



HIGH POWER FUEL CELL MODULE

The HyCmax fuel cell system, developed by Redrock, defines a new category for zero-emissions high power mobility. Developed primarily around marine requirements, HyCmax offers a robust and efficient solution for extreme duty applications such as coastal shipping or rail.

FEATURES

BESPOKE INTEGRATION: HyCmax is comprised of two major and isolated subsystems: the stack array and the balance of plant. The two subsystems may be close-coupled or remote from each other depending on installation requirements.

LOW TEMPERATURE OPERATION: HyCmax has been optimized for lower temperature operation, extending fuel cell life and simplifying system processes.

ROBUSTNESS: A large fuel cell stack and low operating temperature enhance the robustness and durability of an already industry-leading fuel cell stack.

LOW PRESSURE: HyCmax has been designed for lower operating pressure in order to simplify the Balance of Plant.

COST EFFECTIVE: HyCmax is based on high power architecture. Fewer units are required to reach megawatt level applications.

INTEGRABILITY: The HyCmax system can be installed in ESD – protected machinery spaces with suitable precautions such as adequate ventilation and H₂ leak sensing.

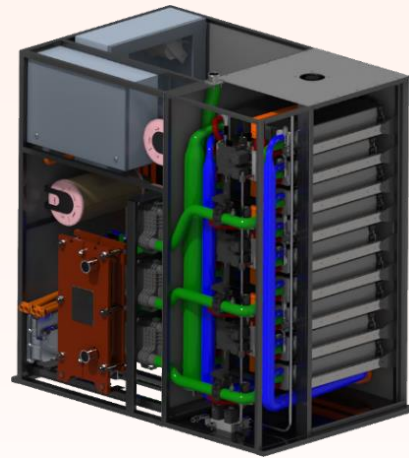
MAINTAINABILITY: The HyCmax platform is developed to be fully maintainable in-situ.

SPECIFICATIONS*

NET PERFORMANCE

	VDC	Amps	kW	η_{LHV}	H ₂ kg/h
Maximum	663	510	338	52.9%	19
Nominal	677	443	300	54.6%	17
Minimum	714	82	58	54.7%	3

*All values approximate, preliminary and beginning of life. Balance of plant includes process air compression, FC cooling pump; excludes power conversion, ventilation, seawater pump, 24V consumption. Efficiency & fuel flow include 2% purge. Specifications and descriptions subject to change without notice.



SAFETY: The stack array is supplied with a safety package in accordance with classification society rules. HyCmax locates all fuel-containing components in a separate, compact, highly ventilated enclosure, simplifying the overall safety concept.

HIGH EFFICIENCY: The large HyCmax fuel cell stack array offers industry-leading overall efficiency and reduced parasitic losses.

HIGH PERFORMANCE: The HyCmax system has been configured for high power, reducing the number of parallel systems required; improving weight, cost, and reliability.

STACK DURABILITY: The HyCmax system utilizes the newest fuel cell stack from Ballard Power Systems, the FCgen-LCS, and further extends durability through extremely fuel cell-friendly operating conditions.

SCOPE: Stack array, fuel control & recirculation, process air, cooling, liquid heat exchanger, ventilation, H₂ detection, fire detection & suppression.

EXTERNAL COOLING:	330 LPM @ <35°C
SIZE:	0.9 x 1.5 x 1.6m, 1200kg
H₂ SUPPLY:	SAE J2719 @ 10bar
COMMUNICATION:	Profinet, CANbus
INTERFACES:	Amphenol, 2-4" Hose