

## CUV-ALL 4-way Cuvette Holder

The **CUV-ALL 4-WAY CUVETTE HOLDER** for 1-cm path length cuvettes has four collimating lenses that couple to optical fibers, light sources, and spectrometers to measure absorbance, fluorescence, scattering, or any combination of these optical phenomena.

### Parts Included

- ◆ CUV-ALL assembly for holding 1-cm cuvettes
- ◆ Black Cover for eliminating ambient light
- ◆ Two Barbed Fittings for connecting a temperature stabilizing water source
- ◆ Screwdriver for adjusting the fit of the cuvette
- ◆ Allen wrench for adjusting the collimating lenses

### Operation

#### Attaching the Fibers for Absorbance Measurements

1. For UV measurements, attach one end of a SMA-terminated optical fiber to one of the collimating lenses with the UV label and a red lens cap. Attach the other end of this fiber to a UV light source. Attach another SMA-terminated optical fiber to the collimating lens directly opposite of the first fiber. It too has a red lens cover. Attach the other end of this fiber to the spectrometer.
2. For VIS measurements, attach one end of a SMA-terminated optical fiber to one of the collimating lenses with the VIS label and a black lens cover. Attach the other end of this fiber to a light source. Attach another SMA-terminated optical fiber to the collimating lens directly opposite of the first fiber. It too will have a black lens cover. Attach the other end of this fiber to the spectrometer.

#### Attaching the Fibers for Fluorescence Measurements

1. Attach one end of a SMA-terminated optical fiber to one of the collimating lenses. Attach the other end of this fiber to a light or excitation source. Typically, for fluorescence measurements, the illumination fiber connects to a UV lens.
2. Attach another SMA-terminated optical fiber to the collimating lens to the immediate left or right of the first fiber. The two collimators must be positioned at 90° for fluorescence measurements. Attach the other end of this fiber to the spectrometer. Typically, for fluorescence measurements, the read fiber connects to a VIS lens.

#### Using the Fiber Supports

1. Snap the clamps around the fibers after the fibers are screwed into the light source and spectrometer.
2. Lift the clamps until they support the fibers.
3. Unsnap the clamps to remove the fibers.

#### Adjusting the Fit of the Cuvette

The CUV-ALL is preset for use with a 1-cm quartz cuvette. When properly adjusted, the cuvette should fit snugly in the holder.

1. Locate the two ball plunger screws. They are under two of the four collimating lenses.
2. Remove the fiber clamps for easier access to the screws.
3. Use the provided screwdriver to loosen the two ball plunger screws until the ball end of the screws is just visible in the cell holder.
4. Insert your cuvette into the holder.
5. Tighten the ball plunger screws until the ball contacts the cuvette and starts to compress. Do not over-tighten.

**Installing Filters**

1. Loosen the filter clamping screw with the provided screwdriver.
2. Insert the filter into the filter slot. The filter slot can accommodate filters up to 6 mm thick.
3. Clamp the filter in place by gently tightening the clamping screw finger tight.

**Using the Temperature Stabilization Feature**

This feature is used to heat or cool the cuvette holder base and cuvette.

1. Remove the two plugs from the top side of the base. (The plug on the right side of the base should stay in place but might require thread tape.)
2. Replace the plugs with the two barbed fittings (or any 1/8" NPT pipe thread fittings). Thread tape might be required on the fittings.
3. Connect the fittings to a water source. Water will circulate through the base.

**Specifications**

Path length:	1 cm
Collimating lenses (VIS-NIR):	(2) BK 7 glass (~360 nm - 2 μm*), 5 mm diameter, f/2
Collimating lenses (UV-VIS-NIR):	(2) Dynasil 1100 quartz (200 nm - 2 μm*), 5 mm diameter, f/2
Collimating lens termination:	SMA 905
Fluorescence option:	position 2 collimators at 90°
Filter slot:	accepts filters up to ¼" (6 mm) in thickness
Base material:	aluminum
Water input fittings:	1/8" NPT pipe thread

\* Though the VIS-NIR lens is optimized for use to 2 μm, it can be configured to "see" only to 1100 nm with our S2000 spectrometer.