

Dr. Bob's Cell For Small-Scale Electrochemistry



Product Description

Dr. Bob's Cell is a versatile electrochemical cell designed for a wide variety of applications. Enzyme and catalysis studies, development of electrochemical sensors, basic research into battery mechanisms, and determination of redox potentials of inorganic complexes represent a few of its many applications.

You can use Dr. Bob's Cell with both macro (1-3 mm diameter) electrodes and microelectrodes (10 μm). It can be used with electrolyte volumes as small as 2 ml and as large as 30 ml. The standard kit includes a unique cell stand that allows you to set-up and operate the cell without a cumbersome ring-stand.

Dr. Bob's Cell is equipped with 5 multi-purpose ports. In the normal cell configuration, these ports are used as follows:

- One central Ace-Thred port for a Working Electrode (ordered separately)
- One Ace-Thred port for a Luggin capillary/bridge tube for use with Gamry's SCE, Ag/AgCl, and Hg/Hg₂SO₄ reference electrodes (electrodes ordered separately)
- One Ace-Thred port for a glass frit isolated platinum wire counter electrode (a wire is supplied)
- One 14/20 ground glass port for inert gas purging/blanketing (an adapter is supplied)
- One 14/20 ground glass port usable for temperature sensing, reagent addition, gas venting, etc.

The cell includes a miniature Teflon coated magnetic stir bar for use with standard laboratory magnetic stirrers.

Because Dr. Bob's Cell uses standard joints and fittings, you can easily customize it for specific Applications. In addition, a cell with a water jacket is available if your experiments require controlled temperatures.



Specifications

Dimensions

Electrolyte Volume Between 2 ml and 30 ml
Size Approximately 10 cm diameter by 30 cm high (including electrodes)

Working Electrode Port

Type #7 Ace-Thred
Electrode Diameter Supports 6.5 mm to 7.5 mm diameter electrode bodies
Electrode Length For work with small volumes, length must be at least 11 cm
Macro Electrodes glassy carbon, gold, and platinum (3 mm diameter)
Micro Electrodes 10 μ m gold and platinum electrodes and 11 μ m glassy carbon

Reference Electrode Port

Type #7 Ace-Thred - includes a standard reference electrode bridge tube
Reference Electrode Diameter 9-11.5 mm (when used with the bridge tube)
Bridge tube termination in electrolyte Unfired Vycor® disk, 3.5 mm diameter

Counter Electrode Port

Type #7 Ace-Thred – comes equipped with fritted glass isolation tube
Counter electrode 0.41 mm diameter platinum wire, approx 150 mm long

Gas Flow Port

Type 14/20 - equipped with three way gas flow adapter (purge, blanket, vent)

Spare Port

Type 14/20- supplied with several polyethylene stoppers

Chemical Compatibility

Wetted Materials Pyrex®, PTFE, unfired Vycor®, ACE FETFE, Platinum, Polyethylene
Non-Wetted Materials Above, plus nylon

Parts List

Quantity	P/N	Description	Quantity	P/N	Description
1	900-55	Manual, Dr. Bob's Cell	3	935-52	#7 Ace-Thred Bushing, Nylon
1	930-31	Dr. Bob's Cell, Standard	1	935-53	#11 Ace-Thred Bushing, Nylon
1	930-32	Dr. Bob's Cell Bridge Tube	1	935-54	Adapter, #7 Ace-Thred to 1/4" hose
1	930-33	Bubbler Adapter	150 mm	935-56	Platinum Wire, 0.4 mm dia
1	930-34	Bubbler	1	935-57	Support Stand for Dr. Bob's Cell
1	930-35	Fritted Counter Electrode Bridge Tube	5	935-59	Polyethylene Stoppers for 14/20 Joint
1	930-44	Reference Electrode Bridge Tube	1	935-65	Stir bar, 6.35 x 2 mm

Accessories Ordered Separately

P/N	P/N
930-03 SCE Reference, 9 mm body with Vycor Tip	932-01 Disk electrode, 3 mm dia Glassy Carbon
930-15 Ag/AgCl Reference, 9 mm body with Vycor Tip	932-02 Disk electrode, 3 mm dia Gold
930-29 Hg/Hg ₂ SO ₄ Reference, 9 mm body with Vycor Tip	932-03 Disk electrode, 3 mm dia Platinum
	932-04 Microdisk electrode, 11 μ m dia, Glassy Carbon
930-37 Dr. Bob's Cell, Jacketed	932-05 Microdisk electrode, 10 μ m dia, Gold
990-195 Solid Electrode Hand Polishing Kit	932-06 Microdisk electrode, 10 μ m dia, Platinum

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