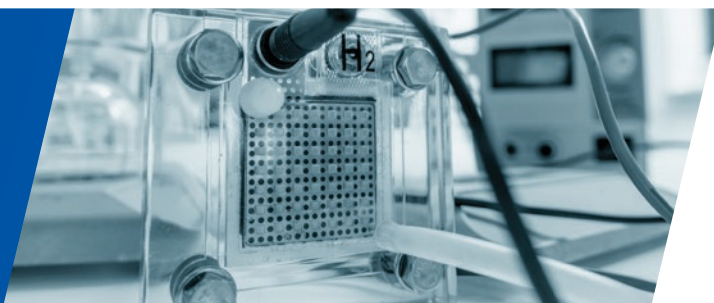


SOFC FUEL CELL AND CHP COOLING

SOLUTION: GA AND GJ SERIES



THE FLUID INDUSTRY

A UK company dedicated to advancing and commercializing fuel cell technology with a fuel cell module, based upon Solid Oxide Fuel Cell (SOFC) technologies. The company is expanding upon a compact, efficient, SOFC-based combined heat and power unit (CHP) for electrical power generation and heating.

APPLICATION

In order for developers to evaluate the operating efficiency and heat transfer characteristics of fuel cells and CHP units, data relative to the coolant circulating within the SOFC and the CHP unit had to be acquired. The adaptation of SOFC technology requires that the fuel cells will operate at substantially lower temperatures. The efficiency of converting fuel to electricity and heat is proposed to be significantly higher and the efficiency is to be maintained across a range of parts and loads. Levels of electrical output are to be maintained in CHP units even when heat demand is modest.

Micropump gear pumps circulate coolant within the SOFCs and CHP units. Feedback from the pump / drive units provides the essential data needed to make accurate measurements of these performance improvements.

PROJECT SUCCESS

Micropump GJ Series magnetically coupled cavity plate design gear pumps as well as Micropump GA Series suction shoe design gear pumps were direct coupled to a DC brushless 24VDC motor with adjustable output speed and feedback signal of the actual motor speed.

BENEFITS

FEATURE / ADVANTAGE

- Suction Shoe Technology → Self-compensates for wear and wide temperature range operation
- External gear pump design → Precise, pulse-free flow
- Simple to service and maintain → Reduced downtime
- Magnetic coupling → Containment of pumped fluid
- Brushless DC Drive → Accurate control of the pump's output and accurate metering with integral speed control and tacho feedback



No spillage of liquids



More system uptime



Accurate flow



Easy to monitor and control



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