



MEMBRANE  
ELECTRODE ASSEMBLY



CLEAN ENERGY

“ Hydrogen-electric power at scale is the key to a cleaner planet

UNILIA, founded in 2017, means 'Energy in Unison'. We are an international team of veterans of electrochemical science, stack design, engineering, and manufacturing innovation.

**Now with over 3,000 stacks integrated in vehicles and stationary power devices across 6 countries, we are a world leader in fuel cell stack technology.**

Our IATF16494 and ISO9001 quality management systems, certified labs and production facilities focus on R&D, application engineering development, and at-scale production for global customers.



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UNILIA.COM

VANCOUVER

# Production

“ Power your FC stack with our industry-leading MEA.

## Customized MEA Production:

Our team will work with you to produce an MEA to your size and shape specifications utilizing validated CCM & GDL technology. UNILIA meets customer needs with rapid service from development to at-scale production.

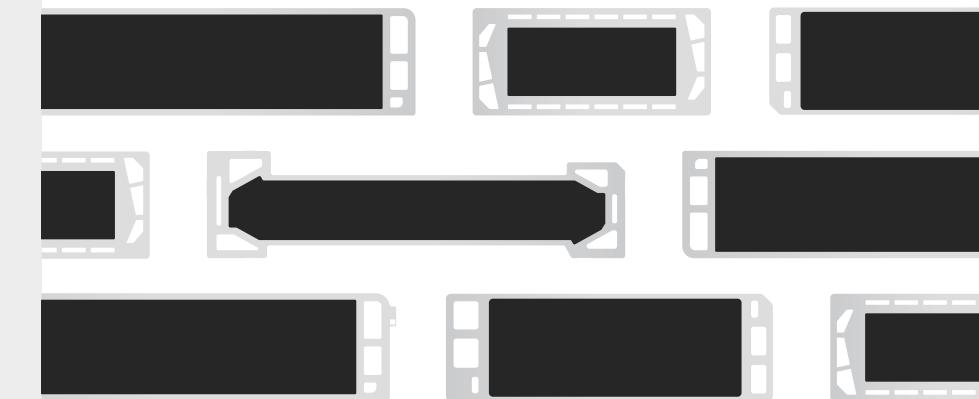
Contact us at [sales@unilia.com](mailto:sales@unilia.com) to learn more.

## Production Capabilities:

- Framed MEA sizes up to 520 x 200mm and 750cm<sup>2</sup> active area (CCM max width: 400mm)
- 1.5m + parts per year
- $\pm 0.3$ mm geometric tolerances
- Extensive quality monitoring and reporting throughout production process

## MEA

Membrane Electrode Assembly



### KEY PARAMETERS

### MEA

PT LOADING (mg/cm <sup>2</sup> )	0.4 +/- 5% (Cpk 1.65)
POWER DENSITY (W/cm <sup>2</sup> @ 0.6V)	1.32 <sup>a</sup> , 0.93 <sup>b</sup>
LIMITING CURRENT	6.42A/cm <sup>2</sup> @80°C, Air 100kPa-g
CARBON CORROSION	<20mV@2.0A/cm <sup>2</sup> after 2,000 cycles <sup>c</sup>
PT DISSOLUTION	40% ECSA loss after 30,000 cycles <sup>d</sup>
REVERSAL TOLERANCE (min)	>200

<sup>a</sup> 65°C, 100%H<sub>2</sub>/Air, 100kPa-g

<sup>b</sup> 80°C, 85%H<sub>2</sub>/9.5%O<sub>2</sub>, 70kPa-g

<sup>c</sup> Triangle sweep: 500mV/s, 1.0-1.5V, 80°C, 100%RH H<sub>2</sub>/N<sub>2</sub>, 100kPa-g

<sup>d</sup> Square wave: 0.6-0.95V (3s/3s), 80°C, 100%RH H<sub>2</sub>/N<sub>2</sub>, 100kPa-g

Cell Voltage during Carbon Corrosion AST

