

Energy Storage Revolutionized: Lightweight, Safe Hydrogen Solutions for Portable Power from 1 W to 5 kW



Low Cost, On-Demand H₂ Generation

SiGNa's H300 H₂ Generation System delivers clean H₂ gas instantly for a wide array of portable power needs. The H300 cartridges contain sodium silicide (NaSi) powder that produces H₂ on-demand from its reaction with water. The H300 cartridges are shipped filled with powder and are readily adapted to any fuel cell system.

H₂ When You Need It

Each H300 cartridge runs for 4 hours at 200 W output with instant startup and instant shutdown. Get consistent power output over the entire runtime – no power degradation like batteries.

Low Pressure Output

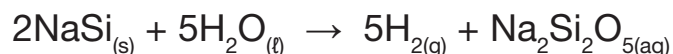
The H300 system can be used to generate H₂ at pressures from 2 to > 30 psi based on specific customer needs.

Hot-Swappable

Exchange cartridges to extend runtime without interrupting power.

Safe, Controllable Chemistry

Sodium silicide – a non-flammable, air-stable powder – reacts even with non-potable, non-distilled waters at room temperature to form H₂ in a rapid, stable reaction:



Safe, Eco-Friendly

The sodium silicate (Na₂Si₂O₅) by-product poses no environmental risk and resides completely in the original fuel container which may be recycled or easily disposed.



Winner of the
2008 Presidential
Green Chemistry
Challenge Award

Product Specifications



The H300 System
with two 800
W-Hr Cartridges



H300 Cartridge Specifications

- Energy: Over 800 W-Hrs for each 750 g cartridge
- Cartridge Volume: 1.4 liters

H300 System Specifications

- Power: Continuous 300 W, Peak 500 W
- Voltage: Regulated 12 VDC, 110 VAC
- System Volume: 25 cm x 25 cm x 25 cm
- Startup Time: Instant
- Exhaust: water vapor only – zero GHG emissions
- Real-time swappable cartridges
- Fuel Gauge Display
- Dynamic, load-following, rapid start/stop H₂ generation
- Stores and operates flat with pop-up handles

H300 System Uses

- Portable Power
- Military
- Telecom
- Bikes/scooters
- Refrigeration
- Construction
- Medical

At SiGNa, we can customize our hydrogen solutions to meet all your portable power needs.