

PEM* ELECTROLYSERS

Today's flexible, cost effective technology

PEM* : Proton Exchange Membrane

AREVA H₂Gen

Reliable, easy, clean
and safe on-site
hydrogen generation



H₂ ENERGY

STANDARD SUPPLY

TECHNICAL SPECIFICATIONS

GAS PRODUCTION		HYDROGEN		OXYGEN	
Output pressure		Up to 35 Barg		13 Barg	
Purity		> 99,9%		> 97%	
GAS PURIFICATION SYSTEM					
Industrial purification system with automatic regeneration based on deoxidiser & Temperature Swing Absorption Dryers					
H ₂ Quality	Up to 99,999% (H ₂ O + O ₂ < 10 ppm; N ₂ < 5 ppm, Dewpoint < -70°C at atmospheric pressure)				
FEEDING WATER (TAP WATER)					
Conductivity	< 2000µS/cm (T25°C)	Pressure	2 to 6 Bar		
PH	4-10	Temperature	+5/+40°C		
Water treatment	Integrated Reverse Osmosis System (ROS) + electro de-ionisation system				
POWER INPUT					
Voltage	400 V AC				
Frequency	50 Hz				
CONTROL SYSTEM					
PLC	Industrial SIL 2 PLC with analogic and digital I/O modules associated to a colour tactile screen; Process can be controlled by input of : H ₂ flow, pressure, available power				
Communication	Modbus / Ethernet / analogic and serial communications; modular communication interface for easy add-on capability; others : on demand				
ENVIRONMENTAL & OPERATING CONDITIONS					
Storage & Transport temperature	+3/ +60°C	Humidity	0 to 95 % non-condensing		
Operating temperature	+3/ +40°C	Ventilation	Provided from a non-hazardous area		
SAFETY NORMS & REGULATIONS					
Compliance	Machine directive 2006/42/CE Pressurised equipment directive 2014/68/UE Low voltage directive 2014/35/UE		Electromagnetic compatibility directive 2014/30/UE ATEX directive 2014/34/UE ISO 22734-1		



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H₂ ENERGY

STANDARD	E10	... E20	E40 E60	E80 ...	E100	... E200
HYDROGEN PRODUCTION							
H ₂ flow rate Nm ³ /h	10	20	40	60	100	150	200
OXYGEN PRODUCTION							
O ₂ flow rate Nm ³ /h	5	10	20	30	50	75	100
FEEDING WATER							
Consumption l/hr (including demineralized water)	< 20	< 40	< 80	< 120	< 200	< 300	< 400
PROCESS COOLING WATER							
Flow rate (m ³ /h)	2	4	8	12	20	30	40
INSTALLED POWER							
Power kVA	80	160	320	480	800	1200	1600
SPECIFIC ENERGY							
Stack consumption (kWh/Nm ³ of H ₂)	4,4	4,4	4,4	4,4	4,4	4,4	4,4
System consumption (kWh/Nm ³ of H ₂)	5,3	5,2	5,1	4,9	4,8	4,8	4,7
FOOTPRINT AND WEIGHTS							
Dimensions*	1 x 20'	1 x 20'	1 x 20'	1 x 20'	1 x 40'	1 x 40'	1 x 40'

* Containerized version



- Compact
- Energy efficient
- Easy to transport
- Easy to connect
- Easy to maintain

AREVA H₂GEN OFFERS A WIDE SELECTION OF OPTIONAL COMPONENTS TO MEET CUSTOMER SPECIFIC REQUIREMENTS

••• ADVANTAGES •••



SAFETY

Environmentally friendly.
ATEX certified components



EFFICIENCY

Stack over 80%
Full system over 70%



RELIABILITY

On 24/7 basis
20-year lifetime



SIMPLICITY

KOH Free
Cost efficient

AREVA H₂Gen

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