

VESTWOODS



HANGZHOU VESTWOODS TECHNOLOGY CO., LTD.

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YOUTUBE

RESIDENTIAL ENERGY STORAGE SOLUTION

COMPANY OVERVIEW

Provide competitive lithium battery products and technical solutions for global customers



Hangzhou Vestwoods Technology Co., Ltd. a high-tech enterprise by Haier Energy, is its exclusive subsidiary specializing in lithium battery system integration for new energy solutions. We deliver one-stop green energy solutions and services to global customers.

Founded in 2016, Vestwoods launched its overseas business at a fast pace, built out manufacturing bases, and secured a leading position in India's telecom backup power market. We have since expanded our footprint to over 50 countries across Europe, Asia and Africa, and now operate a GWh-scale manufacturing base.

60%
R&D as a Percentage

200+
Patents

5GWh
Annual Capacity

80+
Global Customers

50+
Countries and Areas

25,000m²
Production area

PRODUCTION AND R&D CENTERS

Qingdao R&D Center

Technology Industry Park R&D Center:
Focusing on the new energy industry ecosystem, it integrates research and development, manufacturing, production and supply, market sales, and achievement display into one, creating an eco-friendly park for collaborative innovation across the entire industry chain.



Qingdao Manufacturing Center

Positioned as an intelligent energy controller IoT factory, the park covers a total area of 302 acres with a total investment of 6 billion yuan. It is an integrated park combining research, production, supply, sales, and exhibition, aiming to create the industry's first lighthouse factory for inverters.



Nantong Manufacturing Center

Covering an area of 40 acres, the modern production area spans 25,000 square meters, with an annual peak capacity exceeding 5 GWh. It is equipped with Industry 4.0 fully automated production lines, featuring an MES intelligent production management system, enabling full-process digital control from raw materials to finished products, empowering efficient and precise manufacturing.



Hangzhou R&D Center

It is certified as a provincial-level R&D center for high-tech enterprises by Zhejiang Provincial Science and Technology Department in 2023, focuses on communication backup power, residential & commercial energy storage, data center UPS, BMS and EMS. It realizes full-stack independent R&D of energy storage systems with over 200 core patents, nearly 100 global certifications and more than 20 awards.



GLOBALIZATION

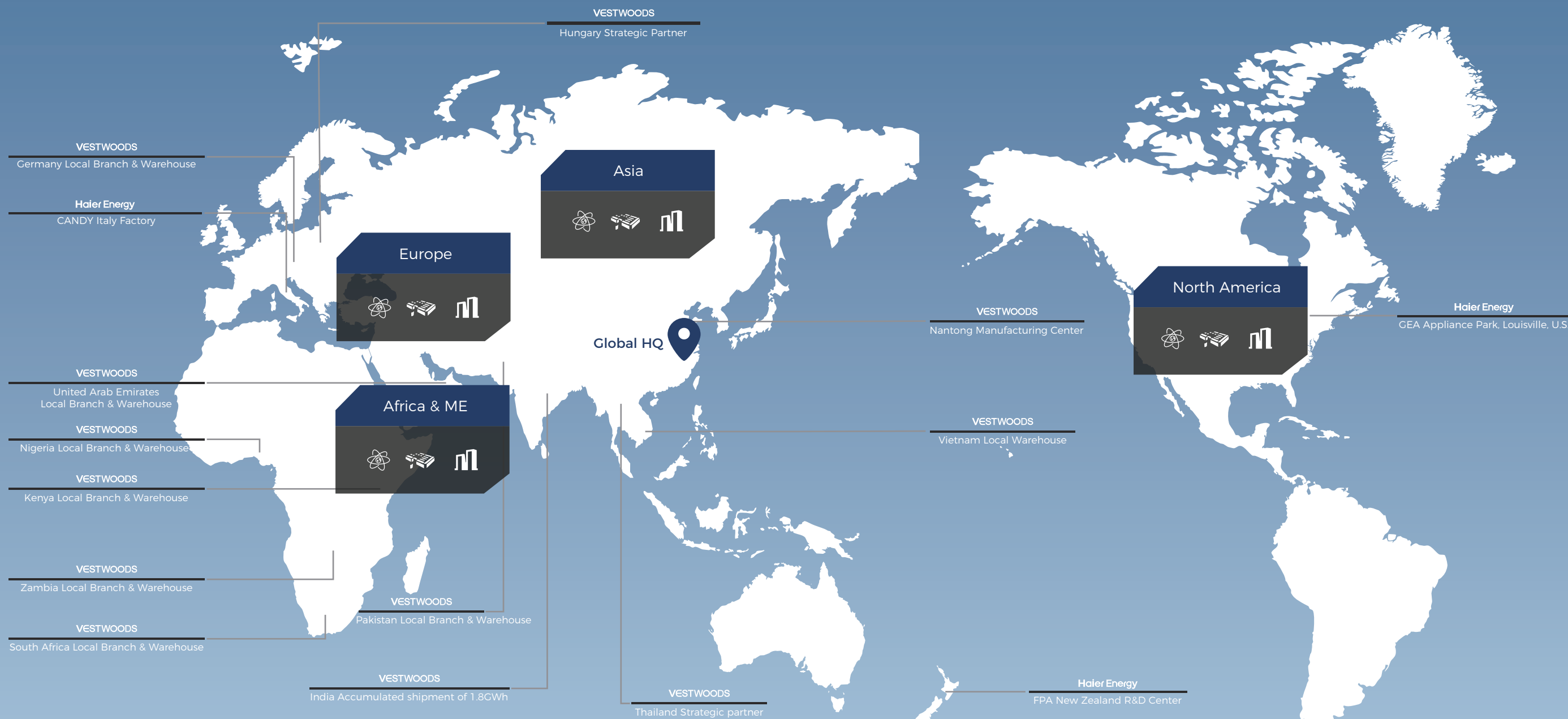
Building a globalized multi-level and multi-mode industrial ecosystem

Adhering to the concept of “user-centered” to provide customized, scenario-based, intelligent new energy solutions for global users.

 Service Network

 Local Warehouse

 Branches



APPLICATION SCENARIOS



Back-up

Back-up Energy Storage:
Provide a reliable power supply during load-shedding or emergencies.



Self-consumption

Self-consumption:
Store excess solar power generated during the day for use at night or during cloudy days.



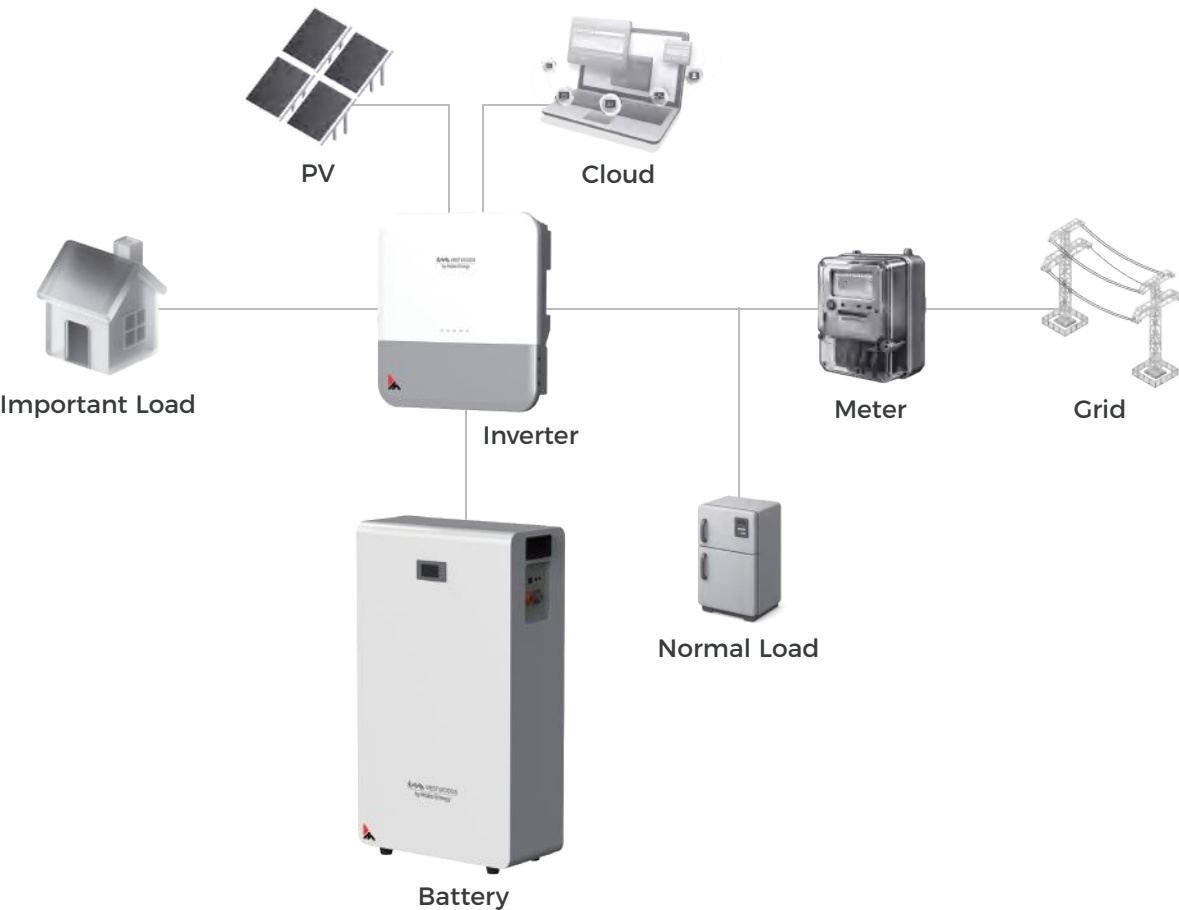
Off-grid

Off-grid Application:
Support energy needs in remote or off-grid areas where grid is unavailable.



Peak-shaving

Peak-shaving:
Use stored energy during peak electricity price periods to reduce electricity costs.



PRODUCT LIST

MINI HOME POWER STATION

Off-grid



Rescube
0.5kW | 1kWh



Rescube
1kW | 2kWh

AII-IN-ONE ENERGY STORAGE

LV



E-Hub
5kW | 5kWh
8kW | 16kWh

HV



E-Bank
2.5kW | 5kWh



E-Tower 2.0
4-15kW | 4.8-28.8kWh



E-Tower 3.0
3.6-12kW (1P) | 8-64kWh
8-20kW (3P) | 8-64kWh

SMART RESIDENTIAL ESS

Battery



P Series
5kWh



L Series
5 | 10 | 16kWh



W Series
5 | 10 | 16kWh

Inverter



Single Phase(Off-grid)
4 | 6 | 8kW



Single Phase
3 - 12kW



Three Phase
5 - 20kW

Villa Solution



22kW | 48kWh



Split Phase
3.8 - 11.5kW

MINI HOME POWER STATION

Your Reliable Home Energy Security.



RESCUBE SERIES

Install-free Home Power Backup

1 kW | 2 kWh



ES-Grade LFP Battery
Utilize 314Ah LFP battery
guaranteeing energy
station grade safety and
duration



Fast Solar Charging
Up to 600W / 100V PV
input allowing 2-3PV
panels in series



Pure Sine Wave Output
Maximize energy transfer
and minimize
equipment failure



IP65 Level Cooling Design
Cooling by heat dissipa-
tion fin not by active out
air preventing dust and
insects going inside



Parallel Expansion
Support 2 units adding
up to 2kW/4kWh



Model	VEP1K-20B
PV Input	
Max. PV Input Power	600W
PV Input Voltage Range& Start Voltage	10~100V
Maximum Charge Current	16A
MPPT Efficiency	>99%
PV Input Port	1*MC4
AC Input	
Max. AC Input Power	1150W±5%
Input Voltage Range & Frequency	155-300Vac, 45-65Hz
Max. Input Current	7.5A±10%
AC Input Port	1*Socket (optional)
AC Output	
Rated Output Power	1000W±5%
Peak Output Power	1500W±5%(15s)
Output Voltage Range	2*220~240V
AC Output Port	2*Sockets
Switch Time	Switching Time<20ms
Battery Parameters	
Cell Type	LFP
Nominal Battery Voltage	6.4V
Nominal Battery Energy	2009.6Wh
General Specification	
Cooling Mode	Fins Dissipation
Altitude	<3000m
Noise	<25dB
Weight	19±0.5kg
Dimension(W*H*D)	304*200*310mm
IP Rating	IP20
Operating Temperature Range	Charging:0°C~45°C;Discharging:-20°C~45°C
Allowed Humidity Range	20%~85%

RESCUBE SERIES

Install-free Mini Home Power Backup
500 W | 1 kWh



ES-Grade LFP Battery
Utilize 314Ah LFP battery
guaranteeing energy
station grade safety and
duration



Fast Solar Charging
Up to 300W PV input



Pure Sine Wave Output
Maximize energy transfer
and minimize equipment
failure



Model	VEP05K-10B
PV Input	
Max. PV Input Power	300W
PV Input Voltage Range& Start Voltage	11-55V
Maximum Charge Current	10A
MPPT Efficiency	>99%
PV Input Port	XT60 with MC-4 adaptor
AC Input	
Max. AC Input Power	500W±5%
Input Voltage Range & Frequency	90-280V±5V, 45-65Hz
Max. Input Current	3.65A±10%
AC Input Port	1*Socket (optional)
AC Output	
Rated Output Power	500W±5%
Peak Output Power	1000W±5%(15s)
Output Voltage Range	210-230V
AC Output Port	1*Socket and 2*USB
Switch Time	Switching Time<20ms
Battery Parameters	
Cell Type	LFP
Nominal Battery Voltage	3.2V
Nominal Battery Energy	1004.8 Wh
General Specification	
Cooling Mode	Air Cooling
Altitude	<3000m
Noise	<55dB
Weight	11±0.5kg
Dimension(W*H*D)	300*200*150mm
IP Rating	IP20
Operating Temperature Range	Charging:0°C~45°C;Discharging:-20°C~45°C
Allowed Humidity Range	20~90%

MINIMALIST DESIGN AESTHETICS

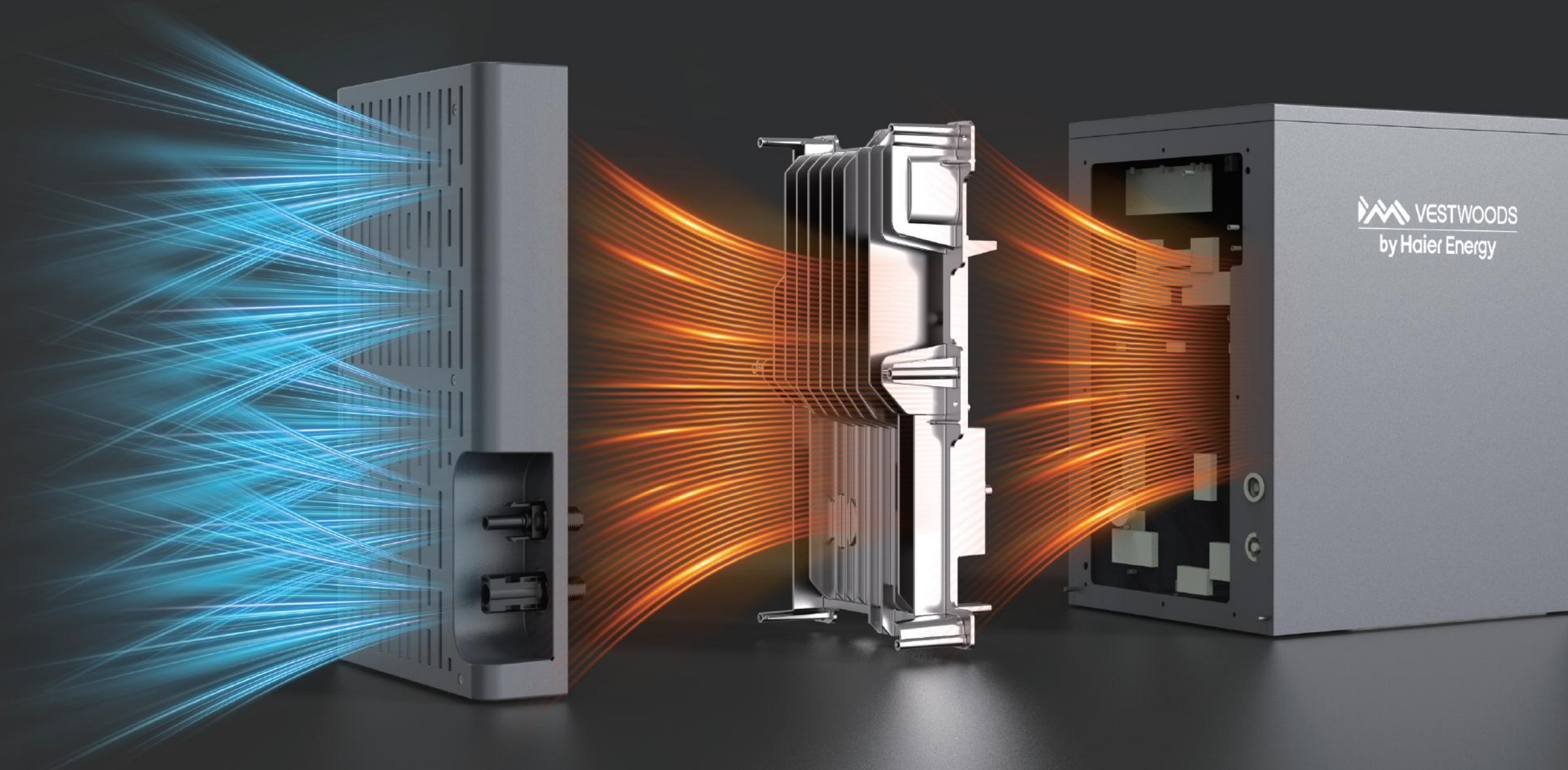
A sleek metallic exterior delivers a strong, modern aesthetic.

A single-button interface streamlines all operations—powering your home has never been simple.



PIONEERING COOLING DESIGN

Featuring an isolated thermal design, it employs an expansive high-efficiency heatsink to dissipate heat while sealing out dust and insects-effectively protecting internal components.



E-HUB

LV All-in-one Residential ESS

5kW | 5kWh

8kW | 16kWh

IP54

IP54 High Protection
Better protection rating keeps humidity, dust and insects out of device, providing longer duration.

BMS

Self-developed BMS
Precise cell balancing, protection & real-time monitoring

Up to 5kW Output

Supports 1C charging/ discharging rate

Flexible PV Selection

Up to 18A per MPPT
70V startup voltage

Wide Grid Range

Wide grid voltage adaptation range of 90-280V

VESTWOODS
by Haier Energy



Model	V-Power All	
System Data		
Rated Power	5kW	8kW
Rated Voltage	51.2V	
Nominal Energy	5kWh	16kWh
Max. Charge/Discharge Current	100A	165A
Working Temp. Range	0~55°C(Charge) ; -20~55°C (Discharge)	
Dimensions (W*H*D)	550*850*180mm	550*1100*240mm
Weight	Approx. 60kg	Approx. 130kg
Expansion	Max. 6pcs in parallel	
Cooling	Fan Cooling	
IP	IP54	
PV Input		
Max. MPPT Input Power	10000W	12000W
Max. Input Voltage	500Vdc	
Rated Input Voltage	370Vdc	
MPPT Voltage Range	60~450Vdc	
No. Of MPPT/ String Per MPPT	2/1+1	
Max. Input Current Per MPPT	18+18A	
Max. Short Circuit Current Per MPPT	27+27A	
Grid Input		
Rated Grid Voltage	220/230/240±5%Vac	
Voltage Input Range	90~280Vac	
Rated Grid Frequency	50/60Hz	
Max. Input Current	40A	50A
THDi	<3% (of nominal power)	
Backup Data		
Rated Output Power	5000W	8000W
Rated Output Current	27A	35A
Rated Output Frequency	50/60±0.1%	
Overload Capability	1min@101~110%; 10s @110~150%; 5s@150~200%;100ms@ >200%	
THDv	<3%	
Efficiency		
Max. Efficiency	97.0%	
MPPT Tracking Efficiency	99.9%	
Others		
Installation	Floor-mounted	
Design Standards	IEC 62109-1:2010, EN IEC 61000-1:2019, UN38.3, IEC62619, Rohs	

E-BANK

HV All-Scenario Micro All-in-One ESS

2.5 kW | 5 kWh | AC-Coupled

2.5 kW | 5 kWh | Hybrid PV



ES-Grade LFP Battery
Utilize 314Ah LFP battery guaranteeing energy station grade safety and duration



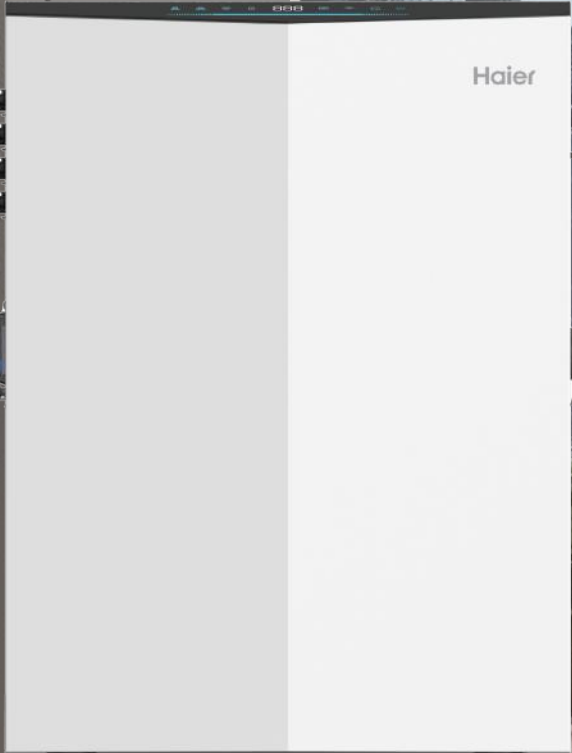
Minimal Installation
Plug-and-play deployment with AI self-networking and wire-free smart metering



Multi-Layer Safety Protection
24-channel temperature monitoring, glass-sealed NTC sensors, and hardware circuit-breaker protection



Smart Saving
Support dynamic tariff/VPP, AI-driven optimization, and remote OTA upgrades



Haier



Model	HVA-2.5/5D2W
Basic Parameters	
Maximum PV Input Power	3.2 kW
Battery Rated Capacity	5.02 kWh
Rated AC Output Power	800W/2.5 kW (On-grid / Off-grid)
Overall Dimensions (W×H×D)	530 mm × 704 mm × 240 mm
Overall Weight	67 kg ± 3%
Cooling Method	Natural Cooling
Ingress Protection Rating	IP65 (Complete System)
Protection Level	I
Overvoltage/Voltage Withstand Level	II(PV), III(AC)
Design Service Life	10 years
PV Input Side (DC)	
Maximum PV Input Power	3.2 kW
Number of MPPT	4
Maximum Power per MPPT	800 W
Maximum Input Current per MPPT	22 A
Short-Circuit Current per MPPT	27.5 A
MPPT Operating Voltage Range	20 V ~ 60 V
Maximum DC Input Voltage	60 V
MPPT Tracking Efficiency	>99.9%
Maximum Charging Efficiency (Single PV to Battery)	≥96%
Battery Side (DC)	
Battery Type	LiFePO ₄
Cell Rated Capacity	314 Ah
Battery Rated Capacity	5.02 kWh
Battery Rated Voltage	16 V
Battery Operating Voltage Range	15 V ~ 17.5 V
Maximum Charge / Discharge Power	2.5 kW
Recommended Charge / Discharge Current	157 A / 157 A (25°C)
Maximum Charge / Discharge Current	172 A / 180 A (25°C)
Charge / Discharge Efficiency	≥94%
Usable Depth of Discharge (DoD)	90%
Cycle Life	>10000 cycles
Grid Side (AC) - Input/Output	
Rated Grid Voltage	220 V / 230 V (L/N/PE)
Rated Grid Frequency	50 Hz / 60 Hz
Rated Input Apparent Power	3.2 kVA
Rated Output Apparent Power	2.5 kVA/800VA
Maximum Input / Output Current	16 A
Power Factor Range	0.8 (leading) ~ 0.8 (lagging)
THDi	<3%
EPS Output	
Rated Output Voltage	220 V / 230 V (L/N/PE)
Rated Output Frequency	50 Hz / 60 Hz
Rated Output Apparent Power	2.5 kVA
Maximum Output Current	16A
THDu (Linear Load)	<3%
Communication	
Communication Interfaces	Wi-Fi, Bluetooth, RS485, CAN
Remote Upgrade	OTA
Environmental Adaptability	
Operating Temperature	-30°C ~ +60°C
Storage Temperature	-40°C ~ +60°C
Operating Humidity	0-95% RH (Non-condensing, 25±2°C)
Operating Altitude	≤4000 meters (Derated operation when >2000 meters)
Maximum Operating Noise	<30 dB
Safety & Certification	
Safety	IEC 62619; IEC 62109-1; IEC 62109-2; IEC 62477-1
EMC	IEC 61000; IEC 62920
Radio Equipment Directive	EN 300328 V2.2.2; EN 301489-1 V2.2.3; EN 301489-17 V3.2.4; EN 55011; EN 18031-1; EN 18031-2
Shipping Standards	UN38.3
Grid Connection Standards	VDE 4105; EN 50549-1; EN 50549-10
Material Safety Regulations	RoHS; REACH
	EU 2023/1542

E-TOWER 2.0

HV All-in-One System

4-15 kW | 4.8-28.8 kWh



Smart Control

Support dynamic tariffs/VPP, and AI-powered fault self-monitoring and maintenance



Maximum Solar Harvest

Utilize a 2.0 DC:AC ratio and 3 MPPTs, maximizing solar generation across all roof layouts



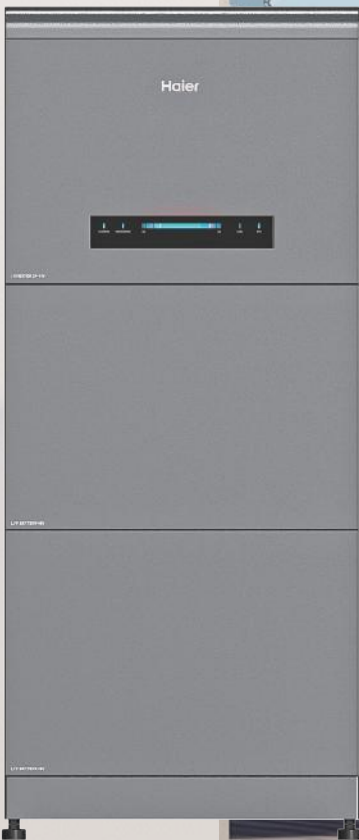
Flexible Deployment

Wall or floor mounting with IP65 protection and scalable capacity up to 28.8kWh



Advanced Load Management

Up to 150% three-phase unbalanced loads for demanding applications



Model	HAH3P-4KB1/HU9	HAH3P-5KB1/HU9	HAH3P-6KB1/HU9	HAH3P-8KB1/HU9	HAH3P-10KB1/HU9	HAH3P-12KB1/HU9	HAH3P-15KB1/HU9
PV String Input Data							
Max. PV Input Power	8kW	10kW	12kW	16kW	20kW	22.5kW	22.5kW
Max PV Input Voltage	1100V						
Full load MPPT Voltage Range	140-950V						
Startup Voltage	85V						
Max. Input Current	16A/16A/16A/16A						
Max. Short Circuit Current	24A/24A/24A/24A						
Number of string per MPPT	1 / 1 / 1						
Battery port							
Battery Type	LiFePO ₄						
Battery Voltage Range	90~700V						
Max. Charging Current	50A						
Max. Discharging Current	50A						
GRID PORT							
Rated Output Power	4kW	5kW	6kW	8kW	10kW	12kW	15kW
Max. Output Current	6.7A	8.3A	10A	13.3A	16.7A	20A	22.8A
Max. Output Apparent Power	4.4kVA	5.5kVA	6.6kVA	8.8kVA	11kVA	13.2kVA	15.75kVA
Max.Input Pow	8kVA	10kVA	12kVA	16kVA	20kVA	20KVA	20kVA
Rated Grid Voltage	220V,230/400Vac, 3L/N/PE						
Grid Voltage Range	150~288Vac						
Rated Grid Frequency	50/60Hz						
Power Factor	Leading -0.8~Lagging+0.8						
THDi	<3%						
Backup port							
Grid Max Power	8kVA	10kVA	12kVA	16kVA	20kVA	20kVA	20kVA
Rated Backup Power	4kVA	5kVA	6kVA	8kVA	10kVA	12KVA	15kVA
Rated Backup Voltage	220/380Vac,230/400Vac,3L/N/PE						
Rated Backup Frequency	50/60Hz						
THDv	<3% (Linear Load) /<5% (Non-Inear Load)						
Switching Time	<10ms						
Efficiency							
Max. Efficiency	98%	98%	98.2%	98.4%	98.4%	98.4%	98.4%
Europe Efficiency	97.5%	97.5%	97.7%	97.9%	97.9%	97.9%	98%
MPPT Efficiency	99.9%						
General data							
Operating Temperature Range	-25℃~ 60℃						
Relative Humidity	0~100% (No Condensing)						
Operating Altitude	<3000m(without Derating)						
Cooling	Natural Convection					Intelligent Air Cooling	
Noise	<30dB					<45dB	
Topology	Transformerless						
Dimensions WxHxD (mm)	620x485x206						
Protection Degree	IP65						
Weight	29kg						
Warranty	10Years						
HMI&COMM							
Communication With BMS	CAN/RS-485						
External Communication	RS-485/WIFI/Ethernet						
User Interface	LED/App						
Certificate							
Grid Regulation	VDE-AR-N 4105, G98, G99, C10/11:2021, NTS 631, RD647:2020 UNE 217002:2020, VDE 0126-1-1, NRS 097-2-1, AS/NZS 4777.2:2020, EN 50549-1						
Safety Regulation	IEC/EN62109-1&2,IEC/62477-1:2012						
EMC	EC/EN61000-6-1,IEC/EN61000-6-2, IEC/EN61000-6-3,IEC/EN61000-6-4						
Battery module Model							
Battery Type	LiFePO4						
Rated Voltage	96V						
Rated Energy	4.8kWh						
Usable Capacity	4.8kWh						
Working Voltage Range	90~108V						
Rated Charging/ Discharging Current	50A						
Max.Charging/ Discharging Current	50A						
Depth Of Discharge(DoD)	100%						
Warranty	10Years						
Operating Temperature	Charging 0℃<T<50℃ Discharging -10℃<T<50℃						
Dimensions WxHxD (mm)	620*430*206						
Protection Rate	IP65						
Communication	CAN						
Weight(kg)	57±2						
Certification	UN 38.3, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3,EN 61000-6-47, IEC 62619						
Production Configuration	HBHS-4.8KB1/LPP	2xHBHS-4.8KB1/LPP	3xHBHS-4.8KB1/LPP	4xHBHS-4.8KB1/LPP	5xHBHS-4.8KB1/LPP	6xHBHS-4.8KB1/LPP	
System Capacity	4.8kWh	9.6kWh	14.4kWh	19.2kWh	24kWh	28.8kWh	
System Weight (kg)	85±2	139±2	193±2	247±2	301±2	355±2	
No. of battery modules	1	2	3	4	5	6	
Working Humidity	0-95% (No Condensing)						
Dimensions WxHxD mm(cluster 1)	620x990x206	620x1420x206	620x1850x206	620x1850x206	620x1850x206	620x1850x206	
Dimensions WxHxD mm(cluster 2)				620x510x206	620x940x206	620x1370x206	

E-TOWER 3.0

HV All-in-One System

3.6-12 kW (1P) | 8-64 kWh
8-20 kW (3P) | 8-64 kWh



Smart Control
Leverage AI-driven diagnostics, TOU optimization, and whole-home energy management



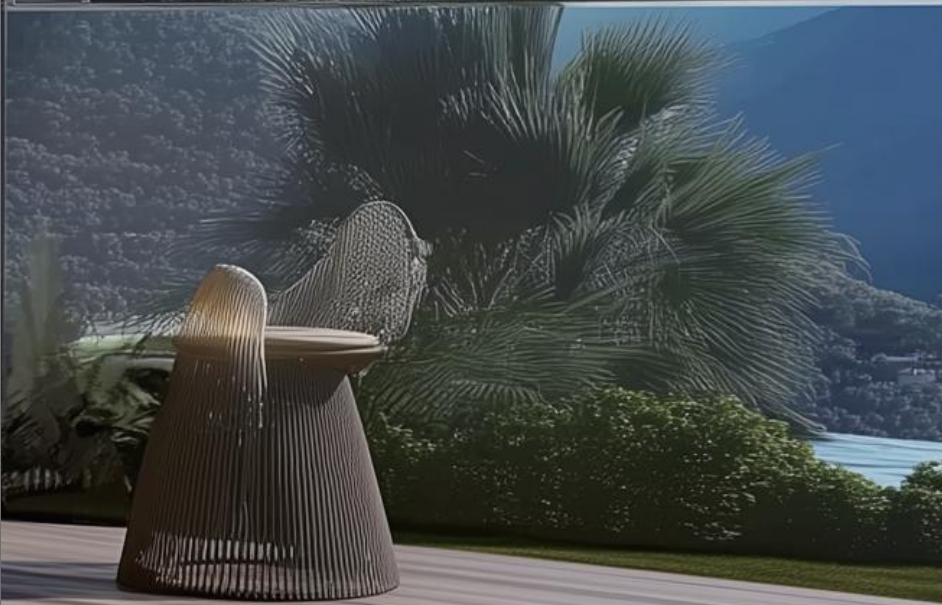
Modular Design
Enable wire-free stacking and flexible system configuration with backup box and EV charging modules



All-Scenario Coverage
Support new installations, system retrofits, PV expansion, and diesel generator integration



Full-Stack Safety
Active fire protection and cell balancing, unafraid of low-temperature environments



Model	HBHS-8KC1/ZP
Battery Data	
Battery Type	LiFePO4
Cell Capacity	314Ah
Total energy	8kWh
Usable energy	7.8kWh
Max. Charge/Discharge Power	5kW
Peak Discharge Current/Power,10s	6kW
Communication	CAN
Recommended Depth of Discharge (DOD)	90%
Max. Stack Quantity	4
Max. Parallel Quantity	2
General Data	
Dimensions (W*H*D [mm])	620*360*255 (single pack)
Weight (kg)	67
Mounting	Floor standing / Wall mounting
Installation Environment	Indoor / Outdoor
Charging/Discharging Temperature	-20 to +55 (>45 °C, derating)
Protection Level	IP66
Cooling	Natural Cooling
Altitude (m)	≤4000
Warranty	10 Years

Model	HAH1P-3.6KC1/HU	HAH1P-4.6KC1/HU	HAH1P-5KC1/HU	HAH1P-6KC1/HU	HAH1P-8KC1/HU	HAH1P-10KC1/HU	HAH1P-12KC1/HU
DC Input (PV side)							
Recommended max. PV power	7200W	9200W	10000W	12000W	16000W	20000W	24000W
Max. DC input voltage	600V						
RatedDC input voltage	390V						
Start-up voltage	70V						
MPPT voltage range	50-550V						
Full power MPPT voltage range	135-500V	170-500V	185-500V	225-500V	225-500V	280-500V	335-500V
Max. input current	18/18/18				18/18/18/18		
Max. short circuit current	27/27/27				27/27/27/27		
Number of MPP. trackers	3/3				4/4		
Battery Connection							
Battery type	Li-ion						
Battery voltage range	390-550V						
Max. charge/discharge current	9.4/9.9A	11.8/12.4A	12.8/13.5A	15.4/16.2A	20.5/21.5A	25.6/26.9A	30/30A
Communication	CAN						
Compatible battery model	HBHS-8KC1/ZP						
Number of modules	1-8(1)						
AC Input and Output (On-grid)							
Ratedoutput power	3680W	4600W	5000W	6000W	8000W	10000W	12000W
Max. on-grid Input/output apparent power	3680VA	4600VA	5000VA	6000VA	8000VA	10000VA	12000VA
Max. output current	16.7A	20.9A	22.7A	27.3A	36.4A	45.5A	54.5A
Grid form	L/N/PE						
Rated AC output voltage	220/230/240V						
Rated grid frequency	50/60Hz						
Power factor	>0.99 (0.8 leading - 0.8 lagging)						
Total current harmonic distortion	THDi <3%						
AC Output (Off-grid)							
Rated output power	3680W	4600W	5000W	6000W	8000W	10000W	12000W
Max. off-grid output apparent power	5520VA, 10s	6900VA, 10s	7500VA, 10s	9000VA, 10s	12000VA, 10s	15000VA, 10s	18000VA, 10s
Grid form	L/N/PE						
Rated AC output voltage	220/230/240V						
Rated grid frequency	50/60Hz						
Power factor	>0.99 (0.8 leading - 0.8 lagging)						
THDv (@rated output)	<3%						
Back-up switch time (ms)	0						
Efficiency							
Max. efficiency	98%						
European efficiency	97.5%						
Protection							
Anti-islanding protection	Integrated						
PV string input reverse polarity protection	Integrated						
Insulation resistor detection	Integrated						
Residual current monitoring unit	Integrated						
AC over current protection	Integrated						
AC short-circuit protection	Integrated						
AC overvoltage and undervoltage protection	Integrated						
Surge protection	DC Type II/AC Type II						
General							
Dimensions (W*H*D [mm])	620*360*255mm						
Weight (kg)	<27						
Mounting	Floor / Wall mounting (Optional)						
Storage temperature	-40 to 70°C						
Operating temperature range	-30 to +65 °C (>45°C , derating)						
Relative humidity	0-95%, no condensing						
Cooling	Natural Convection				Intelligent air cooling		
Topology	Non-isolation						
Operating Altitude	≤4000m						
System ingress protection rating	IP 66						
Noise	<35db				<55db		
User interface	LED & APP						
Communication	RS485, Bluetooth/Wifi/WLAN/4G (optional)						
Warranty	10 years						
Standard Compliance							
Standard	IEC/EN 62109-1, IEC/EN 62109-2, IEC/EN 62477, IEC/EN 61000-6-1, IEC/EN 61000-6-2, ...						

Model	HAH3P-8KC1/HU	HAH3P-10KC1/HU	HAH3P-10KC1/HU(BE)	HAH3P-12KC1/HU	HAH3P-16KC1/HU	HAH3P-20KC1/HU
DC Input (PV side)						
Recommended max. PV power	16000W	20000W	20000W	24000W	32000W	40000W
Max. DC input voltage	1000V					
RatedDC input voltage	720V					
Start-up voltage	170V					
MPPT voltage range	150-900V					
Full power MPPT voltage range	267-950V	333-950V	333-950V	333-950V	400-950V	500-950V
Max. input current	20/20/20A			20/20/20/20A		
Max. short circuit current	30/30/30A			30/30/30/30A		
MPPT number/Max. input strings number	3/3			4/4		
Battery Connection						
Battery type	Li-ion					
Battery voltage range	720-950V					
Max. charge/discharge current	11.1/11.7A	13.9/14.6A	13.9/14.6A	16.7/17.5A	22.2/23.3A	27.8/29.2A
Communication	CAN					
Compatible battery model	HBHS-8KC1/ZP					
Number of modules	1-8(1)					
AC Input and Output (On-grid)						
Ratedoutput power	8000W	10000W	10000W	12000W	16000	20000W
Max. on-grid Input/output apparent power	8800VA	11000VA	10000VA	13200VA	17600VA	22000VA
Rated Input/output current	12.1A	15.2A	14.4A	18.2A	24.2A	30.3A
Max. output current	13.3A	16.7A	14.4A	20.0A	26.7A	33.3A
Grid form	3L/N/PE					
Rated AC output voltage	220/380V, 230/400V					
Rated grid frequency	50/60Hz					
Power factor	>0.99 (0.8 leading - 0.8 lagging)					
Total current harmonic distortion	<3%					
AC Output (Off-grid)						
Rated output power	8000W	10000W	10000W	12000W	16000W	20000W
Max. off-grid output apparent power	12000VA, 10s	15000VA, 10s	15000VA, 10s	18000VA, 10s	24000VA, 10s	30000VA, 10s
Grid form	3L/N/PE					
Rated AC output voltage	220/380V, 230/400V					
Rated grid frequency	50/60Hz					
Power factor	>0.99 (0.8 leading - 0.8 lagging)					
THDv (@rated output)	<3%					
Back-up switch time (ms)	0					
Efficiency						
Max. efficiency	98.50%					
European efficiency	98.00%					
Protection						
Anti-islanding protection	Integrated					
PV string input reverse polarity protection	Integrated					
Insulation resistor detection	Integrated					
Residual current monitoring unit	Integrated					
AC over current protection	Integrated					
AC short-circuit protection	Integrated					
AC overvoltage and undervoltage protection	Integrated					
Surge protection	DC Type II/AC Type II					
General						
Dimensions (W*H*D [mm])	620*360*255mm					
Weight (kg)	31					
Mounting	Floor / Wall mounting (Optional)					
Storage temperature	-40 to 70°C					
Operating temperature range	-30 to +65 °C (>45°C , derating)					
Relative humidity	0%-100%					
Cooling	Natural Convection			Intelligent air cooling		
Topology	Non-isolation					
Altitude	≤4000m					
Protection degree	IP 66					
Noise	<35db			<55db		
User interface	LED & APP					
Communication	RS485, Bluetooth/Wifi/WLAN/4G (optional)					
Warranty	10 years					

SMART RESIDENTIAL ESS

Your Intelligent Home Energy Partner.



P SERIES

LV Wall-mounted Battery 5 kWh



Ultimate Safety
1M self-innovate protection board shipped worldwide



Most Economical Choice
Optimized design for best cost-performance



High Compatibility
Major inverter matched
Convenient LCD display to choose different inverters



Self-developed BMS
Precise cell balancing, protection & real-time monitoring

Model	VT48100E-W
Cell Type	LFP
Nominal Energy	5.12kWh
Nominal Capacity	100Ah
Nominal Voltage	51.2V
Operating Voltage Range	42.0-57.6V
Nominal Charge Voltage	57.6V
Charge Current/Max.Continuous	100A
Discharge Cut-off Voltage	42.0V
Discharge Current/Max. Continuous	100A
Recommended Depth of Discharge	80% DOD
Operating Temp. Range/Charge	0°C~60°C
Operating Temp. Range/Discharge	-20°C~60°C
Dimension(W*H*D)	443*450*150mm
Weight	Approx. 43kg
IP Rating	IP20
Expansion	Max. 15 Units in Parallel
Communication	CAN/RS485
Cooling Mode	Natural Cooling
Cycle Life	6000 Cycles,80%DOD@25°C
Design Life	15+Years(25°C)
Installation	Floor/ Cabinet/ Rack Mounted
Allowed Humidity Range	≤95% RH
Protections	Over Charge/Over Discharge/Over Temperature Over Current/Short Circuit etc.
Compatible Inverters	Deye/Solis/Hoymiles/Senergy/Afore/Megarevo/SRNE/Inhenergy etc.
Certifications	UN38.3, CE-EMC, IEC 62619



L SERIES

LV Battery

5 | 10 | 16 kWh



Triple-layer Safety
Battery cell × electrical
× structural protection
interacted



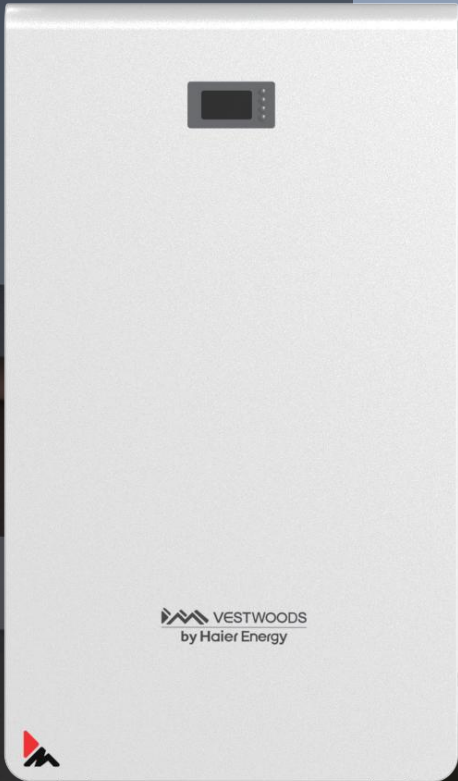
Self-developed BMS
Precise cell balancing,
protection & real-time
monitoring



High Compatibility
Major inverter matched
Convenient LCD display
to choose different
inverters



High-temp Resistance
Deliver stable power
up to 55°C



Model	VE51100L	VE51200L	VE51314L
Cell Type	LFP		
Nominal Energy	5.12kWh	10.24kWh	16.07kWh
Nominal Capacity	100Ah	200Ah	314Ah
Nominal Voltage	51.2V		
Operating Voltage Range	42.0~57.6V		
Nominal Charge Voltage	57.6V		
Charge Current/Max. Continuous	100A	200A	157A
Discharge Cut-off Voltage	42.0V		
Discharge Current/Max. Continuous	100A	200A	157A
Recommended Depth of Discharge	80%		
Ambient Temperature/Charge	0~60°C		
Ambient Temperature/Discharge	-20~60°C		
Dimension(W*H*D)	420*700*150mm	580*802*150mm	500*880*240mm
Weight	Approx. 45.0kg	Approx. 82.0kg	Approx. 114kg
IP Rating	IP20		
Expansion	Max. 15 Units in Parallel		
Color	White		
Communication	CAN/RS485		
Cooling Mode	Natural Cooling		
Cycle Life	6000 Cycles, 80%DOD@25°C		
Design Life	15+ Years (25°C)		
Installation Method	Floor Mounted		
Allowed Humidity Range	≤95% RH		
Altitude	<2000m		
Protections	Over Charge/Over Discharge/Over Temperature Over Current/Short Circuit etc.		
Compatible Inverters	Deye/Solis/Hoymiles/Senergy/Afore/Megarevo/SRNE/Inhenergy etc.		
Certifications	UN38.3, IEC62619, CE-EMC, Rohs		

W SERIES

LV Battery

5 | 10 | 16 kWh



Convenient Commissioning
Wifi / Bluetooth / APP supported



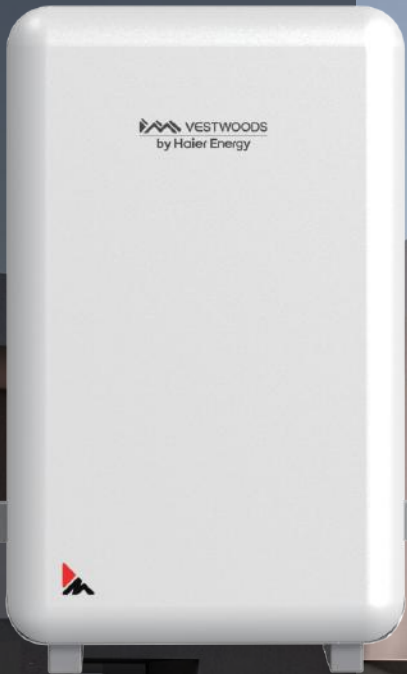
Self-developed BMS
Precise cell balancing, protection & real-time monitoring



High Compatibility
Major inverter matched



Wide Temp Range
Stand from -20°C to 55°C



Model	VE51100W	VE51200W	VE51314W
Cell Type	LFP		
Nominal Energy	5.12kWh	10.24kWh	16.07kWh
Nominal Capacity	100Ah	200Ah	314Ah
Nominal Voltage	51.2V		
Operating Voltage Range	42.0-57.6V		
Nominal Charge Voltage	57.6V		
Charge Current/Max. Continuous	100A	150A	150A
Discharge Cut-off Voltage	42.0V		
Discharge Current/Max. Continuous	100A	150A	150A
Recommended Depth of Discharge	80%		
Ambient Temperature/Charge	0~60°C		
Ambient Temperature/Discharge	-20~60°C		
Dimension(W*H*D)	410*665*206mm	530*762*260.5mm	607.4*842*261.5mm
Weight	Approx. 51.8kg	Approx. 91.0kg	Approx.127kg
IP Rating	IP65		
Expansion	Max. 15 Units in Parallel		
Color	White		
Communication	CAN/RS485		
Monitoring	APP		
Cooling Mode	Natural Cooling		
Cycle Life	6000 Cycles, 80%DOD@25°C		
Design Life	15+ Years (25°C)		
Installation Method	Floor/Wall Mounted		
Allowed Humidity Range	≤95% RH		
Altitude	<2000m		
Protections	Over Charge/Over Discharge/Over Temperature/Over Current/Short Circuit etc.		
Compatible Inverters	Deye/Solis/Hoymiles/Senergy/Afore/Megarevo/SRNE/Inhenergy etc.		
Certifications	UN38.3, IEC62619, CE-EMC, IEC RED, Rohs, IEC 62040		

LV SERIES

Single Phase Inverter

3 - 12 kW



Up to 200% PV Oversizing
Large PV input maximizing yield & high performance



Flexible PV Selection
Up to 18A per MPPT
100V startup voltage



UPS Level Transition
Switching Time < 4ms



Overload Ability
200% for 10s



Model	VEH-S3KA3-LV	VEH-S3.6KA3-LV	VEH-S4.6KA3-LV	VEH-S5KA3-LV	VEH-S6KA3-LV
Battery					
Battery type	Li-ion/Lead-acid				
Battery voltage range	40-60V				
Max. charge/discharge current	75/75A	90/90A	115/115A	120/120A	135/135A
Max. charge/discharge power	3000/3150W	3600/3800W	4600/4850W	5000/5250W	6000/6300W
Charging strategy for Li-ion battery	Self-adaption to BMS				
Charging curve	3 Stages/Equalization				
External temperature sensor	Optional				
Communication	CAN				
PV Input					
Recommended max. PV power	6000W	7200W	9200W	10000W	12000W
Max. input voltage	550V				
Rated voltage	360V				
Start-up voltage	100V				
MPPT voltage range	90-500V				
Max. input current	18/18A				
Max. short circuit current	27/27A				
MPPT number/Max. input strings number	2/2				
AC Input and Output (On-grid)					
Rated output power	3000W	3680W	4600W	5000W	6000W
Max. output apparent power	3300VA	3680VA	4600VA	5500VA	6600VA
Max. continuous AC bypass current	50A				
Grid form	L/N/PE				
Rated AC output voltage/Range	220/154-264, 230/161-276, 240/168-288				
Rated grid frequency	50/60Hz				
Max. output current	15A	15A	20.9	25A	30A
Power factor	>0.99 (0.8 leading-0.8 lagging)				
AC Output (Off-grid)					
Rated output power	3000W	3680W	4600W	5000W	6000W
Max. output apparent power	6000VA, 10s	7360VA, 10s	9200VA, 10s	10000VA, 10s	12000VA, 10s
Back-up switch time	0ms				
Grid form	L/N/PE				
Rated output voltage	220/230/240V				
Rated output frequency	50/60Hz				
Max. continuous output current	13.6A	16.7A	20.9A	22.7A	27.3A
THDv (@linear load)	<3%				
Efficiency					
MPPT efficiency	99.9%				
Max. efficiency	97.7%				
EU efficiency	97.0%				
Protection					
Anti-islanding protection	Integrated				
PV string input reverse polarity protection	Integrated				
Insulation resistor detection	Integrated				
Residual current monitoring unit	Integrated				
AC over current protection	Integrated				
AC short current protection	Integrated				
AC overvoltage and undervoltage protection	Integrated				
Surge protection	DC Type II/AC Type III				
General					
Dimensions (W*H*D)	506*495*99mm				
Weight	17kg				
Mounting	Wall mounting				
Operating temperature	-25°C to +65°C (>45°C, derating)				
Relative humidity	0-95%, no condensing				
Cooling	Natural convection				
Topology (Solar/Battery)	Transformerless/High-frequency isolation				
Altitude	≤4000m				
Protection degree	IP66				
Noise	<35dB				
User interface	LED, App				
Digital input/output	DRM, 1×DI, 2×DO				
Communication	RS485, Wi-Fi/Ethernet (optional)				
Certifications and Standards					
Grid connection standard	G98, G99, G100, EN 50549-1/-10, NF EN 50549-1/-10, CEI 0-21, PEA, MEA, IEC 62116, IEC 61727, IEC 60068, IEC 61683, DEWA, IEC 62109-1/-2, EN 61000-6-1/-3				
Safety/EMC standard	IEC 62109-1/-2, EN 61000-6-1/-2/-3/-4				

LV SERIES

Three Phase Inverter

5 - 20 kW



Up to 200% PV Oversizing
Large PV input maximizing yield & high performance



Flexible PV Selection
Up to 20A per MPPT
4MPPTs



100% Unbalanced Output
Max output of each phase up to 50% rated power



Overload Ability
200% for 10s



Model	VEH-T15KA3-LV	VEH-T20KA3-LV
Battery		
Battery Voltage Range	40-60V	
Max. Charge/Discharge Current	300/300A	350/350A
Charging Strategy For Liion Battery	Self-adaption to BMS	
Charging Curve	3 Stages/Equalization	
PV Input		
Recommended Max. PV Power	30000W	40000W
Max. Input Voltage	1000V	
Rated Voltage	720V	
Start-UP Voltage	150V	
MPPT Voltage Range	150-900V	
Max. Input Current	20A/20A/20A/20A	
Max. Short Circuit Current	30A/30A/30A/30A	
MPPT Number/Max. Input Strings Number	4/4	
AC Input and Output (On-grid)		
Rated Output Power	15000W	20000W
Max. Output Apparent Power	16500VA	22000VA
Grid Form	3L/N/PE	
Rated AC Output Voltage/Range	380V/400V, 266V-480V	
Rated Grid Frequency	50/60Hz	
Max. Output Current	25A	33.3A
Power Factor	>0.99 (0.8 leading ... 0.8 lagging)	
THDi (@Rated Output)	<3%	
AC Output ((Back-up)		
Rated Output Power	15000W	20000W
Max. Output Apparent Power	30000VA, 10s	40000VA, 10s
Back-up Switch Time	<10ms	
Grid Form	3L/N/PE	
Rated Output Voltage	380V/400V	
Rated Output Frequency	50/60Hz	
Max. Continuous Output Current	22.8A	30.4A
Max. Continuous AC Bypass Current	50A	
THDv (@linear load)	<3%	
Efficiency		
MPPT Efficiency	99.9%	
Max. Efficiency	98.5%	
EU Efficiency	98.0%	
Max. Battery Discharge to AC Efficiency	95.7%	
General		
Protection	Anti-islanding protection, PV string input reverse polarity protection, Insulation resistor detection, Residual current monitoring unit, AC over current protection, AC short current protection, AC overvoltage and undervoltage protection Surge protection (DC Type II/AC Type III)	
Dimension(W*H*D)	539*696*232mm	
Weight	41kg	
Mounting	Wall mounting	
Operating Temperature	-25°C to +65°C (>45°C, derating)	
Relative Humidity	0-95%, no condensing	
Cooling	Smart fan	
Topology (Solar/Battery)	Transformerless/High-frequency isolation	
Altitude	≤4000m (>2000m, derating)	
Protection Degree	IP66	
Noise	< 55dB	
User Interface	LED, App	
Digital Input/Output	DRM, 2 × DI, 2 × DO	
Communication	RS485, Wi-Fi/WL/4G (optional)	
Certifications and Standards		
Grid Connection Standard	IEC 61727, IEC 62116, EN 50549, VDE-AR-N 4105	
Software Approval	IEC 62109-1/-2, EN 61000-6-1/-2/-3/-4	

*This series is recommended to be compatible with VE-L & VE-W series of batteries.

LV SERIES

Split Phase Inverter

3.8 - 11.5 kW



130% PV Oversizing
2/4 MPPTs
150V start-up voltage



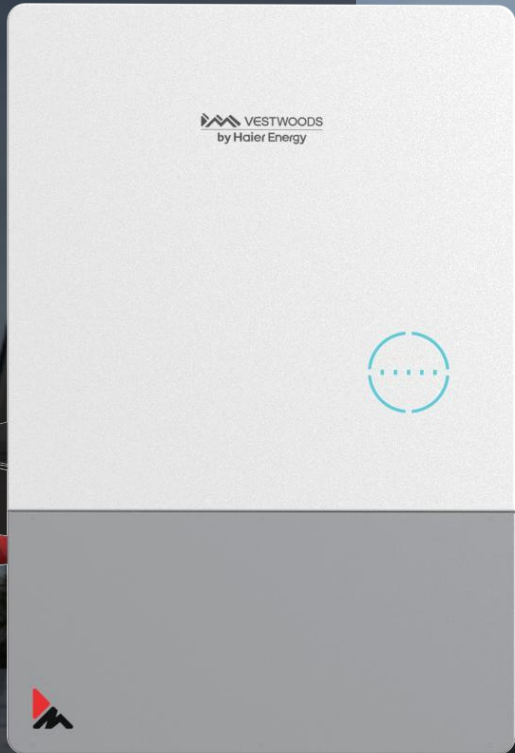
Top-quality IGBT Components
UL Standard components
ensure long-term
safe and stable operation



UPS Level Transition
Switching Time 0ms



Overload Ability
200% for 10s



Model	VEH-P11.5KA1-LV
Battery	
Battery Voltage Range	40-60V
Max. Charge/Discharge Current	200/200A
Max. Charge/Discharge Power	9600/9600W
Charging Strategy for Li-ion Battery	Self-adaption to BMS
Charging Curve	3 Stages/Equalization
PV Input	
Recommended Max. PV Power	14400W
Max. Input Voltage	550V
Rated Voltage	380V
Start-up Voltage	150V
MPPT Voltage Range	125-500V
Max. Input Current	32/32A
Max. Short Circuit Current	40/40A
MPPT Number/Max. Input Strings Number	2/4
AC Input and Output (On-grid)	
Rated Output Power	11520W
Max. Output Apparent Power	11520VA
Max. Input Power	19200W
Rated AC Output Voltage/Range	240V, 211-264/208V, 183-229V
Rated Grid Frequency	60Hz
Max. Output Current	48A
Max. Input Current	80A
Power Factor	>0.99 (0.8 leading ... 0.8 lagging)
THDi (@rated Output)	<3%
AC Output (Off-grid)	
Rated Output Power	9600W
Max. Output Apparent Power	19200VA, 10s
Back-up Switch Time	<40
Rated Output Voltage	120/240V (split phase), 120/208V
Rated Output Frequency	60Hz
Max. Continuous Output Current	40A
THDv (@linear load)	<3%
Efficiency	
MPPT Efficiency	99.9%
Max. Efficiency	97.6%
EU Efficiency	97.0%
Max. Battery Discharge to AC Efficiency	95.0%
General	
Protection	Anti-islanding protection, PV string input reverse polarity protection, Insulation resistor detection, Residual current monitoring unit, AC over current protection, AC short current protection, AC overvoltage and undervoltage protection, Surge protection (DC Type II/AC Type III)
Dimensions (W*H*D [mm])	19.8*29.1*7.95 inch (502*740*202mm)
Weight	90.4 lbs (41kg)
Mounting	Wall mounting
Operating Temperature	-13°F to +149°F (>113°F, derating)/-25°C to +65°C (>45°C, derating)
Relative Humidity	0-95%, no condensing
Cooling	Natural convection
Topology (Solar/Battery)	Transformerless/High-frequency isolation
Altitude	≤6562 ft (2000 m)
Protection Degree	Type 4X
Noise	<40dB
User Interface	LED, App
Digital Input/Output	1 × DI, 2 × DO
Max. Parallel	10
Warranty	RS485, optional: Wi-Fi/Ethernet/4G
Communication	10 Years
Certifications and Standards	
Grid Connection Standard	IEEE 1547-2018, IEEE 1547.1-2020, SRD2.0
Safety/EMC Standard	UL 1741, CSA C22.2 No.107.1, UL 1741 CRD, UL 1741 SB, FCC Part 15 Class B
AFCI	UL 1699B
Software Approval	UL 1998

*This series is recommended to be compatible with VE-L & VE-W series of batteries.

LV SERIES

Single Phase Inverter

4 kW | 6 kW | 8 kW | Off-grid

IP66

IP66 High Protection
Better protection rating keeps humidity, dust and insects out of device, providing longer duration.

Up to 200% PV Oversizing

Large PV input maximizing yield & high performance

Wide Grid Range

Wide grid voltage adaptation range of 90-280V

High Expansion for Three Phase

Support up to 6 single-phase inverters or 9 three-phase inverters in a grid configuration

Flexible PV Selection

Up to 18A per MPPT
70V startup voltage



Model	VEH-S6KB4-LV		VEH-S8KB4-LV	
Battery Data				
Battery Type	Lithium-ion & Lead-acid			
Rated Battery Voltage	48V			
Battery Voltage Range	40-60V			
Max. Charge/Discharge Current	125 / 125A		165 / 165A	
Forced Wake-up by PV	YES			
PV Input				
Max. MPPT Input Power	12000W			
Max. Input Voltage	500V			
Rated Input Voltage	370V			
MPPT Voltage Range	60-450V			
No. Of MPPT/ Strings Per MPPT	2 / 1+1			
Max Input Current Per MPPT	18+18A			
Max. Short Circuit Current Per MPPT	27+27A			
Grid Input				
Rated Grid Voltage	220/230/240V±5%			
Voltage Input Range	90-280V			
Rated Grid Frequency	50 / 60Hz			
Max Input Current	40A		50A	
Total Harmonic Distortion	<3% (of nominal power)			
Backup Data				
Rated Output Power	6000W		8000W	
Rated Output Current	27A		35A	
Rated Output Frequency	50/60Hz±0.1%			
Overload Capability	1min@101-110%;10s@110%-150%;5s@150%-200%;100ms@>200%			
Switch Time	10ms for Computer Equipment,20ms for Household Equipment			
Total Harmonic Distortion	<3%			
Efficiency				
Max. Efficiency	97.0%			
MPPT Tracking Efficiency	99.9%			
Protection				
Integrated	DC Polarity Reverse Connection Protection, AC Output Overcurrent Protection, Thermal Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, DC Component Monitoring, Overvoltage Load Drop Protection, Power Network Monitoring, Earth Fault Detection,Surge protection level			
Surge Protection	TYPE II(DC), TYPE II(AC)			
Over Voltage Category	OVC II (DC), OVC III (AC)			
General Data				
Operating Temperature	-40~+60(Above 45°C Derating)			
Dimensions (W*H*D)	430*350*177.8mm			
Weight	16.0kg			
Inverter Topology	Non-Isolated			
Cooling	Smart cooling			
Altitude	≤3000m			
Protection Level	IP66			
Communication	RS485 / CAN / Dry contact/ External battery NTC/Parallel communication/WIFI(Built-in)			
Warranty	5 Years			
Standard				
Safety Standards	IEC 62109-1:2010, EN 62109-1:2010, IEC 62109-2:2011, EN 62109-2:2011			
EMC Standards	EN IEC 61000-6-1:2019;EN IEC 61000-6-3:2021;EN IEC 61000-3-11:2019;EN61000-3-12:2011			
Efficiency Standard	IEC 61683:1999			

LV SERIES

Residential Villa ESS

22 kW | 48 kWh



Energy Independence
Stable power to keep essentials running



Significant Cost Savings
Peak shaving to optimize energy consumption



Optimal Choice
Compared to high voltage system, achieves better stability and lower initial cost.



Intelligent Energy Management
Real-time monitoring to control energy usage



Model	VEC20K-48kWh
AC Parameters	
Max. DC Input Power	20kW
MPPT Range	150-950V
Rated DC Input Voltage	720V
No. of MPP Trackers	4
Rated Output Power	22kW
Max. Output Apparent Power	22kVA
Max. Charge/Discharge Current	350/350A
Output Frequency and Voltage	50/60Hz, 380V/400V, 266V-480V, 3L/N/PE
Max. Efficiency	98.5%
Dimensions (W*H*D)	539*696*232mm
System Parameters	
Battery Type	LFP
Nominal Battery Voltage	51.2V
Nominal Battery Energy	48kWh
Operating Voltage Range	42.0~57.6V
Charging Temp. Range	0°C~55°C
Discharging Temp. Range	-20°C~55°C
IP Rating	IP20
Expansion	Max. 10 Units in parallel
Communication	CAN
Design Standard	UN38.3, CE-EMC, Rohs
Battery Module Weight	Approx. 114*3kg
Battery Module	
Battery Type	LFP
Cell Capacity	314Ah
Communication	CAN
Module Capacity	16.07kWh
Rated Charge/Discharge Current	160A
Rated Voltage	48V
Dimension(W*H*D)	500*880*240mm
Weight	Approx. 114kg

TRUSTED GLOBAL GUARANTEE

All batteries are covered by PAIC's global product liability insurance, providing reliable protection regardless of warranty status.



*PAIC: Ping An Insurance (Group) Company of China. Ltd., founded in 1988, is a Fortune Global 500 enterprise and one of the world's largest insurance groups.

VESTWOODS LIFE YOUR AI-ASSISTANT

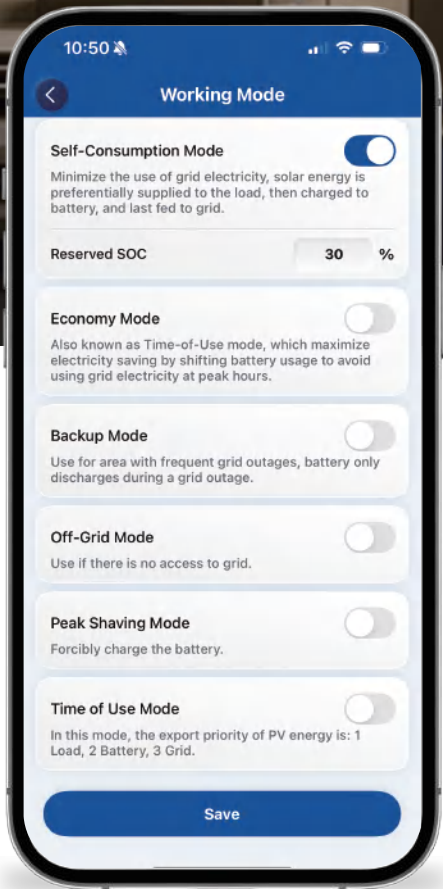
Get in Control of Your Energy Future.



Designed for
Modern Households



System Health
& Security



Anytime,
Anywhere Control



Real-Time
Energy Tracking