HYDROGEN.
CHALLENGE ACCEPTED!

EBZ ALKALINE ELECTROLYZER
FOR GREEN HYDROGEN PRODUCTION

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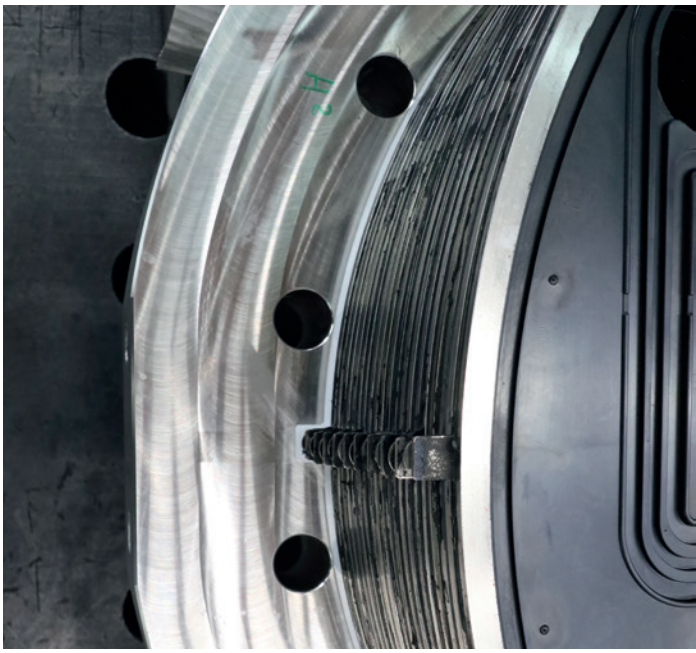
ELECTROLYSIS STACKS

DEVELOPMENT AND PRODUCTION OF PRESSURIZED ALKALINE ELECTROLYSIS STACKS

EBZ Group pressurized alkaline electrolyzers 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 electrolysis stacks, we are able to produce a stack tailored to your requirements. 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 are produced and assembled in Germany, ensuring quality, supply chain security and long-term spare parts availability.



The electrolysis stack is primarily characterized by the following properties:

HIGH ENERGY EFFICIENCY
This is ensured through features such as highly functional catalytically active coatings.

MAINTAINABILITY
Easy to maintain and repair due to the simple modular design.
2nd life cycle – electrodes can be recoated.

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

ROBUSTNESS
Stacks with a long service life are a prerequisite of the hydrogen industry.

HYDROGEN PURITY
Separate anolyte and catholyte circuits for excellent hydrogen purity.

SAFETY
Certification to the highest safety standards and acceptance by TÜV SÜD.

HIGH HYDROGEN OUTPUT
With a rated power of 0.5 MW, hydrogen output can be up to 100 Nm^3/h per stack.

HIGH-PRESSURE ELECTROLYSIS
Hydrogen production at a pressure of 30 bar(g) enhances efficiency and reduces additional investment costs of downstream compressors.

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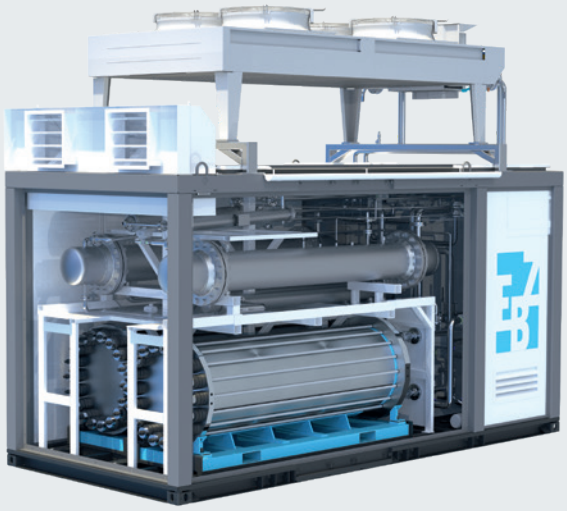
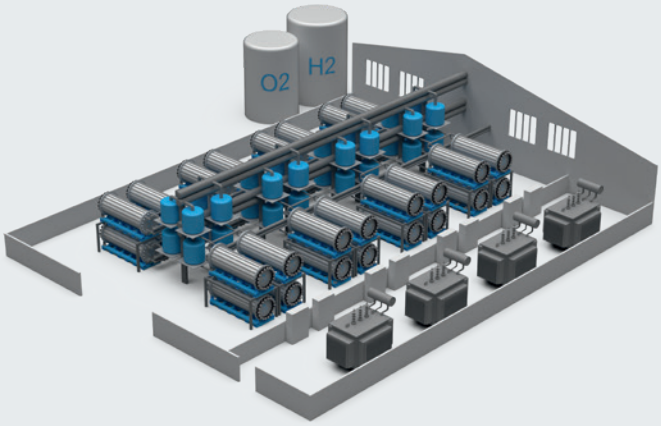
CELL DESIGN

SPECIAL FEATURES OF THE EBZ ELECTROLYSIS STACK

- Patented cell frame design with integrated gas/electrolyte channels for use in pressurized electrolysis up to 30 bar(g)
- High durability due to the use of robust and corrosion-resistant materials
- Electrode assembly developed in-house
  - Highly functional electrode coating
  - No use of precious metals
  - High hydrogen yield
  - High energy efficiency





SCALEABILITY

STACKS FOR CONTAINERIZED SOLUTIONS AND LARGE-SCALE HYDROGEN PRODUCTION FACILITIES

Our pressurized alkaline electrolysis stacks are designed both for mobile containerized solutions in the megawatt range and for stationary systems on an industrial scale with a rated input of several megawatts. This makes the EBZ stacks ideal for flexible use in decentralized applications for outdoor installation as well as for large-scale hydrogen production installations with a shared balance of plant.

H2 OUTPUT PRESSURE
> 30 bar

MAXIMUM POWER INPUT
0.5 MW DC
per stack

H2 OUTPUT
100 Nm^3/h
or 9 kg/h
per stack

POWER CONSUMPTION
~ 50 kWh/kg

DIMENSIONS
1170 mm x 3339 mm x
1170 mm

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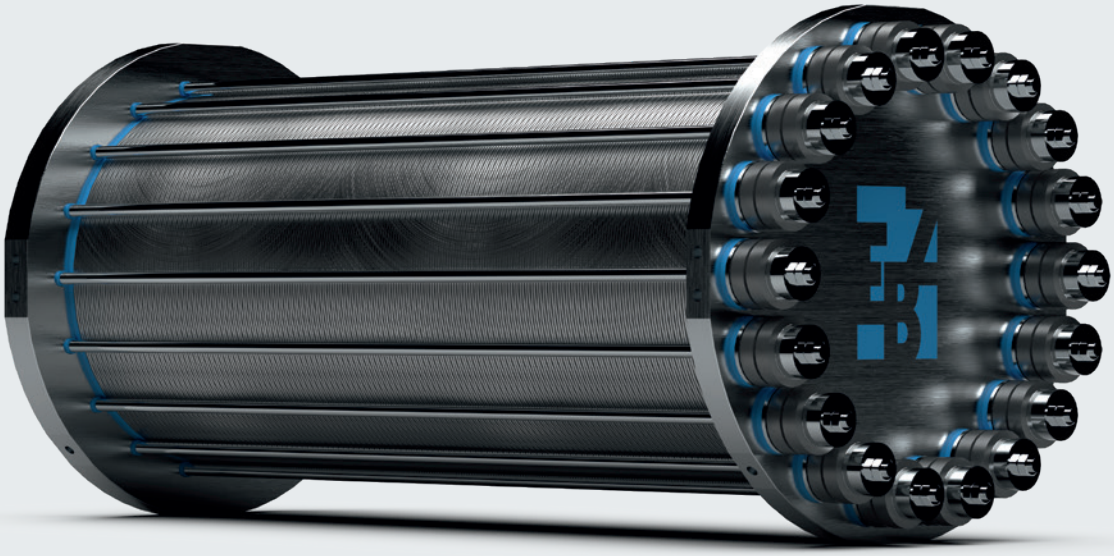

Our alkaline electrolysis technology is based on the research and development work of our cooperation partner Center for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW).

Baden-Württemberg
MINISTERIUM FÜR WIRTSCHAFT, ARBEIT UND TOURISMUS

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Federal Ministry
for Economic Affairs
and Climate Action

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EBZ ELECTROLYSIS STACKS
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