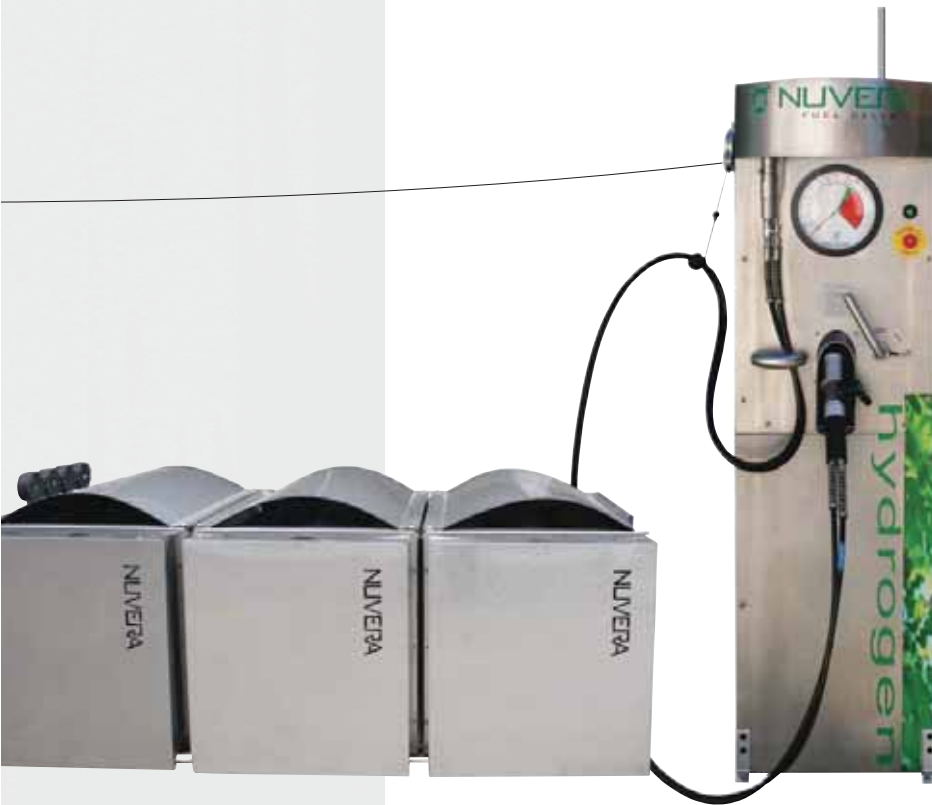


POWERTAP™

Hydrogen Generation System

A fully integrated hydrogen generation system designed to generate and dispense hydrogen fuel on-site. Using natural gas to generate hydrogen, PowerTap™ provides low cost, accessible and safe hydrogen.

The fully integrated PowerTap system includes a fuel processor assembly, a reformate compressor, a pressure swing absorption system, an electric-driven hydrogen compressor, a scalable cascade storage system and a dispensing system.



Product Features

Complete System Including Generation, Compression, Storage and Dispense As a turnkey hydrogen generation and delivery system, Nuvera assumes complete responsibility for the successful integration and control of each module within PowerTap to eliminate issues between suppliers should any arise.

Low Cost Hydrogen Generation and Delivery Solution Generating hydrogen on-site using natural gas reformation represents one of the lowest cost hydrogen supply technologies available in the market today.

Controls Include Remote Monitoring PowerTap operating information can be sent to both the local service agenda and Nuvera Fuel Cells. Doing so allows both to interpret operating conditions and be proactive scheduling system maintenance. Proactive maintenance minimizes unscheduled outages and serves to reduce overall operating costs.

Modular Skid Mounted Design PowerTap can be installed in stages to match the need for hydrogen to minimize capital investment

Generation System Includes PSA Hydrogen Purification System A PSA can be fine-tuned across a range of hydrogen purities to meet a variety of hydrogen purity requirements increasing the versatility of PowerTap



Near-Term Technology

Material Handling

- Improved productivity – reduces downtime with fast refueling available in multiple locations
- Increased safety – eliminates battery-handling accidents
- Refuels in minutes – so time away from the job is minimal
- No emissions – ideal for indoor use
- Site based hydrogen generation – minimizes on-site fuel storage

Airport Grounds And Terminal Support

- Easy installation, designed to NFPA and I-codes
- Zero emissions to improve local air quality

Turf Care

- No smoke, no fumes, no odor
- No oil spills or leaks



Material Handling



Airport & Terminal Support



Turf Care

Product Specifications

Hydrogen Capacity	28 Nm ³ /hr (1,000SCFH)
Purity	to 99.995% H ₂ <1ppm CO
Hydrogen Dispense	350 Bar (5,000 psig)
Fuel Requirement	Natural Gas, LPG
Fill Time	2.6 kg H ₂ in < 5 minutes
System Design Life	10 years
Burner Emissions	NO _x < 15 ppm CO < 30 ppm
Product Certification	CSA, CE (pending)
Ambient Temperature Rating	-20°C to +40°C -4°F to +104°F



POWERTAP™

Hydrogen Generation System

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