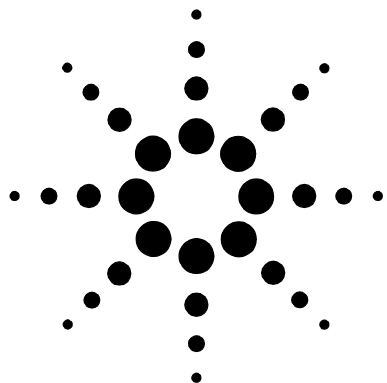


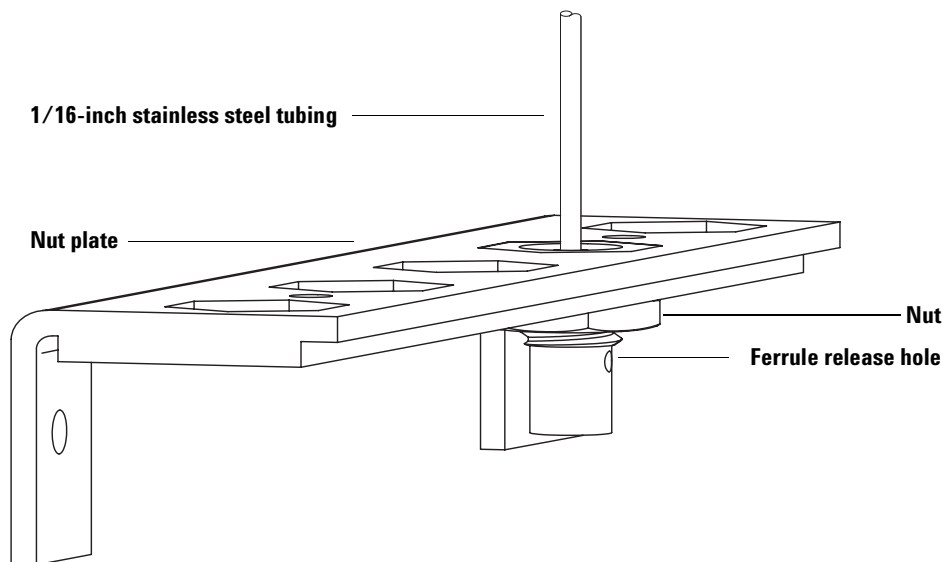


## Agilent Micro Fluidics 1/16-inch Union Kit (G1580-61060)

### *Installation Guide*

The tube assembly kit provides a means of connecting fused silica capillary tubing, including columns, to 1/16-inch metal tubing.

The tube assembly is usually mounted on a nut plate assembly (05890-80660) installed on the oven side wall. Assemble as shown in Figure 1.



**Figure 1** 1/16-inch tube assembly and nut plate assembly



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## Parts Supplied

The parts in the G1580-61060 kit are shown in Table 1.

**Table 1**    Parts supplied

| Part number | Description             | Quantity |
|-------------|-------------------------|----------|
| G1588-60060 | 1/16-inch Tube assembly | 1        |
| 2950-8232   | Hex nut, 5/16-inch      | 1        |
| G2855-20530 | Internal nut            | 1        |

## Parts Not Supplied

Nut plate assembly (05890-80660)

SilTite ferrules (see Table 2)

Swaging nut (G2855-20530)

## Tools Required

Two 1/4-inch open-end wrenches

One 5/16-inch open-end wrench

Column cutting tool (5181-8836)

## Preparing the Tubing Ends

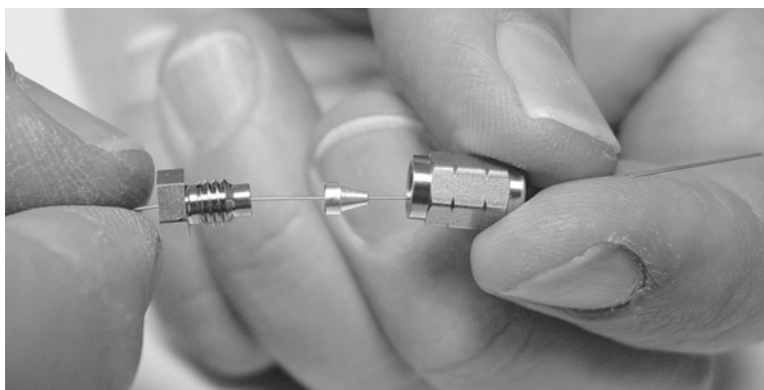
Materials are available to make connections to 0.1- to 0.25-mm, 0.32-mm, and 0.53-mm id columns and tubing.

- 1 Find the appropriate metal ferrule (not included) from those listed in Table 2.

**Table 2** Available metal ferrule packages

| Part number | Ferrule description                                  |
|-------------|------------------------------------------------------|
| 5188-5361   | SilTite ferrules, 0.1- to 0.25-mm columns, pkg of 10 |
| 5188-5362   | SilTite ferrules, 0.3-mm columns, pkg of 10          |
| 5188-5363   | SilTite ferrules, 0.5-mm columns, pkg of 10          |

- 2 Pass the tubing end through the internal nut and the SilTite ferrule leaving approximately 1 cm of column protruding beyond the ferrule. Thread the swaging nut onto the internal nut with the tubing protruding (Figure 2).



**Figure 2** Thread the internal nut and ferrule

- 3 Tighten the two nuts together a little at a time, occasionally checking to see if the ferrule is gripping the tubing (Figure 3). When the ferrule just starts to grip, notice the position of the

nut and then tighten the nut by turning 45 to 60 degrees, but no more than 60 degrees (one flat).



**Figure 3** Tightening the swaging nut

**4** Remove the swaging nut (Figure 4).



**Figure 4** Removed swaging nut

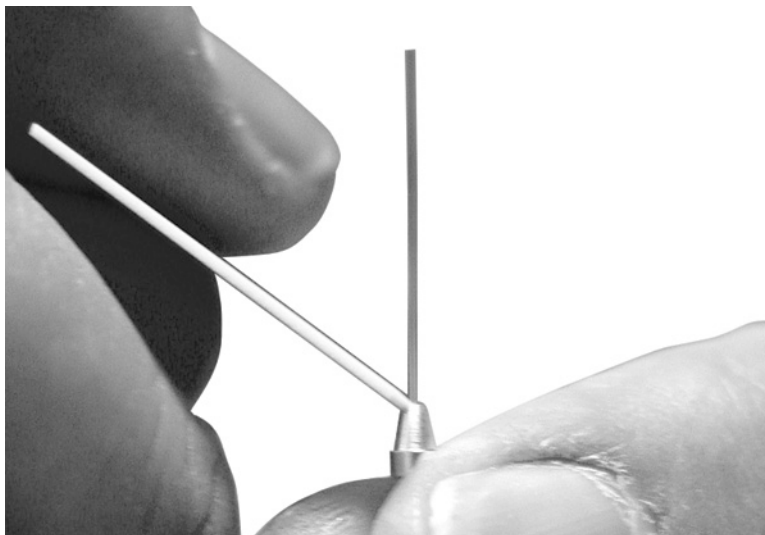
**5** Using a column cutter, trim the tubing at the small end of the ferrule leaving approximately 0.3 mm of tubing extending beyond the ferrule (Figure 5).

Check the end of the tubing with a magnifier. The end of the tubing need not be perfectly square, but should not have cracks that extend under the ferrule.

**NOTE**

It is important that the tubing end does not extend beyond 0.5 mm from the end of the ferrule.

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**Figure 5** Ceramic column cutter and ferrule

Figure 6 shows a completed tubing end.



**Figure 6** Tubing end with internal nut and swaged SilTite ferrule



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## **Connecting Metal Tubing**

Connect metal tubing to the 1/16-inch tubing on the top of the fitting using an appropriately sized union (not provided in kit).

## **Connecting Fused Silica Tubing**

Connect fused silica tubing to the bottom of the fitting with a pre-swaged internal nut and SilTite ferrule. Tighten with a wrench only 15 to 20 degrees.

## **Disconnecting Fused Silica Tubing**

Loosen and remove the internal nut. If the tubing and ferrule do not come free, insert a pointed object (pen, paper clip) into the ferrule release hole and press firmly. You will hear a click as the ferrule releases.

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