

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 (13 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 setup and operate the cell without a cumbersome ringstand.

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

- One central AceThred port for a Working Electrode (ordered separately)
- One AceThred port for a Luggin capillary/bridge tube for use with Gamry's SCE, Ag/AgCl, and Hg/Hg₂SO₄ reference electrodes (electrodes ordered separately)
- One AceThred 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

The cell includes a miniature PTFE 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	
Working Volume	Between 1 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 carbon fiber
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	
93003	SCE Reference, 9 mm body with Vycor Tip	93201	Disk electrode, 3 mm dia Glassy Carbon
93015	Ag/AgCl Reference, 9 mm body with Vycor Tip	93202	Disk electrode, 3 mm dia Gold
93029	Hg/Hg ₂ SO ₄ Reference, 9 mm body with Vycor Tip	93203	Disk electrode, 3 mm dia Platinum
		93204	Microdisk electrode, 11 μ m dia, Glassy Carbon
93037	Dr. Bob's Cell, Jacketed	93205	Microdisk electrode, 10 μ m dia, Gold
990195	Solid Electrode Hand Polishing Kit	93206	Microdisk electrode, 10 μ m dia, Platinum

