

Vu-Union® Connectors

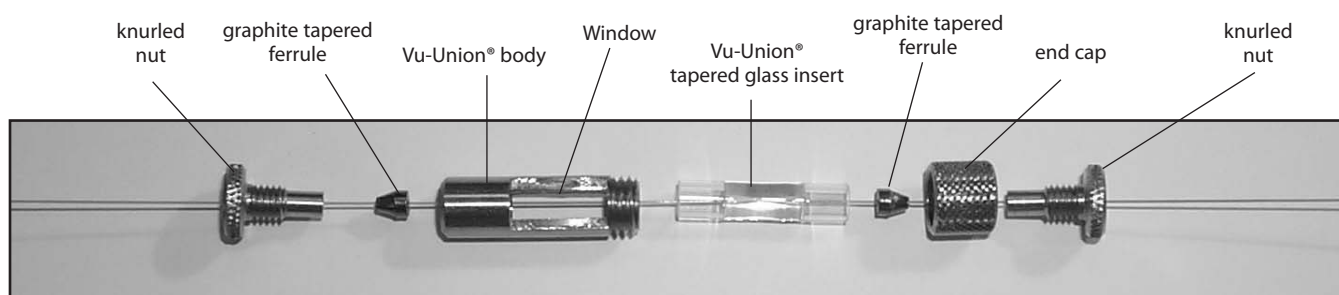
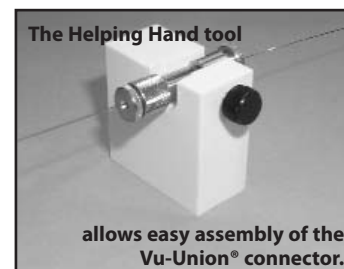
(0.33/0.74mm replacement glass inserts: cat.# 20419)

(0.15/0.45mm replacement glass inserts: cat.# 20417)

Overview

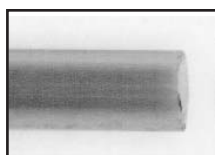
Use only graphite ferrules because Vespel®/graphite ferrules will cause the insert to crack.

The Vu-Union® connector is a Press-Tight® connector that uses ferrules to make a secondary seal between the column and connector. A reverse ferrule design prevents the column end from being crushed in the taper when the ferrule is compressed. The knurled nuts apply independent pressure to each ferrule to make a leak-free seal with the column end. The window allows analysts to visually confirm the presence of a brown sealing ring at the column and glass insert connection. The Helping Hand tool is designed to hold the metal housing of the Vu-Union® connector in place while the user assembles the columns in the glass insert and tightens the knurled nuts.



Installation Instructions

1. Remove the end cap from the Vu-Union® body. Insert the tapered glass piece and replace the end cap.
2. Place the Vu-Union® connector body into the Helping Hand tool with the slotted window up. Tighten the thumb screw to secure the Vu-Union® connector in place.
3. Unscrew both knurled nuts from the fitting ends.
4. Slide both knurled nuts and ferrules onto the fused silica column ends. Install the ferrule so the tapered end faces outward toward the nut. *Always point the column end down during installation so ferrule shards do not fall inside the column bore.*
5. Cut both column ends using a ceramic scoring wafer (cat.# 20116) or a sapphire scribe (cat.# 20182). *Pointed scoring devices are not recommended.* Verify a square cut by using a pocket magnifier (cat.# 20124) to inspect the end of the tubing. A square cut must be obtained or a poor connection between the column end and the tapered glass insert will result.



A good column cut.

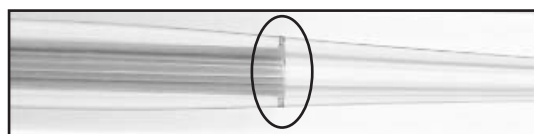


A bad column cut.

6. Push the column ends through the Vu-Union® body and partially into the glass insert taper. Leave a 1/16-inch gap between the column end and the tapered region until the ferrules are preseated.

Preseat the ferrule before inserting the column completely into the taper to alleviate the possibility of damaging the column or tapered insert when tightening the fitting. To preseat the ferrule, fingertighten both knurled nuts simultaneously until the column does not slide when gentle pressure is applied. The ferrules are now preseated and properly deformed to fit the connector cavity.

7. Loosen both knurled nuts and gently push each column end into the glass insert taper until it makes contact. Tighten **both knurled nuts simultaneously** until the column is held firmly (approximately 1/8-turn past fingertight). Look for the appearance of a brown ring at the point where the column ends contact the glass taper. The presence of a uniform brown ring circling the entire column at the tapered region indicates a proper connection.



The presence of a brown ring at the point where the column ends contact the glass taper means the column has been properly installed.

Remove and clean the glass insert if the column appears to be fractured or if the ring is not continuous.

8. Restore carrier gas pressure and leak check the connection with Restek's Leak Detector (cat.# 22839). Do not use liquid leak detectors because they contaminate and damage analytical columns.
9. Inject methane (or another appropriate gas for determining dead volume time) and carefully inspect the peak shape and detector response. A symmetrical methane peak and good detector response indicate a proper connection.
10. Next, inject 1.0µL of solvent and examine the peak shape. A tailing solvent peak indicates a poor connection. If the solvent or methane peak is tailing more than before the Vu-Union® connector was installed, remove the connector and reinstall it. (**Note:** Connectors cannot be reused once they are heated because the polyimide residue inside the connector will prevent sealing.)
11. Briefly condition the column. Check the Vu-Union® connector for leaks after the cool-down cycle.

Restek trademarks: Press-Tight, Restek logo, Vu-Union
Other trademarks: Vespel (E.I. duPont de Nemours & Co.)

Tailing peak indicates improper installation



Symmetrical peak indicates proper installation



Replacement Graphite Ferrules (10-pk.)

Ferrule ID	Fits Column ID	cat.#
0.3mm	< 0.20mm	20233
0.4mm	0.25mm	20200
0.5mm	0.32mm	20201
0.8mm	0.53mm	20202

Call Technical Service at 800-356-1688 or 814-353-1300, ext. 4 (or your Restek representative) if you have any questions about this product or any other Restek product.



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