



ACS Material Equipment Series

HydroGenec™ Hydrogen Production System (HPS)

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I. Product Overview



HydroGenec™ Compact, Pro, and Max model

II. Product Features

HydroGenec™ Hydrogen Production System (HPS) is a high - performance, low - cost modular hydrogen generation system for new energy hydrogen production, which features a small footprint and high safety. As a modularized hydrogen production device, it can adjust the scale of hydrogen production at any time according to the scale of the hydrogen refueling station. It has a low cost and is adaptable to the working conditions and characteristics of the hydrogen refueling station.

For the 3 kW hydrogen production system with an hourly output of 0.6 standard cubic meters, it is applicable to small - scale scenarios such as scientific research, teaching, R&D, and fuel cell testing. Hydrogen can be produced on - demand. The 30 kW hydrogen system, which can generate 6 standard cubic meters of hydrogen per hour, is suitable for small and medium - sized scenarios. It can meet the hydrogen refueling needs of hydrogen bicycles, hydrogen forklifts, hydrogen boats, hydrogen inspection vehicles, etc. The 200 kW hydrogen production system, with an hourly output of 40 m³, is designed for industrial applications like natural gas blending for hydrogen combustion, generator cooling, and as semiconductor reductants.

III. Key Features

- High-activity and long-life anion exchange membrane (AEM) water electrolysis nano-catalyst batch preparation technology.
- Enhanced alkaline ion exchange membrane preparation technology, greatly improving the service life of alkaline membrane.
- Stabilized structure membrane electrode structure and preparation process based on injection molding technology, realizing the maximum protection of the membrane electrode of the core component.
- High-precision assembly technology of electric stack based on adaptive error compensation method, realizing balance and consistency between multiple sections and single cells.
- Modularized electrolytic hydrogen production system integration and high-reliability distributed control technology based on matrix architecture

IV. Product Specification

Product Name	HydroGenec™ HPS		
Model	Compact	Pro	Max
SKU	EHGHC001	EHGHP001	EHGHM001
Rated Power	3kW	30kW	200kW
Dimension (L x W x H)	630 x 610 x 420 (mm)	610 x 790 x 850 (mm)	2100 x 1400 x 2150 (mm)
Energy Consumption at Rated Operating Conditions	As low as 4.5kWh/Nm ³		
Operating Temperature	60±5°C		
Ambient Temperature	5~40°C		
Hydrogen Purity	≥99.999%		
Hydrogen Pressure	<1.5MPa		
Low-temperature start-up time	<20 minutes		
Hot Start Time	<1 minute		

Adapting to Fluctuating Ranges	20%~110%		
Design Life	20 years for the system/15,000 hours for the electrolyzer		
Water Quality Requirements and Water Flow Rates	≤10uS/cm and 10L/h (adjustable)	≤10uS/cm and 30L/h (adjustable)	≤10uS/cm and 150L/h (adjustable)
Warranty	1 year		

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