

# MARINE HYDROGEN FUEL CELL TECHNOLOGY



SEP 2024

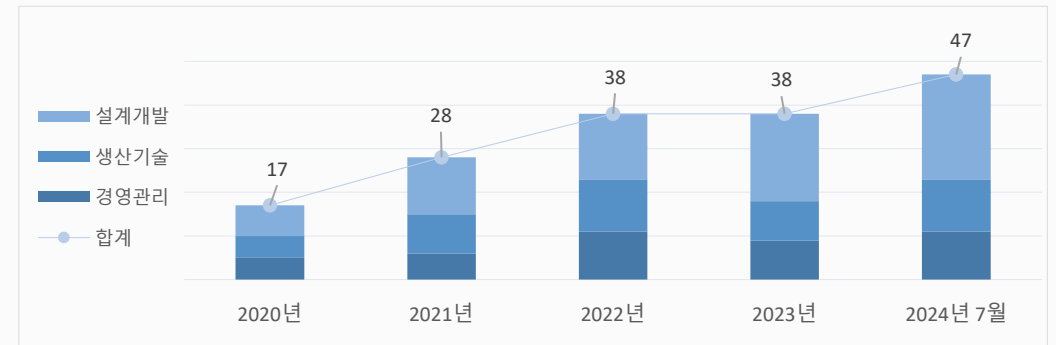
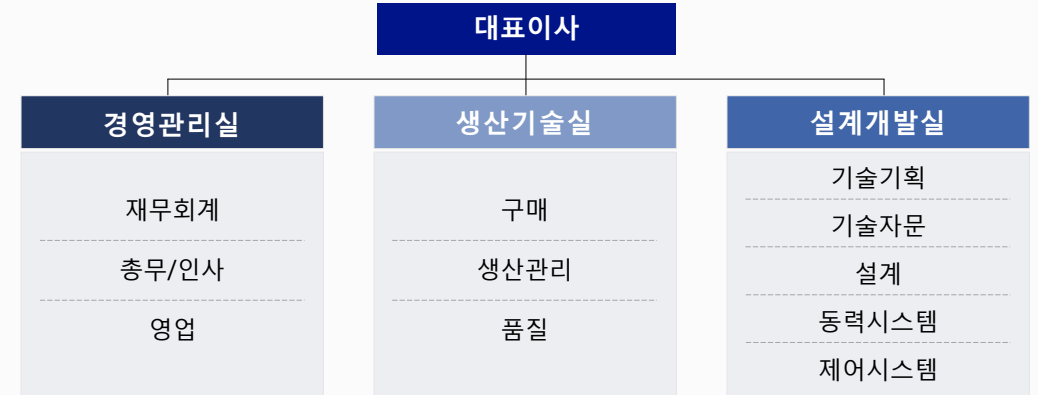
# 01 | 회사소개

## 회사 현황



기업명	주식회사 빈센
대표자명	이철환
설립일	2017. 10. 15
사업자등록번호	338-86-00781
홈페이지	www.vinssen.com
소재지	(본사) 전남 영암군 삼호읍 대불주거1로 158
	(지사) 부산, 울산, 강원
	(해외법인) 싱가포르, 미국
업종	제조업(기타선박건조업, 에너지 저장장치 제조업 등)
생산품목	전기배터리 및 수소연료전지 추진 시스템 및 선박
종업원수	47명 (24년 7월 기준)

## 인원 현황



구분	2020년	2021년	2022년	2023년	2024년 7월
경영관리	5	6	11	9	11
생산기술	5	9	12	9	12
설계개발	7	13	15	20	24
합계	17	28	38	38	47
전년대비 증감	-	(+) 11	(+) 10	-	(+) 11

# 01 | 회사소개



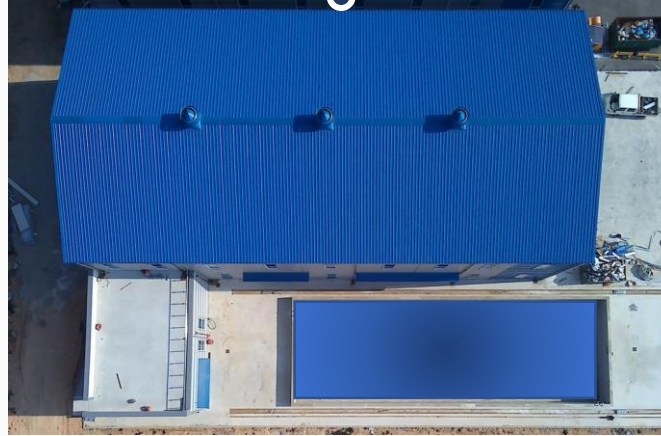


# 01 | 회사소개

공장(제 1, 2공장)



테스트 예인 수조



갠트리 크레인



수소저장시설



생산시설



수소연료전지 테스트 베드



# 02 | 제품소개

## 1 Fuel Cell Module - 100kW



100kW 선박용 연료전지파워팩  
AIP(Approval in Principle) 인증  
획득. (한국선급)

100kW

## 2 Fuel Cell Module - 250kW



250kW



250kW 선박용 연료전지파워팩  
AIP(Approval in Principle) 인증  
획득. (한국선급)

### Specifications

	FC 100kW	FC 250kW
Target Application	Boat	Vessel
Installation Type	Horizontal	Vertical
H <sub>2</sub> Inlet Pressure(barg)	12	5
System Rated Power Output(kW)	100	250
Ambient Temperature(°C)	-10 ~ 45	-10 ~ 45
Ambient Humidity(%)	0 ~ 95	0 ~ 95
Cooling Type	Water-Cooled	Water-Cooled
Ingress Protection	IP54	IP54
System Size(mm, WxDxH)	1,900 x 700 x 1,000	1,200 x 800 x 2,000

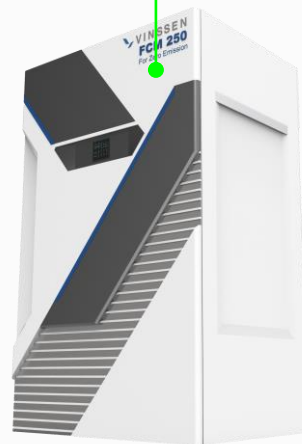


### Specification (150kW)

Number of Cells	450 ea
Minimum Power	14 kW
Voltage Range	250 – 380 V
Current Range	40 – 920 A
Fuel Cell Efficiency	53 %
Bipolar Plate	Titanium

# 02 | 제품소개

## 3 Mega FC 2.0



Specification	
Type	PEM Fuel Cell
Size(WxDxH, M)	6.0 x 2.5 x 2.5 (20ft Cnt)
Ambient Temp.(°C)	0 ~ 45
Rated Power(MW)	2.0 (Total)
Weight(Estimate, kg)	14,000
Fuel Consumption[100%]	75 g/kWh

## 4 Battery Systems

\*Li-Ion



92kWh

\*Li-FePO4



100kWh

Specifications	92kWh	100kWh
Battery Type	Li-Ion	Li-FePO4
Nominal Voltage(VDC)	480	672
Charge Voltage(V)	540	760
Discharge Voltage(V)	396	567
Ingress Protection	IP44	IP44
Weight(kg)	750	1,300
Size(mm, WxDxH)	1,450 x 850 x 625	1,200 x 800 x 1,950
Communication	CAN 2.0A	CAN 2.0A

# 03 | 프로젝트

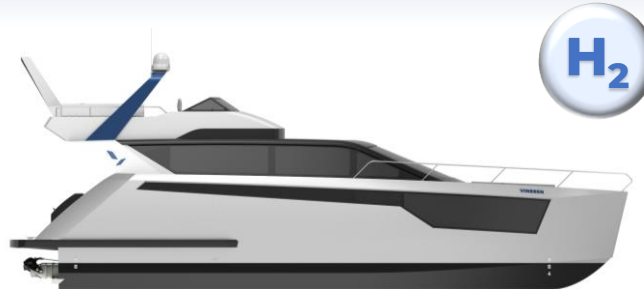


**8.5M Electric Propulsion Boat**  
Leisure Boat

### Description

<b>Max. Speed</b>	15.0 knots
<b>Operating Time (Cruising Speed)</b>	2 Hours

<b>Length Overall</b>	8.5 m	<b>Passenger Capacity</b>	6.0 P
<b>Beam Overall</b>	2.5 m	<b>Gross Weight</b>	3.2 ton
<b>Depth</b>	1.0 m	<b>Material of Hull</b>	Aluminum
<b>Draft</b>	0.5 m	<b>Hull Type</b>	Mono Hull
<b>Number of Motor</b>	1 Set	<b>Number of Battery</b>	2 Sets
<b>Propulsion Drive</b>	Water Jet	<b>Battery Weight</b>	1.5 ton
<b>Type of Propulsion</b>	Battery Propulsion		



**17M H<sub>2</sub> Electric Propulsion Boat**  
Leisure Boat

### Description

<b>Max. Speed</b>	20.0 knots
<b>Operating Time (Cruising Speed)</b>	6 Hours

<b>Length Overall</b>	17.4 m	<b>Passenger Capacity</b>	10.0 P
<b>Beam Overall</b>	4.93m	<b>Gross Weight</b>	24.0 ton
<b>Depth</b>	1.9 m	<b>Material of Hull</b>	Aluminum
<b>Draft</b>	0.7 m	<b>Hull Type</b>	Mono Hull
<b>Number of Motor</b>	2 Sets	<b>Number of Battery</b>	4 Sets
<b>Propulsion Drive</b>	Water-Jet	<b>Fuel Cell Module</b>	100kW, 2 Sets
<b>Type of Propulsion</b>	Fuel Cell	<b>Hydrogen Tank</b>	185L*4, Type 4



**5.6M Electric Propulsion Boat**  
Leisure Boat

### Description

<b>Max. Speed</b>	17.0 knots
<b>Operating Time (Cruising Speed)</b>	2 Hours

<b>Length Overall</b>	5.6 m	<b>Passenger Capacity</b>	4.0 P
<b>Beam Overall</b>	2.05 m	<b>Gross Weight</b>	2.7 ton
<b>Depth</b>	0.8 m	<b>Material of Hull</b>	Aluminum
<b>Draft</b>	0.5 m	<b>Hull Type</b>	Mono Hull
<b>Number of Motor</b>	1 Set	<b>Number of Battery</b>	1 Set
<b>Propulsion Drive</b>	Stern Drive	<b>Battery Weight</b>	0.8ton
<b>Type of Propulsion</b>	Battery Propulsion		



# 03 | 프로젝트 8.5M Electric Propulsion Boat

Leisure Boat

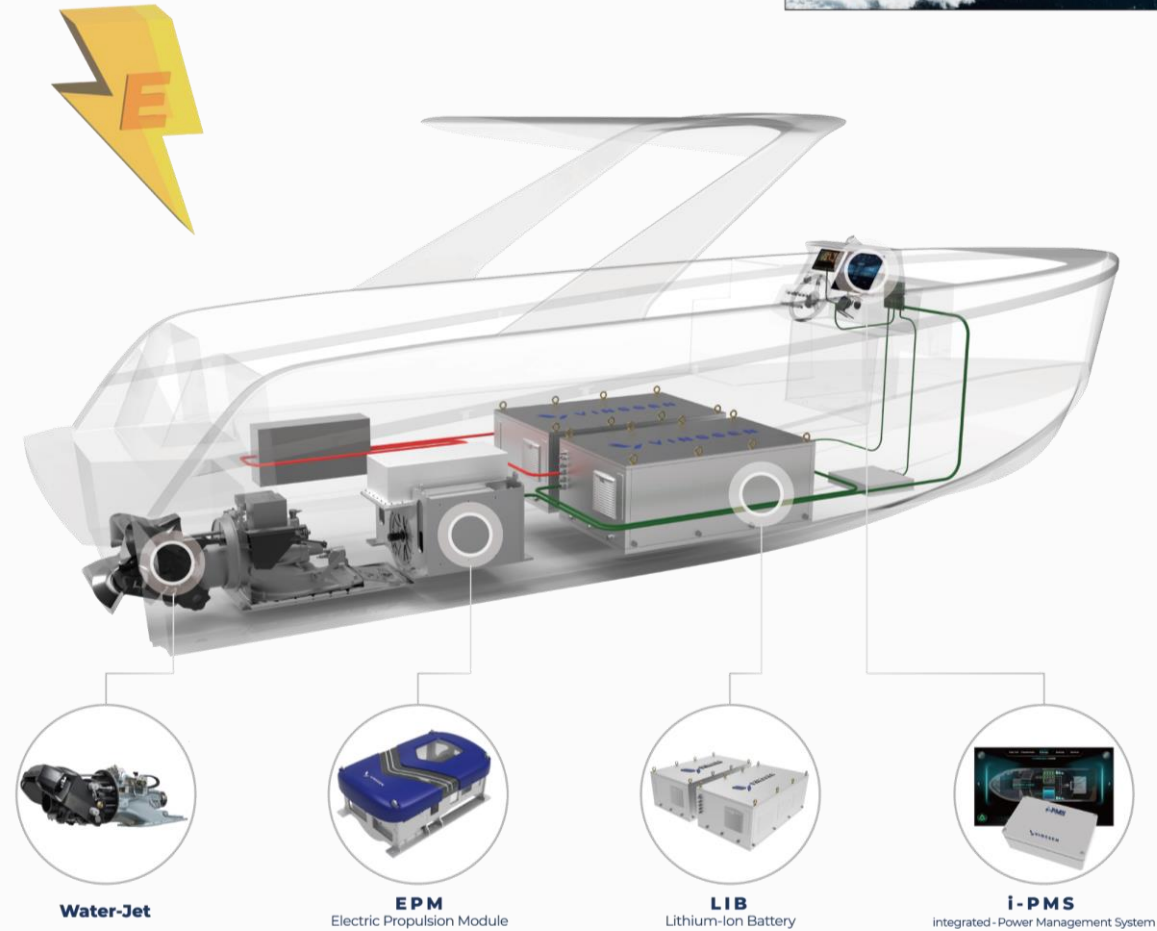


**8.5M Electric Propulsion Boat**  
Leisure Boat

## Description

Max. Speed	15.0 knots
Operating Time (Cruising Speed)	2 Hours

Length Overall	8.5 m	Passenger Capacity	6.0 P
Beam Overall	2.5 m	Gross Weight	3.2 ton
Depth	1.0 m	Material of Hull	Aluminum
Draft	0.5 m	Hull Type	Mono Hull
Number of Motor	1 Set	Number of Battery	2 Sets
Propulsion Drive	Water Jet	Battery Weight	1.5 ton
Type of Propulsion	Battery Propulsion		



**Water-Jet**

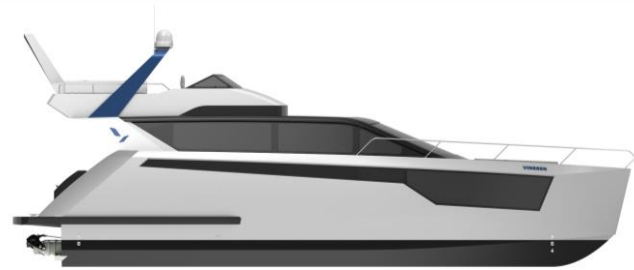
**EPM**  
Electric Propulsion Module

**LIB**  
Lithium-Ion Battery

**i-PMS**  
Integrated - Power Management System



# 03 | 프로젝트 17M H<sub>2</sub> Electric Propulsion Boat Leisure Boat

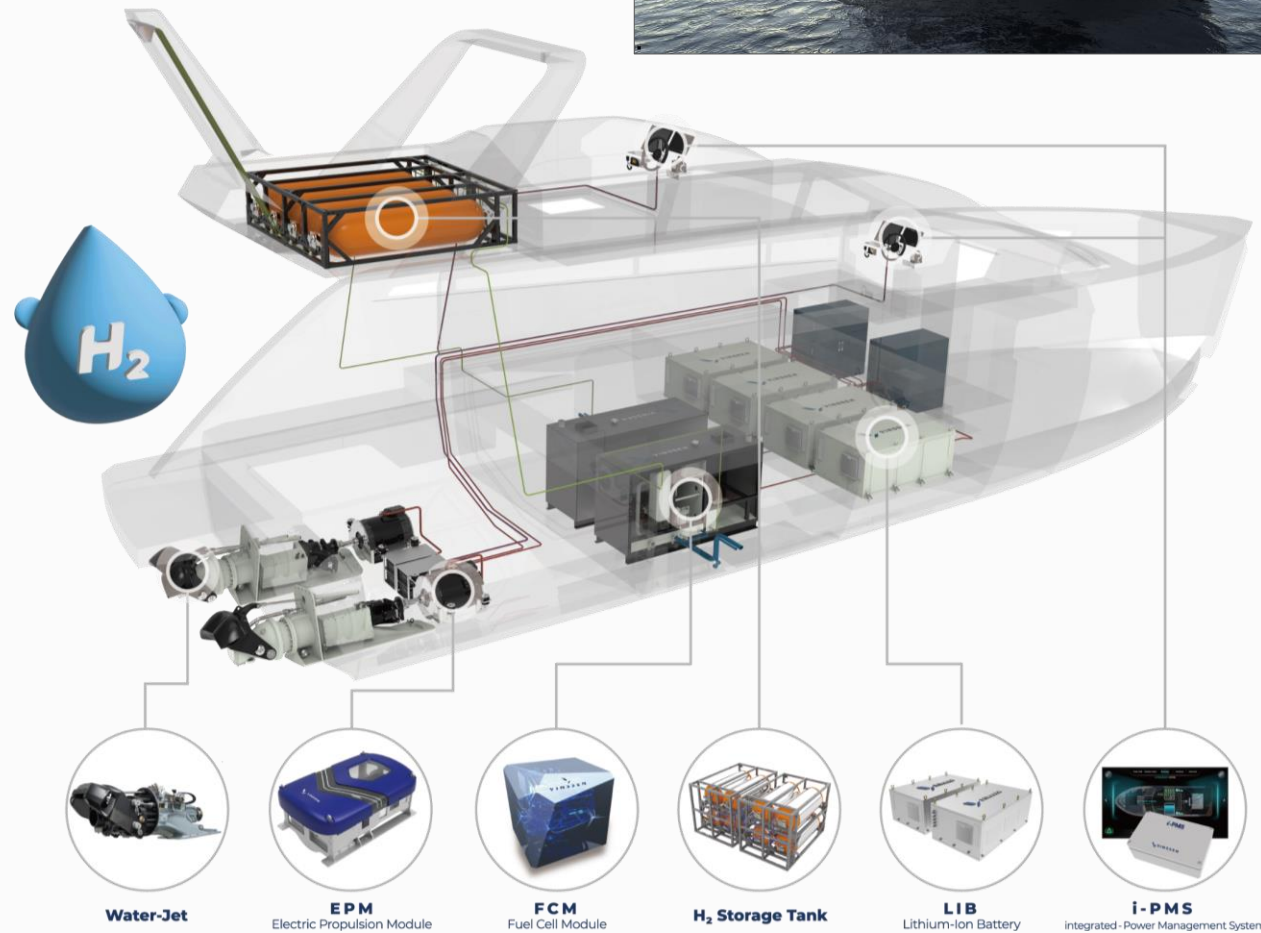


17M H<sub>2</sub> Electric Propulsion Boat  
Leisure Boat

## Description

Max. Speed	20.0 knots
Operating Time (Cruising Speed)	6 Hours

Length Overall	17.4 m	Passenger Capacity	10.0 P
Beam Overall	4.93 m	Gross Weight	24.0 ton
Depth	1.9 m	Material of Hull	Aluminum
Draft	0.7 m	Hull Type	Mono Hull
Number of Motor	2 Sets	Number of Battery	4 Sets
Propulsion Drive	Water-Jet	Fuel Cell Module	100kW, 2 Sets
Type of Propulsion	Fuel Cell	Hydrogen Tank	185L*4, Type 4



Water-Jet

EPM  
Electric Propulsion Module

FCM  
Fuel Cell Module

H<sub>2</sub> Storage Tank

LIB  
Lithium-Ion Battery

i-PMS  
Integrated Power Management System

# 04 | 지식재산권 및 수상인증 현황



## 특허현황

지역	특허현황	
	등록특허	특허출원
국내	등록특허	7
	특허출원	13
	디자인	13
	상표	3
해외	PCT	3
	특허출원	10
	디자인	1
	상표	4

## 수상&인증

2018	기업부설연구소 설립	
2019	올해의 보트상	부산광역시장
	표창장	해양수산부장관
2020	혁신기업 국가대표 1000 선정	해양수산부
	지식재산 경영인증서	특허청
2021	표창패	울산광역시장
	올해의 보트상 (최우수상)	부산광역시장
	대상	중소벤처기업부장관
	H <sub>2</sub> Innovation Award 2021 우수상	수소모빌리티+쇼 조직위원장
	금상	한국환경산업기술원장
	표창장	산업통상자원부장관
	표창장	중소벤처기업부장관
2022	경영혁신형 중소기업(Main-Biz)	중소벤처기업부
	성과공유기업 확인서	
2023	전라남도 일자리 우수 기업	전라남도
2024	글로벌 강소기업 1,000+ [유망기업]	중소벤처기업부



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