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Global Energy Storage Liquid Cooling Plates Supply, Demand and Key Producers, 2026-2032

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Abstracts

The global Energy Storage Liquid Cooling Plates market size is expected to reach $ 1338 million by 2032, rising at a market growth of 13.4% CAGR during the forecast period (2026-2032).

Energy storage liquid cooling plates are critical thermal management components used in Battery Energy Storage Systems (BESS). Typically manufactured from aluminum alloys and integrated with internal flow channels, these plates circulate coolant to absorb and transfer heat generated during battery operation. By maintaining temperature uniformity and improving heat dissipation efficiency, liquid cooling plates enhance system safety, battery lifespan, charging/discharging performance, and overall operational reliability. They are widely deployed in utility-scale energy storage plants, commercial and industrial (C&I) energy storage systems, and containerized BESS solutions. As energy storage systems evolve toward higher energy density, larger capacities, and longer service life, liquid cooling technology is increasingly replacing conventional air-cooling methods and becoming the mainstream thermal management solution for next-generation energy storage applications. In 2025, global sales of energy storage liquid-cooled plates will reach 8.057 million units, with an average selling price of US$70 per unit. The overall gross profit margin of the industry is expected to remain between 20% and 35%. The energy storage liquid cooling plate industry chain mainly consists of upstream raw material and equipment suppliers, midstream liquid-cooled plate manufacturers, and downstream energy storage system integrators and end users. Upstream mainly includes aluminum alloy sheets, aluminum extruded profiles, brazing materials, sealing materials, coolants, and CNC machining equipment, vacuum brazing equipment, and friction stir welding (FSW) equipment. Aluminum alloy materials typically account for more than 40% of the total product cost, making it a significant factor influencing product price. The midstream segment involves liquid-cooled plate

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design and manufacturing. Companies produce liquid-cooled plate products using processes such as stamping and welding, vacuum brazing, aluminum extrusion molding, and friction stir welding, and conduct flow channel design, thermal simulation optimization, and reliability verification according to the needs of different energy storage systems. Downstream mainly includes energy storage system integrators, battery manufacturers, and energy storage project developers, such as large-scale grid-side energy storage projects, industrial and commercial energy storage projects, and new energy distribution and storage projects. With the continuous increase in the single-cabinet capacity of energy storage systems and the continuous improvement in the penetration rate of liquid cooling technology, the industry chain is gradually developing towards standardization, high reliability, and low cost. Thermal management performance has become an important component of the competitiveness of energy storage systems.

The growth of the Energy Storage Liquid Cooling Plate market is primarily driven by the global energy transition and the rapid expansion of the energy storage industry. Increasing deployment of renewable energy sources such as wind and solar power has significantly boosted demand for battery energy storage systems. Utility-scale energy storage projects, commercial and industrial storage applications, and renewable energy integration projects require highly efficient thermal management solutions. Compared with conventional air-cooling systems, liquid cooling technologies offer superior heat dissipation performance, better temperature uniformity, lower energy consumption, and enhanced operational safety, resulting in increasing adoption in large-scale energy storage systems exceeding 5MWh. Furthermore, rising battery energy density, longer cycle-life requirements, and stricter safety regulations continue to accelerate market penetration. However, the industry also faces challenges, including fluctuations in aluminum prices, cyclical investment patterns in the energy storage sector, geopolitical and trade uncertainties, and increasing competitive pressure from technological innovation. In addition, vertical integration by major system integrators and battery manufacturers may reduce opportunities for independent cooling plate suppliers. Continuous investment in thermal engineering, manufacturing automation, and cost optimization will remain critical for long-term competitiveness.

This report studies the global Energy Storage Liquid Cooling Plates production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Energy Storage Liquid Cooling Plates and provides market size (US$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand

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trends and competition, as well as details the characteristics of Energy Storage Liquid Cooling Plates that contribute to its increasing demand across many markets.

Highlights and key features of the study
Global Energy Storage Liquid Cooling Plates total production and demand, 2021-2032, (K Units)
Global Energy Storage Liquid Cooling Plates total production value, 2021-2032, (USD Million)
Global Energy Storage Liquid Cooling Plates production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (K Units), (based on production site)
Global Energy Storage Liquid Cooling Plates consumption by region & country, CAGR, 2021-2032 & (K Units)
U.S. VS China: Energy Storage Liquid Cooling Plates domestic production, consumption, key domestic manufacturers and share
Global Energy Storage Liquid Cooling Plates production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (K Units)
Global Energy Storage Liquid Cooling Plates production by Type, production, value, CAGR, 2021-2032, (USD Million) & (K Units)
Global Energy Storage Liquid Cooling Plates production by Application, production, value, CAGR, 2021-2032, (USD Million) & (K Units)

This report profiles key players in the global Energy Storage Liquid Cooling Plates market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Eaton(Boyd), Neklar, Asia Vital Components, Sanhua, Yinlun, Suzhou Ritec Thermal Technology, Shenzhen FRD Science & Technology, Nabochuan New Energy, Shenzhen Envicool Technology, Goaland Energy Conservation Tech, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World Energy Storage Liquid Cooling Plates market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US$

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Millions), volume (production, consumption) & (K Units) and average price (US$/Unit) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global Energy Storage Liquid Cooling Plates Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

Global Energy Storage Liquid Cooling Plates Market, Segmentation by Type:

Brazed Liquid Cooling Plate

Extruded Liquid Cooling Plate

Stamped & Welded Liquid Cooling Plate

Others

Global Energy Storage Liquid Cooling Plates Market, Segmentation by Material:

Aluminum Alloy

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Copper-Based

Composite Material

Global Energy Storage Liquid Cooling Plates Market, Segmentation by Cooling Method:

Single-Phase Liquid Cooling

Two-Phase Liquid Cooling

Global Energy Storage Liquid Cooling Plates Market, Segmentation by Application:

Utility-Scale Energy Storage

Commercial & Industrial ESS

Renewable Energy Storage

Others

Companies Profiled:

Eaton(Boyd)

Neklar

Asia Vital Components

Sanhua

Yinlun

Suzhou Ritec Thermal Technology

Shenzhen FRD Science & Technology

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Nabochuan New Energy

Shenzhen Envicool Technology

Goaland Energy Conservation Tech

Key Questions Answered:
1. How big is the global Energy Storage Liquid Cooling Plates market?
2. What is the demand of the global Energy Storage Liquid Cooling Plates market?
3. What is the year over year growth of the global Energy Storage Liquid Cooling Plates market?
4. What is the production and production value of the global Energy Storage Liquid Cooling Plates market?
5. Who are the key producers in the global Energy Storage Liquid Cooling Plates market?
6. What are the growth factors driving the market demand?

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