



SPEEK-DMFC GENSET

FUEL CELL POWER GENERATOR

(PI 2007 2252)



RAW MATERIAL



MEMBRANE PROCESSING



SPEEK MEMBRANE



DMFC STACK



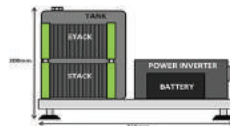
MEA



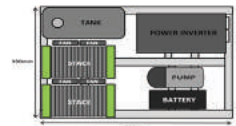
HOT PRESSING

INTRODUCTION

Direct methanol fuel cell (DMFC) power generator utilizes the application of methanol fuel as power sources instead of diesel/gasoline engine that have been used by most of the currently commercial generators.



Front View



Top View

NEEDS

- Rural and off-grid areas such as in the woods and island with no power supply has limits many daily activities.
- An uninterrupted power generator that is portable, lightweight, efficient and easy to handle is needed.

APPROACH

- Incorporation of novel polymer electrolyte from in-house synthesized SPEEK/Cloisite/TAP membrane.
- Employment of green DMFC technology in the portable power generator.
- Producing higher efficiency of portable power generator from higher performance membrane DMFC stack.

BENEFITS PER COST

- 2.2kW power output.
- Power up 3 electrical appliances at one time.
- Fuel consumption 1.5L/day continuous operation.
- Fuel Cost Saving up to RM25,000/year
- Modular can scale up and scale down based on the needs.
- At 2x cheaper, SP-DMFC genset provides double performance in terms of fuel barrier.

COMPETITORS

- Oorja model 3 and T-1 by Oorja Fuel Cells
- EFOY products line by SFC Energy.
- Honda EU200i and EB200i.
- Yamaha EF2400ISHC and EF2600.



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