

New Semiprep/Preparative Cartridge Guard Columns

- Compatible with 7, 7.8, 10 and 21.5 mm I.D. HAMILTON HPLC columns
- Larger capacity - 4 times the capacity of the analytical guard column
- Reusable holder with economical cartridges
- Deash and deionize carbohydrate samples inline to prolong the life of HC-75 carbohydrate columns

HAMILTON semiprep/preparative cartridge guard columns prolong the life of 7, 10 and 21.5 mm I.D. HPLC columns by removing particulate contaminants and adsorbing dissolved impurities. These guard columns offer an increase in capacity of more than 4 times the existing HAMILTON analytical cartridge guard columns. Back pressure and dead volume are minimized and column protection is maximized with this design. Like HAMILTON analytical guard columns, the semiprep/preparative guard column is modular, cartridge replacement is easy and tool free. The holder for the guard cartridge is reusable indefinitely. As with all guard columns these should be installed after the injection valve and before the column. Product specifications are shown below.

Selecting the Correct Guard Column and Packing

- For columns with internal diameters of 7.0 to 21.5 mm use the Semiprep/preparative Guard Column.
- For columns with internal diameters of 2.1 to 4.6 mm use the Analytical Guard Column (see next page).
- Choose a guard column packing that matches your HPLC Column.
- For ligand exchange, carbohydrate analysis columns, hydrogen and carbonate form ion exchange cartridges are available.



Conditioning the Guard Column

After installing the guard column cartridge into the holder with the flow arrow pointing toward the HPLC column, pump approximately 8 mL of mobile phase through the cartridge before connecting it to the HPLC column.

Sealing the Guard Cartridges

Guard cartridge holders are designed to seal with finger-tight force. If the guard column leaks, loosen the holder and retighten. If the leak persists, remove the cartridge and inspect the cartridge and holder for signs of damage or wear. Replace any damaged or worn parts and reassemble.



Semiprep/Preparative Guard Column Product Specifications

For Stainless Steel HPLC Columns, 7.0 to 21.5 mm I.D.

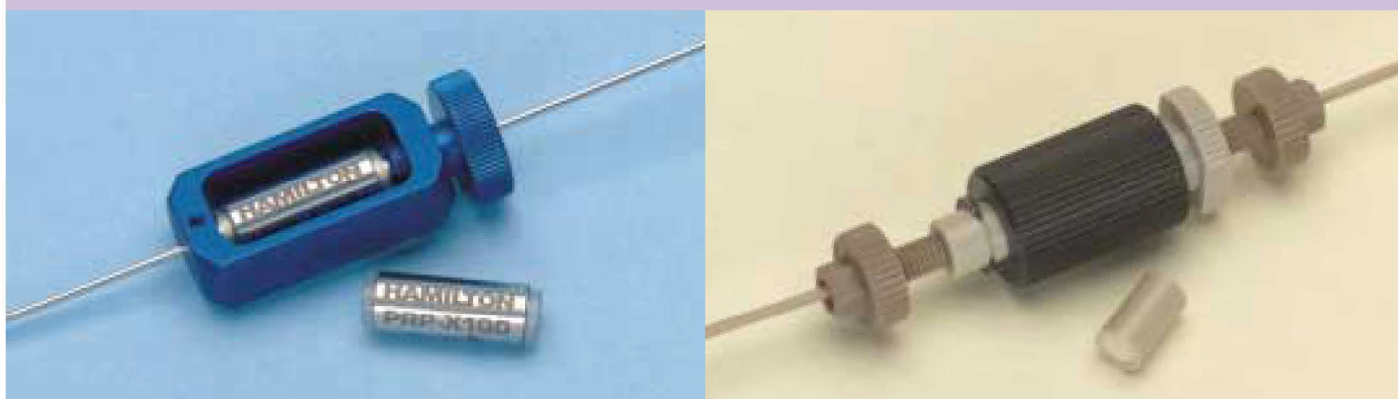
Cartridge Dimension:	20 x 4.6 mm I.D.	Cartridge Packing Material:	As labeled on the cartridge
Cartridge Bed Volume:	317 µL	Particle Size:	12-20 µm for polymeric supports 10 µm for silica supports
Holder Material:	Anodized aluminum	System Pressure Rating:	0-5,000 psi
Connecting Tubing Size and Material:	1/16" O.D., 0.28 mm I.D., 316 stainless steel	Chemical Compatibility:	Recommended for use with virtually all solvents except high concentrations of sodium chloride.
Cartridge Materials:			
Barrel:	CTFE		
Frits:	316 stainless steel		
Sleeve:	304 stainless steel		
Frit Porosity:	2 µm		

Semiprep/Preparative Guard Column Ordering Information

For 7.0, 7.8, 10.0 and 21.5 mm I.D. HPLC Columns

Starter Kits (1 holder, 1 cartridge) 		Replacement Cartridges (2/pack) 	
P/N	Description	P/N	Description
R79121	PRP [®] -1 Starter Kit	R79122	PRP-1 Cartridges
R79123	PRP-3 Starter Kit	R79124	PRP-3 Cartridges
R79125	PRP-X100 Starter Kit	R79126	PRP-X100 Cartridges
R79127	PRP-X200 Starter Kit	R79128	PRP-X200 Cartridges
R79129	PRP-X300 Starter Kit	R79130	PRP-X300 Cartridges
R79131	PRP-X400 Starter Kit	R79132	PRP-X400 Cartridges
R79133	Hydrogen Form Cation Exchange Starter Kit	R79134	Hydrogen Form Cation Exchange Cartridges
R79866	Carbonate Form Anion Exchange Starter Kit	R79865	Carbonate Form Anion Exchange Cartridges
R79135	C-8 Starter Kit	R79136	C-8 Replacement Cartridges
R79137	C-18 Starter Kit	R79138	C-18 Replacement Cartridges

Analytical Cartridge Guard Columns



- Both stainless and “Metal-Free” PEEK designs
- Compatible with any 2.1, 4.1 and 4.6 mm I.D. Hamilton HPLC column
- Optimized to reduce dead volume and prevent extra column band broadening
- Reusable holder with economical cartridges

HAMILTON analytical cartridge guard columns prolong the life of 2.1, 4.1 and 4.6 mm I.D. HPLC columns by removing particulate contaminants and absorbing dissolved impurities. These guard columns are optimized to reduce dead volume and prevent extra column band broadening. With this design, back pressure is minimized and column protection is maximized. Both guard column designs are modular so cartridge replacement is easy and tool free (The cartridge holder is reusable indefinitely). As with all guard columns these should be installed after the injection valve and before the column. Product specifications are shown on the next page for both types of analytical guard columns.

Selecting the Correct Analytical Guard Column and Packing

- For columns with internal diameters of 2.1, 4.1 and 4.6 mm, use an Analytical Guard Column
- For columns with internal diameters of 7.0 to 21.5 mm use the Semi-prep/preparative Guard Column.
- Choose a guard column packing that matches your HPLC Column.
- For columns made of stainless steel, use the guard columns labeled “For Steel Columns”
- For columns made of PEEK use guard columns labeled “For PEEK Columns”

Conditioning the Guard Column

After installing the analytical guard column cartridge into the holder (flow arrow pointing toward the HPLC column), pump approximately 2 mL of mobile phase through the cartridge before connecting it to the HPLC column.

Sealing the Guard Cartridges

Guard cartridge holders are designed to seal with finger-tight force. If the guard column leaks, loosen the holder and retighten. If the leak persists, remove the cartridge and inspect the holder and cartridge for signs of damage or wear. Replace any damaged or worn parts and reassemble.

Note: The analytical and semi-prep/preparative guard column holders for steel columns look similar but are not interchangeable.

Analytical Guard Column Product Specifications

For Stainless Steel HPLC Columns, (2.1 to 4,6 mm I.D.)

Cartridge Dimension:	20 x 2.3 mm I.D.
Cartridge Bed Volume:	78 µL
Housing Material:	Anodized aluminum
Connecting Tubing Size and Material:	1/16" O.D., 0.28 mm I.D., 316 stainless steel
Cartridge Materials:	
Barrel:	CTFE
Frits:	316 stainless steel
Sleeve:	304 stainless steel
Frit Porosity:	2 µm
Cartridge Packing Material:	As labeled on the cartridge
Particle Size:	12-20 µm for polymeric supports 10 µm for silica supports
System Pressure Rating:	0-5,000 psi
Chemical Compatibility:	Recommended for use with virtually all solvents except high concentrations of sodium chloride.

For PEEK HPLC Columns, (2.1 to 4,6 mm I.D.)

Cartridge Dimension:	8.0 x 3.0 mm I.D.
Cartridge Bed Volume:	56 µL
Housing Material:	Polyetheretherketone (PEEK) and Delrin
Connecting Tubing Size and Material:	1/16" O.D., 0.25 mm I.D., PEEK
Cartridge Materials:	
Barrel:	PEEK
Frits:	Ceramic
Frit Porosity:	2 µm
Cartridge Packing Material:	As labeled on package
Particle Size:	12-20 µm for polymeric supports
System Pressure Rating:	0-5,000 psi
Chemical Compatibility:	Recommended for use with virtually all solvents except, concentrated nitric acid, sulfuric acid, tetrahydrofuran or dimethylsulfoxide.

Analytical Guard Column Ordering Information

For 2.1, 4.1 and 4.6 mm I.D. HPLC Columns

Starter Kits (1 holder, 2 cartridges)			Replacement Cartridges (5/pack)		
	For Steel Columns	For PEEK Columns		For Steel Columns	For PEEK Columns
Description			Description		
PRP-1 Starter Kits	R79447	R79317	PRP-1 Cartridges	R79445	R79318
PRP-3 Starter Kits	R79461	R79393	PRP-3 Cartridges	R79454	R79395
PRP-X100 Starter Kits	R79448	R79383	PRP-X100 Cartridges	R79446	R79385
PRP-X110 Starter Kits	R79726	R79727	PRP-X110 Cartridges	R79728	R79729
PRP-X200 Starter Kits	R79456	R79368	PRP-X200 Cartridges	R79449	R79369
PRP-X300 Starter Kits	R79460	R79373	PRP-X300 Cartridges	R79453	R79374
PRP-X400 Starter Kits		R79376	PRP-X400 Cartridges		R79377
PRP-X500 Starter Kits		R79319	PRP-X500 Cartridges		R79320
PRP-X600 Starter Kits		R79361	PRP-X600 Cartridges		R79362
PRP-X700 Starter Kits	R79840	R79841	PRP-X700 Cartridges	R79842	R79843
PRP-X800 Starter Kits	R79830	R79831	PRP-X800 Cartridges	R79832	R79833
RCX-10 Starter Kits	R79462	R79378	RCX-10 Cartridges	R79463	R79379
RCX-30 Starter Kits		R79371	CX-30 Cartridges		R79372
Silica Starter Kits	R79457		Silica Cartridges	R79450	
C-8 Starter Kits	R79458		C-8 Cartridges	R79451	
C-18 Starter Kits	R79459		C-18 Cartridges	R79452	

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HAMILTON offers FREE technical assistance and method development for the columns we manufacture. Contact our HPLC Technical Support at hplc@hamilton.ch or phone +41 81 660 63 31.

You'll also find solutions to many separation challenges on our web site, www.hamiltoncompany.com, as well as product information and technical specifications.

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