

RENEWABLE HYDROGEN FOR INDUSTRIAL APPLICATIONS

SUNFIRE-HYLINK SOEC



PRODUCT

Sunfire-HyLink SOEC is the world-leading high-temperature electrolysis solution based on solid oxide cells. The electrolyzer uses steam as feed instead of liquid water to produce hydrogen. Smart integration of waste heat from industrial processes lowers renewable electricity demand, thus substantially cutting operational costs compared to alternative low-temperature electrolysis technology.

APPLICATIONS

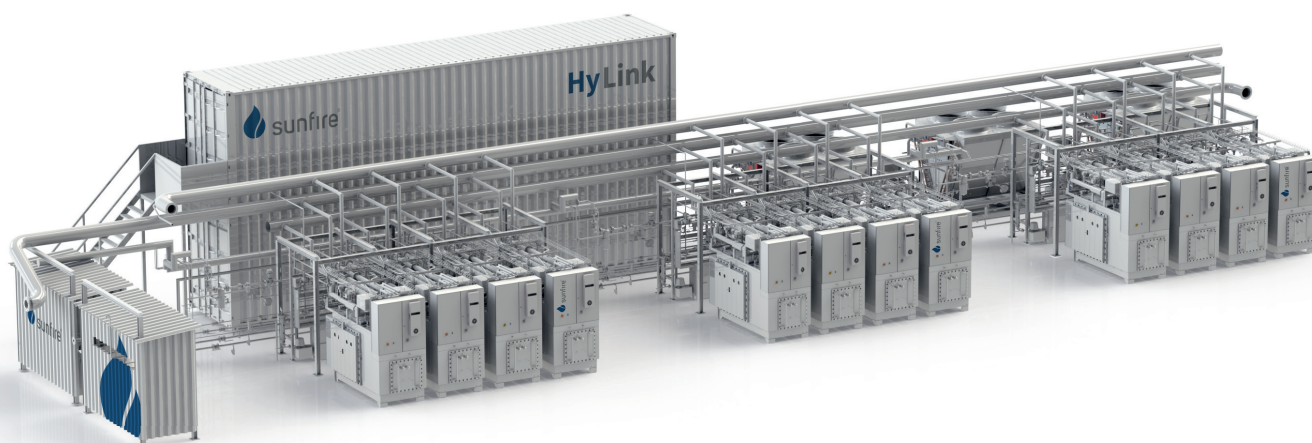
The electrolyzer provides renewable hydrogen as an essential feedstock for decarbonizing industries.

- + **Steel:** Direct reduction of iron, blast furnace injection, protective atmosphere, etc.
- + **Refineries:** Desulphurization, hydrocracking, hydrogenation, etc.
- + **Chemicals:** Ammonia production, hydrogenation, isotope separation, etc.

CORE ADVANTAGES

- + **Steam electrolysis**
Utilization of industrial off-heat as steam reduces electricity demand
- + **Efficiency**
Market-leading efficiency (84 %_{LHV TO AC}) yields lowest hydrogen costs
- + **Reliability**
Certified electrolyzers with proven long-term operation
- + **Flexibility**
Modular design simplifies scaling to any desired electrolysis capacity
- + **Sustainability**
No use of PGM-based materials in electrolyzer production

SUNFIRE-HYLINK SOEC – TECHNICAL DATA



HYLINK SOEC

Hydrogen production	
Net production rate	750 Nm ³ /h
Production capacity dynamic range	5 % ... 100 %
Hot idle ramp time	< 10 min
Delivery pressure	0 bar (g)
Hydrogen purity	max. 99,99 %
Power input and electrical efficiency	
System power rating (AC)	2,680 kW
Specific power consumption at stack level (DC)*	3 kWh/Nm ³
Specific power consumption at system level (AC)*	3.6 kWh/Nm ³
System electrical efficiency**	84 %
Steam input	
Consumption	860 kg/h
Temperature	150 °C ... 200 °C
Pressure	3.5 bar (g) ... 5.5 bar (g)
Other specs	
Footprint***	~ 300 m ²
Ambient temperature	-20 °C ... 40 °C

* Power consumption at ambient pressure

** Lower heating value of hydrogen referred to AC power input

*** Average space requirement for a 2.68 MW system comprising all auxiliary systems