

Solid Oxide Fuel Cells and Electrolyzers from the largest stack production facility in Europe

SolydEra is a key world player in the market of Solid Oxide Cells, Stacks and Solutions, with an annual production capacity of 25MW SOFC (75MW SOE) on its industrial site in Pergine Valsugana, Italy. Our Solid Oxide Technology has a proven track record in the field and delivers top in class performance and durability in both fuel cell and electrolysis mode. Our highly efficient solid oxide stacks can be integrated into systems from a few kW to MW sizes.

Would you like to know more? Please contact us!

SolydEra



SolydEra Power Module PM-X

SolydEra's Power Module (PM-X) is an easy-to-integrate solution for cogeneration systems. The module integrates a G8X-10 stack rated at 10 kW electrical power, together with other hot components needed for its correct operation:

- A pre-reformer
- An evaporator
- A burner (used for both startup and post-combustion)
- a cathodic recuperator
- Insulation

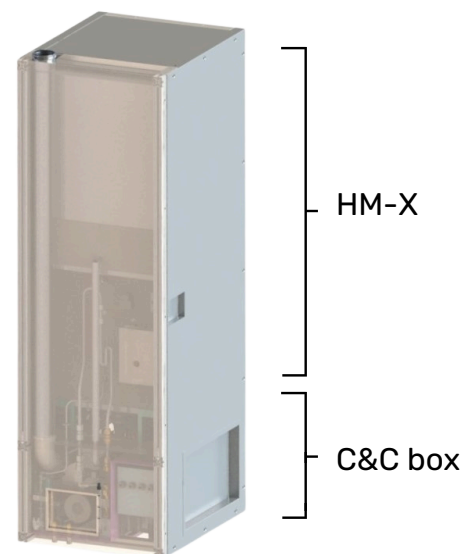
The Power Module features further integration of selected BoP components related to flow and power management control including:

- Safety electronics
- Fluids control
- DC/DC booster (optional)

The Figure shows the structure of the PM-X, which can be divided in 2 sections:

HOT MODULE (HM-X) at the top, integrating the stack and hottop components.

CONTROL AND CONNECTION BOX (C&C) at the bottom, an interface between the HM-X and the rest of the system.



Advantages

- Modularity and high system availability (>99%)
- Optimal serviceability
- Low footprint

Application Areas

- Data Centers
- CHP (Combined Heat and Power) solutions
- Prime Power Solutions

SolydEra Power Module PM-X

Technical data

The main technical data of the Power Module are reported in the table below.

PM-X MODULE		
Nominal Power (DC, BoL)	kW	9.6
Peak Power (DC, BoL)	kW	10
Power Modulation Range	%	30-100
output Voltage	VDC	710-810
HeatUp Time	h	<24
El. efficiency (DC, LHV) @ nominal power	%	Up to 63
Total efficiency @ 30°C in / 40°C out	%	>100
Total efficiency @ 50°C in / 60°C out	%	>90
Exhaust temperatures	°C	<200
Steam to Carbon	-	>1.8
Water consumption (deionized)	l/h	2.3*
Water condensed at 70°C	l/h	>2.3
Input Voltage	V	230V – 50Hz
Max Input Power	W	350
Physical		
Width	mm	600
Depth	mm	750
Height	mm	1900
Specific Power (net DC)	kW/m ²	21
Weight	kg	<520
Fuels		
Natural Gas (desulphurized)	--	Yes
Hydrogen	--	Yes **
Serviceability		
Hotswap capability	--	Yes, with proper electrical protection at system level
Service access	--	single side, front

* Up to 70 °C the amount of condensed water exceeds the water consumption: no external tap water is required

** Electrical power reduction up to 20%

All features, functionality and other product specifications are subject to change without notice or obligation.