

HyLink® Alkaline 23

UP
TO 50% TIC Savings

50 MW Module

Outdoor

30 bar(g)

67% LHV, DC



Engineered for Industry. Built on Proof.

Sunfire sets a new benchmark in large-scale hydrogen production with HyLink® Alkaline 23. This outdoor, 30 bar(g) pressurized alkaline electrolysis system of the third generation is based on Sunfire's industry-proven second-generation stack technology. The modular 50 MW system is delivered preassembled to the customer site and produces up to 1,000 kg/h of green hydrogen.

HyLink® Alkaline 23 provides the fundamentals required to execute bankable green hydrogen projects: **The lowest total plant CAPEX, faster and simpler installation and commissioning, high hydrogen production efficiency, and operational flexibility** with stable long-term performance.



More product
information





Industry-proven AEL stack technology

- Each 50 MW module integrates ten of Sunfire's robust, pressurized alkaline stacks of generation 2 with low degradation, high efficiency and strong operational flexibility
- Sunfire covers the complete electrolyzer value chain, including cost-effective stack manufacturing



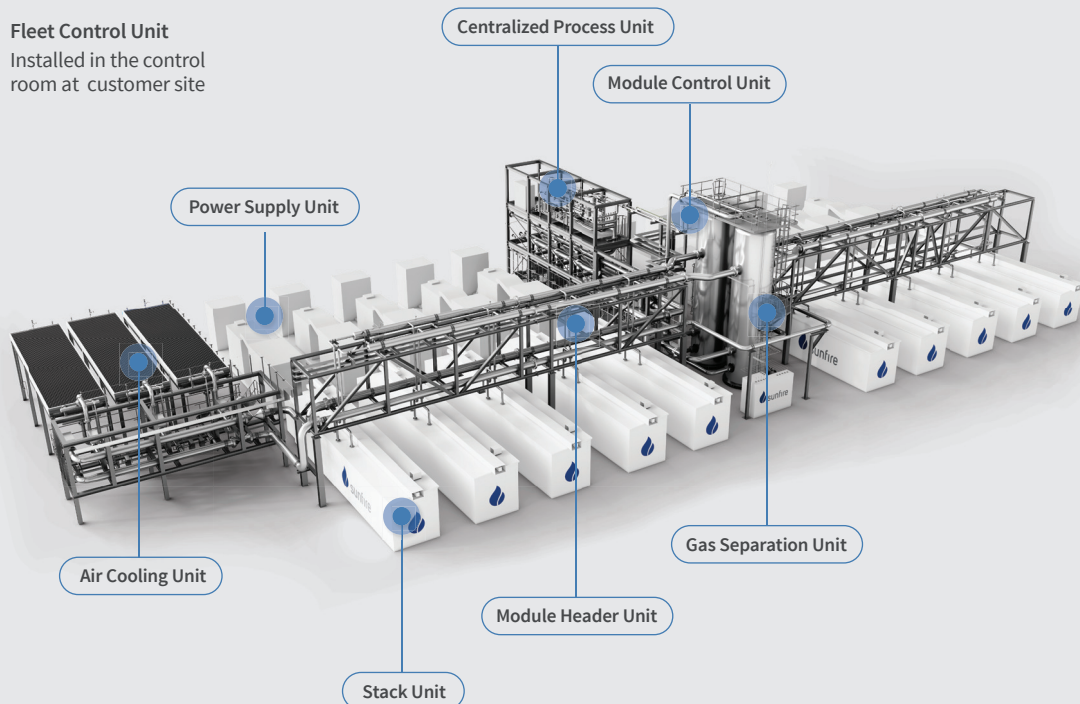
Up to 50% of reduction in TIC (total installed costs)

- The 30 bar(g) pressurized alkaline technology allows for the most cost-effective green hydrogen plant setup
- The outdoor installation eliminates building and HVAC infrastructure, significantly reducing overall plant CAPEX
- The integrated air cooling provides efficient electrolyte cooling and reduces plant complexity
- The standardized system design with centralized key components supports highly competitive pricing

HyLink[®] Alkaline 23 Module Units



Fleet Control Unit
Installed in the control room at customer site





Strict safety and compliance standards

- Electrolysis technology made in Europe, built to the highest safety standards
- Fully grid-compliant for reliable integration into renewable energy systems



Durable performance with 67% LHV, DC efficiency

- Market-leading efficiency with minimal degradation, validated in industrial operation
- Flexible operating modes suitable for any use case
- Durable stack design backed by strong performance guarantees and warranties



Efficient project execution

- Completely skid-based design optimized for fast and cost-efficient transport, installation, and commissioning
- Prefabricated and pretested system design from Sunfire's German production facilities ensure smooth installation
- Standardized system design reduces complexity and accelerates project schedules

Technical Specifications

Hydrogen Production

Hydrogen production	1,000 kg/h
Hydrogen purity ¹⁾	99.85% before gas cleaning
Operating range	20–100%
Ramp rate	4%/s
H ₂ output pressure	30 bar(g)

Electrical Efficiency

DC-Power	50 MW
Total power consumption (AC)	46.5 to 52.3 kWh/kg

Hardware

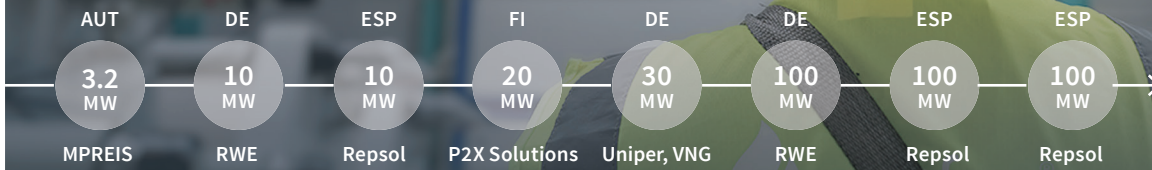
Mechanical stack lifetime	10 years
Ambient temperature range ²⁾	-25 to 45 °C
Footprint	30 x 66 m

Note: Schematic 3D illustrations in this document may differ from the exact product structure. All specifications refer to HyLink® Alkaline 23

1) Based on dry gas; depending on load point; up to 99.998% after gas cleaning

2) Adaptations possible depending on ambient temperature ranges

Sunfire has a strong track record in large-scale electrolysis projects across Europe



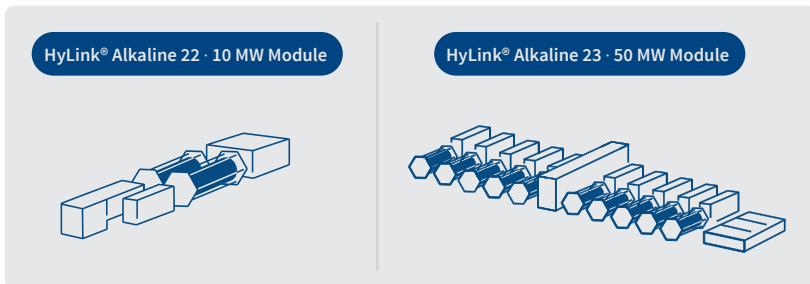
Complementary Electrolysis Portfolio

Sunfire offers the industry’s only fully complementary electrolysis portfolio, combining long proven, high efficiency pressurized alkaline electrolyzers for a broad range of green hydrogen projects with solid oxide electrolysis (SOEC) delivering world leading efficiency in applications with available onsite heat.



HyLink® Alkaline

Pressurized alkaline electrolysis for any industrial green hydrogen project

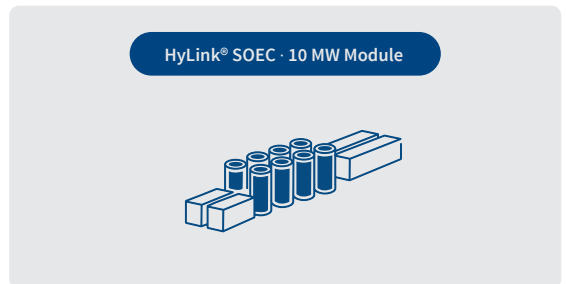


- Operates at a standard pressure of 30 bar(g)
- Data-verified performance of operating systems
- For continuous operation and dynamic load with renewables



HyLink® SOEC

Solid oxide electrolysis for applications with onsite heat



- 37.5 kWh/kg H₂ (89%) world record efficiency¹
- Stable efficiency and production output at plant level
- Optimized for integration into thermal process environments

This document is accurate as of April 2026
HyLink® Alkaline 23 Sheet 260423

1) Expected efficiency of Sunfire’s third-generation SOEC electrolyzer, assuming 100% steam coverage