

# SilTite™ $\mu$ -Union Installation Instructions

Congratulations! You have purchased the latest innovation in GC capillary column connections from SGE Analytical Science. The SilTite™  $\mu$ -Union for capillary columns enables a leak-free, low dead volume, low thermal mass connection system designed to be self installed using this installation manual.

## KIT CONTENTS

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

## INSTALLATION

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

### First Stage

2. Referring to Fig 1, locate the Ferrule/nut adaptor tool (1) and connection nut (2). Screw the nut onto the tool – the internal thread of the nut is designed to allow the male end fitting to swage the double taper ferrule.

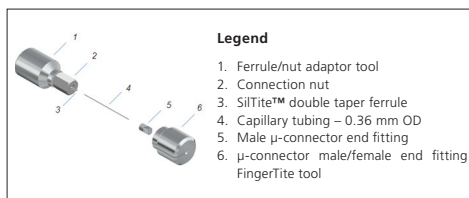


Figure 1. Exploded diagram of the first stage of the  $\mu$ -Union connector installation.

3. To swage the male  $\mu$ -connector end fitting (5) onto the double taper ferrule first slide the male end fitting onto the capillary tubing (4) – the thread of the end fitting should be facing towards the cut end of the capillary tubing. Locate a double taper ferrule (3) and place it into the nut (2) – it simply sits in the nut.

4. Insert the capillary into the double taper ferrule and slide the male end fitting (5) into position making sure the capillary seats inside the ferrule – there is a stop designed within the ferrule. Gently tighten the male end fitting with your fingers until you feel resistance. Locate one of the FingerTite  $\mu$ -connector male/female end fitting tools (6) and slide it over the capillary via the slot cut into the tool. Ensure the end fitting tool has the appropriate feature to seat the male end fitting. Tighten the fitting to swage the ferrule - do not over tighten, finger force is all that is necessary to swage the ferrule onto the capillary (see Fig. 2). You have completed the first step in installing the SilTite™  $\mu$ -Union.

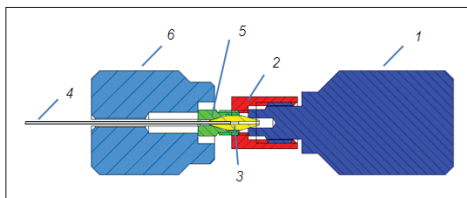


Figure 2. Section view of the first stage of swaging the male end fitting onto the double taper ferrule.

## Second Stage

5. Remove the male  $\mu$ -connector end fitting (5) from the ferrule/nut adaptor tool – the ferrule should be fully swaged into the end fitting. Replace the ferrule/nut adaptor tool into the kit. Referring to Fig 3., locate the female  $\mu$ -connector end fitting (7) and slide onto the second piece of GC capillary tubing – the threaded piece should be facing towards the cut end of the tubing.

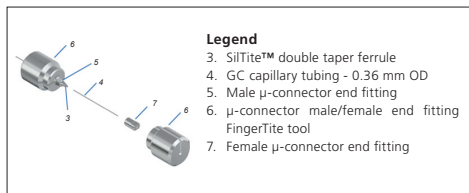


Figure 3. Exploded view of installing the female end fitting.

6. Insert the capillary into the double taper ferrule and slide the female end fitting (7) into position making sure the capillary seats inside the ferrule – there is a stop designed within the ferrule. Gently tighten the female end fitting with your fingers until you feel resistance. 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 tool. Tighten the fitting to swage the ferrule into the female end fitting - do not over tighten, finger force is all that is necessary to swage the ferrule onto the capillary (see Fig. 4).

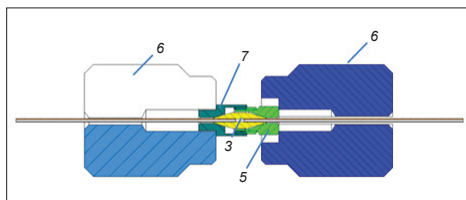


Figure 4. Section view of the SilTite™  $\mu$ -Union connection.

7. Remove the connection tooling (6) from the union and the GC capillary column.

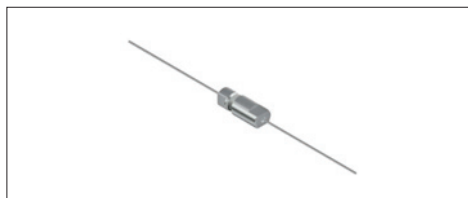


Figure 5. Completed SilTite™  $\mu$ -Union connection.

You have now completed both steps of the SilTite™  $\mu$ -Union connection.

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