

IN PRODUCTION



Modular Fuel Cell Power Solutions

For an absolute Zero Emission future

The Generation 3 is a modular hydrogen fuel cell system, producing electricity and heat, only emitting water. Its unique design separates the fuel cell module from the air supply, enabling easier integration and optimal operation. This next step in the PEMFC systems enhances efficiency and accelerates sustainability in power generation.

Performance

Peak Power (BoL)	1000 kW
Prime Power (MCR)	900 kW ¹
Ramp Up Time	20 %/s
Start Up Time	<60 s
Voltage Output	800 VDC
Current Output	2 x 3 x 225 A

Environment

Air Supply	Ambient
Height (Altitude)	max 2000 m
Water Production (maximum)	~300 kg/h
Operating Temperature	-25 °C to 45 °C ²
Storage Temperature	-45 °C to 55 °C ³
Process Air	3200 Nm ³ /h
Ventilation	700 Nm ³ /h

Cooling

Maximum heat generation (EoL)	1200 kWt
Maximum Supply Temperature	≤ 38 °C
Design Return Temperature	55 °C

Efficiency and hydrogen consumption

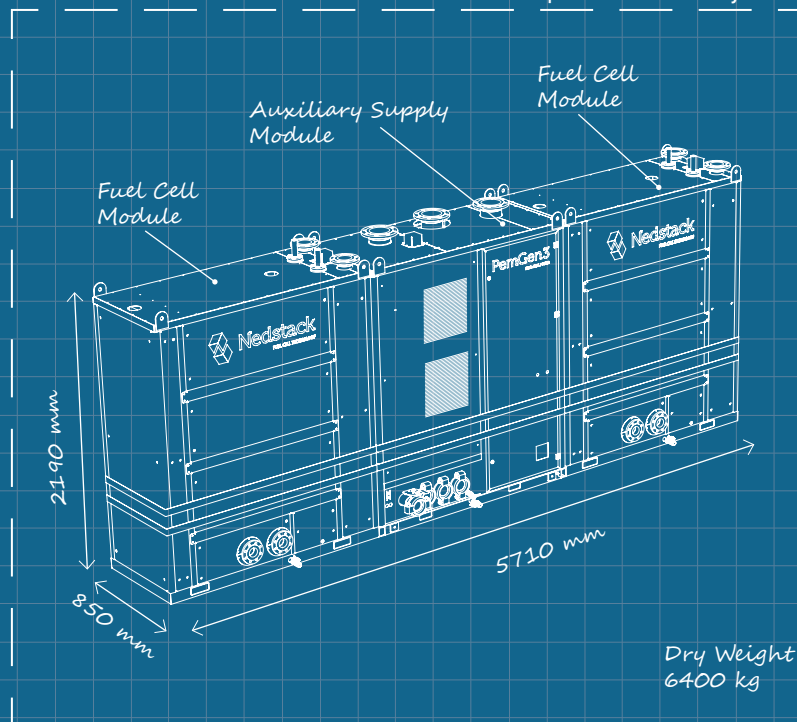
Net Output		Beginning of Life		End of Life	
110% load	1000 kW	49.5%	60.0 kg/h	-	-
100% load	900 kW	50.3%	53.1 kg/h	43.9%	60.8 kg/h
80% load	700 kW	51.9%	40.0 kg/h	45.6%	45.5 kg/h
50% load	450 kW	53.7%	25.0 kg/h	47.5%	28.2 kg/h
25% load	225 kW	51.9%	12.4 kg/h	48.4%	13.8 kg/h
5% load	50 kW	48.0%	3.2 kg/h	48.0%	3.2 kg/h

Inlet Pressure	≥ 3 barG
Hydrogen Standards ⁴	Type 1, Grade E, Category 3 (ISO 14687-2)

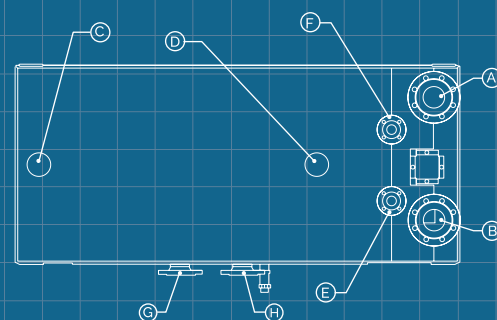
Cooling

Standards	IEC-62282-3
Maritime Approval (AiP)	Bureau Veritas, RINA

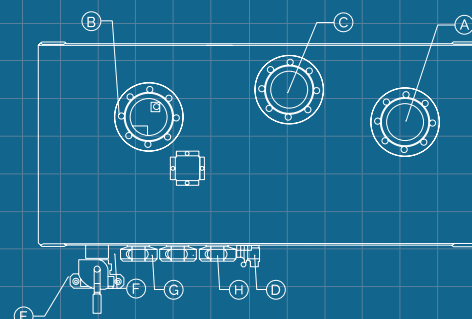
Complete Fuel Cell System



Fuel Cell Module



Auxiliary Supply Module



1. Optional galvanic isolation available up to 825kW
 2. Auxiliary power supply required when shutdown
 3. Decommissioned storage only
 4. Contact Nedstack for other hydrogen purities