

Specification of PEM electrolyzer cell stack

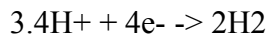
Model	Titan EZ60	Titan EZ120	Titan EZ180	Titan EZ240	Titan EZ300	Titan EZ500	Titan EZ1000
H2 flow	0-60ml/min	0-120ml/ min	0-180ml/ min	0-240ml/ min	0-300ml/ min	0-500ml/ min	0-1000ml/ min
O2 flow	0-30ml/min	0-60ml/ min	0-90ml/ min	0-120ml /min	0-150ml /min	0-250ml /min	0-500ml/ min
Voltage(metered from electrode of cell stack)	DC 2v	DC 4v	DC 6v	DC 8v	DC 2v	DC 4v	DC 8v
Max input current	DC 9A	DC 9A	DC 9A	DC 9A	DC 40A	DC 40A	DC 40A
Technology employed	Proton Exchange Membrane (PEM) Solid Electrolyte Maintenance-Free and Caustic-Free						
Stack diameter	85mm	85mm	85mm	85mm	138mm	138mm	138mm
Unit cell qty	1	2	3	4	1	2	4
Output pressure	0-10barg/0-145psi						
DI water supply	Deionized, ASTM Type II, > 1 Meg Ohm-cm (< 1 microSiemen/cm) < 0.5 ppm, Total Dissolved Solids						
Water consumption rate	4cc/hr	8cc/hr	12cc/hr	16cc/hr	18cc/hr	30cc/hr	60cc/hr
Operating temperature	40° F to 113° F / 5° C to 45° C						

Product introduction to PEM electrolyzer cell stack:

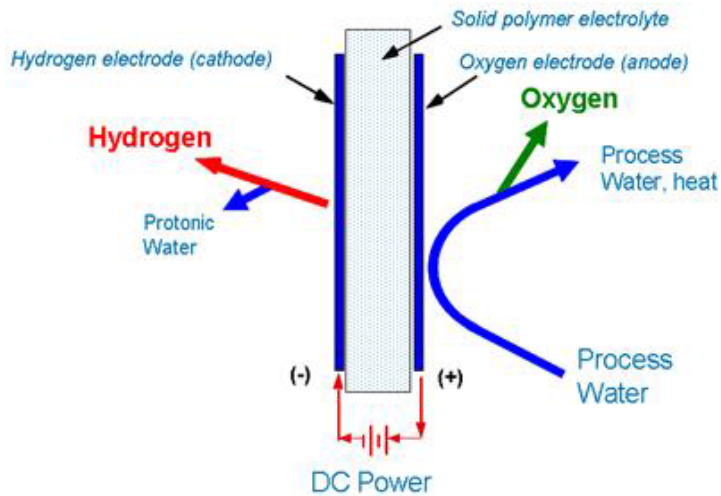
Titan series PEM electrolyzer cell is an advanced patented product, which is low voltage and higher efficiency, energy-saving and of environmental protection, producing hydrogen and oxygen through the electrolysis of pure water (without adding alkali).

How PEM electrolyzer cell stack work

The proton exchange membrane (PEM), which only allows water and positive ions to cross between compartments. The membrane also serves as the electrolyte in the cell, eliminating the need for hazardous liquid electrolytes such as concentrated potassium hydroxide. PEM water electrolysis simply splits pure deionized water (H₂O) into its constituent parts, hydrogen (H₂) and oxygen (O₂), on either side of this membrane. When a DC voltage is applied to the electrolyzer, water fed to the anode, or oxygen electrode, are oxidized to oxygen and protons, while electrons are released. The protons (H⁺ ions) pass through the PEM to the cathode, or hydrogen electrode, where they meet electrons from the other side of the circuit, and are reduced to hydrogen gas. The two reactions that occur in the cell are as follows:



4. Thus, the only possible components of the streams are hydrogen, oxygen and water moisture, as shown in Figure 1 below.



Application:

- ★ Redundant Renewable energy transformation and storage
- ★ Lab experiment and teaching
- ★ Laboratory Analytic instrument
- ★ Hydrogen healthy care industrial
- ★ Hydrogen beauty industrial
- ★ Fuel for special field
- ★ Hydrogen supply for fuel cell
- ★ Other pure H₂ application field

Product Advantages:

- Produce hydrogen by electrolysis pure water(forbid add alkaline), no corrosion, no pollution, high hydrogen purity
- Low unit cell voltage, low electrolyzer cell resistance and no heat, long desiccant replacement cycle, hydrogen purity is high
- Lower power consumption, higher electrolysis efficiency
- Zero pole distance, high activity PEM catalytic electrode group
- Excellent mass transfer, heat transfer chemical process performance repolarized multi-cell structure
- Electrochemical, corrosion resistance, resistance to passivation and other superior performance of the multi-polar electrolytic cell material selection
- Complete, reliable, reliable electrical automatic control system
- Good sealing performance