GAMRY INSTRUMENTS

QUICK-START GUIDE

Quick Start Guide

Photoelectrochemical Cell

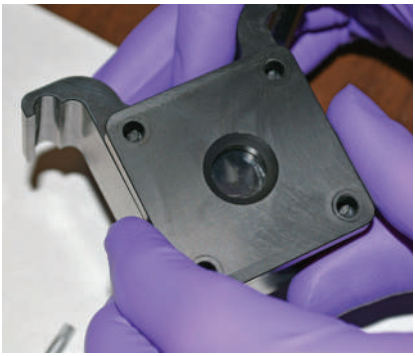
We recommend that you wear gloves when assembling the photo-electrochemical cell to protect the cell's surfaces from contamination.

1 Assemble the front side of the cell body.

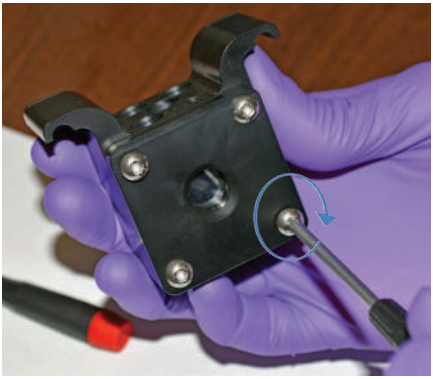
a Drop the O-ring into the circular groove.

b Place the optical sapphire window onto the O-ring.

c Place the front plate onto the sapphire window.

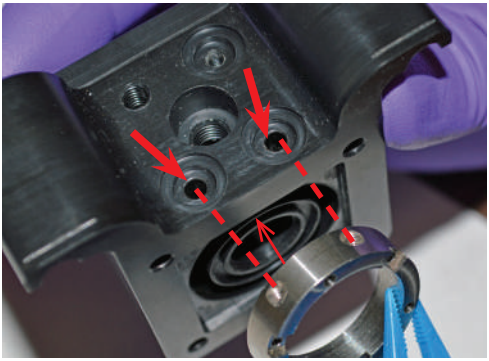


d Using the supplied Torx® driver, secure the front plate with four #8-32 screws. Tighten the screws on opposite corners. **Do not overtighten! You can break the sapphire window!**

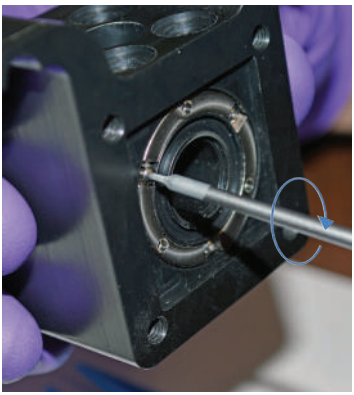


2 Assemble the rear side of the cell body.

a Drop the metal ring into the circular groove.
Be sure that the two radial tapped holes are aligned with the top of the cell body. (Later, screws will fix the ring to the body.)

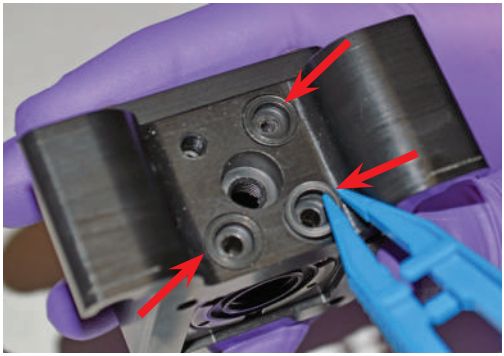


b Place the three #0-80 screws into the three indented holes in the metal ring.
Tighten the screws using the driver. The head of each screw should be below the outer surface of the metal ring.



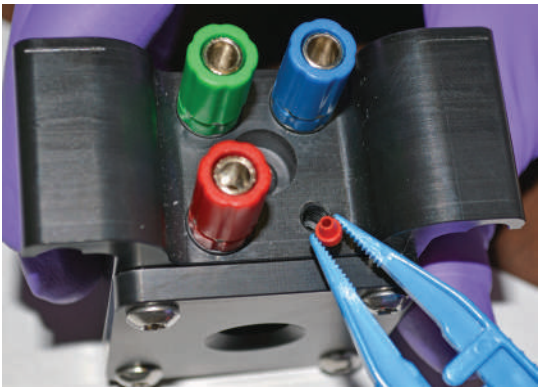
3 Add top electrode connections.

a Drop the three 6.5 mm dia. O-rings into these electrode holes.

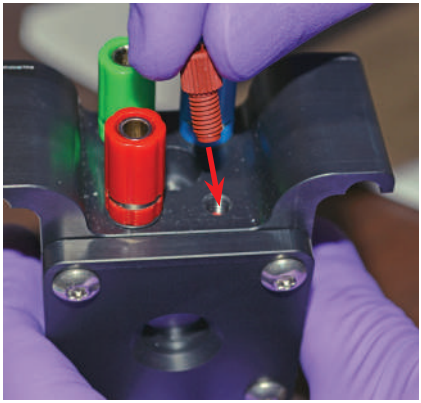


b Over the O-rings, screw in the three colored electrode adapters. The colors correspond to the positions exactly as shown.

c Drop the small ferrule into the fourth hole.



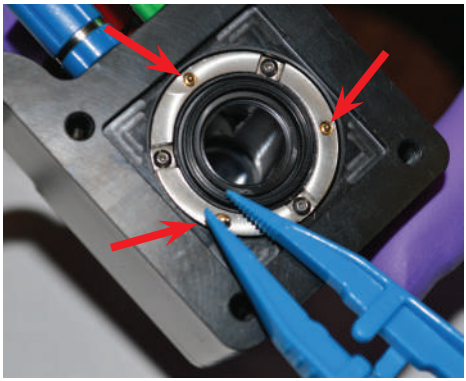
d Screw the VacuTight™ fitting into the hole with the ferrule.



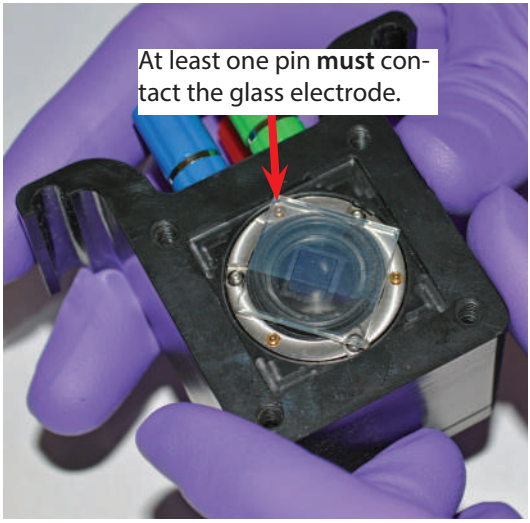
4 Add working electrode.

a Insert the other 16 mm dia. O-ring into the circular groove.

b Place the three gold-plated, spring-loaded contact pins into the three empty holes in the metal ring. The smaller, spring-loaded ends must be upward, away from the cell body.

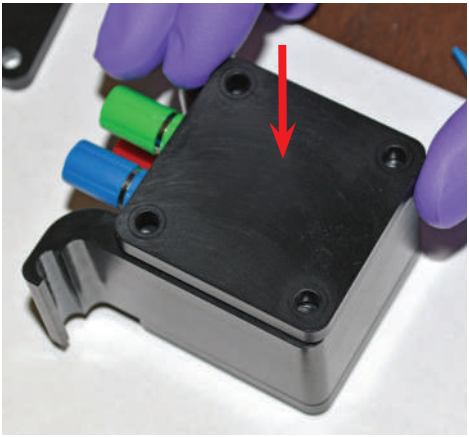


c Carefully place your glass electrode over at least one of the gold contacts. (Best results are with all three contacts touching the glass.) The photo shows a small electrode with only one pin in contact.

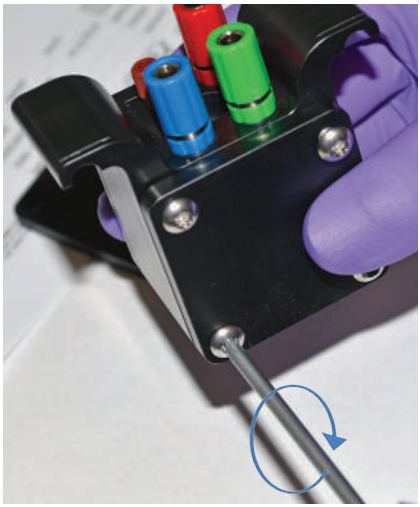


Specifications for ITO or FTO glass electrode:
Thickness = 2 to 2.2 mm
Optimum dimensions are 25 × 25 mm
Maximum dimensions are 30 × 30 mm
Radius of contact pins = 24.5 mm

d Place a back plate over the electrode. You may use either the solid plate, or the other plate with a viewing port.

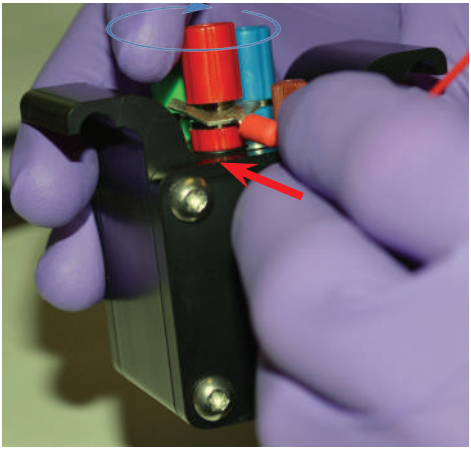


e Using the supplied Torx® driver, secure the back plate with four #8-32 screws. Tighten the screws on opposite corners. **Do not overtighten! You can break the glass electrode!** A slight gap between back plate and cell body is acceptable: The O-rings ensure that the cell is watertight.

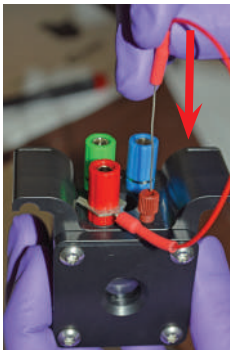


5 Affix the Pt counter electrode.

a Insert the electrode's fork and screw down.



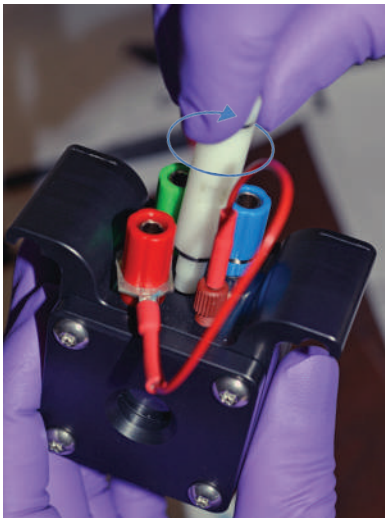
b Insert the Pt wire into the adapter. Through the port, you should be able to see the wire inside the cell, but it should not block the light path.



6 Fill cell (capacity ~ 3 mL) with electrolyte.

7 **Optional:** Screw the Ag|AgCl reference electrode into the cell.

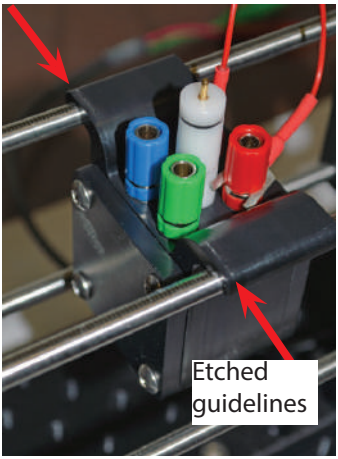
The electrode should be visible inside the cell, through the viewport.



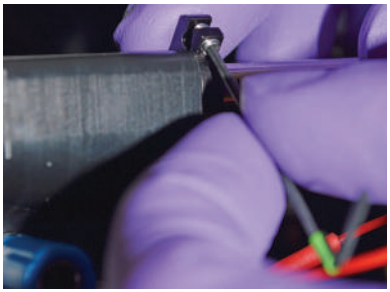
8 Place cell on optical bench.

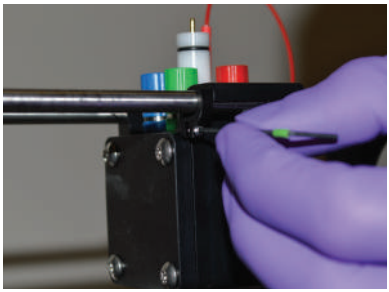
a Place the cell on the upper rails, with the viewport facing the LED source.

Etched lines in the cell's "wings" show the position of the working electrode's surface and electrolyte. Use these guidelines with the ruled rails to help determine positioning of the cell.



b To firmly attach the cell to the rails, you may add two clips at diagonal corners. Tighten the clips with an 0.035" Allen key.





Parts list for 990-00416

Part Number	Description	Quantity
820-00113	Cell body	1
820-00114	Front plate	2
820-00115	Back plate	1
820-00120	Contact ring	1
730-00053	Red counter-electrode banana jack	1
730-00054	Green working-electrode banana jack	1
730-00055	Blue working-sense-electrode banana jack	1
985-00165	Counter-electrode assembly	1
972-00068	VacuTight ferrule	1
972-00069	VacuTight fitting	1
700-00156	Pogo pin	6
935-00117	16 mm dia. O-ring	3
935-00118	6.5 mm dia. O-ring	4
830-00059	#8-32 × ⅜" Torx® screw	10
830-00060	#0-80 × ⅜" socket-cap screw	5
821-00008	T-15 Torx® screwdriver	1
821-00009	0.035"/0.9 mm hex screwdriver	1
955-00009	Tweezers	1
988-00048	Quick-start Guide	1
972-00067	Optical sapphire window, 20 mm dia., 2 mm thick	1
972-00070	Cage-plate stopper	2
971-00008	Optional Ag|AgCl reference electrode	1

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We have a variety of resources available to help you get started. Feel free to visit our website to find out more information on:

Application Notes - http://www.gamry.com/application-notes/
Technical Support - http://www.gamry.com/service-support/
Training Videos - http://www.youtube.com/gamryinstruments

What Does Gamry Software Do?

Gamry Framework™

Controls your Gamry potentiostat for advanced and flexible data aquisition. Select from standardized experiments that are grouped by research type or use the Sequence Wizard to build complex automated experiments.

Echem Analyst™

Quick and easy data analysis. Open your data files with Echem Analyst to perform specialized analysis algorithms and produce high quality plots. Plots can be customized, overlaid, and scaled, or data can be exported for use in other plotting programs.

My Gamry Data™

The default data folder location for Gamry Framework data files. You will find a shortcut on your desktop after installation. The data folder location can be changed within Gamry Framework by selecting: Options > Path.