Company Introduction



VINSSEN is a maritime technology company leading the charge in reducing greenhouse emissions through innovative and sustainable products, solutions.
VINSSEN enables the use of hydrogen (and alternative fuels like ammonia and methanol) as cleaner and more efficient energy sources for the maritime industry. VINSSEN offers differentiated performances via a proprietary Titanium Bipolar Plate PEM Fuel Cell Technology, which results in better durability and weight profiles for maritime applications.

VINSSEN is also positioned to support maritime electrification with battery solutions. When paired with batteries, fuel cells can benefit from increased efficiency and longer operational ranges.
With support from a dedicated team in Korea that has a deep affiliation with the shipbuilding industry. VINSSEN is able to provide customized solutions for diversified use cases across a large spectrum of clients.

History

2023
- Delivered hydrogen fuel cell for industry project in Singapore
- Acquired AIP Certificate from the KR (Korean Register) 100kW Fuel Cell Module for Marine Application
- Acquired Type Approval Certificate for the Lithium-Ion Battery (KR & KOMSA)
- Established 2nd VINSSEN Factory and Water Tank (abt 30m Length)
- Contracted 14M Class Passenger Ferry for Suncheonman International Garden Expo 2023

2022
- Acquired AIP Certificate from the KR (Korean Register) for the 120kW maritime Fuel-Cell System
- Awarded Fuel Cell K-Energy Observer Project
- Awarded Fuel Cell 3MW Tug Propulsion System Project
- Awarded e-Propulsion for Autonomous Ship
- Awarded Fuel Cell System For Ocean Cleaning Ship

2021
- Established VINSSEN INTERNATIONAL PTE. LTD. in Singapore
- Received the President's Award from Korean Environmental Industry & Technology Institute
- Constructed the first manufacturing complex at Daebul Industrial Complex in Jeollanamd
- Investment by Hyundai Venture Investment Corp and nine others
- Presented Hydrogenia to President Moon Jae-in in Ulsan City

2020
- Signed agreement to construct and demonstrate hydrogen vessels with Jeolla Province Municipal Council
- Signed MOU between VINSSEN and ABB Ltd to develop an electric vessel
- Investment by Hyundai Venture Investment Corp and six others (2.5 M)

2019
- Awarded "Boat of the Year" at the 2019 Busan International Boat Show
- Awarded "Contribution to Development of Shipbuilding and Marine Industry" from the Jeollanamdo Municipal Council
- Acquired the 2020 Hydrogen Industry Regulation Free Zone R&D titled "33ft H_2 Electric-Powered Boat Engineering, Manufacturing, Sea Trial"
- Investment by Infobank Co Ltd, Schmitt Co Ltd

2018
- Acquired venture company certification from the Korea SMEs and Startups Agency
- Acquired ISO9001:2015 (DNVGL)
- Established R&D Center

2017
- Founded VINSSEN Co., Ltd.

World Wide Network Service



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VINSSEN



Flagship Product

MEGA FC 2.0



Specification			
Type	PEM Fuel Cell	Rated Power(Continuous, MW)	2.0
Size(WxDxH, M)	6.0 x 2.5 x 2.5 (20ft Cnt.)	Weight(Estimate, kg)	14,000
H_2 Inlet Pressure(barg)	5	Ambient Temperature(°C)	-10 ~ 45

Application



EPM
Electric Propulsion Motor

LIB
Lithium Ion Battery

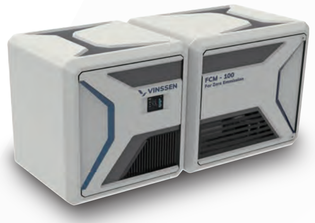
FCM
Fuel Cell Module

DC Switch Board

Specification	50K Product Carrier	115K Crude Oil Tanker
Total Required Electric Power	7MW	15MW
Capacity of MEGA FC 2.0	6MW (3 Sets)	14MW (7 Sets)
Capacity of Battery	abt 1MW (10 Sets)	abt 1MW (10 Sets)
Type of Propulsion	Electric Motor Driven	Electric Motor Driven

Fuel Cell Module

100kW / 250kW



Specification	FC 100kW	FC 250kW
Target Application	Boat	Vessel
Installation Type	Horizontal	Vertical
H_2 Inlet Pressure(barg)	12	5
Rated Power(Continuous, kW)	100	250
Ambient Temperature(°C)	-10 ~ 45	-10 ~ 45
Ambient Humidity(%)	0 ~ 95	0 ~ 95
Cooling Type	Water-Cooled	Water-Cooled
IP Rating	IP 54	IP 54
System SIze(mm, WxDxH)	1,900x 700x1,000	1,200x800x2,000

Lithium-Ion Battery System

92kWh / 126kWh



*For Large Fleets
126kWh

*For Small & Medium Fleets
92kWh

Specification	92kWh*	126kWh
Nominal Voltage(VDC)	480	480
Max Capacity(kWh)	92	126
Charge Voltage(V)	540	540
Discharge Voltage(V)	396	396
Ingress Protection	IP44	IP44
Weight(kg)	750	1,100
Size(WxDxH, mm)	1,500x900x650	700x600x1,700
Communication	CAN 2.0A	CAN 2.0A

*Lithium-ion battery system (LIB) type approval for power storage systems has been received from KOMSA and KR.

Certificate



ISO 9001:2015(KR)



Approval In Principle(KR)
'120kW Fuel Cell Power System for Ship'



Type Approval(KOMSA)
'Electric Propulsion Equipment' (Cell, Module, Rack System)



Type Approval(KR)
'Lithium Ion Battery' (Module, Rack System)



Approval In Principle(KR)
'100kW Fuel Cell Module for Marine Application'

Eco-Friendly Pleasure Craft

5.6M Leisure Boat

Electric Battery Propulsion







Hull	
Length Overall	5.58 m (19.0 ft)
Beam Overall	2.05 m (6.73. ft)
Depth	0.8 m (2.6 ft)
Draft	0.5 m (1.6 ft)
Max Person	4 Pax
Light Weight	2,720 kg (6,000Lbs)

Electric Propulsion	
Propulsion Type	Stern-Drive
Cruising/Max Speed	12.0/17.0 knots
Operation Hour	2 hour (Cruising)
Battery	92kWh x 1
Propulsion Motor	105kW x 1
Hull Material	FRP

17M Leisure Boat

Hydrogen-Battery(Hybrid) Propulsion







Hull	
Length Overall	17.4 m (57.0 ft)
Beam Overall	4.77 m (15.6 ft)
Depth	1.9 m (6.2 ft)
Draft	0.7 m (2.3 ft)
Max Person	10 Pax
Light Weight	19,500 kg (42,990Lbs)

Electric Propulsion	
Propulsion Type	Water-Jet
Cruising/Max Speed	12.0/20.0 knots
Operation Hour	3 Hours (Cruising)
Fuel-Cell	100kW x 2
Battery	92kWh x 4
Propulsion Motor	259kW x 2
Hull Material	Aluminum