



Shannon Rishell, Customer Service

### Restek Customer Service

#### In the U.S.

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Fax: 814-353-1309—24-hours a day

Online: [www.restek.com](http://www.restek.com)—24-hours a day

#### Outside the U.S.

Contact your Restek representative:  
Refer to our list on pages 4-5 or visit our website at [www.restek.com](http://www.restek.com)

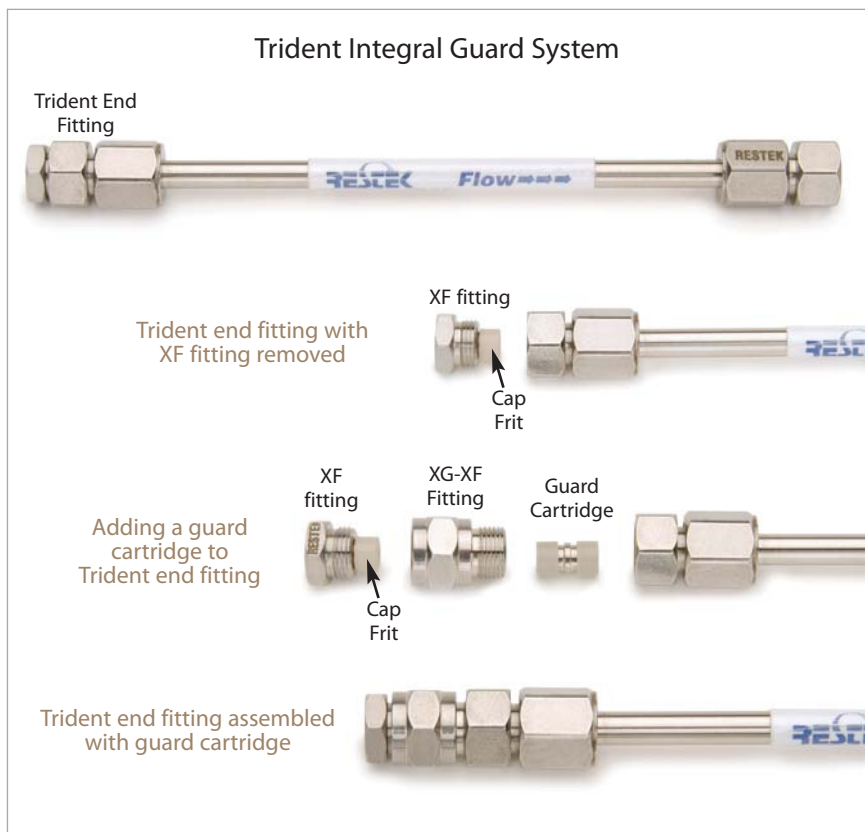
### Restek's Exclusive Trident Integral System

- Convenient and economical leak-free guard cartridge system, extremely easy to install.
- Versatile configuration protects against all levels of contamination.
- Integral design eliminates troublesome tubing connections.

The system's foundation consists of the analytical column configured with our exclusive Trident end fitting and XF fitting. This configuration contains the standard internal frit as well as a replaceable cap frit, which easily can be changed without disturbing the packed bed. Changing the external frit can reverse the effects of accumulated particles, such as high backpressure or peak distortion. To obtain this basic configuration, simply order any Restek HPLC column, and add the suffix -700 to the catalog number for the column. (Nominal additional charge.)

For maximum protection against contaminants and particulate matter, the system can be configured with an integral guard cartridge holder (XG-XF), a guard cartridge, and a replaceable external frit. To obtain this configuration, simply order any Restek HPLC column, add the suffix -700 to the catalog number for the column, and order the appropriate XG-XF male fitting (cat.# 25026 or 25062) and Trident guard cartridges. See page 198.

Description	qty.	cat.#
XG-XF Fitting for 10mm Guard Cartridge	ea.	25026
XG-XF Fitting for 20mm Guard Cartridge	ea.	25062
Replacement XF Filter Fitting	ea.	25024
Replacement Cap Frits: 4mm 2.0µm	5-pk.	25022
Replacement Cap Frits: 4mm 0.5µm	5-pk.	25023
Replacement Cap Frits: 2mm 2.0µm	5-pk.	25057
Replacement Cap Frits: 2mm 0.5µm	5-pk.	25990



### Trident Direct Guard Cartridge System

Easy to Use, Low Dead Volume—The Ultimate Combination of Convenience and Column Protection

Unlike “one size fits all” guard systems, the Trident Direct system gives you the power to select the right level of protection for your analysis. The system offers three levels of protection and guard cartridges in four dimensions, with a variety of bonded phases to match your analytical column. The economical, leak-free cartridge design provides an unprecedented combination of convenience, economy, and reliability. The foundation of the Trident Direct system is a reusable direct connect holder that easily attaches to any HPLC column using CPI- or Waters-style end fittings.\* The system is available in configurations to match different protection level needs: in-line filter, in-line filter with holder for 10mm guard cartridge, and in-line filter with holder for 20mm guard cartridge. The guard cartridges are available in 2.1 and 4.0mm ID and are interchangeable within the appropriate length holder.



25082  
Protection against  
particulate matter.



25084  
Protection against particulate  
matter and moderate protection  
against irreversibly adsorbed  
compounds.



25086  
Protection against particulate  
matter and maximum  
protection against irreversibly  
adsorbed compounds.

#### Description

Description	qty.	cat.#
High-pressure filter	ea.	25082
10mm guard cartridge holder without filter	ea.	25083
10mm guard cartridge holder with filter	ea.	25084
20mm guard cartridge holder without filter	ea.	25085
20mm guard cartridge holder with filter	ea.	25086
Connection tip for Waters-style end fittings	ea.	25088
PEEK tip standard fittings	ea.	25087
Replacement Cap Frits: 4mm 2.0µm	5-pk.	25022
Replacement Cap Frits: 4mm 0.5µm	5-pk.	25023
Replacement Cap Frits: 2mm 2.0µm	5-pk.	25057
Replacement Cap Frits: 2mm 0.5µm	5-pk.	25990

\*The standard PEEK tip in Trident Direct systems is compatible with Parker, Upchurch Scientific, Valco, and other CPI-style fittings. To use Trident Direct systems with Waters-style end fittings, replace the tip with cat.# 25088.

### Trident HPLC In-Line Guard Cartridge Holders

A Trident in-line guard cartridge holder can be used with almost any HPLC column by connecting it with a short piece of 1/16" tubing, appropriate nuts and ferrules, or finger-tight fittings. The system can be used with Restek columns, or with columns from other manufacturers. Holders are available for either 10mm or 20mm guard cartridges. Either size can be purchased with or without a prefilter, which provides added protection against the particles that can shorten the lifetime of the guard cartridge.



25021



25040



25061



25060

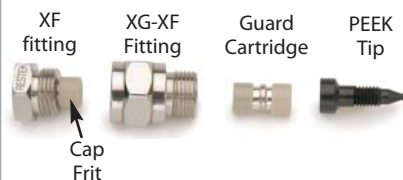
#### Description

Description	qty.	cat.#
Holder for 10mm guard cartridge	ea.	25021
Holder with filter for 10mm guard cartridge	ea.	25040
Holder for 20mm guard cartridge	ea.	25061
Holder with filter for 20mm guard cartridge	ea.	25060
Replacement Cap Frits: 4mm 2.0µm**	5-pk.	25022
Replacement Cap Frits: 4mm 0.5µm	5-pk.	25023
Replacement Cap Frits: 2mm 2.0µm**	5-pk.	25057
Replacement Cap Frits: 2mm 0.5µm	5-pk.	25990

\*\*Standard porosity.

### Trident Direct 10mm guard cartridge holder with filter

#### Components



#### Assembled



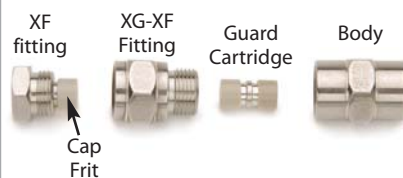
#### Installed onto column



Cap frits

### Trident In-Line 10mm guard cartridge holder with filter

#### Components



#### Assembled



#### Installed onto column





10 &amp; 20 mm Guard Cartridges

## Trident HPLC Guard Cartridges

Guard Cartridges	3-pk. (10 x 2.1mm)	3-pk. (10 x 4.0mm)	2-pk. (20 x 2.1mm)	2-pk. (20 x 4.0mm)
Allure AK Guard Cartridge	—	915950210	—	—
Allure Basix Guard Cartridge	916150212	916150210	916150222	916150220
Allure C18 Guard Cartridge	916450212	916450210	916450222	916450220
Allure PFP Propyl Guard Cartridge	916950212	916950210	916950222	916950220
Allure Silica Guard Cartridge	916050212	916050210	916050222	916050220
Allure Organic Acids Guard Cartridge	916550212	916550210	916550222	916550220
Allure Aqueous C18 Guard Cartridge	916850212	916850210	916850222	916850220
Allure Biphenyl Guard Cartridge	916650212	916650210	916650222	916650220
Pinnacle II Amino Guard Cartridge	921750212	921750210	921750222	921750220
Pinnacle II C8 Guard Cartridge	921350212	921350210	921350222	921350220
Pinnacle II C18 Guard Cartridge	921450212	921450210	921450222	921450220
Pinnacle II Cyano Guard Cartridge	921650212	921650210	921650222	921650220
Pinnacle II PAH Guard Cartridge	921950212	921950210	921950222	921950220
Pinnacle II Phenyl Guard Cartridge	921550212	921550210	921550222	921550220
Pinnacle II Biphenyl Guard Cartridge	—	920950210	—	920950220
Pinnacle II Silica Guard Cartridge	921050212	921050210	921050222	921050220
Pinnacle DB C8 Guard Cartridge	941350212	941350210	941350222	941350220
Pinnacle DB C18 Guard Cartridge	941450212	941450210	941450222	941450220
Pinnacle DB Aqueous C18 Guard Cartridge	941850212	941850210	941850222	941850220
Pinnacle DB Biphenyl Guard Cartridge	940950212	940950210	940950222	940950220
Pinnacle DB PFP Propyl Guard Cartridge	941950212	941950210	941950222	941950220
Pinnacle DB Cyano Guard Cartridge	941650212	941650210	941650222	941650220
Pinnacle DB Phenyl Guard Cartridge	941550212	941550210	941550222	941550220
Pinnacle DB Silica Guard Cartridge	941050212	941050210	941050222	941050220
Ultra II Aromax Guard Cartridge	960750212	960750210	960750222	960750220
Ultra II Biphenyl Guard Cartridge	960950212	960950210	960950222	960950220
Ultra II C8 Guard Cartridge	960350212	960350210	960350222	960350220
Ultra II C18 Guard Cartridge	960450212	960450210	960450222	960450220
Ultra II Aqueous C18 Guard Cartridge	960850212	960850210	960850222	960850220
Ultra II Carbamate Guard Cartridge	961150212	961150210	961150222	961150220
Ultra II IBD Guard Cartridge	960550212	960550210	960550222	960550220
Ultra II PFP Propyl Guard Cartridge	960650212	960650210	960650222	960650220
Ultra II Silica Guard Cartridge	960050212	960050210	960050222	960050220
Ultra Amino Guard Cartridge	910750212	910750210	910750222	910750220
Ultra Aqueous C18 Guard Cartridge	917850212	917850210	917850222	917850220
Ultra C1 Guard Cartridge	910150212	910150210	910150222	910150220
Ultra C4 Guard Cartridge	910250212	910250210	910250222	910250220
Ultra C8 Guard Cartridge	910350212	910350210	910350222	910350220
Ultra C18 Guard Cartridge	917450212	917450210	917450222	917450220
Ultra Carbamate Guard Cartridge	917750212	917750210	917750222	917750220
Ultra Cyano Guard Cartridge	910650212	910650210	910650222	910650220
Ultra IBD Guard Cartridge	917550212	917550210	917550222	917550220
Ultra PFP Guard Cartridge	917650212	917650210	917650222	917650220
Ultra Phenyl Guard Cartridge	910550212	910550210	910550222	910550220
Ultra Silica Guard Cartridge	910050212	910050210	910050222	910050220
Ultra Quat Guard Cartridge	918150212	918150210	918150222	918150220
Viva C18 Guard Cartridge	951450212	951450210	951450222	951450220
Viva C8 Guard Cartridge	951350212	951350210	951350222	951350220
Viva C4 Guard Cartridge	951250212	951250210	951250222	951250220
Viva PFP Propyl Guard Cartridge	951950212	951950210	951950222	951950220
Viva Biphenyl Guard Cartridge	951650212	951650210	951650222	951650220
Viva Silica Guard Cartridge	951050212	951050210	951050222	951050220



**HPLC Normal Phase Test Mix #1** (4 components)

Routine analysis using this mix can assist in determining the need to perform column and/or system maintenance.

benzene	1.00mg/mL	benzyl alcohol	3.00
benzaldehyde	0.04	4-methoxybenzyl alcohol	2.00

In hexane, 1mL/ampul

cat. # 35004 (ea.)

No data pack available.

**HPLC Reversed Phase Test Mix #1** (4 components)

Routine analysis using this mix can assist in determining the need to perform column and/or system maintenance.

benzene	3.00mg/mL	naphthalene	0.50
uracil	0.02	biphenyl	0.06

In methanol:water (75:25), 1mL/ampul

cat. # 35005 (ea.)

No data pack available.

**HPLC Performance Test Mix** (5 components)

The National Institute of Standards and Technology (NIST) has formulated a mixture that is highly effective for characterizing HPLC columns for efficiency, void volume, methylene selectivity, retentiveness, and activity toward chelators and organic bases. Results can be used for column classification, for column selection, for monitoring column performance over time, or for quality control. We test our material against the NIST 870 standard.

amitriptyline hydrochloride	2,800µg/mL	quinizarin	94
ethylbenzene	1,700	toluene	1,400
		uracil	28

In methanol, 1mL/ampul

cat. # 31699 (ea.)

**Carbohydrate HPLC Performance Check Mix** (5 components)

Performance qualification (PQ) determines the precision of the HPLC system. Our performance check mix for HPLC/RI consists of five simple sugars in varied concentrations. We prepare the reference material in water, lyophilize it, and pack it dry for enhanced stability.

glucose	2.0mg	maltose	4.5
fructose	2.1	sucrose	4.0
lactose	4.4		

Dry components in 4mL screw-cap vial. Reconstitute in 1mL acetonitrile:water (75:25) to 2.0, 2.1, 4.4, 4.5, 4.0mg/mL, respectively.

cat. # 31809 (ea.)

No data pack available.

**HPLC OQ Linearity Test Mix Kit**

Linear detector responses to concentration variations are an important part of operation qualification (OQ) for HPLC instruments. Our kit of five aqueous solutions of caffeine can be used to generate simple plots of UV response versus concentration. Certificate of Analysis includes caffeine concentration, calculated variance in preparing each mixture, a linearity plot, and coefficient of determination ( $r^2$ ) for the linear plot.

Caffeine at 5, 25, 125, 250, 500µg/mL in water in a five ampul kit.

cat. # 31805 (kit)

No data pack available.



**Ultra Quat Reagent Solution**

Use with Ultra Quat HPLC column. Dilute to 1 liter, per instructions.

In water, 20mL/bottle

cat. # 32441 (ea.)



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