



DFC[®]3000 EU MCFC Fuel Cell Power Plant

2,8 MW; 20 kV; 50 Hz

Key Features

Minimal environmental impact with almost “no NO_x, no SO_x”.

- ✓ High Efficiency
- ✓ Low Environmental Impact
- ✓ Fuel Flexibility
- ✓ High Reliability
- ✓ Quiet Operation

Advantages

DFC[®]3000 EU - the power plants are easily extendable to parks because of their conception.

FuelCell Energy Solutions DFC[®]3000 EU system is the largest of the Direct FuelCell[®] (DFC[®]) power plant fleet, capable of providing high-quality baseload power with 47% electric power generation efficiency around-the-clock.

Scalable for Multi-MW Fuel Cell Parks up to 50 MW and more, the system is especially suitable for applications with larger load requirements such as universities, manufacturing facilities, wastewater treatment plants, and utility/grid support.

Power Output

Power at Plant Rating	2.800 kW
Standard Output AC Voltage	20 kV
Standard Frequency	50 Hz
Optional Output AC Voltages	By Request
Optional Output Frequency	60 Hz

Efficiency

LHV	47 +/- 2%
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Available Heat

Exhaust Temperature	370 +/- 28 °C
Exhaust Flow	16.600 kg/h
Allowable Backpressure	12,5 mbar
Heat Energy Available for Recovery	1.298 kW (to 120 °C) 2.184 kW (to 50 °C)

Fuel Consumption

Natural gas (at 9,63 kW/m ³)	614 Nm ³ /h
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Water Consumption

Average	2,04 m ³ /h
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Water Discharge

Average	1,02 m ³ /h
Peak during WTS backflush	6,82 m ³ /h

Emissions

NO _x	4,54 x 10 ⁻³ g/kWh
SO _x	4,54 x 10 ⁻⁵ g/kWh
PM10	9,0 x 10 ⁻⁶ g/kWh

CO₂-Emissions

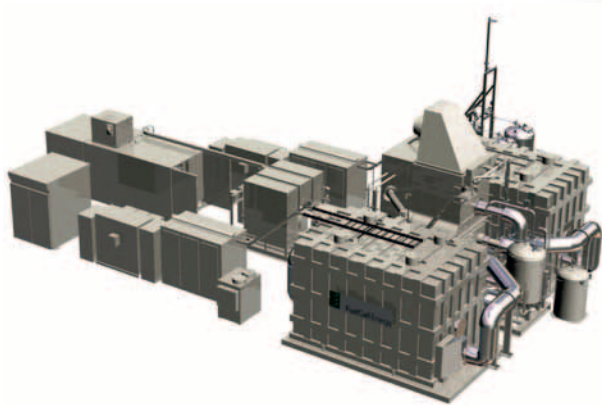
CO ₂	445 g/kWh
with the use of exhaust heat	236-309 g/kWh



FuelCell Energy Solutions
Ultra-Clean, Efficient, Reliable Power

Layout

The low environmental impact enables power plant application in cities.



Weights

Water Treatment Skid	9,1 t
Main Process Skid	22,7 t
Desulfurization	6,8 t
Electrical Balance of Plant	23,6 t
Fuel Cell Module	2 x 48,6 t

Sound Level at 3,0 m

Standard	72 dB(A)
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FuelCell Energy Solutions GmbH is your partner for innovative CCHP-solutions with fuel cells in the extended European Area. For more information please visit our website at www.fces.de.

Experiences and practical orientation

Innovative energy producers appreciate our long-term full-service.

Direct FuelCell® power plants are generating ultra-clean, efficient and reliable power at more than 50 locations worldwide. With over 180 megawatts of power generation capacity installed or in backlog, FuelCell Energy Solutions GmbH/ FuelCell Energy, Inc. is a global leader in providing ultra-clean baseload distributed generation to utilities, industrial operations, universities, municipal water treatment facilities, government installations and other customers around the world.

The Company's power plants have generated more than one billion kilowatt hours of ultra-clean power using a variety of fuels including renewable biogas from wastewater treatment and food processing, as well as clean natural gas.



The fleet of Direct FuelCell power plants of FuelCell Energy Solutions GmbH/ FuelCell Energy, Inc. are certified to or comply with a variety of commercial and industrial standards: ANSI/CSA America FC-1, UL 1741, CARB 2007, OSHA 29 CFR Part 1910, IEEE 1547, NFPA 70, NFPA 853, and California Rule 21.

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