

# PureCell® Model 400 Hydrogen

# 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**

No 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**

60+ years of fuel cell development

#### **High Efficiency**

Up to 90% total CHP Efficiency

#### **Small Footprint**

Highest power density among clean generation technologies

#### Flexible Siting

Indoor, outdoor, rooftop, multi-unit

# RATED POWER OUTPUT: 440KW, 480VAC, 60HZ

Characteristic		Units	Value <sup>1</sup>
Electric Power Output		kW/kVA	440/517
Electrical Efficiency		%, LHV	50
Peak Overall Efficiency		%, LHV	90
Hydrogen Purity, Minimum <sup>2</sup>		%	99.9
Hydrogen Input	Energy	kW (MMBtu/h), HHV	1,039 (3.59)
	Volume <sup>3</sup>	Nm3/h (SCFH)	295 (10,328)
	Mass	kg/h (lbs/h)	26.4 (58.1)
Heat Output @ up to 121°C (250°F)		kW (MMBtu/h)	352 (1.20)

# **FUEL**

Supply	Hydrogen Gas
Inlet Pressure <sup>4</sup>	+ 0.25 bar(a)

# **EMISSIONS**

Zero emissions of  $CO_2$ ,  $NO_x$ ,  $SO_{xr}$  CO, and VOCs. Heat output can offset additional  $CO_2$  from combustion heat generation (e.g., boilers).

#### **OTHER**

Ambient Operating Temp Max Power -20°F to 104°F (-29°C to 40°C)5	)
Sound Level < 65 dBA @ 33 ft. (10m)	)
Water Consumption None	



**Daesan Green Energy Project** 50 MW | 114 Units | South Korea

#### **NOTES**

- Average performance during 1<sup>st</sup> year of operation. Refer to the Product
  Data and Applications Guide for performance over the operating life of the
  powerplant.
- Contact HyAxiom for requirements on other gas constituents or for lower purity H<sub>2</sub>.
- Based on Hydrogen gas higher heating value of 343 Btu / SCF (12.8 MJ/Nm3).
- 4. Contact HyAxiom for lower inlet pressures.
- Derate at ambient temperatures outside of specified range. Contact HyAxiom for details.

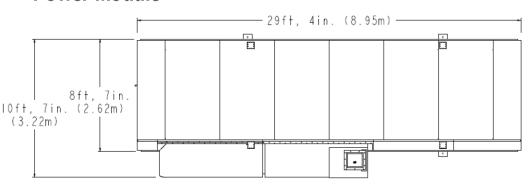
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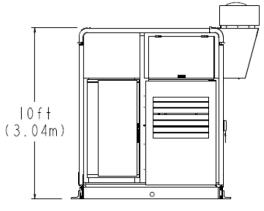


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# **SYSTEM DIMENSIONS**

# **Power Module**

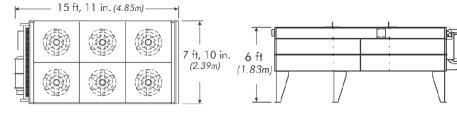




Top View

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′ 0″ (3.04m)	6′0″(1.83m)
Weight	49,428 lb (22,420 kg)	3,190 lb (1,447 kg)

Typical outdoor applications require a  $30^{\prime} \times 40^{\prime}$  area, including for customer interface equipment. Larger installations typically require less area for subsequent units.

# **PureCell® ADVANTAGE**

# **Take Control of Your Power**



# **Load Following**

Dynamically ramp power up & down based on demand



# **Continuous Operation**

Operate with or without grid power and handle long-duration intermittency



# **Performance Monitoring**

Manage performance with HyAxiom monitoring and service

# **Advance ESG Goals**



# **Zero-Carbon**

Zero CO<sub>2</sub> emissions helps you achieve challenging carbon footprint goals



#### **Clean Heat**

Eliminate or reduce carbon from combustion boilers by using both heat & power



# Clean Air

- Zero NO<sub>x</sub> & SO<sub>x</sub>
- Zero CO
- Zero VOCs

# Power Where You Need It



# Flexible Siting

- Indoor / Outdoor
- Urban Environments
- Multi-story, Rooftop
- Scalable Building Block



# **Quiet Operation**

65 dBA @ 33 ft., equivalent to normal conversation

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