

# HyPM™ HD 30

## Heavy Duty Fuel Cell Power Module

- *Liquid-cooled advanced MEA PEM stack*
- *Integral Balance of Plant*
- *Advanced onboard controls and diagnostics*
- *Comes with low pressure cathode air delivery*
- *-46°C sub-zero shutdown capability*

### Technical Data

Rated Electrical Power	33 kW continuous
Operating Current	0 to 500 A <sub>DC</sub>
Operating Voltage	60 to 120 V <sub>DC</sub>
Peak Efficiency	55% <sup>1)</sup>
Response	< 5 s from off to idle < 3 s from idle to rated power
Fuel	Dry Hydrogen >99.98%
Oxidant	Ambient Air
Coolant	De-ionized water (DI H <sub>2</sub> O) or 60% ethylene glycol / DI H <sub>2</sub> O
Ambient Temperature	-10 to +55°C operating -40 to +65°C storage (<2°C with automated freeze shutdown feature)
Communication	CAN v2.0A (standard 11 bit)

<sup>1)</sup> Efficiency based on LHV of H<sub>2</sub>, 25°C, 101.3 kPa, including onboard parasitic loads, excluding radiator fan and water pump



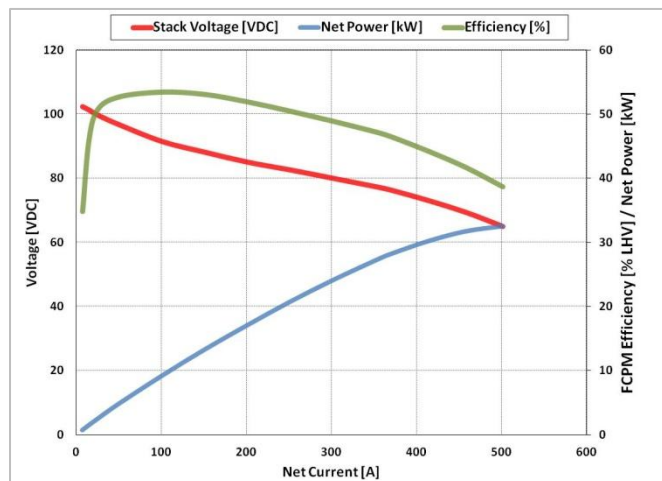
- *Rapid start-up and dynamic response*
- *Unlimited start-stop cycling*
- *Robust, rugged and reliable*
- *No water for humidification required*
- *No nitrogen required for shutdown*

### Physical

Dimensions L x W x H <sup>2)</sup>	605 x 410 x 265 mm
Mass <sup>3)</sup>	61 kg
Volume <sup>3)</sup>	66 L

<sup>2)</sup> Excluding air delivery and optional water pump

<sup>3)</sup> Including air delivery and optional water pump



HyPM™ HD30 Typical Performance<sup>1)</sup>

Actual delivered product may differ in appearance.  
Specifications subject to change without prior notification.  
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### Includes

- Air delivery unit (low pressure blower)
- Integration and operation manual
- Product Warranty

### Optional

- Coolant pump
- Thermal management kit
- Diagnostics software
- Power electronics components

### Applications

- Urban transit buses
- Heavy duty commercial fleet vehicles
- Marine
- Aerospace

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