

Power Station FSK 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 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 two rectifiers, integrating up to four rectifier lines.

Plug & Play technology

This MV solution integrates 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 two rectifiers (four rectifier lines) from Ingeteam's INGECON® H2 E Series 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 Series rectifiers has been conceived to facilitate maintenance and repair works.

Maximum protection

Ingeteam's E Series 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 transport costs.
- Minimum installation at project site.
- Oil retention tank included in skid.

Optional accessories

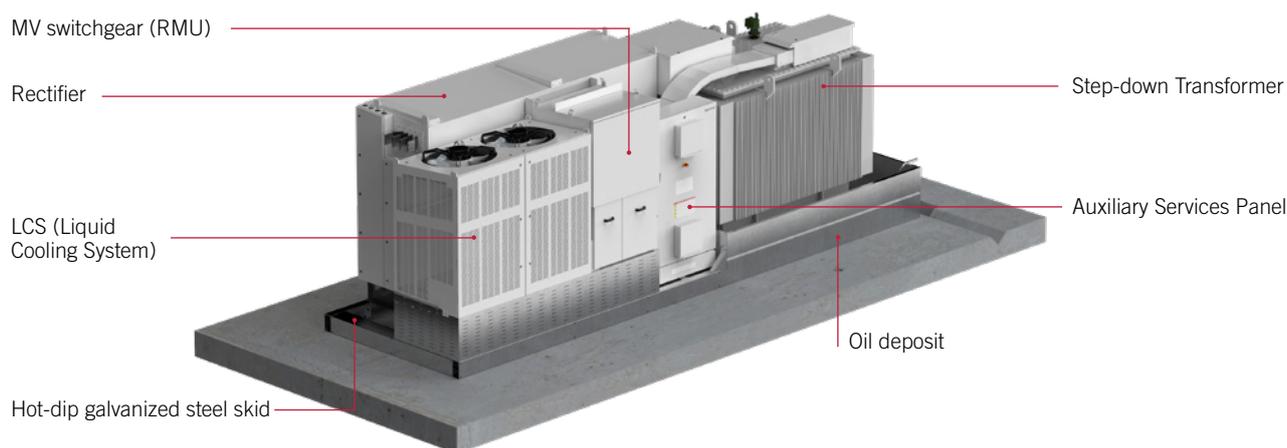
- Auxiliary services transformer (up to 60 kVA, Dyn11).
- MV Surge arresters.
- Low voltage distribution panel.
- Power plant commissioning.
- High-speed Ethernet / fibre optic communication infrastructure for Plug & Play connection to the Power Plant Controller and/or SCADA systems.
- Energy meter for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

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

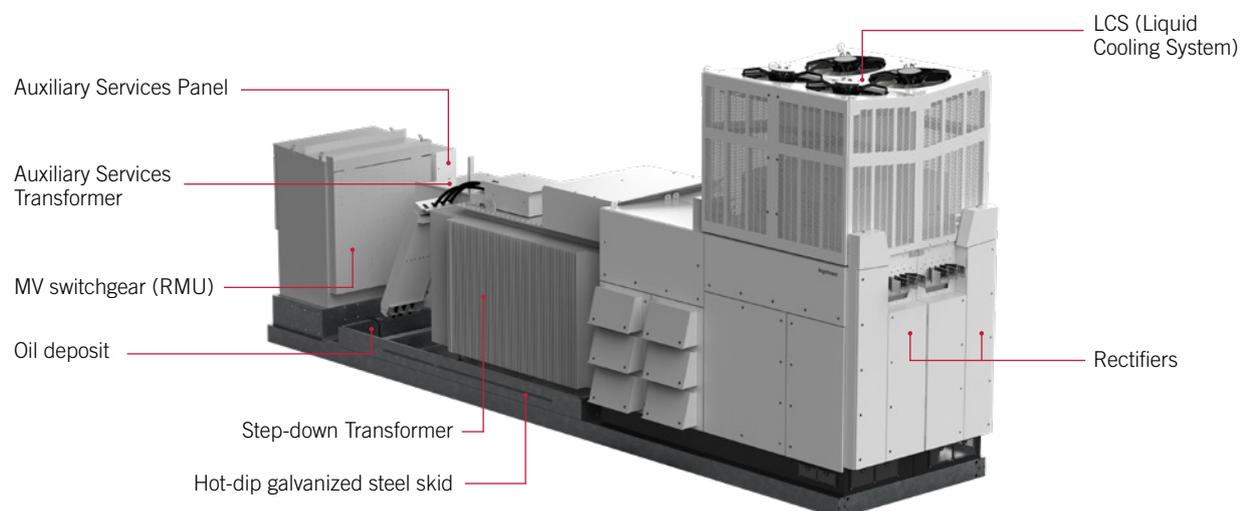
Standard equipment

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

E6000 Solution



E12000 Solution



Specifications included in this datasheet could change without notice. Please contact Ingeteam's sales department in case of any queries.

INGECON H2_POWER STATION_FSK_E6000_E12000_EN_A1

INGECON® H2 FSK E6000

INGECON® H2 FSK E12000

GENERAL INFORMATION

Operating temperature range	from -20 °C to +50 °C (-40°C option available)	
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 (1,500 V option available)	
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 6kV up to 36 kV, 50-60 Hz	
Cooling system	ONAN (KNAN optional)	
Efficiency	92.2%	
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)	

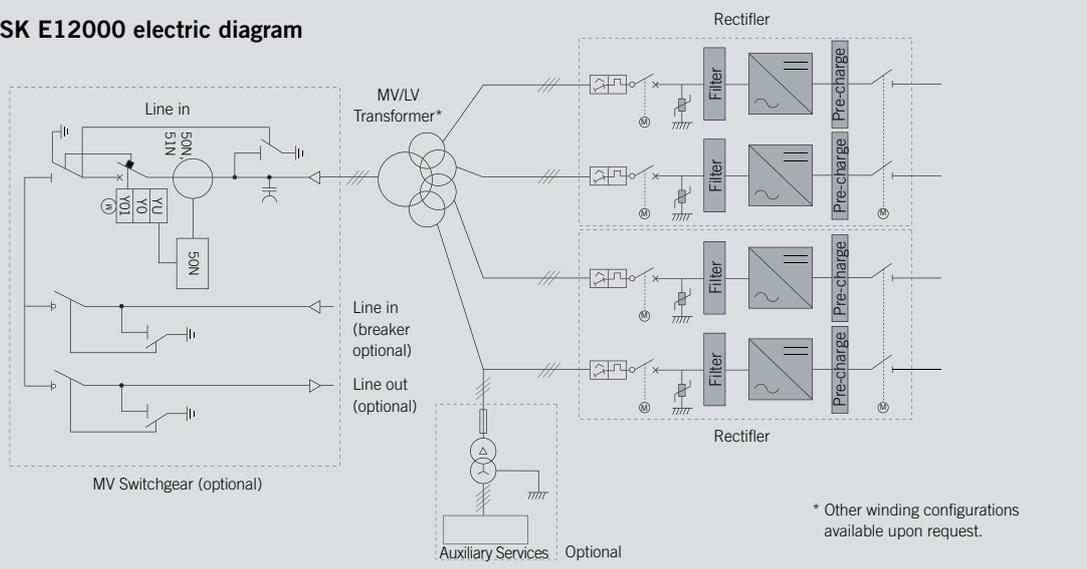
MECHANICAL INFORMATION

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 Vdcrmin=720 V; Vdcrmax=900 V; ambient temperature 35 °C.
- (3) These outputs could be connected to the same electrolyser or to different electrolysers.
- (4) Cambiar por: Losses limited to NLL(%)=0.10 and LL(%)=0.90.
- (5) The total weight will depend on the total system power and the accessories included.

Ingecon H2 FSK E12000 electric diagram



* Other winding configurations available upon request.

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