ABSTRACT

ELECTROLYSIS

Solid oxide stacks are used as fuel cells in order to generate electricity from hydrogen or other fuel sources. By an electrolysis process such standard fuel cells can be operated in order to create hydrogen or other electro chemical by-products. Unfortunately stacks 1 generally operate at relatively high temperatures which will be difficult to sustain purely on economic grounds. In such circumstances less efficient operation can be achieved at lower temperatures where the air-specific resistance is higher by balancing with the electrical power input in order to cause the disassociation required. In such circumstances by provision of an incident heat source, whether that be through a heat exchanger heating the compressed air flow, or recycling of a proportion of exhaust from the stack, or combustion of a product from stack disassociation the result will be a sustaining electrolysis operation reducing the amount of expensive electrical supply required to achieve dissociation.

No Suitable Figure.