



S-Series | Hydrogen Generators

The Methanol to Hydrogen fuel delivery solution for luxury marine vessels and workboats

The e1 Marine S-Series hydrogen generators are compact and designed for ease of use on board vessels as part of a quiet, low vibration, low emission power solution for luxury boats, or as a range extender supporting battery-centric power solutions on workboats. The S-Series easily integrates with PEMFCs as part of an efficient and highly reliable power solution.



Marine

Getting hydrogen to work

S-Series | Hydrogen Generators

Hydrogen on demand - when you need it, where you need it!

Advantages:

- ▶ Fuel cell grade Hydrogen production on-demand, to support fuel cell power solutions
- ▶ Eliminates the need for high-pressure Hydrogen tanks
- ▶ Modular, scalable power support for up to 10 kW fuel cell power
- ▶ Low noise and vibration profiles
- ▶ Zero NOx, SOx, or Particulate Matter emissions
- ▶ Net zero CO2 emissions using renewable Methanol feedstock
- ▶ High energy efficiency: > 70% (typically 74% to 78% at rated output)
- ▶ Uses low-cost, readily available Methanol/DI water feedstock
- ▶ Designed for cyclic and variable operations

Model:	S35	S75	S130
System Architecture			
H ₂ Generator System	Includes Feedstock Pump, air blower, reformer, H ₂ purifier, controls		
H ₂ Purifier	Proprietary bi-metallic membrane purifier		
H₂ Product			
Output	35 sLm @ 1.7 bar	75 sLm @ 1.7 bar	130 sLm @ 1.7 bar
Purity	>99.97% with <0.2 ppm CO, <2.0ppm CO2 (meets ISO 14687-2019 purity standard)		
H ₂ Buffer Tank Delivery Pressure	0.7-2.0 barg 10-30 psig		
Feedstock Consumption			
Consumption at Rated Output	≈61 mL/min	≈104 mL/min	≈176 mL/min
Control Options			
Controls	Fuel Processor Controller		
Communication Protocol	RS485		
Operating Modes	Automated		
Electrical Power Requirements			
Cold Startup Mode	≈700 W at 48 VDC		
Hot Standby	≈350 W at 48 VDC average		
H ₂ Production Mode	≈150 W at 48 VDC		
Startup Time			
From Ambient Temperature	Typically <8 hrs depending on system power conditions and ambient temperature		
From Hot Standby	H ₂ production in <2 min, ≈30 min to rated output		
Environment			
Temperature Range	+5°C to 45°C / 41°F to 113°F		
Maximum Altitude	2,500 m / 8,200 ft		
Dimensions			
Physical Size (W x D x H), mm	543 x 612 x 426	543 x 612 x 426	594 x 702 x 502
Weight	100 kg	109 kg	139 kg
Feedstock Requirements			
Methanol/Water DI Blend Ratio	Premixed, Methanol 62.5+/- 0.5 wt% with balance DI water		
Methanol Specifications	Methanol must meet IMPCA purity standard		
De-Ionized Water Specifications	DI water must ≥ 14MΩ-cm		

**Specifications subject to change*



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