Stationary phase comparison.

Aliphatic phase (e.g. C18)

Aliphatic-based stationary phases, such as C18, are best suited for analyzing hydrophobic molecules with high carbon-heteroatom ratios.

Aliphatic phase with polar functional group

The aliphatic-based stationary phase is an aliphatic-based polar functional group (F1), a polar side chain (F2), or a polar end cap (F3). These groups provide enhanced interaction with polar compounds (a traditional aliphatic phase).

Phenyl & Biphenyl phases

Phenyl-based stationary phases interact with compounds containing aromatic groups or unsaturated bonds through π-π interactions. The biphenyl stationary phase has even greater interaction due to the higher concentrations of aromatic rings.

Cyanogen & Fluorinated phases

Cyanogen-based phases, such as the cyanogenphenyl propyl (C18), cyanogen benzyl, and cyanogen-based phases interact strongly with basic, nitrogen-containing and halo-substituted analytes.

Restek's Exclusive Trident Integral System

- Convenient and economical leak-free guard cartridge system, extremely easy to install.
- Integral design eliminates troublesome tubing connections.
- "All-in-One" guard cartridge system and guard cartridge Installation Kit.
- Trident guard cartridge is reusable, eliminating the need to replace cartridges.
- "Plug and Play" system is easy to use and saves time.
- "All-in-One" kit includes 30-µm guard cartridge, XG-XF fitting, cap frit, and XF end fitting.
- Re-install the XF end fitting with cap frit.
- The cap frit can be easily replaced if it becomes contaminated/plugged.

Restek Comparisons

- 15 µm Pinnacle DB HPLC Columns!
- 1.9 µm Pinnacle™ DB HPLC Columns!
- Restek Trademarks: Allure, pHidelity, Pinnacle, Restek logo.
- Other Trademarks: Zorbax (Agilent Technologies, Inc.), Kromasil (Eka Chemicals), Intersil (GL Sciences, Inc.), LiChrospher (Merck KGAA), Develosil (Nomura Chemical Co.), AQUA, Jupiter, Luna (Phenomenex, Inc.), Discovery (Sigma-Aldrich Co.), Betamax, Betasil, BioBasic, Fluophase, Hypersil, Prism (Thermo Scientific), Spherisorb, Symmetry, YMC (Waters Corp.)
### Stationary Phase Selection

<table>
<thead>
<tr>
<th>HPLC Column</th>
<th>End Cap</th>
<th>Price</th>
<th>Soln.</th>
<th>Load</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhenylSep C18</td>
<td>F</td>
<td>148</td>
<td>1</td>
<td>1.1</td>
<td>Suitable for applications in which solute retention is not critical.</td>
</tr>
<tr>
<td>PhenylSep CB</td>
<td>—</td>
<td>148</td>
<td>6</td>
<td>6</td>
<td>Ideal for applications in which selectivity is critical.</td>
</tr>
<tr>
<td>PhenylSep DB</td>
<td>—</td>
<td>148</td>
<td>8</td>
<td>8</td>
<td>Suitable for applications in which solute retention is not critical.</td>
</tr>
<tr>
<td>PhenylSep DB-RP</td>
<td>—</td>
<td>148</td>
<td>6</td>
<td>6</td>
<td>Suitable for applications in which solute retention is not critical.</td>
</tr>
<tr>
<td>PhenylSep DB-RP P/F</td>
<td>—</td>
<td>148</td>
<td>8</td>
<td>8</td>
<td>Suitable for applications in which solute retention is not critical.</td>
</tr>
<tr>
<td>PhenylSep DB-SC</td>
<td>—</td>
<td>148</td>
<td>5.5</td>
<td>5.5</td>
<td>Suitable for applications in which solute retention is not critical.</td>
</tr>
</tbody>
</table>

### Chromatographic Properties

<table>
<thead>
<tr>
<th>Stationary Phase</th>
<th>Linear Velocity (m/min)</th>
<th>Temperature Range (°C)</th>
<th>pH Range</th>
<th>UV Detection</th>
<th>Mass Spectrometry</th>
<th>MS Sensitivity</th>
<th>Total Analysis Time (min)</th>
<th>Resolution (R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhenylSep C18</td>
<td>1.1</td>
<td>80-200</td>
<td>2-9</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>1.5</td>
<td>2.8</td>
</tr>
<tr>
<td>PhenylSep CB</td>
<td>6.1</td>
<td>80-200</td>
<td>2-9</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>1.5</td>
<td>2.8</td>
</tr>
<tr>
<td>PhenylSep DB</td>
<td>8.8</td>
<td>80-200</td>
<td>2-9</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>1.5</td>
<td>2.8</td>
</tr>
<tr>
<td>PhenylSep DB-RP</td>
<td>6.1</td>
<td>80-200</td>
<td>2-9</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>1.5</td>
<td>2.8</td>
</tr>
<tr>
<td>PhenylSep DB-RP P/F</td>
<td>8.8</td>
<td>80-200</td>
<td>2-9</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>1.5</td>
<td>2.8</td>
</tr>
<tr>
<td>PhenylSep DB-SC</td>
<td>5.5</td>
<td>80-200</td>
<td>2-9</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>1.5</td>
<td>2.8</td>
</tr>
</tbody>
</table>

### INNOVATIVE PRODUCTS

- **PhenylSep C18**: Ideal for applications where selectivity is critical. Commercially available in various column dimensions and packing types.
- **PhenylSep CB**: Suitable for applications where solute retention is not critical. Commercially available in various column dimensions and packing types.
- **PhenylSep DB**: Ideal for applications where solute retention is not critical. Commercially available in various column dimensions and packing types.
- **PhenylSep DB-RP**: Suitable for applications where solute retention is not critical. Commercially available in various column dimensions and packing types.
- **PhenylSep DB-RP P/F**: Ideal for applications where solute retention is not critical. Commercially available in various column dimensions and packing types.
- **PhenylSep DB-SC**: Ideal for applications where solute retention is not critical. Commercially available in various column dimensions and packing types.

### Call Restek Technical Service, or your local distributor, for the right column for your application.