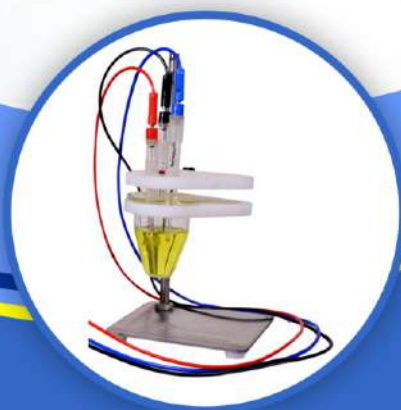




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# Most Versatile HandHeld Potentiostat

## ELECTROCHEMISTRY APPLICATIONS

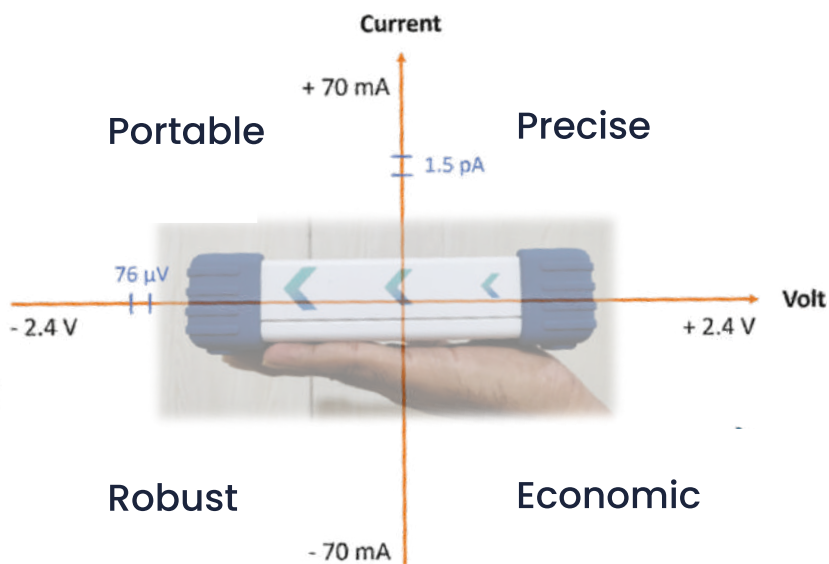
- Sensing & Biosensing
- Electrodeposition
- Electrocatalysis
- Corrosion Research
- Thin film Research
- Energy Research
- Water Analysis



MedPstat

Designed and  
Developed proudly  
in India

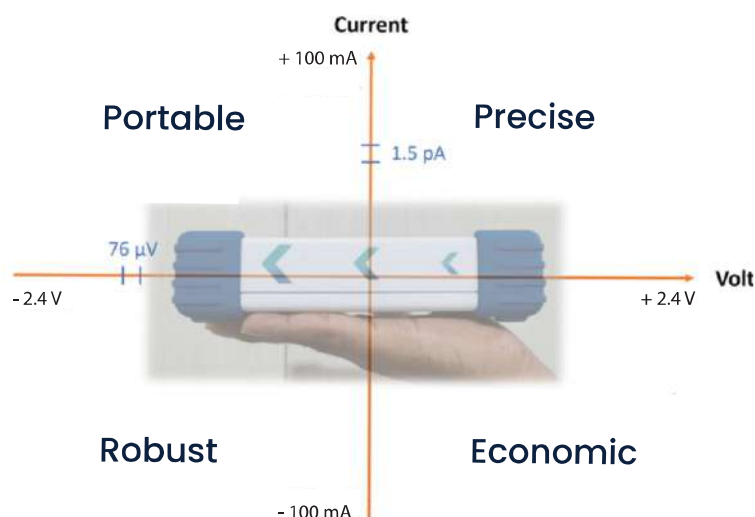
CV  
ChronoA  
OCV  
LSV  
SWV  
DPV  
ChronoP  
Charge-Discharge



# MedPstat 1.0 (Advance)

## Detailed Specifications

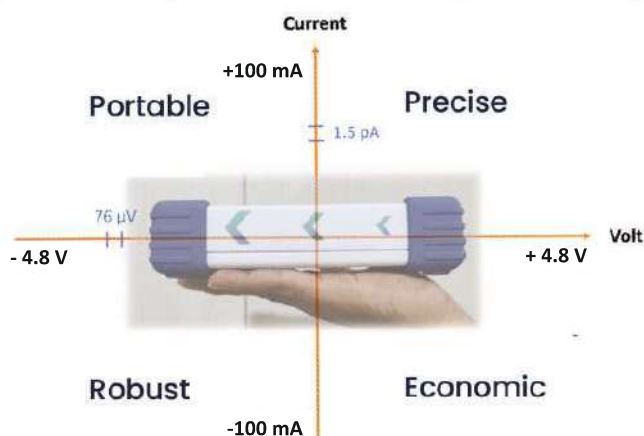
Channels Per Unit	1
Methods Available	CV, LSV, ChronoAmp, OCP, DPV, SWV
Applied potential range	$\pm 2.4$ V
Applied Potential Accuracy	0.1% of the setpoint, 1mV Max
Applied Potential Resolution	76 $\mu$ V
Measured Potential Accuracy	0.1% of the setpoint, 1mV Max
Measured Potential Resolution	156 $\mu$ V
Compliance Voltage	$\pm 8$ V
Maximum Current	100 mA
Current ranges	7 Ranges
Measured Current Accuracy	0.5% of the range, 50pA max
Measured Current Resolution	0.015% of range, 1.5 pA
Input Impedance	> 10 T $\Omega$
Input Bias Current	1pA Max
Computer Interface	USB
Channel Cable Length	0.8 meter
Power supply	12V DC
Power Supply Requirements	100V - 240V AC
Weight	285 grams
Physical Dimensions	181mm * 91.5mm * 42mm
Operating temperature range	0 to 50 $^{\circ}$ C
communication	USB
PC Software	Available with lifetime license
Bandwidth	upto 4 MHz
Max. acquisition rate	1 KHz
ADC/DAC Resolution	16 bit
Slew Rate	3.5 V/ $\mu$ S
Maximum Sampling Speed	5,00,000 samples/sec



# MedPstat 2.0 (Potentiostat/Gavanostat)

## Detailed Specifications

Channels Per Unit	1
Methods Available	CV, LSV, ChronoAmp, OCP, DPV, SWV, ChronoPot, Charge-Discharge
Applied potential range	$\pm 4.8$ V
Applied Potential Accuracy	0.1% of the setpoint, 1mV Max
Applied Potential Resolution	152 $\mu$ V
Measured Potential Accuracy	0.1% of the setpoint, 1mV Max
Measured Potential Resolution	156 $\mu$ V
Compliance Voltage	$\pm 8.0$ V
Maximum Current	100 mA
Current ranges	7 Ranges
Measured Current Accuracy	0.5% of the range, 50pA max
Measured Current Resolution	0.015% of range, 1.5pA
Applied Current Resolution (Gal)	1.52nA
Measured Potential Range (Gal)	$\pm 7.5$ V
Input Impedance	$>10$ T $\Omega$
Input Bias Current	1pA Max
Computer Interface	USB
Channel Cable Length	0.8 meter
Power supply	12V DC
Power Supply Requirements	100V - 240V AC
Weight	305 grams
Physical Dimensions	181mm * 91.5mm * 42mm
Operating temperature range	0 to 50 $^{\circ}$ C
communication	USB
PC Software	Available with lifetime license
Bandwidth	upto 4 MHz
Max. data acquisition rate	1 KHz
ADC/DAC Resolution	16 bit
Slew Rate	3.5 V/ $\mu$ S
Maximum ADC Sampling Speed	5,00,000 samples/sec



## Electrochemical Workstation (Potentiostat / Galvanostat)

### Squidstat Solo (Make: Admiral Instruments, USA)

Channels Per Unit: 1  
Operating Modes: Pot / Gal / ZRA  
Cell Connections: 2, 3, 4, or 5 electrode  
Applied Potential Range:  $\pm 10$  V  
Applied Potential Resolution: 300  $\mu$ V  
Compliance Voltage:  $\pm 12$  V per channel  
Maximum Current:  $\pm 100$  mA  
Measured Current Resolution: 300 fA



## Electrochemical Workstation (Potentiostat / Galvanostat / Impedance Analyzer)

### Squidstat Plus (Make: Admiral Instruments, USA)

Channels Per Unit: 1  
Operating Modes: Pot / Gal / ZRA  
Cell Connections: 2, 3, 4, or 5 electrode  
Applied Potential Range:  $\pm 10$  V  
Applied Potential Resolution: 15  $\mu$ V min  
Compliance Voltage:  $\pm 12$  V per channel  
Maximum Current:  $\pm 1$  A  
Measured Current Resolution: 3 pA max  
AC Frequency Range for EIS 10  $\mu$ Hz to 2 MHz



## Multichannel Electrochemical Workstation (Potentiostat / Galvanostat)

### Squidstat Prime (Make: Admiral Instruments, USA)

Channels Per Unit: 4  
Operating Modes: Pot / Gal / ZRA  
Cell Connections: 2, 3, 4, or 5 electrode  
Applied Potential Range:  $\pm 10$  V  
Applied Potential Resolution: 300  $\mu$ V  
Compliance Voltage:  $\pm 12$  V per channel  
Maximum Current:  $\pm 250$  mA per channel  
Measured Current Resolution: 750 fA



# High Current Electrochemical Workstation (Potentiostat / Galvanostat / Impedance Analyzer)

Potentiostat with EIS up to 2 MHz

**Squidstat Penta ( $\pm 5$  A)**



**Squidstat Decka ( $\pm 10$  A)**



**Squidstat Venta ( $\pm 20$  A)**



## Squidstat Cyclor for High Power Batteries & Fuel Cells

Ai Squidstat Cyclor Base Model	
Channel Count / Dimensions	4 channels per unit: 23 x 17 x 6 cm
Cell Connections	4-terminal, Power + Remote Sense
Maximum Current	$\pm 5.0$ A per channel
Current Ranges	2 ranges (5.0A/500.0mA)
Current Accuracy	0.1% of Meas + 0.035% of range (min 500.0 $\mu$ A)
Current Resolution	0.1ppm of range (min 69.75nA)
Voltage Measurement Range	0 - 5.0V, 24-bit precision
Compliance Voltage Range	0 - 10.0V
Voltage Accuracy	$\pm 500.0\mu$ V Initial, $\pm 0.015\%$ of measurement per year
Voltage Resolution	321nV
EIS Frequency Range	Per Channel: 10 $\mu$ Hz to 10 kHz
DC Sampling Rate	2500 Samples/s per Device
Minimum Time Step	500 $\mu$ s
Time Resolution	< 100 $\mu$ s
Rise Time	5.2ms Typical (10%-90%, 0.5-4.5V)
Slew Rate	1 kV/s DC, 30 kV/s Max AC
Current Precision Settling Time (Step Change)	< 10 ms to 0.15% typical, Load Dependent
Idle Power Consumption	4 W
Voltage Sense Line Impedance	176M $\Omega$ m
Temperature Measurement	-40 $^{\circ}$ C to 80 $^{\circ}$ C thermistor per channel ( $\pm 1^{\circ}$ C accuracy)
Current Paralleling	+20.0A Maximum (operating as a single-channel device)



Customizable up to a 0-60V voltage scan range and +/-60A maximum current range per channel

## Electrodes



**MTX** (Make: Medetronix Labs, India)

### PCB Gold Electrode:

- Dimensions: 50 x 13 mm (h x w)
- Working Electrode: Gold (3 mm diameter disk)
- Counter/Auxiliary electrode: Gold
- Reference Electrode: Ag or Ag/AgCl
- Connector Available (Additional Price)
- Most cost effective available disposable electrode worldwide

### Pt Electrode:

- Platinum Mesh/Tip/Foil/Coil
- High mesh surface area
- Long term stability
- Robust design
- Banana pin connector
- Holder for gripping
- 99.95% Pure Pt
- Customization Available



**MTX**

### Graphite Counter Electrode with Holder:

- Available Size - 3 mm, 6mm (diameter) x100mm length
- Gold-Coated Copper Holding Rod
- Heat & Corrosion Resistant
- High Conductivity
- 99.99% Pure Graphite



### Disc Type Electrode:

- Glassy Carbon / Gold / Platinum
- Available with 2mm, 3mm, 5mm Dia
- Cylindrical casing
- PTFE casing material
- Mirror-finish surface



**MTX**

### Glassy Carbon Plate Electrode :

- Length: 50mm
- Width: 50mm
- Thickness: 3mm





## L-Shaped Glassy Carbon Electrode:

- Diameter: 2mm, 3mm, 4mm, 5mm
- Corrosion-resistant Teflon coat
- Electrode body material: PTFE
- Glassy carbon electrode surface can parallel the counter electrode or reference electrodes
- Electrode preservation

## Cylindrical Platinum Mesh:

- Dia: 40mm
- Height: 20mm
- Available in customized sizes



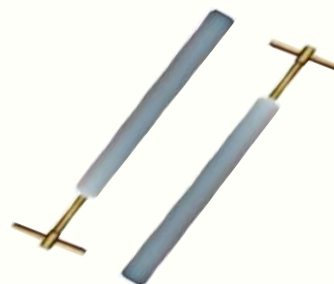
## Reticulated Vitreous Carbon Electrode:

- Size: 4.0" X 4.0" X 0.125"  
Available in: 60 PPI/ 100 PPI
- Size: 3.0" X 3.0" X 0.25  
Available in: 10 PPI/30 PPI/ 60 PPI/ 100 PPI



## Carbon Paste Electrode:

- PTFE Coat
- Copper push rod
- Put the carbon paste into the casing pipe and press it strong with the copper push rod
- The electrode is reusable
- Dia: 3mm, 4mm, 5mm



## Reference Electrode:

(Ag/AgCl, SCE, Hg/HgO, Hg/Hg<sub>2</sub>SO<sub>4</sub>, Cu/CuSO<sub>4</sub>, Non Aq Ag/Ag<sup>+</sup>):

- Dual Compartment
- Porous Glass Frit
- Long term stability
- Working temperature range 0°C to 100°C
- Depending on the reference electrode type
- Standard Solution:

Ag/AgCl (3M KCl)

SCE (Saturated KCl)

Hg/HgO (1M NaOH)

Hg/Hg<sub>2</sub>SO<sub>4</sub> (1M H<sub>2</sub>SO<sub>4</sub>)

Cu/CuSO<sub>4</sub> (1M CuSO<sub>4</sub>)

Non Aq Ag/Ag<sup>+</sup> (10mM AgNO<sub>3</sub>, 0.1M TDAB in Acetonitrile)



## Electrodes



### Ag/AgCl Solid State Reference Electrode

- Stable & Reproducible Reference Potential
- Solid-State Design-Low Maintenance & Long Life
- Works with Aqueous & Non-Aqueous Electrolytes
- Durable, Chemically Resistant PEEK Housing
- Ideal for Electrochemical Cells & Sensors

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### Hg/HgO Solid State Reference Electrode :

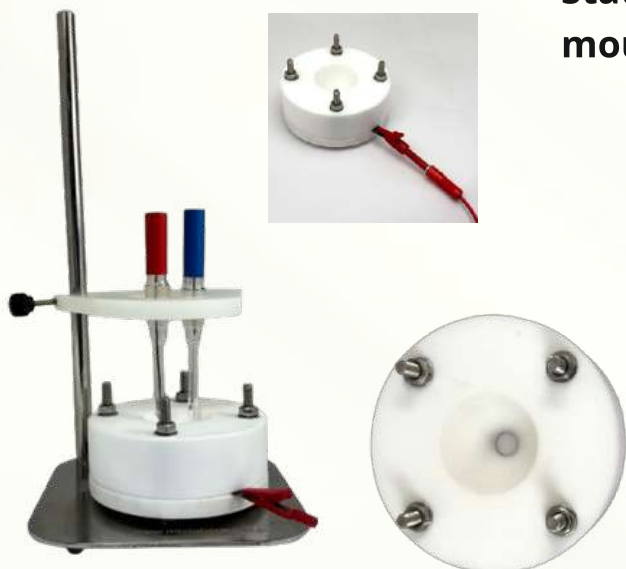
- Dual Compartment
- ceramics frit
- No need of any filling solution
- Standard ground joint 14/23, enables gas tight fitting
- used in alkaline media
- Stainless steel connecting Rod



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### Stationary solution voltammetry cell/Bottom mount electrochemical cell set up

- Working Electrode Exposure Diameter: 10 mm
- Cell Working Volume:15 ml
- Chemically resistant, durable PTFE body
- Stainless steel screws for stable and tight assembly
- High-quality silicone gasket for gas-tight - working electrode



## Working Electrode Holders

### Pellet/Film Holder:



- Secure Clamping for Pellet Samples
- High Conductivity Copper Contact Plates (Optional Gold-Coating Available)
- Durable Delrin & SS 304 Construction
- Compatible with Electrochemical & Spectroscopy Tests
- Easy to Assemble & Adjust

### Working Electrode Sample Holder with Screw:

- Available Holding Plate: Gold, Platinum, Titanium, Copper, and Stainless Steel
- Purity: 99.99% for all holding plates
- It holds samples up to 2 mm thick
- Max Sample Holding Length: 5 mm, Width: 3 mm
- It is made up of gold -coated copper
- The sample fittings are easily attached via screw tightening



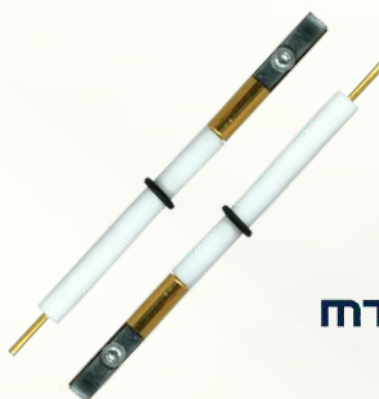
MTX

### Working Electrode Holder (Clip Type):

- Available with B-14 Holder
- Gold Coated Copper Rod for Connection
- Teflon body holder
- Gold Coated Clip for better conductivity

### Mini Working Electrode Holder:

- Available with Screw-type
- Gold Coated Copper Rod for Connection
- Titanium Holding Plate & Screw
- Teflon body holder
- Size: OD 6mm

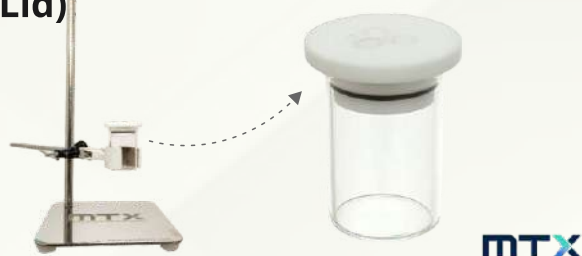


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## Electrochemical Cells

### Mini Gas-Tight Cell with Stand (Teflon Lid)

- Available volume 20 ml & 50 ml
- Borosilicate & PTFE material
- Hole Size on the lid: 5mm
- Max Temperature: 100°C
- Available with & without Stand



### Gas-Tight Conical Cell with Stand:

- Available volumes: 100ml & 30ml
- Cell type: Conical
- Neck type: For 30ml, 4 Necks (1xB14 & 3xB10)  
For 100ml, 4 Necks (4xB14)
- Material: Borosilicate Glass
- Max Temperature: 100°C

Note: Electrodes & Cables in the image are not included in cell pricing.



### Mini Gas-Tight Conical Cell with Stand:

- Available volumes: 10ml
- Cell type: Conical
- Neck type: 4 Necks (3xB10 & 1xB14)
- Material: Borosilicate Glass
- Max Temperature: 100°C



### Gas-tight Thermal Jacket Cell:

- Cell Type: Conical
- Neck type: 4 Necks (3xB14 & 1xB19)
- Material: Borosilicate Glass
- Volume: 100 mL
- Max. temperature: 150°C



### Round Bottom Cell Setup:

- Cell Type: Round Bottom
- Neck Type: 4 Neck (3 B14 & 1 B19)
- Material: Borosilicate Glass
- Volume: 100 mL
- Max. temperature: 200°C



Make: Medetronix Labs, India



## Electrochemical Cell Set-up:

- Combined with salt bridge compartment
- Cell Volume up to 100 mL
- Available with a specific salt bridge
- Easy to handle
- Removable/Adjustable holders
- Working electrode connector
- Applicable at moderate temperature range (0 to 100°C)
- Customization Available
- Material: Borosilicate glass

Note: Electrodes & Cables in the image are not included in cell pricing.

## Flat Corrosion Cell:

- Available Volume: 50mL & 250 mL
- 10 mm x 10 mm Pt mesh as Counter Electrode
- 10 mm x 10 mm Working Electrode Slot
- Reference Electrode (SCE)
- With & without a luggin capillary for a reference electrode
- Max Temperature (80°C)
- Material: Borosilicate glass



## Photoelectrochemical Cell:

- Available volume: 150 mL & 250mL
- Quartz optical window for a light source
- Window size: 20mm in 150mL cell & 30mm 250mL cell
- Detachable optical window
- PTFE lid for holding electrodes
- Gas-tight fitting
- Provision for attaching the working electrode holder

Note: Electrode holder price is not included In the Cell price.

## H CELL (Separator with membrane holder):

- Two-compartment cell
- Gas-tight fitting
- Compartment volume: 50 mL
- Separator available
- Membrane Separation set-up
- PTFE lid available for both compartments
- Provision for purging gas

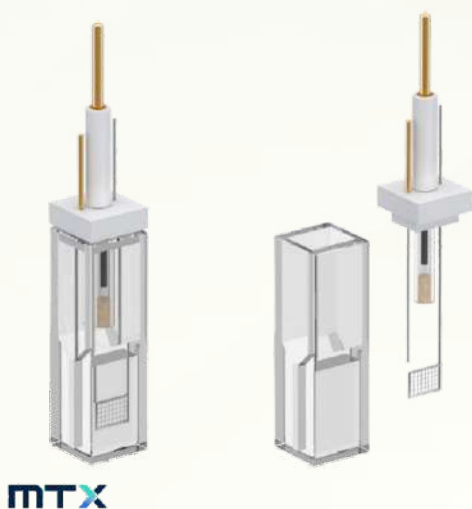


## H CELL (Glass frit separator):

- Two-compartment cell
- Gas-tight fitting
- Each Compartment volume: 50 mL
- Porous glass-frit separation
- PTFE lid available for both compartments
- Lids available with Si O rings
- Provision for purging gas



MTX



## Spectroelectrochemical Cell:

- The electrolytic cell body is polished with all quartz
- Light transmittance: above 95%
- Lid material: PTFE

### Electrodes Included:

- Reference silver-silver chloride electrode (diameter 3.8mm),
- Platinum mesh counter electrode (6 \* 7mm)
- Working electrode platinum wire dia 0.5mm
- Optional working electrode: Glassy carbon and gold disc with a diameter of 3mm
- The electrolytic cell dimension 12 mm x 12mm

## Luggin Capillary / Salt Bridge:

- Easy to maintain, Increases electrode life
- Quick refill with any standard salt
- Available with stable porous frit at bottom
- Available with B14/B10 standard Joint
- Gas tight fitting with B14 socket
- Fits with all DTEch B14 type reference electrodes



MTX



## Faraday Cage:

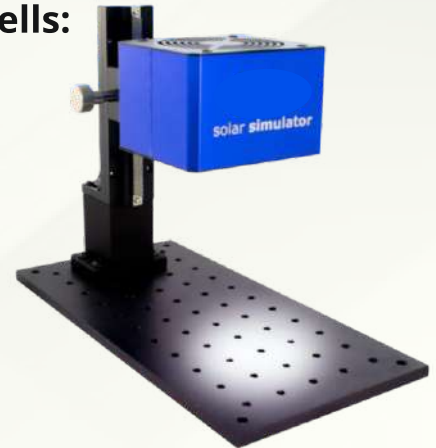
- Size01: 1feet x 1feet x 1 feet
- Size02: 1feet x 1feet x 2 feet(height)
- Cage Material: SS 304 Steel
- Conductively coated glass window (40mm x 40mm)
- Procedure for external body grounding
- Wide range EM protection (more than 10 GHz)
- Inbuilt banana female connector for passing signals through the cage

## Low Cost Solar Simulators

### Class AAA Solar Simulator for Small-Area Solar Cells:

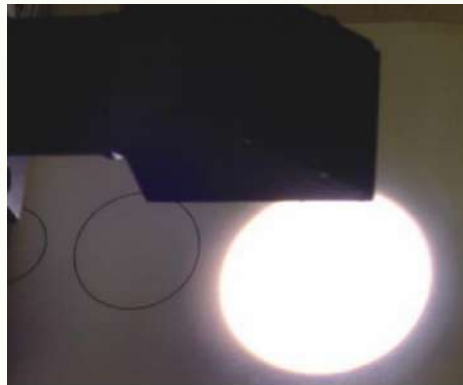
AAA spectral distribution over a 15 mm diameter

- Type: LED-based, steady state
- Spectral deviation: <70%
- Spectral coverage: >80%
- Working distance: 8.5 cm (3.35")
- Irradiance (at working distance): 1000 W/m<sup>2</sup>
- Maximum Lamp Time: 10000 hours
- Lamp Dimensions: L x W x H 10.5 cm x 9.0 cm x 8.0 cm  
(4.13" x 3.54" x 3.15")
- Weight 600 g (1.32 lbs)



### Low cost Solar Simulator (Model 10500):

- 1Sun Output Over 35 mm Diameter Field
- ASTM, IEC & JIS Class A AM1.5G Output
- Compact Integrated Design
- Fast F/1.0 Fused Silica Condenser
- DC Xenon Arc Lamp



### Banana Connector Cables:

- Highly Flexible & Less Noise
- Current Rating: 5A
- Length: 1 meter
- Connector type: 3.5mm Banana Pin
- Available Color: Red, Blue & Black

### High-quality Alligator Clip:

- Corrosion Resistive
- Banana Female Connector
- Available Colors: Red & Black
- Optimum for Holding Samples
- Current rating: 15 Amp



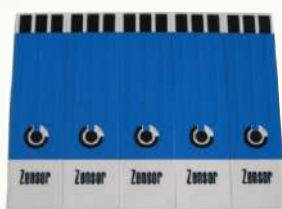
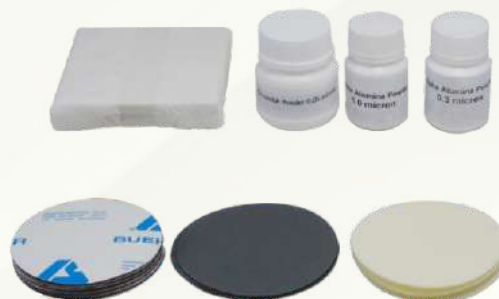
### Graphite Plate:

- 99.9% pure graphite
- Max size 100mm x 100mm
- Thickness: 3mm
- Customized size available
- Highly stable

## Other Available Accessories

### Polishing Kit:

- 1 bottle of 1.0 micron Alpha alumina powder
- 1 bottle of 0.3 micron Alpha alumina powder
- 1 bottle of 0.05 micron Gamma alumina powder
- 60 mm diameter 1200 grit disks (grey in color)
- 60 mm diameter Microcloth polishing pads (brown in color)
- 60 mm diameter Nylon polishing pads (white in color)

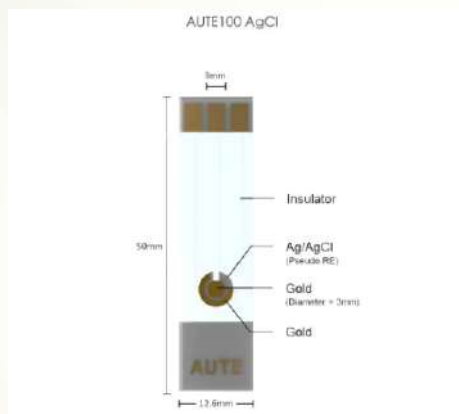


### Screen Printed Electrodes:

- Dimensions: 50 x 13 mm (h x w)
- Working electrode: 3 mm diameter disk
- Materials: graphitic carbon powder (working and auxiliary electrodes), Ag/AgCl pellet (reference)

### Screen Printed Electrode Connector:

- Suitable for Zensor SPEs
- Gold coated connections
- Ready-to-use pre-assembled PCB
- A 12" long cable for connecting



### Screen Printed Gold Electrode:

- Electrode system: 3 electrodes
- Base plate: PC
- Size of base plate (cm\*cm): 1.2\*5
- Material of WE: Au
- Size of WE: D=3mm
- Area of WE (cm<sup>2</sup>): 0.071
- Material of RE: AgCl
- Area of RE (cm<sup>2</sup>): 0.01
- Material of CE: Au
- Area of CE (cm<sup>2</sup>): 0.05

### FTO & ITO Plate:

- Substrate: Soda-lime float glass
- Dimension: 2cm x 1cm
- FTO Coated Glass
  - Resistivity: <10 ohms/sq - Film thickness: 1800-2000Å
  - Plate thickness: 2.2mm - Transmittance at 550nm - ≥ 79%
- ITO Coated Glass
  - Resistivity: ~10 ohms/sq - Film Thickness: 1800-2000Å
  - Plate thickness: 0.7mm - Transmittance at 550nm - ≥ 87%











Note: Customized dimensions available

## BIOSURE Last Mile Cold Chain Bags

BIOSURE is a portable passive cooling device that provides ideal environment for transport of temperature sensitive biological items like vaccines, RNA & DNA samples, blood samples, genomic medicines, nutraceuticals, testing media, etc. The optional features of Data logging, GPS tracking and Threshold alarms can be easily integrated with existing platforms for remotely monitoring and controlling the environment of the deliverables at fixed point temperatures.

Features

### Features

-  No battery usage for cooling Proactive IoT monitoring
-  Zero-maintenance system
-  1 year warranty
-  Interactive User Interface
-  Temperature display for frozen & refrigerated
-  Scientifically designed body for minimum
-  cold spots & hot spots with non-freezing environment
-  Washable material & easily to sterilize



### Technical Specifications

- Volume: 2-50L (different variants)
- Cold Life: 12-120 Hours (different variants)
- Energy Storage Technology: Phase Change Materials (PCM)
- Insulation: Extended Poly Ethylene (EPE) - CFC free, 25-75mm
- Outer Surface Material: Dobby Fabric, PU coated, 1000D, water resistant
- Inner Surface Material: Dobby Fabric, PU coated, 230D
- Cassettes with PCM: 400/600/1200ml, WHO-PQS/E005/IP01 specifications Temperature Display : LCD
- Sensor: PT-100
- Range: Short Range / Long Range
- Lid Type: Non Removable
- Carry Type: Shoulder Strap
- Ambient Temperature & Humidity range: -10 to +48 °C, 5% to 95%RH during Transport, Storage and Use
- Internal cabinet temperature: -25 to -20°C/-18 to -12 °C / 2 to 8°C
- Charging Time: 8 to 10 hours
- Initial cool down time: 15 minutes

# Water Electrolysis & Green Hydrogen Research/Production Products

## Electrolyzers (Research & Learning Purpose)

### AEM Electrolyzer:

#### Alkaline anion exchange membrane water electrolyzer hardware

- Electrode Area: 5 cm<sup>2</sup>
- Electrode Material: corrosion resistant Nickel anode and cathode flow fields
- MEA with base metal catalysts
- Metal gas diffusion layers
- Includes O-ring seals, and Teflon gasketing
- Operating conditions: 1 A/cm<sup>2</sup> at about 1.9 V at 60 °C in flowing 1 M KOH

Note that there are no heaters or cables included.

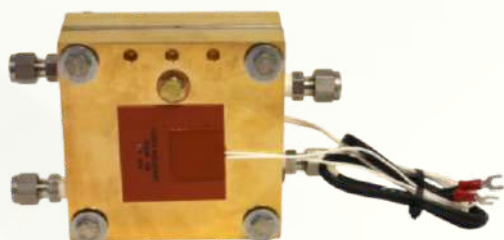


### PEM Electrolyzer Test Hardware:

- Active Area: 5cm<sup>2</sup> or 50cm<sup>2</sup>
- Endplates made from gold plated stainless steel
- Adhesive backed heater pads on each endplate to add heat Intermediate plates: Titanium
- MEA Testing Hardware

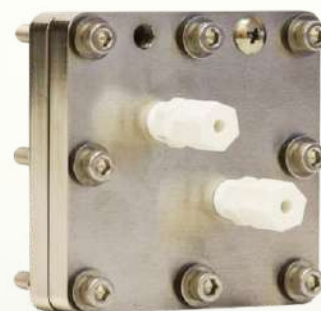
#### Includes

- Four 1/8" NPT x 1/4" compression fittings & internal seal O-rings Grade 5 nuts and bolts, 10-32 truss
- screws for electrical or thermal connections, 1/4"-20 brass bolt with copper washer for load connections



### CO<sub>2</sub> Electrolyzer:

- Electrode Area: 5 cm<sup>2</sup>
- Titanium anode flow field
- 904 L Stainless Steel cathode flow field, catalyst covered electrodes for anodes and cathodes of 5 cm<sup>2</sup> cell
- SustainionR membrane
- Nuts and bolts
- o-rings and
- insulating kit and electrolyzer testing service



## Fuel cell (Research & Learning Purpose)

### PEM/Methanol Fuel Cell Hardware:

Available active area sizes: 5 and 25 cm<sup>2</sup>

Available Heater control voltage: 110 or 220VAC

- Gold plated current collectors
- Machined graphite separator plates
- Banana plugs for monitoring voltage
- Belleville washer
- Built-in silicon rubber heaters (120 watt) for maintaining cell temperature
- Nylon fittings for gas tight connection to 1/4" tubing
- Gaskets: Silicone (standard)
- Size (H x W x L): 11cm x 9.5cm x 4.5cm
- Weight (pounds): 3
- Fuel Compatibility: O<sub>2</sub>, H<sub>2</sub>, air, methanol, ethanol, liquid acid/base electrolyte
- Normal Operating Temp: 65 to 75 °C
- Maximum Temp: 180 °C
- Thermocouple Insert Hole: 0.080" or 0.185"



### PEM Fuel Cell Stack (Industrial/Production):

- **Options:** 12W to 5000W
- 100W Fuel Cell Specifications
- Number of Cells- 20
- Rated Performance- 12V @ 8.3A
- Hydrogen Supply Valve Voltage- 12V
- Purging Valve Voltage- 12V
- Blower Voltage- 12V
- Reactants- Hydrogen and Air
- Ambient Temperature- 5 - 30 °C; (41 - 86 °F)
- Max Stack Temperature- 65 °C (149 °F)
- Hydrogen Pressure-0.45 - 0.55 Bar
- Humidification- Self-humidified
- Cooling- Air (integrated cooling fan)
- Controller Weight- 400g ± 30g
- Stack Weight (with Fan & Casing)- 1290g ± 50g Hydrogen
- Flow Rate at Max Output- 1.3 L/min
- Stack Size- 118 x 104 x 94mm (4.6" x 4.1" x 3.7")
- Hydrogen Purity Requirement-> 99.995% (dry H<sub>2</sub>)
- Efficiency of System- 40% at 12V
- Low Voltage, Over Current, Over Temperature Protection



### Direct Methanol Fuel Cell Flex-Stak:

Available Flex Stack Cells: 1, 5, 10 and 20

- Technical Specifications:
- Power: 0 to 20 milliwatts per cell
- Active Area of Cell: 10 cm<sup>2</sup>
- Flow Rate: 10 cc/min per cell
- Operates on 3% by mass of methanol-in-distilled water
- Concentration of Methanol to be Used: 1 molar
- Recommended Torque Value: 8-10 inlbs

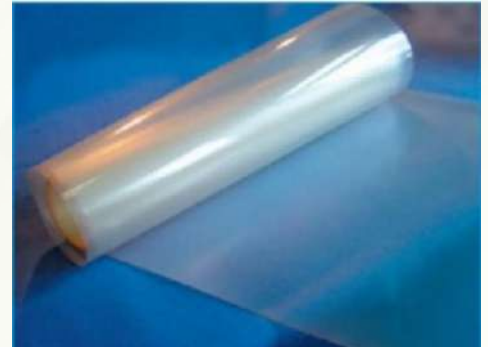


## Membranes

### Proton (Cation) Exchange Membrane:

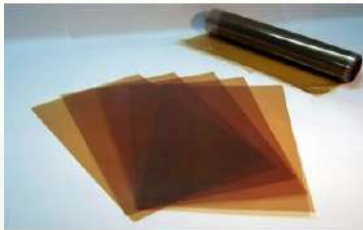
Available size (cm<sup>2</sup>): 10x10, 20x30 & 30x30

Fumasep	Nafion
Fumasep FKS	Nafion N-112
Fumasep FKE	Nafion NE-1135
Fumasep FKS-PET	Nafion N-115
Fumasep FKB-PK	Nafion N-117 Nafion NE-1110
Fumasep FAL-PK	
Fumasep FKD-PK	
Fumasep FKE	



### Anion Exchange Membrane:

Available size (cm<sup>2</sup>): 10x10, and 20x30



Fumasep	Sustainion
Fumasep FAA-3-PK	Sustainion X37
Fumasep FAB-PK	Sustainion X37 FA
Fumasep FAD-PET	Sustainion E28
Fumasep FAS-PET	Sustainion B22
Fumasep FAS	Sustainion E30
Fumasep FAAM	
Fumasep FAP	

### Bipolar Membrane:

Fumasep FBM - Bipolar Membrane Features:

- Application: Salt Splitting
- Bipolar Exchange Membrane
- Stability range (pH) at 25 oC: 1 – 14
- Can withstand high caustic concentrations
- Thickness: 130 - 160 micrometers (5-6 mil)
- Size: 20cm x 30cm 130 - 160 µm (microns)
- 130-160 µm (microns)



### Chlor-alkali Production Membrane:

GI-N417 PTFE Fabric Reinforced Perfluorosulfonic Acid (PFSA) Membrane  
Available size: 10x10, 20x20, 30x30, and 60x60 cm

## Dispersions



### Nafion Solution (Teflon):

D-520/521 (5%), D-1020/1021(10%), D-2020/2021(20%)

**Available Volume: 10ml, 100ml, 250ml, 500ml**

- Teflon™ PTFE DISP 30 Fluoropolymer Dispersion
- Teflon™ FEPD 121 Fluoropolymer Dispersion



### Fumion:

**Fumion FAA-3-SOLUT-10**

**Available Volume: 125ml, 250ml, and 500ml**

The CO<sub>2</sub> Recycling Company Sustainion XA-9 5% in Ethanol

Ionomer Type	Anion Exchange Polymer
Polymer Type	Polyaromatic Polymer

### Sustainion:

- Available Volume: 25ml
- SustainionR XA-9 Alkaline Ionomer - 25 mL
- SustainionR XB-7 Alkaline Ionomer - 25 mL
- SustainionR XC-2 Alkaline Ionomer - 25 mL

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## Gaskets



### Teflon Gasket:

- Available Size: 12" x 12"
- Available Thickness (in): 0.001" – 0.125"



### Silicon Gasket:

- Available Size: 12" x 12"
- Available Thickness (in): 0.010", and 0.020"

### Conducting Carbon Cloth:

Available size: 10x10, 20x20, and 40x40cm

Carbon Cloth with MPL +PTFE

Carbon Cloth without MPL +PTFE

Carbon Cloth with Hydrophilic MPL



### Conducting Carbon Paper:

AvCarb EP40, P50, EP55, GDS1120

Carbon Paper Without Microporous Layer (MPL) & PTFE

Sigracet AA

Carbon Paper with MPL & PTFE

### Wet Proofed Carbon Paper:

Toray Carbon Paper 030, 060, 090, 120,

AvCarb EP40T, P50T, P75T, EP55T

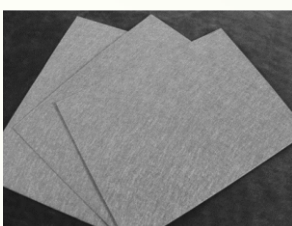
Sigracet BA, BC

### Carbon & Graphite Felts:

AvCarb Soft Carbon/Graphite Battery

Felt PAN carbon/Graphite felt

CT carbon/Graphite felt



### Wire Mesh:

Nickel Foam (80-120 PPI)

Stainless Steel Wire Cloth (Ss316)

Electroformed Fine Nickel Wire Mesh

Platinized Titanium Screen/Fibre felt

Titanium Screen/Frit/Fibre felt

## Gas Diffusion Layers

### Titanium Fiber Paper:

- High Porosity: 60-75%
- Thickness: 0.25/0.40/ 0.6/0.8 mm
- Dimensions: 20x20 cm
- Custom dimensions are welcome
- Low Porosity: 45-60%
- Thickness: 0.25/0.40/0.6/0.8 mm
- Dimensions: 20x20 cm
- Custom dimensions are welcome.
- Low resistance
- Applicable as Hydrogen Generator Incompressible Material
- Gas Diffusion Layers



### Nickel Fiber Paper:

- Available thickness 0.4mm or 0.6mm
- Porosity: 65-85%
- Dimensions: 20x20 cm
- High electric and heat conductivity
- high strength
- High-temperature & corrosion resistance
- Excellent Chemical Stability
- High surface area
- Improve electrochemical reactions

### Insulation Felt (Thermal Insulation):

- Low thermal conductivity
- Dimensionally stable at elevated temperature
- High strength-to-weight ratio
- Puncture and abrasion resistance
- Acid and alkali resistance
- Welding sparks and spatter resistance
- Excellent flexibility
- Available Thickness 10mm/12mm



## Electrode Materials

### Conducting Carbon Paper:

- Thickness: 0.3 mm
- Width: 200 mm
- Length: 200 mm



### Conducting Carbon Cloth:

- Thickness: 320  $\mu\text{m}$
- Width: 200 mm
- Length: 200mm



### Activated Carbon:

- BET: 2000~2500  $\text{m}^2/\text{g}$
- ASH (%): <0.5
- Moisture (%): <10
- Bulk specific weight: >C
- Grain (D50): ~10  $\mu\text{m}$
- Water system Referenc
- capacitance: 160-200  $\text{F/g}$



### Graphite Rod Electrode

- Diameter: 10 mm
- Length: 100 mm
- Purity : 99.9%



### Nickel Foil:

- Thickness: 0.1 mm
- Width: 100 mm
- Purity: >99.95%



### Iron Foil:

- Thickness: 0.1 mm
- Width: 25 mm
- Length: 25 mm
- Purity: >99.95%



### Copper Foil:

- Thickness: 1 mm
- Width: 300 mm
- Purity: >99.50%



### Aluminum Foil:

- Thickness: 16 $\mu\text{m}$
- Width: 200 mm
- Purity: >99.45%



### Titanium Foil:

- Thickness: 0.15 mm
- Width: 470 mm
- Purity: >99.95%



### Nickel Foam:

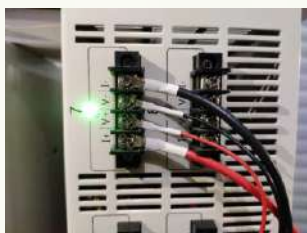
- Thickness 1 mm & 0.5 mm
- Width: 200 mm
- Length: 300 mm



### Multichannel Battery Tester:

#### Coin Cell Testing:

- BTS 4000 5V 10mA
- BTS 4000 5V 20mA
- BTS 4000 5V 50mA



#### Pouch Cell & Cylindrical Cell Testing :

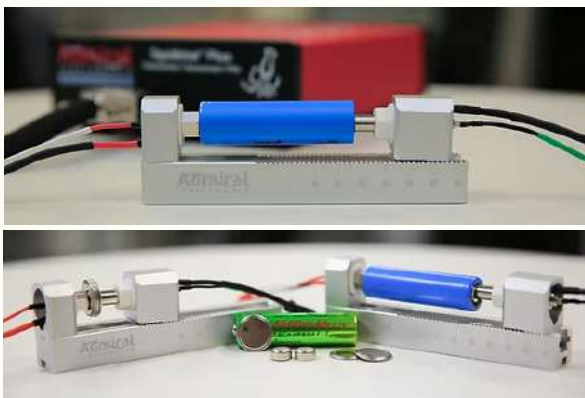
- BTS 4000 5V 6A
- BTS 4000 5V 12A
- BTS 4000 10V 3A
- BTS 4000 10V 6A
- BTS 4000 20V 6A

#### Battery Pack Testing:

- BTS 4000 5V 20A
- CE-6002n-100V50A (2CH)
- CE-6004n-100V50A (4CH)
- CE-6008n-100V50A (8CH)
- CE-7002-100V 100A



#### Battery Fixtures:



- Multipurpose battery test fixture is designed to connect a wide variety of battery form factors with a potentiostat.
- Suitable for any cylindrical or coin cell geometry is compatible.
- Sense terminal and current terminals are Isolated for lower noise during measurements.
- Suitable for four-point Kelvin connections as well.
- Specially designed for Squidstat potentiostat cables.
- Max recommended operating temperature: 85 degC.

## Battery Split Test Cell:

Model	TOB-EQ-STC	TOB-3 ESTC15
Structure	Full stainless steel	Full stainless steel
Electrode thickness	Max.6mm	Accept various thicknesses
Optional	10,12,15,19,20, and 24mm diameter customized	



## Swagelok Cell:



Material SS 316 & Teflon ID 13mm  
OD 25.4mm

## Doctor Applicator:



Model	TOB-KTQ-100	TOB-KTQ-180S	TOB-KTQ-150WA	TOB-KTQ-150D	TOB-KTQ-150DA
Feature	General type	With slurry guiding plate	Width adjustable	Double blades	Adjustable digital display
Material	Blade:304 stainless steel; frame: aluminum alloy				
Accuracy	10microns				
Thickness	0-3500um				
Width	50mm, 100mm, 150mm, 200mm, 250mm				

## Battery Materials & Accessories (Li-Ion & Na-Ion)



High Temperature  
Kapton Tape



Teflon Tape



Strapping Tape



Separator Film



Aluminum  
Laminated Film



Pouch Cell Case



Carbon Coated  
Al Foil



Aluminum & Copper  
Mesh Foil



Carbon Coil



18650 Battery Case



Air Can Cell Case



Cr2032 Coin  
Cell Case



Pure Ni Strip



Swagelok Type  
Cells



Split Test Cell



Coating Device

## Our Clients



IIT Kanpur



MGCU Motihari  
University



IIT Kharagpur



IIT Guwahati



IIT Bombay



IISER KOLKATA



Centre for Nano and Soft  
matter sciences (CeNS),



IIT Indore



IIT Roorkee,



IISER Bhopal



BHU



Malviya National  
Institute of Technology  
(NIT), Jaipur



Teerthankar Mahaveer  
University



NIT Tiruchirappalli



CSIR-Central Scientific  
Instrument Organisation  
Chandigarh.



SRM Institute of  
Science and Technology



CUP VPO  
Ghudda Bathinda Punjab



NITTE Meenakshi Institute Of  
Technology Bangalore



NIT Rourkela



CSIR- National Metallurgical  
Laboratory, Jamshedpur



Shiv Nadar



MMMUT Gorakhpur



Mahindra University,  
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