



Installing a capillary column into a Thermal Conductivity Detector (TCD)

Procedure: Preparing capillary columns

You must prepare your capillary column before installation. Proper preparation assures that the column end has no burrs or jagged edges and is not contaminated with graphite or other material.

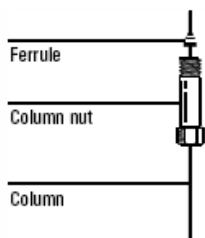
WARNING: Wear safety glasses to protect your eyes from flying particles while handling, cutting, or installing glass or fused silica capillary columns. Use care in handling these columns to prevent puncture wounds.

Materials required

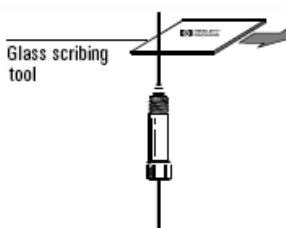
1. Column nut and ferrule
2. Capillary column
3. Column cutter
4. Magnifying loop
5. Isopropanol
6. Tissue

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1. Place a capillary column nut and ferrule on the column.



2. Score the column using a glass scribing tool. The score must be square to ensure a clean break.



3. Break off the column end by supporting it against the column cutter opposite the scribe. Inspect the end with a magnifying glass to make certain there are no burrs or jagged edges.



4. Wipe the column walls with a tissue dampened with isopropanol to remove fingerprints and dust.



Procedure: Installing capillary columns in the TCD

There are two types of TCD fittings:

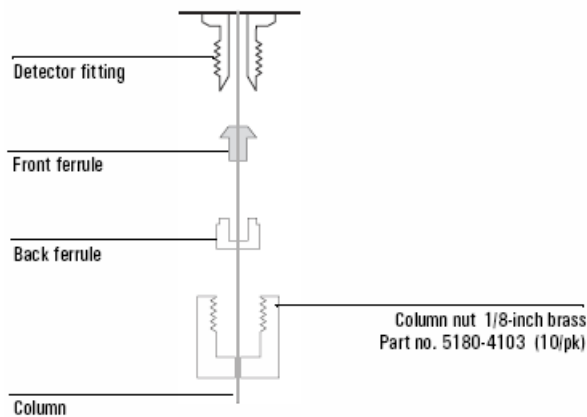
- New Style TCD fitting
- Old Style TCD fitting

Materials required

1. Capillary column adapter
2. Column nut and ferrule set
3. Column cutter
4. Wrenches

Procedure for New Style Nut & ferrule fittings:

1. Assemble the ferrules and a 1/8-inch brass nut on the column as shown.



See Table 1 for the proper ferrules. Trim off a short piece of column to remove any ferrule fragments inside the column.

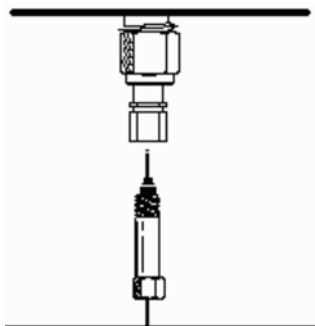
Table 1: Ferrules for the TCD detector

| Column outside diameter | Back ferrule | Front ferrule |
|-------------------------|--------------|---------------|
| 0.8 mm | G1530-80400 | G1530-80410 |
| 0.53 mm | G1530-80400 | G1530-80420 |
| 0.45 mm | G1530-80400 | G1530-80430 |
| No-hole ferrule | G1530-80400 | G1530-80440 |

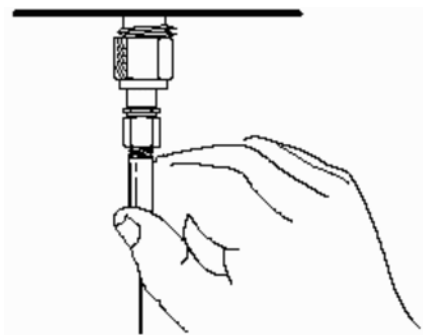
2. Insert the column into the detector until it bottoms. Do not attempt to force it.
3. Slide the column nut and ferrule up the column to the detector and tighten the nut finger tight.
4. Pull the column out 1 mm. Use a wrench to tighten the nut an additional 1/4 turn. The column should not move.

Procedure for OLD Style Nut & ferrule fittings:

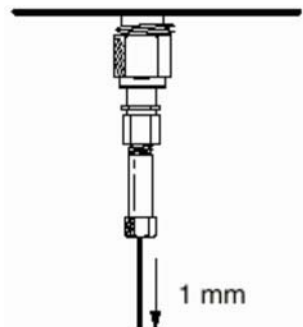
1. Gently insert the column into the detector until it bottoms. do not attempt to force it further.



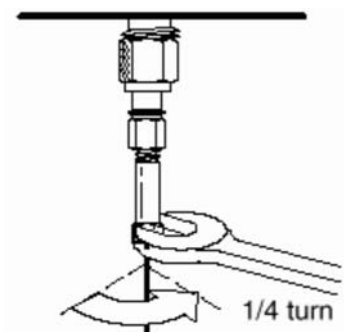
2. Slide the column nut and ferrule up the column to the adapter and tighten the nut finger tight.



3. Pull the column out 1 mm.



4. Use a wrench to tighten the nut an additional 1/4 turn. The column should not move.



5. After the column is installed at both inlet and detector, establish a flow of carrier gas through the inlet. Heat the oven, inlet, and detector to operating temperatures. Allow them to cool, and then retighten the fittings.