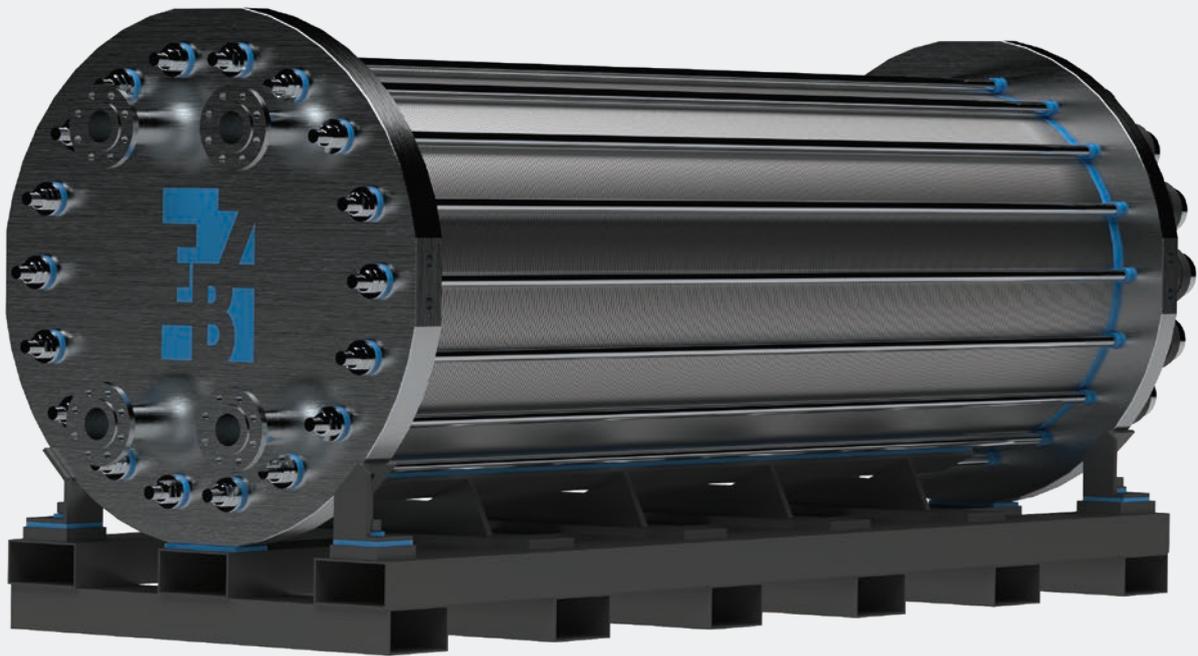




ELECTROLYSIS.  
CHALLENGE ACCEPTED!



# **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.



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.



### SUSTAINABILITY

2nd life cycle - electrodes can be recoated.



### 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 the TÜV Süd technical inspection association.



### HIGH HYDROGEN OUTPUT

With a rated power of 0.5 MW, hydrogen output can be up to 100 Nm<sup>3</sup>/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 for hydrogen storage.

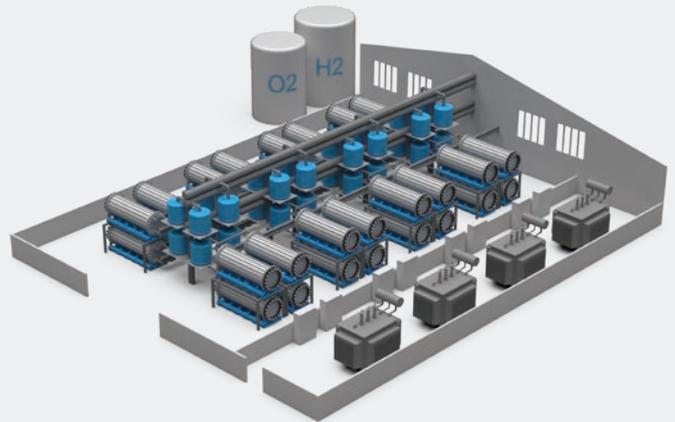


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## CELL DESIGN

### 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<sup>3</sup>/h  
or 9 kg/h  
per stack



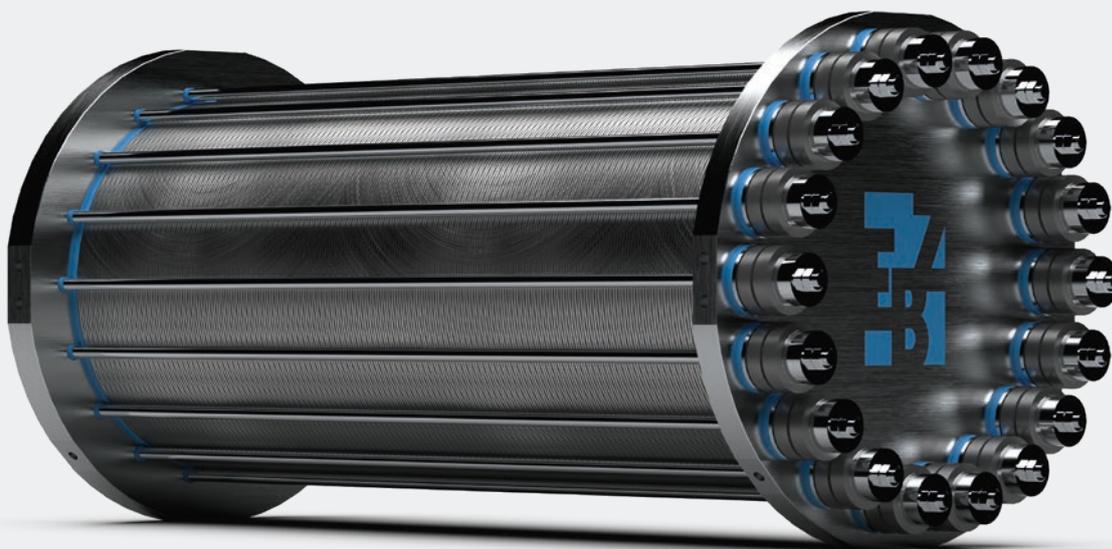
**POWER  
CONSUMPTION**  
~ 50 kWh/kg



**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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EBZ ELECTROLYSIS STACKS

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