

**ZODIAC**<sup>®</sup>  
Life Sciences



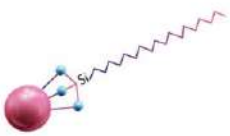
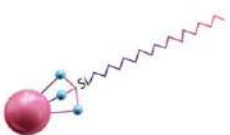
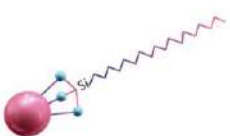
**A SOURCE**  
**FOR**  
**CHROMATOGRAPHY CHEMISTS**



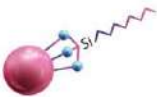
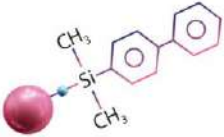
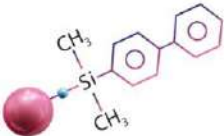
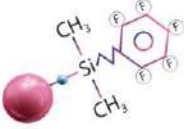
We aspire to offer matchless solutions and contribute to the future of Pharma, Life Sciences and diagnostics by setting a new benchmark in chromatography.



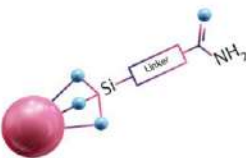




## ZODIAC<sup>®</sup> HPLC Columns

- Our deep experience in controlled Silica particle synthesis and superior bonding technology enables us production of ZODIAC HPLC Columns of exceptional high quality.
- Zodiac HPLC Columns are best choice for method development owing to complete bonding chemistries and stable performance.
- High resolution with maximum efficiency and long column life.
- Excellent Column to Column reproducibility.
- Superior ruggedness even under the most demanding conditions.

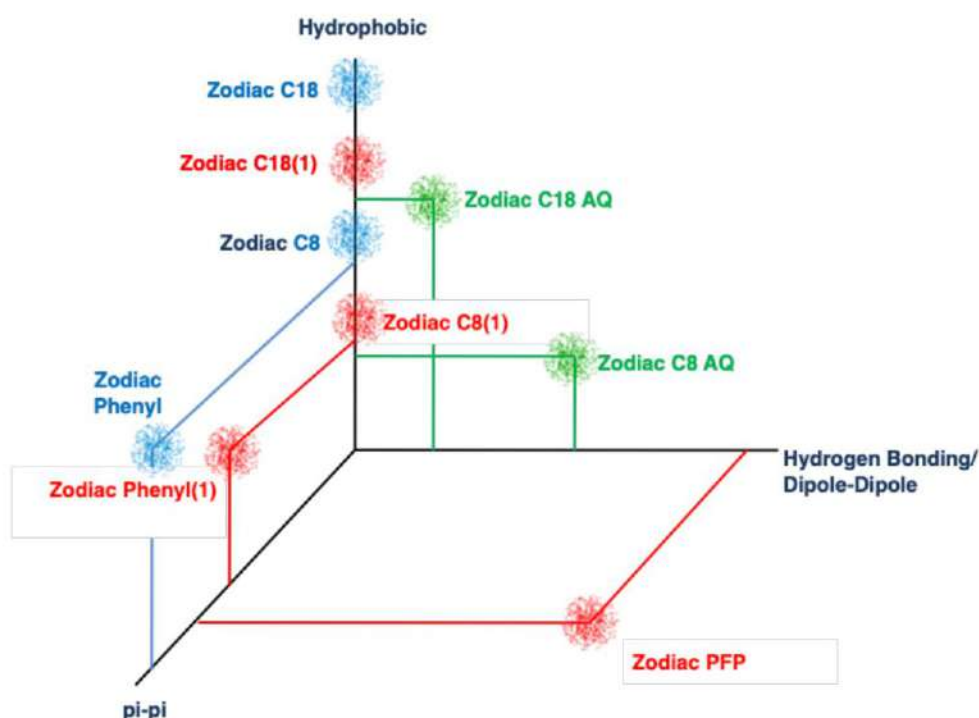


Series	Particle	Features
ZODIAC C18		<ul style="list-style-type: none"> <li>• Highest hydrophobic selectivity among Zodiac series with 24%Carbon load.</li> <li>• General purpose Column, best choice for method development.</li> </ul> <p><b>Selectivity:</b> Best choice for separation of polar compounds.</p>
ZODIAC C18(1)		<ul style="list-style-type: none"> <li>• Has reduced carbon load of 13%to achieve perfect hydrophobic selectivity.</li> <li>• Protective end capping gives the advantage of faster separation and better resolution.</li> </ul> <p><b>Selectivity:</b> Perfect choice for separation of acids, bases, and neutral compounds.</p>
ZODIAC C18(AQ)		<ul style="list-style-type: none"> <li>• Lowest hydrophobic selectivity among C18 series.</li> </ul> <p><b>Selectivity:</b> Stronger retention of hydrophilic polar compounds compared to above C18 series.</p>

Series	Particle	Features
ZODIAC C8		<ul style="list-style-type: none"> <li>• Its an Admirable choice that need marginally more polar phase than C18.</li> <li>• Less hydrophobic column with high surface area and optimum carbon load.</li> </ul> <p><b>Selectivity:</b> Low retentivity of hydrophobic compounds or neutral compounds and hence faster analysis.</p>
ZODIAC C8(1)		<ul style="list-style-type: none"> <li>• Faster separation than C18 column.</li> <li>• Has modified chemistry, reduced carbon load of 8%</li> </ul> <p><b>Selectivity:</b> Yields faster analysis of hydrophobic compounds.</p>
ZODIAC C8(AQ)		<ul style="list-style-type: none"> <li>• Lowest hydrophobic selectivity in C8 series</li> <li>• With more of hydrogen bonding and dipole-dipole interactions.</li> </ul> <p><b>Selectivity:</b> Best choice for polar and hydrophilic compounds</p>
ZODIAC Bi Phenyl		<ul style="list-style-type: none"> <li>• Pi- Pi, interactions and hydrogen bonding in phenyl stationary phase influences solute Pi electrons separating compounds containing isomers</li> </ul> <p><b>Selectivity:</b> enhanced aromatic selectivity for compounds containing rings, conjugated compounds, and ring substituents</p>
ZODIAC Bi Phenyl (1)		<ul style="list-style-type: none"> <li>• With low carbon load less Pi-Pi and hydrophobic interactions compared to Zodiac Phenyl phase</li> <li>• Gives extremely fast separation without any effect on peak symmetry</li> </ul> <p><b>Selectivity:</b> shows selectivity and favorable low retention of aromatic, polar and different pharmaceuticals</p>
ZODIAC PFP		<ul style="list-style-type: none"> <li>• A Pentafluoro phenyl phase with a propyl spacer</li> <li>• Unique aromatic selectivity due to highly electronegative fluorine's attached to phenyl ring.</li> <li>• Gives pi-pi, hydrogen bonding, dipole dipole interactions</li> </ul> <p><b>Selectivity:</b> Towards aromatic, halogenated compounds, and Nitro compound</p>

Series	Particle	Features
<b>ZODIAC Amino</b>		<ul style="list-style-type: none"> <li>Chemically bonded with amino propyl bonded sorbent Has specific pore size of 100Å, high carbon load.</li> <li>Used for Anion exchange, NP, and RP separations</li> </ul> <p><b>Selectivity:</b> Best choice for separation of sugars</p>
<b>ZODIAC Amino (1)</b>		<ul style="list-style-type: none"> <li>Large pore size 190Å Low carbon load.</li> </ul> <p><b>Selectivity:</b> Less retentive when compared with Zodiac Amino Column</p>
<b>ZODIAC RP Amide</b>		<ul style="list-style-type: none"> <li>Particularly well suitable for highly H2O soluble compounds due to polar amide groups</li> <li>An excellent choice when a C18 or C8 phase fails to provide an adequate separation</li> </ul> <p><b>Selectivity:</b> Best choice for analytes with H2 bond donor characteristics, Acids and Basic compounds</p>
<b>ZODIAC Cyano</b>		<ul style="list-style-type: none"> <li>Elutes hydrophobic molecules faster when compared to C18/Phenyl column</li> <li>Can be used in either NP or RP mode</li> </ul> <p><b>Selectivity:</b> Highest selectivity towards polar compounds</p>
<b>ZODIAC Cyano (1)</b>		<ul style="list-style-type: none"> <li>Large pore size of 190Å compared to Zodiac Cyano and low Carbon loading.</li> </ul> <p><b>Selectivity:</b> Low selectivity towards polar compounds when compared to CN Column.</p>
<b>ZODIAC Silica</b>		<ul style="list-style-type: none"> <li>Made of Ultra-pure fully porous silica gel with extremely low acidity and metal content</li> </ul> <p><b>Selectivity:</b> Strong hydrophilic compounds in NP mode with highly nonpolar mobile phase</p>
<b>ZODIAC Silica (1)</b>		<ul style="list-style-type: none"> <li>Large pore size of 190Å pore size compared to Zodiac Si</li> <li>Made of ultra-pure type B silica</li> </ul> <p><b>Selectivity:</b> Hydrophilic compounds</p>

## An Overview of Phase Interactions



Series	USP Classification	Particle size	Pore Size (Å)	Carbon Loading %	End - Cap	pH Range
ZODIAC C18	L1	3,5,10	100	24	Yes	1.5-10
ZODIAC C18 (1)	L1	3,5,10	190	12.9	Yes	1.5-10
ZODIAC C18(AQ)	L1	3,5,10	120	17	Yes	1.5-10
ZODIAC C8	L7	3,5,10	100	15	Yes	1.5-10
ZODIAC C8(1)	L7	3,5,10	190	7.4	Yes	1.5-10
ZODIAC C8(AQ)	L7	3,5,10	120	10	Yes	1.5-10
ZODIAC Phenyl	L11	3,5,10	100	14	Yes	1.5-8
ZODIAC Phenyl (1)	L11	3,5,10	190	7.4	Yes	1.5-8
ZODIAC PFP	L43	3,5,10	190	15	Yes	2-8
ZODIAC Amino	L8	3,5,10	100	10	Yes	2-7
ZODIAC Amino (1)	L8	3,5,10	190	8	Yes	2-7
ZODIAC RP Amide	L60	3,5,10	120	15	Yes	2-8
ZODIAC Cyano	L10	3,5,10	100	15	Yes	2-7.5
ZODIAC (1) Cyano	L10	3,5,10	190	12	Yes	2-7.5
ZODIAC Silica	L3	3,5,10	100	0	No	2-6
ZODIAC Silica (1)	L3	3,5,10	190	0	No	2-6





Preparative chromatography is an important stage in liquid chromatography employed for scale ups, isolation of proteins, peptides or impurities and purification of samples in pharma and life science industries

Zodiac provides various range of preparative columns for preparative separations of following the C18, C8, Phenyl, PFP, Amino, RP Amide, Silica and Cyano Chemistries.

- Manufactured under controlled stringent testing procedures under highest standards
- The column possesses uniform and stable packing for maximum column efficiency, performance and column life
- Optimum bed density
- Available in wide range of chemistries
- Customizable solutions to meet any application needs
- Scale up your current analytical method with ease



## Carb Columns



Analysis of carbohydrates, sugars & sugar alcohols in different formulations, matrices and substances is a complex process. Any one carb column cannot separate all carbohydrates

Hence, Zodiac provides a range of columns to select in order to achieve specific, selected separations and analysis of carbohydrates.

Zodiac Carb columns are made of Polystyrene divinylbenzene spherical particles which are modified with metal ligands. It deploys the use of ligand exchange and size exclusion mechanisms and are designed for achieving high resolution for separation of water soluble and partially water-soluble compounds like carbohydrates, sugars, and many other small bio-organic molecules

- Each phase optimized for a different class of compound
- Separates compounds using a combination of size exclusion and ligand exchange mechanisms
- Robust customizable solutions to meet any application needs
- Columns packed with polystyrene divinylbenzene
- Specifically designed to maximize your separation needs

Carb Series	Ionic Form	Key Samples
<b>Zodiac 87C</b>	Calcium	Industry standard for analysis of general sweeteners
<b>Zodiac 87P</b>	Lead	Monosaccharides and cellulose products
<b>Zodiac 87N</b>	Sodium	Molasses and other sugars high salt samples
<b>Zodiac 87H</b>	Hydrogen	Best choice for analysis of carbohydrates found in solution with carboxylic acids, volatile fatty acids, short chain fatty acids, alcohols, and ketones
<b>Zodiac 87K</b>	Potassium	Sugars samples such as brewing wort, betaine
<b>Zodiac USP L-19</b>	Sulfonated cross-linked styrene-divinylbenzene copolymer in the Calcium form	Polysaccharides, monosaccharides, and sugars alcohols
<b>Zodiac USP L-17</b>	Sulfonated cross-linked styrene-divinylbenzene copolymer in the Hydrogen form	Amino Acids, nucleotides to large proteins



## Sifto Ghost Buster Columns



Contaminants from a variety of sources such as mobile phase solvents, mobile phase containers, flow liners, pumps, filters, gradients mixers etc. cause unknown peaks called as ghost peaks that appear in chromatogram interfering with the target peaks making the gradient analysis unreliable.

This causes overall resolution of ghost peaks difficult.

Sifto Ghost buster columns effectively absorbed the impurities from mobile phase and eliminates the risk of ghost peaks interfering with target peaks making the gradient analysis reliable

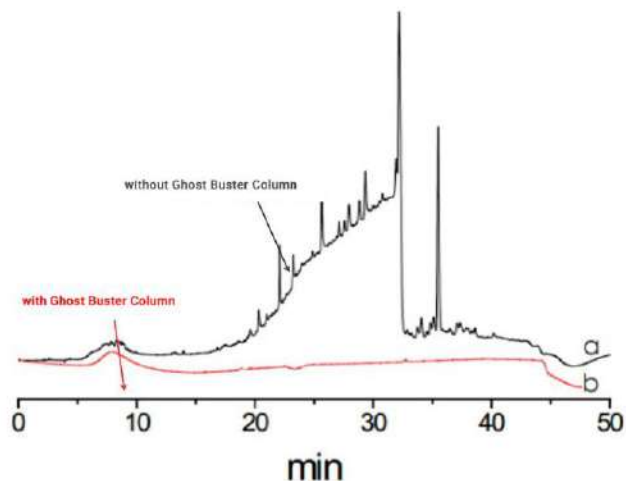
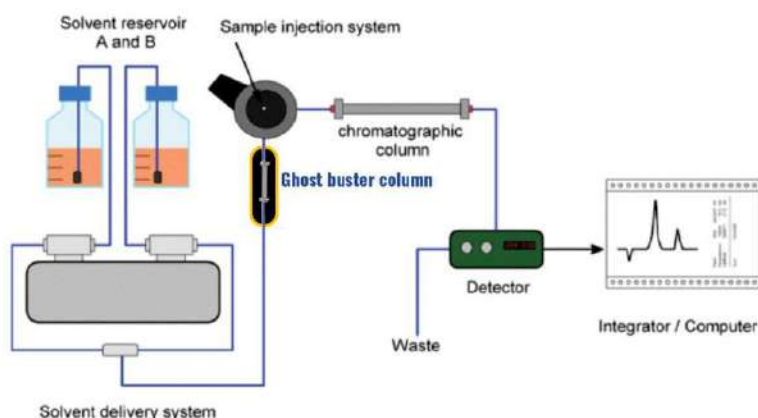
Longer column life when used with sifto ghost buster column. Compatible with any method or column deployed by you

Stable over wide range of pH, organic solvents and aqueous buffers



Installed between the gradient mixer and the sampler, Ghost Buster Column can trap most ghost peaks before HPLC analysis.

### Installation



### Condition

Column	Zodiac C18, 250 mm x 4.6, 5 $\mu$ m
Flow Rate	1.0 mL/min
Injection Volume	10 $\mu$ L
Wavelength	210 nm Column
Column Temperature	40° C
Sample Preparation Solution	Ultra Pure Water
Mobile Phase A	11.54 g/L ammonium acetate,
	Adjust pH to 4.0 with glacial Acetic Acid
Mobile Phase B	Acetonitrile



# VELOX™

Solvent Waste System

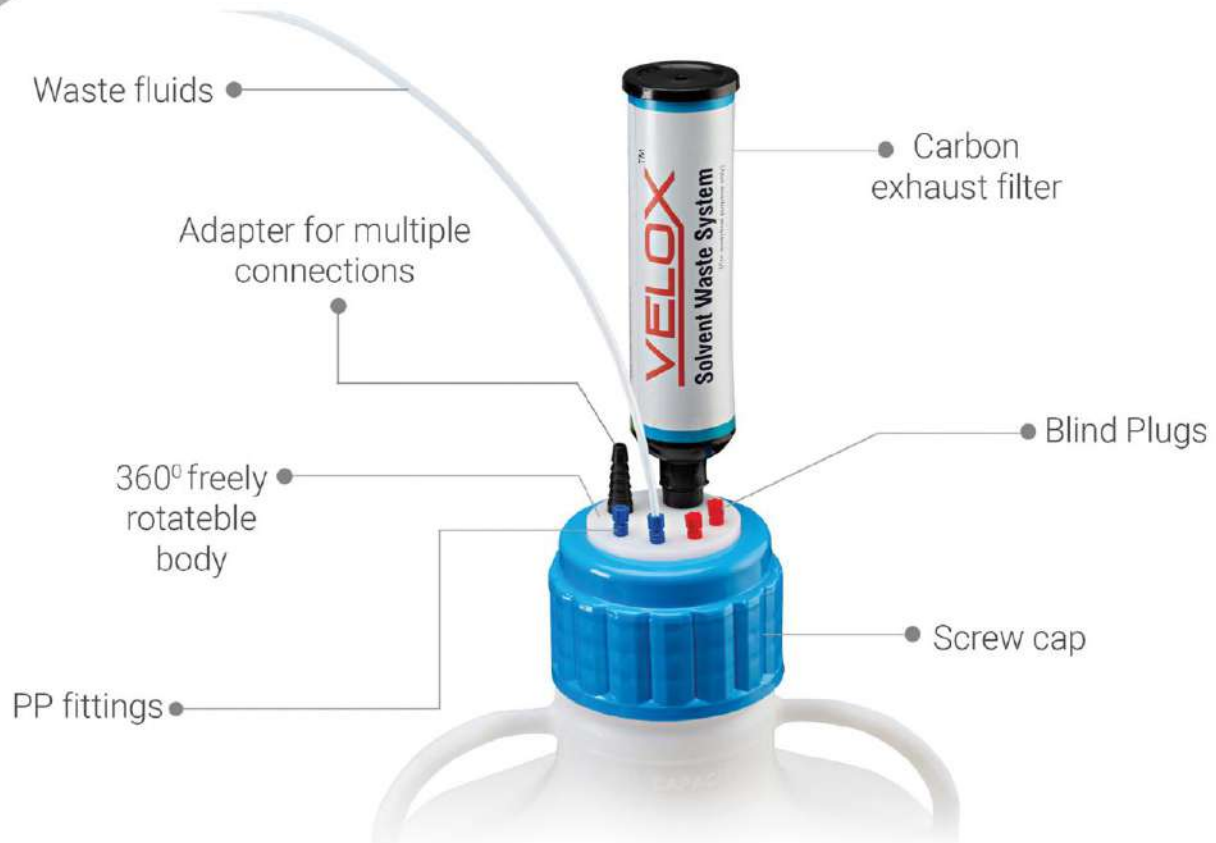


Fluids in HPLC waste systems are extremely dangerous containing potent volatile organic compounds, posing threat to lab workers.

Zodiac life Sciences came with an innovative solution introducing Velox solvent waste system, with activated carbon filters allowing 99% of the volatile vapors to be trapped, providing an organized containment and disposal of HPLC Liquid wastes.



- Filters against harmful vapors
- Several systems can be connected to 1 container
- Different size containers compatible to any space condition
- Capillary fixations with PFA fittings



# VELOX™ Safety Caps



Velox Solvent Safety caps provides an airtight seal around the bottles with filter function working in dual ways by preventing the dust and Contaminant particles from air entering the mobile phase, at the same time blocking the solvent volatile vapours escaping into air. Hence ensuring constant precise mixing ratios of solvents throughout the time



- All vapors are blocked
- No accidental intake of air into HPLC system
- Easy container changes with freely rotatable cap
- With Velox you pass quality and safe inspections with confidence



Agilent Type



**VELOX™**  
Suction Filters



Shimadzu Type



Waters Type



**PEEK ONE**

Piece Finger Tight Fittings



**01** Finger Tight upto 350 bar.  
One Piece - No ferrule required

**02** Superior Material - Biocompatible  
Excellent Chemical and Mechanical Properties

**SS UNIONS FOR HPLC**

- 01** Choice of 3 bore sizes  
Ideal for 1/16" OD tubing
- 02** Tight Connections  
Lowest dead volume



**ZODIAC®**  
Consumables

**PEEK COUPLER FOR HPLC**

- 01** Couples two devices together  
male to male 10-32 coned port connection
- 02** Excellent Chemical resistance  
3.6 uL swept volume



**PEEK UNIONS**

- 01** Biocompatible  
Available in 0.25,0.50,0.75mm bore sizes
- 02** Low dead volume  
Rated to 25,000 psi (350 bar)







SCAN FOR MORE DETAILS

## Zodiac Products are Available Worldwide

### **ASIA -**

Bangladesh, China, Nepal, Indonesia, Japan, Saudi Arabia, Jordan, South Korea, Singapore, Taiwan, Lebanon, Thailand, Turkey, Vietnam, U.A.E

### **EUROPE -**

Bulgaria, Portugal, France, Germany, Hungary, Netherlands, Poland, Slovenia, Czech Republic, Spain, Greece, UK

### **NORTH AMERICA**

USA, Mexico

### **SOUTH AMERICA**

Brazil, Chile, Peru, Argentina

### **AFRICA -**

Egypt

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