



# New Product Update

## HPLC Columns



- ZORBAX MicroBore HPLC Columns
- ZORBAX Extend-C18 Columns
- ZORBAX Bonus-RP Columns
- Inertsil ODS-2 Cartridge Columns
- ZORBAX Carbohydrate Analysis Columns
- ZORBAX Eclipse dsDNA Analysis Columns
- ZORBAX CombiHT - High Performance Preparative HPLC Columns
- ZORBAX Rapid Resolution HPLC Columns for LC/MS

This brochure is a quick reference to the Agilent HPLC columns and combinatorial chemistry products that have been introduced over the past year.

For additional information on any product listed here contact Customer Assist within the U.S. at 800-227-9770 and ask for HPLC Column Support. For areas outside of the U.S. contact your local distributor or sales office. We are happy to answer any questions you might have and we can provide additional technical information.

Look for all these products and more on the Agilent web site [www.agilent.com](http://www.agilent.com).



**Agilent Technologies**

Innovating the HP Way



## ZORBAX MicroBore HPLC Columns

- High sensitivity for smallest sample sizes
- Compatibility with several LC/MS interfaces
- Several internal diameters — 1.0 mm, 0.5 mm, 0.3 mm
- Variety of bonded-phases

**\*\*Available  
Spring 2000**

MicroBore and capillary columns, 1.0 mm and smaller internal diameter, are often the best choice when sample sizes are limited. These columns will improve sensitivity 5X over 2.1 mm i.d. columns when the same sample size is used. This increase in sensitivity can be critical. MicroBore columns use very low flow rates, 50  $\mu\text{L}/\text{min}$  or less. Therefore, these columns are ideal for use with detectors requiring the lowest flow rates, including some particle beam and electrospray LC/MS detectors.

ZORBAX MicroBore columns are available in several different internal diameters ideal for your applications. The 1.0 mm columns are packed in stainless steel and the smaller internal diameter capillary columns are packed into glass-lined, stainless steel columns. Therefore, they are easy to attach to HPLC systems designed for microbore column use. Several ZORBAX bonded-phases are available, including StableBond SB-C18 and SB-C8, Eclipse XDB-C18 and C8, Bonus-RP and Extend-C18.

For more information on the new Agilent Capillary LC system, visit our web site at [www.agilent.com/chem](http://www.agilent.com/chem).

### ZORBAX StableBond (80Å) Column Ordering Information\*

Column Description	Size (mm)	Particle Size ( $\mu\text{m}$ )	SB-C18 USP L1	SB-C8 USP L7
<b>Standard Fitting Columns</b>				
MicroBore RR	1.0 x 150	3.5	863600-902	863600-906
MicroBore RR	1.0 x 50	3.5	865600-902	865600-906
MicroBore RR	1.0 x 30	3.5	861600-902	861600-906
<b>Capillary Glass-lined Columns**</b>				
Capillary	0.5 x 250	5	5064-8258	
Capillary	0.3 x 250	5	5064-8257	
Capillary	0.5 x 150	5	5064-8256	
Capillary	0.3 x 150	5	5064-8255	
Guard	0.5 x 35	5	5064-8254	
Guard	0.3 x 35	5	5064-8253	
Capillary RR	0.5 x 150	3.5	5064-8262	
Capillary RR	0.3 x 150	3.5	5064-8261	
Capillary RR	0.5 x 35	3.5	5064-8260	
Capillary RR	0.3 x 35	3.5	5064-8259	

### ZORBAX Eclipse XDB Column Ordering Information\*

Column Description	Size (mm)	Particle Size ( $\mu\text{m}$ )	XDB-C18 USP L1	XDB-C8 USP L7
<b>Standard Fitting Columns</b>				
MicroBore RR	1.0 x 150	3.5	963600-902	963600-906
MicroBore RR	1.0 x 50	3.5	965600-902	965600-906
MicroBore RR	1.0 x 30	3.5	961600-902	961600-906
<b>Capillary Glass-lined Columns**</b>				
Capillary	0.3 x 250	5	5064-8269	
Capillary RR	0.3 x 150	3.5	5064-8271	
Capillary RR	0.3 x 35	3.5	5064-8270	

### ZORBAX Bonus-RP Ordering Information

Column Description	Size (mm)	Particle Size ( $\mu\text{m}$ )	Part Number
MicroBore RR	1.0 x 150	3.5	863608-901
MicroBore RR	1.0 x 50	3.5	865608-901
MicroBore RR	1.0 x 30	3.5	861608-901

### ZORBAX Extend-C18 Column Ordering Information

Column Description	Size (mm)	Particle Size ( $\mu\text{m}$ )	Part Number
MicroBore RR	1.0 x 150	3.5	763600-902
MicroBore RR	1.0 x 50	3.5	765600-902
MicroBore RR	1.0 x 30	3.5	761600-902

\* Configurations not shown are available by special products quote.



## ZORBAX Extend-C18 Columns

- New Silica-Based Technology Offers High Efficiency and Long Life at High pH . . . up to pH 11.5
- Plus . . . More Retention for Polar Basic Compounds
- Plus . . . High Sensitivity for LC/MS Separations of Peptides and Proteins

The Agilent ZORBAX Extend-C18 HPLC column incorporates the unique, patented bidentate technology — coupled with a double-endcapping process to protect the silica support from dissolution at high pH . . . up to pH 11.5. Now compounds that are

- basic in nature and have little retention at low pH or
- more stable in high pH solutions or
- more soluble in high pH solutions

can be easily separated using this highly efficient, selective reversed-phase HPLC column. In addition, use this column to analyze peptide and small molecules by LC/MS with improved sensitivity using a pH 10.5 ammonium hydroxide mobile phase. Try it!

### ZORBAX Extend-C18 Ordering Information

Column Description	Dimension (mm)	Particle Size (µm)	Part Number
Analytical	4.6 x 250	5	770450-902
Analytical	4.6 x 150	5	773450-902
Analytical	4.6 x 50	5	746450-902
Analytical Guard Cartridge, 4/pk	4.6 x 12.5	5	820950-930
Narrow Bore	2.1 x 150	5	773700-902
Narrow Bore for LC/MS or Combinatorial Chemistry	2.1 x 50	5	760450-902
Narrow Bore Guard Cartridge, 4/pk	2.1 x 12.5	5	821125-930
Rapid Resolution	4.6 x 150	3.5	763953-902
Rapid Resolution	4.6 x 75	3.5	766953-902
Rapid Resolution	4.6 x 50	3.5	735953-902
Rapid Resolution	2.1 x 50	3.5	735700-902
Bulk Packing, 2 grams		5	820966-401
Guard Hardware Kit			820777-901

To order or for technical assistance call Agilent Technologies or contact your local authorized Agilent distributor.

## ZORBAX Bonus-RP Columns

- Excellent Peak Shape for the Most Challenging Basic Compounds
- Unique Reversed-Phase Selectivity
- Available in Rapid Resolution 3.5 µm and 5 µm Configurations

The Bonus-RP bonded-phase has an amide group embedded in an alkyl-C14 chain and is protected from mobile phase hydrolysis using bulky side chains. This phase is available in high efficiency 3.5 and 5 µm packings and provides excellent peak shape — even for the most troublesome basic compounds — while offering selectivity that is significantly different from C18, C8, phenyl and cyano bonded-phases.



### ZORBAX Bonus-RP Ordering Information

Column Description	Dimension (mm)	Particle Size (µm)	Part Number
Analytical	4.6 x 250	5	880668-901
Analytical	4.6 x 150	5	883668-901
Rapid Resolution	4.6 x 150	3.5	863668-901
Rapid Resolution	4.6 x 75	3.5	866668-901
Analytical Guard Cartridge, 4/pk*	4.6 x 12.5	5	820950-928
Narrow Bore	2.1 x 150	5	883725-901
Narrow Bore for LC/MS or Combinatorial Chemistry	2.1 x 50	5	861971-901
Narrow Bore	2.1 x 50	3.5	861700-901
Bulk Packing, 2 grams		5	820965-901
Narrow Bore Guard Cartridge, 4/pk*	2.1 x 12.5	5	821125-928
Guard Hardware Kit			820777-901

Check out the Agilent Technologies web site for additional ordering information about these products and other Agilent HPLC columns ([www.agilent.com](http://www.agilent.com))

## Inertsil ODS-2 Cartridge Columns

- Popular C18-column for the Analysis of Basic Drugs
- Packed in the Convenient Agilent Cartridge Format
- Available in 2 and 4 mm i.d. Solvent Saving Diameters

Agilent Technologies has added the popular Inertsil ODS-2 column to its cartridge product listings! Inertsil ODS-2 is based on high purity silica and the bonded-phase ideal for the separations of basic drugs. Inertsil ODS-2 is offered in Agilent's convenient cartridge column configuration.



Carbohydrates — monosaccharides, disaccharides, trisaccharides and sugar alcohols — are readily separated on the new, high efficiency, silica-based ZORBAX Carbohydrate Analysis Column using a simple acetonitrile/water mobile phase. Long-term method reproducibility is assured as these columns are specially tested using a mixture of simple and complex sugars.

## ZORBAX Carbohydrate Analysis Columns

- Specially Tested Using a Mixture of Simple and Complex Sugars
- High Efficiency Silica-Based Technology
- Low Detection Limits of 10 ng Possible with Agilent 1100 RID

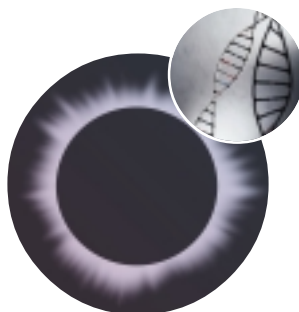
### ZORBAX Carbohydrate Analysis Column Ordering Information

Column Description	Dimension (mm)	Particle Size (µm)	Part Number
Carbohydrate Analysis Column	4.6 x 250	5	840300-908
Carbohydrate Analysis Column	4.6 x 150	5	843300-908
ZORBAX NH <sub>2</sub> Guard, 4/pk	4.6 x 12.5	5	820950-908
Guard Hardware Kit			820777-901

## ZORBAX Eclipse dsDNA Analysis Columns

- High Sensitivity and Resolution for dsDNA Fragments
- Separate from 20 - 1500 Base Pairs
- 20-50X the Capacity of Non-Porous Columns

The Eclipse dsDNA analysis column provides high-resolution, automated, quantitative separations of dsDNA fragments by HPLC. Up to 1 bp resolution can be achieved depending on fragment length and gradient analysis time. For high sensitivity, load up to 10 µg and detect less than 1 ng/band using the 2.1 mm i.d. columns. Or inject up to 40 µg on the 4.6 mm i.d. columns for higher capacity quantitative separations. This column is useful for applications such as PCR fragment separations, restriction digest separations, DHPLC, RFLP and RAPD.



### ZORBAX Eclipse dsDNA Ordering Information

Column Description	Dimension (mm)	Particle Size (µm)	Part Number
Analytical	2.1 x 75	3.5	945750-902
Analytical	2.1 x 150	3.5	993850-902
Analytical	3.0 x 75	3.5	945750-302
Analytical Guard Cartridge (4pk)	2.1 x 12.5	3.5	821125-929
Preparative	4.6 x 75	3.5	992750-902
Preparative Guard Cartridge (4pk)	4.6 x 12.5	3.5	820950-929
Guard Hardware Kit			820777-901

## Inertsil ODS-2 Cartridge Columns Ordering Information

Column Description	Dimension (mm)	Particle Size (µm)	Part Number
Analytical	4.0 x 250	5	7993318-584
Analytical	4.0 x 125	5	7993318-564
Narrow-Bore	2.0 x 250	5	7993318-582
Narrow-Bore	2.0 x 125	5	7993318-562
Hardware Kit			5021-1845

## ZORBAX StableBond Solvent Saver Analysis Columns

- Solvent Saver columns reduce solvent usage by 50-60%
- The 3.0 mm i.d. is compatible with all HPLC's
- Use SB-Phenyl and SB-CN to change selectivity and improve resolution
- Excellent stability at low pH

### Solvent Saver Columns Ordering Information

Column Description	Dimension (mm)	Particle Size (µm)	Part Number
SB-CN	3.0 x 250	5	880975-305
SB-CN	3.0 x 150	5	883975-305
SB-Phenyl	3.0 x 250	5	880975-312
SB-Phenyl	3.0 x 125	5	883975-312



## Combinatorial Chemistry

Introducing CombiZorb Scavengers . . .  
For removal of unwanted products from  
combinatorial or medicinal chemistry  
reaction mixtures.

Let your colleagues know about this  
new technology!

### CombiZorb Scavengers

- These bonded-phase materials are used to remove excess or unwanted reactants from solution-phase combinatorial or medicinal chemistry reaction mixtures via ion exchange or covalent bonding mechanisms. Scavengers improve the purity of the reaction solution and facilitate identification of active compounds.
- Four of the six products are based on ultra-pure (99.995%) silica microspheres, reducing sample contamination and unwanted side reactions catalyzed by metals. Silica-based phases do not swell and can be used in a variety of formats like cartridges, columns, or 96-well plates.
- Two products are based on macroporous polystyrene divinylbenzene with 5x less swelling than standard gel-type PS/DVB scavengers.
- Check the table below to see which products are right for purifying your drug candidates.

CombiZorb Scavenger	Part Number	Size	Scavenging Applications
S-Triamine	550145-138	10g	acids, acid chlorides, acid anhydrides, chloroformates, isocyanates, aldehydes, and other electrophiles
	550245-238	100g	
S-Monoamine	550145-118	10g	acids, acid chlorides, acid anhydrides, chloroformates, isocyanates, aldehydes, and other electrophiles
	550245-218	100g	
S-Sulfonic Acid	550145-124	10g	amines and other basic compounds
	550245-224	100g	
S-Tertiary Amine	550145-148	10g	acids generated from condensation reactions and may catalyze acylation reactions
	550245-248	100g	
MP-Aldehyde	510100-150	10g	hydrazines, hydroxylamine, primary amines, organometallic reagents (organolithium and Grignard reagents) and other nucleophiles
	510200-250	100g	
MP-Isocyanate	510100-160	10g	primary and secondary amines, anilines, hydrazines, and other nucleophiles
	510200-260	100g	
Variety Pack	550550-901	6 - 5g bottles	

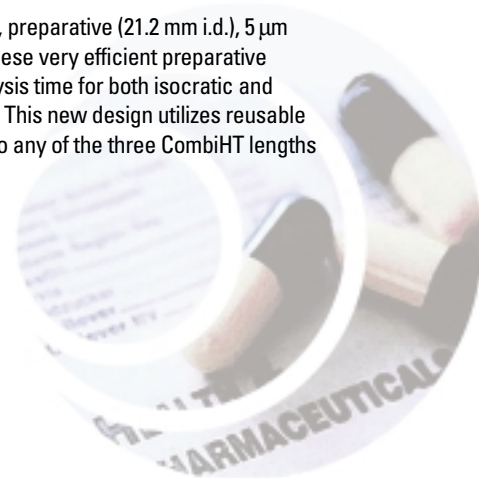
S = silica (based on high purity, 99.995% pure silica)

MP = macroporous polystyrene/divinylbenzene (PS/DVB)

# ZORBAX CombiHT - High Performance Preparative HPLC Columns

- Fast Preparative HPLC
- High Resolution and Short Analysis Time
- Ideal for Combinatorial Chemistry Isolations
- Easy-to-Use, Finger-Tight Assembly with Reusable Endfittings

CombiHT HPLC columns are a unique line of short, preparative (21.2 mm i.d.), 5 µm columns offering up to 80,000 plates per meter. These very efficient preparative columns offer high performance and shorter analysis time for both isocratic and gradient separations in a convenient, new design. This new design utilizes reusable endfittings that are easily hand-tightened to seal to any of the three CombiHT lengths (50, 100 and 150 mm).



## ZORBAX CombiHT Columns Ordering Information

Dimension (mm)*	Particle Size (µm)	SB-C18	SB-C8	Eclipse XDB-C18	Eclipse XDB-C8
21.2 x 50	5	870050-902	870050-906	970050-902	970050-906
21.2 x 100	5	870100-902	870100-906	970100-902	970100-906
21.2 x 150	5	870150-902	870150-906	970150-902	970150-906
End Fittings	2/pk	820400-901			
Replacement Seal	1/pk	820385-901			

\*Initial purchase requires column and endfittings. Endfittings are reusable. Additional phases can be packed into these configurations. Call Agilent Technologies.

# ZORBAX Rapid Resolution HPLC Columns for LC/MS

- Ultra-Short Cartridges for Ultra-Fast Screening
- Easy-to-Use Cartridge Assembly
- Column Lengths from 15 to 150 mm

Rapid Resolution LC/MS cartridge columns are available in ultra-short column lengths and 3.5 µm packings to keep analysis time to a few minutes while still resolving sample mixtures. These short cartridge columns are made in two lengths, 15 and 30 mm, and two inner diameters, 4.6 and 2.1 mm i.d., for best sensitivity and compatibility with different LC/MS interfaces. Longer lengths, e.g., 50 and 150 mm, are also used for LC/MS applications for complex samples and matrices, and are available in fully configured analytical columns. The exceptional stability of StableBond at low pH and enhanced stability of Eclipse XDB above pH 6 provide long column life and low bleed.



## LC/MS Rapid Resolution

### StableBond and Eclipse XDB Columns Ordering Information

Column Description	Dimension (mm)	Particle Size (µm)	SB-C18	SB-C8	Eclipse XDB-C18	Eclipse XDB-C8	Bonus-RP	Extend-C18
Narrow-Bore	2.1 x 150	3.5	830990-902	830990-906	930990-902	930990-906		
Narrow-Bore	2.1 x 50	3.5	871700-902	871700-906	971700-902	971700-906	861700-901	735700-902
Narrow-Bore	2.1 x 150	5					883725-901	773700-902

### Rapid Resolution Cartridges\*

Analytical	4.6 x 30	3.5	833975-902	833975-906	933975-902	933975-906		
Analytical 3/pk	4.6 x 30	3.5	833975-932	833975-936	933975-932	933975-936		
Analytical	4.6 x 15	3.5	831975-902	831975-906	931975-902	931975-906		
Analytical 3/pk	4.6 x 15	3.5	831975-932	831975-936	931975-932	931975-936		
Narrow Bore	2.1 x 30	3.5	873700-902	873700-906	973700-902	973700-906		
Narrow Bore 3/pk	2.1 x 30	3.5	873700-932	873700-936	973700-932	973700-936		
Narrow Bore	2.1 x 15	3.5	875700-902	875700-906	975700-902	975700-906		
Narrow Bore 3/pk	2.1 x 15	3.5	875700-932	875700-936	975700-932	975700-936		
Guard Hardware Kit			820222-901	820222-901	820222-901	820222-901		

To order or for technical assistance call Agilent Technologies or contact your local authorized Agilent distributor.

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