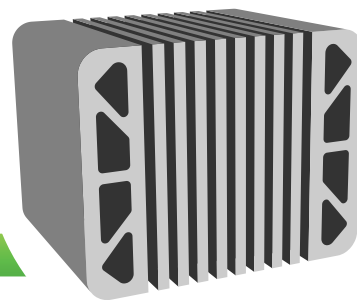


POWERCELL FuelCell

DATA SHEET



System offering

The core behind PowerCell's product is the system solution around an exclusively patented Fuel Cell technology. By bringing together the fuel reforming and the Fuel Cell technology, Powercell has obtained a unique competitive advantage in the market.

An environmental friendly power generator

In order to resolve the issue of hydrogen accessibility, the electrical power generator from PowerCell operates on commercial fuels and is based on two main sub-systems; the Fuel Processor and the Fuel Cell stack. The Fuel Processor converts fuels to hydrogen. The hydrogen is then used in the Fuel Cell to generate electrical power.

Fuel Processor^{1*} – the hydrogen generator

PowerCell has developed and patented a Fuel Processor which converts commercial available fuels into hydrogen rich gas used to run the Fuel Cell system.

Fuel Cell stack – produces electrical power

The Fuel Cell stack from PowerCell is a PEM-based Fuel Cell. The core of our technology is the patented unique cell design which allows the production of highly robust fuel cells.

System^{1*} – The power generator

The generator from PowerCell is superior to existing automotive and marine ICE based generators with respect to emission, noise, cycle efficiency, size and weight. Main characteristics are:

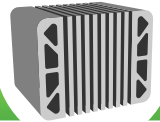
- Emission levels - generates electricity with ultra low emissions of CO, NOx and particulates.
- High fuel efficiency and reliability, with a lighter and smaller system.
- Fuel flexibility - diesel, methanol, propane, gasoline and others.
- Increased customer comfort level - reduced noise, smell and emission levels.



PowerCell's FuelCell



PowerPac – PowerCell's power generator



Product description – FuelCell

PowerCell has developed a Fuel Cell stack to be used within a diesel reformat system. PowerCell reformat stack based on the PEMFC technology and is designed to operate with low hydrogen content reformat gases and low stoichiometries on the anode. The pressure drop of the stack is moderate to get good overall system efficiency, without losing fuel utilisation properties. Our platform design provides a product that is scalable, 1 to 7 kW, and cost effective.

Physical characteristics	S1-10C	S1-35C	S1-60C	Operating conditions	
Length [mm]	105	140	300	Fuel composition	Reformat or Hydrogen
Height [mm]	180	180	180	Fuel efficiency (single path, reformat)	> 60%
Width [mm]	240	240	240	Fuel pressure drop [mbar]	< 120
Performance				Fuel humidity [RH]	> 80%
Rated gross power [kW]	1	3,5	6	Oxidant composition	Filtered air
Voltage output [V]	5-10	17-35	30-60	Oxidant pressure drop [mbar]	< 180
Current output [A]	0-200	0-200	0-200	Oxidant humidity [RH]	> 80%
Expected lifetime [hrs]	5000	5000	5000	Coolant composition	De-ionised water or mix w Glysantin
				Cooling inlet temperature [°C]	65 to 75
				Operating ambient temperature [°C]	0 to 65



POWERCELL FuelConverter

Converts commercial available fuel, such as diesel, into a hydrogen rich gas.

Features:

- Fuel infrastructure neutral
- Scalability
- Clean conversion
- Patent design



POWERCELL FuelCell

Produces electricity from a hydrogen rich gas.

Features:

- Fast start up power
- High power density
- Scalability
- Patented design
- Robust construction



POWERCELL PowerPac

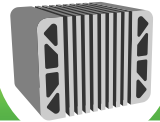
Our complete power generating unit.

Features:

- 5 kW Power Generators
- Developed for robust applications
- Operates on conventional fuels and biofuels

Advantages:

- Zero emission of NO_x, CO, SO_x
- Low noise and vibration levels
- Low thermal signature
- High fuel efficiency

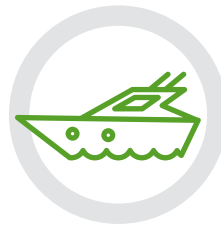


A solution for every challenge

Our strategy is providing customers with innovative and reliable products. We work on understanding the needs of OEM's, system integrators and end users, and challenge our selves to provide a flexible and environmental friendly solution.



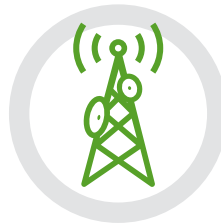
Trucks
Power generating units for trucks.



Marine
Power generating units for boats and yachts.



Cars
Power generating units as range extenders for electrical cars.



Stationary
Power generating units for telecom, household, traffic systems, etc.



Industrial
Power generating units for industrial applications.

Notes:

1* Currently in development.

2* Target values.

Company intentions



Fuel Cell products have an enormous potential to be a main source of electrical power, replacing several existing technologies. Main advantages with Fuel Cell technology are reduced emission levels and potentially increased efficiency compared to existing products. PowerCell's mission is to provide the market with a fuel flexible, environmental friendly, Fuel Cell system that provides electrical power.



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