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 4,000 - 50,000 Nm^3/h.

Proven technology, compliant with highest safety standards

Exceptionally compact

30 bar pressurized stacks

FEATURES

	HyLYZER® - 4000
Technology	PEM water electrolysis
Hydrogen production	4000 Nm^3/h (8630 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® - 4000
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, 23 MVA 97% efficiency
Auxiliary installed power	150 kVA (estimated)
Demineralized Water Consumption and Recommended Water Quality	~0.8 L/Nm^3 of H_2 [9 L/kg of H_2] ASTM D1193 Type
Total footprint (including maintenance area)	Electrolyzer dimensions (estimated) = 10 m x 15 m (34 x 50 ft) Rectifier dimensions (estimated) = 10 x 15 m (34 x 50 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

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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