

## Cogent 2.0 HPLC Columns are Compatible with Agilent 1290 instruments - Tech Information

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### **Are Cogent 2.0 Columns Compatible with the Agilent 1290 Infinity II UHPLC System?**

Short Answer: This platform is fully compatible with Cogent 2.0™ columns.

The Agilent 1290 Infinity II™ is marketed as a “universal UHPLC/HPLC system” designed to accommodate a broad range of column technologies across both high-pressure and standard LC workflows.

#### **Pressure Compatibility**

Cogent 2.0™ columns are considered “near-UHPLC” designs with a recommended pressure limit of approximately 9,000 psi. Under typical Aqueous Normal Phase (ANP) operation, most laboratories will not reach pressures anywhere near this upper boundary, even on longer column formats. The Agilent 1290 Infinity II easily accommodates these pressures.

#### **Special Note: Ultra-Low-Dispersion Kit Limitations**

Agilent warns that its Ultra Low Dispersion (ULD) Kit—often used for maximizing system efficiency—creates flow path restrictions that are not recommended for:

- 4.6 × 100 mm columns
- 4.6 × 150 mm columns

When using these larger-ID columns, backpressure may exceed acceptable thresholds due to the kit’s constriction. However, TYPE-C columns used in ANP do not fall into this restricted category. They remain safely compatible even if the ULD kit is installed.

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### **Additional Considerations for Best Performance**

#### **1. Pressure Margin Awareness**

While Cogent 2.0 columns are high-performance phases, analysts should verify pressure during method development—especially when working with viscous mobile phases, high aqueous loads, or low temperatures.

#### **2. Mobile Phase Effects**

ANP methods typically use high organic content (e.g., 80–95% ACN), which lowers viscosity and pressure. Thus, most Cogent applications on the 1290 Infinity II naturally stay within safe operating pressures.

### 3. Column Length and Flow Rates

Offers excellent balance between resolution and manageable backpressure on UHPLC platforms.

### 4. System Sensitivity Advantages

The low-salt requirements and ANP capability of Cogent TYPE-C columns provide added LC–MS benefits, particularly on sensitive high-resolution MS platforms connected to the 1290 Infinity II.

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**Note:** The manufacturer suggests when the 1290 Infinity II ultra low dispersion kit is employed, it is not recommended for 4.6 x 100mm or 4.6 x 150mm HPLC columns due to high back pressure.

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**MicroSolv Technology Corporation**  
9158 Industrial Blvd. NE, Leland, NC 28451

Tel: (732) 380-8900  
Fax: (910) 769-9435  
Email: [customers@mtc-usa.com](mailto:customers@mtc-usa.com)  
Website: [www.mtc-usa.com](http://www.mtc-usa.com)