

*The ultimate coverage
in coating systems*



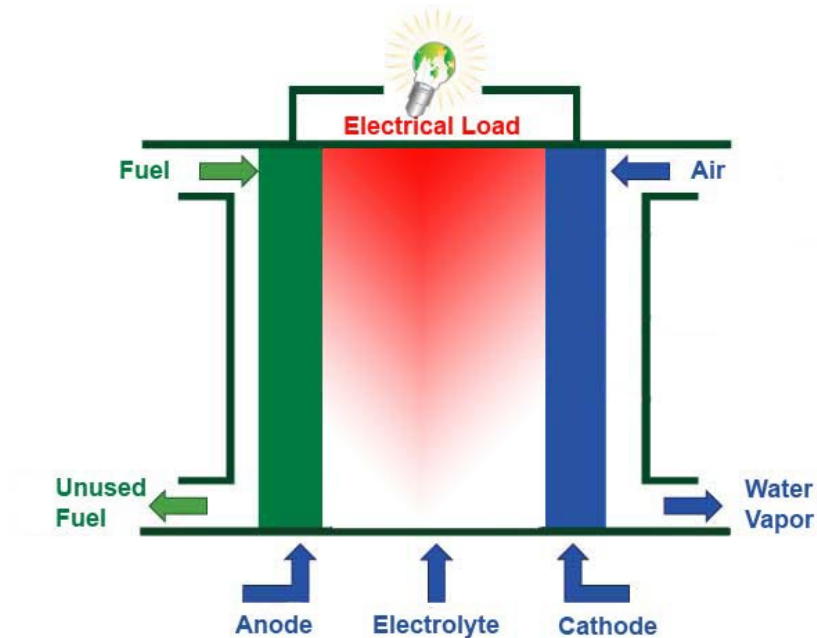
Ultrasonic Systems, Inc.

Technology and Coating Systems
for Fuel Cell Manufacturing

Company History

- Founded in 1989 with over 2,500 ultrasonic coating systems installed worldwide in the electronics assembly market
- Developed proprietary “nozzle-less” ultrasonic spray coating technology
- Multiple applications including:
 - Fuel Cell
 - Solar
 - Electronics Assembly
 - Display
 - Semiconductor Packaging
 - LED Manufacture
 - Medical
 - Batteries
 - Specialty

Fuel Cell Manufacturing



Fuel Cell Manufacturing

- **Process**
 - Application of anode and cathode layers to electrolyte surface
 - Application of electrolyzers
 - Application of other coatings
- **Coating types**
 - Typical solids content, 2 to 50%
 - Precious metal based (Pt or PtC) inks
 - Ceramic powder based slurries
- **Substrate types**
 - Nafion membrane and carbon paper
 - Bi-polar/metal plates and ceramic plates
 - Ceramic tubes
 - other substrates