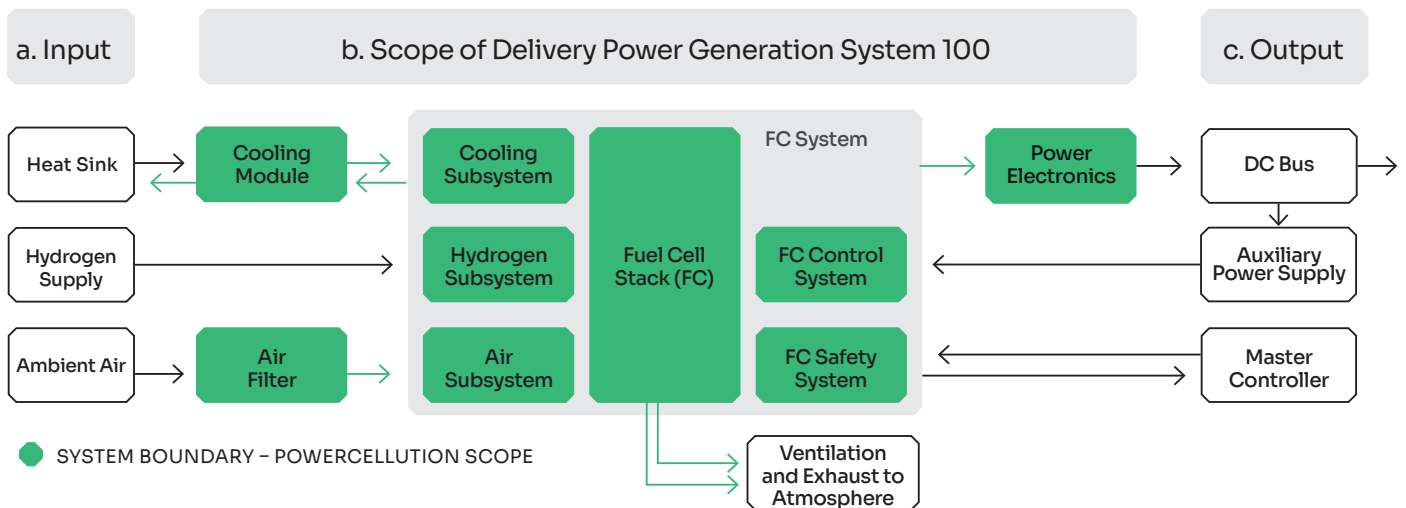


Stationary

# PowerCellution Power Generation System 100

PowerCellution product 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 System 100 is a very powerful fuel cell system that enables durable and flexible use, with an electric output of up to 100 kW. The system has been tested and developed according to the standards in power generation solutions and is specially designed to accomplish compact integration together with high electrical and heat power output. The system has a robust and durable construction meant to ensure lasting



## 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
<b>Cooling Module</b>	Rejects the produced heat through a heat-exchanger to an external system or by a radiator to ambient air
<b>Power Electronics Module</b>	Converts and stabilizes voltage output from the fuel cell stack
<b>Air Filter</b>	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	100 kW
Dimensions	606 x 696 x 674 mm
Volume	284 l
Weight	170 kg

## Performance (without DC/DC)

Gross output (rated power)	300 V / 375 A
Voltage output	Normal operation 250–500 VDC, max 570 VDC <sup>i</sup>
Current output	60–420 A
System heat output (max)	Up to 140 kW + 10 kW <sup>ii</sup>
Coolant outlet temperature	80°C
Fuel quality	Pure hydrogen <sup>iii</sup>
Fuel inlet pressure	8–12 bar(g) <sup>iv</sup>
Communication and control	CAN bus
System efficiency (peak, BOL)	58%
System efficiency (rated power, BOL)	45%
Operational lifetime	20 000 h <sup>v</sup>

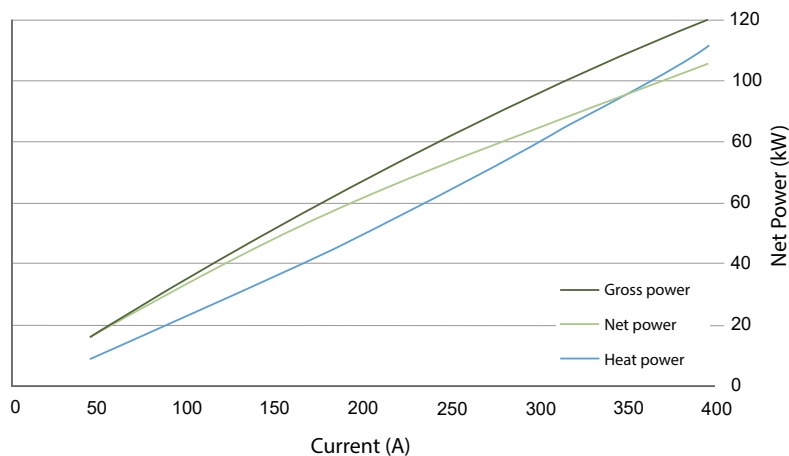


Figure: Performance measured at reference conditions

## Environment

Ambient temperature	-30–45°C <sup>vi</sup>
Humidity	30–95% relative humidity; non-condensing
Regulation and standards	E/ECE/324/Rev.2, /Add.99/Rev.2, FMVSS 305-01, ISO 23273:2013, SAE J1766:201401, SAE J2578:201408 <sup>vii</sup>
IP classification	IP54

<sup>i</sup> Peak power EOL to OCV (Open Circuit Voltage, i.e. no-load condition, 0 A) BOL.  
<sup>ii</sup> Fuel cell stack and BoP components (cathode compressor + intercooler)  
<sup>iii</sup> Hydrogen ISO 14687:2019, SAE J2719\_201511 and T/CECA-G 0015 2017  
<sup>iv</sup> 3–8 bar(g) is feasible, but low hydrogen feed pressure affects system performance.  
<sup>v</sup> Expected lifetime, actual lifetime depends on use case.  
<sup>vi</sup> Start-up from sub-zero degrees requires external power assistance.  
<sup>vii</sup> Fuel Cell System is designed in compliance with the following standards.