

#### PURECELL SYSTEM BENEFITS

#### **Energy Security**

Proven PAFC fuel cell technology that is setting durability records

#### **Energy Productivity**

Increased efficiency and continuous on-site generation reduces energy costs

#### **Energy Responsibility**

Ultra-low emissions equals sustainability

#### PURECELL SYSTEM COMPETITIVE ADVANTAGES

#### **Long Life**

Industry leading 10-year cell stack life assures high availability and low service cost

#### Modular & Scalable

Solutions for multi-megawatt applications to meet growing energy demand

#### **Experience**

Most knowledgeable and experienced team in the industry

#### **High Efficiency**

Up to 90% total CHP Efficiency

#### **Grid-Independence**

Proven performance delivering power when the utility grid fails

#### **Load Following**

Capable of dispatching power to match building needs

#### **Small Footprint**

Highest power density among clean generation technologies

#### **Flexible Siting**

Indoor, outdoor, rooftop, multi-unit

# RATED POWER OUTPUT: 460KW, 480VAC, 60HZ

		Operating Mode	ing Mode
Characteristic	Units	Power 460kW	Eco 440kW
 Electric Power Output <sup>1</sup>	kW/kVA	460/532	440/517
Electrical Efficiency	%, LHV	43.5%	44.4%
Peak Overall Efficiency	%, LHV	90%	90%
Gas Consumption <sup>1</sup>	MMBtu/h, HHV (kW)	4.04 (1,185)	3.78 (1,108)
Gas Consumption <sup>1,2</sup>	SCFH (Nm <sup>3</sup> /h)	3,941 (106)	3,688 (98.7)
High Grade Heat Output @ up to 250°F¹	MMBtu/h (kW)	1.30 (382)	1.16 (341)
Low Grade Heat Output @ up to 140°F <sup>1,6</sup>	MMBtu/h (kW)	1.68 (492)	1.54 (452)

# DOO SAN Pure Cell®

#### **FUEL**

Supply	Natural Gas
Inlet Pressure	10 to 14 in. water (2.5 - 3.5 mbar)

#### EMISSIONS<sup>3,4</sup>

NOx	. 0.02 lbs/MWh (0.009 kg/MWh)
CO	. 0.01 lbs/MWh (0.005 kg/MWh)
VOC	. 0.01 lbs/MWh (0.005 kg/MWh)
SO <sub>2</sub>	Negligible
Particulate Matter	Negligible
CO <sub>2</sub> <sup>1</sup> (electric only)	1,006 lbs/MWh (456 kg/MWh)
(with High-Grade heat recovery)	567 lbs/MWh <sup>5</sup> (257 kg/MWh)
(with full heat recovery)	496 lbs/MWh <sup>5</sup> (225 kg/MWh)

#### **OTHER**

Ambient Operating Temp	20°F to 104°F (-29°C to 40°C)
Relative Humidity	0 to 95% (non-condensing)
Sound Level	<65 dBA <sup>6</sup> @ 33 ft. (10m)
Water Consumption	None (up to 86°F (30°C) Ambient Temp.)
Water Discharge	None (Normal Operating Conditions)

#### **CODES AND STANDARDS**

ANSI/CSA FC1-2014: Stationary Fuel Cell Power Systems UL1741 SA: Inverters for Use With Distributed Energy Resources

#### NOTES

- 1. Average performance during 1st year of operation.
- 2. Based on natural gas higher heating value of 1025 Btu/SCF (40.4 MJ/Nm3)
- 3. Emissions based on 440 kW operation.
- 4. Fuel cells are exempt from air permitting in many U.S. states.
- 5. Includes CO<sub>2</sub> emissions savings due to reduced on-site boiler gas consumption
- 6. With optional equipment

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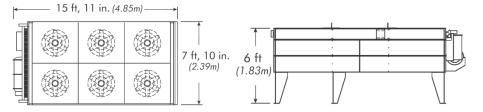


# **PureCell**® Model 400

#### SYSTEM DIMENSIONS

# **Power Module** -29ft. 4in. (8.95m)-8ft, 7in. 10ft 10ft, 7in. (2.62m) (3.22m) (3.04m)**Top View** Side View

# **Cooling Module**



**Top View** Side View

## PHYSICAL SPECIFICATIONS

	Power Module	Cooling Module
Length	29' 4" (8.95m)	15' 11" (4.85m)
Width	8′ 7″ (2.62m)	7′ 10″ (2.39m)
Height	10' (3.02m)	6' 0" (1.83m)
Weight	57,000 lb (27,216 kg)	3,190lb (1,447 kg)

## **PURECELL ADVANTAGE**

# **OFFSET 3x MORE CO<sub>2</sub>**









#### **CAPACITY FACTOR**



# CO<sub>2</sub> OFFSET



## **USE LESS LAND**



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