## Waters COLUMNS and Analytical Standards and REAGENTS SELECTION GUIDE

Waters’ comprehensive family of columns offer scientists a diverse range of selectivity and particle size choices that provide exceptional scalability within UPLC, UHPLC, HPLC, and preparative LC applications. In addition, Waters’ growing family of QC Reference Materials and application-specific standards help users to effortlessly confirm column and system performance.

### ACQUITY UPLC and HILIC Columns

<table>
<thead>
<tr>
<th>Particle Size</th>
<th>Legend</th>
<th>Density</th>
<th>Endcapped</th>
<th>C18 Class No.</th>
<th>All Range</th>
<th>Resispanation Limits</th>
<th>Heating Area</th>
<th>Performance Standards</th>
<th>Application Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 µm</td>
<td></td>
<td>35%</td>
<td>Yes</td>
<td>12</td>
<td>2.8</td>
<td>High pH = 60°C 185 m²/g</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5 µm</td>
<td></td>
<td>5%</td>
<td>Yes</td>
<td>8</td>
<td>1.2</td>
<td>High pH = 45°C 330 m²/g</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 µm</td>
<td></td>
<td>0.4%</td>
<td>Yes</td>
<td>6</td>
<td>1.5</td>
<td>High pH = 60°C 230 m²/g</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.5 µm</td>
<td></td>
<td>0.4%</td>
<td>Yes</td>
<td>5</td>
<td>1.5</td>
<td>High pH = 60°C 185 m²/g</td>
<td></td>
<td></td>
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<td>5 µm</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>10 µm</td>
<td></td>
<td>0.4%</td>
<td>Yes</td>
<td>5</td>
<td>1.5</td>
<td>High pH = 60°C 185 m²/g</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### UPLC Columns

- **BEH C18**: Trifunctional C18, fully endcapped bonded to a Charged Hybrid (BEH) substrate. Designed for enhanced polar compound retention, offering exceptional polar compound retention in proteins.
- **BEH SEC**: Unbonded, high purity, solid-core substrate. Works particularly well with 0.1% formic acid for LC or LC-MS method development.
- **BEH C18 AX**: Difunctional C18, fully endcapped, bonded to an Ethylene Bridged Hybrid (BEH) substrate.
- **BEH 95 Å**: Particle/Ligand Ligand density. For proteins. Specifically QC tested with protein mixture.

### Phenyl Columns

- **Phenyl**: High efficiency, designed to maximize non-phenyl basic, neutral analyte analytes.
- **PheMap**: Enzyme, mobile phase compatible LC design in meso-phenylboronic acid (MBA) chemistry.

### HPLC Columns

- **UPC2**: Phenyl, non-endcapped, bonded to a silica (C18) bonding and endcapping, for proteins. Specifically QC tested with sialylated glycan performance standard.
- **UPC2**: Phenyl, endcapped bonded to a silica (C18) bonding and endcapping, for proteins. Specifically QC tested with sialylated glycan performance standard.

### MS Application Columns

- **MAPLE**: Mass_PREP OST, P/N: 186009057.
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### Preparative HPLC and UHPLC Columns

- **Prep UPLC**: BEH C18 AX, P/N: 186006555.
- **Prep UPLC**: BEH C18 AX, P/N: 186006555.
- **Prep UPLC**: BEH C18 AX, P/N: 186006555.

### Waters Analytical Standards and Reagents eCatalog

- **AQC10**: A general purpose column that shows contrasting performance benefits with C4 LC column analysis. Specifically QC tested with sialylated glycan performance standard.
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**PREMIR columns formats deliver the chromatographic performance expected from Waters particle technologies. The PREMIR columns utilize MaxPeak® High Performance Reusable (HPR) Technology which increases reproducibility, improves peak shape, and enables more accurate recovery by minimizing unwanted analyte/surface interactions.**

**Waters Analytical Standards and Reagents eCatalog aswaters.com**

- Waters owns and controls every step of the process, from raw materials to final product (few suppliers are capable of doing this). Understanding and controlling our processes makes the difference in product performance in your laboratory.