

Combine Speed and Selectivity with Ultra II® UHPLC and HPLC Columns



Excellent choice
for method development
using column switching
systems and systematic
Quality by Design
approaches

Available Particle Sizes:

- 1.9µm for UHPLC
- 2.2µm for UFLC and RRLC
- 3µm, 5µm, & 10µm for HPLC

**Get UHPLC Speed
at HPLC Prices!**

Restek lets you speed up
analyses without paying
a premium.

Compare today and save!

- **Ultra Selectivity** - Widest variety of stationary phases and selectivity of any HPLC and UHPLC column line.
- **Ultra Utility** - Full range of particle sizes for use on any HPLC or UHPLC system.
- **Ultra Reproducibility** – 100% Restek manufactured silica for column-to column reproducibility.
- **Ultra Scalability** – Both HPLC and UHPLC columns manufactured from identical silica support to allow reliable scaling of methods across systems.

Widest Selectivity Available of Any HPLC & UHPLC Column Line!

Available Phases	Phase Description
Ultra II C18	Inert and rugged reversed phase octadecyl.
Ultra II C8	Inert and rugged general purpose.
Ultra II Aqueous C18	Uniquely modified alkyl for balanced retention and improved mobile phase compatibility, relative to a conventional C18.
Ultra II IBD	Unique polar embedded alkyl for symmetry of bases and increased retention of acids. Orthogonal selectivity to a C18.
Ultra II Biphenyl	Unique Biphenyl phase for enhanced retention and selectivity compared to phenyl and phenyl hexyl phases. Orthogonal selectivity to a C18.
Ultra II Aromax	Proprietary phenyl phase for maximum aromatic selectivity and retention. Orthogonal selectivity to a C18.
Ultra II PFP Propyl	Pentafluorophenyl phase for increased retention of basic compounds. Orthogonal selectivity to a C18.
Ultra II Silica	General purpose silica column for normal phase and HILIC separations.
Ultra II Carbamate	Specifically designed for carbamate analysis.
Ultra II Quat	Ideal for the analysis of paraquat and diquat or other quaternary amines.

Innovative phase developed by Restek!

Ultra II® C18 Columns (USP L1)

Chromatographic Properties:

A retentive, highly pure material that exhibits excellent peak shape for a wide range of compounds. This is a robust and very reproducible general-purpose reversed phase column.

Length	1.0mm ID cat.#	2.1mm ID cat.#	3.0mm ID cat.#	4.6mm ID cat.#
1.9µm Columns				
30mm		9604232	960423E	
50mm		9604252	960425E	
100mm		9604212	960421E	
2.2µm Columns				
30mm		9604832	960483E	
50mm		9604852	960485E	
100mm		9604812	960481E	
3µm Columns				
30mm	9604331	9604332	960433E	9604335
50mm	9604351	9604352	960435E	9604355
100mm	9604311	9604312	960431E	9604315
150mm	9604361	9604362	960436E	9604365
5µm Columns				
30mm	9604531	9604532	960453E	9604535
50mm	9604551	9604552	960455E	9604555
100mm	9604511	9604512	960451E	9604515
150mm	9604561	9604562	960456E	9604565
200mm	9604521	9604522	960452E	9604525
250mm	9604571	9604572	960457E	9604575

Ultra II® C18 Guard Cartridges

Guard Cartridges	3-pk. (10 x 2.1mm)	3-pk. (10 x 4.0mm)	2-pk. (20 x 2.1mm)	2-pk. (20 x 4.0mm)
Ultra II C18 Guard Cartridge	960450212	960450210	960450222	960450220

Ultra II® C18 HPLC Prep Columns

Length	10mm ID cat.#	21.2mm ID cat.#	30mm ID cat.#	50mm ID cat.#
5µm Columns				
50mm	9604557	9604558	9604559	9604550
100mm	9604517	9604518	9604519	9604510
150mm	9604567	9604568	9604569	9604560
250mm	9604577	9604578	9604579	9604570

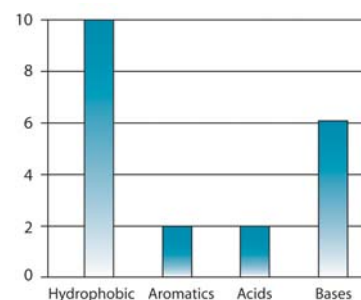
Available in 10µm particle size upon request.



Physical Characteristics:

particle size: 1.9µm, 2.2µm, 3µm or 5µm,
spherical
pore size: 100Å
carbon load: 19%
endcap: fully endcapped
pH range: 2.5 to 8
temperature limit: 80°C

Ultra II® C18 Retention Profile



.....Page #
vitamins733

ordering note

To order a 2.1mm, 3.2mm, or 4.6mm ID column with a Trident Integral Inlet Fitting, add "-700" to the catalog number for the column.

Nominal additional charge

Example: 100mm x 4.6mm ID Ultra C18 column with Trident Integral Inlet Fitting: 9174315-700

Also order an XG-XF fitting (10mm: cat.#25026 or 20mm: 25062), see page 196.



also
available

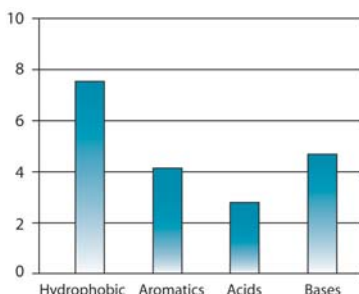
**Bulk Packing
Materials**
See page 194.



Physical Characteristics:

particle size: 3µm or 5µm, spherical
pore size: 100Å
carbon load: 12%
endcap: fully endcapped
pH range: 2.5 to 8
temperature limit: 80°C

Ultra II® C8 Retention Profile



Ultra II® C8 Columns (USP L7)

Chromatographic Properties:

A retentive, high-purity, base-deactivated reversed phase packing that exhibits excellent peak shape for a wide range of compounds. Less retention for neutral, hydrophobic compounds, compared to the Ultra II® C18 column.

Length	1.0mm ID	2.1mm ID	3.0mm ID	4.6mm ID
	cat.#	cat.#	cat.#	cat.#
3µm Columns				
30mm	9603331	9603332	960333E	9603335
50mm	9603351	9603352	960335E	9603355
100mm	9603311	9603312	960331E	9603315
150mm	9603361	9603362	960336E	9603365
5µm Columns				
30mm	9603531	9603532	960353E	9603535
50mm	9603551	9603552	960355E	9603555
100mm	9603511	9603512	960351E	9603515
150mm	9603561	9603562	960356E	9603565
200mm	9603521	9603522	960352E	9603525
250mm	9603571	9603572	960357E	9603575

Ultra II® C8 Guard Cartridges

Guard Cartridges	3-pk. (10 x 2.1mm)	3-pk. (10 x 4.0mm)	2-pk. (20 x 2.1mm)	2-pk. (20 x 4.0mm)
Ultra II C8 Guard Cartridge	960350212	960350210	960350222	960350220

Ultra II® C8 HPLC Prep Columns

Length	10mm ID	21.2mm ID	30mm ID	50mm ID
	cat.#	cat.#	cat.#	cat.#
5µm Columns				
50mm	9603557	9603558	9603559	9603550
100mm	9603517	9603518	9603519	9603510
150mm	9603567	9603568	9603569	9603560
250mm	9603577	9603578	9603579	9603570

Available in 10µm particle size upon request.

ordering note

To order a 2.1mm, 3.2mm, or 4.6mm ID column with a Trident Integral Inlet Fitting, add "-700" to the catalog number for the column.

Nominal additional charge

Example: 100mm x 4.6mm ID Ultra C18 column with Trident Integral Inlet Fitting: 9174315-700

Also order an XG-XF fitting (10mm: cat.#25026 or 20mm: 25062), see page 196.



Ultra II® Aqueous C18 Columns (USP L1)

Chromatographic Properties:

Highly retentive and selective for reversed phase separations of polar analytes. Highly base-deactivated. Compatible with highly aqueous (up to 100%) mobile phases.

	1.0mm ID	2.1mm ID	3.0mm ID	4.6mm ID
Length	cat.#	cat.#	cat.#	cat.#
3µm Columns				
30mm	9608331	9608332	960833E	9608335
50mm	9608351	9608352	960835E	9608355
100mm	9608311	9608312	960831E	9608315
150mm	9608361	9608362	960836E	9608365
5µm Columns				
30mm	9608531	9608532	960853E	9608535
50mm	9608551	9608552	960855E	9608555
100mm	9608511	9608512	960851E	9608515
150mm	9608561	9608562	960856E	9608565
200mm	9608521	9608522	960852E	9608525
250mm	9608571	9608572	960857E	9608575

Ultra II® Aqueous C18 Guard Cartridges

Guard Cartridges	3-pk. (10 x 2.1mm)	3-pk. (10 x 4.0mm)	2-pk. (20 x 2.1mm)	2-pk. (20 x 4.0mm)
Ultra II Aqueous C18 Guard Cartridge	960850212	960850210	960850222	960850220

Ultra II® Aqueous C18 HPLC Prep Columns

	10mm ID	21.2mm ID	30mm ID	50mm ID
Length	cat.#	cat.#	cat.#	cat.#
5µm Columns				
50mm	9608557	9608558	9608559	9608550
100mm	9608517	9608518	9608519	9608510
150mm	9608567	9608568	9608569	9608560
250mm	9608577	9608578	9608579	9608570

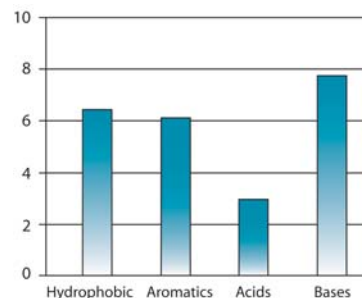
Available in 10µm particle size upon request.



Physical Characteristics:

particle size: 3µm or 5µm, spherical
pore size: 100Å
carbon load: 15%
endcap: no
pH range: 2.5 to 8
temperature limit: 80°C

Ultra II® Aqueous C18 Retention Profile



	Page #
dietary supplements	729
herbicides	713
melatonin	729
organic acids	729
vitamins	734



Supersize without surprise!

ordering note

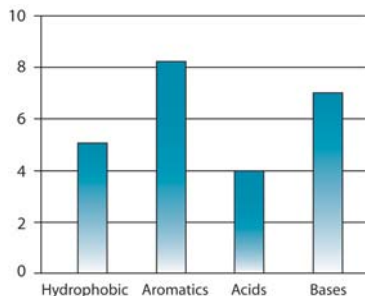
We strongly recommend ordering a semi-prep or prep column only after evaluating the desired separation on an equivalent analytical-scale column. Because we cannot re-use a column or the silica it contains once it has left our facility, we cannot accept returns of large-scale columns (except in cases of our error).



Physical Characteristics:

particle size: 1.9µm, 3µm or 5µm, spherical
pore size: 100Å
carbon load: 15%
endcap: fully endcapped
pH range: 2.5 to 8
temperature limit: 80°C

Ultra II® Biphenyl Retention Profile



	Page #
alcohol metabolites	.749
amphetamines	.750
antibiotics	.725
diuretics	.749
drug residues	.725
drugs of abuse	.748
NSAIDs	.723
pain management drugs in urine	.747
sulfa drugs	.725
THC & metabolites	.748

Ultra II® Biphenyl Columns (USP L11)

Chromatographic Properties:

A unique reversed phase material that exhibits both increased retention and selectivity for aromatic and/or unsaturated compounds, compared to conventional alkyl and phenyl phases. This is a great alternative to a C18 column when alternative selectivity is desired. An excellent choice for the analysis of steroids, tetracyclines, drug metabolites, and other compounds that contain some degree of unsaturation.

Length	1.0mm ID		2.1mm ID		3.0mm ID		4.6mm ID	
	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#
1.9µm Columns								
30mm			9609232		960923E			
50mm			9609252		960925E			
100mm			9609212		960921E			
3µm Columns								
30mm	9609331	9609332	960933E		960933E		9609335	
50mm	9609351	9609352	960935E		960935E		9609355	
100mm	9609311	9609312	960931E		960931E		9609315	
150mm	9609361	9609362	960936E		960936E		9609365	
5µm Columns								
30mm	9609531	9609532	960953E		960953E		9609535	
50mm	9609551	9609552	960955E		960955E		9609555	
100mm	9609511	9609512	960951E		960951E		9609515	
150mm	9609561	9609562	960956E		960956E		9609565	
200mm	9609521	9609522	960952E		960952E		9609525	
250mm	9609571	9609572	960957E		960957E		9609575	

Ultra II® Biphenyl Guard Cartridges

Guard Cartridges	3-pk. (10 x 2.1mm)	3-pk. (10 x 4.0mm)	2-pk. (20 x 2.1mm)	2-pk. (20 x 4.0mm)
Ultra II Biphenyl Guard Cartridge	960950212	960950210	960950222	960950220

Ultra II® Biphenyl HPLC Prep Columns

Length	10mm ID		21.2mm ID		30mm ID		50mm ID	
	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#
5µm Columns								
50mm	9609557	9609558	9609558		9609559		9609550	
100mm	9609517	9609518	9609518		9609519		9609510	
150mm	9609567	9609568	9609568		9609569		9609560	
250mm	9609577	9609578	9609578		9609579		9609570	

Available in 10µm particle size upon request.

Chromatogram Search Tool

Search by compound name, synonym, CAS # or keyword

www.restek.com/chromatograms



Ultra II® Aromax Columns (USP L11)

Chromatographic Properties:

Ultra II® Aromax is a unique reversed phase material that exhibits superior retention and selectivity for aromatic and/or unsaturated compounds, compared to conventional alkyl and phenyl phases. This column is a great alternative to our Biphenyl phase when increased retention is required. A very suitable choice for analysis of steroids, tetracyclines, drug metabolites, and other compounds that contain some degree of unsaturation.

Length	1.0mm ID		2.1mm ID		3.0mm ID		4.6mm ID	
	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#
1.9µm Columns								
30mm		9607232		960723E				
50mm		9607252		960725E				
100mm		9607212		960721E				
3µm Columns								
30mm	9607331	9607332	960733E	9607335				
50mm	9607351	9607352	960735E	9607355				
100mm	9607311	9607312	960731E	9607315				
150mm	9607361	9607362	960736E	9607365				
5µm Columns								
30mm	9607531	9607532	960753E	9607535				
50mm	9607551	9607552	960755E	9607555				
100mm	9607511	9607512	960751E	9607515				
150mm	9607561	9607562	960756E	9607565				
200mm	9607521	9607522	960752E	9607525				
250mm	9607571	9607572	960757E	9607575				

Ultra II® Aromax Guard Cartridges

Guard Cartridges	3-pk. (10 x 2.1mm)		3-pk. (10 x 4.0mm)		2-pk. (20 x 2.1mm)		2-pk. (20 x 4.0mm)	
	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#
Ultra II Aromax Guard Cartridge	960750212	960750210	960750222	960750220				

Ultra II® Aromax HPLC Prep Columns

Length	10mm ID		21.2mm ID		30mm ID		50mm ID	
	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#
5µm Columns								
50mm	9607557	9607558	9607559	9607550				
100mm	9607517	9607518	9607519	9607510				
150mm	9607567	9607568	9607569	9607560				
250mm	9607577	9607578	9607579	9607570				

Available in 10µm particle size upon request.

ordering note

To order a 2.1mm, 3.2mm, or 4.6mm ID column with a Trident Integral Inlet Fitting, add "-700" to the catalog number for the column.

Nominal additional charge

Example: 100mm x 4.6mm ID Ultra C18 column with Trident Integral Inlet Fitting: 9174315-700

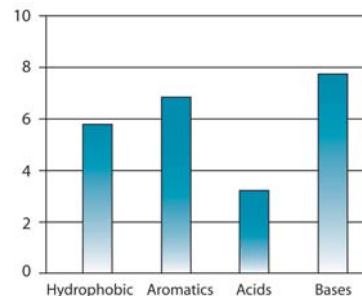
Also order an XG-XF fitting (10mm: cat.#25026 or 20mm: 25062), see page 196.



Physical Characteristics:

particle size: 1.9µm, 3µm or 5µm, spherical
pore size: 100Å
carbon load: 17%
endcap: fully endcapped
pH range: 2.5 to 8
temperature limit: 80°C

Ultra II® Aromax Retention Profile



	Page #
explosives	711
famotidine and USP impurities	736
potential genotoxic impurities	737
vitamins	735

ChromaBLOGraphy

Topical and timely insights from top chromatographers.

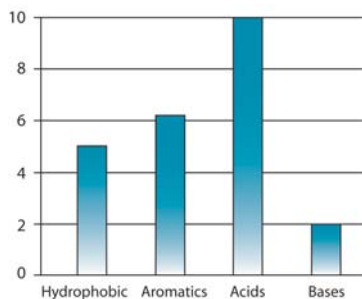
Visit us at blog.restek.com



Physical Characteristics:

particle size: 3µm or 5µm, spherical
pore size: 100Å
carbon load: 12%
endcap: no
pH range: 2.5 to 8
temperature limit: 80°C

Ultra II® IBD Retention Profile



Ultra II® IBD Columns

Chromatographic Properties:

An intrinsically base-deactivated (IBD) phase, containing a polar group within, or intrinsic to, the hydrocarbon bonded phase. Unique selectivity and high level of base deactivation, while reducing or eliminating the need for mobile phase additives. Great for mixed polar and nonpolar compounds.

	1.0mm ID	2.1mm ID	3.0mm ID	4.6mm ID
Length	cat.#	cat.#	cat.#	cat.#
3µm Columns				
30mm	9605331	9605332	960533E	9605335
50mm	9605351	9605352	960535E	9605355
100mm	9605311	9605312	960531E	9605315
150mm	9605361	9605362	960536E	9605365
5µm Columns				
30mm	9605531	9605532	960553E	9605535
50mm	9605551	9605552	960555E	9605555
100mm	9605511	9605512	960551E	9605515
150mm	9605561	9605562	960556E	9605565
200mm	9605521	9605522	960552E	9605525
250mm	9605571	9605572	960557E	9605575

Ultra II® IBD Guard Cartridges

Guard Cartridges	3-pk. (10 x 2.1mm)	3-pk. (10 x 4.0mm)	2-pk. (20 x 2.1mm)	2-pk. (20 x 4.0mm)
Ultra II IBD Guard Cartridge	960550212	960550210	960550222	960550220

Ultra II® IBD HPLC Prep Columns

	10mm ID	21.2mm ID	30mm ID	50mm ID
Length	cat.#	cat.#	cat.#	cat.#
5µm Columns				
50mm	9605557	9605558	9605559	9605550
100mm	9605517	9605518	9605519	9605510
150mm	9605567	9605568	9605569	9605560
250mm	9605577	9605578	9605579	9605570

Available in 10µm particle size upon request.



Supersize without surprise!

ordering note

We strongly recommend ordering a semi-prep or prep column only after evaluating the desired separation on an equivalent analytical-scale column. Because we cannot re-use a column or the silica it contains once it has left our facility, we cannot accept returns of large-scale columns (except in cases of our error).

Ultra II® PFP Propyl Columns (USP L43)

Chromatographic Properties:

A pentafluorophenyl phase with a propyl spacer. Highly retentive for basic analytes. An excellent phase for separating nucleosides, nucleotides, purines, pyrimidines, and halogenated compounds.

	1.0mm ID	2.1mm ID	3.0mm ID	4.6mm ID
Length	cat.#	cat.#	cat.#	cat.#
1.9µm Columns				
30mm		9606232	960623E	
50mm		9606252	960625E	
100mm		9606212	960621E	
3µm Columns				
30mm	9606331	9606332	960633E	9606335
50mm	9606351	9606352	960635E	9606355
100mm	9606311	9606312	960631E	9606315
150mm	9606361	9606362	960636E	9606365
5µm Columns				
30mm	9606531	9606532	960653E	9606535
50mm	9606551	9606552	960655E	9606555
100mm	9606511	9606512	960651E	9606515
150mm	9606561	9606562	960656E	9606565
200mm	9606521	9606522	960652E	9606525
250mm	9606571	9606572	960657E	9606575

Ultra II® PFP Propyl Guard Cartridges

Guard Cartridges	3-pk. (10 x 2.1mm)	3-pk. (10 x 4.0mm)	2-pk. (20 x 2.1mm)	2-pk. (20 x 4.0mm)
Ultra II PFP Propyl Guard Cartridge	960650212	960650210	960650222	960650220

Ultra II® PFP Propyl HPLC Prep Columns

	10mm ID	21.2mm ID	30mm ID	50mm ID
Length	cat.#	cat.#	cat.#	cat.#
5µm Columns				
50mm	9606557	9606558	9606559	9606550
100mm	9606517	9606518	9606519	9606510
150mm	9606567	9606568	9606569	9606560
250mm	9606577	9606578	9606579	9606570

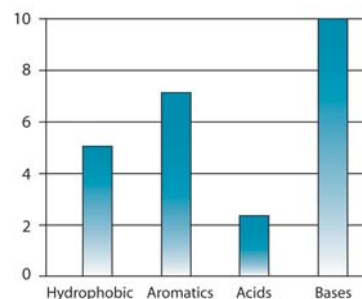
Available in 10µm particle size upon request.



Physical Characteristics:

particle size: 1.9µm, 3µm or 5µm, spherical
pore size: 100Å
carbon load: 11%
endcap: fully endcapped
pH range: 2.5 to 8
temperature limit: 80°C

Ultra II® PFP Propyl Retention Profile



ordering note

To order a 2.1mm, 3.2mm, or 4.6mm ID column with a Trident Integral Inlet Fitting, add "-700" to the catalog number for the column.

Nominal additional charge

Example: 100mm x 4.6mm ID Ultra C18 column with Trident Integral Inlet Fitting: 9174315-700

Also order an XG-XF fitting (10mm: cat.#25026 or 20mm: 25062), see page 196.





Physical Characteristics:

particle size: 1.9µm, 2.2µm, 3µm or 5µm,
spherical
pore size: 100Å
carbon load: 0%
endcap: no
pH range: 2.5 to 8
temperature limit: 80°C

Ultra II® Silica Columns (USP L3)

Chromatographic Properties:

High surface area. Type B silica packing.

Length	1.0mm ID cat.#	2.1mm ID cat.#	3.0mm ID cat.#	4.6mm ID cat.#
1.9µm Columns				
30mm		9600232	960023E	
50mm		9600252	960025E	
100mm		9600212		
2.2µm Columns				
30mm		9600832	960083E	
50mm		9600852	960085E	
100mm		9600812	960081E	
3µm Columns				
30mm	9600331	9600332	960033E	9600335
50mm	9600351	9600352	960035E	9600355
100mm	9600311	9600312	960031E	9600315
150mm	9600361	9600362	960036E	9600365
5µm Columns				
30mm	9600531	9600532	960053E	9600535
50mm	9600551	9600552	960055E	9600555
100mm	9600511	9600512	960051E	9600515
150mm	9600561	9600562	960056E	9600565
200mm	9600521	9600522	960052E	9600525
250mm	9600571	9600572	960057E	9600575

Ultra II® Silica Guard Cartridges

Guard Cartridges	3-pk. (10 x 2.1mm)	3-pk. (10 x 4.0mm)	2-pk. (20 x 2.1mm)	2-pk. (20 x 4.0mm)
Ultra II Silica Guard Cartridge	960050212	960050210	960050222	960050220

Ultra II® Silica HPLC Prep Columns

Length	10mm ID cat.#	21.2mm ID cat.#	30mm ID cat.#	50mm ID cat.#
5µm Columns				
50mm	9600557	9600558	9600559	9600550
100mm	9600517	9600518	9600519	9600510
150mm	9600567	9600568	9600569	9600560
250mm	9600577	9600578	9600579	9600570

Available in 10µm particle size upon request.



also
available

**Bulk Packing
Materials**
See page 194.

ordering note

To order a 2.1mm, 3.2mm, or 4.6mm ID column with a Trident Integral Inlet Fitting, add "-700" to the catalog number for the column.

Nominal additional charge

Example: 100mm x 4.6mm ID Ultra C18 column with Trident Integral Inlet Fitting: 9174315-700

Also order an XG-XF fitting (10mm: cat.#25026 or 20mm: 25062), see page 196.



Ultra II® Carbamate Columns

Chromatographic Properties:

Specifically designed for carbamates analysis. The unique packing separates 10 target carbamates in just 7 minutes, and is compatible with fluorescence or LC/MS detection. This improved run time will boost productivity and sample throughput, while reducing solvent usage and disposal expenses.

	1.0mm ID	2.1mm ID	3.0mm ID	4.6mm ID
Length	cat.#	cat.#	cat.#	cat.#
3µm Columns				
30mm	9611331	9611332	961133E	9611335
50mm	9611351	9611352	961135E	9611355
100mm	9611311	9611312	961131E	9611315
150mm	9611361	9611362	961136E	9611365
5µm Columns				
30mm	9611531	9611532	961153E	9611535
50mm	9611551	9611552	961155E	9611555
100mm	9611511	9611512	961151E	9611515
150mm	9611561	9611562	961156E	9611565
200mm	9611521	9611522	961152E	9611525
250mm	9611571	9611572	961157E	9611575

Ultra II® Carbamate Guard Cartridges

Guard Cartridges	3-pk. (10 x 2.1mm)	3-pk. (10 x 4.0mm)	2-pk. (20 x 2.1mm)	2-pk. (20 x 4.0mm)
Ultra II Carbamate Guard Cartridge	961150212	961150210	961150222	961150220

Ultra II® Carbamate HPLC Prep Columns

	10mm ID	21.2mm ID	30mm ID	50mm ID
Length	cat.#	cat.#	cat.#	cat.#
5µm Columns				
50mm	9611557	9611558	9611559	9611550
100mm	9611517	9611518	9611519	9611510
150mm	9611567	9611568	9611569	9611560
250mm	9611577	9611578	9611579	9611570

Available in 10µm particle size upon request.

Ultra II® Quat Columns

Chromatographic Properties:

Ideal for the analysis of paraquat and diquat or other quaternary amines when used with Ultra Quat reagent solution mobile phase additive (cat.# 32441).

Length	4.6mm ID cat.#
150mm	9612565



Physical Characteristics:

particle size: 3µm or 5µm, spherical
pore size: 100Å
carbon load: 15%
endcap: no
pH range: 2.5 to 8
temperature limit: 80°C



	Page #
food contaminants	719
pesticides (carbamates)	719

Chromatogram Search Tool

Search by compound name, synonym,
CAS # or keyword

www.restek.com/chromatograms



Physical Characteristics:

particle size: 5µm, spherical
pore size: 100Å
carbon load: 12%
endcap: fully endcapped
pH range: 2.5 to 8
temperature limit: 80°C