Danish Power Systems®

Fact sheet about Danish Power Systems

February 2018

Information about Danish Power Systems

Danish Power Systems, located north of Copenhagen, Denmark, is a development- and manufacturing company working in the fields of chemistry and energy with primary focus on fuel cells.

Danish Power Systems works with a fuel cell technology called HTPEM and manufactures the critical component called a MEA in which the electricity is generated by a reaction between hydrogen and oxygen.

Danish Power Systems is one of the very few companies in the world that can manufacture the material-polybenzimidazole (PBI), which the fuel cell's plastic membrane is made of.

The company was founded in 1994 by three researchers at DTU and two development engineers from the battery factory Hellesens, Denmark. The company currently has approx. 24 employees, of whom 12 are academics.

Information about HTPEM-fuel cells

Fuel cells generate electrical energy through an electrochemical process by continuous supply of hydrogen and air. As opposed to a regular battery, the fuel cell never runs out of energy. The heart of the fuel cell is the membrane where electrically charged particles (ions) flow through. The fuel cells are assembled in stacks in order to provide sufficient power to drive e.g. machines. The final product with regulation and control is called a fuel cell system.

The fuel cells produced by Danish Power Systems belong to the HTPEM (High Temperature Polymer Electrolyte Membrane) category. The membrane consists of a polymer which can operate at a higher temperature than traditional PEM cells.

HTPEM operates at 160-200 ° C and can use several fuels such as natural gas, biogas or methanol, which can be extracted from for example agricultural waste.

Thus, with HTPEM fuel cells, you can use the existing infrastructure as methanol can be purchased anywhere in the world and can be distributed in the same way as petrol and diesel.