

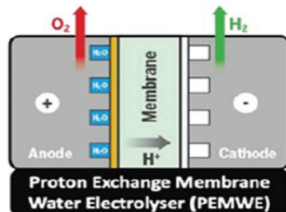


Hydrogen Production

Proton Exchange Membrane (PEM) Electrolyzer Sub-Assemblies

What is a PEM Electrolyzer?

PEM is the most effective water electrolysis technology. It uses an ion-exchange membrane as the critical component, which is operated by the membrane-electrode assembly (MEA).



Consider Swagelok for solutions such as:

- Analyzer subsystems
- Nitrogen purge subsystems
- Gas Sampling
- Safe handling of pure oxygen
- Panels for safe supply of hydrogen and oxygen vented to atmosphere at the stack outlet
- Back pressure regulators in hydrogen production lines (phase separators)
- Feed water and cooling water subsystems

A sub-assembly may include:

- Tube fittings for lines to gas separators and scrubbers
- Ball Valves (AFS and SK-series)
- Regulators (RHPS; K-series)
- Flange adapters (up to 1")
- Hoses (FM/FJ-series)
- Gauges & Flowmeters

Maximize Productivity

PEM process efficiency requires precision and materials that will maximize the service life of the stack.

Swagelok Solution: Look to Swagelok for 75 years of expertise, including 30 years of engineering hydrogen fluid systems. This translates to welding, calculations like heat exchange, pressure drop and line-sizing, product selection, and troubleshooting services.

Because materials matter, Swagelok 316L has superior concentrations of Cr (17%) and Ni (12%) than ASTM requirements for superior chemical resistance.

Safety

Leak-tight components designed with grip strength and installed with skill are essential for the safety of maintenance and operations personnel.

Swagelok Solution: Components are engineered with safety as a priority. The seal tightness, grip strength, and vibration resistance of Swagelok fittings has been tested for years in critical applications around the world.

H2 Cleanliness

Output gas purity needs to reach as high as 99.9%.

Swagelok Solution: Through the collaboration of Swagelok field engineers, training, troubleshooting and design, fluid sub-assemblies are becoming more efficient and predictable to support the system output.

For More Information

Contact your account manager or email our local hydrogen specialist: Mark.Baran@Swagelok.com.