Nidec Conversion

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

TECHNICAL DATA

ENVIRONMENTAL CONDITIONS	
Installation	Outdoor
Storage Temperature	-20 °C to +55 °C
Operational Temperature	-20 °C to +55 °C [1]
Relative Humidity	< 95% (not condensing)
Altitude above the sea level	< 1.000 m [2]
IP Rating	IP54 / IP65
Cooling	Air / Water
INPUT ELECTRICAL DATA	
Input Frequency	50/60 Hz
Input Voltage	From 6 to 33 kV [3]
Auxiliary Voltage	400 V
Power factor	> 0,99
THDi	< 2 %
OUTPUT ELECTRICAL DATA	
Voltage range	From 300 to 1500 V
Max. Current	4000 A [4]
Current Ripple	< 2 % [5]
Max Efficiency	98,3 % [6]
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

[1] Derating for temperature > 40°C for IP54 version
[2] Derating for altitude > 1000m
[3] Standardized
[4] Referred to Power Unit Nominal Power
[5] Considering current load from 8% to 100%
[6] Without auxiliary consumption