



Jupiter Product Family **Sophisticated Fuel Cell Systems**

FutureE's fuel cell systems provide ideal solutions for premium power applications. They offer good opportunities to reduce energy costs and increase the overall energy efficiency.

FutureE's fuel cell systems are smaller, lighter, cheaper to install and run than batteries for extended runtimes – and minimize the use of lead and acid. Compared to internal combustion engines, fuel cell systems offer zero pollutant emissions, lower noise signatures and reduced maintenance.



INDOOR CONFIGURATIONS INCLUDING ENCLOSURE

Maximum Power * (kW)	0.6	1.2	2.5	5.0	7.5	10.0	12.5	25.0	50.0
Nominal Power (kW)	0.5	1.0	2.0	4.0	6.0	8.0	10.0	20.0	40.0
Nominal Current (A)	12.5	25	50	100	150	200	250	500	1000
Height (mm)	1200	1200	1200	1200	1800	1800	2200	2200	2200
Width (mm)	800	800	800	800	800	800	800	800	800
Depth (mm)	600	600	600	600	600	600	600	600	600
Weight (kg)	220	225	230	270	330	370	420	840	1720
Optional Space (U)	13	13	13	6	11	4	6	12	24

* Beginning of Life; ambient temperature <40°C

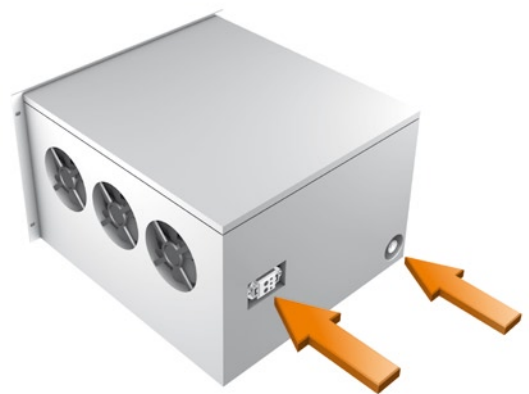
EFFICIENT AIR SUPPLY:

- No liquids, no pumps, no heat exchangers



CLICK-ON POWER AND HYDROGEN CONNECTIONS:

- Easy front handling, simple installation and maintenance



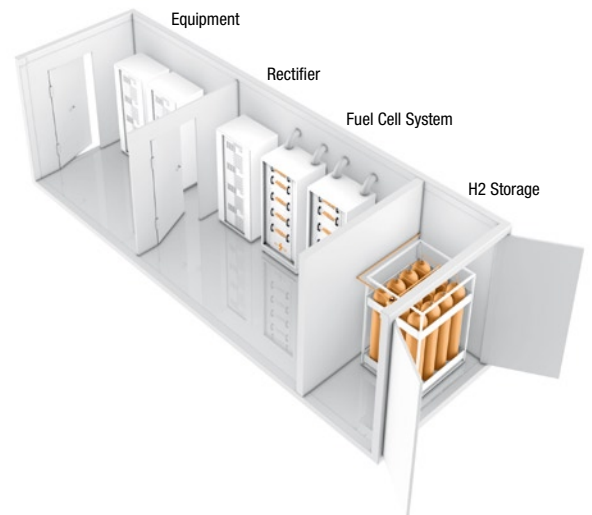
FREE SCALING TO YOUR REQUIRED POWER NEEDS:

- One Controller for up to 20 FC units
- Multiples of one standardized FC unit



Exemplary Indoor Installation:

- Separation of energy conversion (FCS) and energy content (H2),
- Minimized space requirement and floor loading



SMART GRID INTEGRATION:

- Minute reserve (tertiary power) and peak power shaving



RENEWABLE OFF GRID INTEGRATION:

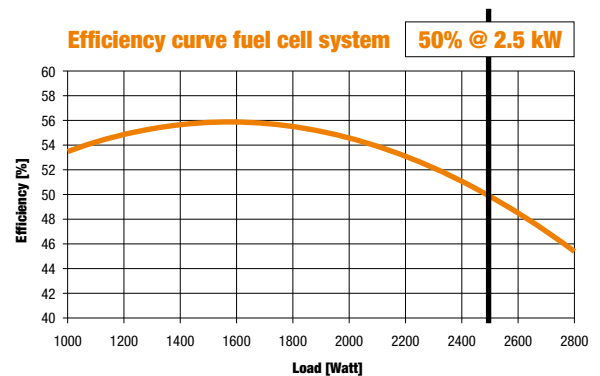
- Grid like availability with zero emissions



JUPITER INDOOR FEATURES

Fuel Cell Type	PEM (Proton Exchange Membrane)
Nominal Voltage	-48.0 VDC
Voltage Range	-40.5 VDC to -57.0 VDC
Maximum Power *	up to 50 kW
Nominal Current	up to 1000 A
Response Time	uninterrupted
Electrical Energy Storage**	customer specific
Fuel	Hydrogen 99,9%
Hydrogen Consumption	11 slpm/kW
Hydrogen Supply Pressure	10 bar
Runtime	proportional to stored amount of Hydrogen 1 H ₂ bottle, 50 l @ 200 bar ~ 13 kWh _{el} 1 H ₂ bottle, 50 l @ 300 bar ~ 18 kWh _{el} 1 H ₂ bundle, 12 x 50 l @ 300 bar ~ 216 kWh _{el}
Cooling	Air
Environmental Temperature	0°C to 45°C
Maximum Altitude	4000 m ***

Weight per Unit	< 30 kg
Operating Life	> 3.000 hours
Service Interface	Ethernet, Modem optional
Standards	designed to meet ETSI 300 019-1-3 class 3.2, ETSI 300 132-2
Certification	CE
Rectifier	optional
Inverter	optional
Smart Grid Functionality	optional
Off Grid Functionality	optional
Outdoor Configuration	optional



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** Lead Acid Batteries, Lilon Batteries, Ultracaps

*** 5% / 1000 m power de-rating starting from 2000 m

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OUR APPROACH

Reducing complexity to **maximize reliability**

Applying cutting edge technology to **maximize durability**

The result: **meeting customer's exacting power demands – at minimized total cost of ownership**

HOW WE WORK

We offer customized solutions based on standardized products. If required, we scope a customer's precise power needs, including a complete power solutions analysis. We are able to offer engineering advice and full installation service. Our after-sales service includes training and maintenance right through to monitoring of our systems.

ABOUT US

FutureE Fuel Cell Solutions GmbH is a German company specialized in advanced fuel cell systems and energy solutions. High efficiency, low complexity and fast response are core values for us, both for our products and the organization. Our team is stable, enthusiastic and has a many years' experience in fuel cell technology. We are working with high motivation for a cleaner world.