



Agilent Technologies

Installing a Capillary Column into an ECD and a Micro ECD

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.

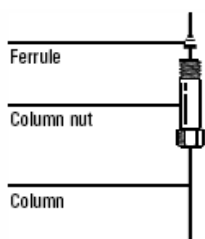
WARNING: Wear safety glasses to protect your eyes from flying particles while handling, cutting, or installing glass or fused silica capillary columns. Use care in handling these columns to prevent puncture wounds.

Materials required

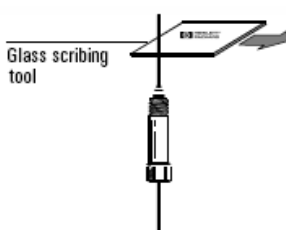
1. Column nut and ferrule
2. Capillary column
3. Column cutter
4. Magnifying loop
5. Isopropanol
6. Tissue

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

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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 ECD and μ -ECD

Both detectors are shipped with a capillary column adapter installed. If it has been removed, you must replace it before installing a capillary column.

There are two kinds of adapter liner.

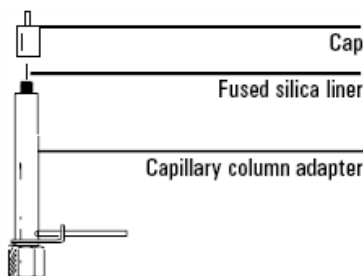
- The straight liner is a simple tube and is a light brown color.
- The indented liner is necked down near one end and is clear.

The μ -ECD requires the indented liner.

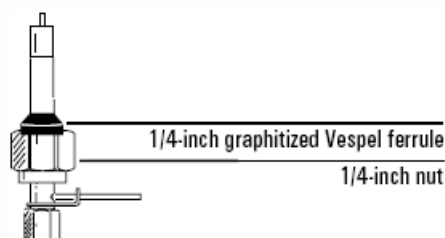
Materials required

1. Capillary column adapter
2. Fused silica liner, straight or indented (required for μ -ECD)
3. 1/4-inch nut and 1/4-inch graphitized Vespel ferrule
4. Column nut and ferrule
5. Column cutter
6. 1/4-inch and 9/16-inch wrenches

1. Remove the adapter cap and check the liner. Replace it if it is broken and reinstall the cap. If you use an indented liner, the indentation must be at the cap end of the adapter.



2. Install a 1/4-inch nut and graphitized-Vespel ferrule on the adapter.

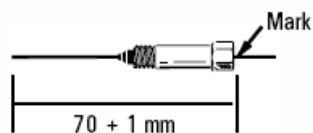


3. Prepare the column. See page 101 for instructions.

4. If you are using an indented liner (required for μ -ECD):

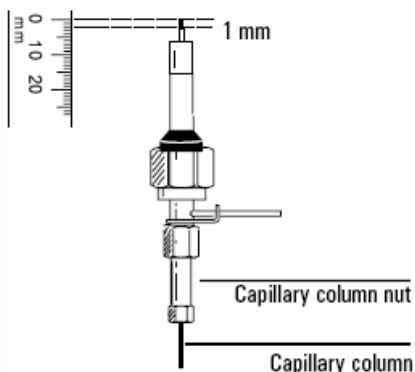
If the column id is 200 μm or more, push the column into the adapter until it stops at the indentation. Pull it back 1 to 2 mm and tighten the column nut firmly.

If the id is less than 200 μm , mark the column 70 \pm 1 mm from the end. Insert column and nut into the adapter with the mark at the rear of the column nut, and tighten the column nut firmly.

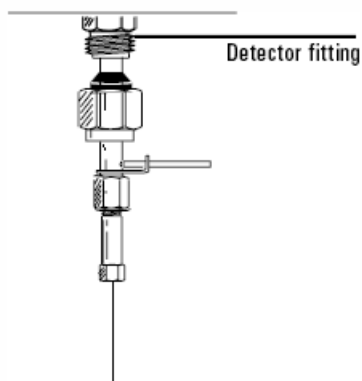


5. If you are using a straight liner:

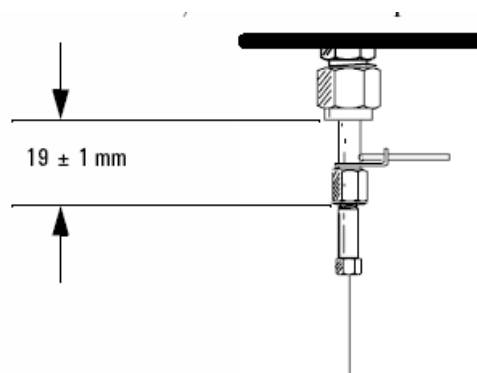
Insert the column in the ECD adapter so that 1 mm extends above the cap extension. Tighten the capillary column nut firmly.



6. Slowly install the adapter straight into the detector fitting. Make sure that the adapter is seated all the way into the detector fitting—jiggle it if necessary. Be careful not to break the column end.



If the adapter is properly installed, the distance between the 1/4-inch nut and the bottom of the adapter will be 19 ± 1 mm. If it is 22–23 mm, reinstall the adapter into the detector fitting.



7. Slide the nut and ferrule up to the detector fitting and tighten the nut finger tight. Use a 9/16-inch wrench to tighten the nut an additional 1/4 turn.

8. 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