

# POWER UNIT FOR HYDROGEN PRODUCTION



## OVERVIEW

Hydrogen as a kind of Energy Storage Energy storage by Hydrogen production through electrolysis process, offer a promising synergy with non predictable energy source (renewable energy as solar, wind etc.)

### Hydrogen as a fully Green Energy Vector

Hydrogen is 100% Green compliance

- No need for waste disposal
- No pollution due to its use (no greenhouse gases)

## TECHNOLOGY

Power rate from 1 to 6 MW with high power density for large scale production

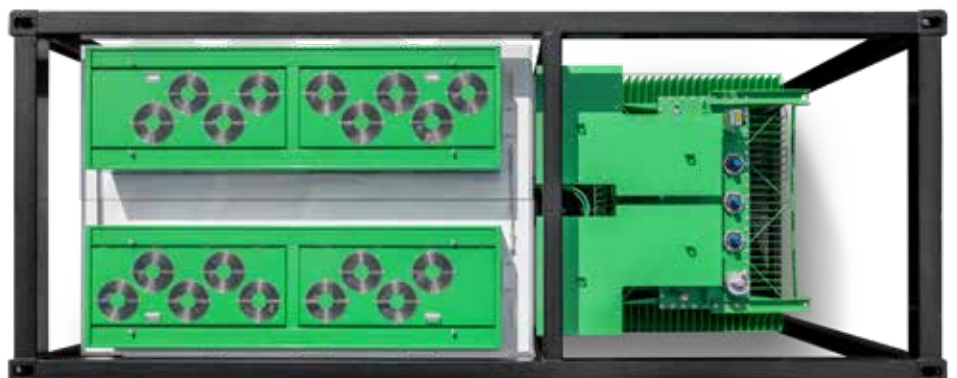
Modular PCS with Insulated Gate Bipolar Transistors (IGBT) and low harmonics content.

Scalable outdoor solution skid 20'/40' with transformer and rectifier for all the environment conditions

CE compliance.

## APPLICATIONS

- Power to Gas Energy Storage Converting surplus renewable energy into hydrogen gas by rapid response electrolysis and its subsequent injection into the gas distribution network
- Fuel cell for electricity generation
- Renewable Chemistry H2 as fundamental chemical block for a variety of commodity chemicals and fuels (ammonia, synthetic methane etc.)
- Thermal power generation steam turbine
- Automotive refuelling station



## ENVIRONMENTAL CONDITIONS

Installation	Outdoor
Storage Temperature	-20 °C to +55 °C
Operational Temperature	-20 °C to +55 °C <sup>(1)</sup>
Relative Humidity	< 95% (not condensing)
Altitude above the sea level	< 1.000 m <sup>(2)</sup>
IP Rating	IP54 / IP65
Cooling	Air / Water

## INPUT ELECTRICAL DATA

Input Frequency	50/60 Hz
Input Voltage	From 6 to 33 kV <sup>(3)</sup>
Auxiliary Voltage	400 V
Power factor	> 0,99
THDi	< 2 %

## OUTPUT ELECTRICAL DATA

Voltage range	From 300 to 1500 V
Max. Current	4000 A <sup>(4)</sup>
Current Ripple	< 2 % <sup>(5)</sup>
Max Efficiency	98,3 % <sup>(6)</sup>

## DIMENSIONS AND CHARACTERISTICS

Mechanical configuration	Open Skid Container
L x P x H (mm)	6058 x 2438 x 2896 mm
Mass (kg)	23.000 kg

## CONTROLS

Voltage	Digital Limit control
Current	Digital control
Communication	Modbus TCP, Profinet, Ethernet IP

<sup>(1)</sup> Derating for temperature > 40°C for IP54 version

<sup>(2)</sup> Derating for altitude > 1000m

<sup>(3)</sup> Standardized

<sup>(4)</sup> Referred to Power Unit Nominal Power

<sup>(5)</sup> Considering current load from 8% to 100%

<sup>(6)</sup> Without auxiliary consumption