



Hydrogen Fueling Systems



*Extending today's resources...
creating tomorrow's choices*

Distributed Energy Systems' patented proton exchange membrane (PEM) electrolysis technology can provide the solution to meet global hydrogen needs.

Hydrogen is more than a low carbon fuel – it's a zero carbon fuel made from a dependable and readily available source: water. When generated using renewable energy sources, hydrogen fuel holds the promise of zero emissions as well as energy independence and security in the transportation sector.

Key Features

No Harsh Chemicals

Distributed Energy Systems' PEM electrolysis systems generate pure hydrogen fuel without the use of harsh chemicals that may contaminate the fuel and damage PEM fuel cells used in mobile applications. The only potential impurity from our system is pure water.

Delivery Time

Unlike alkaline systems or reformers, our technology provides fast fueling with minimal startup time and performs well in the start-and-stop mode that is typical at fueling stations.

Modular PEM Approach

Our modular systems can be sized to fit a variety of needs ranging from home-based to large-scale fueling stations. This allows Distributed Energy Systems' electrolysis-based fueling systems to be a preferred fueling choice for a wide range of hydrogen fueling applications.

Did You Know?

A conventional gasoline vehicle will emit about 100 tons of CO₂ equivalent pollution over the operating lifetime of the vehicle.

A hydrogen fuel cell vehicle will emit none.

Hydrogen fueling station in Las Vegas, NV



Growing Markets for Hydrogen Fuel

The potential worldwide markets for hydrogen-fueled vehicles are broad, encompassing everything from passenger cars, scooters and buses to trucks, forklifts and military vehicles. Leading global manufacturers in each of these markets are developing products that require hydrogen fuel. Distributed Energy Systems is working closely with manufacturers to ensure we develop the required infrastructure to keep pace with new product development. Our involvement in various fueling station projects demonstrates Distributed Energy Systems' commitment to serving the needs of early hydrogen-fueled fleets and vehicles.

FuelGen® Hydrogen Fueling System

Our FuelGen hydrogen fueling system is a fully-integrated, packaged electrolysis system that produces medium pressure, high purity hydrogen from water and electricity. The system includes the following components and features:

- Electrolyzer cell stacks
- Outdoor-rated enclosure with shrouds
- Integrated vent stack with automatic drain trap
- Support and safety systems for regulating electrolyzing operations
- On-board feed water purification system
- Automated tank-topping option
- Power conservation during stand-by
- Remote monitoring

Hydrogen Fueling

Vehicle Type	On-board storage volume
Scooter	1 kg
Forklift	1-3 kg
Car	4-6 kg
Bus	40-50 kg



FuelGen Hydrogen Fueling System

Case Study

Fueling Stations in Extreme Environments

Distributed Energy Systems is a key partner in the EVERmont renewable hydrogen fueling project based in Burlington, Vermont. This project includes a Distributed Energy Systems' PEM electrolysis-based hydrogen fueling station system to serve a hydrogen-fueled Toyota Prius®. The fueling station utilizes wind-generated electricity as well as grid-supplied electricity to produce 8-12 kilograms of hydrogen fuel per day. Completed in 2006, this project demonstrates the ability of our innovative PEM fueling station system to deliver a reliable supply of quality hydrogen fuel in a harsh, northern environment. A similar fueling station involving photovoltaic solar panels opened in Las Vegas, Nevada in April 2007 to demonstrate the viability of fuel cell technology in a hot, dry climate.



Contact us

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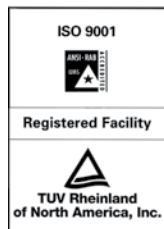
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