

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: ± 10 V
Applied Potential Resolution: 300 μ V
Compliance Voltage: ± 12 V per channel
Maximum Current: ± 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: ± 10 V
Applied Potential Resolution: 15 μ V min
Compliance Voltage: ± 12 V per channel
Maximum Current: ± 1 A
Measured Current Resolution: 3 pA max
AC Frequency Range for EIS 10 μ 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: ± 10 V
Applied Potential Resolution: 300 μ V
Compliance Voltage: ± 12 V per channel
Maximum Current: ± 250 mA per channel
Measured Current Resolution: 750 fA



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

Potentiostat with EIS up to 1 MHz

Squidstat Penta (±5 A)



Squidstat Decka (±10 A)



Squidstat Venta (±20 A)



Squidstat Cycler for High Power Batteries & Fuel Cells

Ai	Squidstat Cycler Base Model	
Channel Count / Dimensions	4 channels per unit: 23 x 17 x 6 cm	
Cell Connections	4-terminal, Power + Remote Sense	
Maximum Current	±5.0A per channel	
Current Ranges	2 ranges (5.0A/500.0mA)	
Current Accuracy	0.1% of Meas + 0.035% of range (min 500.0µA)	
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	±500.0µV Initial, ±0.015% of measurement per year	
Voltage Resolution	321nV	
EIS Frequency Range	Per Channel: 10 µHz to 10 kHz	
DC Sampling Rate	2500 Samples/s per Device	
Minimum Time Step	500 µs	
Time Resolution	< 100 µs	
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	176MΩhm	
Temperature Measurement	-40 °C to 80 °C thermistor per channel (±1°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



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Working Electrode Holder:

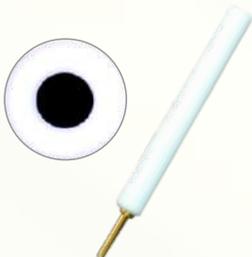
- Available with Screw-type & Crocodile-type
- Gold Coated Copper Rod for Connection
- Teflon body holder
- Gold Coated Clip for better conductivity

Mini Working Electrode:

- Available with Screw-type
- Copper Rod for Connection
- Teflon body holder
- Size: OD: 6mm



MTX



MTX

Disc Type Electrode:

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

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

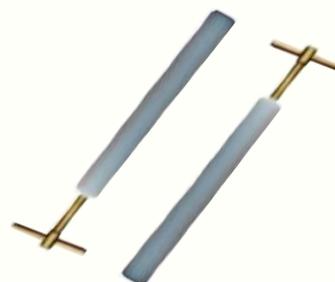


Reticulated Vitreous Carbon Electrode:

- 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

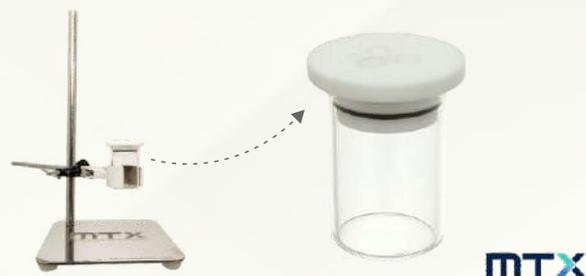
(Ag/AgCl, SCE, Hg/HgO, Hg/Hg₂SO₄, Cu/CuSO₄, Non Aq Ag/Ag⁺):

- 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/Hg₂SO₄ (1M H₂SO₄)
 - Cu/CuSO₄ (1M CuSO₄)
 - Non Aq Ag/Ag⁺ (10mM AgNO₃, 0.1M TDAB in Acetonitrile)

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 (4xB14)
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

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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



Make: Medetronix Labs, India



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



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Spectroelectrochemical Cell:

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

MTX

Make: Medetronix Labs, India

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/m²

Maximum Lamp Time: 10000 hours

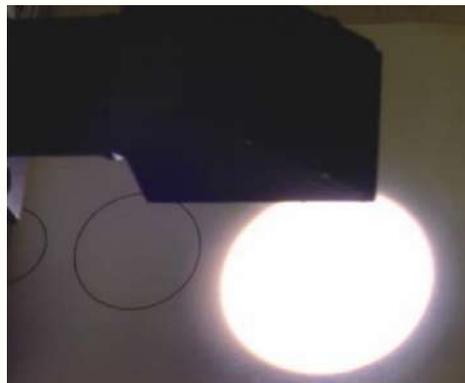
Lamp Dimensions: L x W x H 10.5 cm x 9.0 cm x 8.0 cm (4.13" x 3.54" x 3.15")

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



Water Electrolysis & Green Hydrogen Research/Production Products

Electrolyzers (Research & Learning Purpose)

AEM Electrolyzer

Alkaline anion exchange membrane water electrolyzer hardware

Electrode Area: 5 cm²

Electrode Material: corrosion resistant Nickel anode and cathode flow fields

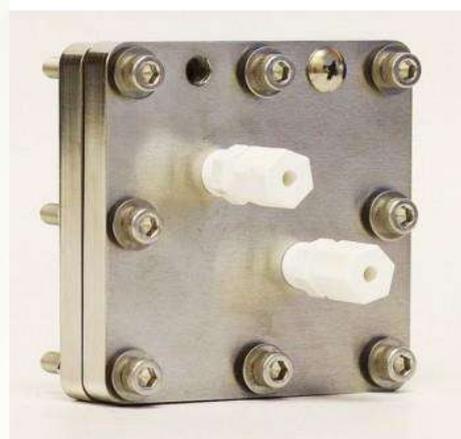
MEA with base metal catalysts

Metal gas diffusion layers

Includes O-ring seals, and Teflon gasketing

Operating conditions: 1 A/cm² 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: 5cm² or 50cm²

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

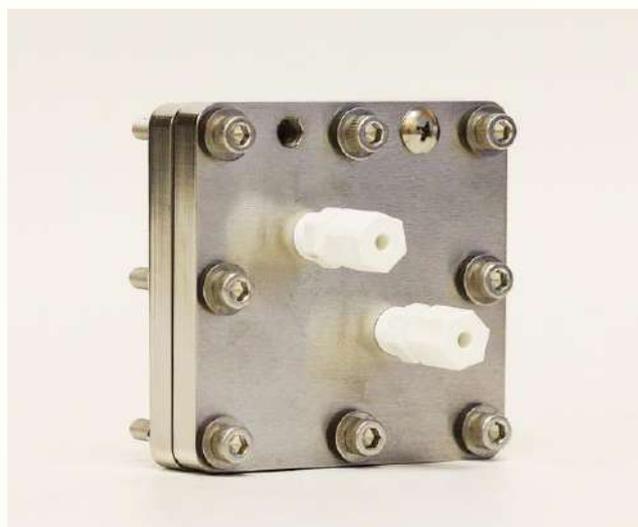
Grade 5 nuts and bolts, 10-32 truss screws for electrical or thermal

connections, 1/4"-20 brass bolt with copper washer for load connections



CO2 Electrolyzer

- Electrode Area: 5 cm²
- Titanium anode flow field,
- 904 L Stainless Steel cathode flow field,
- catalyst covered electrodes for anodes and cathodes of 5 cm² cell,
- Sustainion® membrane,
- Nuts and bolts,
- o-rings and
- insulating kit and electrolyzer testing service.



Electrolyzers (Commercial & Production Purpose)

LBE-PSC (PEM Water Electrolyzer Small Stack - 1 Cell)

- Material (non-wetted parts): Anodized aluminum as the endplates
- Material (wetted parts): Titanium (as the current collectors and diffusion layers)
- Membrane: Nafion 117
- Current range: 0 -40 Amps (at ~1.8V per cell)
- Voltage range (at the terminal of the stack): 1.7 - 2V
- Number of cells in the stack: 1 cell
- Input power range: 10 - 80 Watts
- Operating temperature range: 15 - 70 °C
- Active area: 25 sq cm
- H₂ generation rate: 0 - 370 mL/min
- O₂ generation rate: 0 - 185 mL/min
- Physical dimensions: 100mm x 100mm x 27mm
- Water supply for anode: Type I DI-water, 16-18 MegaOhms DI-water



LBE-5C (Alkaline Water Electrolyzer Large Stack - 5 Cell)

Size: 265 X 265 X 61 mm

- Material: FRP, Engineering plastic
- Number of Cells: 5
- Active Area: 177 sq cm
- Membrane: Proprietary porous polymer
- Electrode Material: Proprietary nickel based electrode
- Electrolyzer Current Range: 60 - 100 Amps (at ~1.8V per cell)
- Electrolyzer Power Range: 150 W - 800 W
- Electrolyzer Operating Voltage Range: 8 - 10V
- Electrolyte: Alkali Solution (KOH, 30 wt%)
- Recommended Flow Rate: 1500 mL/min at power; min. rate 1000 mL/min
- Hydrogen Flow Rate Range: 0 - 3.5 L/min
- Oxygen Flow Rate Range: 0 - 1.75 L/min
- Operating Temperature Range: 10 - 80°C



LBE-SC (Alkaline Water Electrolyzer Small Stack - 1 Cell)

Active Area per Cell: 15.2 cm²

- Size: 100 x 100 x 27 mm
- Material: FRP, Engineering plastic
- Number of Cells: 1
- Membrane: Proprietary porous polymer
- Electrolyzer Current Range: 6 - 10A (at ~1.8V)
- Operating Temperature Range: 15 - 70°C
- Electrolyte: Alkali Solution (KOH, 30wt%)
- Recommended Flow Rate: 800 mL/min at power; min. rate 300 mL/min
- H₂ Flow Rate: 70 mL/min
- O₂ Flow Rate: 35 mL/min
- Applied Voltage Range: 1.7 - 2V
- Power Capacity Range: 2.5 - 20W

Fuel cell (Research & Learning Purpose)

PEM/Methanol Fuel Cell Hardware

Available active area sizes: 5 and 25 cm²

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:** O₂, H₂, 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 H₂)

Efficiency of System- 40% at 12V

Low Voltage, Over Current, Over Temperature Protection



Direct Methanol Fuel Cell Flex-Stack

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

Technical Specifications:

- Power: 0 to 20 milliwatts per cell
- Active Area of Cell: 10 cm²
- 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

Electrolyzer/Fuelcell Accessories

Catalyst (Fuel cell)

Platinum based electrodes



Low Loading Electrodes (e.g. 0.03mg/cm², 0.3mg/cm², etc.)

High Loading Electrodes (e.g. 2.0mg/cm², 4.0mg/cm², etc.)

Material Type	Woven Carbon Fiber Cloth (Low cost)	Carbon Fiber Paper - Sigracet 22 BB (High Cost)
Available size:	5x5, 10x10, 20x20, 30x30, 40x40	10x10, 20x20, 30x30, 40x40
Products	0.03 mg/cm ² 20% Platinum on Vulcan - Carbon Cloth Electrode (W1S1011)	0.2 mg/cm ² 20% Platinum on Vulcan - Carbon Paper Electrode
	0.2 mg/cm ² 20% Platinum on Vulcan - Carbon Cloth Electrode (W1S1011)	0.3 mg/cm ² 40% Platinum on Vulcan - Carbon Paper Electrode
	0.3 mg/cm ² 40% Platinum on Vulcan - Carbon Cloth Electrode (W1S1011)	0.5 mg/cm ² 60% Platinum on Vulcan - Carbon Paper Electrode
	0.5 mg/cm ² 60% Platinum on Vulcan - Carbon Cloth Electrode (W1S1011)	2 mg/cm ² Platinum Black - Carbon Paper Electrode
	2 mg/cm ² Platinum Black - Carbon Cloth Electrode (W1S1011)	4 mg/cm ² Platinum Black - Carbon Paper Electrode
	4 mg/cm ² Platinum Black - Carbon Cloth Electrode (W1S1011)	

Platinum Ruthenium based electrodes

Platinum / Ruthenium based Gas Diffusion Electrodes (GDE)

Platinum / Ruthenium Loaded Electrodes

Loading range 0.03mg/cm² to 4mg/cm²

Available material type: Woven Carbon Fiber Cloth (W1S1011) (low cost), and Carbon Fiber Paper - Sigracet 22 BB (high cost)

Available product:

2 mg/cm² Platinum Ruthenium Black - Carbon Cloth Electrode (W1S1011),

4 mg/cm² Platinum Ruthenium Black - Carbon Cloth Electrode (W1S1011),

2 mg/cm² Platinum Ruthenium Black - Carbon Cloth Electrode (W1S1010),

4 mg/cm² Platinum Ruthenium Black - Carbon Cloth Electrode (W1S1010).

2 mg/cm² Platinum Ruthenium Black - Carbon Paper Electrode (Carbon Fiber Paper),

4 mg/cm² Platinum Ruthenium Black - Carbon Paper Electrode (Carbon Fiber Paper),

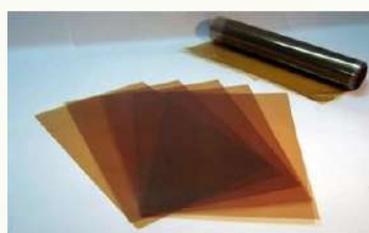


Membranes

Proton (Cation) Exchange Membrane

Available size (cm²): 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
Fumasep FAL-PK	Nafion NE-1110
Fumasep FKD-PK	
Fumasep FKE	



Anion Exchange Membrane

Available size (cm²): 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 °C: 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

Ionomer Type	Anion Exchange Polymer
Polymer Type	Polyaromatic Polymer



Sustainion

Available Volume: 25ml

Sustainion® XA-9 Alkaline Ionomer - 25 mL

Sustainion® XB-7 Alkaline Ionomer - 25 mL

Sustainion® XC-2 Alkaline Ionomer - 25 mL

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"

Gas Diffusion Layers

Conducting Carbon Cloth

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

- Carbon Cloth with MPL
- Carbon Cloth without MPL
- Carbon Cloth with Hydrophilic MPL



Conducting Carbon Paper

- AvCarb EP40, P50, EP55, GDS1120
- Carbon Paper Without Microporous Layer (MPL)
- Sigracet AA



Wet Proofed Carbon Paper

- Toray Carbon Paper 030, 060, 090, 120,
- AvCarb EP40T, P50T, P75T, EP55T
- Sigracet BA, BC

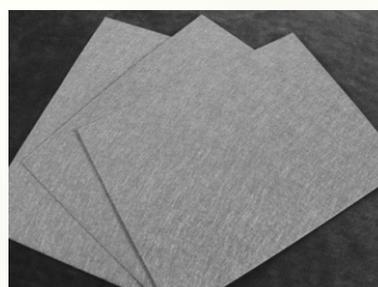
Carbon & Graphite Felts

- AvCarb Soft Carbon/Graphite Battery Felt
- PAN carbon/Graphite felt
- CT carbon/Graphite felt



Wire Mesh

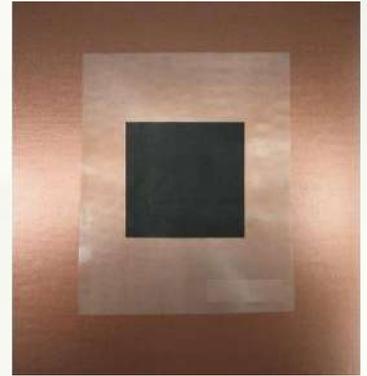
- Nickel Foam (80-120 PPI)
- Stainless Steel Wire Cloth (SS316)
- Electroformed Fine Nickel Wire Mesh
- Platinized Titanium Screen/Fibre felt
- Titanium Screen/Frit/Fibre felt



Membrane Electrode Assembly (MEA)

Direct Methanol Fuel Cell MEA - 3 Layer/Direct Methanol Fuel Cell MEA - 5 Layer

Active Area	Membrane Area
2.2cm x 2.2cm	10.0cm x 10.0cm
5.0cm x 5.0cm	10.0cm x 10.0cm
7.1cm x 7.1cm	13.0cm x 13.0cm
10.0cm x 10.0cm	13.0cm x 13.0cm



Hydrogen Oxygen MEA - 3 Layer/Hydrogen Oxygen MEA - 5 Layer

Active Area	Membrane Area
2.2cm x 2.2cm	10.0cm x 10.0cm
5.0cm x 5.0cm	10.0cm x 10.0cm
7.1cm x 7.1cm	13.0cm x 13.0cm
10.0cm x 10.0cm	13.0cm x 13.0cm

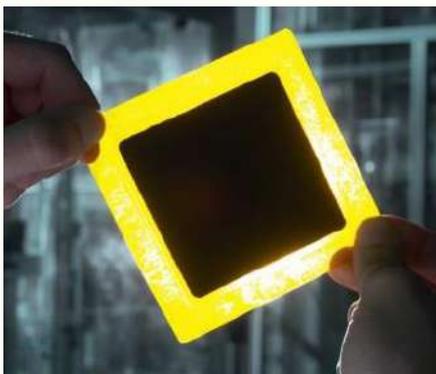
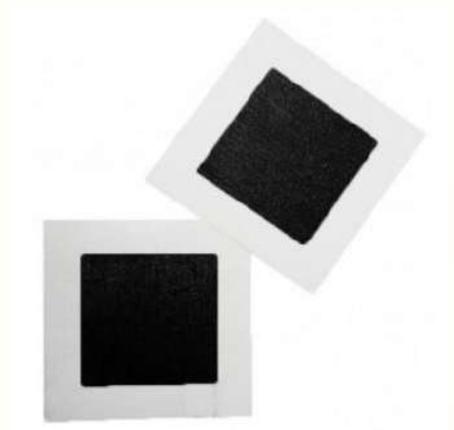


MEA for PEM Research Test Cell

- Active Area: 256.5 x 97.5 mm
- Membrane Area: 310 x 115 mm

Specifications:

- Membrane Type: Nafion™ 212
- Anode Loading & Catalyst: 0.3 mg/cm² Platinum on Carbon 40%
- Cathode Loading & Catalyst: 0.3 mg/cm² Platinum on Carbon 40%
- Gas Diffusion Layer: Sigracet 28BC
- Gas Diffusion Layer Type : Carbon Paper



High Temperature PEM Fuel Cell MEA

Available Size: 25, 45, 165cm²

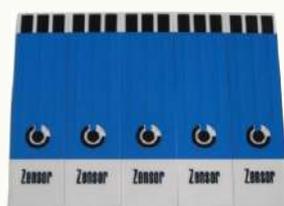
Temperatures between 120 and 180 °C

It can tolerate large concentrations of carbon monoxide as well as being able to run independently of humidification.

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)

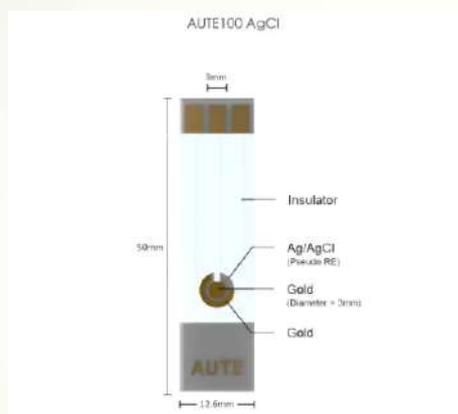


Screen Printed Electrodes

- 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 (cm²): 0.071
- Material of RE: AgCl
- Area of RE (cm²): 0.01
- Material of CE: Au
- Area of CE (cm²): 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



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

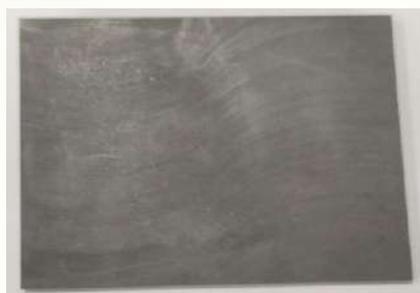


Nafion Membrane:

- Nafion™ 1110
Length: 30cm
Width: 30cm
Thickness: 254 μm
- Nafion 115 & Nafion 117
Length: 30cm
Width: 30cm
Thickness: 183 μm

Nafion Dispersion

- D1021 Nafion™ Dispersion - Water-based 1100 EW at 10 wt%
- D2020 Nafion™ Dispersion - Alcohol-based 1000 EW at 20 wt%
- D2021 Nafion™ Dispersion - Alcohol-based 1100 EW at 20 wt%
- D520 Nafion™ Dispersion - Alcohol-based 1000 EW at 5 wt%
- D521 Nafion™ Dispersion - Alcohol-based 1100 EW at 5 wt%



Graphite Plate:

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

Electrode Materials

Conducting Carbon Paper:

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



Conducting Carbon Cloth:

- Thickness: 320 μm
- Width: 200 mm
- Length: 200mm



Activated Carbon:

- BET: 2000~2500 m^2/g
- ASH (%): <0.5
- Moisture (%): <10
- Bulk specific weight: >0.4
- Grain (D50): ~10 μm
- Water system Reference capacitance: 160-200 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 μm
- 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

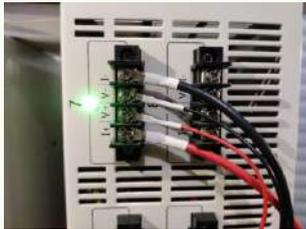


Battery Equipment & Accessories

Multichannel Battery Tester:

Coin Cell Testing

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



Pouch Cell & Cylindrical Cell Testing

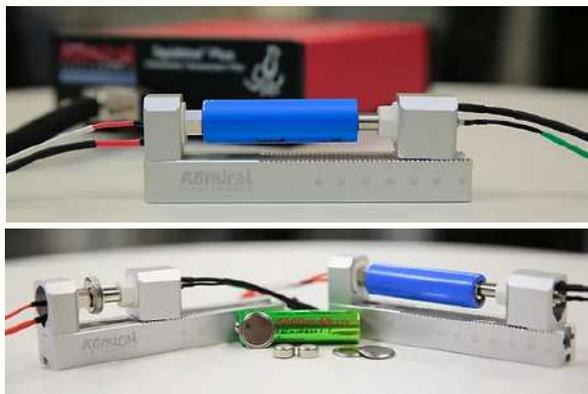
- BTS 4000 5V 6A
- BTS 4000 5V 12A
- BTS 4000 10V 3A
- BTS 4000 10V 6A
- BTS 4000 20V 6A

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				

Fuel Cell Materials

Nafion Membrane:

- Nafion 115 / 117/ 211 / 212/ 1110
- High quality Membrane
- Thickness: 127um



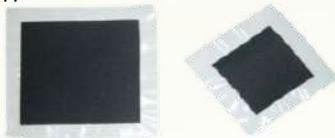
Platinum Based Electrode:

- Thickness: 410microns
- Width: 50-300mm
- Length: 50-300mm



Membrane Electrode Assembly:

- Thickness: 50.8um
- Membrane type: Nafion
- Length: 22-100mm



Nafion Dispersions:

- Amount-25ml-100ml
- Base: Alcohol
- Water(wt. %): 45 ± 3
- Sp. Gravity: 0.92 - 0.94



Graphite Plate:

- Thickness: 5 mm
- Bulk Density: 1.90 g/cm
- Bipolar / Isomolded / Machined Plates



Gasketing:

- Thickness: 0.001-0.125 inch
- Width: 12 inches
- Length: 12 inches
- Teflon / Silicone Gaskets



PVC / Vinyl Tubing:

- Wall Thickness: 1 mm
- Inner Dia.: 2 mm
- Outer Dia.: 4 mm
- Length: 5 Feet



Silicon Tubing:

- Wall Thickness: 1/16"
- Inner Dia: 3/32 , 1/8, 3/16 inch
- Length: 5-25 Feet



Hot-Press Aluminum Plate:

- Thickness: 1/4 inch
- Width: 6 inch -12 inch
- Length: 6 inch -12 inch



Banana Plug cables with Alligator Clip:

- Length: 50cm
- Plug: 2mm



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



High Temperature
Kapton Tape



Teflon Tape



Strapping Tape



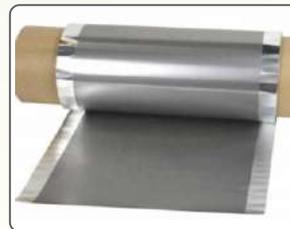
Separator Film



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