



BUHLE POWER

# Various sodium-sulfur battery container base stations





## Overview

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Why are sodium-sulfur batteries used in stationary energy storage systems?

Introduction Sodium-sulfur (Na-S) batteries with sodium metal anode and elemental sulfur cathode separated by a solid-state electrolyte (e.g., beta-alumina electrolyte) membrane have been utilized practically in stationary energy storage systems because of the natural abundance and low-cost of sodium and sulfur, and long-cycling stability , .

What are sodium-sulfur batteries?

Sodium-sulfur (Na-S) batteries that utilize earth-abundant materials of Na and S have been one of the hottest topics in battery research. The low cost and high energy density make them promising candidates for next-generation storage technologies as required in the grid and renewable energy.

Who makes sodium sulfur batteries?

Utility-scale sodium-sulfur batteries are manufactured by only one company, NGK Insulators Limited (Nagoya, Japan), which currently has an annual production capacity of 90 MW . The sodium sulfur battery is a high-temperature battery. It operates at 300°C and utilizes a solid electrolyte, making it unique among the common secondary cells.

What is a standard NaS battery container?

A standard single NAS battery container has 1.45 MWh energy capacity. The containers are stackable, enabling utility scale energy storage systems. We supply containerized NAS battery systems: one standard 20-ft container has 1.45 MWh energy capacity. The compact form enables easy transportation and quick installation at our customers' sites.



## Various sodium-sulfur battery container base stations



### NAS Batteries

NAS battery container comprises 6 modules with 192 cells each. NAS battery cells consist of sodium as the negative electrode and sulfur as the positive one. A beta-alumina ceramic tube ...

#### Unconventional Designs for Functional ...

Jan 30, 2023 · Sodium-sulfur (Na-S) batteries that utilize earth-abundant materials of Na and S have been one of the hottest topics in battery ...



#### Unconventional Designs for Functional Sodium-Sulfur Batteries

Jan 30, 2023 · Sodium-sulfur (Na-S) batteries that utilize earth-abundant materials of Na and S have been one of the hottest topics in battery research. The low cost and high energy density ...

#### BASF, NGK launch advanced sodium-sulfur (NAS) battery ...

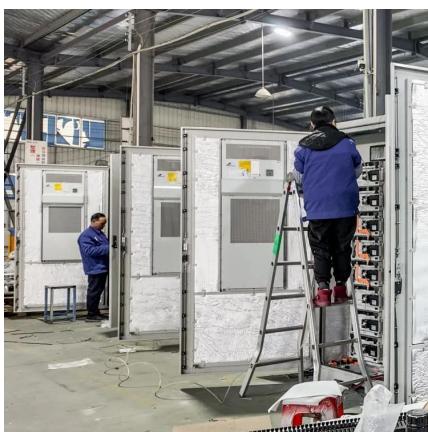
Jun 12, 2024 · BASF Stationary Energy Storage GmbH and NGK Insulators (NGK) have recently introduced an advanced container-type NAS (sodium-sulfur battery) battery energy storage ...



### [BASF and NGK release advanced type of sodium-sulfur batteries ...](#)

Jun 10, 2024 · Ludwigshafen, Germany, and Nagoya, Japan, June 10th, 2024 - BASF Stationary Energy Storage GmbH, a wholly owned subsidiary of BASF, and NGK INSULATORS, LTD.

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### [Battery technologies for grid-scale energy storage](#)

Jun 20, 2025 · Energy-storage technologies are needed to support electrical grids as the penetration of renewables increases. This Review discusses the application and development ...



## BASF and NGK Unveil Enhanced Sodium-Sulfur Batteries NAS Battery ...

Jun 12, 2024 · BASF and NGK Unveil Enhanced Sodium-Sulfur Batteries NAS Battery NAS MODEL L24 BASF Stationary Energy Storage GmbH, a subsidiary wholly owned by BASF, ...



## Sodium Sulfur (NaS) Batteries

Sodium Sulfur (NaS) Batteries were originally developed by Ford Motor Company in the 1960s and subsequently the technology was sold to the Japanese company NGK. NGK now ...

## Stable all-solid-state sodium-sulfur batteries for low ...

Jan 1, 2023 · All-solid-state sodium-sulfur (Na-S) batteries are promising for stationary energy storage devices because of their low operating temperatures (less t...



## BASF, NGK launch advanced sodium-sulfur ...

Jun 12, 2024 · BASF Stationary Energy Storage GmbH and NGK Insulators (NGK) have recently introduced an advanced container-type NAS ...



### Global Containerised Sodium-Sulfur Battery Supply, Demand ...

A containerized sodium-sulfur (NaS) battery system is a large-scale energy storage solution where sodium-sulfur batteries are housed in a shipping container or similar modular enclosure.

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