

HyLYZER® WATER ELECTROLYZERS

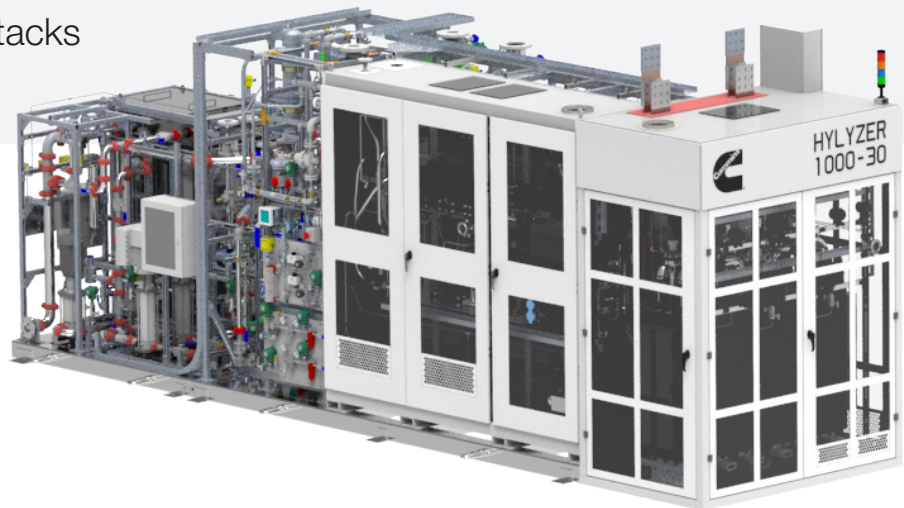


HyLYZER® is Cummins' globally proven modular water electrolyzer system designed for easy on-site installation inside or out, with simple interconnectivity to scale up, and an unrivaled record for reliability, low maintenance and on-site safety. Recommended for projects between 1,000 - 10,000 Nm³/h.

Proven technology, compliant with highest safety standards

Exceptionally compact

30 bar pressurized stacks



FEATURES

	HyLYZER® - 1000
Technology	PEM water electrolysis
Hydrogen production	1000 Nm ³ /h (2160 kg/day)
H ₂ delivery pressure	30 bar _g (435 psig) without a compressor
H ₂ quality max impurities	99.99% dry basis, gas is fully saturated with water O ₂ < 100 ppm Optional > 99.998% with hydrogen purification system

TECHNICAL SPECIFICATIONS

	HyLYZER® - 1000
Operating range	5-125%
DC power consumption at stack	40 to 50 kWh/kg, 48 at nominal load (3.6 to 4.5 kWh/Nm ³ , 4.3 at nominal load)
System specific consumption*	≤ 51 kWh/kg
Utilities required to operate the plant	Electrical power, demineralized water, cooling water, HVAC, instrument air, nitrogen for purge
Rectifier specifications	4.1 to 30kV 50/60 Hz, 7 MVA 97% efficiency
Auxiliary installed power	45 kVA
Demineralized Water Consumption and Recommended Water Quality	~0.8 L/Nm ³ of H ₂ [9 L/kg of H ₂] ASTM D1193 Type
Electrolyzer Cooling Water Requirement	Max. 2,500 LPM between 5-40°C (max ΔT: 10°C)
Total footprint (including maintenance area)	Electrolyzer dimensions (L x W) = 8.4 m x 2.3 m (27.7 x 7.5 ft) Rectifier dimensions (L x W) = 4.5 x 2.5 m (14.8 x 8.2 ft)
Installation environment	Indoors 5°C to 40°C / 41°F to 104°F

*System specific consumption considers: the standard scope of supply (refer to BOS table); 100% Load capacity; Beginning Of Life; 1% increase per annum (at ≥8500 hours operation); Range for indoor setup; HPS not included

STACK AND BALANCE-OF-STACK (BOS)

	Outdoor	Indoor
Cell stacks and gas generation system		■
Power rectifiers		■
Control panel		■
Water polishing system		■

BALANCE-OF-PLANT (BOP)

	Outdoor	Indoor
Rectifier cooling		
Gas cooling		
Electrolysis cooling		
Water purification system		
Instrument air compressor		
Hydrogen purification system		Optional

Applicable Codes and Standards Pressure Equipment Directive 2014/68/EU, Low Voltage Directive 2014/35/EU, Machinery Directive 2006/42/EC, Electro-Magnetic Compatibility 2014/30/EU, ATEX Directive 2014/34/EU, IEC 61511, IEC 61508, IEC 60079-10-1, NFPA 2, NFPA 497, National Electrical Code (NEC), ANSI/NFPA 70, ASME B31.3-2016, ASME Boiler and Pressure Vessel Code 2017, CSA C22.1 and C22.2, CSA B51 2019, CAN/BNQ 1784-000/2007. Other jurisdictions available on request.

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