retention of hydrophilic compounds.



ID	Length	qty.	cat.#
1.8 µm Particles			
2.1 mm	30 mm	ea.	9319232
	50 mm	ea.	9319252
	100 mm	ea.	9319212
	150 mm	ea.	9319262
3.0 mm	50 mm	ea.	931925E
	100 mm	ea.	931921E

Continued



ID	Length	qty.	cat.#
2.7 µm Particles			
2.1 mm	30 mm	ea.	9319A32
	50 mm	ea.	9319A52
	100 mm	ea.	9319A12
	150 mm	ea.	9319A62
3.0 mm	30 mm	ea.	9319A3E
	50 mm	ea.	9319A5E
	100 mm	ea.	9319A1E
	150 mm	ea.	9319A6E
4.6 mm	30 mm	ea.	9319A3S
	50 mm	ea.	9319A5S
	100 mm	ea.	9319A1S
	150 mm	ea.	9319A6S
5 µm Particles			
2.1 mm	50 mm	ea.	9319S52
	100 mm	ea.	9319S12
	150 mm	ea.	9319S62
	30 mm	ea.	9319S3E
3.0 mm	50 mm	ea.	9319S5E
	100 mm	ea.	9319S1E
	150 mm	ea.	9319S6E
	50 mm	ea.	9319S5S
4.6 mm	100 mm	ea.	9319S1S
	150 mm	ea.	9319S6S
	250 mm	ea.	9319S7S

Raptor HILIC-Si LC Columns (USP L3)

Stationary Phase Category: bare silica (L3)
Ligand Type: none
Particle: 2.7 µm superficially porous particle (SPP or "core-shell" particle) silica
Pore Size: 90 Å
Carbon Load: n/a
End-Cap: n/a
Surface Area: 130 m²/g
Recommended Usage:
pH Range: 2.0–8.0

Maximum Temperature: 80 °C
Maximum Pressure: 600 bar/8700 psi (2.7 µm)

Properties:

- Compatible with both HPLC and UHPLC instruments.
- Restek's 2.7 µm core-shell particles provide the speed of SPP and the performance of Raptor.

Switch to a Raptor HILIC-Si LC column when:

- Increased retention of small polar compounds is needed.
- You want to avoid using ion-pairing reagents.
- You want retention and sensitivity for hydrophilic compounds by LC-MS.



ID	Length	qty.	cat.#
2.1 mm	30 mm	ea.	9310A32
	50 mm	ea.	9310A52
	100 mm	ea.	9310A12
	150 mm	ea.	9310A62
3.0 mm	50 mm	ea.	9310A5E
	100 mm	ea.	9310A1E
	150 mm	ea.	9310A6E
	50 mm	ea.	9310A5S
4.6 mm	100 mm	ea.	9310A1S
	150 mm	ea.	9310A6S



Raptor Polar X LC Columns

Pore Size: 90 Å
Particle: 2.7 µm superficially porous particle (SPP or "core-shell" particle) silica
Surface Area: 130 m²/g
End-Cap: Proprietary
Carbon Load: Proprietary
USP Phase Code: NA
Phase Category: Proprietary
Ligand Type: Proprietary
Recommended Usage:
pH Range: 2.0–8.0
Maximum Temperature: 60 °C

Maximum Pressure: 600 bar/8700 psi

Properties:

- Excellent resolution and separation of a wide variety of polar compounds.
- Combines HILIC and ion-exchange retention mechanisms together in a single ligand.
- Broadly applicable for polar compound analysis spanning different industries and methods.

Switch to a Raptor Polar X column when:

- You are analyzing neutral, acidic, basic, or permanently charged polar compounds.
- Performing LC-MS/MS analysis of polar compounds.
- You are struggling to retain or elute polar compounds and considering ion chromatography.



ID	Length	qty.	cat.#
2.1 mm	30 mm	ea.	9311A32
	50 mm	ea.	9311A52
	100 mm	ea.	9311A12

Roc C18 HPLC Columns (USP L1)

Stationary Phase Category: C18, octadecylsilane (L1)
Ligand Type: monomeric C18
Particle: 3 µm or 5 µm, spherical
Pore Size: 100 Å
Carbon Load: 20%

End-Cap: yes
Surface Area: 300 m²/g
pH Range: 2.5 to 8.0
Maximum Temperature: 80 °C

ID	Length	qty.	cat.#
3 µm Particles			
3.0 mm	100 mm	ea.	953431E
	150 mm	ea.	953436E
4.6 mm	100 mm	ea.	953431S
	150 mm	ea.	953436S
5 µm Particles			
3.0 mm	100 mm	ea.	953451E
	150 mm	ea.	953456E
	250 mm	ea.	953457E
4.6 mm	100 mm	ea.	953451S
	150 mm	ea.	953456S
	250 mm	ea.	953457S



Roc C8 HPLC Columns (USP L7)

Stationary Phase Category: C8, octylsilane (L7)
Ligand Type: monomeric C8
Particle: 3 µm or 5 µm, spherical
Pore Size: 100 Å
Carbon Load: 12%

End-Cap: yes
Surface Area: 300 m²/g
pH Range: 2.5 to 8.0
Maximum Temperature: 80 °C

ID	Length	qty.	cat.#
3 µm Particles			
3.0 mm	100 mm	ea.	953331E
	150 mm	ea.	953336E
4.6 mm	100 mm	ea.	953331S
	150 mm	ea.	953336S
5 µm Particles			
3.0 mm	100 mm	ea.	953351E
	150 mm	ea.	953356E
	250 mm	ea.	953357E
4.6 mm	100 mm	ea.	953351S
	150 mm	ea.	953356S
	250 mm	ea.	953357S





Roc Cyano HPLC Columns (USP L10)

Stationary Phase Category: Cyano (L10)
Ligand Type: cyanopropyl
Particle: 3 μ m or 5 μ m, spherical
Pore Size: 100 Å
Carbon Load: 8%

End-Cap: yes
Surface Area: 300 m²/g
pH Range: 2.5 to 8.0
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 μm Particles			
3.0 mm	100 mm	ea.	953631E
	150 mm	ea.	953636E
4.6 mm	100 mm	ea.	953631S
	150 mm	ea.	953636S
5 μm Particles			
3.0 mm	100 mm	ea.	953651E
	150 mm	ea.	953656E
	250 mm	ea.	953657E
4.6 mm	100 mm	ea.	953651S
	150 mm	ea.	953656S
	250 mm	ea.	953657S

Roc Phenyl-Hexyl HPLC Columns (USP L11)

Stationary Phase Category: phenyl (L11)
Ligand Type: phenyl-hexyl
Particle: 3 μ m or 5 μ m, spherical
Pore Size: 100 Å
Carbon Load: 15%

End-Cap: yes
Surface Area: 300 m²/g
pH Range: 2.5 to 8.0
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 μm Particles			
3.0 mm	100 mm	ea.	953531E
	150 mm	ea.	953536E
4.6 mm	100 mm	ea.	953531S
	150 mm	ea.	953536S
5 μm Particles			
3.0 mm	100 mm	ea.	953551E
	150 mm	ea.	953556E
	250 mm	ea.	953557E
4.6 mm	100 mm	ea.	953551S
	150 mm	ea.	953556S
	250 mm	ea.	953557S

Roc Silica HPLC Columns (USP L3)

Stationary Phase Category: bare silica (L3)
Ligand Type: n/a
Particle: 3 μ m or 5 μ m, spherical
Pore Size: 100 Å
Carbon Load: n/a

End-Cap: n/a
Surface Area: 300 m²/g
pH Range: 2.5 to 8.0
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 μm Particles			
3.0 mm	100 mm	ea.	953031E
	150 mm	ea.	953036E
4.6 mm	100 mm	ea.	953031S
	150 mm	ea.	953036S
5 μm Particles			
3.0 mm	100 mm	ea.	953051E
	150 mm	ea.	953056E
	250 mm	ea.	953057E
4.6 mm	100 mm	ea.	953051S
	150 mm	ea.	953056S
	250 mm	ea.	953057S



Ultra Amino Columns (USP L8)

Stationary Phase Category: amino (L8)
Ligand Type: aminopropylsilane
Particle: 3 μ m or 5 μ m, spherical
Pore Size: 100 Å
Carbon Load: 2%

End-Cap: no
Surface Area: 300 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 μm Particles			
3.0 mm	30 mm	ea.	910733E
	50 mm	ea.	910735E
	100 mm	ea.	910731E
	150 mm	ea.	910736E
4.6 mm	30 mm	ea.	910733S
	50 mm	ea.	910735S
	100 mm	ea.	910731S
	150 mm	ea.	910736S
5 μm Particles			
3.0 mm	50 mm	ea.	910755E
	100 mm	ea.	910751E
	150 mm	ea.	910756E
	200 mm	ea.	910752E
	250 mm	ea.	910757E
4.6 mm	30 mm	ea.	910753E
	30 mm	ea.	910753S
	50 mm	ea.	910755S
	100 mm	ea.	910751S
	150 mm	ea.	910756S
	200 mm	ea.	910752S
	250 mm	ea.	910757S

Ultra Aqueous C18 Columns (USP L1)

Stationary Phase Category: modified C18 (L1)
Ligand Type: proprietary polar modified and functionally bonded C18
Particle: 3 μ m or 5 μ m, spherical
Pore Size: 100 Å
Carbon Load: 15%

End-Cap: no
Surface Area: 300 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 μm Particles			
2.1 mm	30 mm	ea.	917833Z
	50 mm	ea.	917835Z
	100 mm	ea.	917831Z
	150 mm	ea.	917836Z
3.0 mm	30 mm	ea.	917833E
	50 mm	ea.	917835E
	100 mm	ea.	917831E
	150 mm	ea.	917836E
4.6 mm	30 mm	ea.	917833S
	50 mm	ea.	917835S
	100 mm	ea.	917831S
	150 mm	ea.	917836S
5 μm Particles			
2.1 mm	30 mm	ea.	917853Z
	50 mm	ea.	917855Z
	100 mm	ea.	917851Z
	150 mm	ea.	917856Z
	200 mm	ea.	917852Z
	250 mm	ea.	917857Z

Continued



ID	Length	qty.	cat.#
3.0 mm	30 mm	ea.	917853E
	50 mm	ea.	917855E
	100 mm	ea.	917851E
	150 mm	ea.	917856E
	200 mm	ea.	917852E
	250 mm	ea.	917857E
4.6 mm	30 mm	ea.	917853S
	50 mm	ea.	917855S
	100 mm	ea.	917851S
	150 mm	ea.	917856S
	200 mm	ea.	917852S
	250 mm	ea.	917857S

Ultra Aromax Columns (USP L11)

Stationary Phase Category: phenyl (L11)
Ligand Type: proprietary phenyl ligand
Particle: 3 μ m or 5 μ m, spherical
Pore Size: 100 Å
Carbon Load: 17%

End-Cap: yes
Surface Area: 300 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 μm Particles			
2.1 mm	30 mm	ea.	912733Z
	50 mm	ea.	912735Z
	100 mm	ea.	912731Z
	150 mm	ea.	912736Z
3.0 mm	30 mm	ea.	912733E
	50 mm	ea.	912735E
	100 mm	ea.	912731E
	150 mm	ea.	912736E
4.6 mm	30 mm	ea.	912733S
	50 mm	ea.	912735S
	100 mm	ea.	912731S
	150 mm	ea.	912736S
5 μm Particles			
2.1 mm	30 mm	ea.	912753Z
	50 mm	ea.	912755Z
	100 mm	ea.	912751Z
	150 mm	ea.	912756Z
	200 mm	ea.	912752Z
	250 mm	ea.	912757Z
3.0 mm	30 mm	ea.	912753E
	50 mm	ea.	912755E
	100 mm	ea.	912751E
	150 mm	ea.	912756E
	200 mm	ea.	912752E
	250 mm	ea.	912757E
4.6 mm	30 mm	ea.	912753S
	50 mm	ea.	912755S
	100 mm	ea.	912751S
	150 mm	ea.	912756S
	200 mm	ea.	912752S
	250 mm	ea.	912757S



Ultra Biphenyl Columns (USP L11)

Stationary Phase Category: phenyl (L11)
Ligand Type: unique Biphenyl
Particle: 3 µm or 5 µm, spherical
Pore Size: 100 Å
Carbon Load: 15%

End-Cap: yes
Surface Area: 300 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 µm Particles			
2.1 mm	30 mm	ea.	9109332
	50 mm	ea.	9109352
	100 mm	ea.	9109312
	150 mm	ea.	9109362
3.0 mm	30 mm	ea.	910933E
	50 mm	ea.	910935E
	100 mm	ea.	910931E
	150 mm	ea.	910936E
4.6 mm	30 mm	ea.	910933S
	50 mm	ea.	910935S
	100 mm	ea.	910931S
	150 mm	ea.	910936S
5 µm Particles			
2.1 mm	30 mm	ea.	9109532
	50 mm	ea.	9109552
	100 mm	ea.	9109512
	150 mm	ea.	9109562
	200 mm	ea.	9109522
	250 mm	ea.	9109572
3.0 mm	30 mm	ea.	910953E
	50 mm	ea.	910955E
	100 mm	ea.	910951E
	150 mm	ea.	910956E
	200 mm	ea.	910952E
	250 mm	ea.	910957E
4.6 mm	30 mm	ea.	910953S
	50 mm	ea.	910955S
	100 mm	ea.	910951S
	150 mm	ea.	910956S
	200 mm	ea.	910952S
	250 mm	ea.	910957S

Ultra C1 Columns (USP L13)

Stationary Phase Category: trimethylsilane (L13)
Ligand Type: monomeric C1
Particle: 3 µm or 5 µm, spherical
Pore Size: 100 Å
Carbon Load: 5%

End-Cap: yes
Surface Area: 300 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 µm Particles			
2.1 mm	30 mm	ea.	9101332
	50 mm	ea.	9101352
	100 mm	ea.	9101312
	150 mm	ea.	9101362
3.0 mm	30 mm	ea.	910133E
	50 mm	ea.	910135E
	100 mm	ea.	910131E
	150 mm	ea.	910136E
4.6 mm	30 mm	ea.	910133S
	50 mm	ea.	910135S
	100 mm	ea.	910131S
	150 mm	ea.	910136S

Continued



ID	Length	qty.	cat.#
5 µm Particles			
2.1 mm	30 mm	ea.	9101532
	50 mm	ea.	9101552
	100 mm	ea.	9101512
	150 mm	ea.	9101562
	200 mm	ea.	9101522
	250 mm	ea.	9101572
3.0 mm	30 mm	ea.	910153E
	50 mm	ea.	910155E
	100 mm	ea.	910151E
	150 mm	ea.	910156E
	200 mm	ea.	910152E
	250 mm	ea.	910157E
4.6 mm	30 mm	ea.	9101535
	50 mm	ea.	9101555
	100 mm	ea.	9101515
	150 mm	ea.	9101565
	200 mm	ea.	9101525
	250 mm	ea.	9101575

Ultra C18 Columns (USP L1)

Stationary Phase Category: C18, octadecylsilane (L1)
Ligand Type: monomeric C18
Particle: 3 µm or 5 µm, spherical
Pore Size: 100 Å
Carbon Load: 20%

End-Cap: yes
Surface Area: 300 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 µm Particles			
2.1 mm	30 mm	ea.	9174332
	50 mm	ea.	9174352
	100 mm	ea.	9174312
	150 mm	ea.	9174362
3.0 mm	30 mm	ea.	917433E
	50 mm	ea.	917435E
	100 mm	ea.	917431E
	150 mm	ea.	917436E
4.6 mm	30 mm	ea.	9174335
	50 mm	ea.	9174355
	100 mm	ea.	9174315
5 µm Particles			
2.1 mm	30 mm	ea.	9174532
	50 mm	ea.	9174552
	100 mm	ea.	9174512
	150 mm	ea.	9174562
	200 mm	ea.	9174522
	250 mm	ea.	9174572
3.0 mm	30 mm	ea.	917453E
	50 mm	ea.	917455E
	100 mm	ea.	917451E
	150 mm	ea.	917456E
	200 mm	ea.	917452E
	250 mm	ea.	917457E
4.0 mm	100 mm	ea.	9174514
	150 mm	ea.	9174564
	30 mm	ea.	9174535
4.6 mm	50 mm	ea.	9174555
	100 mm	ea.	9174515
	150 mm	ea.	9174565
	200 mm	ea.	9174525
	250 mm	ea.	9174575



Ultra C4 Columns (USP L26)

Stationary Phase Category: C4, butylsilane (L26)
Ligand Type: monomeric C4
Particle: 3 μm or 5 μm , spherical
Pore Size: 100 Å
Carbon Load: 9%

End-Cap: yes
Surface Area: 300 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 μm Particles			
2.1 mm	30 mm	ea.	9102332
	50 mm	ea.	9102352
	100 mm	ea.	9102312
	150 mm	ea.	9102362
3.0 mm	30 mm	ea.	910233E
	50 mm	ea.	910235E
	100 mm	ea.	910231E
	150 mm	ea.	910236E
4.6 mm	30 mm	ea.	910233S
	50 mm	ea.	910235S
	100 mm	ea.	910231S
	150 mm	ea.	910236S
5 μm Particles			
2.1 mm	30 mm	ea.	9102532
	50 mm	ea.	9102552
	100 mm	ea.	9102512
	150 mm	ea.	9102562
	200 mm	ea.	9102522
	250 mm	ea.	9102572
3.0 mm	30 mm	ea.	910253E
	50 mm	ea.	910255E
	100 mm	ea.	910251E
	150 mm	ea.	910256E
	200 mm	ea.	910252E
	250 mm	ea.	910257E
4.6 mm	30 mm	ea.	910253S
	50 mm	ea.	910255S
	100 mm	ea.	910251S
	150 mm	ea.	910256S
	200 mm	ea.	910252S
	250 mm	ea.	910257S

Ultra C8 Columns (USP L7)

Stationary Phase Category: C8, octylsilane (L7)
Ligand Type: monomeric C8
Particle: 3 μm or 5 μm , spherical
Pore Size: 100 Å
Carbon Load: 12%

End-Cap: yes
Surface Area: 300 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 μm Particles			
2.1 mm	30 mm	ea.	9103332
	50 mm	ea.	9103352
	100 mm	ea.	9103312
	150 mm	ea.	9103362
3.0 mm	30 mm	ea.	910333E
	50 mm	ea.	910335E
	100 mm	ea.	910331E
	150 mm	ea.	910336E
4.6 mm	30 mm	ea.	910333S
	50 mm	ea.	910335S
	100 mm	ea.	910331S
	150 mm	ea.	910336S

Continued



ID	Length	qty.	cat.#
5 µm Particles			
2.1 mm	30 mm	ea.	9103532
	50 mm	ea.	9103552
	100 mm	ea.	9103512
	150 mm	ea.	9103562
	200 mm	ea.	9103522
	250 mm	ea.	9103572
3.0 mm	30 mm	ea.	910353E
	50 mm	ea.	910355E
	100 mm	ea.	910351E
	150 mm	ea.	910356E
	200 mm	ea.	910352E
	250 mm	ea.	910357E
4.0 mm	100 mm	ea.	9103514
	150 mm	ea.	9103564
4.6 mm	30 mm	ea.	9103535
	50 mm	ea.	9103555
	100 mm	ea.	9103515
	150 mm	ea.	9103565
	200 mm	ea.	9103525
	250 mm	ea.	9103575

Ultra Carbamate Columns

Particle: 3 µm or 5 µm, spherical
Pore Size: 100 Å
Carbon Load: proprietary

Surface Area: 300 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 µm Particles			
2.1 mm	50 mm	ea.	9177352
	100 mm	ea.	9177312
4.0 mm	50 mm	ea.	9177354
4.6 mm	50 mm	ea.	9177355
	100 mm	ea.	9177315
3.0 mm	50 mm	ea.	917735E
	100 mm	ea.	917731E
5 µm Particles			
4.6 mm	250 mm	ea.	9177575

For post-column derivatization/fluorescence detection applications using a 4.6 mm ID column, the total system dead volume, including the post-column reactor, must be less than 650 µL. For standard post-column reactor systems, we recommend a 250 mm x 4.6 mm, 5 µm column. Contact Restek Technical Service or your local Restek representative for more information.

Ultra Cyano Columns (USP L10)

Stationary Phase Category: cyano (L10)
Ligand Type: cyanopropylsilane
Particle: 3 µm or 5 µm, spherical
Pore Size: 100 Å
Carbon Load: 8%

End-Cap: yes
Surface Area: 300 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 µm Particles			
2.1 mm	30 mm	ea.	9106332
	50 mm	ea.	9106352
	100 mm	ea.	9106312
	150 mm	ea.	9106362
3.0 mm	30 mm	ea.	910633E
	50 mm	ea.	910635E
	100 mm	ea.	910631E
	150 mm	ea.	910636E

Continued



ID	Length	qty.	cat.#
4.6 mm	30 mm	ea.	9106335
	50 mm	ea.	9106355
	100 mm	ea.	9106315
	150 mm	ea.	9106365
5 µm Particles			
2.1 mm	30 mm	ea.	9106532
	50 mm	ea.	9106552
	100 mm	ea.	9106512
	150 mm	ea.	9106562
	200 mm	ea.	9106522
	250 mm	ea.	9106572
3.0 mm	30 mm	ea.	910653E
	50 mm	ea.	910655E
	100 mm	ea.	910651E
	150 mm	ea.	910656E
	200 mm	ea.	910652E
	250 mm	ea.	910657E
4.6 mm	30 mm	ea.	9106535
	50 mm	ea.	9106555
	100 mm	ea.	9106515
	150 mm	ea.	9106565
	200 mm	ea.	9106525
	250 mm	ea.	9106575

Ultra IBD Columns (USP L68)

Stationary Phase Category: polar-embedded alkyl (L68)
Ligand Type: proprietary polar functional embedded alkyl
Particle: 3 µm or 5 µm, spherical
Pore Size: 100 Å
Carbon Load: 12%

End-Cap: no
Surface Area: 300 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 µm Particles			
2.1 mm	30 mm	ea.	9175332
	50 mm	ea.	9175352
	100 mm	ea.	9175312
	150 mm	ea.	9175362
3.0 mm	30 mm	ea.	917533E
	50 mm	ea.	917535E
	100 mm	ea.	917531E
	150 mm	ea.	917536E
4.6 mm	30 mm	ea.	9175335
	50 mm	ea.	9175355
	100 mm	ea.	9175315
	150 mm	ea.	9175365
5 µm Particles			
2.1 mm	30 mm	ea.	9175532
	50 mm	ea.	9175552
	100 mm	ea.	9175512
	150 mm	ea.	9175562
	200 mm	ea.	9175522
	250 mm	ea.	9175572
3.0 mm	30 mm	ea.	917553E
	50 mm	ea.	917555E
	100 mm	ea.	917551E
	150 mm	ea.	917556E
	200 mm	ea.	917552E
	250 mm	ea.	917557E

Continued



ID	Length	qty.	cat.#
4.6 mm	30 mm	ea.	9175535
	50 mm	ea.	9175555
	100 mm	ea.	9175515
	150 mm	ea.	9175565
	200 mm	ea.	9175525
	250 mm	ea.	9175575

Ultra PFP Propyl Columns (USP L43)

Stationary Phase Category: fluorophenyl propyl (L43)
Ligand Type: pentafluorophenyl propyl
Particle: 3 μ m or 5 μ m, spherical
Pore Size: 100 Å
Carbon Load: 11%

End-Cap: yes
Surface Area: 300 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 μm Particles			
2.1 mm	30 mm	ea.	9179332
	50 mm	ea.	9179352
	100 mm	ea.	9179312
	150 mm	ea.	9179362
3.0 mm	30 mm	ea.	917933E
	50 mm	ea.	917935E
	100 mm	ea.	917931E
	150 mm	ea.	917936E
4.6 mm	30 mm	ea.	9179335
	50 mm	ea.	9179355
	100 mm	ea.	9179315
	150 mm	ea.	9179365
5 μm Particles			
2.1 mm	30 mm	ea.	9179532
	50 mm	ea.	9179552
	100 mm	ea.	9179512
	150 mm	ea.	9179562
	200 mm	ea.	9179522
	250 mm	ea.	9179572
3.0 mm	30 mm	ea.	917953E
	50 mm	ea.	917955E
	100 mm	ea.	917951E
	150 mm	ea.	917956E
	200 mm	ea.	917952E
	250 mm	ea.	917957E
4.6 mm	30 mm	ea.	9179535
	50 mm	ea.	9179555
	100 mm	ea.	9179515
	150 mm	ea.	9179565
	200 mm	ea.	9179525
	250 mm	ea.	9179575

Ultra Quat Columns

Particle: 3 μ m or 5 μ m, spherical
Pore Size: 100 Å
Carbon Load: proprietary

Surface Area: 300 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
3 μm Particles			
2.1 mm	50 mm	ea.	9181352
5 μm Particles			
4.6 mm	150 mm	ea.	9181565



Ultra Silica Columns (USP L3)

Stationary Phase Category: bare silica (L3)
Ligand Type: none
Particle: 3 µm or 5 µm, spherical
Pore Size: 100 Å
Carbon Load: n/a

End-Cap: n/a
Surface Area: 300 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C

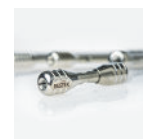


ID	Length	qty.	cat.#
3 µm Particles			
2.1 mm	30 mm	ea.	9100332
	50 mm	ea.	9100352
	100 mm	ea.	9100312
	150 mm	ea.	9100362
3.0 mm	30 mm	ea.	910033E
	50 mm	ea.	910035E
	100 mm	ea.	910031E
	150 mm	ea.	910036E
4.6 mm	30 mm	ea.	910033S
	50 mm	ea.	910035S
	100 mm	ea.	910031S
	150 mm	ea.	910036S
5 µm Particles			
2.1 mm	30 mm	ea.	9100532
	50 mm	ea.	9100552
	100 mm	ea.	9100512
	150 mm	ea.	9100562
	200 mm	ea.	9100522
	250 mm	ea.	9100572
3.0 mm	30 mm	ea.	910053E
	50 mm	ea.	910055E
	100 mm	ea.	910051E
	150 mm	ea.	910056E
	200 mm	ea.	910052E
	250 mm	ea.	910057E
4.6 mm	30 mm	ea.	910053S
	50 mm	ea.	910055S
	100 mm	ea.	910051S
	150 mm	ea.	910056S
	200 mm	ea.	910052S
	250 mm	ea.	910057S

Viva Biphenyl Columns (USP L11)

Stationary Phase Category: phenyl (L11)
Ligand Type: Biphenyl
Particle: 5 µm, spherical
Pore Size: 300 Å
Carbon Load: 7%

End-Cap: yes
Surface Area: 100 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
1.0 mm	30 mm	ea.	9516531
	50 mm	ea.	9516551
	100 mm	ea.	9516511
	150 mm	ea.	9516561
	200 mm	ea.	9516521
	250 mm	ea.	9516571
2.1 mm	30 mm	ea.	9516532
	50 mm	ea.	9516552
	100 mm	ea.	9516512
	150 mm	ea.	9516562
	200 mm	ea.	9516522
	250 mm	ea.	9516572

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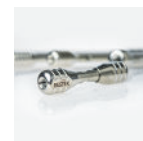


ID	Length	qty.	cat.#
3.0 mm	30 mm	ea.	951653E
	50 mm	ea.	951655E
	100 mm	ea.	951651E
	150 mm	ea.	951656E
	200 mm	ea.	951652E
	250 mm	ea.	951657E
4.6 mm	30 mm	ea.	951653S
	50 mm	ea.	951655S
	100 mm	ea.	951651S
	150 mm	ea.	951656S
	200 mm	ea.	951652S
	250 mm	ea.	951657S

Viva C18 Columns (USP L1)

Stationary Phase Category: C18, octadecylsilane (L1)
Ligand Type: monomeric C18
Particle: 3 μ m or 5 μ m, spherical
Pore Size: 300 Å
Carbon Load: 9%

End-Cap: yes
Surface Area: 100 m²/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C

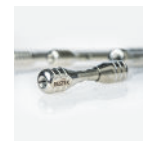


ID	Length	qty.	cat.#
3 μm Particles			
1.0 mm	30 mm	ea.	9514331
	50 mm	ea.	9514351
	100 mm	ea.	9514311
	150 mm	ea.	9514361
2.1 mm	30 mm	ea.	9514332
	50 mm	ea.	9514352
	100 mm	ea.	9514312
	150 mm	ea.	9514362
3.0 mm	30 mm	ea.	951433E
	50 mm	ea.	951435E
	100 mm	ea.	951431E
	150 mm	ea.	951436E
4.6 mm	30 mm	ea.	951433S
	50 mm	ea.	951435S
	100 mm	ea.	951431S
	150 mm	ea.	951436S
5 μm Particles			
1.0 mm	30 mm	ea.	9514531
	50 mm	ea.	9514551
	100 mm	ea.	9514511
	150 mm	ea.	9514561
	200 mm	ea.	9514521
	250 mm	ea.	9514571
2.1 mm	30 mm	ea.	9514532
	50 mm	ea.	9514552
	100 mm	ea.	9514512
	150 mm	ea.	9514562
	200 mm	ea.	9514522
	250 mm	ea.	9514572
3.0 mm	30 mm	ea.	951453E
	50 mm	ea.	951455E
	100 mm	ea.	951451E
	150 mm	ea.	951456E
	200 mm	ea.	951452E
	250 mm	ea.	951457E
4.6 mm	30 mm	ea.	951453S
	50 mm	ea.	951455S
	100 mm	ea.	951451S
	150 mm	ea.	951456S
	200 mm	ea.	951452S
	250 mm	ea.	951457S

**Viva C4 Columns (USP L26)**

Stationary Phase Category: C4, butylsilane (L26)
Ligand Type: monomeric C4
Particle: 5 μm , spherical
Pore Size: 300 Å
Carbon Load: 3.5%

End-Cap: yes
Surface Area: 100 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C

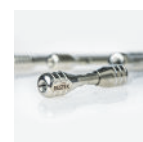


ID	Length	qty.	cat.#
1.0 mm	30 mm	ea.	9512531
	50 mm	ea.	9512551
	100 mm	ea.	9512511
	150 mm	ea.	9512561
	200 mm	ea.	9512521
	250 mm	ea.	9512571
2.1 mm	30 mm	ea.	9512532
	50 mm	ea.	9512552
	100 mm	ea.	9512512
	150 mm	ea.	9512562
	200 mm	ea.	9512522
	250 mm	ea.	9512572
3.0 mm	30 mm	ea.	951253E
	50 mm	ea.	951255E
	100 mm	ea.	951251E
	150 mm	ea.	951256E
	200 mm	ea.	951252E
	250 mm	ea.	951257E
4.6 mm	30 mm	ea.	9512535
	50 mm	ea.	9512555
	100 mm	ea.	9512515
	150 mm	ea.	9512565
	200 mm	ea.	9512525
	250 mm	ea.	9512575

Viva C8 Columns (USP L7)

Stationary Phase Category: C8, octylsilane (L7)
Ligand Type: monomeric C8
Particle: 5 μm , spherical
Pore Size: 300 Å
Carbon Load: 5%

End-Cap: yes
Surface Area: 100 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
1.0 mm	30 mm	ea.	9513531
	50 mm	ea.	9513551
	100 mm	ea.	9513511
	150 mm	ea.	9513561
	200 mm	ea.	9513521
	250 mm	ea.	9513571
2.1 mm	30 mm	ea.	9513532
	50 mm	ea.	9513552
	100 mm	ea.	9513512
	150 mm	ea.	9513562
	200 mm	ea.	9513522
	250 mm	ea.	9513572
3.0 mm	30 mm	ea.	951353E
	50 mm	ea.	951355E
	100 mm	ea.	951351E
	150 mm	ea.	951356E
	200 mm	ea.	951352E
	250 mm	ea.	951357E

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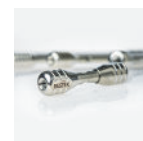


ID	Length	qty.	cat.#
4.6 mm	30 mm	ea.	9513535
	50 mm	ea.	9513555
	100 mm	ea.	9513515
	150 mm	ea.	9513565
	200 mm	ea.	9513525
	250 mm	ea.	9513575

Viva PFP Propyl Columns (USP L43)

Stationary Phase Category: fluorophenyl propyl (L43)
Ligand Type: pentafluorophenyl propyl
Particle: 5 μm , spherical
Pore Size: 300 Å
Carbon Load: 5%

End-Cap: yes
Surface Area: 100 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C

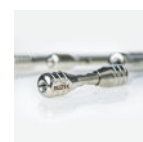


ID	Length	qty.	cat.#
1.0 mm	30 mm	ea.	9519531
	50 mm	ea.	9519551
	100 mm	ea.	9519511
	150 mm	ea.	9519561
	200 mm	ea.	9519521
	250 mm	ea.	9519571
2.1 mm	30 mm	ea.	9519532
	50 mm	ea.	9519552
	100 mm	ea.	9519512
	150 mm	ea.	9519562
	200 mm	ea.	9519522
	250 mm	ea.	9519572
3.0 mm	30 mm	ea.	951953E
	50 mm	ea.	951955E
	100 mm	ea.	951951E
	150 mm	ea.	951956E
	200 mm	ea.	951952E
	250 mm	ea.	951957E
4.6 mm	30 mm	ea.	9519535
	50 mm	ea.	9519555
	100 mm	ea.	9519515
	150 mm	ea.	9519565
	200 mm	ea.	9519525
	250 mm	ea.	9519575

Viva Silica Columns (USP L3)

Stationary Phase Category: bare silica (L3)
Ligand Type: none
Particle: 5 μm , spherical
Pore Size: 300 Å
Carbon Load: n/a

End-Cap: n/a
Surface Area: 100 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
1.0 mm	30 mm	ea.	9510531
	100 mm	ea.	9510511
	150 mm	ea.	9510561
	200 mm	ea.	9510521
	250 mm	ea.	9510571
2.1 mm	30 mm	ea.	9510532
	50 mm	ea.	9510552
	100 mm	ea.	9510512
	150 mm	ea.	9510562
	200 mm	ea.	9510522
	250 mm	ea.	9510572

Continued



ID	Length	qty.	cat.#
3.0 mm	30 mm	ea.	951053E
	50 mm	ea.	951055E
	100 mm	ea.	951051E
	150 mm	ea.	951056E
	200 mm	ea.	951052E
	250 mm	ea.	951057E
4.6 mm	30 mm	ea.	951053S
	50 mm	ea.	951055S
	100 mm	ea.	951051S
	150 mm	ea.	951056S
	200 mm	ea.	951052S
	250 mm	ea.	951057S

Allure Guard Cartridges

Description	Particle Size	Size	qty.	cat.#
Allure Acrylamide Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	916750212
Allure AK Guard Cartridge	5 µm	10 x 4.0 mm	3-pk.	915950210
Allure Organic Acids Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	916550212
	5 µm	10 x 4.0 mm	3-pk.	916550210
Allure PFP Propyl Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	916950212
	5 µm	10 x 4.0 mm	3-pk.	916950210
Allure Silica Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	916050212
	5 µm	10 x 4.0 mm	3-pk.	916050210



EXP Direct Connect Holder

Maximum holder pressure: 20,000 psi (1400 bar).

Description	qty.	cat.#
EXP Direct Connect Holder for EXP Guard Cartridges (includes hex-head fitting & 2 ferrules)	ea.	25808

Intellectual Property: optimizetech.com/patents



EXP In-Line Holder

Maximum holder pressure: 20,000 psi (1400 bar)

Swept volume: 1.4 µL (excluding packed bed)

Description	qty.	cat.#
EXP In-Line Holder for EXP Guard Cartridges (includes hex-head fittings & 2 ferrules)	ea.	25751

Intellectual Property: optimizetech.com/patents



Force EXP Guard Column Cartridges

Description	Size	qty.	cat.#
Force Biphenyl EXP Guard Column Cartridge	5 x 2.1 mm	3-pk.	962950252
	5 x 3.0 mm	3-pk.	962950253
	5 x 4.6 mm	3-pk.	962950250
Force C18 EXP Guard Column Cartridge	5 x 2.1 mm	3-pk.	963450252
	5 x 3.0 mm	3-pk.	963450253
	5 x 4.6 mm	3-pk.	963450250
Force FluoroPhenyl EXP Guard Column Cartridge	5 x 2.1 mm	3-pk.	963950252
	5 x 3.0 mm	3-pk.	963950253
	5 x 4.6 mm	3-pk.	963950250



Maximum cartridge pressure: 600 bar/8700 psi.

Intellectual Property: optimizetech.com/patents

High-Pressure Frit-Type In-Line Filter

Description	Porosity	qty.	cat.#
Frit-Type In-Line Filter	2.0 µm	ea.	25041



25041



PEEK Tips for Trident Direct Guard Cartridge Systems

Description	qty.	cat.#
PEEK tip for Waters-style end fittings	ea.	25088
PEEK tip for standard fittings	ea.	25087



Pinnacle DB Guard Cartridges

Description	Particle Size	Size	qty.	cat.#
Pinnacle DB C18 Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	941450212
	5 µm	10 x 4.0 mm	3-pk.	941450210
Pinnacle DB C8 Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	941350212
	5 µm	10 x 4.0 mm	3-pk.	941350210
Pinnacle DB Aqueous C18 Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	941850212
	5 µm	10 x 4.0 mm	3-pk.	941850210
Pinnacle DB Biphenyl Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	940950212
	5 µm	10 x 4.0 mm	3-pk.	940950210
Pinnacle DB PFP Propyl Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	941950212
	5 µm	10 x 4.0 mm	3-pk.	941950210
Pinnacle DB Cyano Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	941650212
	5 µm	10 x 4.0 mm	3-pk.	941650210
Pinnacle DB Silica Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	941050212
	5 µm	10 x 4.0 mm	3-pk.	941050210



Pinnacle II PAH Guard Cartridges

Description	Particle Size	Size	qty.	cat.#
Pinnacle II PAH Guard Cartridge	4 µm	10 x 2.1 mm	3-pk.	921950212
	4 µm	10 x 4.0 mm	3-pk.	921950210



Raptor EXP Guard Column Cartridges

Description	Particle Size	Size	qty.	cat.#
Raptor C18 EXP Guard Column Cartridge	UHPLC	5 x 2.1 mm	3-pk.	9304U0252
	UHPLC	5 x 3.0 mm	3-pk.	9304U0253
	2.7 µm	5 x 2.1 mm	3-pk.	9304A0252
	2.7 µm	5 x 3.0 mm	3-pk.	9304A0253
	2.7 µm	5 x 4.6 mm	3-pk.	9304A0250
	5 µm	5 x 2.1 mm	3-pk.	930450252
	5 µm	5 x 3.0 mm	3-pk.	930450253
	5 µm	5 x 4.6 mm	3-pk.	930450250
	UHPLC	5 x 2.1 mm	3-pk.	9314U0252
	UHPLC	5 x 3.0 mm	3-pk.	9314U0253
Raptor ARC-18 EXP Guard Column Cartridge	2.7 µm	5 x 2.1 mm	3-pk.	9314A0252
	2.7 µm	5 x 3.0 mm	3-pk.	9314A0253
	2.7 µm	5 x 4.6 mm	3-pk.	9314A0250
	5 µm	5 x 2.1 mm	3-pk.	931450252
	5 µm	5 x 3.0 mm	3-pk.	931450253
	5 µm	5 x 4.6 mm	3-pk.	931450250
	UHPLC	5 x 2.1 mm	3-pk.	9309U0252
	UHPLC	5 x 3.0 mm	3-pk.	9309U0253
Raptor Biphenyl EXP Guard Column Cartridge	2.7 µm	5 x 2.1 mm	3-pk.	9309A0252
	2.7 µm	5 x 3.0 mm	3-pk.	9309A0253
	2.7 µm	5 x 4.6 mm	3-pk.	9309A0250
	5 µm	5 x 2.1 mm	3-pk.	930950252
	5 µm	5 x 3.0 mm	3-pk.	930950253
	5 µm	5 x 4.6 mm	3-pk.	930950250
	UHPLC	5 x 2.1 mm	3-pk.	9319U0252
Raptor FluoroPhenyl EXP Guard Column Cartridge	UHPLC	5 x 3.0 mm	3-pk.	9319U0253



Continued



Description	Particle Size	Size	qty.	cat.#
Raptor FluoroPhenyl EXP Guard Column Cartridges	2.7 µm	5 x 2.1 mm	3-pk.	9319A0252
	2.7 µm	5 x 3.0 mm	3-pk.	9319A0253
	2.7 µm	5 x 4.6 mm	3-pk.	9319A0250
	5 µm	5 x 2.1 mm	3-pk.	9319S0252
	5 µm	5 x 3.0 mm	3-pk.	9319S0253
	5 µm	5 x 4.6 mm	3-pk.	9319S0250
Raptor HILIC-Si EXP Guard Column Cartridge	2.7 µm	5 x 2.1 mm	3-pk.	9310A0252
	2.7 µm	5 x 3.0 mm	3-pk.	9310A0253
	2.7 µm	5 x 4.6 mm	3-pk.	9310A0250
Raptor Polar X EXP Guard Column Cartridge	2.7 µm	5 x 2.1 mm	3-pk.	9311A0252

Maximum cartridge pressure: 1034 bar/15,000 psi* (UHPLC); 600 bar/8700 psi (2.7 µm); 400 bar/5800 psi (5 µm).

* For maximum lifetime, recommended maximum pressure for UHPLC particles is 830 bar/12,000 psi.

Intellectual Property: optimizetech.com/patents

Replacement Cap Frit Filters for Trident Guard Cartridges

Description	ID	Porosity	qty.	cat.#
Replacement Cap Frit Filters	4 mm	2.0 µm	5-pk.	25022
	4 mm	0.5 µm	5-pk.	25023
	2 mm	2.0 µm	5-pk.	25057
	2 mm	0.5 µm	5-pk.	25990



Replacement Filters for UltraLine UHPLC In-Line Filter

Description	qty.	cat.#
UltraLine Replacement Filters	5-pk.	24994



24994

Replacement PEEK Ferrules for Roc LC Guard Column Holder

Description	qty.	cat.#
Replacement PEEK Ferrules for Roc LC Guard Column Holder	3-pk.	26391



26391

Replacement Trident PEEK Ferrules

Description	qty.	cat.#
Replacement Trident PEEK Ferrules	10-pk.	27476



27476

Roc LC Guard Column Cartridges

Description	Size	qty.	cat.#
Roc C8 Guard Cartridge	10 x 4.0 mm	3-pk.	953350210
Roc C18 Guard Cartridge	10 x 4.0 mm	3-pk.	953450210
Roc Cyano Guard Cartridge	10 x 4.0 mm	3-pk.	953650210
Roc Phenyl-Hexyl Guard Cartridge	10 x 4.0 mm	3-pk.	953550210
Roc Silica Guard Cartridge	10 x 4.0 mm	3-pk.	953050210



Roc LC Guard Column Holder

Description	qty.	cat.#
Roc LC Guard Column Holder for 10 x 4.0 mm Roc Guard Cartridges	ea.	25812



25812

Trident HPLC In-Line Guard Cartridge Holders

Description	qty.	cat.#
Holder for 10 mm guard cartridge	ea.	25021
Holder with filter for 10 mm guard cartridge	ea.	25040



25021



Trident LC Column Protection System

Description	Type	Includes	qty.	cat.#
Trident LC Column Protection System	Level 1: Filter Holder Only	filter holder; cap frit filter (4 mm, 2.0 µm); and PEEK ferrule	ea.	27470
	Level 1: Filter Holder Only	filter holder; cap frit filter (4 mm, 2.0 µm); and PEEK ferrule	4-pk.	27471
	Level 2: Cartridge Holder Only	cartridge holder and PEEK ferrule	ea.	27472
	Level 2: Cartridge Holder Only	cartridge holder and PEEK ferrule	4-pk.	27473
	Level 3: Filter Holder and Cartridge Holder Power Pack	filter holder; cap frit filter (4 mm, 2.0 µm); cartridge holder; and PEEK ferrule	ea.	27474
	Level 3: Filter Holder and Cartridge Holder Power Pack	filter holder; cap frit filter (4 mm, 2.0 µm); cartridge holder; and PEEK ferrule	4-pk.	27475



Fittings on all LC columns have 10-32 threads; however, seat depth varies. An improper seat will yield a poor connection and may affect chromatography. While all Restek LC columns will provide a zero-dead-volume connection when used with a properly installed Trident LC column protection system, analysts should consult the manufacturer for non-Restek column connections. A detailed discussion about port configurations can be found at https://www.restek.com/Pages/faq_lc

Ultra Guard Cartridges

Description	Particle Size	Size	qty.	cat.#
Ultra C18 Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	917450212
	5 µm	10 x 4.0 mm	3-pk.	917450210
Ultra C8 Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	910350212
	5 µm	10 x 4.0 mm	3-pk.	910350210
Ultra C4 Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	910250212
	5 µm	10 x 4.0 mm	3-pk.	910250210
Ultra C1 Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	910150212
	5 µm	10 x 4.0 mm	3-pk.	910150210
Ultra Aromax Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	912750212
	5 µm	10 x 4.0 mm	3-pk.	912750210
Ultra Aqueous C18 Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	917850212
	5 µm	10 x 4.0 mm	3-pk.	917850210
Ultra Biphenyl Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	910950212
	5 µm	10 x 4.0 mm	3-pk.	910950210
Ultra IBD Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	917550212
	5 µm	10 x 4.0 mm	3-pk.	917550210
Ultra PFP Propyl Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	917950212
	5 µm	10 x 4.0 mm	3-pk.	917950210
Ultra Cyano Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	910650212
	5 µm	10 x 4.0 mm	3-pk.	910650210
Ultra Amino Guard Cartridge	5 µm	10 x 4.0 mm	3-pk.	910750210
	5 µm	10 x 2.1 mm	3-pk.	910050212
Ultra Silica Guard Cartridge	5 µm	10 x 4.0 mm	3-pk.	910050210
	5 µm	10 x 2.1 mm	3-pk.	917750212
Ultra Carbamate Guard Cartridge	5 µm	10 x 4.0 mm	3-pk.	917750210
	5 µm	10 x 2.1 mm	3-pk.	918150212
Ultra Quat Guard Cartridge	5 µm	10 x 4.0 mm	3-pk.	918150210



UltraLine UHPLC In-Line Filter

Specifications
Inlet/Outlet: Female/Female 10-32
Port Geometry: Parker (1/16 CPI)
Material: Stainless steel housing

Filter: 0.5 µm stainless steel, 0.125" W x 0.062" T, 5 µL volume
Pressure Rating: 15,000 psig (1034 bar)
Wrench Flat: 3/8"



24993

Description	qty.	cat.#
UltraLine UHPLC In-Line Filter (In-Line Assembly with Filter)	ea.	24993



UltraShield UHPLC PreColumn Filter

Specifications
Inlet/Outlet: Female/Male 10-32
Port Geometry: Parker (1/16 CPI)
Material: stainless steel, PEEK ferrule

Filter: 0.5 µm or 0.2 µm stainless steel
Pressure Rating: 15,000 psig (1034 bar)
Wrench Flat: 5/16"



24995

Description	Porosity	qty.	cat.#
UltraShield UHPLC PreColumn Filter	0.5 µm frit	ea.	24995
	0.5 µm frit	5-pk.	24996
	0.5 µm frit	10-pk.	24997
	0.2 µm frit	ea.	25809
	0.2 µm frit	5-pk.	25810
	0.2 µm frit	10-pk.	25811

Viva Guard Cartridges

Description	Particle Size	Size	qty.	cat.#
Viva C18 Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	951450212
	5 µm	10 x 4.0 mm	3-pk.	951450210
Viva C8 Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	951350212
	5 µm	10 x 4.0 mm	3-pk.	951350210
Viva C4 Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	951250212
	5 µm	10 x 4.0 mm	3-pk.	951250210
Viva Biphenyl Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	951650212
	5 µm	10 x 4.0 mm	3-pk.	951650210
Viva PFP Propyl Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	951950212
	5 µm	10 x 4.0 mm	3-pk.	951950210
Viva Silica Guard Cartridge	5 µm	10 x 2.1 mm	3-pk.	951050212
	5 µm	10 x 4.0 mm	3-pk.	951050210



1/4" HPLC Frits

Description	ID	Porosity	qty.	cat.#
1/4" HPLC Frits	4.6 mm	2.0 µm	10-pk.	25071
	4.6 mm	0.5 µm	10-pk.	25072
	3.2 mm	2.0 µm	10-pk.	25073
	3.2 mm	0.5 µm	10-pk.	25074
	2.1 mm	2.0 µm	10-pk.	25075
	2.1 mm	0.5 µm	10-pk.	25076



25071

Bio-Safe Column System (PEEK)

Specifications
4.6 mm ID x 30 mm length column with end fittings.

2.0 µm frits.

Description	qty.	cat.#
Bio-Safe Column System, PEEK, 4.6 mm x 30 mm, 2.0 µm	ea.	26546



26546

Column End-Fittings

Description	qty.	cat.#
Column End-Fitting with Distribution Cone	ea.	25077
Column End-Fitting with Flat Bottom	ea.	25078



25077



Empty Chromatography Columns

Description	ID	OD	Length	qty.	cat.#
HPLC Column Assembly	2.1 mm	1/4"	30 mm	ea.	25118
	2.1 mm	1/4"	50 mm	ea.	25119
	2.1 mm	1/4"	100 mm	ea.	25120
	2.1 mm	1/4"	150 mm	ea.	25121
	2.1 mm	1/4"	200 mm	ea.	25122
	2.1 mm	1/4"	250 mm	ea.	25123
	4.6 mm	1/4"	30 mm	ea.	25130
	4.6 mm	1/4"	50 mm	ea.	25131
	4.6 mm	1/4"	100 mm	ea.	25132
	4.6 mm	1/4"	150 mm	ea.	25133
	4.6 mm	1/4"	200 mm	ea.	25134
	4.6 mm	1/4"	250 mm	ea.	25135



HPLC Column Tubing

Description	ID	OD	Length	qty.	cat.#
HPLC Column Tubing	2.1 mm	1/4"	30 mm	ea.	25100
	2.1 mm	1/4"	50 mm	ea.	25101
	2.1 mm	1/4"	100 mm	ea.	25102
	2.1 mm	1/4"	150 mm	ea.	25103
	2.1 mm	1/4"	200 mm	ea.	25104
	2.1 mm	1/4"	250 mm	ea.	25105
	4.6 mm	1/4"	30 mm	ea.	25112
	4.6 mm	1/4"	50 mm	ea.	25113
	4.6 mm	1/4"	100 mm	ea.	25114
	4.6 mm	1/4"	150 mm	ea.	25115
	4.6 mm	1/4"	200 mm	ea.	25116
	4.6 mm	1/4"	250 mm	ea.	25117



Restek Pack in a Box Kit

Description	Certification/Compliance	Includes	qty.	cat.#
Pack in a Box Kit	CE	pump; mounting bracket; stainless steel tubing; column and reservoir connection fittings; empty column; solvent/slurry reservoir; pump priming syringe; seal tool; guide bushing; 1/4" union for use with 1/4" HPLC compression column hardware (compression hardware must be purchased separately); operation and start-up manuals.	kit	26408



Ultra Bulk Packing Materials (5 µm)

Description	Particle Size	Min qty.	qty.	cat.#
Ultra C1 Bulk Packing	5 µm	1	10 g/btl.	91015
Ultra C4 Bulk Packing	5 µm	1	10 g/btl.	91025
Ultra C8 Bulk Packing	5 µm	1	10 g/btl.	91035
Ultra C18 Bulk Packing	5 µm	1	10 g/btl.	91745
Ultra Amino Bulk Packing	5 µm	1	10 g/btl.	91075
Ultra Cyano Bulk Packing	5 µm	1	10 g/btl.	91065
Ultra Silica Bulk Packing	5 µm	1	10 g/btl.	91005





Ultra Aqueous C18 HPLC Prep Columns

Stationary Phase Category: modified C18 (L1)
Ligand Type: proprietary polar modified and functionally bonded C18
Particle: 5 μm , spherical
Pore Size: 100 Å
Carbon Load: 15%

End-Cap: no
Surface Area: 300 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
10 mm	50 mm	ea.	9178557
21.2 mm	50 mm	ea.	9178558
30 mm	50 mm	ea.	9178559
10 mm	100 mm	ea.	9178517
21.2 mm	100 mm	ea.	9178518
30 mm	100 mm	ea.	9178519
10 mm	150 mm	ea.	9178567
21.2 mm	150 mm	ea.	9178568
30 mm	150 mm	ea.	9178569
10 mm	250 mm	ea.	9178577
21.2 mm	250 mm	ea.	9178578
30 mm	250 mm	ea.	9178579

Ultra Biphenyl Prep Columns

Stationary Phase Category: phenyl (L11)
Ligand Type: unique Biphenyl
Particle: 5 μm , spherical
Pore Size: 100 Å
Carbon Load: 15%

End-Cap: yes
Surface Area: 300 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
10 mm	50 mm	ea.	9109557
21.2 mm	50 mm	ea.	9109558
30 mm	50 mm	ea.	9109559
10 mm	100 mm	ea.	9109517
21.2 mm	100 mm	ea.	9109518
30 mm	100 mm	ea.	9109519
10 mm	150 mm	ea.	9109567
21.2 mm	150 mm	ea.	9109568
30 mm	150 mm	ea.	9109569
10 mm	250 mm	ea.	9109577
21.2 mm	250 mm	ea.	9109578
30 mm	250 mm	ea.	9109579

Ultra C18 HPLC Prep Columns

Stationary Phase Category: C18, octadecylsilane (L1)
Ligand Type: monomeric C18
Particle: 5 μm , spherical
Pore Size: 100 Å
Carbon Load: 20%

End-Cap: yes
Surface Area: 300 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
10 mm	50 mm	ea.	9174557
21.2 mm	50 mm	ea.	9174558
30 mm	50 mm	ea.	9174559
10 mm	100 mm	ea.	9174517
21.2 mm	100 mm	ea.	9174518
30 mm	100 mm	ea.	9174519
10 mm	150 mm	ea.	9174567
21.2 mm	150 mm	ea.	9174568
30 mm	150 mm	ea.	9174569
10 mm	250 mm	ea.	9174577
21.2 mm	250 mm	ea.	9174578
30 mm	250 mm	ea.	9174579



Ultra C8 HPLC Prep Columns

Stationary Phase Category: C8, octylsilane (L7)
Ligand Type: monomeric C8
Particle: 5 μm , spherical
Pore Size: 100 Å
Carbon Load: 12%

End-Cap: yes
Surface Area: 300 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
10 mm	50 mm	ea.	9103557
21.2 mm	50 mm	ea.	9103558
30 mm	50 mm	ea.	9103559
10 mm	100 mm	ea.	9103517
21.2 mm	100 mm	ea.	9103518
30 mm	100 mm	ea.	9103519
10 mm	150 mm	ea.	9103567
21.2 mm	150 mm	ea.	9103568
30 mm	150 mm	ea.	9103569
10 mm	250 mm	ea.	9103577
21.2 mm	250 mm	ea.	9103578
30 mm	250 mm	ea.	9103579

Ultra Cyano HPLC Prep Columns

Stationary Phase Category: cyano (L10)
Ligand Type: cyanopropylsilane
Particle: 5 μm , spherical
Pore Size: 100 Å
Carbon Load: 8%

End-Cap: yes
Surface Area: 300 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
10 mm	50 mm	ea.	9106557
21.2 mm	50 mm	ea.	9106558
30 mm	50 mm	ea.	9106559
10 mm	100 mm	ea.	9106517
21.2 mm	100 mm	ea.	9106518
30 mm	100 mm	ea.	9106519
10 mm	150 mm	ea.	9106567
21.2 mm	150 mm	ea.	9106568
30 mm	150 mm	ea.	9106569
10 mm	250 mm	ea.	9106577
21.2 mm	250 mm	ea.	9106578
30 mm	250 mm	ea.	9106579

Ultra IBD HPLC Prep Columns

Stationary Phase Category: polar-embedded alkyl (L68)
Ligand Type: proprietary polar functional embedded alkyl
Particle: 5 μm , spherical
Pore Size: 100 Å
Carbon Load: 12%

End-Cap: no
Surface Area: 300 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
10 mm	50 mm	ea.	9175557
21.2 mm	50 mm	ea.	9175558
30 mm	50 mm	ea.	9175559
10 mm	100 mm	ea.	9175517
21.2 mm	100 mm	ea.	9175518
30 mm	100 mm	ea.	9175519
10 mm	150 mm	ea.	9175567
21.2 mm	150 mm	ea.	9175568
30 mm	150 mm	ea.	9175569
10 mm	250 mm	ea.	9175577
21.2 mm	250 mm	ea.	9175578
30 mm	250 mm	ea.	9175579



Ultra PFP Propyl Prep Columns

Stationary Phase Category: fluorophenyl propyl (L43)
Ligand Type: pentafluorophenyl propyl
Particle: 5 μm , spherical
Pore Size: 100 Å
Carbon Load: 11%

End-Cap: yes
Surface Area: 300 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
10 mm	50 mm	ea.	9179557
21.2 mm	50 mm	ea.	9179558
30 mm	50 mm	ea.	9179559
10 mm	100 mm	ea.	9179517
21.2 mm	100 mm	ea.	9179518
30 mm	100 mm	ea.	9179519
10 mm	150 mm	ea.	9179567
21.2 mm	150 mm	ea.	9179568
30 mm	150 mm	ea.	9179569
10 mm	250 mm	ea.	9179577
21.2 mm	250 mm	ea.	9179578
30 mm	250 mm	ea.	9179579

Ultra Silica HPLC Prep Columns

Stationary Phase Category: bare silica (L3)
Ligand Type: none
Particle: 5 μm , spherical
Pore Size: 100 Å
Carbon Load: n/a

End-Cap: n/a
Surface Area: 300 m^2/g
pH Range: 2.5 to 8
Maximum Temperature: 80 °C



ID	Length	qty.	cat.#
10 mm	50 mm	ea.	9100557
21.2 mm	50 mm	ea.	9100558
30 mm	50 mm	ea.	9100559
10 mm	100 mm	ea.	9100517
21.2 mm	100 mm	ea.	9100518
30 mm	100 mm	ea.	9100519
10 mm	150 mm	ea.	9100567
21.2 mm	150 mm	ea.	9100568
30 mm	150 mm	ea.	9100569
10 mm	250 mm	ea.	9100577
21.2 mm	250 mm	ea.	9100578
30 mm	250 mm	ea.	9100579

Notes:

Notes:

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