

# Enabling New Zealand's First Hydrogen Refueling Station with Trusted Relief System Expertise

## RESULTS

- The collaboration between Emerson and Fabrum resulted in the successful commissioning of New Zealand's first hydrogen refueling station.
- The project has not only been a milestone for New Zealand's hydrogen infrastructure but also set the standard for future hydrogen refueling stations globally.



This landmark project marked the establishment of New Zealand's first hydrogen refueling station. As the country began its hydrogen infrastructure development, this station served as the benchmark for future H<sub>2</sub> mobility infrastructure in the region.

In partnership with Emerson, Fabrum which is a New Zealand-based leader in hydrogen and refueling technologies was able to design and implement a high-pressure hydrogen refueling station. The collaboration laid the groundwork for the scaling of hydrogen infrastructure in New Zealand and beyond.

## APPLICATION

INDUSTRY

Hydrogen Refueling Station (HRS)

## CUSTOMER

New Zealand-based technology leader specializing in cryogenic and hydrogen systems.

*Emerson provided the technical expertise we needed to confidently design our first high-pressure hydrogen refueling station.*



*Anderson Greenwood™ Type 81 Direct Spring Operated Pressure Relief Valves*

For more information: [www.Emerson.com](http://www.Emerson.com)

**ANDERSON GREENWOOD™**



## CHALLENGE

**New Market:** New Zealand was entering the hydrogen mobility sector, which lacked established standards/solutions/best practices for high-pressure hydrogen applications.

**Regulatory Compliance:** The project required adherence to stringent regulatory standards, hydrogen compliance and safety valve performance.

**High-Pressure Demands:** Operating in extreme pressure conditions, the station required accurate pressure relief system design and reliable component selection to ensure safety and performance under high-pressure hydrogen conditions.

## SOLUTION

Emerson leveraged its expertise hydrogen and high-pressure applications to provide the necessary support throughout the project.

The following steps outline how Emerson supported the design and implementation:

- **Collaborative Design Approach:** Engaged early during the Front-End Engineering Design (FEED) stage, working closely with engineering consultant Amarna Energy and Fabrum.
- **Engineering Tools:** Provided advanced engineering tools, including noise calculation tools and 3D models, to ensure proper system integration.
- **Expert Guidance:** Served as a trusted advisor, guiding the selection of system components, pressure relief valves, and the overall system architecture tailored to high-pressure hydrogen service (up to 550 barg).
- **Component Selection:** The Anderson Greenwood Type 81 Direct Spring Operated Pressure Relief Valves were chosen for their proven reliability in high-pressure hydrogen applications, ensuring optimal system performance and safety.



### Emerson

Americas  
T +1 800 558 5853  
T +1 972 548 3574

Europe  
T +39 051 419 0611

Asia Pacific  
T +65 6777 8211

Middle East / Africa  
T +971 4811 8100

© 2025 Emerson. All rights reserved. The Emerson logo is a trademark and service mark of Emerson Electric Co. Anderson Greenwood is a mark of an entity in the Emerson family of businesses. All other marks are the property of their respective owners. Neither Emerson nor any of its affiliated entities assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use, and maintenance of any product remains solely with the purchaser and end user. The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available upon request. We reserve the right to modify or improve the designs or specifications of such products at any time without notice.

For more information: [www.Emerson.com](http://www.Emerson.com)

**ANDERSON GREENWOOD™**

