

Fittings for HPLC and LC-MS Columns - Tech Information

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Recommended Fittings for HPLC and LC-MS Columns: Why Choose the Di-Ad™ Connector

Selecting the right fitting for an HPLC or LC-MS column is essential for ensuring leak-free operation, maintaining chromatographic efficiency, and simplifying column changes. MICROSOLV recommends using Direct Adaptive Di-Ad™ column connectors in place of conventional fittings that require repeated ferrule re-swaging whenever a column is removed or replaced.

The Di-Ad™ system provides a reliable, easy-to-use mechanical interface that improves consistency and reduces downtime—making it ideal for laboratories that routinely change columns or alternate between different stationary phases.

Why MICROSOLV Recommends Di-Ad™ Over Re-Swaged Fittings

1. Eliminates the Need for Ferrule Re-Swaging

Standard HPLC fittings often rely on metal or polymer ferrules that permanently deform when tightened. Each time a column is replaced, the ferrule may need to be re-cut or re-swaged, which can:

- Create variability in seating depth
- Increase risk of leaks
- Introduce potential dead volume
- Cost time and material during frequent column changes

The Di-Ad™ connector avoids these issues entirely, enabling a clean, repeatable installation every time.

2. Ideal for Standard Cogent Phases (4 µm & 2.0™ Columns)

MICROSOLV specifically highlights Di-Ad™ connectors as the preferred choice for its Cogent-type columns—both the standard 4 µm and advanced 2.0™ stationary phases. These columns benefit greatly from consistent, low-dead-volume connections, particularly when switching between column chemistries or guard cartridges.

The Di-Ad™ design helps maintain chromatographic fidelity by ensuring:

- Proper seating depth
- Excellent peak shape
- Reduced risk of dead-volume-related distortions

3. Supports Clean, Easy, and Fast Column Changes

The Di-Ad™ connector is engineered for tool-free, user-friendly operation. Its design minimizes the chance of damaging ferrules, fittings, or column hardware during repeated changes. This is especially beneficial in:

- High-throughput analytical labs
- Method development environments
- Multimethod LC-MS suites where columns are rotated frequently

Important Limitation: Not Recommended for UHPLC

While Di-Ad™ connectors work exceptionally well for HPLC and LC-MS, MICRO SOLV notes an important limitation:

✗ Do NOT use Di-Ad™ or PEEK fittings for UHPLC.

Due to the extremely high pressures associated with UHPLC (>15,000 psi in many systems), polymer-based or adaptive fitting systems are not suitable. Stainless-steel hardware specifically designed for UHPLC is required to avoid leaks or fitting failures.

When to Use Di-Ad™ Connectors vs. Other Fittings

Use Case	Recommended Fitting	Why
Standard HPLC	Di-Ad™	Quick changes, consistent seal, avoids re-swaging
LC-MS workflows	Di-Ad™	Low dead volume, clean connections
Routine column swapping	Di-Ad™	No ferrule damage, reliable installation
UHPLC (>15,000 psi)	Not Di-Ad™	Pressure limitations; use UHPLC-rated stainless-steel fittings

Additional Resources

Ordering information and images for the Di-Ad™ column connector are available through the this website: Click [HERE](#) for Di-Ad™ column connector information and pictures.

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