Fuel Cell Car Science Kit

"Build & operate your own fuel cell car"

This kit will provide you with the "hands on" experience of how vehicles of the future may integrate this revolutionary and environment-friendly power technology.

Using energy from a d.c. power pack or solar panel, allows the electrolyser to separate the water's most common elements, hydrogen and oxygen. These gases are stored by displacing water in the gas storage containers onboard the car.

When an electric power unit, such as the car kit's intelligent motor is then attached to the fuel cell, the fuel cell converts the stored oxygen and hydrogen back into water, producing electricity in the process.

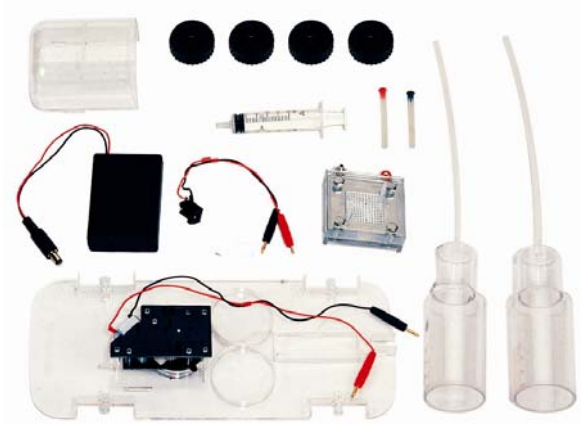
Optimal Use

• The reversible fuel cell works on splitting water, therefore it is highly recommend that the fuel cell is not left in a dry area.
• Before using the fuel cell it must be hydrated for 5 minutes.
• Performance will continue to improve the more it is used until maximum output is achieved.
• It is possible to use drinking water within the fuel cell though distilled water will make the fuel cell last longer.

• A list of experiments are provided within the User Manual so people can get a full understanding of the product's capabilities.

Recommended for ages 12+
Product Ref. No.: FCJJ-11

Horizon Fuel Cell Technologies

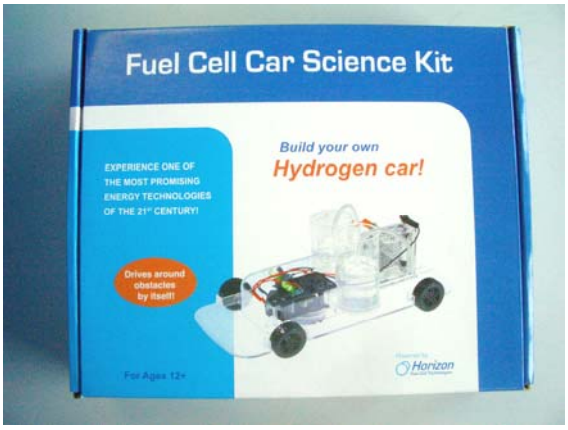


Car Chassis with intelligent motor
The intelligent motor allows the car to change direction once it has hit an obstruction and is the ideal design feature for class room use with limited space.

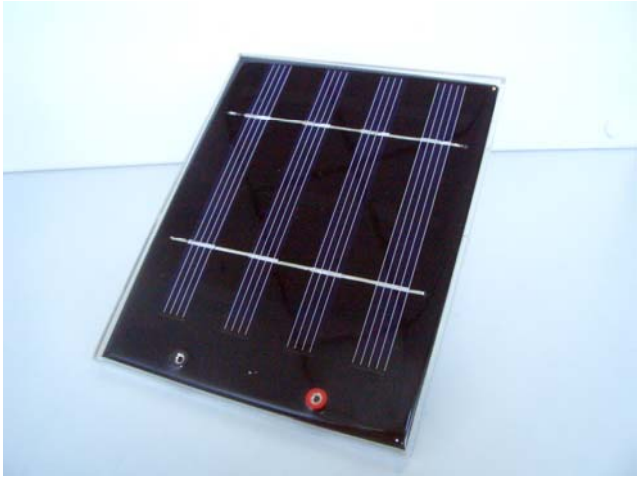
• Dimensions (w x h x d): 240mm x 104mm x 84mm
• Intelligent motor operation requires 0.6V
• Rate of hydrogen fuel consumption is 3 – 5ml/min
• Running time of car is 3-5 minutes (depending on the resistance on the motor)
• Storage containers can hold 15ml of both the hydrogen and oxygen
• Two LED lights also provide a flashing light display

Reversible/Electrolyser Fuel Cell
Operates as both an electrolyser and a fuel cell.

• Dimensions (w x h x d): 54mm x 54mm x17mm
• Weight 67.3 grams
• Electrolyser operation: Voltage input is 1.7 – 2V d.c.
• Gas production: 5ml/min (hyrdogen); 2.5ml/min (oxygen)
• Fuel cell operation: Power output 300mW; Voltage output is 0.6V ~ 0.65V



Solar Modules (optional)



1W Solar panel
Enough power to enable the **Reversible/Electrolyser Fuel Cell** to break down the water into hydrogen and oxygen.

These items together provide the basics of a fully renewable energy system and the technology principals for the 'Hydrogen Economy'.

- Dimensions (w x h x d): 120mm x 150mm x 6mm
- Voltage (at optimum power point) 2.2V d.c.
- Current (at maximum power point) 450mA
- Power output is up to 1W
- The module includes:
  - 1 set of 30cm wires and 1 set of 150cm wires
  - picture frame backing to allow it to sit at 45 degrees to a flat surface

NOTE: Solar module data is based on standard conditions (1,000W/m2, 25°C)

Product Ref. No.: FCSP-011

0.5W Solar panel
Enough power to enable the **Reversible/Electrolyser Fuel Cell** to break down the water into hydrogen and oxygen.

These items together provide the basics of a fully renewable energy system and the technology principals for the 'Hydrogen Economy'.

- Dimensions (w x h x d): 60mm x 150mm x 6mm
- Voltage (at optimum power point) 1V d.c.
- Current (at maximum power) 300mA
- Power output is up to 0.5W.
- The module includes:
  - 1 set of 30cm wires and 1 set of 150 cm wires
  - a picture frame backing to allow it to sit at 45 degrees to a flat surface

- NOTE: Solar module data is based on standard conditions (1,000W/m2, 25°C)

Product Ref. No.: FCSP-008