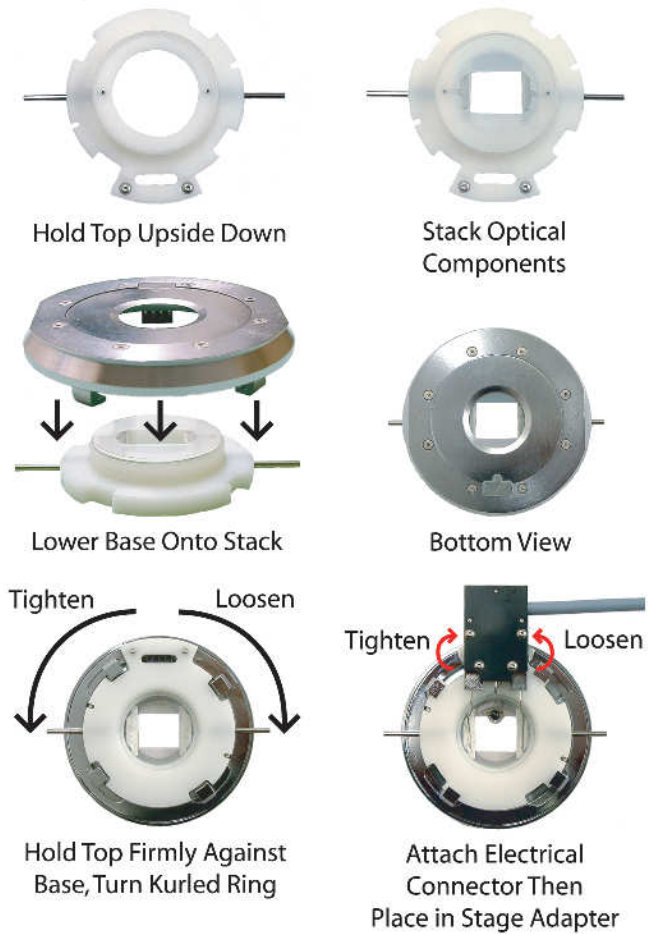
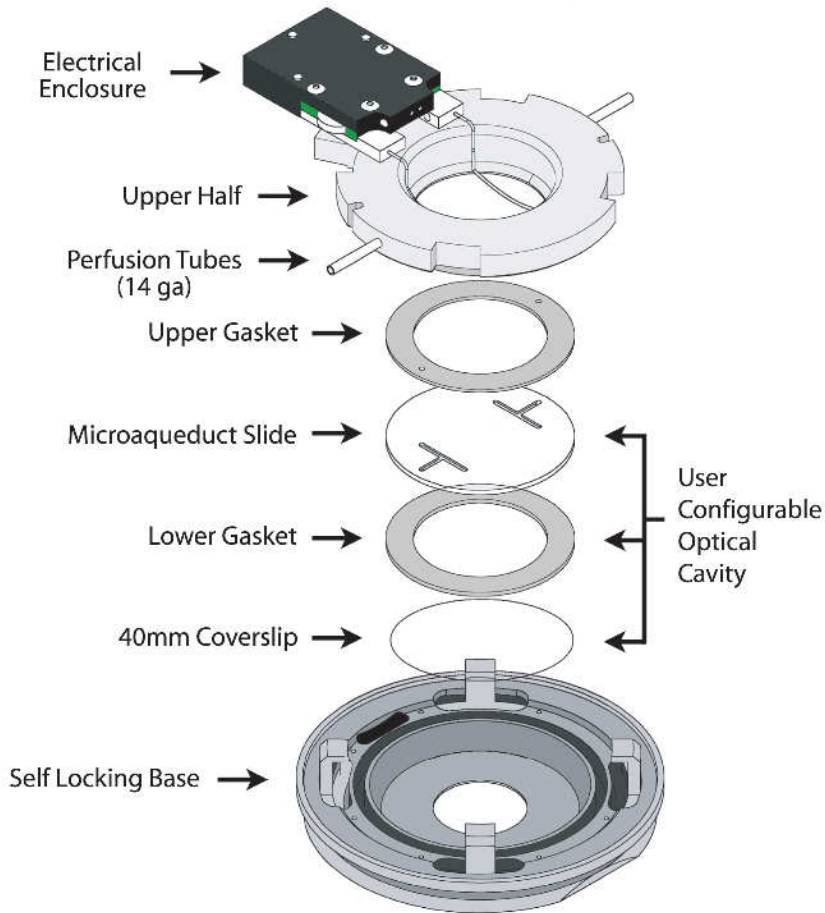


FCS2 Chamber Assembly Instructions

(See Manual for Detailed Instructions)



Loading the Chamber

1. Attach perfusion tubing to the inlet and outlet ports of the chamber. Bioptechs recommends 1/16" Tygon #2275 tubing for best bio-compatibility and ease of use. See perfusion drawing.
2. Turn the top of the chamber (white) upside-down. Place the upper gasket (.75mm thick) into the recess while aligning the perfusion clearance holes with the perfusion tubes.
3. Place the microaqueduct slide on the upper gasket so that it is aligned with perfusion tubes (grooved side up).
4. Place the lower gasket (0.1mm - 1.0mm thick) onto the microaqueduct slide and press around the perimeter creating a seal.
5. Perfuse some media through the perfusion port producing a bead on the surface of the slide to displace air trapped in the line.
6. Lower the coverslip with cells onto the bead until it is resting on the gasket.
7. Place the closure assembly on top of this stack while aligning the black electrical connector with the oval slot in the chamber top. Maintain a gentle pressure while turning the chamber over so that it is right side up then can observe as the four paws engage the top through the depressions about the perimeter. Turn the large knurled ring counter-clockwise until tight. This will symmetrically tighten and seal the chamber.
8. For applications involving rapid perfusion, a drop of immersion oil can be placed at the point where the base of the chamber meets the coverslip in the exposed aperture of the chamber. This drop will be drawn in by capillary action and enhance thermal conductivity to the coverslip. Place a light film of immersion oil on the flat surface of the surface probe to enhance thermal conductivity.
9. Place the black power/sensor connector back on the two threaded posts and symmetrically rotate CW (using thumb and forefinger) the two knurled nuts onto the post. Make sure the spring wires make contact with the bus bars on the surface of the microaqueduct slide.
10. It is important that the flat side of the surface probe is making uniform contact with the microaqueduct slide because the feedback loop that controls the microaqueduct temperature is reliant on this thermal contact point.
11. Plug the FCS2 Chamber into the controller (6 Pin mini DIN).
12. The display can be switched between Set, Slide and Chamber at any time to monitor temperature without interfering with the regulation. If the Chamber was preheated it will come up to temperature in about 1 minute. Otherwise it will take longer.
13. The Chamber should now be mounted onto the microscope adapter in the stage.
14. The vertical portion of the drain tubing, which extends down from the stage to your waste receptacle will create a siphon and form negative pressure in the chamber. This negative pressure will cause the coverslip to flex. This can be eliminated by breaking the siphon at a point equal to the height of the specimen with a "T" fitting.