

# SilTite $\mu$ -Union

cat.# 23882–23887

SilTite  $\mu$ -Union for capillary columns enables a leak-free, low-dead-volume, low-thermal mass connection to be made.

## Kit Contents

- 5 SilTite double taper ferrules
- 2 Female  $\mu$ -connector end fittings
- 2 Male  $\mu$ -connector end fittings
- 1 Set of connection tools (2 FingerTite  $\mu$ -connector male/female end fitting tools; 1 connection nut; 1 ferrule/nut adaptor)

## Installation

The connection is made in two stages—use only the tools provided in the kit—never use a wrench.

### First Stage

1. Referring to Figure 1, locate the ferrule/nut adaptor tool (1) and connection nut (2).

Screw the nut onto the tool—the internal thread of the connection nut is designed to allow the male  $\mu$ -connector end fitting to swage the double taper ferrule (Figure 2).

2. To swage the male  $\mu$ -connector end fitting (5) onto the double taper ferrule, slide the male  $\mu$ -connector end fitting onto the capillary tubing (4). If you are connecting columns with different IDs, connect the column with the larger ID first. Note that the thread of the end fitting should be facing towards the end of the capillary tubing that will be connected to the  $\mu$ -Union (Figure 2).

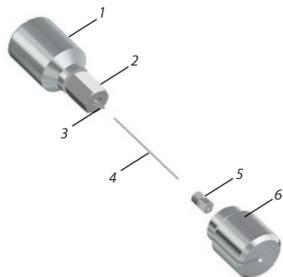
Locate a double taper ferrule (3) and place it into the connection nut (2)—it simply sits in the connection nut (Figure 2).

3. Insert the capillary into the double taper ferrule and screw the male  $\mu$ -connector end fitting (5) into position, making sure the capillary seats inside the ferrule (there is a stop inside the ferrule). Gently tighten the male  $\mu$ -connector end fitting with your fingers until you feel resistance, while ensuring the capillary end is against the stop inside the ferrule.

Slide a FingerTite  $\mu$ -connector male/female end fitting tool (6) over the capillary via the slot cut into the tool and place it on the male  $\mu$ -connector end fitting (5). To swage the ferrule, gradually tighten the male  $\mu$ -connector end fitting until the ferrule just begins to hold onto the capillary, then tighten a further 60° (Figures 2, 7).

You have now completed the first stage of installing the SilTite  $\mu$ -Union.

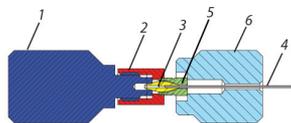
**Figure 1:** Exploded view of installing the male  $\mu$ -connector end fitting.



### Legend

- 1. Ferrule/nut adaptor tool
- 2. Connection nut
- 3. SilTite double taper ferrule
- 4. Capillary tubing (0.36 mm OD)
- 5. Male  $\mu$ -connector end fitting
- 6. FingerTite  $\mu$ -connector male/female end fitting tool

**Figure 2:** Section view of swaging the male  $\mu$ -connector end fitting onto the double taper ferrule.



## Second Stage

- Remove the ferrule/nut adaptor tool (1) with connection nut (2) by unthreading it from the male  $\mu$ -connector end fitting (5). Return the ferrule/nut adaptor tool and connection nut to the kit.

Referring to Figure 3, locate the female  $\mu$ -connector end fitting (7) and slide onto the second piece of capillary tubing (4); the thread of the end fitting should be facing towards the end of the capillary tubing that will be connected to the  $\mu$ -Union (Figure 4).

- Insert the capillary into the double taper ferrule and screw the female  $\mu$ -connector end fitting (7) into position making sure the capillary seats inside the ferrule (there is a stop inside the ferrule). Gently tighten the female  $\mu$ -connector end fitting with your fingers until you feel resistance, while ensuring the capillary end is against the stop inside the ferrule.

Locate both of the FingerTite  $\mu$ -connector male/female end fitting tools (6) and slide them over the capillary (via the slot cut into the tools) and place them on the end fittings (5 and 7). To swage the ferrule, gradually tighten the female  $\mu$ -connector end fitting (7) until the ferrule just begins to hold onto the capillary, then tighten a further  $60^\circ$  (Figures 4, 7).

- Remove both of the FingerTite  $\mu$ -connector male/female end fitting tools (6) from the male and female  $\mu$ -connectors and the capillary. Return the tools to the kit.

You have now completed both stages of the SilTite  $\mu$ -Union connection (Figures 5, 6).

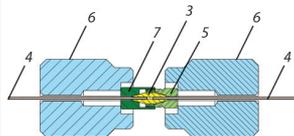
**Figure 3:** Exploded view of installing the female  $\mu$ -connector end fitting.



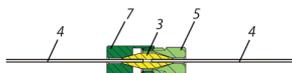
Legend

- SilTite double taper ferrule
- Capillary tubing (0.36 mm OD)
- Male  $\mu$ -connector end fitting
- FingerTite  $\mu$ -connector male/female end fitting tool
- Female  $\mu$ -connector end fitting

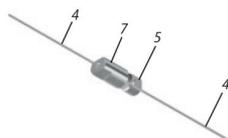
**Figure 4:** Section view of swaging the female  $\mu$ -connector end fitting onto the double taper ferrule.



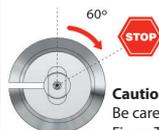
**Figure 5:** Section view of completed SilTite  $\mu$ -Union connection.



**Figure 6:** Completed SilTite  $\mu$ -Union connection.



**Figure 7:** Do not overtighten  $\mu$ -connector end fittings.



**Caution:**

Be careful when using the FingerTite  $\mu$ -connector male/female end fitting tools. Do not overtighten—further tightening will cause the capillary to break.

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