

Comprehensive Guide to 6-CNFJ-150 Allgrand Energy Storage Solutions

Understanding the 6-CNFJ Series Architecture

The 6-CNFJ-150 Allgrand represents a high-performance lead-acid battery solution designed for modern energy storage demands. As part of Allgrand's professional series, this 12V/150AH unit inherits the brand's signature engineering excellence seen in its sibling models like the 6-CNFJ-120 and 6-CNFJ-38 configurations.

Core Technical Specifications

Rated voltage: 12V DC $\pm 5\%$

Nominal capacity: 150Ah @ 20-hour discharge rate

Weight tolerance: $\pm 3\%$ of 22kg standard weight

Cycle durability: 1,200 cycles at 50% DOD

Operating temperature range: -20°C to 50°C

Innovative Design Features

Building on Allgrand's proven battery architecture, the 6-CNFJ-150 incorporates multiple technological advancements:

Advanced Plate Construction

Utilizing proprietary lead-calcium-tin alloy grids, these batteries achieve 18% higher active material utilization compared to conventional designs. The staggered grid pattern - imagine a honeycomb structure at microscopic level - enhances current distribution while reducing internal resistance.

Safety & Maintenance Enhancements

Recombinant gas management system with 99% oxygen recombination efficiency

Flame-arresting ceramic filters in vent caps

Automatic electrolyte circulation through patented AGM separator design

Practical Applications in Renewable Energy Systems

A 2024 field study in Qinghai Province demonstrated that using eight 6-CNFJ-150 units in a 48V solar array configuration achieved 92% system efficiency during winter operations. The installation powered:

3kW continuous load for 8.5 hours daily



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- Peak surge capacity of 15kW for pump startups
- Autonomous operation through 72-hour cloud cover periods

Installation Best Practices

When deploying multiple units in series/parallel configurations:

- Maintain 20mm inter-unit spacing for thermal management
- Use copper busbars with 35mm² cross-section for connections
- Implement tapered charging: bulk (14.4V) -> absorption (13.8V) -> float (13.2V)

Performance Comparison Across CNFJ Series

- Model
- Capacity (Ah)
- Cycle Life
- Weight (kg)

6-CNFJ-38
38
800
11

6-CNFJ-120
120
1,000
19

6-CNFJ-150
150
1,200
22

Maintenance Protocols for Optimal Longevity

While these batteries boast "maintenance-free" operation, smart users follow these pro tips:

- Conduct quarterly impedance testing using a DLRO meter
- Apply anti-corrosion gel to terminals after initial installation
- Implement equalization charging every 6 months (15.5V for 4 hours)

Real-World Efficiency Metrics

In a recent microgrid project, the 6-CNFJ-150 demonstrated 94% Coulombic efficiency during peak solar harvesting periods, outperforming comparable lithium-ion solutions in cost-per-cycle calculations under 35°C ambient conditions.

Certification & Compliance Overview

Allgrand's manufacturing excellence is validated through:

- IEC 60896-21/22 compliance for stationary applications
- UN38.3 certification for transportation safety
- RoHS 2.0 compliance (EU 2015/863)

Web: <https://www.sphoryzont.edu.pl>