

A close-up photograph of industrial machinery, likely a hydrogen production system. The image shows several rows of rollers, some of which are wrapped in a white, fibrous material. A green tool or component is visible in the foreground, partially obscuring the rollers. The background is dark and out of focus, emphasizing the mechanical details.

# Technical Specs A-Series & X-Series



GREEN  
HYDROGEN  
SYSTEMS

# Technical overview

## HyProvide<sup>®</sup> A-Series



### Cell stack at 100% production BOL

Maximum power consumption [kWh/kg hydrogen]	53
Efficiency HHV [%]	74
Cell stack current at 100% load [A DC]	1800

### Full container solution at 100% production

	20 Ft Container	40 Ft Container
Nominal hydrogen production [Nm <sup>3</sup> /hour   kg/hour]	90   8.1	180   16,2
Hydrogen outlet pressure [barg]	28	
Hydrogen production gas purity [vol%]	>99.998	
Water content in hydrogen [ppm]	<5	
Oxygen production gas purity - expected [vol%]	>97.5	
Maximum power consumption* [kWh/kg hydrogen]	59	
Input connections	3ph 400 +/- 10% 50Hz	
Tap water consumption - expected [l/kg hydrogen]	33.4	
Water quality [µS/cm]	<5	
Communication interface	Ethernet/Mod-bus	
Control software	HyProManager™	
Ambient temperature (°C)	-20-30 (0-100% load)   30-35 (0-75% load)	
Weight of container (tonnes)	19.1	31.6

\* Average full system at SAT

NOTE: The product is under continuous improvement and the technical specifications might be subject to change. Please make sure to refer to our website [www.greenhydrogensystems.com](http://www.greenhydrogensystems.com) for the most recent specifications.

### The product is manufactured according to the following EU directives

2014/68/EU: Pressure Equipment Directive (PED)  
 2014/35/EU: Low voltage directive (LVD)  
 2006/42/EC: Machine directive (MD)  
 2014/34/EU: ATEX Directive

Measurements are carried out in Green Hydrogen Systems' laboratory.

# Technical overview

## HyProvide<sup>®</sup> X-Series



### Process module at 100% production BOL

Nominal hydrogen production [Nm <sup>3</sup> /hour   kg/hour]	1200   107
Maximum hydrogen outlet pressure [barg]	35
Hydrogen production gas purity with deoxo and dryer [vol%]	>99.998
Hydrogen production gas purity with deoxo but without dryer [vol%]	> 99.95
Hydrogen production gas purity without deoxo and dryer [vol%]	>99.2
Water content in hydrogen [ppm]	< 500
Oxygen production gas purity in production state [vol%]	> 98.6%
Maximum stack power consumption EOL [MVA]	<7.4
Cell stack current at 100% load [A DC]	2400
Number of cell stacks per process module	6
Water quality [μS/cm]	<5
Maximum liquid cooling requirements [kWth]	1800
Installation	Enclosure
Ambient temperature [°C]	-20 to 40
Process module dimensions W x D x H [mm]	14200 x 3400 x 3400
Process module weight [kg]	< 75 000

### Total system at 100% load BOL\*

Maximum power consumption [kWh/Nm <sup>3</sup> hydrogen]	57
Efficiency HHV [%]	69
Input voltage [kV AC]	10.5
Communication interface	Ethernet/Modbus
Control software	HyProManager™
Installation	Outdoor

\* Total system performance numbers includes process module, power supply, chiller, and dry cooler.

### Optional DeOxo, Dryer, and Drycooler

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# Current HyProvide<sup>®</sup> A-Series ■



Available in standardised, modular configurations for maximum efficiency, versatility and scalability, this next-generation technology makes the A-Series one of the most efficient alkaline electrolysers on the market. The unit is designed from the ground up to accommodate the input fluctuations that come with renewable energy sources. Its versatile design allows for application across many different market segments for green hydrogen production fully prioritise pressurised alkaline electrolysis as our core technology, which is well-positioned in terms of reliability, efficiency and physical footprint.



Example of an A-Series site configuration of 2,7 MW



300 m<sup>2</sup>



1166 kg/24h

For projects  
up to **4,5 MW**

# Upcoming HyProvide<sup>®</sup> X-Series ■



The X-Series is based on the existing well-proven technology, optimised for use in the growing market for large-scale applications in, for example, industry, energy and heavy-duty transport sectors. Its unique multi-stack concept with power consumption of approx. 6MW allows the electrolyser to reach higher voltages crucial to utilise mass-produced, low-cost and high-efficiency power electronics from wind and solar markets. The X-Series will drive costs down for the production of hydrogen (LCOH) through increased system efficiency, serial production and a number of cost-out initiatives.



Example of an X-Series site configuration of 24 MW



1080 m<sup>2</sup>



10 300kg/24h

For projects  
above **4,5MW**  
and beyond  
**100 MW**