



ACS Material Equipment Series

HydroGenec™ Electrolyzer

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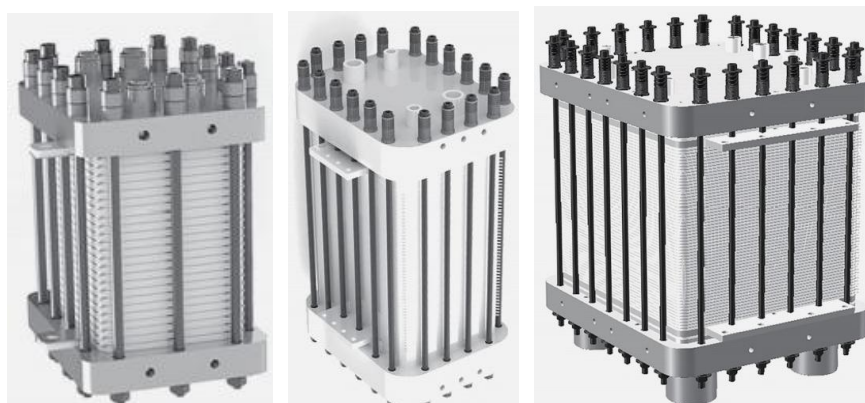
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I. Product Overview

Main Unit



HydroGenec™ Electrolyzer Compact, Pro, and Max model

II. Product Features

The HydroGenec™ Electrolyzer, adopting Anion Exchange Membrane (AEM) technology and combining the advantages of both alkaline water electrolysis (ALK) and polymer electrolyte membrane (PEM), serves as the electrolysis cell, which is the core component of the AEM hydrogen production system. It is composed of end plates, collector plates, side frames, membrane electrodes, and sealing materials. This technology addresses key challenges in wind-powered hydrogen production. Compared to conventional ALK electrolyzer, the AEM hydrogen generation electrolyzer offers excellent safety and reliability.

Key Features

- **Non-precious metal catalyst:** Using non-precious metal catalysts, which are inexpensive and readily available, results in low costs.
- **Anion exchange membranes offer a wide selection range:** Anion exchange membrane water electrolysis does not require the use of expensive perfluorosulfonic acid membranes. The main categories include: polyarylether anion exchange membranes, aryl-ether-free anion exchange membranes, and other anion exchange membranes.

- **Excellent gas tightness of anion exchange membrane:** To overcome the problems of poor dynamic characteristics, lye corrosion and gas stringing safety of ALK electrolysis hydrogen production, the anion exchange membrane electrolysis technology adopts anion exchange membrane with good gas tightness, low resistance and low cost to replace the diaphragm of ALK, and the OH⁻ in the lye passes through the anion exchange membrane to form the current circuit of the electrolyzer.
- **The electrolyte is pure water or weak alkaline water:** Anion exchange membrane electrolysis for water can use weak alkaline water or pure water as the electrolyte, alleviating the corrosion effects of strong alkaline solutions on the equipment.

III. Product Specifications

Product Name	HydroGenec™ Electrolyzer		
Model	Compact	Pro	Max
SKU	EHGEC001	EHGEP001	EHGEM001
Hydrogen Production Rate (Optional)	0.2~1 Nm ³ H ₂ /h	2~10 Nm ³ H ₂ /h	20~40 Nm ³ H ₂ /h
Power (Optional)	1~5 kW	10~50 kW	100~200 kW
Energy Consumption	4.3~4.8 kWh/Nm ³		
Operating Temperature	60±5 °C		
Ambient Temperature	5~40 °C		
Primary Hydrogen Purity	Oxygen content < 500 ppm water content		
Power Fluctuation Range	10%~110% °C		
Design Life	15,000 hours		
Warranty	1 year		

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