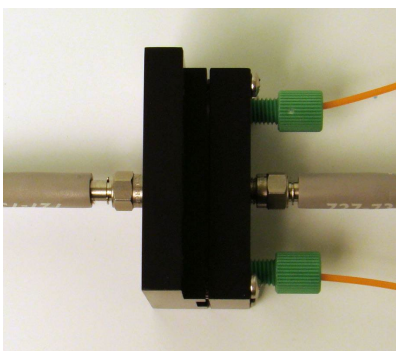


Fiber Optic SMA-USP Flow Cell Manual

Ultra-Short Path Flow Cell for Optically Dense Samples
Version 4

WARNING: READ THIS MANUAL BEFORE REMOVING/REPLACING FITTINGS OR WINDOWS



The SMA-USP Flowcell - The new SMA Ultra-Short Path Flowcell allows absorbance measurements through an optical path length as short as 100 microns. Available optical paths are 100, 200, 500, 1000 and 2000 microns. Others may be available upon custom requests.

The SMA-USP flowcell is ideal for measuring the UV/VIS (220 to 1000 nm) absorbance of very optically dense fluids. Eliminates or minimizes the need for pre-dilutions during online monitoring. Wetting surfaces are Fused Silica and Teflon making this flowcell compatible with a host of chemicals including various types of weak to moderate bases, acids and solvents. Connects to fiber optics with SMA terminations.

Warning:

Note that Sequential Injection Analysis and Flow Injection Analysis systems, for which the FIAlab-Z cell has been designed (for example, the FIAlab series), operate in such a way that the cell is exposed to aggressive materials only intermittently and for short periods of time. Most of the time the system is washed between samples or filled with water when idle. Prolonged exposure of the cell to corrosive chemicals may eventually lead to leaking or damage to flow cell, fittings, or windows, and voids the warranty.

Usage Hints:

Orient the cell so that fluid flows upwards. The fluidic in port should always be below the fluidic out port. This helps prevent bubbles getting trapped in the flow cell.

Contact:

Please contact FIAlab Instruments, Inc. if you have any questions or problems.

FIAlab Instruments
Email: support@flowinjection.com

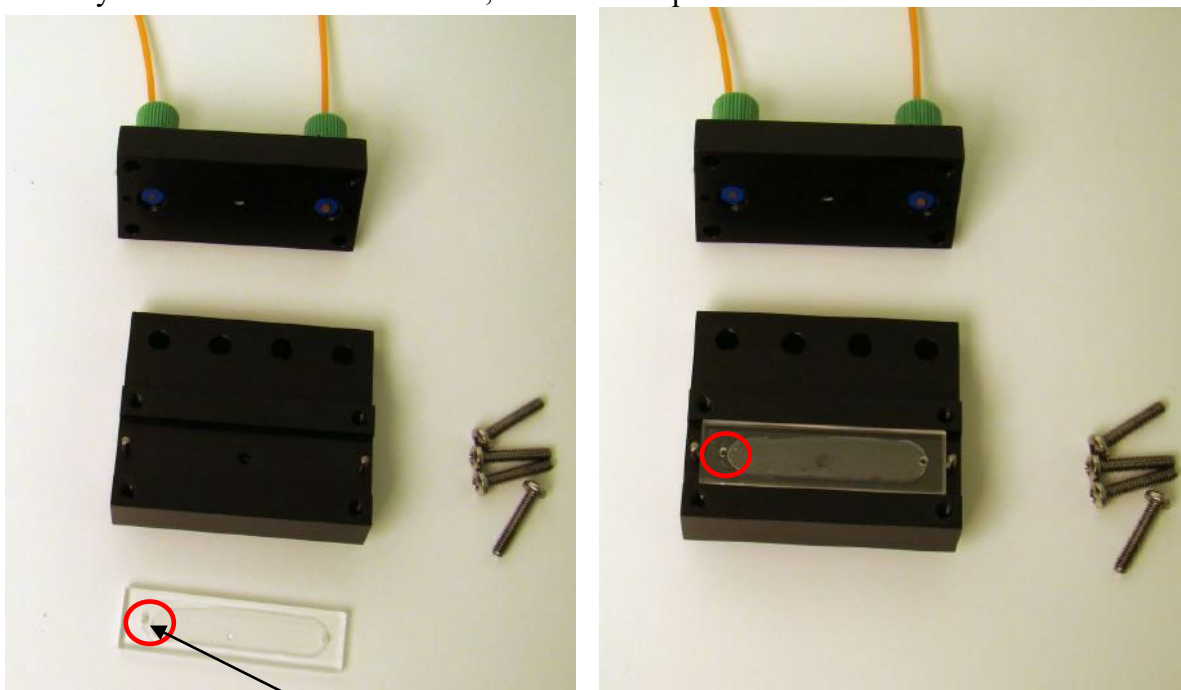
Phone: 206-258-2290
Fax: 206-258-2048

Assembly Note:

Note: Your flowcell has been preassembled prior to shipping.

Your flowcell is shipped fully assembled and ready to use. However, there may be occasions where you want to disassemble the flowcell, for instance to change optical paths.

1) The flowthrough “slide” needs to be oriented so that the small port holes face upwards, and lay the slide in the recessed area, as in the two photos below.

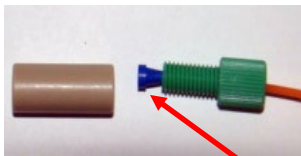


Warning: Holes must face upwards.

2) Screw the upper and lower slide mounting plates together with the four included screws, as shown below. **WARNING:** rotate from one screw to the next, gradually tightening all four. This ensures the plates are mounted level. **WARNING:** do not over tighten. The plates only need to press against the slide to hold it in place. Over tightening can crack the slide. The recommended torque for these four mounting screws is 0.5 in-lbs.

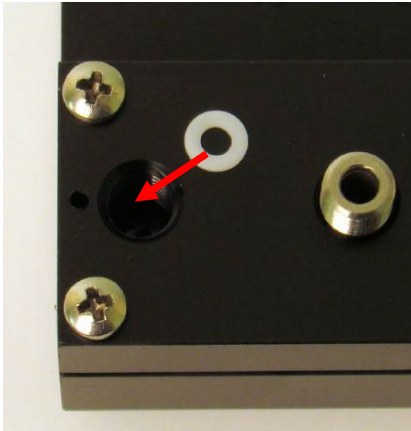


3) Pretighten/collapse the blue ferrule onto the tubing. This step is performed because it takes some force to tighten the blue ferrules, a process that could crack the slide (step 5). So the blue ferrule must be pre-tightened using a different 1/4-28 port.



Blue Ferrule must be pre tightened onto the tubing before using in the USP flowcell. This is easily done by first mounting the ferrule and nut into any available 1/4-28 flat bottom port such as the included union (as pictured). Tighten nut into union and then remove. The blue ferrule should now be tight on the tubing. The tubing should be flush with the end of the blue ferrule.

- 4) Drop one Teflon gasket (included) into each of the two fluidic ports (as shown below), making sure they lay flat at the bottom.



- 5) Mount the tubing into the fluidic ports with the included 1/4-28 flat bottom fittings and blue ferrules. Make sure the tubing does not extend past the blue ferrule's flat bottom. **WARNING: DO NOT OVER TIGHTEN.** Over tightening will crack the slide. Just half a rotation past the point of first resistance is adequate. So the blue ferrule is pushing up against the white Teflon seal firmly but not tight. The flat bottom pushed against the white Teflon gasket makes a good seal. The recommended torque for these two fluidic nuts is 0.3 in-lbs.

