

# FLUIDIC & OPTICAL PRODUCTS AND INFORMATION



FLUIDICS

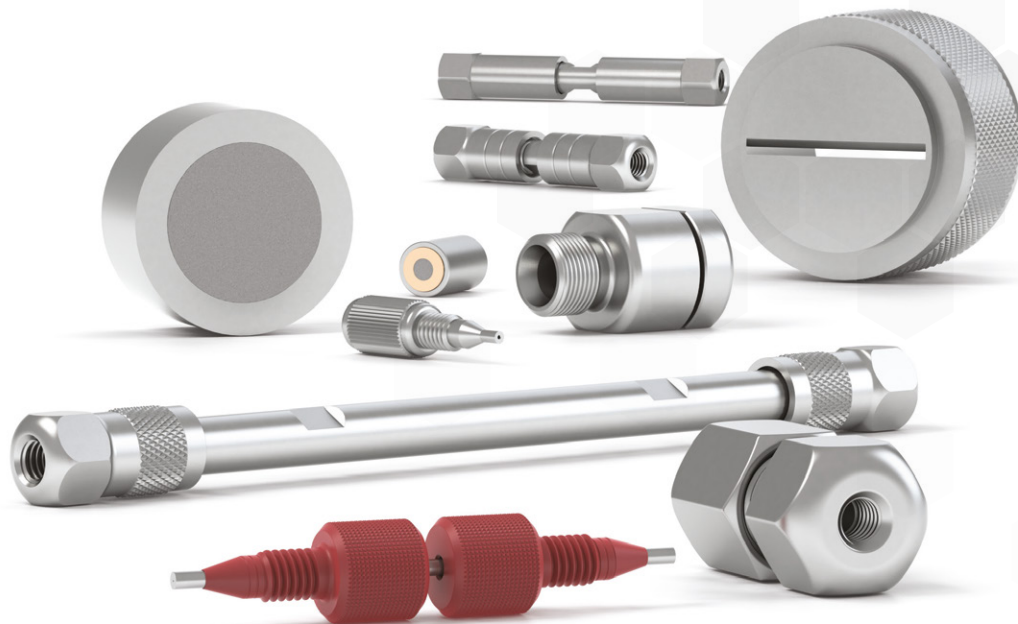
TUBING  
FITTINGS  
CONNECTORS  
FILTERS & FRITS  
VALVES  
DEGASSERS  
COLUMN HARDWARE  
MARVELX  
TUBING KITS

OPTICS

SHUTTERS  
LASERS  
OPTICAL FILTERS  
ROTOR DRIVE SHUTTERS  
DICHROIC BEAMSPLITTERS  
DPSS LASERS

CONED FITTINGS  
FLAT BOTTOM FITTINGS  
UHPLC FITTINGS  
VHP FITTINGS  
DEBUBBLERS  
PLUGS & CAPS  
ACCESSORIES  
FLANGED FITTINGS  
SPECIALTY FITTINGS  
FITTINGS KITS  
LARGE BORE FITTINGS  
HIGH PRESSURE  
FLUOROPOLYMER  
THREADED  
MICROPORT  
MULTI-PORT  
LUER ADAPTERS  
PEEK FRITS  
STAINLESS STEEL  
SILICON FRITS  
SILICON PRESSURE

LABORATORY SHUTTERS  
SOLENOID SHUTTERS  
MULTI-BAND FILTER SETS  
STEPPER MOTOR SHUTTERS  
HELIUM NEON LASERS



## Column Hardware

We offer an extensive line of HPLC and UHPLC Column Hardware that has been optimized to enable selectivity, efficiency, and high-quality separation performance in your flow paths. To browse the full line of our column hardware portfolio please visit: [www.idex-hs.com/column-hardware.html](http://www.idex-hs.com/column-hardware.html)

- › Biocompatible materials for LC and UHPLC columns
- › Accessories for column protection and packing

Our line of column hardware includes protective accessories and connection products that enhance column functionality. Our columns come in a variety of sizes and materials to meet your system requirement.

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GUARD HARDWARE

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GUARD COLUMNS



# Guard Hardware

Our Guard Hardware portfolio offers a variety of guard cartridges and holders to meet your system requirements. These include guards, guard holders, analytical cartridges, and tools designed to protect your system's valuable columns and help ensure high performance and excellent retention time.



## Prep Scale Guard Holders

- › 21.2 mm and 30 mm ID column protection
- › Improves plate count and symmetry
- › New anti-rotation feature aids guard holder assembly

Iso-Prep™ Guard is a guard cartridge system designed to protect valuable prep columns. It offers superior column protection for adsorptive samples and a proven sample distribution mechanism via a precision machined holder. Iso-Prep Guard is ideal for protecting prep columns with no degradation of peak shape or plate count.

The high-performance guard protects columns in two ways. First, it acts as a filter, trapping particles in the frits. Second, when the guard cartridge is packed with the same material as the prep column, it removes compounds that irreversibly adsorb to the packing material.



## Tools

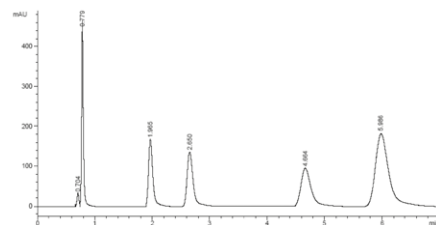
Our tools includes the Iso-Prep Guard Scraper that is specifically designed as a tool used to dress a cartridge upon packing in order to set the frit at the correct depth.



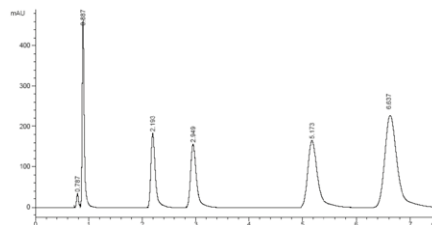
## APPLICATION NOTE

- › 60:40 Acetonitrile:Water
- › 50 mL/min
- › Kromasil 10  $\mu$ m C18
- › Backpressure: 100 psi (7 bar)

### 10 $\mu$ C18 100 x 21.2 mm, 60:40 Acetonitrile:Water, 20 mL/min

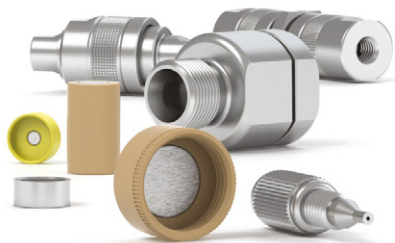


Without Iso-Prep Guard — 38,150 Plates/M 1.24 As



With Iso-Prep Guard — 41,920 Plates/M 1.20 As

Part No.	Description	Qty.
<b>PREP SCALE GUARD HOLDERS</b>		
9197-P	Iso-Prep Guard Holder	ea.
9197-P-AR	Iso-Prep Guard Holder, 21.2mm, Anti Rotation	ea.
9197-20	Iso-Prep Guard Cartridge, 21.2 mm x 1 cm, 1 Frit	ea.
9196-P	Iso-Prep Guard Holder, 30 mm	ea.
9196-P-AR	Iso-Prep Guard Holder, 30 mm, Anti Rotation	ea.
9196-20	Iso-Prep Guard Cartridge, 30 mm x 1 cm, 2 $\mu$ m Frit	ea.
8083-MOD	Iso-Prep Guard, 30 mm Frit, 2 $\mu$ m	ea.
<b>TOOLS</b>		
9197-S	Iso-Prep Guard Finishing Tool	ea.
9196-S	Iso-Prep Guard Finishing Tool, 30 mm	ea.



# Guard Columns

We offer wide selection of pre-packed, cartridge style guard columns in addition to pack-it-yourself hardware. There are options for micro flow applications as well as analytical-scale applications. These guard columns can be immediately implemented into a system for your convenience.



## Guard Column Kits

- › 100% biocompatible flow path
- › Pressure rated to 4,000 psi (276 bar)
- › Wetted materials are Titanium and PEEK
- › Reusable holder complete with fingertight fittings



Insert one of our analytical guard columns between the injection valve and column of your HPLC system to extend the life of your column and help ensure reproducible results. Convenient, prepacked PEEK polymer cartridges complete the system and are available in a variety of bonded phases to match your column chemistry held in place by Titanium frits.

The C-270 Stainless Steel Guard Column Holder is engineered for high-pressure applications to 4,000 psi (276 bar). Each of these holders is surface treated to prevent galling\*, a potential problem with threaded metal parts.

The flow path of the C-270 Guard Column Holder is biocompatible. Each comes complete with fittings for 1/16" OD tubing, and can be used with any of the C-28X or C-7XX guard column cartridges listed on the following pages.

\*Galling is a form of "cold welding." When two fittings manufactured from the same metal are wrench-tightened too tightly, they can "weld" together, making it virtually impossible to separate the two components.



## Microbore Guard Columns

- › Ideal for Microbore HPLC
- › Easily dry packed (or slurry packed with adapter)
- › Made of PEEK polymer and stainless steel

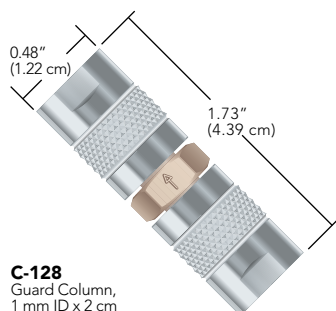
This ultralow volume guard column (1.0 mm ID x 2 cm length) is ideal for narrow-bore chromatography. The unpacked guard column allows you to exactly match the chemistry of your column, resulting in optimum column protection. The total packing volume of 16.2  $\mu\text{L}$  ensures maximum column efficiency and analytical column protection.

Frits often become plugged before a guard column is contaminated. The two 0.5  $\mu\text{m}$  frits included with this guard column can be changed in minutes. Optional 2  $\mu\text{m}$  frits may be purchased separately (C-408).



## SPECIFICATIONS & DETAILS

**Packing Material Specifications:**  
The cartridges on this page are packed with 5  $\mu\text{m}$  or 10  $\mu\text{m}$  base-deactivated 80 Å spherical silica.



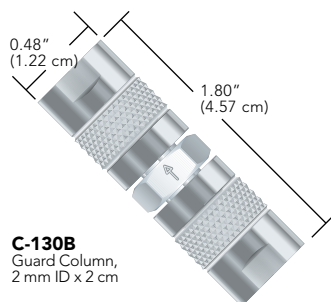
**C-128**  
Guard Column,  
1 mm ID x 2 cm



## Analytical Guard Columns

- › Easy to pack

The C-130B is our most popular guard column. HPLC users find this column easy to pack and extremely economical. This narrow-bore short column (2.0 mm ID x 2 cm length) creates only a slight pressure increase with virtually no detectable theoretical plate loss when used with a 3 mm ID or larger column. The 2  $\mu$ m frits are easy to change, prolonging the life of the guard column. With only 62  $\mu$ L packing volume per guard column, a 3 g bottle of packing material will pack about 30 guard columns.



**C-130B**  
Guard Column,  
2 mm ID x 2 cm

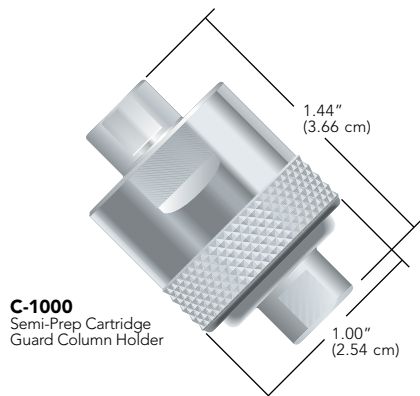


## Guard Column Holders

- › 10 mm ID column protection
- › Convenient cartridge system
- › Easy to pack

The internal volume of our semi-prep guard column is just 780  $\mu$ L, which only requires approximately 1.50 g of packing material — ideally the same material used in your semi-prep column. The C-1000 Holder will hold to high pressures, and is specially treated to prevent galling\*. Use standard 10-32 coned fittings (not included) to connect your 1/16" OD tubing.

*\* Galling is a form of "cold welding." When two fittings manufactured from the same metal are wrench-tightened too tightly, they can "weld" together, making it virtually impossible to separate the two components.*



**C-1000**  
Semi-Prep Cartridge  
Guard Column Holder



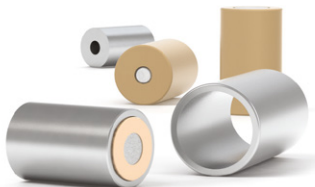
**C-1000 Semi-Prep Guard Column**  
Fittings, tubing, and column shown are not included.

## Guard Columns (Cont.)



### Accessories

Our accessories include packing adapters and seal, packing funnels, and other useful products to work with your column systems.



### Guard Column Cartridges

Our biocompatible Guard Column Cartridges are conveniently prepackaged and are offered in multiple packs. We offer these cartridges in a variety of bonded phases to match your column chemistry. These cartridges are reusable and economical.



### APPLICATION NOTE

#### Why Use A Guard Column?

A guard column can increase the life of your analytical column significantly. Use a guard column with the same packing as your column — it will act as a chemical filter, removing strongly retained materials in your sample that might otherwise contaminate your analytical column. And, it is more economical to replace a guard column cartridge than to buy a new analytical column.



### RELATED PRODUCTS

- › All Guard Columns featured on this page include 10-32 Coned threads. Use any of the 10-32 coned fittings starting on page 32 to connect tubing to these guard columns.



### APPLICATION NOTE

#### Signs Indicating the Guard Column Needs to be Changed

- › System pressure build-up
- › Faster than usual retention times
- › Reduced resolution

## Guard Columns

Part No.	Description	Includes	Qty.
<b>GUARD COLUMN KITS</b>			
<b>C-281</b>	2.0 mm ID C18 Cartridges (6-pk) with (1) C-270 Assembly		ea.
<b>MICROBORE GUARD COLUMNS</b>			
<b>1.0 mm ID x 2 cm Unpacked</b>			
<b>C-128</b>	Guard Column	(2) C-128-31	ea.
<b>C-128-31</b>	0.5 µm Stainless Steel Replacement Frit		ea.
<b>C-408</b>	2 µm Stainless Steel Replacement Frit		ea.
<b>ANALYTICAL GUARD COLUMNS</b>			
<b>2.0 mm ID x 2 cm Unpacked</b>			
<b>C-130B</b>	Guard Column	(2) A-100	ea.
<b>C-130-20</b>	Packing Funnel		ea.
<b>A-100</b>	2 µm Stainless Steel Replacement Frit		ea.
<b>A-103</b>	0.5 µm Stainless Steel Replacement Frit		ea.
<b>BIOCOMPATIBLE GUARD COLUMN HOLDERS</b>			
<b>10 mm ID x 1 cm</b>			
<b>C-270</b>	High Pressure, Stainless Steel, with (2) F-200 Fittings, Biocompatible		ea.
<b>GUARD COLUMN HOLDERS</b>			
<b>10 mm ID x 1 cm</b>			
<b>C-1000</b>	Semi-Prep Cartridge Guard Column Holder		ea.
<b>C-1035</b>	Semi-Prep Cartridge		ea.
<b>ACCESSORIES</b>			
<b>C-128-40</b>	Slurry Packing Adapter		ea.
<b>C-130-40</b>	Slurry Packing Adapter		ea.
<b>C-1030</b>	Threaded Frit Cap with 2 µm Stainless Steel Frit		ea.
<b>GUARD COLUMN CARTRIDGES</b>			
<b>2.0 mm ID x 1 cm, 10 µm Silica</b>			
<b>C-282</b>	Reversed Phase C18		10-pk
<b>4.3 mm ID x 1 cm, 5 µm Silica</b>			
<b>C-751</b>	4.3 mm ID C18 Cartridges (6-pk) with (1) C-270 Assembly		ea.
<b>C-752</b>	Reversed Phase C18		10-pk

