

# Asahi Kasei's latest technology innovations in Alkaline Water Electrolyzers for Green Hydrogen

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## ABSTRACT

With over 45 years of global experience in the chlor-alkali industry, Asahi Kasei has developed the advanced alkaline water electrolysis system, Aqualyzer™. Our 10 MW-scale Aqualyzer™ has been successfully demonstrated at the Fukushima Hydrogen Energy Research Field (FH2R) in Fukushima, Japan, since 2020. It efficiently operates using photovoltaic energy and shows remarkable resilience to fluctuating power inputs typical of renewable sources. Our innovative design and control technology effectively address the traditional challenges of alkaline water electrolysis in these conditions. Additionally, we have built demonstration facilities at our Kawasaki plant to accelerate component development and verify multi-module operation, ensuring reliability and efficiency.

We promote a "One-stop Solution" business model, offering comprehensive components such as diaphragms, electrodes, electrolyzers, and monitoring systems. In the hydrogen field, we see potential in expanding our customer base beyond chemical companies to include oil & gas, and power generation sectors.

Aiming for the commercialization of our hydrogen-related business by the end of 2025, we emphasize the importance of strategic partnerships across the hydrogen value chain. Collaborating from renewable energy generation to varied applications is key to maximizing opportunities and achieving scalability in the global green hydrogen market. Through these efforts, we aim to significantly advance a sustainable energy future.

### Keywords:

Water electrolyzer, hydrogen, innovation