

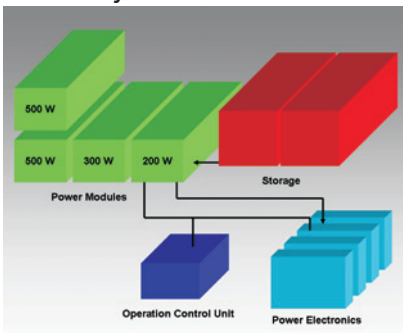


Deutsches Zentrum  
für Luft- und Raumfahrt e.V.  
in der Helmholtz-Gemeinschaft

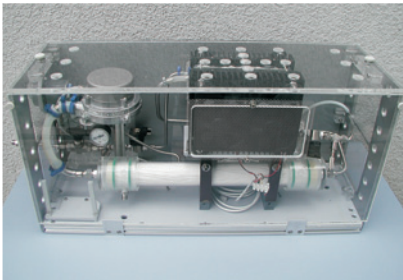
## Fuel Cell Systems for Portable Applications

The Institute is developing portable fuel cell systems (PEFC, DMFC) in the power range of few hundred Watts to few Kilowatts. The target is to realize compact and robust systems with high energy density by using commercial available components. One focus is to realize a modular concept which can be easily adapted to all power ranges and special requirements of the application. So the power output can be easily changed by addition of power modules. The actual operation concept allows to combine one to six power modules (200 - 3000 W).

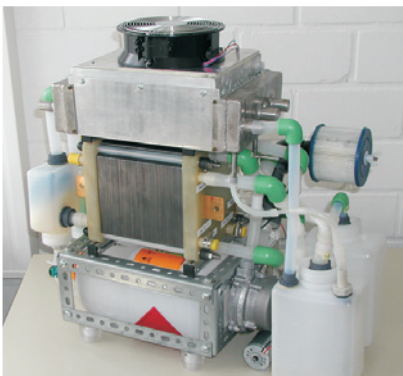
### Modular System



### PEFC(350W)



### DMFC(1kW)



In cooperation with industrial partners, the DLR power module was advanced to the prototype system

### F-CELL POWER PACK

#### The specifications of the F-CELL POWER PACK are:

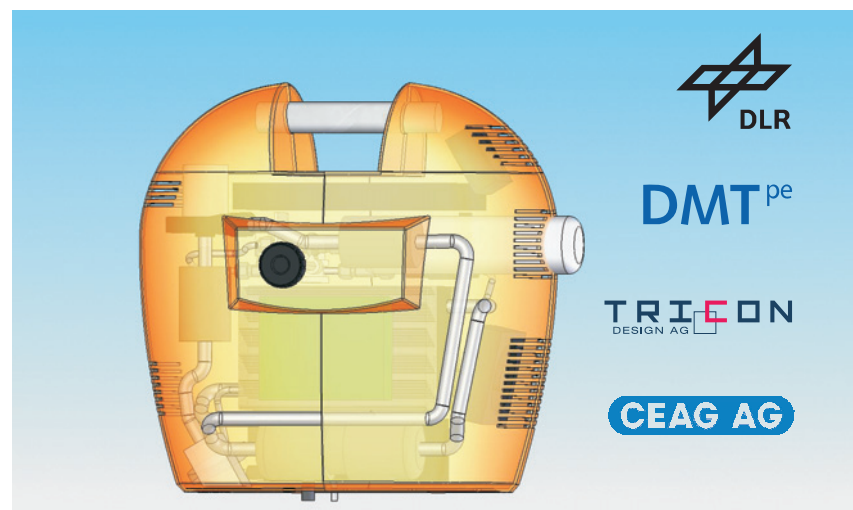
- System: PEFC
- Power out: 300 W
- cooling: air cooled
- weight: 10 kg
- dimension: 400 x 180 x 400 mm

#### Partners in the "F-CELL POWER PACK" project:

#### The applications are:

- Decentralized energy systems for e.g. data acquisition, safety and observation
- Mobile power systems for construction sites and traffic information systems
- Auxiliary power units for automotive applications
- Power units for recreation vehicles, camping and summer houses

- **DMT** packaging, prototyping
- **Tricon** design concept
- **CEAG** control system, power electronics
- **DLR** system concept/architecture, choice of components



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