



Reformers to Hydrogen

Methane, LPG, Biogas, Natural Gas

Secure Supplies Hydrogen Generators Comprised of Four Primary Sub-Systems

- Pre-Treatment unit removes **99.999%** impurities.
- Fuel Processor converts Gas into Hydrogen-rich stream.
- Pressure Swing Adsorption (PSA) unit purifies the H₂ outlet to the desired level.
- **99.999%** Pure Hydrogen Compression & Storage unit.

NEEDS ANALYSIS & DESIGN DEVELOPMENT

- Reformer Design,
- Fueling Design,
- Fuel Storage and Delivery Systems,
- Heating System Design,
- Fuel Cell Systems,
- Engines Systems,
- Safety System Design,
- Monitoring Design,
- Operation and Maintenance Planning.

DESIGNED FOR
2020 & BEYOND



LPG
Biogas
Reformer



Makes Pure H₂

Exclusive 40 foot S1 25 kg per Hour model.

Technology Advantages

24 hr Operations

- Highly compact units- Transportable by truck
- Reformer size reduced 40-fold compared to conventional systems
- Easy on-site installation

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Website

<https://www.secure.supplies/reformer-to-h2>





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Control Systems

These **Secure Supplies** units are *highly-automated* with industrial grade PLC Control Systems and can operate *autonomously* and **unattended**.

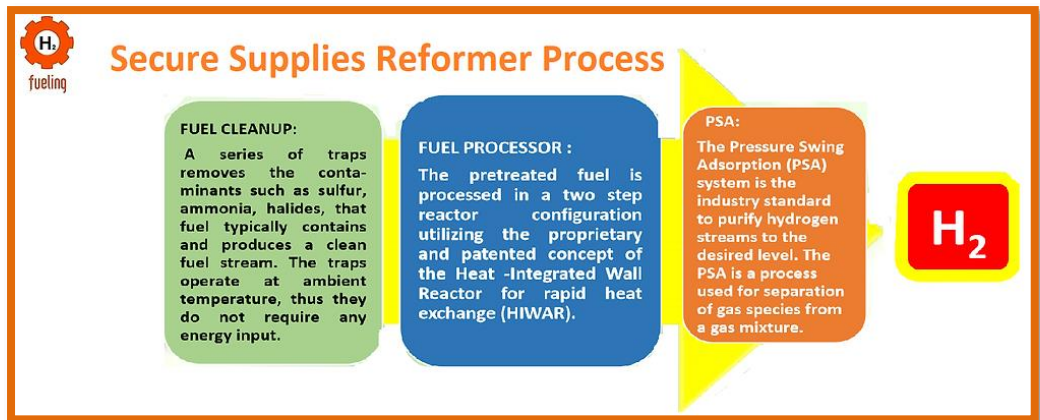
The Smart Control ensures smooth and fail-safe operation. Remote Monitoring and Control is included.

Option Remote Access Management

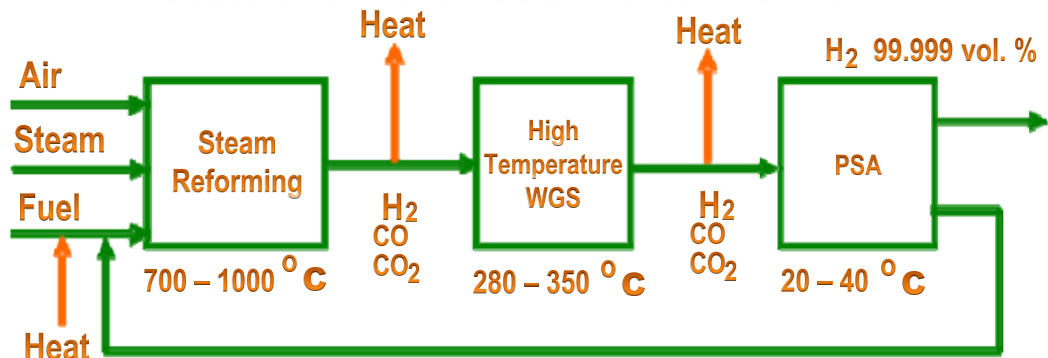
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SIMPLIFIED PROCESS FLOW CONTROL



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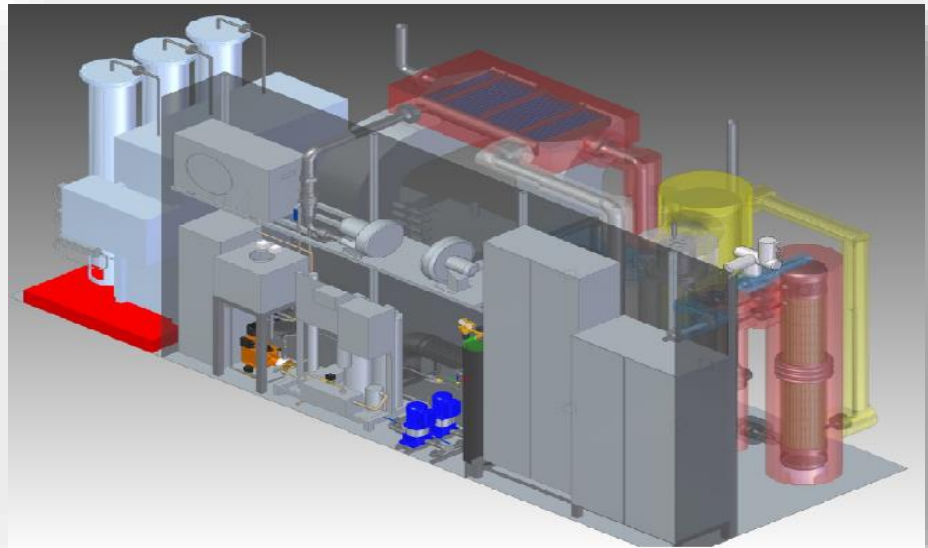
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Equipment Advantages:

- Highly-compact units.
- Transportable by truck.
- Reformer size reduced 40-fold compared to conventional systems.
- Easy on-site installation.
- High-efficiency.
- High-degree of heat integration.
- Enhanced Safety - No flame.
- Interchangeable with **S1 S2 S3** Kits from:

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System Process

The fuel stream is mixed with water, and fed to the reforming reactor that produces most of the H₂.

A large portion of the Hydrogen comes from the water, i.e. water acts as a fuel in this process! The heat required for the process is produced by *Catalytic Combustion* of a fraction of the fuel, *eliminating open flames*.

The CO contained in reformer outlet is removed in the Water-Gas-Shift (WGS) reactors where CO reacts with water to produce additional Hydrogen and CO₂.

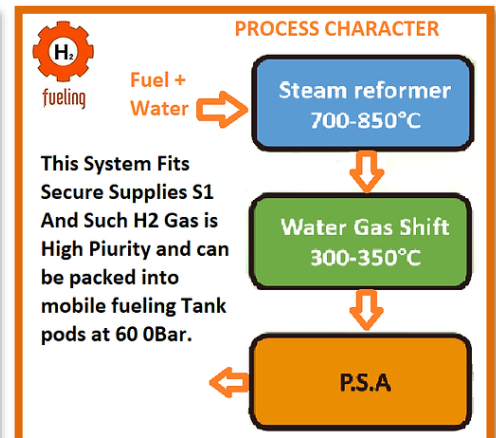
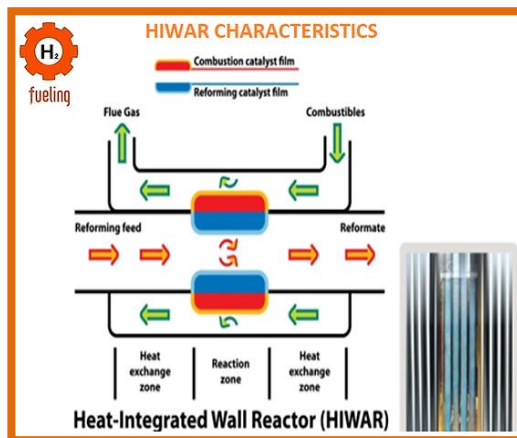
A PSA unit purifies Hydrogen to the desired level.

Secure Supplies PSA Technology uses Advances in Low Maintenance Ceramic Beads, which *ensure long-life* operations in the most challenging environments.

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ISO9001-2015  GJB9001B-2009 (MIL)

Secure Supplies Product/s Meet Customers Demands.

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