

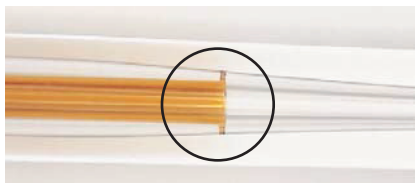
Restek Press-Tight® Connectors

Press-Tight® connectors are lightweight, quickly installed, and easy to use. They connect fused silica tubing having outside diameters ranging from 0.33 to 0.74 mm (Restek® 0.1 to 0.53 mm ID). Press-Tight® connectors do not cause solvent tailing, or adsorb active compounds.

Press-Tight® connectors most often are used to connect a guard column to an analytical column. They also are used to connect columns differing in polarity, for unique separations, or to repair a broken column.



Make a clean, square cut for optimum connector performance. The cut on the right will produce a poor seal.



A brown ring indicates a proper seal.

Obtaining a leak-tight seal:

To achieve optimum performance from these connectors, begin with a properly cut fused silica column or retention gap end. Even if you use polyimide resin (cat.# 20445, page 228) for extra insurance, a poorly cut capillary column will make an inadequate seal.

Press the cut ends into the connector, then establish a flow, and leak-check the seal with a Restek® electronic leak detector (cat.# 22655, page 220) before heating the system.

What is the maximum temperature for a Press-Tight® connector?

Press-Tight® connectors are effective at oven temperatures up to 325 °C, the temperature at which the polyimide coating on the column decomposes and the connection will begin to leak. We strongly recommend using a Vu2 Union® (page 229) or SeCure® “Y” (page 230) connector if oven temperatures will exceed 325 °C for prolonged periods of time.

Can Press-Tight® connectors be used with MXT® columns?

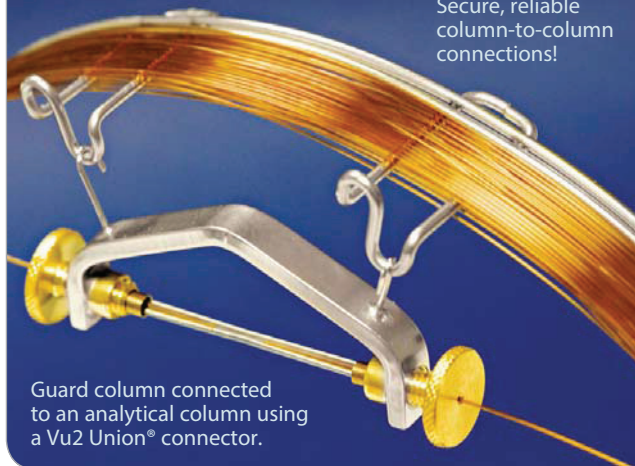
No. To achieve a leak-tight fused silica to stainless steel connection, we recommend an MXT® connector (see page 231).



Our attention to detail is why Restek® products are known for quality and reliability.

Let Restek Make the Connection!

Secure, reliable column-to-column connections!



Guard column connected to an analytical column using a Vu2 Union® connector.

Restek will connect a guard column/transfer line to any analytical column, using a Vu2 Union® connector. We will leak-check the connection and confirm analytical integrity by analyzing a test mixture. To order a preconnected guard column/transfer line, add the three-digit suffix from the chart below to any analytical column catalog number. Example: A 5 m, 0.32 mm ID guard column connected to a 30 m, 0.32 mm ID, 1.0 µm Rtx®-5 column is cat.# 10254-163.

5m Guard Column ID	cat.# suffix	Additional Cost*
0.15 mm	-160	
0.18 mm	-161	
0.25 mm	-162	
0.32 mm	-163	
0.53 mm	-164	
10m Guard Column ID	cat.# suffix	Additional Cost*
0.25 mm	-165	
0.32 mm	-166	
0.53 mm	-167	

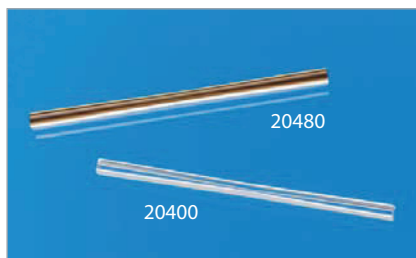
*Additional cost will be added to the price of the column.

Guard columns listed are intermediate polarity (IP) deactivated.

For more information about guard columns, see pages 18–19.

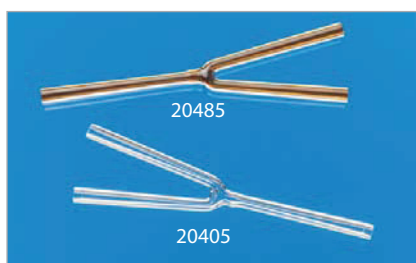
Press-Tight® Connectors

- Deactivated Press-Tight® connectors maintain complete inertness along the GC flow path.
- Siltek®-deactivated connectors are ideal for organochlorine pesticides analysis.
- Fit 0.33–0.74 mm OD columns (Restek® 0.1–0.53 mm ID).

**Universal Press-Tight® Connectors**

- Connect a guard column to an analytical column.
- Repair a broken column.
- Connect a column outlet to a transfer line.

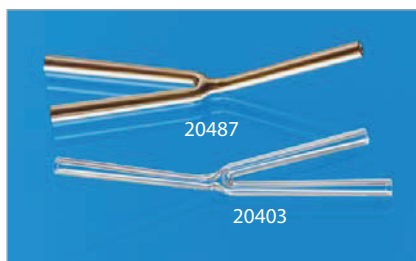
Description	5-pk.	25-pk.	100-pk.
Universal Press-Tight Connectors	20400	20401	20402
Universal Press-Tight Connectors, Deactivated	20429	20430	—
Universal Press-Tight Connectors, Siltek Deactivated	20480	20449	—

**Universal “Y” Press-Tight® Connectors**

An alternative method of performing dual-column confirmational analyses!

- Split sample flow onto two columns—perform confirmation analysis with a single injection.
- Split a single column flow to two detectors.

Description	ea.	3-pk.
Universal “Y” Press-Tight Connector	20405	20406
Universal “Y” Press-Tight Connector, Deactivated	20405-261	20406-261
Universal “Y” Press-Tight Connector, Siltek Deactivated	20485	20486

**Universal Angled “Y” Press-Tight® Connectors**

- Perform confirmation analysis with a single injection.
- Inlet and outlet ends conform to the column curvature—alleviates column-end connection strain.

Description	ea.	3-pk.
Universal Angled “Y” Press-Tight Connector	20403	20404
Universal Angled “Y” Press-Tight Connector, Deactivated	20403-261	20404-261
Universal Angled “Y” Press-Tight Connector, Siltek Deactivated	20487	20469

**Polyimide Resin**

Securely connects a Press-Tight® connector to a fused silica column.

Description	Max. Temp.	qty.	cat.#
Polyimide Resin	350 °C	5 grams	20445

Vu2 Union® Connectors

- Connect a guard column to an analytical column.
- Connect a column to a transfer line.
- Connect two columns in series.
- Repair a broken column.
- Fit both Restek® cage designs.

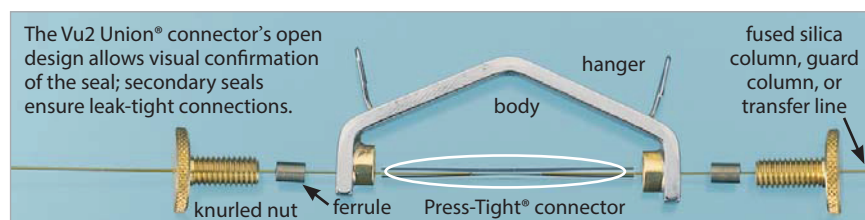
Restek's Vu2 Union® connector combines the simplicity of a Press-Tight® union with the strength of a metal union.

How does a Vu2 Union® connector work?

A Press-Tight® union in the Vu2 Union® connector joins the fused silica tubing ends together; the ferrule and knurled nut at each end of the connector hold the tubing in place via a secondary seal between the ferrule and the Press-Tight® union. Each knurled nut applies independent pressure to each ferrule to make leak-tight seals with the column ends. These ultra-strong connections will not unexpectedly disconnect under temperature changes, vibrations, or other stresses normally encountered in GC analyses. The open design allows visual confirmation of the seal between the column and the Press-Tight® union to ensure confidence in the connection. Hang the connector from the column cage to minimize stress on the connections.

Who will benefit from using Vu2 Union® connectors?

Any analyst using guard columns, transfer lines, or restrictor tubing; performing a dual-column analysis with columns connected in series; or seeking to repair a broken column will find Vu2 Union® connectors the simple, reliable, easy-to-use solution to their connection needs.



Kits include: Vu2 Union® body, two knurled nuts, two Press-Tight® unions, and four ferrules

Description	Ferrules Fit Column ID	qty.	cat.#
Vu2 Union Connector Kit	0.10–0.15 mm	kit	22220
Vu2 Union Connector Kit	0.18–0.28 mm	kit	21105
Vu2 Union Connector Kit	0.32 mm	kit	21106
Vu2 Union Connector Kit	0.45–0.53 mm	kit	21107
Knurled Nut		2-pk.	21108

Universal Press-Tight® Connectors

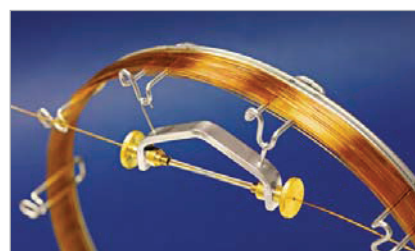
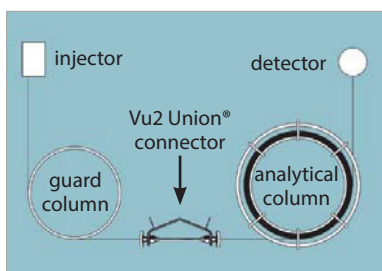
Description	5-pk.	25-pk.	100-pk.
Universal Press-Tight Connectors	20400	20401	20402
Universal Press-Tight Connectors, Deactivated	20429	20430	—
Universal Press-Tight Connectors, Siltek Deactivated	20480	20449	—

Graphite Ferrules for Vu2 Union® Connectors

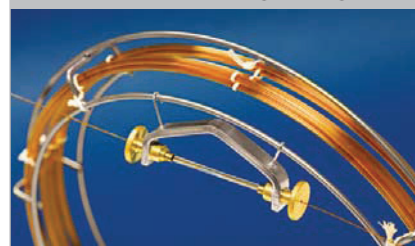
- High-purity, high-density graphite.
- Stable to 450 °C.
- No binders that can off-gas or adsorb analytes.
- Smooth surface and clean edges.

Ferrule ID	Fits Column ID	Graphite 2-pk.	Graphite 10-pk.
0.3 mm	0.10–0.15 mm	22221	22222
0.4 mm	0.18–0.28 mm	20280	20281
0.5 mm	0.32 mm	20282	20283
0.8 mm	0.45–0.53 mm	20284	20285

A guard column connected to an analytical column by a Vu2 Union® connector.

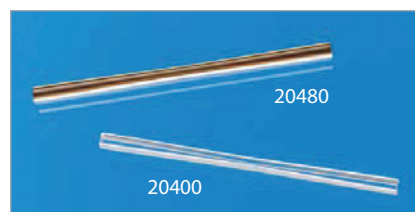


Fit both Restek® cage designs.



Secure, reliable
column-to-column
connections!

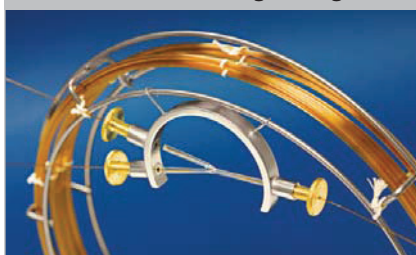
NOTE: This product is not recommended for GC column-to-MS connections.



Connectors



Fit both Restek® cage designs.

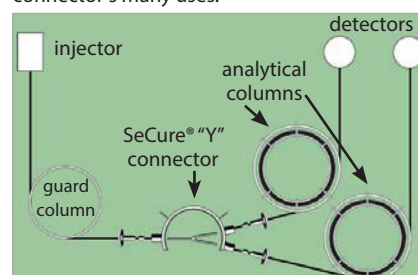
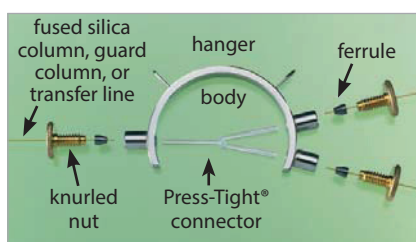
**SeCure® “Y” Connector Kits**

- Connect two analytical columns to a transfer line or guard column.
- Use standard “Y” Press-Tight® connectors and 1/16” graphite ferrules.
- Reliable seal integrity—will not unexpectedly disconnect during temperature-programmed analyses.
- Open design allows visual confirmation of the seal for added confidence in the connection.
- Fit both Restek® cage designs.

Combine the simplicity of a “Y” Press-Tight® connector with the strength of a metal union. The ferrules and knurled nuts hold the fused silica tubing in place, which prevents the tubing from unexpectedly disconnecting, even at temperatures as high as 400 °C.

The SeCure® “Y” connector’s open design allows visual confirmation of the seal.

Dual-column confirmational analysis with a single injection—one of the SeCure® “Y” connector’s many uses.



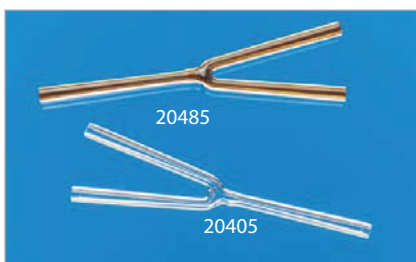
Kits include: SeCure® “Y” connector body, three knurled nuts, universal “Y” Press-Tight® union, three ferrules.

Description	Ferrules Fit Column ID	qty.	cat.#
SeCure “Y” Connector Kit	0.18/0.25/0.28 mm	kit	20276
SeCure “Y” Connector Kit	0.32 mm	kit	20277
SeCure “Y” Connector Kit	0.45/0.53 mm	kit	20278
Knurled Nut		3-pk.	20279

Universal “Y” Press-Tight® Connectors

An alternative method of performing dual-column confirmational analyses!

- Split sample flow onto two columns—perform confirmation analysis with a single injection.
- Split a single column flow to two detectors.
- Deactivated Press-Tight® connectors maintain complete inertness along the GC flow path.
- Siltek®-deactivated connectors are ideal for organochlorine pesticides analysis.
- Fit 0.33–0.74 mm OD columns (Restek® 0.1–0.53 mm ID).



Description	ea.	3-pk.
Universal “Y” Press-Tight Connector	20405	20406
Universal “Y” Press-Tight Connector, Deactivated	20405-261	20406-261
Universal “Y” Press-Tight Connector, Siltek Deactivated	20485	20486

Graphite Ferrules for SeCure® “Y” Connectors

- Preconditioned to minimize out-gassing.
- High-purity, high-density graphite.
- Stable to 450 °C.
- No binders that can off-gas or adsorb analytes.
- Smooth surface and clean edges.



Ferrule ID	Fits Column ID	Graphite 10-pk.	Graphite 50-pk.
0.4 mm	0.10/0.15/0.18/0.25/0.28 mm	20200	20227
0.5 mm	0.32 mm	20201	20228
0.8 mm	0.45/0.53 mm	20202	20224

MXT®-Union Connector Kits for Connecting Metal and/or Fused Silica GC Columns

- Low dead volume, leak-tight connection.
- Reusable.
- Siltek® treatment ensures maximum inertness.
- Ideal for connecting a guard column or transfer line to an analytical column.
- Use to oven temperatures of 350 °C.
- Available in union and “Y” configurations.
- Can also be used for connecting fused silica to metal.

These MXT® connectors can be used with fused silica tubing because of a Valcon polyimide, 1/32-inch, one-piece fused silica adaptor. This unique graphite-reinforced composite allows a capillary column to slide into the adaptor and be locked in place simply by loosening and tightening the fitting.



MXT®-Union Connector Kits for Connecting Metal and/or Fused Silica GC Columns

Each kit contains the MXT® union; two 1/32-inch nuts; and two, one-piece, fused silica adaptors.

Description	qty.	cat.#
For 0.25 mm ID Fused Silica Columns	kit	21386
For 0.32 mm ID Fused Silica Columns	kit	21385
For 0.53 mm ID Fused Silica Columns	kit	21384



MXT® “Y”-Union Connector Kits for Connecting Metal and/or Fused Silica GC Columns

Each kit contains the MXT® union; three 1/32-inch nuts; and three, one-piece, fused silica adaptors.

Description	qty.	cat.#
For 0.25 mm ID Columns	kit	21389
For 0.32 mm ID Columns	kit	21388
For 0.53 mm ID Columns	kit	21387



1/32-Inch Valco® Adaptor Ferrules (Valcon Polyimide)

Fused silica adaptor ferrules are made from Valcon polyimide, a unique, graphite-reinforced composite specially prepared to maximize mechanical stability at temperatures up to 350 °C. The determining factor for selecting adaptor ferrule size is the fused silica tubing OD.

Tubing OD	Tubing ID	Valco #	qty.	cat.#
0.25–0.40 mm	0.25 mm	FS.4-5	5-pk.	20137
0.40–0.50 mm	0.32 mm	FS.5-5	5-pk.	20140
0.50–0.80 mm	0.53 mm	ZF.5V-5	5-pk.	20141
1/32" Replacement Nut			5-pk.	20389



Ferrule Removal Kit

The tapered tools in this kit have teeth designed to grip and remove fused silica adaptor ferrules that have become stuck in the fitting detail. Each kit has two tools: one for removing 1/32-inch adaptor ferrules and one for removing 1/16-inch adaptor ferrules.

Description	Valco #	qty.	cat.#
Ferrule Removal Kit	FRK1	kit	20146

i tech tip

Coupling GC Columns

An MXT® connector is a good alternative to a glass connector when coupling GC columns. This connector is constructed from stainless steel and will not break; it uses ferrules for sealing. The design ensures low dead volume, and Siltek® treatment ensures the MXT® connector is inert; both features help minimize peak tailing. MXT® connectors can be used to connect metal-to-metal, metal-to-fused silica, or fused silica-to-fused silica tubing. When connecting metal tubing, use 1/32-inch stainless steel ferrules (see page 232); for fused silica tubing, use Valcon polyimide adaptor ferrules (see above).

Connectors

MXT® Low Dead Volume Connector Kits For Metal Columns

These low dead volume connectors are Siltek® treated to make them inert to active compounds, just like our MXT® columns. They can be used at temperatures up to 430 °C without degrading the deactivated layer. Purchase the appropriate ferrules for connecting 0.28, 0.32, or 0.53 mm ID tubing.

**MXT® Low Dead Volume Connector Kits for Metal Columns**

- Connect a guard column/transfer line to an MXT® stainless steel column.
- Low thermal mass tracks rapid oven temperature programming.
- Stainless steel ferrules and nuts.
- Available in “Y” and union configurations.
- Siltek® treatment ensures ultimate inertness.

Each kit contains the MXT® union, two 1/32-inch ferrules and nuts.

Description	qty.	cat.#
For 0.28 mm ID MXT Columns	kit	20397
For 0.32 mm ID MXT Columns	kit	20536
For 0.53 mm ID MXT Columns	kit	20394

**MXT® Low Dead Volume “Y” Connector Kits for Metal Columns**

Connect two MXT® columns to one inlet or one MXT® column to two detectors.

Each kit contains the MXT® union, three 1/32-inch ferrules and nuts.

Description	qty.	cat.#
For 0.28 mm ID MXT Columns	kit	20396
For 0.32 mm ID MXT Columns	kit	20537
For 0.53 mm ID MXT Columns	kit	20395

Replacement Ferrules

(1/32-Inch Stainless Steel) for MXT® Connectors



Ferrule ID	Fits Column ID	qty.	cat.#
0.59 mm	0.28 mm	10-pk.	20398
0.53 mm	0.32 mm	10-pk.	20535
0.79 mm	0.53 mm	10-pk.	20399

**1/4-Inch–3/16-Inch Open-End Wrenches**

High-quality miniature wrenches to use with MXT® low-dead-volume connectors.

Description	qty.	cat.#
1/4"-3/16" Open-End Wrenches	2-piece set	20388



MXT® Capillary Columns

Ideal for High Temperature GC Analysis

- Metal tubing won't become brittle at high temperatures (430 °C).
- Exclusive Siltek® layer makes the internal surface as inert as deactivated fused silica.
- Can be tightly coiled well under 4.5" without breaking, even under stress.
- Column efficiency (Trennzahl valve) is similar to that of fused silica.

See pages 104–115.

www.restek.com/mxt



20147

Zero Dead Volume Valco® Internal Union

Ends of tubing seat squarely at bottoms of fitting details. Made of 300-series stainless steel. For use with 1/16" OD tubing. Stainless steel ferrules included.

Description	Union Bore	Valco #	qty.	cat.#
Internal Union	0.15 mm	ZU1XC	ea.	20147
Internal Union	0.25 mm	ZU1C	ea.	20148
Internal Union	0.75 mm	ZU1	ea.	20149
Internal Union	1/16"	ZUIT	ea.	20150



20159



20158

Male Pipe to Valco® Internal Adapter (Stainless Steel)

Makes a minimum volume connection from a female pipe fitting on a pressure gauge or regulator to a Valco® zero-dead-volume fitting. Made of 300 series stainless steel; stainless steel ferrules included.

Description	Fitting Size	Bore	Valco #	qty.	cat.#
Male Pipe to Valco Internal Adapter	1/8" NPT Male to 1/16" ZDV	1.0 mm	PZA21	ea.	20158
Male Pipe to Valco Internal Adapter	1/4" NPT Male to 1/16" ZDV	1.0 mm	PZA41	ea.	20159



20286



20287

Nuts & Ferrules

(1/16-Inch Stainless Steel) for Valco® Connectors

Description	Valco #	qty.	cat.#
Ferrules, 1/16" Stainless Steel	ZF1-10	10-pk.	20286
Nuts, 1/16" Stainless Steel	ZN1-10	10-pk.	20287



21015

1/16-Inch Valco® Adaptor Ferrules

Fused silica adaptor ferrules are made from Valcon polyimide, a unique, graphite-reinforced composite specially prepared to maximize mechanical stability at temperatures up to 350 °C. The determining factor for selecting adaptor ferrule size is the fused silica tubing OD.

Tubing OD	Valcon Polyimide			Virgin Polyimide		
	Valco #	qty.	cat.#	Valco #	qty.	cat.#
0.30≤0.40 mm	FS1.4-5	5-pk.	20142	FS1.4V1-5	2-pk.	21015
0.40≤0.50 mm	FS1.5-5	5-pk.	20143	FS1.5V1-5	2-pk.	21016
0.50≤0.80 mm	FS1.8-5	5-pk.	20144	—	—	—
0.80≤0.90 mm	FS1.9-5	5-pk.	20145	—	—	—

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