

## to replace cartridge

1. Unscrew holder cap by hand.
2. Insert new cartridge.
3. Screw holder cap onto holder body and tighten fully by hand.

For other EXP products, including fittings, holders, and cartridges, please visit [optimizetech.com](http://optimizetech.com).

Application notes and product literature are also available at [optimizetech.com](http://optimizetech.com).

Please contact Optimize Technologies with any questions about the EXP products.



## ordering information

EXP Guard and Trap Cartridges are available in a number of different chemistries.

Please visit [optimizetech.com](http://optimizetech.com) for a complete product listing.

**Custom packing is a specialty. If you do not see the phases you require, please contact us to discuss alternatives.**

Optimize Technologies EXP Holders;  
U.S. Patent No. 8696902 & 8201854  
Foreign Patents Pending

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# EXP<sup>®</sup>

## direct connect holder



**instructions**

## how it works

Thank you for purchasing the Optimize EXP line of UHPLC hardware. The EXP products represent the latest in fittings and column protection technology to meet the demands of extreme pressure while reducing extra column effects.

The EXP Hardware from Optimize Technologies are designed for UHPLC pressure requirements up to 20,000 psi (1,400 bar). Optimize EXP hardware provides repeated ZDV (zero dead volume) connections to various 10-32 column and port types, including Optimize, Valco, Parker, Swagelok, Rheodyne, Upchurch, etc.

The EXP ferrule forms a swage when tightened onto 1/16" stainless tubing, which releases when the nut is unthreaded from the EXP holder inlet or 10-32 port. The EXP Fittings and EXP Holder system are robust and intended for many repeat connections. The EXP Ferrule is resistant to damage from excessive tightening; however, the PEEK end will deform from repeated excessive tightening. Deformation generally doesn't affect subsequent UHPLC connections as the EXP ferrules are designed to be adjusted and re-used many times. For best results, tighten a maximum of 1/2 turn past hand tight. Extreme over-tightening can result in the ferrule becoming jammed into the port.

**WARNING:** Use the EXP Ferrule with genuine Optimize EXP Nuts and EXP Holders only. Failure to use EXP items according to these instructions may result in leaks or unsafe UHPLC connections with dead volume.

## HOLDER INSTALLATION

1. Slide one EXP Ferrule onto front end of holder.

The PEEK end of the ferrule faces into the 10-32 port.



2. Thread holder body into standard 10-32 port to the point of slight resistance. Push holder body forward into port and continue to tighten.

3. Wrench-tighten holder into column 1/4 - 1/2 turn past hand-tight to seat ferrule and tube into port.

## CONNECT THE TUBING

1. Slide the EXP Nut and EXP Ferrule onto the connecting tubing. The PEEK end of the EXP Ferrule faces into the 10-32 port of your EXP holder.

2. Push the tubing into the EXP Holder port and keep it bottomed in the port as the nut is tightened by hand, until it is fully engaged in the female port.



3. While still applying pressure to keep the tubing at the bottom of the port, tighten the EXP Nut or holder 1/2 turn with a wrench.

## MAKING THE UHPLC CONNECTION

1. Insert the EXP uni-directional Guard cartridge into holder body.

2. Screw holder cap onto holder body and tighten fully by hand.



Failure to fully hand tighten the holder cap (about 1/8 turn past point of initial resistance) may result in damage to the cartridge.