# Cummins

## Advanced Hydrogen Solutions

# HyPM™ HD180 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℃ sub-zero shutdown capability*

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

## Technical Data

| | |
|---|---|
| **Rated Electrical Power** | 99 kW continuous |
| **Operating Current** | 0 to 500 ADC |
| **Operating Voltage** | 360 to 720 VDC |
| **Peak Efficiency** | 55% * |
| **Response** | <5s from off to idle<br><3s from idle rated power |
| **Fuel** | Hydrogen>99.98% |
| **Oxidant** | Ambient Air |
| **Coolant** | De-ionized water(DI $H_2O$) or<br>60% ethylene glycol/DI $H_2O$ |
| **Ambient Temperature** | -10 to +55℃ operating<br>-40 to +65℃ storage<br>(<2℃ with automated freeze shutdown feature) |
| **Communication** | CAN v2.0A (standard 11 bit) |

*Efficiency based on LHV of $H_2$,25℃,101.3kPa,including onboard parasitic loard,excluding radiator fan and water pump

## Physical

| | |
|---|---|
| **Dimensions L x W x H** ⋆ | 955 x 1525 x 690 mm |
| **Mass** ⋆ | 654 kg |
| **Volume** | 1005 L |

⋆ Excluding air delivery and optional water pump

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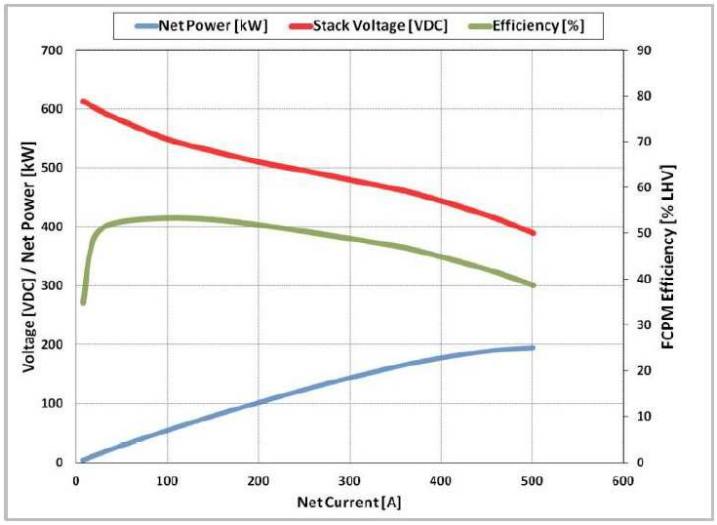


HyPM™ HD30 Typical Perfomance

*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*

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

https://www.cummins.com


株式会社エノア
150-1,IMAE,HANAMOTO-CHO,TOYOTA-SHI,AICHI,470-0334,JAPAN
TEL：0565-47-7212 FAX：0565-47-7222
Email：info@enoah.co.jp
URL:http://www.enoah.co.jp
Enoah