TENSOR
TECHNOLOGIES

ORIGIN-E
CELL HARDWARE

FOR PEM ELECTROLYZER

APPLICATION

- Lab experiment and teaching
- Lab analytic instrument
- Hydrogen supply for fuel cell
- Redundant renewable energy transformation and storage

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ADVANTAGES

- No tool assembly and disassembly
- Single cell – upgradeable to as many as 20 cell stacks by purchasing additional cells
- Provided with advanced coating technologies for low voltage operation, high durability and corrosion resistance
- Electric end plate heating kit available
- Operation temperature up to 90 degrees
- Provided with standard fitting sets. Either metric or imperial / English fittings can be provided, and spare fittings can be provided
- Multichannel single pass, semi-co flow design. Customized channel designs available by request
- High hydrogen purity
- Low electrolyzer cell resistance
- Low power consumption and high electrolysis efficiency

SPECIFICATIONS TABLE

	Origin 350	Origin 1000	Origin 1750	Origin 700	Origin 2000	Origin 3500	Origin 1400	Origin 4200	Origin 7000	Origin Custom
Number of Cells	1	3	5	1	3	5	1	3	5	
Active Area/cm^2	25	25	25	50	50	50	100	100	100	Custom
H_2 Flow Rate/NLPM	0.70	2.102	3.50	1.40	4.20	7.0	2.8	8.42	14.1	560+
O_2 Flow Rate/NLPM	0.348	1.044	1.74	0.696	2.08	3.50	1.39	4.16	6.96	278+
Voltage/V(DC)	2	6	10	2	6	10	2	6	10	80+
Max Input Current/A(DC)	100	100	100	200	200	200	400	400	400	1000+
Water Consumption Rate/cc/hr	34	100	168	66	202	336	134	404	672	26000+
Gaskets	Silicone for low pressure applications. FFKM for high pressure applications									
Thickness	Accommodates 3 or 5 layer MEAs with varying thickness of 100 – 300 µm									
Diffusion Layer	Supplied with ~56 % woven mesh porous transport layers. Uncoated for low pressure applications, coated with proprietary coatings for high pressure applications									
Operating Temperature/°C	~15 – 90°C. Typically operated at 60 °C									
Output Pressure/Barg	0 – 35 Barg typically. Maximum allowable operating pressure 50 Barg									
Membrane Type	Optional – PFSA or Nafion, 80 µm thick reinforced with 1.0 mg/cm^2 Iridium Ruthenium Oxide anode catalyst, and 0.35 mg/cm^2 Platinum black cathode catalyst									

*Typical expected performance with customer MEAs

ELECTROLYZER PERFORMANCE USING OPTIONAL MEMBRANES