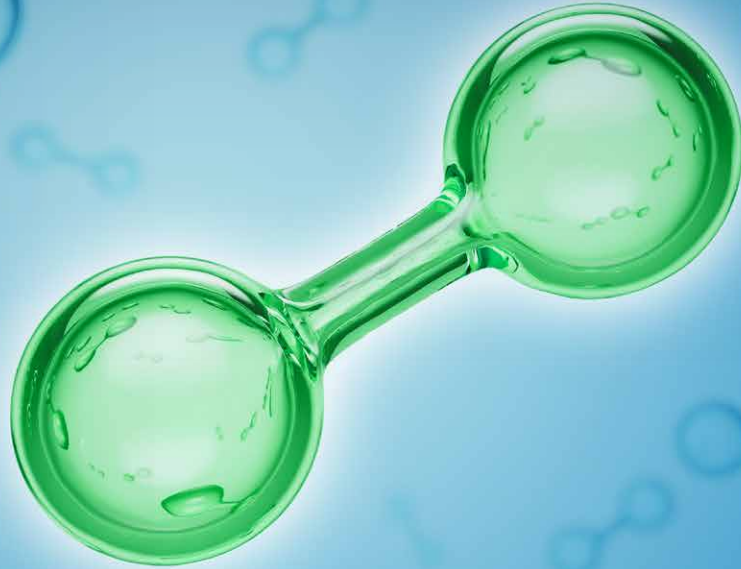




Donaldson.  
FILTRATION SOLUTIONS

# EMPOWERING GREEN HYDROGEN PRODUCTION



**As the global market for green hydrogen continues to grow, organizations associated with its production need industry partners that can provide the expertise, equipment, and technology necessary to help meet stringent purity and efficiency requirements while contributing to reduced greenhouse gas emissions.**

With more than 100 years of filtration experience — including three decades developing custom process purification systems — Donaldson has the industrial expertise and technology to engineer the ideal solution for your sustainable, green hydrogen manufacturing operation.

Our innovative solutions can help ensure manufacturers are able to meet their filtration, purification, and drying needs by consistently removing residual particles, oil, oxygen, and humidity from their production processes.

## Helping Protect Your Manufacturing Process

You can count on Donaldson engineers to work directly with your team to help design the right filtration and dryer system for your application through:

- + **Hydrogen industry expertise and engineering capabilities**
- + **Portfolio of filter housings, elements, and dryer systems**
- + **Adaptable solutions for superior filtration and purification**



# Purification Modules

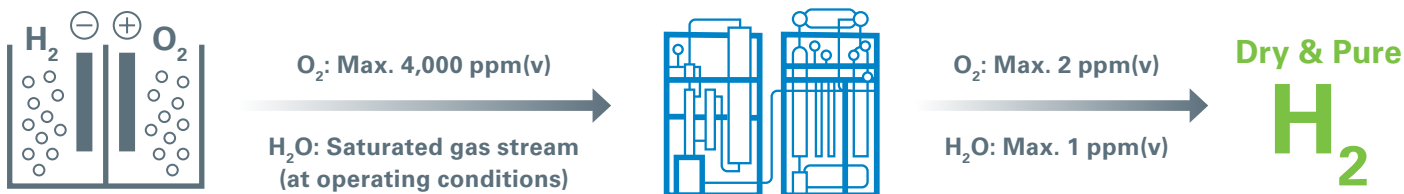
## Energy-Efficient Deoxidation & Hydrogen Drying

Donaldson's purification modules are comprised of two systems designed to operate within the electrolysis and storage phases of production.

The De-Oxo unit removes residual oxygen from the hydrogen for enhanced quality and safety. The unit utilizes catalysts supported on alumina to convert residual oxygen into water, facilitating easy separation.

The heat-regenerated adsorption dryer is designed to eliminate residual humidity. Its advanced desiccant regeneration process operates without consuming any hydrogen gas making it a very efficient closed-loop drying option.

Combined, the purification modules can provide hydrogen with an O<sub>2</sub> max of 2 ppm(v) and H<sub>2</sub>O max of 1 ppm(v).



## Effective Production from Effective Products

Donaldson has an extensive selection of filter housings and elements designed for the hydrogen purification process. Crafted from premium steel for maximum strength and reliability, the housings can handle pressures up to 500 bar. The housings are engineered to meet Pressure Equipment Directive (PED) 2014/68/EU Group 1 fluids standards, along with ATEX certification.



For more information on Donaldson Hydrogen Filtration and Purification Solutions, or to schedule a review of your production process, please contact your local representative.

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