Hybrion | PEM Electrolysis Stacks by Bosch

PEM electrolysis for hydrogen production

Hydrogen produced via the proton exchange membrane electrolysis (PEMEL or PEM) method is one of the key elements of a CO_2 reduced economy.
It is generated in electrolysis systems powered by electricity ideally from renewable sources, such as solar or wind energy, with water as the raw material. The reaction products of this electrochemical process are hydrogen and oxygen.

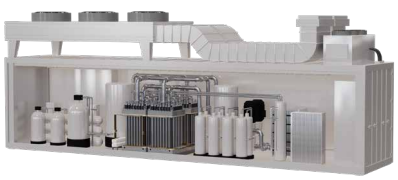
Our contribution – Hybrion PEM Electrolysis Stacks

With the Hybrion Stack, we deliver the heart of your hydrogen production. Our many years of experience in industrialization and automation are incorporated into the production of the stacks, of course, with the excellent Bosch quality you expect.
Our goal is to provide you with a scalable solution for global hydrogen generation. With our advanced electrolysis technology and accompanying services, we pave the way for a future-proof energy system that reduces CO_2 emissions – thus protecting the world for both present and future generations.
The Hybrion Stack produces 23 kg of hydrogen per hour at an output pressure of over 30 bar. This is equivalent to a power input of up to 1.25 megawatts.

A wide range of application areas

Using our core competence of scaling and industrialization, we make hydrogen production solutions available from decentralized systems for covering the energy requirements of the user's own production facilities or for hydrogen filling stations up to large-scale industrial solutions.

Local, decentralized hydrogen production



In scalable, decentralized plants with capacities of up to 5 MW per container, our Hybrion Stack is ideal for integrating into applications that are positioned in the exact location where the hydrogen is used.

Electrolysis on a large industrial scale

Embedded in large plants of industries such as the steel, chemical or fertilizer sectors, our Hybrion Stack is used in centralized, highvolume production of hydrogen with a capacity of several hundred megawatts.

WELCOME TO THE NEW H_2

Hybrion PEM Electrolysis Stacks by Bosch

Electricity

Purified water

1.25 MW
maximum power input[1]

>30 bar
H_2 output pressure

~50 kWh/kg H_2
maximum efficiency[1,2]

23 kg/h
H_2 output at full load

85 x 100 x 153 cm
Dimensions

Hydrogen
+ Oxygen

1) Beginning of life 2) At partial load

Welcome to the new H_2 – shape the hydrogen era together with us!

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Funded by the European Union

BOSCH
Invented for life

The comissioning of Bosch Hybrion PEM Electrolysis Stacks for customers starts in 2025. All technical specifications given are development objectives and refer to the beginning of life.