

Grace® VisionHT™ Ultra High-Pressure Columns

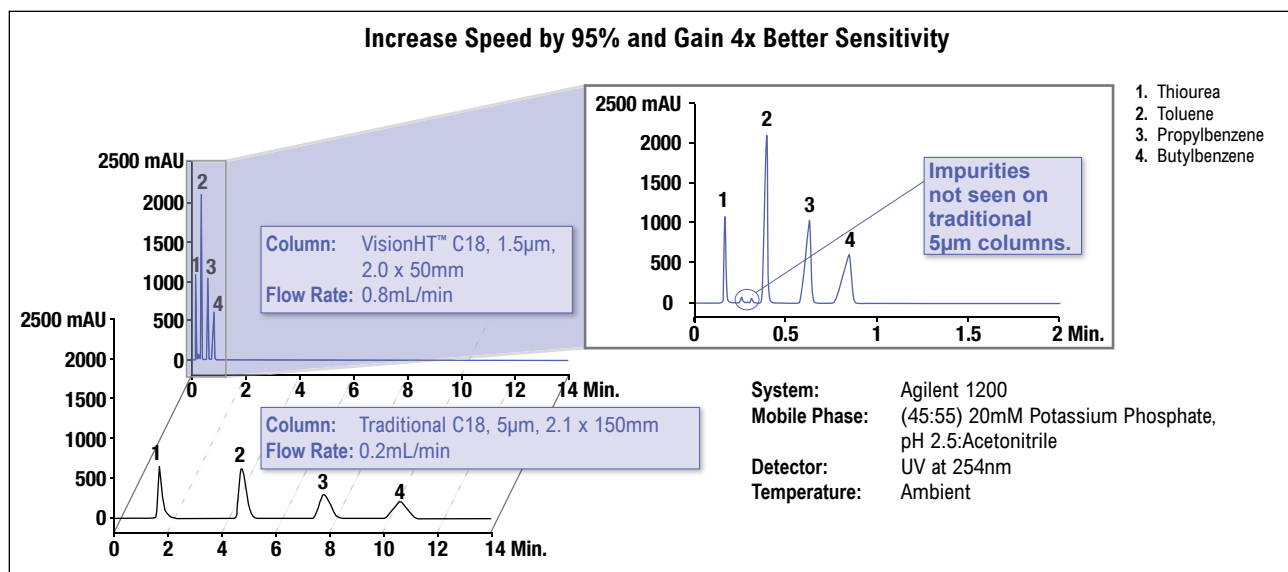
See Separations with Speed and Clarity

- Ultra-fast separations with superior efficiency, sensitivity, and resolution
- Exceptional stability for long column lifetimes
- Comprehensive sub 2µm stationary phase offering
- 12,000psig pressure rating compatible with all ultra high-pressure LC systems

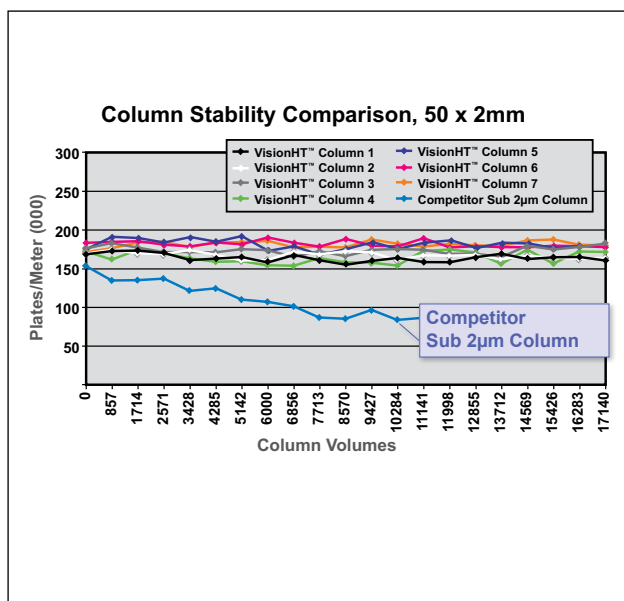


Grace® VisionHT™ columns offer a new level of performance in HPLC. The powerful combination of high-strength 1.5µm media with ultra-low volume hardware, delivers new clarity to your separations and maintains exceptional column lifetime. Complex samples resolve 95% faster with 4x greater sensitivity when compared to traditional 2.1 x 150mm, 5µm columns. And with a wide variety of phases available, the possibilities are endless.

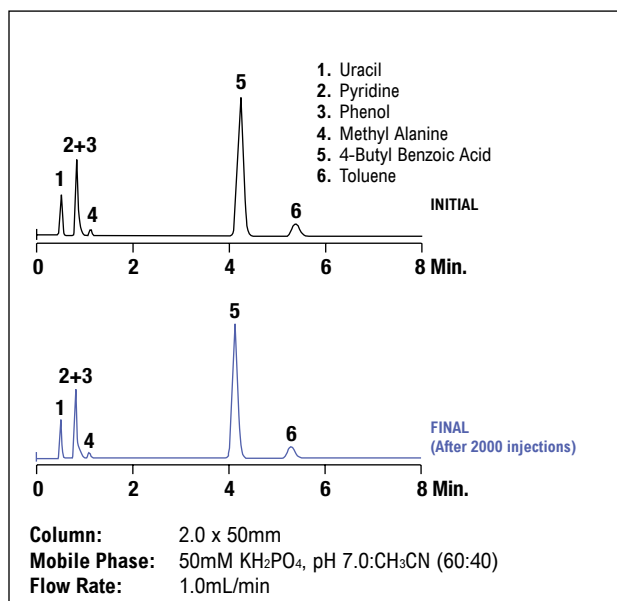
hplc columns | small molecule



Efficiency and Retention Times Remain Constant after Exposure to 12,000psig and 2000 Injections



High-pressure competitor sub 2µm column lost efficiency at routine 12,000psig pressures. VisionHT™ columns remain stable.



Before and after chromatograms show a constant level of performance after 2000 injections.



Grace[®] VisionHT[™] Ultra High-Pressure Columns

Comprehensive High Purity 1.5 μ m Selectivity Options

Sub 2 μ m particles deliver efficiency and speed, but critical to success is having the right stationary phase selectivity. Six VisionHT[™] high purity phases are available, each with unique separation benefits. C18-HL, with maximum bonded phase coverage, is ideal for complex hydrophobic samples. Use C18-B for basic compounds at neutral pH, often a requirement for mass spec work in the pharmaceutical industry. Reserve the C18 and C18-P for fastest analysis times. Both offer increased polar interactions to make neutral, non-polar compounds elute faster and retain polar compounds longer. The HILIC and Silica packings are normal phases that typically use near exclusive organic mobile phases; an advantage when seeking highest mass spec sensitivity.

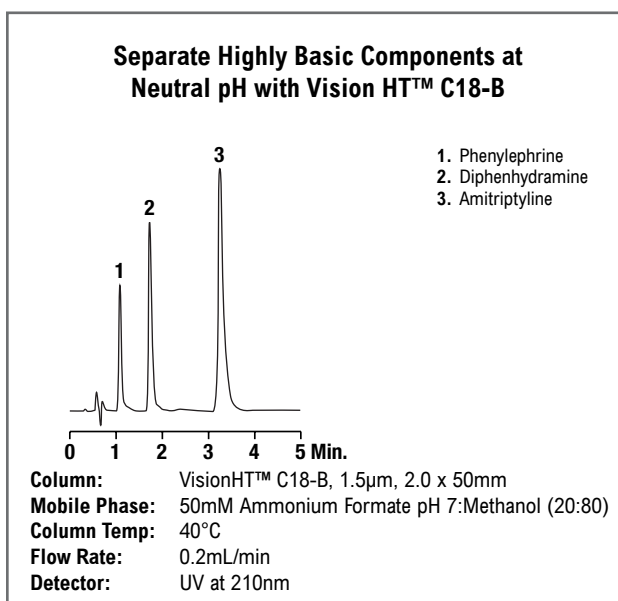
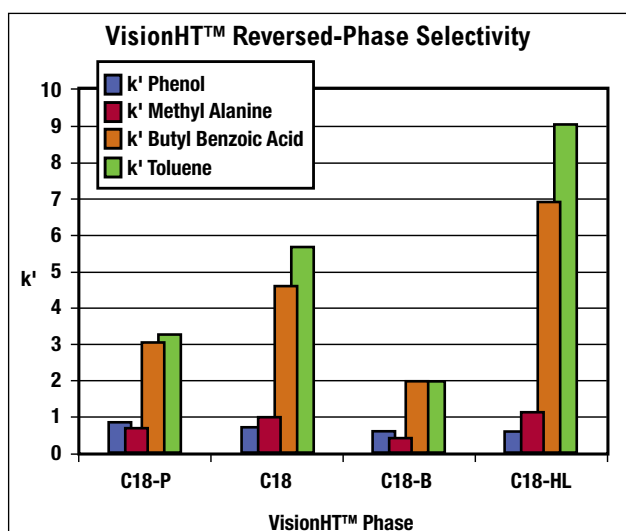
VisionHT[™] phases have exceptionally rigid silica structure that withstands routine use of 12,000psig pressure often required in this new technology. Reproducible silica synthesis, bonding and column packing guarantee low bleed and excellent column-to-column consistency.



7443

VisionHT [™] Phase Specifications									
Packing	Base Material	Particle Size	Carbon Load	Pore Size	Surface Area	Endcapped	pH Range*	Feature	Benefits
C18-HL	Spherical Silica	1.5 μ m	10%	120Å	220m ² /g	Yes	1–10	Fully bonded silica, ultra high purity silica	High capacity for hydrophobic compounds. Good peak symmetry.
C18-B	Spherical Silica	1.5 μ m	5%	120Å	220m ² /g	Proprietary	1–10	High purity silica and unique endcapping.	Improved performance of basic compounds at neutral pH. Better sensitivity and peak shape by mass spec for basic compounds, without the need for acidified mobile phases.
C18	Spherical Silica	1.5 μ m	6%	100Å	200m ² /g	Yes	1–10	Moderate silica exposure	Classic reversed-phase selectivity. Reduced bonding is optimized for speed and sensitivity.
C18-P	Spherical Silica	1.5 μ m	5%	100Å	200m ² /g	No	1–10	High silica exposure, low carbon load	Unique polar selectivity. Low carbon load gives fastest reversed-phase elution times while retaining polar compounds longer.
HILIC	Spherical Silica	1.5 μ m	NA	120Å	220m ² /g	No	2–8	Polar phase with shorter equilibration times. Shipped in ACN/Water.	Peak reversal compared to reversed-phase. Ideal for very polar compounds with high organic mobile phases for improved sensitivity by MS.
Silica	Spherical Silica	1.5 μ m	NA	120Å	220m ² /g	No	2–8	Traditional normal phase for use in 100% organic mobile phases	For isomeric separation of non-aqueous compatible compounds by absorption chromatography.

*Choice of buffer is critical at pH >8.



technical assistance

Contact Tech Support: Phone: 1.800.255.8324 (North America)
 Email: contact.alltech@grace.com
 Online: www.discoverysciences.com



Grace[®] VisionHT[™] Ultra High-Pressure Columns

Unique Column Hardware Advantages

You can erode the benefits of sub 2µm media if packed in an inefficient column design. VisionHT[™] hardware uses thin screens, instead of traditional frits, to retain media and minimize dead volume. A unique insert combination seals endfittings leak-free to 18,000psig. Various dimensions offer even more flexibility over analysis speed and resolution.

VisionHT [™] Hardware Specifications	
Dead volume:	<15nL
Wetted materials:	316 Stainless Steel, PTFE
Port Geometry:	10–32, for Industry Standard & Waters [®] connection
Pressure rating, hardware alone:	18,000psig (1250 bar)
Pressure rating, packed column:	12,000psig (830 bar)
i.d.:	1.0, 2.0mm
Length:	20, 30, 50, 100mm



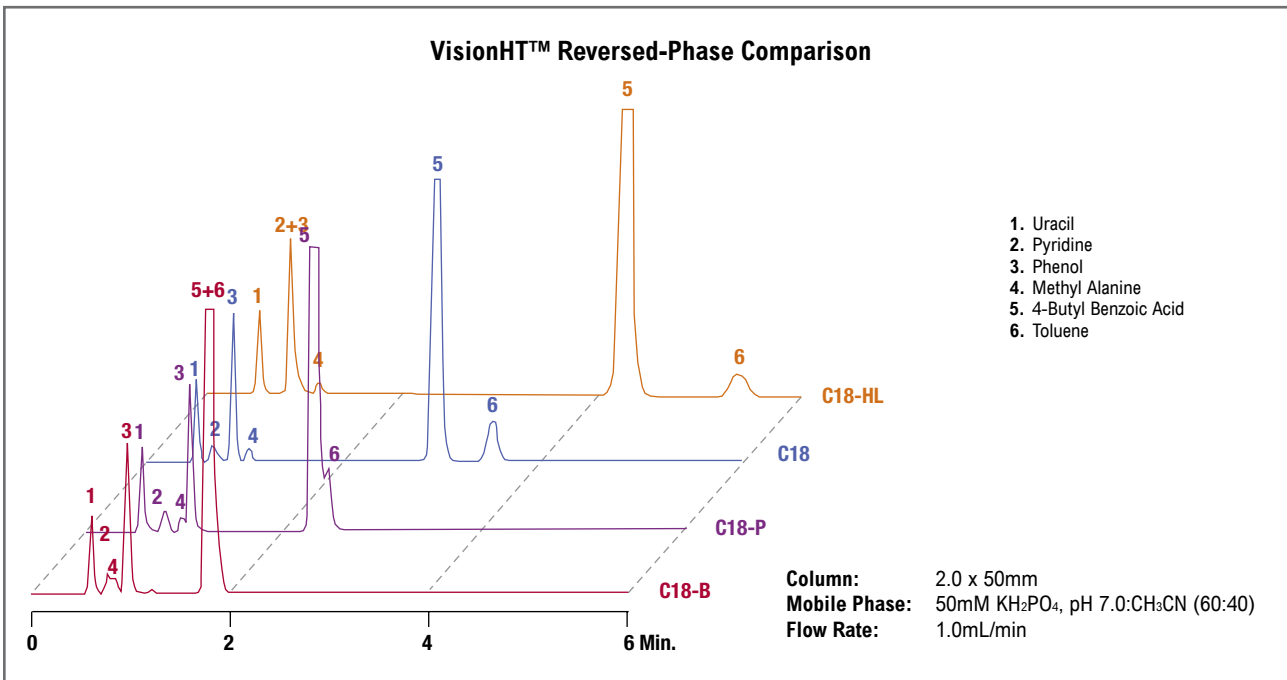
hplc columns | small molecule

The Best Value for Ultra High-Pressure Method Development—UltraMD Kits!

Whether developing a new method, or improving an existing analysis, the VisionHT[™] UltraMD kits can help optimize your separation. Get four reversed-phase columns with varying selectivity for the price of three, and develop your fast LC method fast!

VisionHT[™] UltraMD Kits

	Phases	Dimensions	Part No.
UltraMD Kit 1	C18, C18-P, C18-HL, C18-B	2 x 100mm	5142692
UltraMD Kit 2	C18, C18-P, C18-HL, C18-B	2 x 50mm	5142693
UltraMD Kit 3	C18, C18-P, C18-HL, C18-B	1 x 50mm	5142691



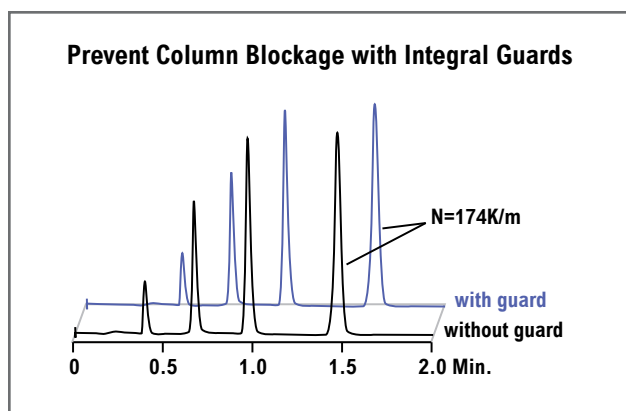


Grace[®] VisionHT[™] Ultra High-Pressure Columns

Protect Your UHPLC Column Investment

The smaller diameters and finer porosity frits required in UHPLC creates a higher likelihood of column and system blockage. Trace contaminants not normally problematic for traditional LC, may now pose backpressure issues. VisionHT[™] guards protect your column to minimize down time and reduce cost.

Two guard formats available: Integral and stand-alone. Couple the zero-dead volume integral guard directly to any VisionHT[™] column, and realize absolutely no loss in efficiency. Use the stand-alone version to protect other manufacturers' UHPLC columns, or as an on-line enrichment device.



No loss in efficiency.

VisionHT[™] Integral Guard System



Replace existing endfitting with the integral guard endfitting. Change guard cartridges as necessary.

Stand-Alone Guard System



In-line guard system expands applications beyond column protection. Use as a sample enrichment device or to protect any UHPLC commercially available column.

VisionHT[™] Ultra High-Pressure Columns

Packing	Format	i.d. x Length	Part No.	
C18-HL, 1.5 μ m	Ultra High-Pressure	1 x 20mm	5142540	
	Ultra High-Pressure	1 x 30mm	5142541	
	Ultra High-Pressure	1 x 50mm	5142542	
	Ultra High-Pressure	1 x 100mm	5142543	
	Ultra High-Pressure	2 x 20mm	5142544	
	Ultra High-Pressure	2 x 30mm	5142545	
	Ultra High-Pressure	2 x 50mm	5142546	
	Ultra High-Pressure	2 x 100mm	5142547	
	C18-B, 1.5 μ m	Ultra High-Pressure	1 x 30mm	5141903
		Ultra High-Pressure	1 x 50mm	5141904
Ultra High-Pressure		1 x 100mm	5141905	
Ultra High-Pressure		1 x 20mm	5141902	
Ultra High-Pressure		2 x 20mm	5141906	
Ultra High-Pressure		2 x 30mm	5141907	
Ultra High-Pressure		2 x 50mm	5141908	
Ultra High-Pressure		2 x 100mm	5141909	
C18, 1.5 μ m		Ultra High-Pressure	1 x 20mm	5139555
		Ultra High-Pressure	1 x 30mm	5139559
	Ultra High-Pressure	1 x 50mm	5139603	
	Ultra High-Pressure	1 x 100mm	5139607	
	Ultra High-Pressure	2 x 20mm	5139557	
	Ultra High-Pressure	2 x 30mm	5139600	
	Ultra High-Pressure	2 x 50mm	5139605	
	Ultra High-Pressure	2 x 100mm	5139609	
	C18-P, 1.5 μ m	Ultra High-Pressure	1 x 20mm	5139556
		Ultra High-Pressure	1 x 30mm	5139601
Ultra High-Pressure		1 x 50mm	5139604	
Ultra High-Pressure		1 x 100mm	5139608	
Ultra High-Pressure		2 x 20mm	5139558	
Ultra High-Pressure		2 x 30mm	5139602	
Ultra High-Pressure		2 x 50mm	5139606	
Ultra High-Pressure		2 x 100mm	5139610	
HILIC, 1.5 μ m		Ultra High-Pressure	1 x 20mm	5141910
		Ultra High-Pressure	1 x 30mm	5141912
	Ultra High-Pressure	1 x 50mm	5141913	
	Ultra High-Pressure	1 x 100mm	5141914	
	Ultra High-Pressure	2 x 20mm	5141916	
	Ultra High-Pressure	2 x 30mm	5141917	
	Ultra High-Pressure	2 x 50mm	5141919	
	Ultra High-Pressure	2 x 100mm	5141920	
	SI, 1.5 μ m	Ultra High-Pressure	1 x 50mm	5141921
		Ultra High-Pressure	1 x 100mm	5141923
Ultra High-Pressure		2 x 50mm	5141922	
Ultra High-Pressure		2 x 100mm	5141924	

VisionHT[™] Guard Cartridges

Packing	Format	i.d. x Length	Qty.	Part No.
C18HL, 1.5 μ m	Ultra High-Pressure	1 x 5mm	3/pk	5142549
	Ultra High-Pressure	2 x 5mm	3/pk	5142548
C18 B, 1.5 μ m	Ultra High-Pressure	1 x 5mm	3/pk	5141953
	Ultra High-Pressure	2 x 5mm	3/pk	5141952
C18, 1.5 μ m	Ultra High-Pressure	1 x 5mm	3/pk	5141950
	Ultra High-Pressure	2 x 5mm	3/pk	5141594
C18-P, 1.5 μ m	Ultra High-Pressure	1 x 5mm	3/pk	5141951
	Ultra High-Pressure	2 x 5mm	3/pk	5141595
HILIC, 1.5 μ m	Ultra High-Pressure	1 x 5mm	3/pk	5141955
	Ultra High-Pressure	2 x 5mm	3/pk	5141954
SI, 1.5 μ m	Ultra High-Pressure	1 x 5mm	3/pk	5141957
	Ultra High-Pressure	2 x 5mm	3/pk	5141956
Integral Guard Column Holder For VisionHT [™]				3118351
Stand-Alone Guard Holder				3118350