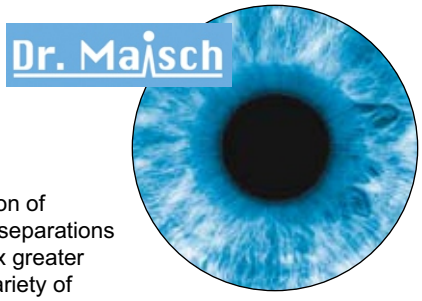
Dr.Maisch GmbH VisionHT™ Ultra High-Pressure Columns

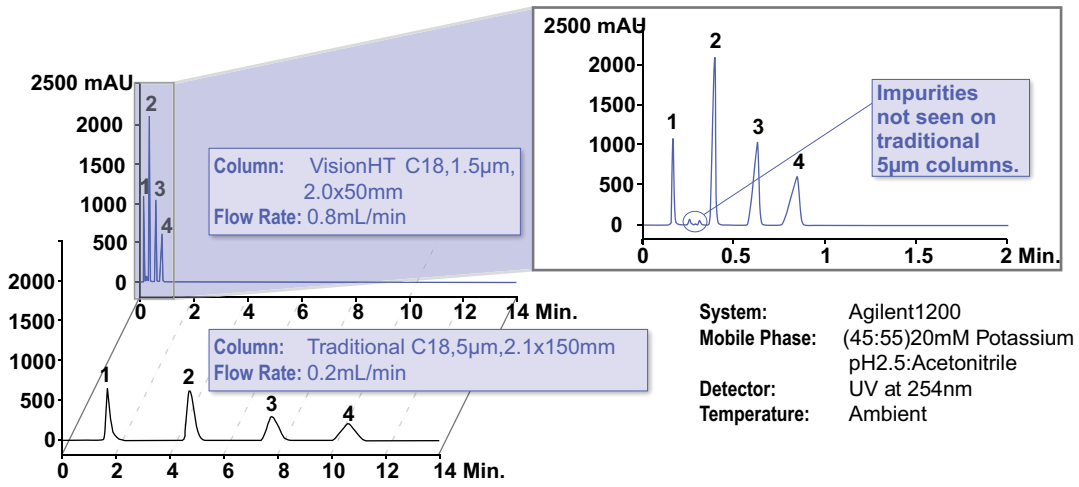
See Separations with Speed and Clarity

- **Ultra-fast separations with superior efficiency, sensitivity and resolution**
- Exceptional stability for long column life times
- Comprehensive sub2 µm stationary phase offering
- 12,000psig pressurerating compatible with all ultrahigh-pressure LC systems



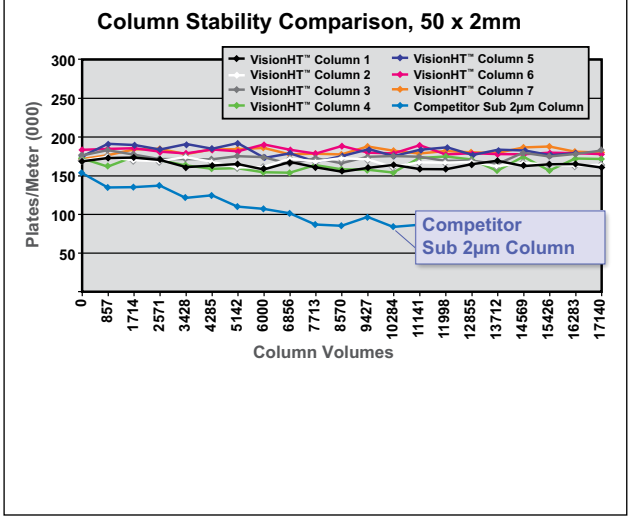
VisionHT™ columns offer a new level of performance in HPLC. The powerful combination of high-strength 1.5µm media with ultra-low volume hardware, delivers new clarity to your separations and maintains exceptional column lifetime. Complex samples resolve 95% faster with 4x greater sensitivity when compared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

Increase Speed by 95% and Gain 4x Better Sensitivity

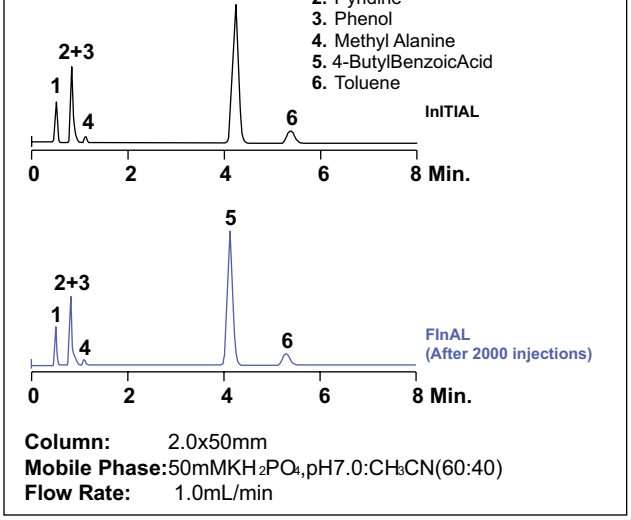


System: Agilent1200
Mobile Phase: (45:55)20mM Potassium Phosphate, pH2.5:Acetonitrile
Detector: UV at 254nm
Temperature: Ambient

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



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



Column: 2.0x50mm
Mobile Phase: 50mM KH_2PO_4,pH7.0:CH_3CN(60:40)
Flow Rate: 1.0mL/min

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

VisionHT™ Ultra High-Pressure Columns

Comprehensive High Purity 1.5µm Selectivity Options

Sub 2µm particles deliver eficiency and speed, but critical to success is having the right stationary phase selectivity. Six VisionHT™ high purity phases are available, each with unique separation beneits. 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.

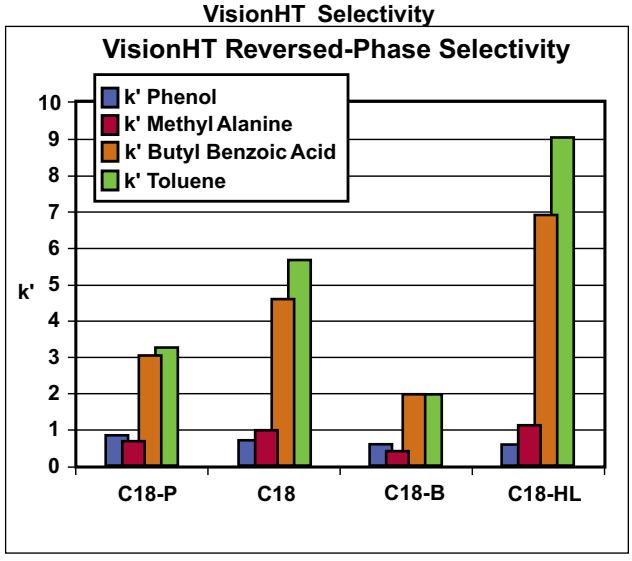
VisionHT™ phases have exceptionally rigid silica structure that withstands routine use of 12,000psig pressure often required in this new technology. Reproducible silica synthesis, bonding and column packing guarantee low bleed and excellent column-to-column consistency.

VisionHT™ Phase Speciications

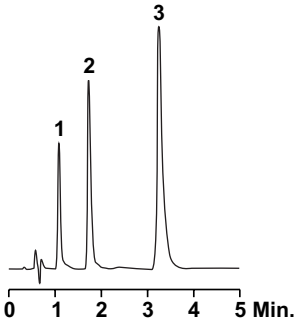
Packing	Base Material	Particle Size	Carbon Load	Pore Size	Surface Area	Endcapped	pH Range*	Feature	Beneits
C18-HL	Spherical Silica	1.5µm	10%	120Å	220m²/g	Yes	1–10	Fully bonded silica, ultra high purity silica	High capacity for hydrophobic compounds. Good peak symmetry.
C18-B	Spherical Silica	1.5µm	5%	120Å	220m²/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 acidiied mobile phases.
C18	Spherical Silica	1.5µm	6%	100Å	200m²/g	Yes	1–10	Moderate silica exposure	Classic reversed-phase selectivity. Reduced bonding is optimized for speed and sensitivity.
C18-P	Spherical Silica	1.5µm	5%	100Å	200m²/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	1.5µm	NA	120Å	220m²/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	1.5µm	NA	120Å	220m²/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.

*Choiceof bufferiscriticalatpH>8.

VisionHT Selectivity



Separate Highly Basic Components at neutral pH with Vision HT™ C18-B



1. Phenylephrine
2. Diphenhydramine
3. Amitriptyline

Column: VisionHT™C18-B,1.5µm,2.0x50mm
Mobile Phase: 50mM Ammonium Formate pH7:Methanol(20:80)
Column Temp: 40°C
Flow Rate: 0.2mL/min
Detector: UV at 210nm

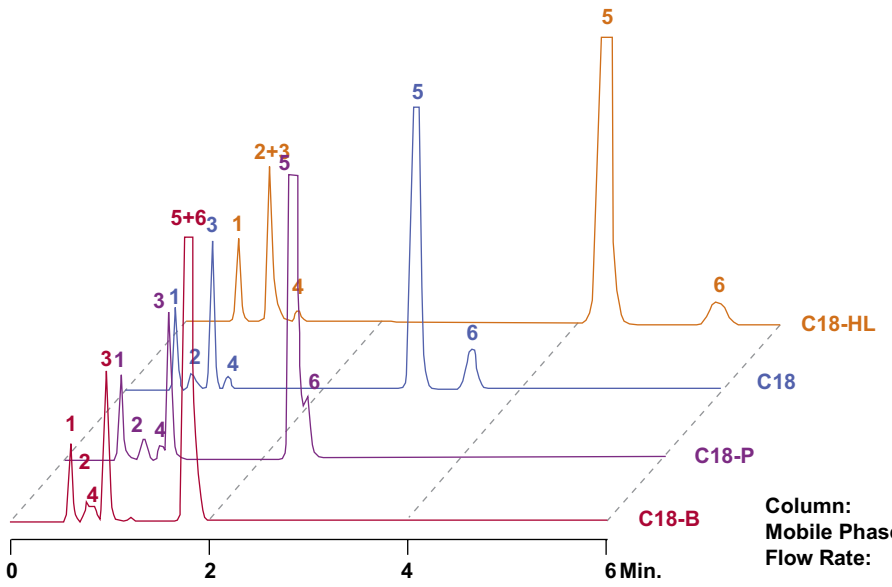
VisionHT™ Ultra High-Pressure Columns

Unique Column Hardware Advantages

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

VisionHT™ Hardware Speciications	
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

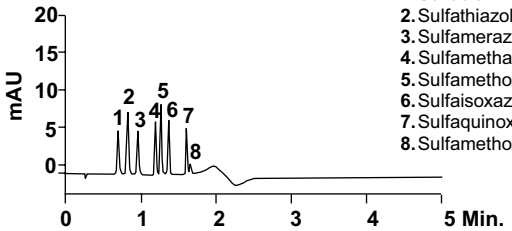
VisionHT™ Reversed-Phase Comparison



1. Uracil
2. Pyridine
3. Phenol
4. Methyl Alanine
5. 4-ButylBenzoicAcid
6. Toluene

Column: 2.0x50mm
Mobile Phase: 50mM KH_2PO_4, pH7.0 : CH_3CN (60:40)
Flow Rate: 1.0mL/min

Sulfa Drugs



1. Sulfadiazine
2. Sulfathiazole
3. Sulfamerazine
4. Sulfamethazine
5. Sulfamethoxazole
6. Sulfaisoxazole
7. Sulfaquinoxilone
8. Sulfamethoxine

Column: VisionHT® C18-P, 1.5µm, 50x2.0mm (Part No. **5139606**)
Mobile Phase: **A:** 0.1% Formic Acid **B:** Methanol
Gradient:

Time:	0	1.4
%B:	20	100

Flow Rate: 0.4mL/min
Detector: UV at 280nm