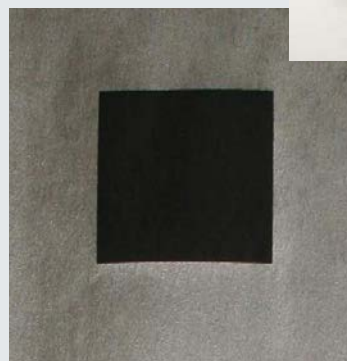


Microdispensing in Fuel Cell Applications



size: 60mm x 60mm



Advancing the Art of Microdispensing

Fuel Cells:

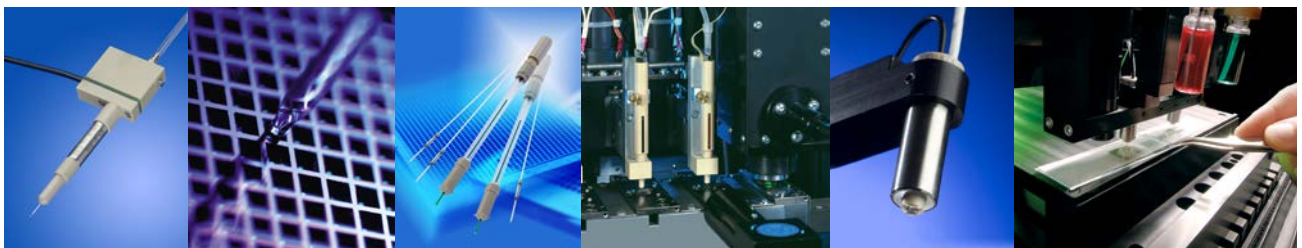
Alternatively or in addition to conventional batteries and accu, fuel cells have considerable advantages. They

- are more durable
- are quickly recharged
- have a better energy yield
- are environmentally friendly
- are very flexible dimensioned

Advantages of Inkjet Printing:

microdrop Inkjet Printer replaces the limited screen printing process to manufacture the membrane electrode assemblies (MEAs) for fuel cells. Inkjet Printing has significant benefits. microdrop printing systems offer:

- contact - free, fine and contour - accurate coating
- flexible dimensioned coating
- variable multilayer coating
- reproducible and homogenous coating
- economical liquid handling
- adaptation of various liquids



Microdispensing in Fuel Cell Applications

The growing potential of fuel cells for feature - rich and small electrical consumer - is enormous. New concepts are required. The need for reliable, environmentally friendly and high performance systems on basis of small fuel cells is increasing in many application areas, such as e.g. in office and electronic communication, and in noiseless power supplies for yachts.

Membrane electrode assemblies (MEAs) printed by Inkjet Technology



microdrop Dispensing Process

The dispensing process for areal coating is performed with a multidispenser equipment. A surface delivery rate of about 100cm²/min was reached with a microdrop eight channel inkjet dispenser and an electrode ink from H.I.A.T gGmbH, Germany. In combination with the Autodrop Platform and the Autodrop Software, the use of the multidispenser provides a large flexibility regarding area sizes, area arrangements and structures of the coating as well as liquid and substrate variability.

Autodrop Platform

The Autodrop Platform offers a versatile and customized tool to combine different modules as desired for special applications.

For any specific application and for more detailed information, please get in touch with us.



In a common development project, microdrop Technologies GmbH and the "Hydrogen and Informatics institute of Applied Technologies" (HIAT) developed and optimized methods to manufacture membrane electrode assemblies (MEAs) for hydrogen fuel cells based on Inkjet Technique. The development was funded by the Central Innovation Programme SME (BMW "ZIM Koop/AIF), grant number KF24613010H9.

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