SKYRE Launches its Next-Gen H2RENEW™ Gemini-1 Series: Scalable Technology for the Next Phase of Hydrogen Recovery

SKYRE's Gemini-1 Series is Advancing Clean Energy Production With Cost-Effective and Scalable Hydrogen Recovery

H2RENEW Gemini-1 H2R500 recycles up to 500 kg/day 99.9999% pure, pressurized hydrogen

EAST HARTFORD, CT, UNITED STATES, July 10, 2025 /EINPresswire.com/ -- SKYRE, a pioneer in scalable hydrogen solutions, proudly announces the launch of the Gemini-1 Series, the latest evolution of its flagship H2RENEW™ advanced gas separation and compression system. Purpose-built for modern manufacturing environments, Gemini-1 delivers unmatched efficiency, modular scalability, and simplicity for hydrogen recovery.

Backed by over four decades of electrochemical innovation and a global footprint of 30,000 hydrogen systems previously deployed by the team worldwide, SKYRE brings unmatched expertise to the field. The Gemini-1 Series hydrogen recycling system offers a proven path to deployment – cutting costs, streamlining integration and optimizing space efficiency while boosting industrial productivity.

> At SKYRE, we're committed to reducing the cost and complexity of hydrogen. The Gemini-1 Series is a solid-state system that recovers hydrogen at scale – cost-effectively, and potentially under $1/kg."
>
> *Dr. Trent Molter, President & CEO*

ENGINEERED FOR PERFORMANCE, DESIGNED TO SCALE
Gemini-1 represents a major leap in hydrogen recovery technology. Engineered for streamlined deployment and maximum reliability, the system features:

• Compact, modular 2.3m (7.5 feet) rack design containing up to four independent 25 kg/day modules per rack
• Space-saving form factor built for industrial integration

• Scalable output from 25 kg/day up to over 1,000 kg/day, depending
on system configuration and total number of racks
• Purity levels of up to 99.9999% hydrogen delivered at up to 31 bar (450 psi)
• Solid-state electrochemical separation and compression — no moving parts, resulting in
minimal
component wear
• Plug-and-play architecture for simplified installation and rapid commissioning
• Ultra-low maintenance with dramatically reduced service costs
• Indoor and outdoor deployment options for maximum site flexibility

Each module within the Gemini-1 system operates independently, enabling flexible redundancy and performance tuning to match specific production requirements. With the ability to add or remove 25 kg/day modules as needed, manufacturers can scale hydrogen recycling alongside their production lines – without overhauling infrastructure.

Unlike traditional mechanical compressors, Gemini-1 systems operate efficiently with minimal power demand and no friction-related compressor wear. This leads to reduced downtime, lower operating costs, and an overall smaller environmental footprint.

HIGH-EFFICIENCY HYDROGEN RECOVERY FOR DEMANDING INDUSTRIAL ENVIRONMENTS
The Gemini-1 Series reaffirms SKYRE's leadership in engineering excellence for industrial hydrogen recovery by delivering a powerful tool for advancing both industrial productivity and sustainability in hydrogen-intensive manufacturing environments. It is especially suited to sectors such as semiconductors, metals manufacturing, fueling and recovery of geologic hydrogen, where high-purity hydrogen is essential.

Gail Brackett
SKYRE, INC
+1 310-936-3136
email us here
Visit us on social media:
LinkedIn
