Pinnacle™ II C18 and PAH Columns

Pinnacle™ II Columns: 3µm or 5µm particles; 110Å pore size

Silica manufactured at Restek, for total control of quality and reproducibility. Excellent replacement for the original Hypersil® material. Physical and chromatographic properties similar to our original Pinnacle™ materials, but with greater lot-to-lot uniformity.

Pinnacle™ II C18 Columns (USP L1)

Restek Manufactured Silica

Physical Characteristics:

particle size: 3µm or 5µm, spherical
pore size: 110Å
carbon load: 13%
endcap: fully endcapped
pH range: 2.5 to 10
temperature limit: 80°C

Chromatographic Properties:

Excellent choice as a general purpose C18 column. Intermediate carbon loading and surface area, suitable for a wide range of acidic to neutral hydrophobic compounds. Replaces Hypersil® ODS and Pinnacle™ C18.

Length	1.0mm ID cat.#	2.1mm ID cat.#	3.2mm ID cat.#	4.0mm ID cat.#	4.6mm ID cat.#
3µm Columns					
30mm	9214331	9214332	9214333	—	9214335
50mm	9214351	9214352	9214353	—	9214355
100mm	9214311	9214312	9214313	—	9214315
5µm Columns					
30mm	9214531	9214532	9214533	—	9214535
50mm	9214551	9214552	9214553	—	9214555
100mm	9214511	9214512	9214513	9214514	9214515
150mm	9214561	9214562	9214563	9214564	9214565
200mm	9214521	9214522	9214523	—	9214525
250mm	9214571	9214572	9214573	—	9214575

Pinnacle™ II PAH Columns

new and **improved!**

Pinnacle™ II PAH columns now with a 4µm particle size!

Physical Characteristics:

particle size: 4µm, spherical
pore size: 110Å
endcap: fully endcapped
pH range: 2.5 to 10
temperature limit: 80°C

Restek Manufactured Silica

Chromatographic Properties:

Developed specifically for challenging analyses of polycyclic aromatic hydrocarbons. The Pinnacle™ II PAH stationary phase incorporates a proprietary C18 bonding that enables unique shape selectivity to resolve to baseline all 16 PAHs listed in US EPA Method 610. Every lot of Pinnacle™ II PAH bonded phase material is tested to ensure baseline resolution of the Method 610 PAHs, using a simple water/acetonitrile mobile phase gradient. Further, because we make Pinnacle™ II PAH columns using our own silica, we have greater control over quality and reproducibility. Replaces Pinnacle™ PAH columns.

If you are analyzing PAHs, Pinnacle™ II PAH columns are the reliable, cost-effective columns you need.

Length	2.1mm ID cat.#	3.2mm ID cat.#	4.6mm ID cat.#
4µm Columns			
50mm	9219452	9219453	9219455
100mm	9219412	9219413	9219415
150mm	9219462	9219463	9219465
200mm	9219422	9219423	9219425
250mm	9219472	9219473	9219475

a **plus 1** story

"The Pinnacle™ II PAH column gives an excellent separation of the 18 target PAHs that we commonly analyze. Column lifetime far exceeded our expectations-after more than 5000 injections, the columns still maintain resolution and peak shape. Other PAH columns typically had lifetimes of 2000 to 2500 injections. We actually had one Pinnacle™ II PAH column last for more than 10,000 injections!"

Norm Farmer, Technical Director, Accutest Laboratories

Pinnacle™ II C8 Columns (USP L7)

Restek Manufactured Silica

Physical Characteristics:

particle size: 3µm or 5µm, spherical
pore size: 110Å
carbon load: 7%
endcap: fully endcapped
pH range: 2.5 to 10
temperature limit: 80°C

Chromatographic Properties:

Reliable performance and symmetrical peaks for neutral to acidic compounds. Provides shorter retention times for hydrophobic compounds, compared to C18 phases. Replaces Hypersil® C8 and Pinnacle™ C8.

Length	1.0mm ID cat.#	2.1mm ID cat.#	3.2mm ID cat.#	4.0mm ID cat.#	4.6mm ID cat.#
3µm Columns					
30mm	9213331	9213332	9213333	—	9213335
50mm	9213351	9213352	9213353	—	9213355
100mm	9213311	9213312	9213313	—	9213315
5µm Columns					
30mm	9213531	9213532	9213533	—	9213535
50mm	9213551	9213552	9213553	—	9213555
100mm	9213511	9213512	9213513	9213514	9213515
150mm	9213561	9213562	9213563	9213564	9213565
200mm	9213521	9213522	9213523	—	9213525
250mm	9213571	9213572	9213573	—	9213575

Application	Page #
Parabens	537

also available

More chromatograms!

Visit www.restek.com.

Pinnacle™ II Cyano Columns (USP L10)

Restek Manufactured Silica

Physical Characteristics:

particle size: 3µm or 5µm, spherical
pore size: 110Å
carbon load: 4%
endcap: fully endcapped
pH range: 2.5 to 7.5
temperature limit: 80°C

Chromatographic Properties:

Can be used in either reversed phase or normal phase mode. More rugged than bare silica for normal phase applications. Replaces Hypersil® Cyano and Pinnacle™ CN.

Length	1.0mm ID cat.#	2.1mm ID cat.#	3.2mm ID cat.#	4.6mm ID cat.#
3µm Columns				
30mm	9216331	9216332	9216333	9216335
50mm	9216351	9216352	9216353	9216355
100mm	9216311	9216312	9216313	9216315
5µm Columns				
30mm	9216531	9216532	9216533	9216535
50mm	9216551	9216552	9216553	9216555
100mm	9216511	9216512	9216513	9216515
150mm	9216561	9216562	9216563	9216565
200mm	9216521	9216522	9216523	9216525
250mm	9216571	9216572	9216573	9216575

Application	Page #
Corticosteroids	553
Piperine	539

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 (cat.#25026 or 25062), see page 337.
For guard cartridges for these columns, see page 339.

Emily Dillon
International Customer Service Supervisor
5+ years of service!

Pinnacle™ II Phenyl and Amino Columns

Pinnacle™ II Phenyl Columns (USP L11)

Restek Manufactured Silica

Physical Characteristics:

particle size: 3µm or 5µm, spherical
pore size: 110Å
carbon load: 6%
endcap: fully endcapped
pH range: 2.5 to 7.5
temperature limit: 80°C

Chromatographic Properties:

The Pinnacle™ II Phenyl phase offers unique selectivity versus traditional alkyl chain phases, especially for aromatic compounds. Replaces Hypersil® Phenyl and Pinnacle™ Phenyl.

Application	Page #
Parabens	537
Sorbic & Benzoic Acids	539

Length	1.0mm ID cat.#	2.1mm ID cat.#	3.2mm ID cat.#	4.6mm ID cat.#
3µm Columns				
30mm	9215331	9215332	9215333	9215335
50mm	9215351	9215352	9215353	9215355
100mm	9215311	9215312	9215313	9215315
5µm Columns				
30mm	9215531	9215532	9215533	9215535
50mm	9215551	9215552	9215553	9215555
100mm	9215511	9215512	9215513	9215515
150mm	9215561	9215562	9215563	9215565
200mm	9215521	9215522	9215523	9215525
250mm	9215571	9215572	9215573	9215575

also **available**

More chromatograms!

Visit www.restek.com.

Pinnacle™ II Amino Columns (USP L8)

Restek Manufactured Silica

Physical Characteristics:

particle size: 3µm or 5µm, spherical
pore size: 110Å
carbon load: 2%
endcap: no
pH range: 2.5 to 7.5
temperature limit: 80°C

Chromatographic Properties:

HPLC analysis using an amino-based stationary phase is the most popular technique for routine analyses of simple sugars, using isocratic elution (e.g., acetonitrile:water, 75:25) and a refractive index detector (RID) or an evaporative light scattering detector (ELSD). The Pinnacle™ II Amino column is ideal for mono- and disaccharide analyses. Replaces Hypersil® Amino and Pinnacle™ Amino.

Application	Page #
Lactulose Concentrate	558
Maple Syrup	541
Sugars	541

Length	1.0mm ID cat.#	2.1mm ID cat.#	3.2mm ID cat.#	4.6mm ID cat.#
3µm Columns				
30mm	9217331	9217332	9217333	9217335
50mm	9217351	9217352	9217353	9217355
100mm	9217311	9217312	9217313	9217315
5µm Columns				
30mm	9217531	9217532	9217533	9217535
50mm	9217551	9217552	9217553	9217555
100mm	9217511	9217512	9217513	9217515
150mm	9217561	9217562	9217563	9217565
200mm	9217521	9217522	9217523	9217525
250mm	9217571	9217572	9217573	9217575

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 (cat.#25026 or 25062), see page 337.
For guard cartridges for these columns, see page 339.

Pinnacle™ II Biphenyl Columns (USP L11)

Restek Manufactured Silica

Physical Characteristics:

particle size: 5µm, spherical
pore size: 110Å
endcap: yes
pH range: 2.5 to 7.5
temperature limit: 80°C

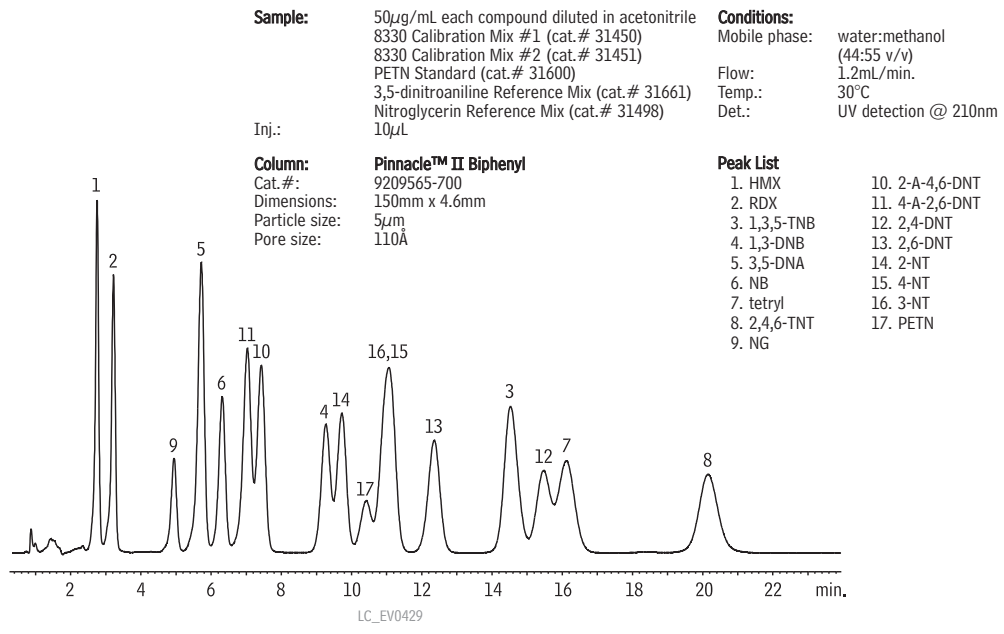
Chromatographic Properties:

The Pinnacle™ II Biphenyl phase offers alternate selectivity to straight-chain hydrocarbon phases, and enhanced selectivity and retention for unsaturated compounds, compared to traditional phenyl phases. An excellent confirmation column for explosive compounds, as in EPA method 8330.

Application	Page #
Explosives	317, 529

	4.6mm ID
Length	cat.#
5µm Column	
150mm	9209565
250mm	9209575

Explosives by US EPA Method 8330B on a Pinnacle™ II Biphenyl column.



Pinnacle™ II Silica Columns (USP L3)

Restek Manufactured Silica

Physical Characteristics:

particle size: 3µm or 5µm, spherical
pore size: 110Å
carbon load: none
endcap: no
pH range: 2.5 to 10
temperature limit: 80°C

Chromatographic Properties:

Good general purpose packing for normal phase separations. Moderate surface area. Replaces Hypersil® and Pinnacle™ Silica.

Application	Page #
Hydrocodone Bitartrate	545
Tocopherols	536

	1.0mm ID	2.1mm ID	3.2mm ID	4.6mm ID
Length	cat.#	cat.#	cat.#	cat.#
3µm Columns				
30mm	9210331	9210332	9210333	9210335
50mm	9210351	9210352	9210353	9210355
100mm	9210311	9210312	9210313	9210315
5µm Columns				
30mm	9210531	9210532	9210533	9210535
50mm	9210551	9210552	9210553	9210555
100mm	9210511	9210512	9210513	9210515
150mm	9210561	9210562	9210563	9210565
200mm	9210521	9210522	9210523	9210525
250mm	9210571	9210572	9210573	9210575