

Power Station FSK E6000/E12000

MEDIUM VOLTAGE ELECTROLYZER RECTIFIER STATION WITH ALL THE COMPONENTS SUPPLIED ON TOP OF THE SAME SKID PLATFORM

This medium-voltage solution integrates all the necessary elements to develop a large-scale hydrogen electrolysis plant.

Maximize your investment with a minimal effort

Ingeteam's FSK E6000 / E12000 power station is a compact, customizable and flexible solution that can be configured to suit each customer's requirements. All the equipment is suitable for outdoor installation, so there is no need of any kind of housing.

Higher adaptability and power density

This power station is very versatile, as it presents the MV/LV step-down transformer integrated into a steel platform together with the LV and MV components, including one or two rectifiers.

Plug & Play technology

This MV solution integrates one or two IGBT-based rectifiers, liquid-filled hermetically sealed transformer up to 36 kV and provision for low voltage equipment. The MV Skid is delivered pre-assembled for a fast on-site connection with one or two rectifiers from Ingeteam's INGECON® H2 E-lyzer rectifier family.

Complete accessibility

Thanks to the lack of housing, the rectifiers, the switchgear and the transformer can have immediate access. Furthermore, the design of the E-lyzer rectifiers has been conceived to facilitate maintenance and repair works.

Maximum protection

Ingeteam's E-lyzer rectifiers feature an IP65 protection class for their power stacks thanks to a combined water and air cooling system that optimises the operating temperature of the power electronics.

Apart from that, it features the main electrical protections and it deploys grid support functionalities, such as power factor control, reactive power compensation or active filtering.

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Medium voltage electrolyzer converter station with all the components supplied on top of the same skid platform

Construction

- Steel base frame.
- Suitable for slab or piers mounting.
- Compact design, minimising freight costs.
- Minimum installation at project site.

Optional accessories

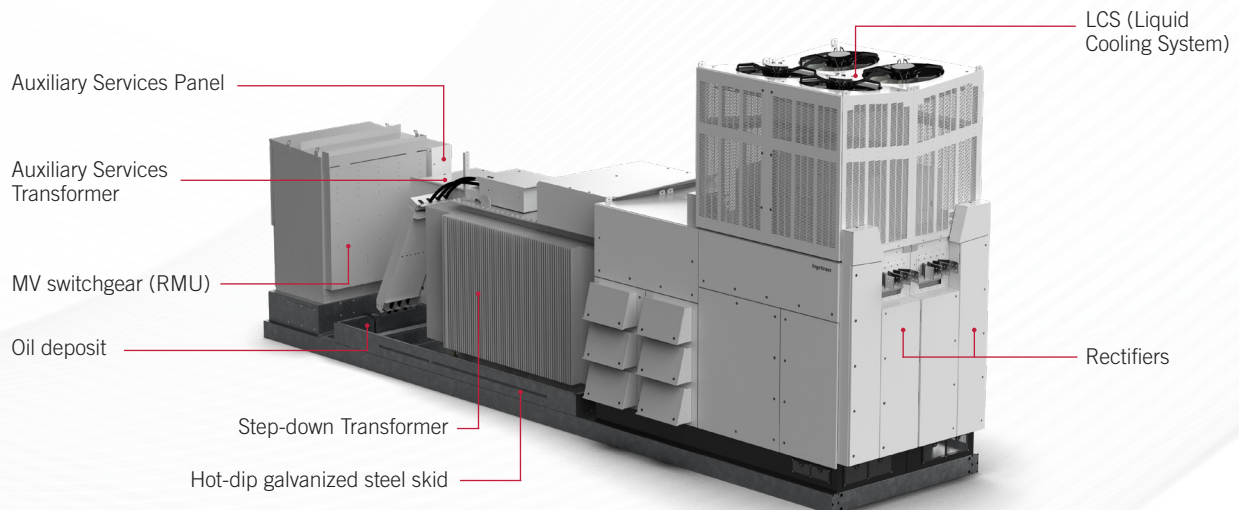
- Auxiliary services transformer (up to 60 kVA, Dyn11).
- MV Surge arresters.
- Low voltage distribution panel.
- Power plant commissioning.
- High-speed Ethernet / fibre optic communication infrastructure for Plug & Play connection to the Power Plant Controller and/or SCADA systems.
- Energy meter for auxiliary services.

- Insulation monitoring relay for continuous monitoring of IS systems insulation.
- Reactive power regulation.

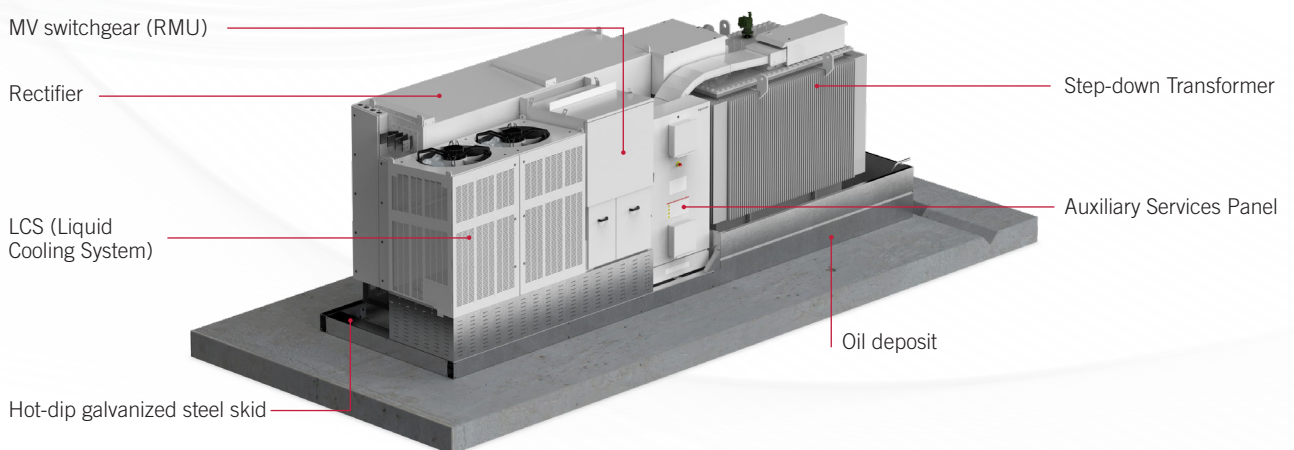
Standard equipment

- One or two rectifiers.
- Liquid-filled hermetically-sealed step-down transformer up to 36 kV.
- 2L1A RMU as standard (OL1A1L, 1L1A & OL1A optional).
- Oil deposit.

E12000 Solution



E6000 Solution



INGECON® H2 FSK E6000

INGECON® H2 FSK E12000

GENERAL INFORMATION

Operating temperature range	from -20 °C to +50 °C
Relative humidity (non condensing)	0 - 100%
Maximum altitude	3,000 masl (power derating starting at 1,000 masl)

RECTIFIER

DC voltage range	350 - 1,300 V	
Maximum DC voltage ⁽¹⁾	1,300 V	
Rated DC current ⁽²⁾	6,000 A	12,000 A
Maximum DC current	7,930 A	15,860 A
Number of power stacks	2	4
Number of outputs ⁽³⁾	2	4

STEP-DOWN TRANSFORMER

Medium voltage	From 20 kV up to 36 kV, 50-60 Hz
Cooling system	ONAN (KNAN optional)
Minimum PEI (Peak Efficiency Index) ⁽⁴⁾	99.40%
Protection degree	IP54

MV SWITCHGEAR (RMU)

Medium voltage	36 kV class, 50 / 60 Hz
Rated current	630 A
Cooling system	Natural air ventilation
Protection degree	IP54

EQUIPMENT

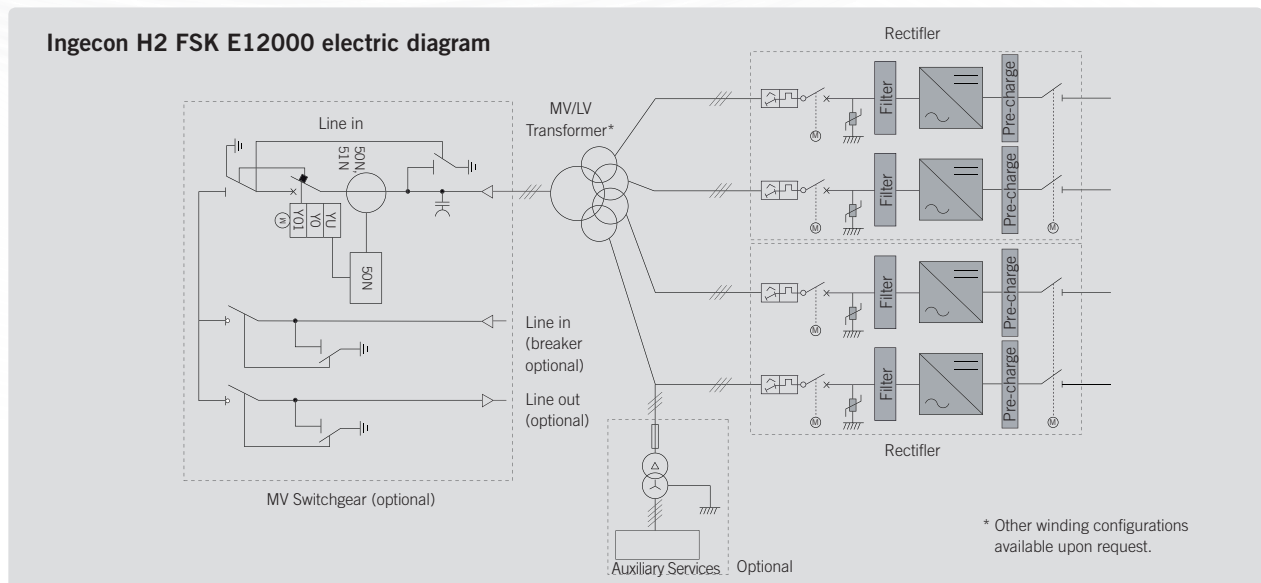
Auxiliary services panel	IP54 self-powered LV panel
MV/LV transformer	Oil-immersed hermetically sealed transformer
MV Switchgear	2L1A RMU as standard (0L1A1L, 1L1A & 0L1A optional)

MECHANICAL INFORMATION

Structure type	Hot-dip galvanized steel skid	
Overall system dimensions (L x W x H)	7,250 x 2,100 x 2,575 mm	11,500 x 2,100 x 4,240 mm
Dimensions for shipping (L x W x H)	7,250 x 2,100 x 2,575 mm	11,500 x 2,100 x 2,575 mm
Weight	< 17 T	< 33 T ⁽⁵⁾
Standards	IEC 62271-212, IEC 62271-200, IEC 60076, IEC 61439-1	

Notes

(1) For lower voltage values, please contact Ingeteam's hydrogen sales department / (2) This rated current has been calculated for Vdcmín=720 V; Vdcmax=900 V; ambient temperature 35 °C / (3) these outputs could be connected to the same electrolyser or to different electrolysers / (4) For European installations, ECO design according to the EU 548/2014 and EU 2019/1783 standards / (5) The total weight will depend on the total system power and the accessories included.



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