

To help protect your investment and further extend the life of our already-rugged LC columns, Restek offers the patent-pending guard column hardware developed by Optimize Technologies. A Restek guard column cartridge in an EXP direct connect holder is the ultimate in protection.

- Free-Turn architecture lets you change cartridges by hand without breaking inlet/outlet fluid connections — no tools needed.
- Patented titanium hybrid ferrules can be installed repeatedly without compromising the high-pressure seal.
- Auto-adjusting design provides ZDV (zero dead volume) connection to any 10-32 female port.
- Guard column cartridges are available with IDs of 2.1, 3.0, and 4.6 mm.

For a full selection of guard column cartridges, holders, and replacement products, visit [www.restek.com](http://www.restek.com)

**Questions about this or any other Restek product?  
Contact us or your local Restek representative  
([www.restek.com/contact-us](http://www.restek.com/contact-us)).**

**RESTEK**



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**OPTIMIZE**  
TECHNOLOGIES

[www.optimize-tech.com](http://www.optimize-tech.com)

Intellectual Property: [optimize-tech.com/patents](http://optimize-tech.com/patents)

# EXP

## Direct Connect Holder



Guard column cartridges  
sold separately.

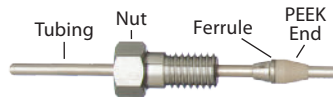
**RESTEK**

## A Restek guard column cartridge in an EXP direct connect holder is the ultimate in protection.

### Tubing-Side Connection

1. Slide the EXP nut and an EXP ferrule onto the  $\frac{1}{16}$ " tubing. The PEEK end of the ferrule should face away from the nut.
2. Push the tubing into the EXP holder cap. Keep the tubing fully bottomed in the holder cap and tighten the nut by hand.
3. Continue to keep the tubing fully bottomed in the holder cap and use a  $\frac{1}{4}$ " wrench to tighten the nut an additional  $\frac{1}{4}$  –  $\frac{1}{2}$  turn past hand-tight. Your connection is now rated to 20,000+ psi (1400 bar).

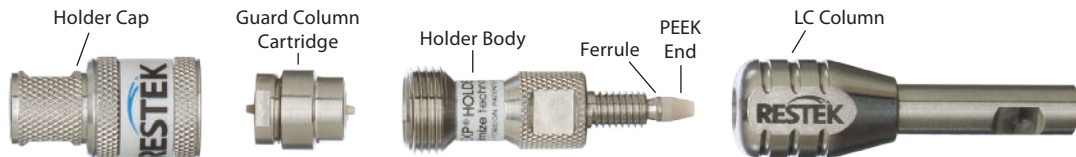
**NOTE:** Replace the nut with an EXP hand-tight fitting (cat.#25937 or 25938) for a tool-free installation.



### Column-Side Connection

4. Slide an EXP ferrule into the front end of the EXP holder body so that the PEEK end of the ferrule is facing away from the holder body.
5. Thread the holder body into the Restek LC column to the point of initial resistance. Push the holder body into the column and fully tighten by hand. Your connection is now rated to 8700+ psi (600+ bar).
6. For a 20,000+ psi (1400 bar) connection, continue to push the holder body into the column and use a  $\frac{5}{16}$ " wrench to tighten the holder body an additional  $\frac{1}{4}$  –  $\frac{1}{2}$  turn past hand tight.

**NOTE:** The PEEK end of the EXP ferrule will deform from repeated excessive tightening, but the resulting UHPLC connection will still perform well. For best results, tighten a maximum of  $\frac{1}{4}$  –  $\frac{1}{2}$  turn past hand tight.



### Guard Column Cartridge Installation

7. Insert the unidirectional Restek guard column cartridge (sold separately) into the holder body.
8. Screw the holder cap onto the holder body and fully tighten by hand (about  $\frac{1}{8}$ -turn past point of initial resistance). Your connection is now rated to 20,000+ psi (1400 bar).

**NOTE:** Failure to fully hand tighten the holder cap (about  $\frac{1}{8}$ -turn past point of initial resistance) may result in leakage or damage to the guard column cartridge.

### Guard Column Cartridge Replacement

9. To replace the Restek guard column cartridge, simply unscrew the holder cap by hand, insert a new cartridge, replace the holder cap, and fully tighten the holder cap by hand.