HYDROGEN.
CHALLENGE ACCEPTED!

EBZ ALKALINE ELECTROLYZER SYSTEM

FOR GREEN HYDROGEN PRODUCTION

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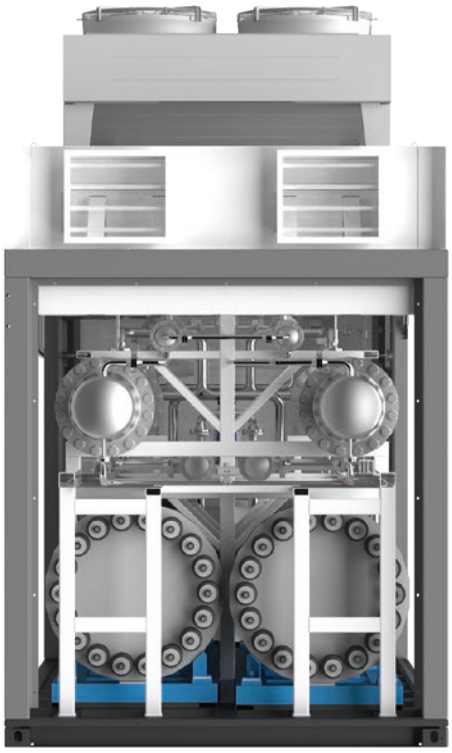
ELECTROLYZER SYSTEM

DEVELOPMENT AND PRODUCTION OF PRESSURIZED ALKALINE ELECTROLYZER SYSTEMS

EBZ Group pressurized alkaline electrolyzer systems provide the optimum conditions for cost-effective production of green hydrogen on an industrial scale. By specializing in the manufacturing and development of pressurized alkaline electrolyzer systems, we are able to produce a standardized turnkey system that meets a wide range of requirements while still allowing for flexible adaptions if needed. The know-how we already have from areas such as tool and plant construction also enables EBZ to manufacture electrolyzers in series and with consistently high quality. EBZ possesses expertise in chemistry, metallurgy and plastics technology for this purpose.

Our electrolyzers fully comply with EU Hydrogen Bank regulations. Our stacks and system are produced and assembled in Germany, ensuring quality, supply chain security and long-term spare parts availability.



The electrolyzer system is primarily characterized by the following properties:

HIGH HYDROGEN OUTPUT
With a rated power of 1 MW, hydrogen output can be up to 200 Nm^3/h per system.

HYDROGEN PURITY
Dedicated lye circuits on H_2 and O_2 side to enhance gas purity.

HIGH-PRESSURE ELECTROLYSIS
30 bar(g) hydrogen production boosts efficiency and cuts downstream compression costs.

HIGH DYNAMIC RANGE
Independent stack operation enables 10-100 % dynamic load range.

HEAT RECOVERY
Heat from H_2 production can be recovered and utilized.

FOOTPRINT
Systems consist out of two 20-ft containers or alternatively of a 40-ft container.

IDEAL FOR GRID-SUPPORTIVE OPERATION
Reaching 100 % load from standby within seconds.

EU REGULATORY COMPLIANCE
Full compliance with the European Hydrogen Bank regulations – produced and assembled in Germany.

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ELECTROLYSIS STACK

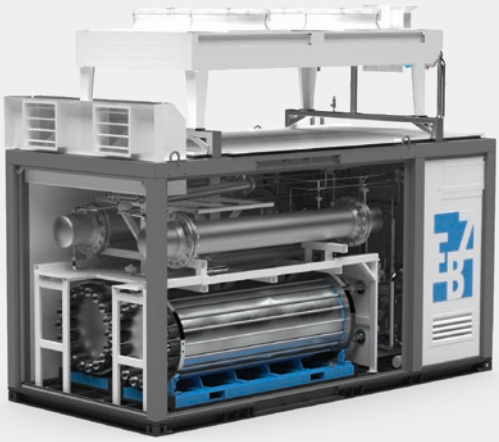
THE STACK IS THE HEART OF AN ELECTROLYZER SYSTEM AND PLAYS A KEY ROLE IN OVERALL PERFORMANCE

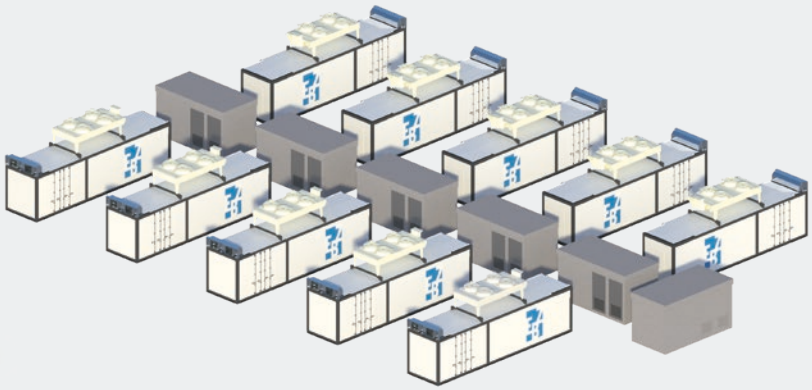
High-performance electrodes:

- Coated with a highly functional, catalytically active layer.
- No use of precious metals.
- Developed in-house and manufactured in Ravensburg.

Patented cell frame:

- Robust construction for long-term durability under alkaline conditions.
- Integrated gas/electrolyte channels for use in pressurized electrolysis up to 30 bar(g).





SCALABILITY

CONTAINERIZED SOLUTIONS AND LARGE-SCALE HYDROGEN PRODUCTION FACILITIES

Our pressurized alkaline electrolyzer systems are designed as containerized solutions. The standard 1 MW system is delivered in two 20-ft containers or one 40-ft container. For higher capacities, multiple 1 MW units can be combined. Depending on project size and requirements, systems can also be configured with a shared balance of plant to maximize efficiency and reduce overall costs.

H2 OUTPUT PRESSURE
30 bar

INSTALLED ELECTRICAL POWER
1200 kVA (incl. BoP)

H2 OUTPUT
200 Nm^3/h
or 18 kg/h

POWER CONSUMPTION
~ 56 kWh/kg
(on system level)

TOTAL FOOTPRINT
2x 20-ft container or
1x 40-ft container

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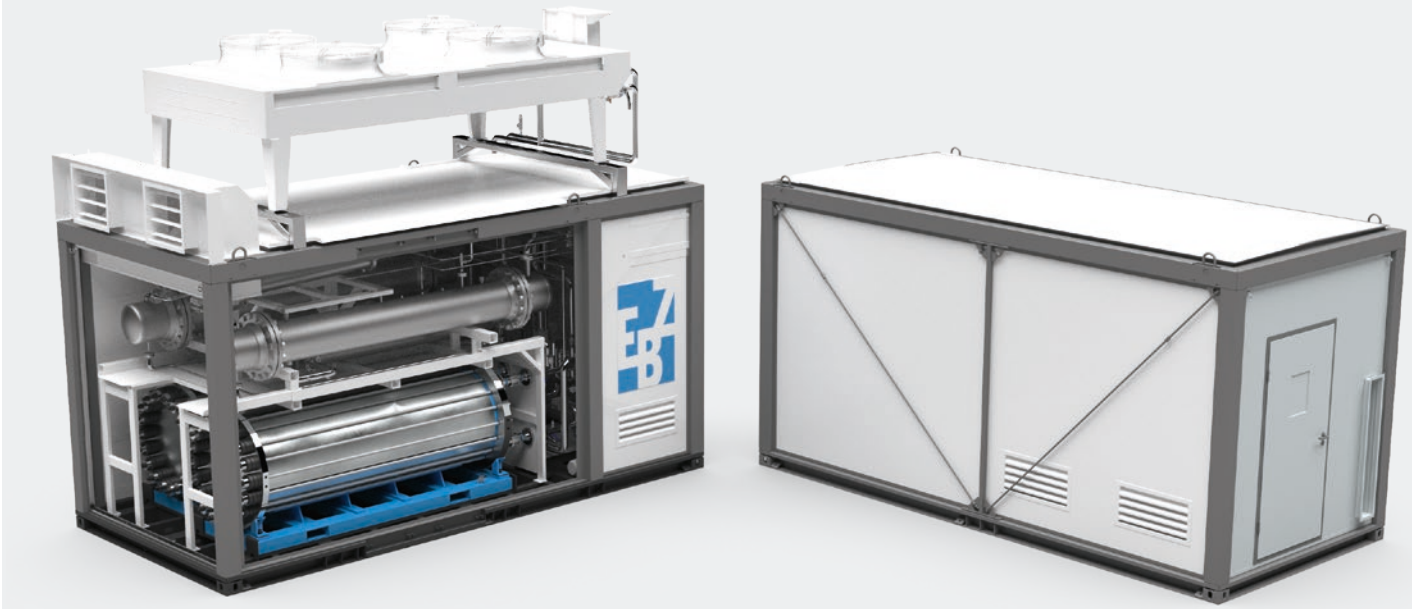

Our alkaline electrolysis technology is based on the research and development work of our cooperation partner Center for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW).

Baden-Württemberg
MINISTERIUM FÜR WIRTSCHAFT, ARBEIT UND TOURISMUS

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Federal Ministry
for Economic Affairs
and Climate Action

Our research and development is supported by the Federal Ministry for Economic Affairs and Climate Action.

EBZ ELECTROLYZER SYSTEM
https://www.ebz-group.com/en/range-of-services/electrolyzer-systems