

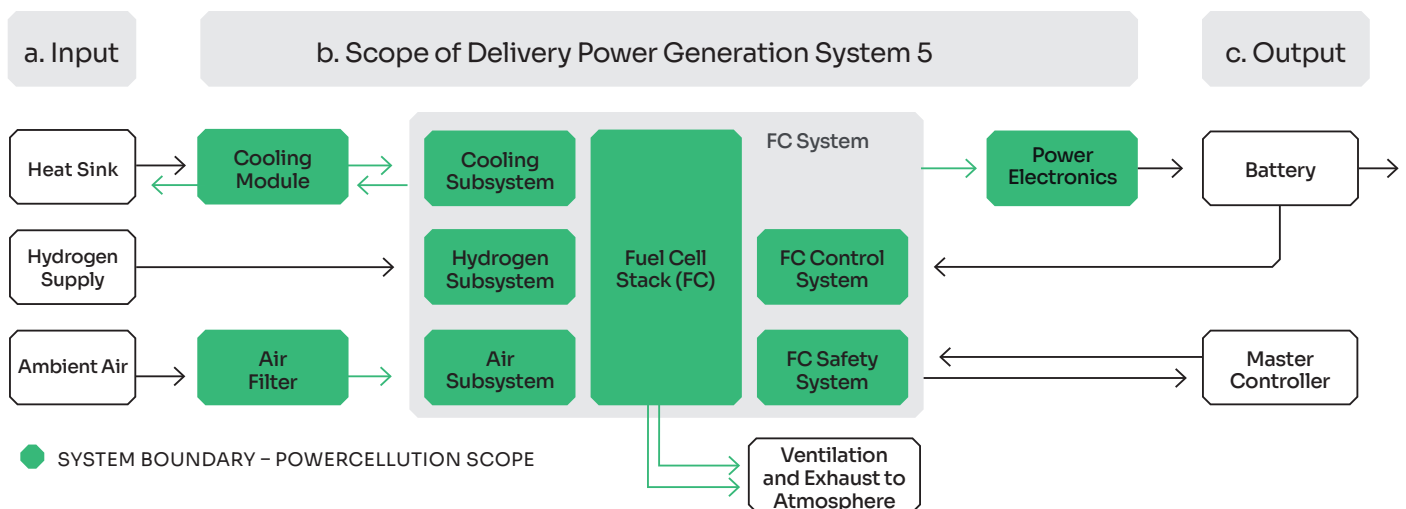
Stationary

PowerCellution Power Generation System 5

PowerCellution products and services creates electric power based on fuel cells using hydrogen. All solutions based on this system will have minimal environmental impact through a zero emission hydrogen electric system.

Power Generation 5 is a hydrogen fuel cell based system developed to create electricity in an environmentally friendly, silent and reliable way. The system is based on our PowerCellution V stack and can be used as a generator for buildings and households, but also as a back-up generator for telecom and traffic systems. In short, Power Generation 5 is a robust and safe system that facilitates easy access to a future with zero emissions and increased use of renewable energy.

The system is designed for simple integration built on a standard 19-inch rack and also with multiple layers of protection to reduce risks and minimize consequences of any foreseeable hazards to the system.



Scope of supply for standard configuration

Fuel Cell System

Fuel Cell Stack	Converts hydrogen into electrical energy in a clean and efficient way
Hydrogen Subsystem	Regulates incoming hydrogen to the fuel cell stack and recirculating to increase the fuel efficiency
Cooling Subsystem	Manages cooling and produces heat that can be utilized for external uses
Air Subsystem	Regulates incoming air to a specific humidity, flow rate, pressure and temperature
FC Safety System	Passive and active protections based around continuous monitoring and control of the system
FC Control System	Process monitoring and control within the fuel cell system
Cooling Module	Connects the stack cooling to a heat exchanger enabling a closed loop interface
Power Electronics Module	Converts and stabilizes voltage output from the fuel cell stack
Air Filter	Provides chemical filtration of air feed to match the requirements of the fuel cell stack



HYDROGEN FUEL CELL SOLUTIONS FROM POWERCELL SWEDEN AB

Physical data

Configurations/specification

Max net power	5 kW	
	Fuel Cell Module ⁱ:	Power Electronics Module :
Dimensions	440 x 557 x 1218 mm	440 x 500 x 210 mm
Volume	298 l	46 l
Weight	125 kg	24 kg

Performance

Gross output (at rated power)	45 V / 140 A
Voltage output	48 VDC
Current output	Up to 80 A per two battery output connection
System heat output	0-7.5 kW ⁱⁱ
Coolant outlet temperature	65°C
Fuel quality	Hydrogen ISO 14687:2019, J2719_202003 and T/CECA-G 0015 2017
Fuel inlet pressure	3-6 bar(g) ⁱⁱⁱ
Communication and control	CAN 500 kpbs and interface display control
System efficiency (peak, BOL)	50%
System efficiency (rated power, BOL)	42%
Operational lifetime	10 000 h ^{iv}

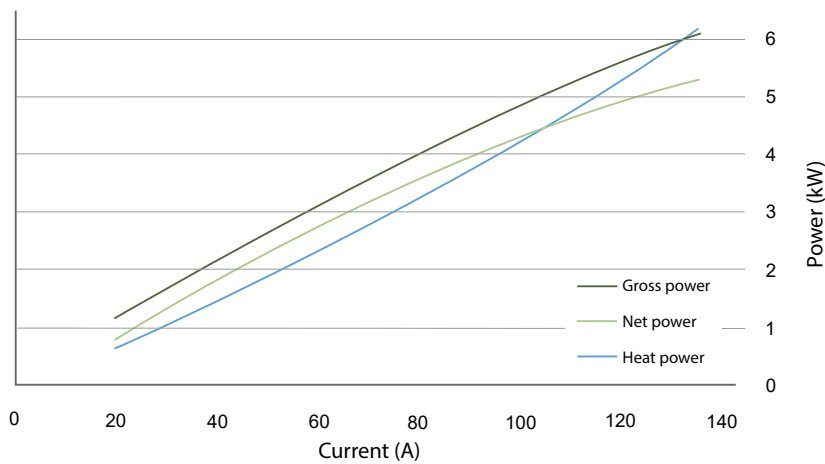


Figure: Performance measured at reference conditions

Environmental conditions

Ambient temperature	5-45 °C ^v
Humidity	5-95% relative humidity; non-condensing
Regulation and standards	EN62282-3-100, EN60950-1, RoHS Vibration: EN 300 019-2-2 V2.2.1: Careful transportation

ⁱ Including cooling module
ⁱⁱ Estimated at end of life, heat output increases with the system life
ⁱⁱⁱ Pressure should be stable during operations.
^{iv} Expected lifetime. Actual lifetime depends on use case.
^v Start-up from sub-zero degrees requires external power assistance.