

# ON-SITE HYDROGEN GENERATION SYSTEM

Zero-emission PEM or alkaline electrolysis

## Cost effective hydrogen production

Our systems have a modular design and can be integrated up to 4,000 Nm<sup>3</sup>/hr (around 8,600 kg/day). They offer on-site backup storage with the added assurance of tube trailer backup supply. Designed to minimize installation complexities, our plug-and-play solutions require minimal civil work. Our dedicated team ensures 24/7 remote service and monitoring, enhancing operational reliability. Additionally, we provide compression and storage solutions tailored to your needs. With an in-house design ethos, we prioritize customization and flexibility. Our infrastructure also supports the co-supply of both hydrogen and oxygen. HyGear is a unique company that offers both electrolysis and steam methane reforming (with options for electric reformers and integrated carbon capture) proprietary technologies for producing hydrogen and has been developing, producing and servicing their installation worldwide since 2002.

### KEY BENEFITS

- **Low carbon/green hydrogen**
- **Autonomous operation compact modular system**
- **No trucking on-site**
- **Reliable and established electrolyser technology**
- **Extensive plant integration experience**
- **Turn-key solution**
  - Single point of communication
  - Fast response
  - All in-house expertise
  - Low complexity

# SPECIFICATIONS

**MODEL**

**OUTPUT**  
 Nominal max. hydrogen flow\*  
 Nominal max. hydrogen flow  
 Hydrogen purity range

**PEM & ALKALINE ELECTROLYSERS**

up to 4,000 Nm<sup>3</sup>/hr (2,500 SCFM)  
 8,600 kg/day (18,960 lb/day)  
 up to 99.999%

**MODEL**

**NOMINAL CONSUMPTION**  
 Demineralised water  
 Electricity average

**DIMENSIONS**  
 Size

**PEM & ALKALINE ELECTROLYSERS**

4,000 L/hr (1,057 gal/hr)  
 5.2 kWh/Nm<sup>3</sup> (0.14 kWh/SCF)

40 ft container(s) or skid-mounted

**OPERATING CONDITIONS**

Capacity  
 Startup time  
 Turndown (H<sub>2</sub> product flow)  
 Ambient temperature range\*\*  
 Pressure range (H<sub>2</sub> product)

**PEM ELECTROLYSER**

up to 20 MW in increments of 1.25 MW  
 < 5 s (warm) | 10 min (cold)  
 20 - 100 %  
 -20°C up to +40°C | (-4°F up to +104°F )  
 3 - 30 bar(g) | (43.5 - 435.1 psi)

**ALKALINE ELECTROLYSER**

up to 5.0 MW  
 30/35 min (warm) | 60/70 min (cold)  
 50 - 100 %  
 -20°C up to +40°C | (-4°F up to +104°F )  
 3 - 30 bar(g) | (43.5 - 435.1 psi)

\*) The PEM electrolyser can be extended up to 4,000 Nm<sup>3</sup>/hr with modules of 250 Nm<sup>3</sup>/hr. The alkaline electrolyser has models ranging from 50 to 1,000 Nm<sup>3</sup>/hr.  
 \*\*) Winter kit available for temperatures below -20 °C

