Product line CORNERSTONE™ – Bold Series

		EMS-250-30B	EMS-500-30B	EMS-750-30B	EMS-1000-30B
Process					
Nominal Flowrate - H2	Nm3/h	50	100	150	200
Operative Range	% nominal flow rate	30 - 100			
Operating Pressure	barg	30			
Design Pressure (PS)	barg	35			
Average Operating Temperature	°C	72.5			
Specific Consumption at Nominal conditions	kWh/kg	49.6			
OTH	%vol	<1			
HTO	%vol	<2			
Electrolyte					
Type and Composition	KOH - balance H2O, %w	28			
Connections					
Electrolyte inlet	2xFlanges	1 1/4" ANSI 300	3" ANSI 300	3" ANSI 300	3" ANSI 300
H2-electrolyte outlet	1xFlanges	1 1/4" ANSI 300	3" ANSI 300	4" ANSI 300	4" ANSI 300
O2-electrolyte outlet	1xFlanges	1 1/4" ANSI 300	3" ANSI 300	4" ANSI 300	4" ANSI 300
Mechanical data					
Dimensions (LxWxH) approx.	mm	1539 x 1700 x 1835	2114 x 1700 x 1835	2668 x 1700 x 1835	3242 x 1700 x 1835
Weight approx.	kg (empty)	8150	9600	11000	12450
Certification					
Marking		CE	CE	CE	CE
Directive		PED	PED	PED	PED

Bold Solutions for a Cleaner Future

EMS-250-30B

Ref. R0000_HMB001_Rev_1.00 (HGS-250-30B)

Technical Data of 250kW Alkaline Electrolysis Stack for Hydrogen Production

Process Definition	
Flow rate nominal H2	50 Nm3/h
Operative Range	30-100 % nominal flow rate
Operating Pressure	30 barg
Design Pressure (PS)	35 barg
Average Operating Temperature	72.5°C

Electrolyte	
Type and Composition	28%w KOH – balance Water
Flowrate*	7262 kg/h
Inlet Temperature	65°C
Outlet Temperature	80°C
Quantity	392 L

*Electrolyte flowrate requirement by considering EOL conditions.

Power Supply Requirements	
Voltage	63 Vdc
Current	4554Adc

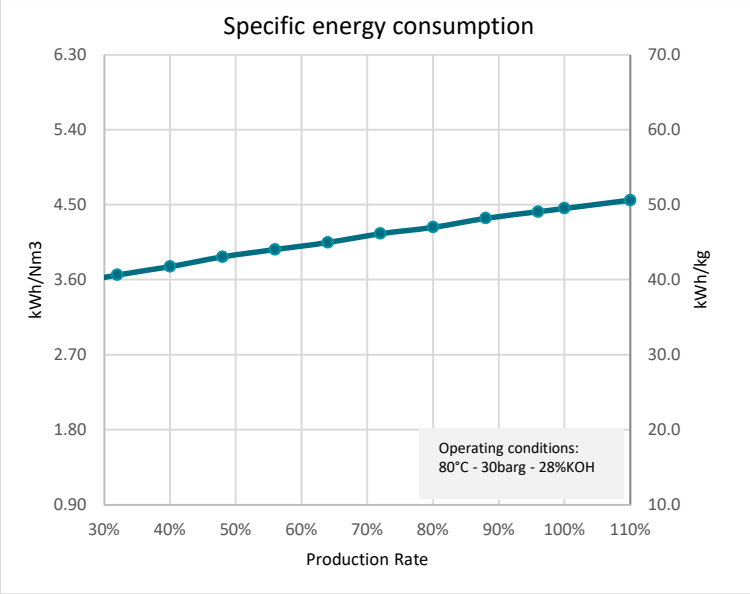
*Voltage requirement by considering EOL conditions.

Equipment Connections	
Electrolyte inlet	2 x Flange 1 1/4” ANSI 300
H2-electrolyte outlet	1 x Flange 1 1/4” ANSI 300
O2-electrolyte outlet	1 x Flange 1 1/4” ANSI 300

Electrical Connections	
Connectors	4 Pins type M42
Casing	J-box

Mechanical Data	
Dimensions (LxWxH)	ca 1539 x 1700 x 1835 mm
Weight	ca 8150 kg (without electrolyte)
Fixing Point	6 x M24
Anchor Bolts	4 x M48
Additional	Drip pans to contain stack emptying in case of loss. Protective cover against loss of electrolyte while pressurized.

Certification	
Marking	CE
Directive	PED



[Only for reference]

EMS-500-30B

Ref. R0000_HMB001_Rev_1.00 (HGS-500-30B)

Technical Data of 500kW Alkaline Electrolysis Stack for Hydrogen Production

Process Definition	
Flow rate nominal H2	100 Nm3/h
Operative Range	30-100 % nominal flow rate
Operating Pressure	30 barg
Design Pressure (PS)	35 barg
Average Operating Temperature	72.5°C

Electrolyte	
Type and Composition	28%w KOH – balance Water
Flowrate*	14784 kg/h
Inlet Temperature	65°C
Outlet Temperature	80°C
Quantity	798 L

*Electrolyte flowrate requirement by considering EOL conditions.

Power Supply Requirements	
Voltage	128 Vdc
Current	4554 Adc

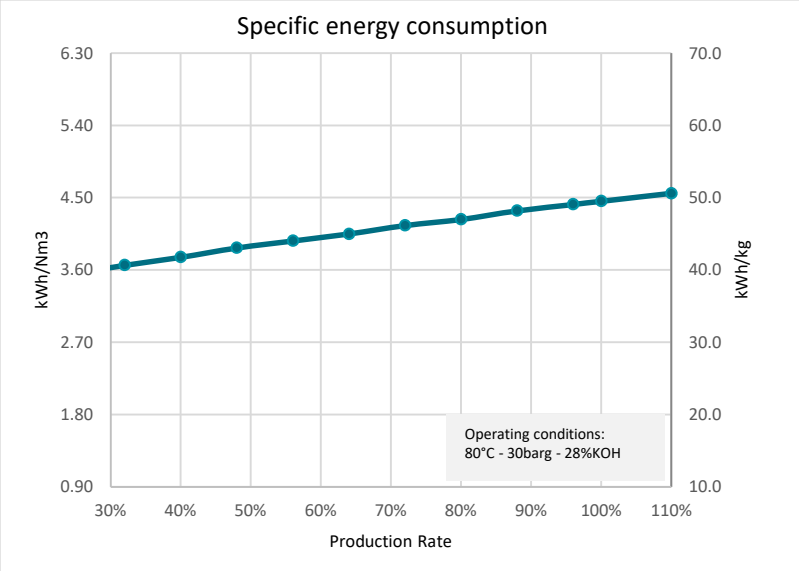
*Voltage requirement by considering EOL conditions.

Equipment Connections	
Electrolyte inlet	2 x Flange 3” ANSI 300
H2-electrolyte outlet	1 x Flange 3” ANSI 300
O2-electrolyte outlet	1 x Flange 3” ANSI 300

Electrical Connections	
Connectors	4 Pins type M42
Casing	J-box

Mechanical Data	
Dimensions (LxWxH)	ca 2114 x 1700 x 1835 mm
Weight	ca 9600 kg (without electrolyte)
Fixing Point	6 x M24
Anchor Bolts	4 x M48
Additional	Drip pans to contain stack emptying in case of loss. Protective cover against loss of electrolyte while pressurized.

Certification	
Marking	CE
Directive	PED



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EMS-75O-3OB

Ref. R0000_HMB001_Rev_1.00 (HGS-750-30B)

Technical Data of 75OkW Alkaline Electrolysis Stack for Hydrogen Production

Process Definition	
Flow rate nominal H2	150 Nm3/h
Operative Range	30-100 % nominal flow rate
Operating Pressure	30 barg
Design Pressure (PS)	35 barg
Average Operating Temperature	72.5°C

Electrolyte	
Type and Composition	28%w KOH – balance Water
Flowrate*	22046 kg/h
Inlet Temperature	65°C
Outlet Temperature	80°C
Quantity	1190L

*Electrolyte flowrate requirement by considering EOL conditions.

Power Supply Requirements	
Voltage	191 Vdc
Current	4554 Adc

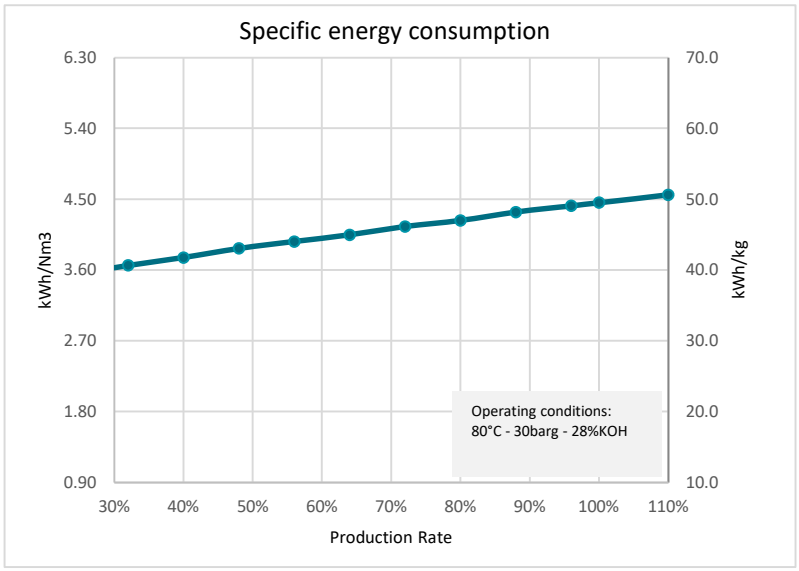
*Voltage requirement by considering EOL conditions.

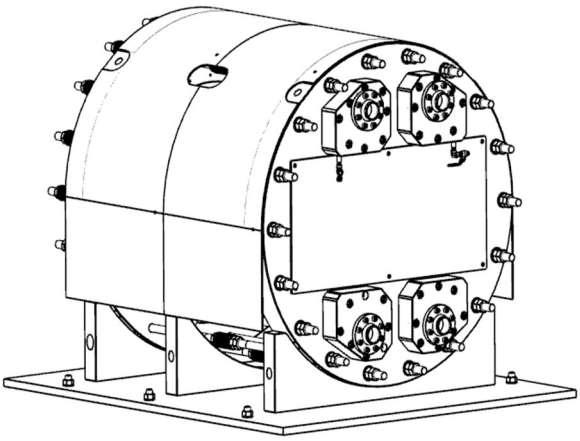
Equipment Connections	
Electrolyte inlet	2 x Flange 3” ANSI 300
H2-electrolyte outlet	1 x Flange 4” ANSI 300
O2-electrolyte outlet	1 x Flange 4” ANSI 300

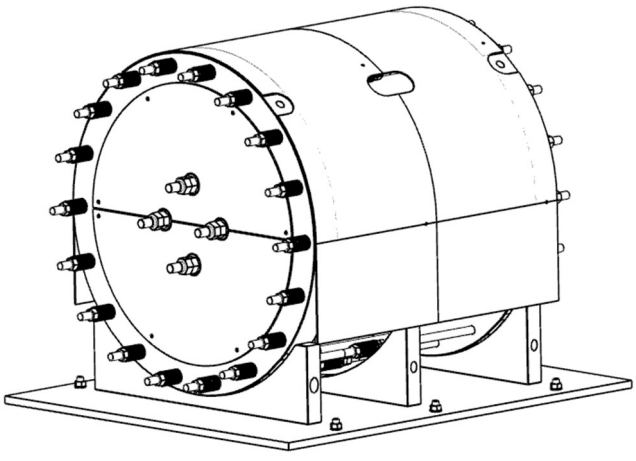
Electrical Connections	
Connectors	4 Pins type M42
Casing	J-box

Mechanical Data	
Dimensions (LxWxH)	ca 2668 x 1700 x 1835 mm
Weight	ca 11000 kg (without electrolyte)
Fixing Point	6 x M24
Anchor Bolts	4 x M48
Additional	Drip pans to contain stack emptying in case of loss. Protective cover against loss of electrolyte while pressurized.

Certification	
Marking	CE
Directive	PED







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EMS-1000-30B

Ref. R0000_HMB001_Rev_1.00 (HGS-1000-30B)

Technical Data of 1 MW Alkaline Electrolysis Stack for Hydrogen Production

Process Definition	
Flow rate nominal H2	200 Nm3/h
Operative Range	30-100 % nominal flow rate
Operating Pressure	30 barg
Design Pressure	35.5 barg
Average Operating Temperature	72.5°C

Electrolyte	
Type and Composition	28%w KOH – balance water
Flowrate*	29570 kg/h
Outlet Temperature	80°C
Inlet Temperature	65°C
Quantity	1596 L

*Electrolyte flowrate requirement by considering EOL conditions

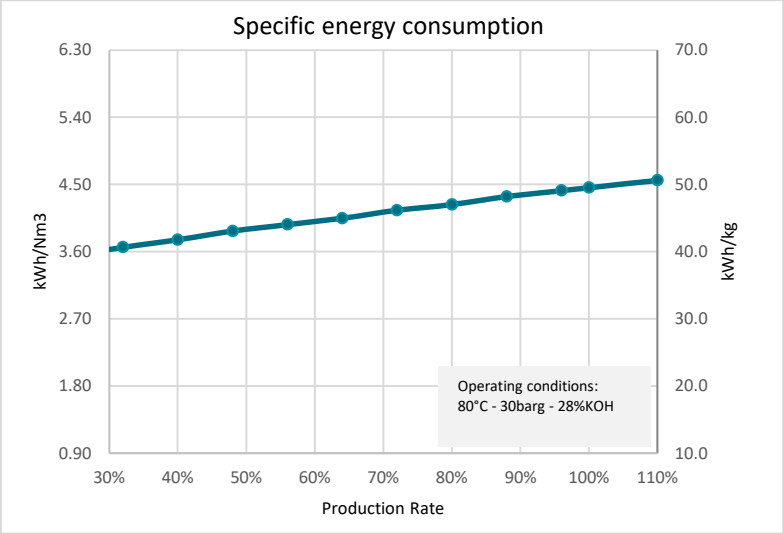
Power Supply Requirements	
Voltage	257 Vdc
Current	4554 Adc

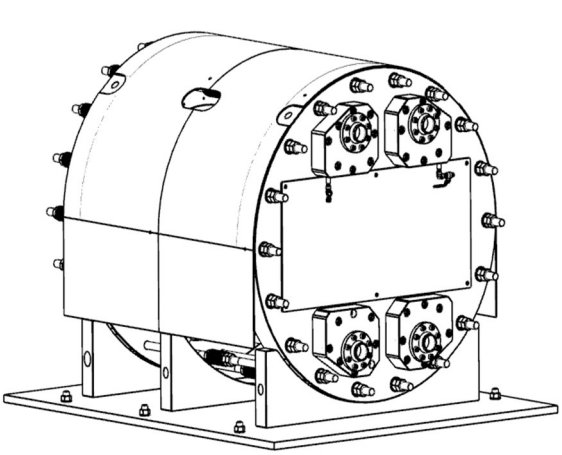
Equipment Connections	
Electrolyte inlet	2x Flange 3” ANSI 300
H2-electrolyte outlet	1x Flange 4” ANSI 300
O2-electrolyte outlet	1x Flange 4” ANSI 300

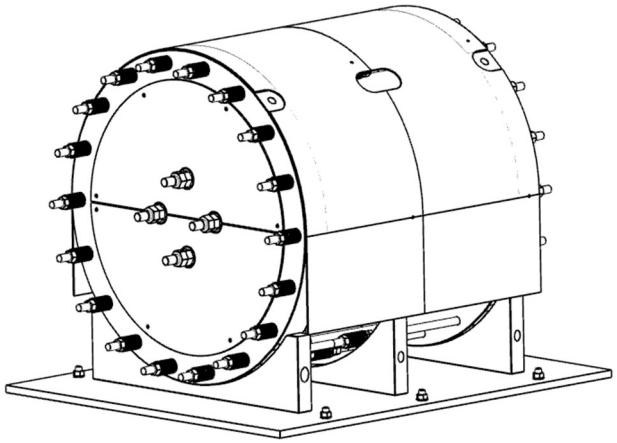
Electrical Connections	
Connectors	4 Pins type M42
Casing	J-box

Mechanical Data	
Dimensions (LxWxH)	ca 3242 x 1700 x 1835 mm
Weight	ca 12450 kg (without electrolyte)
Anchor Bolts	4 x M48
Fixing Points	6 x M24
Additional	Drip pans to contain stack emptying in case of loss Protective cover against loss of electrolyte while pressurized

Certification	
Marking	CE
Directive	PED







[Only for reference]

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About F2n Green Hydrogen Srl

F2N Green Hydrogen is a developer and manufacturer of cutting-edge, high-performance electrolysis stacks, based on the established alkaline technology. These stacks are designed for medium to large-scale electrolysis plants, powered by renewable energy sources, to produce green hydrogen at scale.

Leveraging our team's extensive and outstanding experience in research and development, technology transfer, product development, and operations management at international level, we are developing an innovation roadmap in electrolysis space. We envision to establishing centers of excellence for green hydrogen in cooperation with leading international research institutes and industrial partners, to foster high-quality competences and significantly contribute to a sustainable economy. F2N Green Hydrogen is an innovative startup founded in 2022, headquartered in Varese, Italy. Further information is available on our website: www.f2n.green.