Innovate Smart Energy

Illuminate Green Future

REPT BATTERO Energy Co., Ltd.

GLOBAL HEADQUARTERS

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Manufacturing base: Wenzhou | Jiashan | Liuzhou | Foshan | Chongqing

REPT BATTERO

AN EXPERT IN NEW ENERGY BATTERY STORAGE

WITH STRONG BACKGROUND AND STRENGTH, TSINGSHAN HOLDING GROUP STARTED ITS BUSINESS EXPLORATION IN THIS BATTERY SECTOR.

With its business deeply rooted in the stainless steel industry, Tsingshan Holding Group is committed to producing high-quality, low-cost, energy-saving and environmentally friendly stainless steel products. It produces beautiful and hygienic stainless crude steel products to meet people's increasing demand for a better life. At the same time, it is actively exploring its business in the field of new energy, aiming to contribute to the green and sustainable development for mankind.

N0.1
Ranking of global stainless steel crude steel production

N0.1
Ranking of global nickel metal production

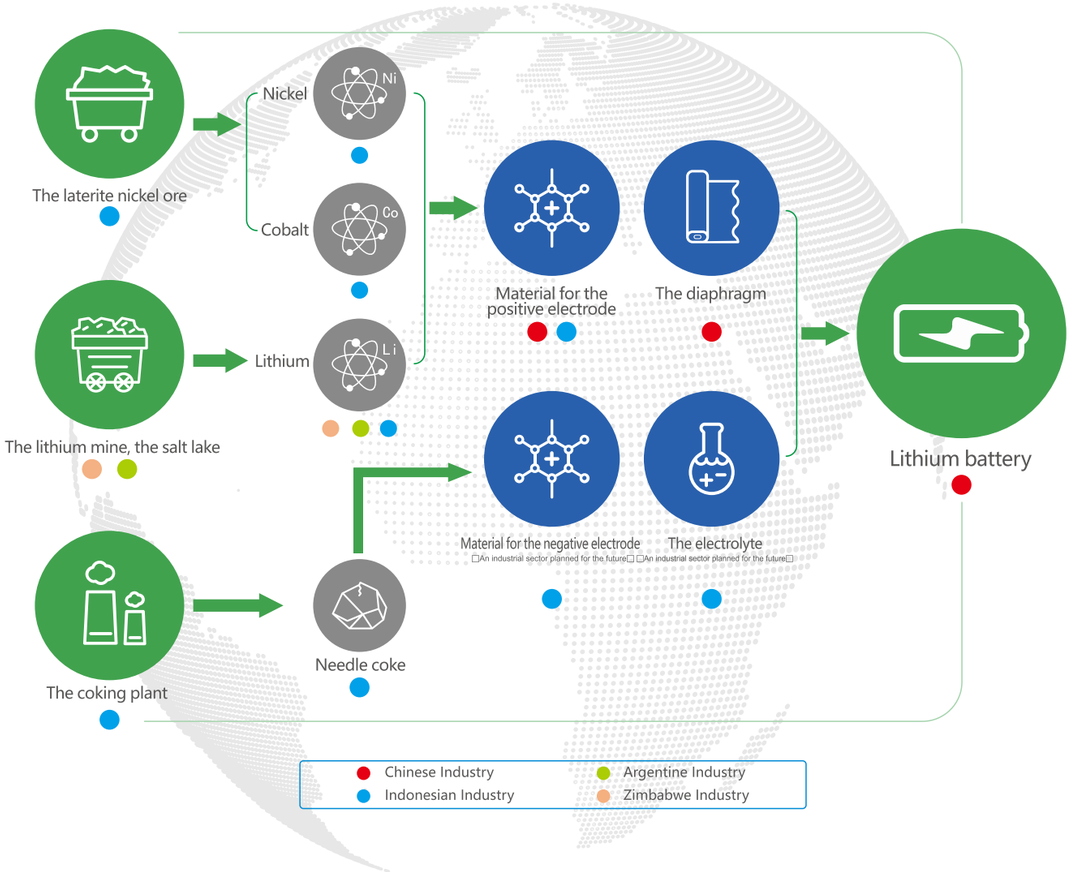
N0.238
Ranking in Fortune Global 500 2022

368 BILLION
Sales Revenue of 2022

140000+
Total number of employees in 2022

REPT

TSINGSHAN VENTURES ITS THIRD "ENTREPRENEURSHIP" IN THE NEW ENERGY INDUSTRY CHAIN.



UNIQUE ADVANTAGES

• RAPID EXPANSION OF THE INDUSTRIAL CHAIN

- Tsingshan Holding Group has been expanding its presence in the lithium-ion battery industry through direct control and equity investment in various areas of the value chain of the lithium-ion battery industry. various areas of the value chain of the lithium-ion battery industry.

• RESOURCE INTEGRATION AND SYNERGY

- Backed with the integrated industrial chain, a stable supply chain in long-term, industrial chain backward integration that is acceptable to market-based rules and conducive to commercial conditions, tsingshan has been developing more power for business bargaining and negotiating.

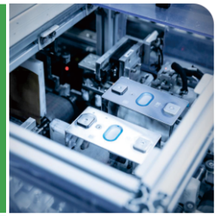
ABOUT REPT

Rept battero energy co., ltd. Is one of the fastest growing lithium-ion battery manufacturers in china. It has been committed to r&d, manufacturing, and sales of lithium-ion power battery products and energy storage battery products.

SALES REVENUE OF RMB 12.2 BILLION FOR 2022

12.2 BILLION

2019	2020	2021
RMB 300 million	RMB 1.2 billion	RMB 2.5 billion



500%

The company's shipments increased by 500% year-on-year.

NO.3

In 2022, the company ranked NO.3 in the energy storage industry.

NO.2

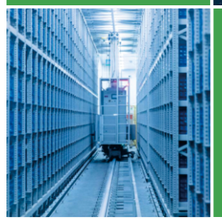
The company's power energy storage cell shipments ranked NO.2.

NO.1

The company's lithium battery installations ranked NO.1 in terms of compound annual growth rate.

The company ranked NO.4 in shipments of household energy storage batteries.

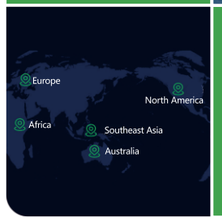
NO.4



150GWh+

The company plans to reach a total capacity of 150GWh+ in 2025.

R&D EXPERTISE



FIVE CONTINENTS

The company has established business bases on five continents.

MILESTONES

2022

- The release of Quest for Top Battery is the launch of a battery with ultra-high energy density.The Company was ranked the third in China (and the fourth around the world)in terms of annual shipment volume of energy storage batteries. Among them, the Company was ranked the second domestically (and the fourth globally) in terms of batteries for electric energy storage.

2022.01
The Company established deep cooperations relations with CLOU and Powin.

2022.03
REPT SAIC and SAIC REPT signed a contract with a 20GWh project.

2022.09
The company's monthly shipments exceeded 2GWh,
while its manufacturing base in Wenzhou Phase Ⅲ started construction.

2022.12
The annual sales revenue exceeded 10 billion yuan, achieving the first stage of the goal "reach 10 billion yuan in the first five years and 100 billion yuan in the next ten years".

2021

- The special long cycle 280Ah battery for energy storage was launched.
The Company was accepted as the supplier of the TOP3 terminal supplier system of energy storage.

2021.04
The Company established deep cooperations relations with Sungrow.

2021.07
REPT was accepted as a designated supplier of PMA project platform by GEELY.

2021.10
REPT was accepted as a designated supplier in the project of Leapmotor.
Production Base in Whenzhou Phase II was launched for official production.

2021.12
The specialized 280Ah battery cells for energy storage were widely used in the North American market.

2020

2020.04
The Company established deep cooperative relations with Growatt.

2020.06
The Company delivered the Xintai Photovoltaic Power Station 5MW/10MWh Project for the Branch of Pingdu and High-tech Industrial Development Zone, Shandong,State Grid.

2020.07
The Company delivered an Energy Storage Project of 130 MWh in Guazhou, Gansu.

2020.12
The Company delivered an Energy Storage Project of 2.5 GWh/5 GWh in Langkazi District, Shigatse, Tibet.

2019

2019.03
Phase I of the 85 GWh Energy Storage Project on Great and Little Karimun islands in Indonesia was put into operation. With the dedicated 50Ah cells for household storage commercially launched, the Company established deep cooperations with Solax.

2019.06
The newly established production line of 3 GWh for the manufacturing base in Wenzhou was put into operation.

2019.08
The Company established strategic cooperation with Dongfeng Motor and SGMW.

2019.11
The Company established deep cooperations with EP and reached cooperation intentions with Sungrow.

2018

2018.10
The production line with the capacity of 3GWh was officially put into operation.

2017

2017.10
REPT was established.

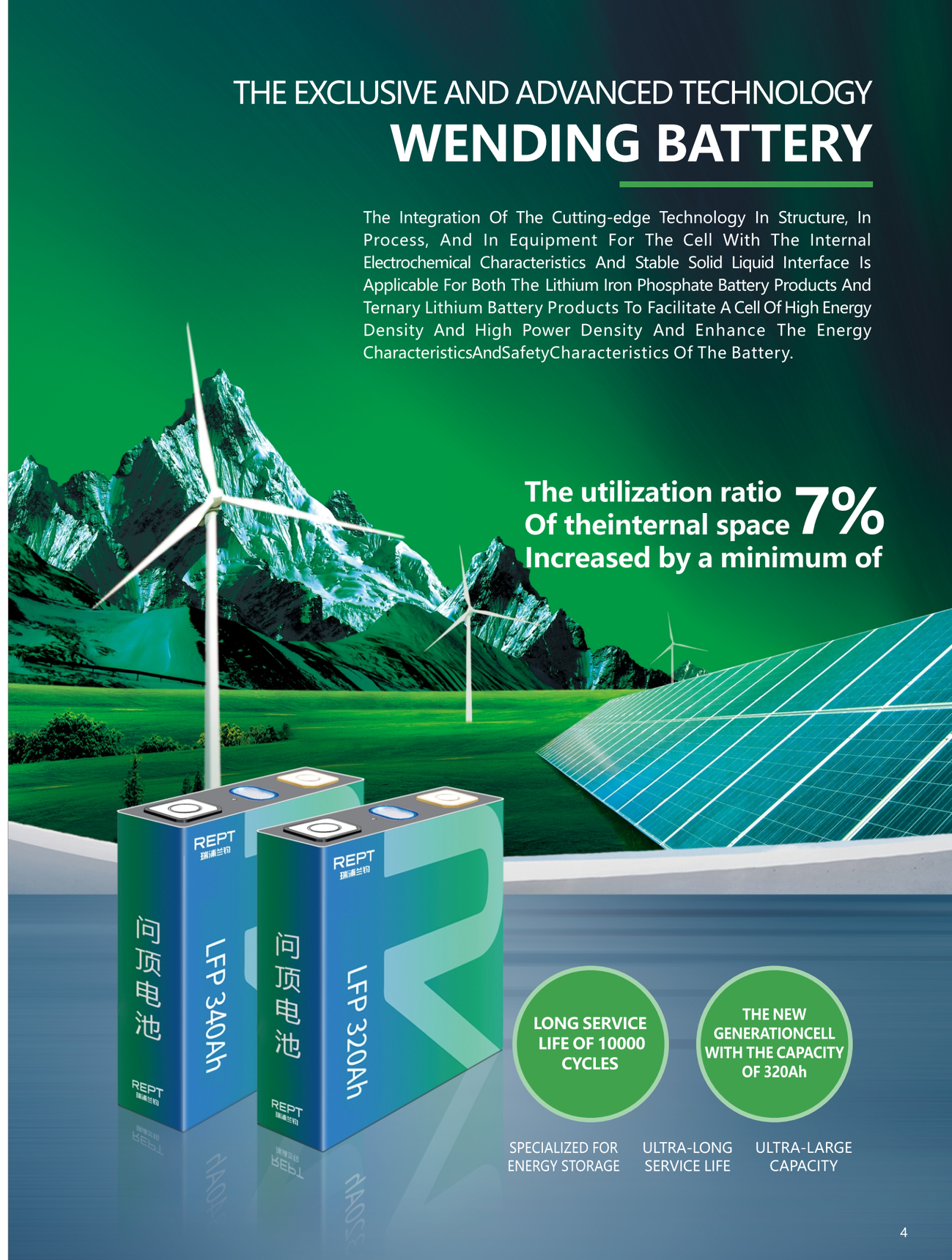
2017.12
The construction of manufacturing base in Wenzhou was started.

THE EXCLUSIVE AND ADVANCED TECHNOLOGY

WENDING BATTERY

The Integration Of The Cutting-edge Technology In Structure, In Process, And In Equipment For The Cell With The Internal Electrochemical Characteristics And Stable Solid Liquid Interface Is Applicable For Both The Lithium Iron Phosphate Battery Products And Ternary Lithium Battery Products To Facilitate A Cell Of High Energy Density And High Power Density And Enhance The Energy CharacteristicsAndSafetyCharacteristics Of The Battery.

The utilization ratio Of theinternal space 7% Increased by a minimum of



LONG SERVICE LIFE OF 10000 CYCLES

THE NEW GENERATIONCELL WITH THE CAPACITY OF 320Ah

SPECIALIZED FOR ENERGY STORAGE

ULTRA-LONG SERVICE LIFE

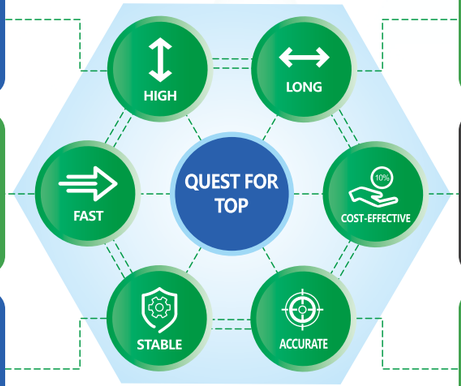
ULTRA-LARGE CAPACITY

WENDING HEXAGONAL (COVERING 6 DIRECTIONS FOR TECHNOLOGICAL IMPROVEMENT OF THE CELL), INDEPENDENTLY-DEVELOPED TECHNOLOGY IN THE COMPREHENSIVE SCENARIO

0.5P CAPACITY≥320 AH
VOLUMETRIC ENERGY DENSITY
OF 400 WH/L

EXCELLENT PERFORMANCE OF
KEYMATERIALS DURING THERMAL
FAILURE SECURES RAPID
INTERRUPTION OF HEAT SPREAD AND
IMPROVES COMPREHENSIVE SAFETY.

GOOD DURABILITY OF
COMPONENTS
SAFETY AND RELIABILITY



CYCLING LIFE 7000 TIMES+
CALENDAR LIFE 15 YEARS

THE NEW PRODUCT FACILITATES A
SAVING OF 10% ON RAW MATERIAL
AND COMPONENT COSTS.

EXCELLENT CONSISTENCY
FOR ALL CELLSADVANCED
NON-DESTRUCTIVE SAFETY
DETECTION TECHNOLOGY

R&D EXPERTISE

The hardware configuration and functions of the r&d center fully cover various standard requirements and customer needs in various fields such as vehicle applications.
It was accredited by cnas for laboratory certification in july 2021.

200+
Number Of Test Projects

20000
Number Of Test Channels

CNAS
It Was Accredited By China National Accreditation Service For Conformity Assessment.

TÜVRheinland
Tüv Rheinland Witness Testing Laboratory
Tüv Rheinland Iso26262
Functional Safety Management System (bms)

100+
Number of products certified at home and abroad

Battery Safety GB UL IEC TÜVRheinland CERTIFIED UN38.3

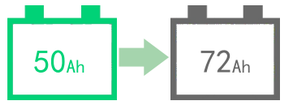
CELLS FOR ENERGY STORAGE SYSTEM

REPT

Rept energy storage battery products are mainly lithium iron phosphate battery products, which are widely used in various energy storage scenarios, including household energy storage(household storage), large-scale industrial energy storage (power stations, power grids), and commercial energy storage.

CELLS FOR HOUSEHOLD ENERGY STORAGE

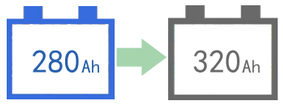
The 50ah lithium iron phosphate battery developed by rept has been favorably accepted in the household energy storage market ever since its immediate commercial launch. It quickly became a popular product in the industry. It becomes the mainstream product in european and american household storage. In 2023, the product will also be upgraded to 72ah to accommodate users with higher energy storage needs.



CELL				
Battery capacity	50Ah	72Ah	100C/100P	100Ah
Energy density	140Wh/kg	165Wh/kg	170Wh/kg	170Wh/kg
Cycling life	4000/6000	6000	3000/6000	4000
Product certification	UL/JET/IEC BIS/UN	IEC/UL/UN	IEC/UL/UN	IEC/UL/BIS/UN

CELLS FOR POWER ENERGY STORAGE

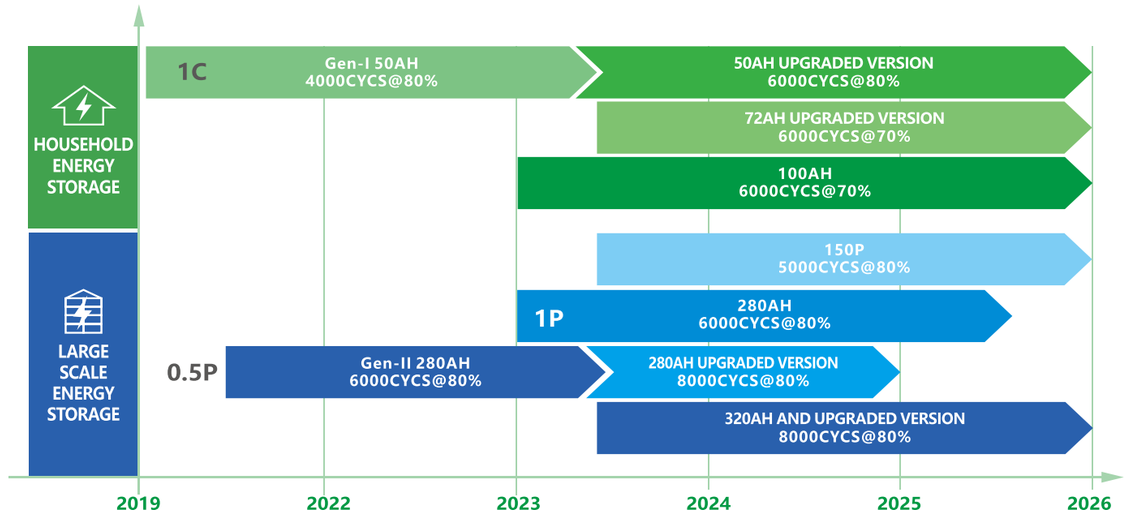
Products in 280ah series also enjoy a stable market share in the high-end market. In 2023, we will upgrade the capacity of the battery cell. The 320ah large capacity power cell for product upgrading will also be put into massive production. This product meets domestic and international standards such as gb, ul, iec, etc.



GB UL IEC

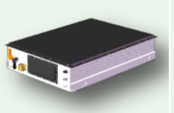
CELL					
Battery capacity	150P	205Ah	280Ah	306Ah	320Ah
Energy density	170Wh/kg	170Wh/kg	170Wh/kg	175Wh/kg	180Wh/kg
Cycling life	6000	4000	8000	8000	8000
Product certification	TBD	GB/IEC	IEC/GB/UL	TBD	TBD

R&D ROADMAP OF REPT



CONTAINERIZED BATTERY SYSTEM WITH LIQUID COOLING

TARGET MARKET: DOMESTIC AND OVERSEAS ELECTRIC POWER MARKET, INDUSTRIAL AND COMMERCIAL APPLICATIONS | 0.5P | DEMAND FOR LIQUID COOLING



	Y52 BOXED BATTERY SYSTEM	Y52 CONTAINERIZED BATTERY SYSTEM
Form of grouping	1P52S	10P*1P416S
Nominal voltage	166.4V	1331.2V
Voltage range	130V~189.8V	1081.6~1497.6V
Nominal energy	46.592kWh	3.727MWh
Product size	1120×810×238	20HQ
Product mass	~330kg	35000kg

ADVANTAGES

CONSISTENT TEMPERATURE CONTROL

The adoption of centralized refrigeration, multi-stage pipelines, and co-current flow in parallel flow design facilitates a temperature difference of 3℃ for the Containerized Battery System.

CAPACITY UPGRADE

As 306 Ah cells were initially adopted in this Power Supply System, 320 Ah cells are recommended for capacity expansion.

HIGH DENSITY INTEGRATION

The System facilitates two specifications as 3.7MWh/20HQ and 7.6MWh/40HQ in installation completion design for an easy transportation of the complete equipment. The System facilitates stacking and stowage for two containers to save space.

LONG-TERM SERVICE

Specialized cells with a standard cycle of 10000 times dedicated for energy storageadopted in the System secures a continuous operation for 20 years.

THREE-LEVEL CONTROL ARCHITECTURE

The three-level BMS architecture of General Control, Master Control, and Slave Control is compatible with local EMS functions and various mainstream communication protocols.

MULTIPLE FIRE PREVENTION

The "2+2" fire prevention and control measures include fire protection at module level +fire protection at the container level, fire protection with gas +fire protection with water, combustible gas detection,combustible gas venting, and explosion relief.

SYSTEM SAFETY

WithaDC5000V withstand voltage without flash-over, multi-level disconnection protection mechanism, pack protection level is IP67, 1000 hours high-temperature reliability test for the pipeline, and The enhanced UL standard was used to examine the effects of thermal runaway .

BATTERY SYSTEM IN AN OUTDOOR CABINET WITH LIQUID COOLING

TARGET MARKETS: DOMESTIC AND OVERSEAS ELECTRIC POWER MARKET, INDUSTRIAL AND COMMERCIAL APPLICATIONS | 0.5P | DEMAND FOR LIQUID COOLING, DEMAND FOR FLEXIBLE DEPLOYMENT, TRANSPORTATION WEIGHT LIMITING REGIONS, CAPACITY EXPANSION, PROJECT EXPANSION, AND ENERGY REPLENISHMENT.

	HIGH VOLTAGE BATTERY SYSTEMIN OUTDOOR CABINET WITH LIQUID COOLING	LOW VOLTAGE BATTERY SYSTEM IN OUTDOOR CABINET WITH LIQUID COOLING
Form of grouping	1P416S	208S2P
Nominal voltage	1331.2V	665.6V
Voltage range	1081.6~1497.6V	540.8V~748.8V
Nominal energy	372.7kWh	372.7kWh
Product size	1300mm□1300mm□2300mm	
Product mass	3. 5t	3. 5t

ADVANTAGES

INDEPENDENT TEMPERATURE CONTROL

The adoption of centralized refrigeration, , multi-stage pipelines, and co-current flow inparallel flow design facilitates a temperaturedifference of 3 ℃ for the container.

CAPACITY UPGRADE

As 306 Ah cells were initially adopted in this Power Supply System, 320 Ah cells arerecommended for capacity expansion.

FLEXIBLE DEPLOYMENT

Each outdoor unit integrates a Water Cooling System, a Fire Protection System, a DC Control System independently in a installation completion design for an easy transportation of the complete equipment.

LONG-TERM SERVICE

Specialized cells with a standard cycle of 10000 times dedicated for energy storage adopted in the System secures a continuous operation for 20 years.

THREE-LEVEL CONTROL ARCHITECTURE

The three-level BMS architecture of General Control, Master Control, and Slave Control is compatible with local EMS functions and various mainstream communication protocols.

MULTIPLE FIRE PREVENTION

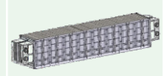
The "3+2" fire prevention and control measures include fire protection at module level +fire protection at the container level, fire protection with gas + fire protection with water, combustible gas detection, combustible gas venting, and explosion relief.

SYSTEM SAFETY

With a DC 5000V withstand voltage without flash-over, multi-layer disconnection protection mechanism, IP68 level ingression protection for the Boxed Battery System, 1000 hour high-temperature reliability test for the pipeline, a high-level system safety is secured.

ENERGY STORAGE SYSTEM WITH AIR COOLING

TARGET MARKET: DOMESTIC AND OVERSEAS ELECTRIC POWER MARKET, INDUSTRIAL AND COMMERCIAL APPLICATIONS | 0.5P | DEMAND FOR AIR COOLING



	A16 BOXED BATTERY SYSTEM	R15 BATTERY RACKS	R26 BATTERY RACKS	A16 CONTAINERIZED BATTERY SYSTEM WITHIR COOLING
Form of grouping	1P16S	1P240S	1P416S	14P416S
Nominal voltage	51.2V	768V	1331.2V	1331.2V
Voltage range	40V~58.4V	624V~864V	1081.6V~1497.6V	1081.6V~1497.6V
Nominal energy	14.336kWh	215kWh	372.736kWh	5217.8kWh
Product size	805×523×232	810×1070×2020	810×1600×2350	13716×2438×2896
Product mass	~115kg	~1850kg	~2950kg	45000kg

ADVANTAGES

UNIFORM THERMAL CONTROL

The battery cluster, the module, and all battery cells are designed with parallel air ventilation in thermal design to secure a temperature difference of 3 ℃;

COMPATIBLE

Applicable to mainstream BMS in the industry;

HIGH-LEVEL SAFETY

With a DC 5000V withstand voltage without flash-over and multi-level disconnection and protection mechanism, a high-level system safety is secured.

DENSE INTEGRATION

The System facilitates 3.7MWh/40HQ; 5.2MWh/45HQ.

LONG SERVICE LIFE

Specialized cells with a standard cycle of 10000 times dedicated for energy storage adopted in the System secures a continuous operation for 20 years.

UPGRADABLE

Up to 5.9MWh/45HQ

THE COMPANY IS ENGAGED IN PROVIDING EXCELLENT SOLUTIONS AND SERVICES IN VARIOUS SCENARIOS TO GLOBAL CUSTOMERS.

A Solar Energy Storage Project Of 5 Mwh
In Sangzhuzi District, Shigatse, Tibet.

A Solar Energy Storage Project Of 3 Mwh
In Wenzhou, Zhejiang

A Solar Energy Storage Project Of 10 Mwh
In Xintai, Shandong

A Solar Energy Storage Project Of 12 Mwh
In Guazhou, Gansu

A Project Of 118 Mwh In Morowali Park,
In Donesia

A Project Of 55 Mwh In Weda Bay Park,
In Donesia

A Solar Energy Storage Project
In Africa

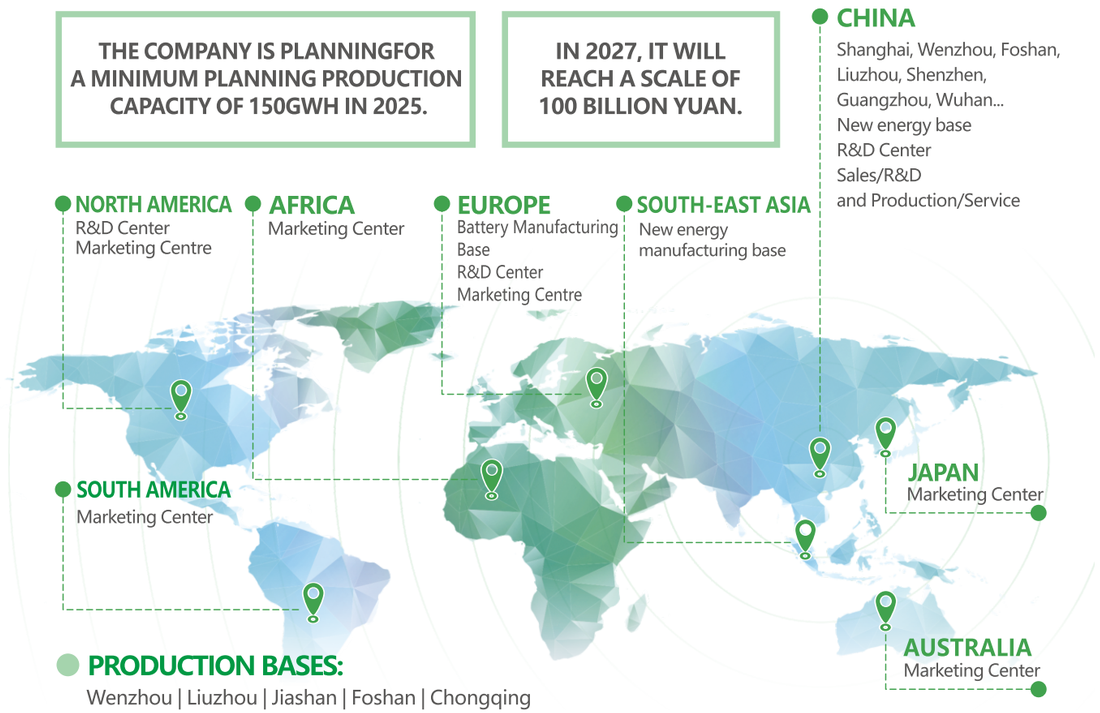
A Solar Energy Storage Project Of 200 Mwh
In Texas, U.s.

Solar Energy Storage Projects
In Germany, France, And Spain

PLANNING FOR GLOBAL INDUSTRIAL LAYOUT

THE COMPANY IS PLANNINGFOR A MINIMUM PLANNING PRODUCTION CAPACITY OF 150GWH IN 2025.

IN 2027, IT WILL REACH A SCALE OF 100 BILLION YUAN.



PRODUCTION BASES:

Wenzhou | Liuzhou | Jiashan | Foshan | Chongqing
Indonesia | Europe (under planning)

▲ The Production Base in Wenzhou

▲ The Production Base in Jiashan

▲ The Production Base in Foshan

▲ The Production Base in Liuzhou

PROMOTING A SUSTAINABLE DEVELOPMENT

▼ HIGH-LEVEL STANDARDS FOR ESG

- CARBON FOOTPRINT MANAGEMENT
- ENERGY UTILIZATION
- CORPORATE SOCIAL RESPONSIBILITY SYSTEM
- DISCHARGE AND UTILIZATION OF WASTE
- BATTERY RECYCLING
- OCCUPATIONAL HEALTH AND SAFETY FOR EMPLOYEES

▼ ESG ACHIEVEMENTS

- APPROVED AS 2022 NATIONAL GREEN FACTORY
- THE COMPANY WAS SELECTED FOR THE LIST OF GREEN AND LOW-CARBON FACTORIES IN ZHEJIANG PROVINCE IN 2021.
- THE COMPANY PASSED THE 2021 "NO WASTE FACTORY" ASSESSMENT IN ZHEJIANG PROVINCE.
- THE COMPANY WAS ACCREDITED FOR ISO45001:2018- OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATION.
- THE COMPANY RECEIVED THE BRONZE MEDAL IN CORPORATE SOCIAL RESPONSIBILITY FROM ECOVADIS, AN INTERNATIONAL BUSINESS SUSTAINABILITY RATING PLATFORM.