

PowerCellution V Stack

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.

PowerCellution V Stack is a versatile fuel cell stack, with an output of up to 35 kW. It is based on state-of-the-art Polymer Electrolyte Membrane (PEM) technology and is designed to operate at high current densities in turn reducing operational costs. The V Stack is built upon robust metallic bipolar plates that are made to meet the rugged conditions of different applications.

The V Stack is a proven product that has been in production for several years.

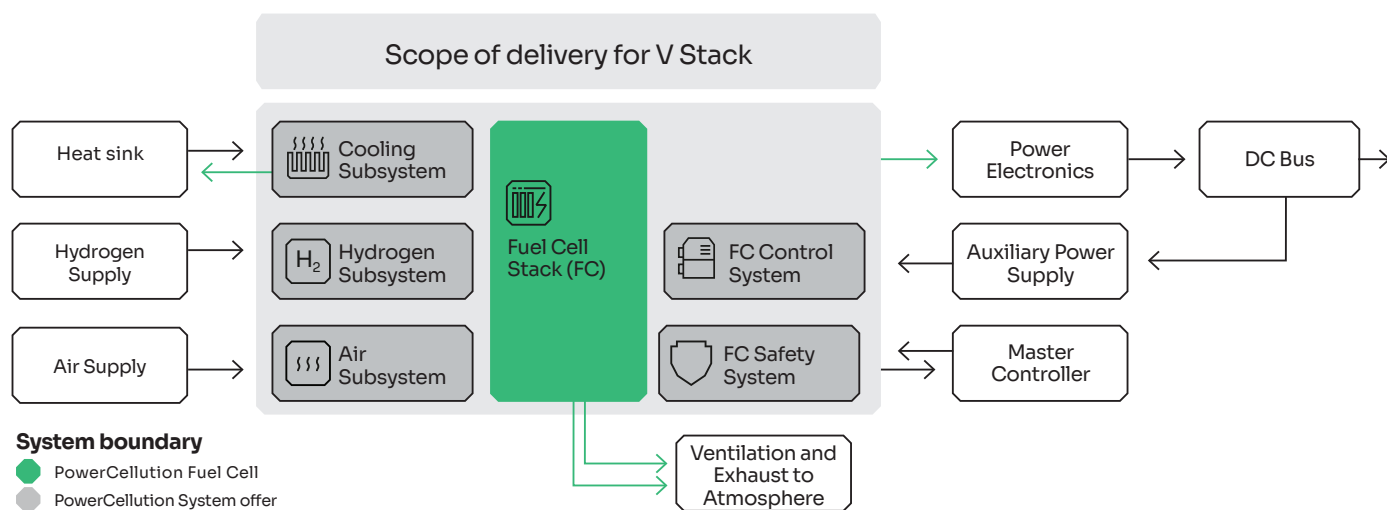


Easy Integration

Owing to its low pressure drop, V Stack avoids placing high energy demands on surrounding components.

Gas Tolerance

The V Stack has versatile gas feed possibilities as systems can run on either pure hydrogen or reformat gas.



HYDROGEN FUEL CELL SOLUTIONS FROM POWERCELL SWEDEN AB

Physical data

Configurations/specification

Standard stack configuration

Max power	3 kW	6.5 kW	10 kW	26 kW	35.5 kW
Cell count	24	48	72	192	264
Dimensions ⁱ	155 x 490 x 125 mm	155 x 490 x 158 mm	155 x 490 x 192 mm	155 x 490 x 358 mm	155 x 490 x 459 mm
Weight	11.2 kg	13.7 kg	16.2 kg	28.5 kg	35.9 kg

Performance

Coolant outlet temperature	< 85°C
Fuel pressure	≤ 1.2 bar (g)
Air pressure (inlet)	≤ 1.0 bar (g)
Coolant pressure	≤ 1.5 bar (g)
Ambient temperature	-30–70°C
Humidity	0 to 100% relative humidity; non-condensing at inlet
Fuel composition (dry basis)	40–100% vol H ₂ ⁱⁱ
Fuel quality	Reformate ⁱⁱⁱ or pure hydrogen ^{iv}
Operational lifetime	10 000 h

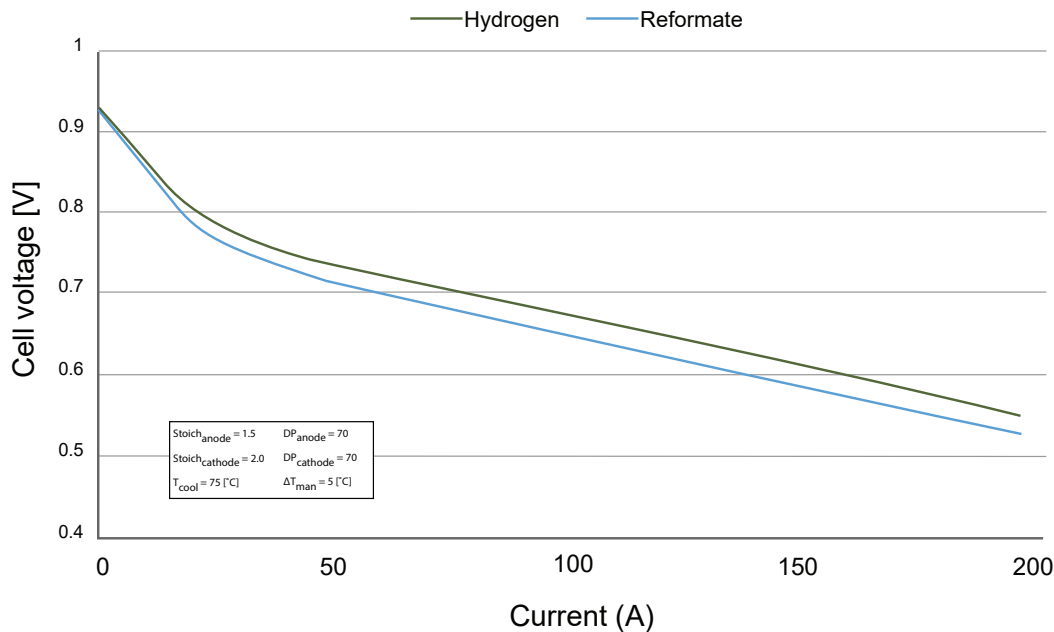


Figure: Typical characteristics of a single cell (average, BOL) at different fuel composition, i.e. hydrogen and reformate. Hydrogen: 85% H₂ and 15% N₂. Reformate: 44% H₂, 21.5% CO₂, 10 ppm, 0.5 % air and 34% N₂. Performance measured at reference conditions

ⁱ Dimensions vary within certain tolerances depending on stack size.

ⁱⁱ 0–60% inert dilutants, i.e. He + N₂ + Ar. For reformate CO₂ is also considered as inert component since air bleed is required.

ⁱⁱⁱ Max CO concentration 25 ppm. Please contact PowerCell for more info.

^{iv} Fuel quality according to ISO 14687-2 except for water and inert diluting components.