Accessory Installation Guide
Peltier/Sipper System
(S2100-109P)

Step 1: Check all items from the accessory package and make sure they are complete:

- *Peltier/Flowcell Controller with peristaltic pump* *1 unit*
- *Cell Holder with Peltier base and Flow-thru Panel with tubing.* *1 set*
- *Installation Guide* *1 piece.*

(Flowcell is required and flowcell is not included in the package)

Installation preparation and installation procedures:
(Tool needed: standard "Philips" head screwdriver)

Step 2: Remove the 4-cell holder from the sample compartment: Open the sample compartment cover and remove any cuvettes or any breakable items. Push in the 4-cell holder (black knob) all the way back (First position cell holder into light beam).

Step 3: Unscrew the cell holder rod by turning the knob counterclockwise until removed from holder. Gently slide the guide rod out of the sample compartment.

Step 4: Looking over the sample compartment, remove the front screw (Figure 1).

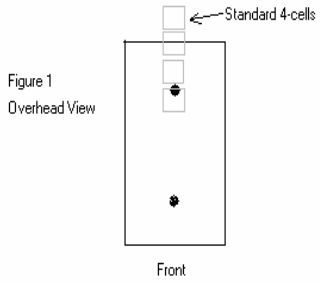
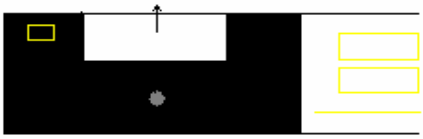


Figure 1
Overhead View

Step 5: To remove the back screw, place your hand ON TOP of the 4-cells and gently slide towards the front. The back screw is then exposed and can be removed.

Step 6: Remove the front panel by sliding the panel up and out (Figure 2).

Figure 2: Removable Front Panel
Front View



Step 7: Insert Cell Holder with Peltier Base into the sample compartment until the base is engaged into two hex-head guiding "pin". Lock the base with the Philips type screws.

Step 8: Align the Cell Holder so that maximum light will pass through the cell holder. This can be achieved by adjusting the cell holder horizontally and vertically with two setting "knobs"

a) Horizontal setting: There is one knob located in front-right of the cell holder base for horizontal (backward or forward) adjustment. Turning this knob clockwise will "push" the cell holder backward and counterclockwise will "push" the cell holder toward you. Turn on the spectrophotometer and MONITOR the transmittance reading on the display. Locate the maximum transmittance reading on the display by turning the knob and this should be the best horizontal cell holder setting.

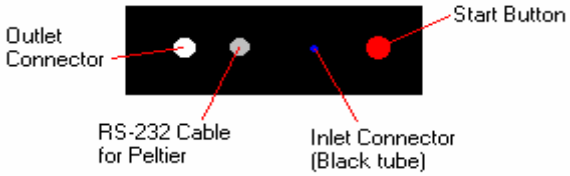
b) Vertical setting: There is a long crew on top right behind the cell holder for vertical position adjustment. Turn this screw clockwise will raise the cell holder and vise visa. Locate the maximum transmittance reading and it should be the best vertical cell holder setting (Generally speaking the cell holder should be almost at its lowest position. The Z-dimension is 15mm). Minor adjustment may be required if micro flowcell is used after such flowcell is installed.

Step 9: Place Flowcell into the Cell Holder. Be sure to align the windows of the flowcell with the horizontal light path of the instrument.

Step 10: Insert Flow-thru Panel for Peltier/Flowcell Accessory in place of removed panel.

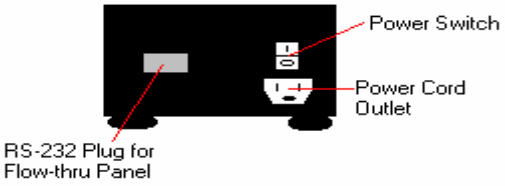
Step 11: Connect Peltier/Flowcell Controller to the Outlet Tube Connector (Figure 3).

Figure 3: Flow-thru Panel for Peltier/Flowcell Accessory



Step 12: Connect the 9-PIN Cable from the Flow-Thru Panel to the back of the Peltier/Flowcell Controller (Figure 4).

Figure 4: Back View of Peltier/Flowcell Controller



Step 13: Connect the tubing from the outlet connector of the Flow-Thru Panel to the Peltier/Flowcell Controller (Figure 5). Push the tubing into one of the two locking positions on both the Front and Back side of the Peristaltic Pump.

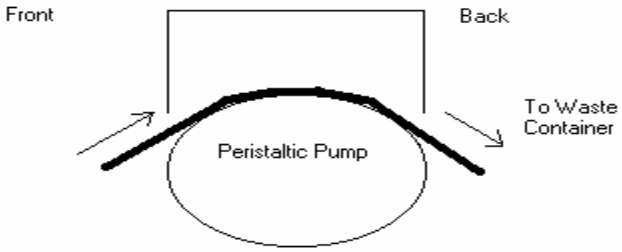
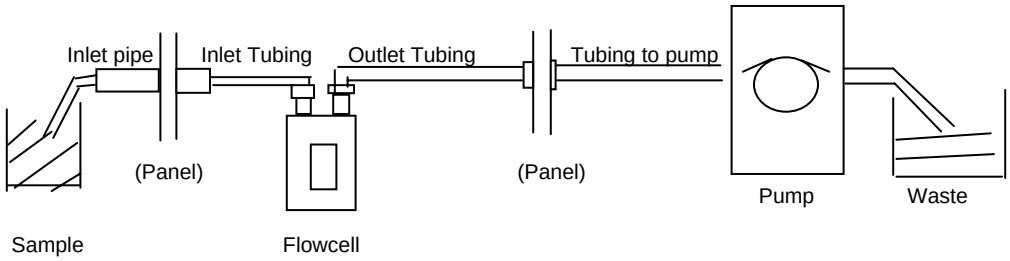


Figure 5: Peltier/Flowcell Controller Side View

Step 14: The external components are ready. Now, with tubing supplied by either the manufacturer or the user, connect the flowcell to the Flow-Thru Panel. Two different tubing will be needed inside the sample compartment:

- Inlet tubing: from inlet connector (pipe) to the flowcell. Depend on the type of flowcell, the inlet tubing may have a cap with thread. The inlet tubing is usually smaller in diameter.
- Outlet tubing: from the flowcell to the outlet connector. This tubing is usually the same size as the tubing from the outlet connector to the peristaltic pump.

The length should be no less than 10cm for each section of tubing. The Peltier/Flowcell Accessory is now ready for testing.



The Liquid Flow Chart

USING THE PELTIER/FLOWCELL ACCESSORY

Step 15: Turn on the spectrophotometer (if power is off) and Peltier/Flowcell Accessory. Select the temperature (25, 30, or 37°C) on the Controller. To do this, push the “Mode” button on the Controller so the temperature light is illuminated. Select the temperature using the “up” and “down” buttons (Figure 6).

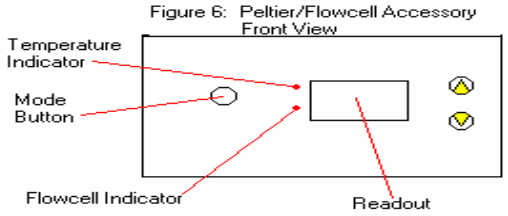


Figure 6: Peltier/Flowcell Accessory Front View

Step 16: Press the “Mode” button on the Controller. The number showing is the number of seconds the peristaltic pump on the flowcell system will operate. To adjust this, use the “up” and “down” buttons. PLEASE NOTE: Since sample size and desired volume varies from sample to sample, the user must experiment to find the optimum pump time. If less volume to be used is desired, then decrease the Flowcell (pump) time. If more volume is needed, then increase the time.

Step 17: To start the flowcell (pump), press the red button on the Flow-Thru panel on the front of the instrument. Repeat as desired.

NOTE: IT IS VERY IMPORTANT TO KEEP THE FLOWCELL SYSTEM CLEAN. TO ENSURE A LONGER LIFETIME FOR THE FLOWCELL, PUMP WATER INTO THE SYSTEM WHEN NOT IN USE (I.E. OVERNIGHT).