



H₂B₂



Main Characteristics **EL400N**

Electrolysis Type	PEM (Proton exchange membrane, caustic free)
Number of Cell Stacks	2
Hydrogen Gas Production	
Max. Nominal Hydrogen Flow	400 Nm ³ /h (860 kg/day)
Hydrogen Flow Range	10 -100%
Operating Pressure	15 - 40 barg (217-580 psig)
Hydrogen Purity (before Gas Purification)	> 99.9% ; < 25 ppm O ₂ ; H ₂ O saturated
Hydrogen Purity (after Gas Purification)	99.999%; < 5 ppm O ₂ ; < 5 ppm H ₂ O
Electrical Requirements	
Voltage	3 x 400 VAC ± 10% (3Ph+N) / 3 x 480 VAC ± 10% (3Ph+N)
Frequency	50 Hz ± 5% / 60 Hz ± 3%
Power (BoP + Stack)	2,060 kW
Stack Consumption (*)	4.7 kWh/Nm ³ H ₂
AC Power Consumption (BoP + Stack) (*)	5.1 kWh/Nm ³ H ₂
Feed Water - Demi Water (optional Water Treatment Plant is not included)	
Consumption	< 1 L/Nm ³ H ₂
Conductivity	> 10 MΩcm (< 0.1 uS/cm); TOC < 30 ppb
Pressure	2-3 barg (29-43 psig)
Temperature	+5 °C to +40 °C (+41 °F to +104 °F)
Control System	
PLC	Fully automated and unattended with 15" color touch screen
Communication	Modbus TCP/IP or Profinet (RJ45 port)
Environmental Conditions	
Ambient Temperature Range	+5 °C to +45 °C (+41 °F to +113 °F)
Humidity	0 to + 95% (non-condensing)
Air Ventilation	Available from a non-hazardous area
Installation Area	Indoor/Outdoor
Dimensions and weight	
Dimensions (LxWxH)	2 x [40 ft container (12.0m x 2.4m x 2.9m) (39.4ft x 7.9ft x 9.5ft)]
Approx. Weight	38,000 kg (83,775 lb)
Standards & Regulations	
Compliance	CE, ISO 22734-1 / NFPA 2-2016 & NFPA 70
Other Characteristics	
Duty Cycle	100% (24/7)
Start-up Time (from Stand-by)	< 1 sec
Cold Start Time	< 5 min
Nitrogen System	For each purge, consumption is <0.2 kg at 3 barg (to be supplied by the customer)
Instrumentation Air System	Consumption 7 Nm ³ /h at 10 barg (to be supplied by the customer)

(*) Electrical consumption at maximum current density and operating pressure at the stack; this is reduced if those are not required.

Included	Additional Options
Hydrogen Cooling System	Oxygen Processing System
Emergency Shutdown System	Hydrogen Purification System (SAE J2719 September 2011)
Overpressure Relief System	Water Treatment System
Redundancy on Critical Safety Parameters	Extreme Environmental Conditions Package (Low and High Temp)
Uninterruptible Power Supply (UPS)	Hydrogen Mass Flow Measure & Purity Measure (H ₂ O & O ₂ Sensors)
Heat Management (No Cooling Water is Needed)	Instrumentation Air System
Virtual Private Network (VPN) connection	Nitrogen System
	Heat Recovery System
	Medium Voltage Connection