

Fuel Cell Emergency Power System (FCEPS).



LIEBHERR

The innovative Aircraft Emergency Power System based on Fuel Cell Technology made by Liebherr.

Fuel Cell Technology for the Aviation Industry

The innovative Fuel Cell Emergency Power System (FCEPS) developed by Liebherr-Aerospace is designed to maintain the onboard electrical power supply after failure of engines and/or engine-assisted generators. Like the ram air turbine, the system is only activated when required.

FCEPS is based on a low-temperature fuel cell that converts hydrogen and oxygen into water, heat and electric power. Integrated power storage modules enable the system to deliver an uninterrupted power supply, so that electric power is immediately available on startup.

The Fuel Cell Emergency Power System is a selected example of the results of interdisciplinary research by the Liebherr Group of companies in the area of fuel cells. This system stands for an approach that could be the first of many applications for fuel cell technology in the aviation industry.

Advantages

FCEPS delivers a constant power output throughout the glide phase, through to landing and taxiing on the ground.

FCEPS is fully integrated in the aircraft fuselage and as a result, is not dependent on the external airflow or the weather conditions. It does not produce any aerodynamic drag. The choice of glide path is not affected.

The installation of FCEPS is subject to fewer restrictions than that of the ram air turbine. Aircraft manufacturers are more flexible in selecting where and how to install it in the airframe.

Features of the Demonstrator System:

Output:	25 KW
Designed operating time:	1 h
Stored energy sources for that purpose:	
- Hydrogen:	1.2 kg / 350 bar
- Oxygen :	8.0 kg / 128 bar
Weight (demonstrator/prototype):	136 kg

