

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 G8X-10 Stack



We stack it.

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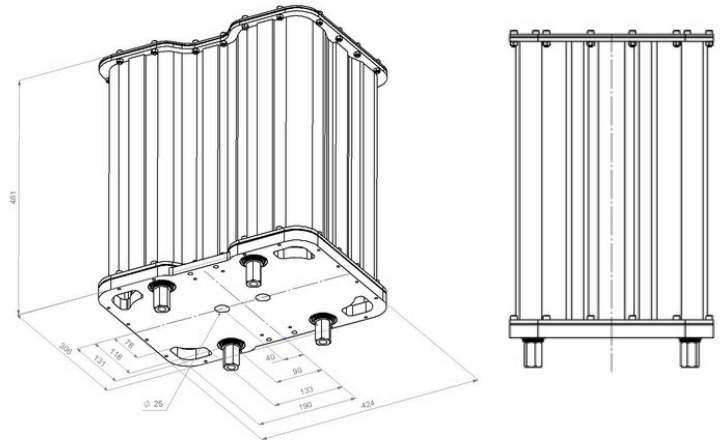
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SolydEra G8X-10 Stack

Technical data

Physical data

Stack	G8X-10
Number of cells	400 cells, 100 layers
Size (w-h-d)	306 mm x 461 mm (excluding compression system) x 424 mm
Weight	150 kg
Fuels	H ₂ , reformat of natural gas, biogas, reformat of LPG, ammonia



Performance data

	Power production SOFC	Electrical Power Consumption SOE
Rated Power	10 kW	25 kW
Max. Power	10.3 kW	30 kW

Efficiency in SOFC: 63% in SMR

Fuel utilization (SOFC): up to 83%

Steam conversion (SOE): up to 90%

Nominal current (SOFC): 128 A

Nominal current (SOE): 192 A

Max current at max power in SOFC: 132 A

Max current at max power in SOE: 240 A

Open Circuit Voltage: > 120 V in dry diluted H₂

Voltage under polarization (SOFC): > 78 V

Voltage under polarization (SOE): 130 V @ TNV

Specific electrical consumption (SOE): 34.6 kWh/kgH₂

Max H₂ production rate: 21 kg H₂/day

Operating temperature: 650 - 800°C

Lifetime (target): 60.000 h

Degradation 0.2% (efficiency decay per 1000h at constant power)

How it works

- Operation in H₂
- NG reformat up to 90% internal reforming

Application Areas

- Power Generators
- CHP (Combined Heat and Power)
- Electrolyzers
- Reversible Systems

Advantages

- Proprietary design with integrated compression system and current collectors
- Performances:
 - high efficiency
- Robustness:
 - capability to perform thermal cycling
- Low pressure drops

