

A close-up photograph of a hydrogen pipeline system. A large, horizontal, metallic pipe is the central focus, with the chemical formula 'H2' painted in large blue letters on its side. Above the pipe, a pressure gauge with a white face and black markings (0 to 100 bar) is mounted. A blue-handled valve is visible on the left side of the pipe. The background shows a clear blue sky with some clouds and green grass in the foreground.

DENSIQ® Group

HYDROGEN SEALING SOLUTIONS



Want to know more?
Visit STP - our Sealing Technology Platform!

Complete partner in Sealing Technology

Safe operation and cost-effective solutions for the hydrogen industry

DENSIQ Group is your complete partner with both sealing solutions and a focus on the handling and production of hydrogen with a wide range of products, services, engineering and technical trainings.

DENSIQ Group is a leading European producer and supplier of sealing technology. We offer products within static, dynamic, and rotating sealing solutions and a broad range of connected services, including on-site machining and leak sealing during operation. DENSIQ Group works closely with the customer, allowing us to offer the highest operational reliability and minimize downtime.

Products

We have a broad product portfolio in rotary, dynamic and static sealing solutions for all types of applications in hydrogen handling and production. Our production of products takes place in our own production facilities in Sweden, Norway, Denmark, Austria and Liechtenstein.

Services

- › Service Teams
- › Service Partners
- › Technical Trainings
- › Technical consulting - Also: On-Site
- › Inspection
- › On-Site Production:
a mobile unit for producing seals & gaskets



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ESAA European
Sealing
Association e.V.

Hydrogen Sealing Solutions

Our complete package for the hydrogen industry

At DENSIQ Group we are aware of the need of tight sealing solutions for Hydrogen use. As a part in our work towards a sustainable future, we see Green Hydrogen production as a big step in the right direction. The need of a partner not only able to supply one kind of sealing is important, and we have a complete range of sealing products and services aimed at delivering best in class performance and sealability for use in hydrogen applications.

We have developed several different sealing solutions for customers producing, handling or storing hydrogen.

The solutions we provide has been carefully developed and tested to be the best solution for the Hydrogen industry, for example a gasket, packing, valve set, calculation or machining of flange face.

We know from experience that the tightest seal or gasket is complemented by flange calculation, inspection and refurbishment of flange faces and technical training for the installation personnel.



DENSIQ Group

Hydrogen Sealing Solutions

This symbol indicates which of our products are suitable for hydrogen use.

Our sealing solutions for use in the hydrogen production industry:



- › Gaskets
- › Packings
- › CNC-machined seals
- › Repair and protective coatings
- › Mechanical Seals
- › Expansion Joints
- › Flange Calculations
- › Material Tests
- › Design and testing of sealing solutions
- › Inspection and installation
- › Leak Sealing on Site
- › Jour 24/7/365
- › On-Site machining of applications such as:
 - Pumps & Valves
 - Flange faces ranging from standard pipe flanges to Heat Exchanger gables

HYDROGEN SEALING SOLUTIONS



Pumps

For all the different kinds of pumps we supply Static Gaskets for both inlet/outlet flanges as well as internal gaskets. In addition we have a full range of mechanical seals as well as packings for all rotating parts. Expansion joints can also be an important part of the pump system, we supply both elastomer- as well as metal expansion joints. If pump service is needed, we have a complete Composite Repair and Surface Protection portfolio, and also offer a repair center for mechanical seals.



Valves

Valves are very important components in the industry and a large part of detected leakages stems from valves. We offer the same high quality Static Gaskets for valves as we do for pumps as well as Low Emission Valve Sets. These sets fully comply with the latest Fugitive Emission Regulations, i.e. TA-Luft, ISO 15848 and API 622. In addition we can offer complete valve refurbishment and onsite safety valve testing.



Electrolyzers

Our offer consists of several different Static Gasket materials, resistant to media and with very low permeability, for use in electrolyzers, for example membrane electrolysis and for all flange connections.



Gas compressors

For compressor applications in hydrogen use, we can offer the best solution for both static gasket and rotating seals thanks to our inhouse engineering team. Our product solutions range from gaskets to hydraulic rod- and pistons seals.



Pipelines and flanges

We offer several different gasket materials for use in pipe flanges depending on temperature, media and pressure. Its important with long term mechanical stability and low level leakage rates achieved by using the right gasket. We can also offer a complete package from flange calculations to a complete flange refurbishment using our On Site Machining service.



High pressure storage tanks

The storage of hydrogen in pressure gas- and liquefied gas tanks could be demanding from a gasket point of view in low temperature conditions. Since we have been working with hydrogen for a long time we have the experience providing the right solutions for gaskets and seals reducing the emissions for storage tanks.



Connectors

CNC-machined seals such as o-rings, radial seals and backup rings can be engineered and manufactured in a wide range of materials suitable for hydrogen use, according to customer specification.



STATIC

Dixo 6000

A softer fiber gasket with extremely low leakage rates, suitable for low gasket stress applications.

Multiflon R1

Restructured PTFE, a structurally stable PTFE gasket with significantly better mechanical properties than the traditionally filled PTFE or pure PTFE.

Softseal M^{AX}

100% pure, multiaxially expanded PTFE gasket with minimal flow, soft and easily adaptable to flange deviations.

Grafex EXP

Expanded graphite specially treated to reduce the oxidation rate at high temperatures.

ROTATING

Mechanical Seals

We have a complete range of mechanical seals with our DEPAC mechanical seals, as well as the design and construction department within DEPAC to help our customers with their specific needs.

Grafex Rings

Die-molded expanded graphite for use in high pressure & temperature and for most media. Extremely tight against gas and fluids.

Valve Sets

A series of different valve packing kits developed for hydrogen use and are approved according to API 622 and ISO 15848-1, low emission standards.

Radial Seals

CNC-machined seals in materials and designs for hydrogen applications.

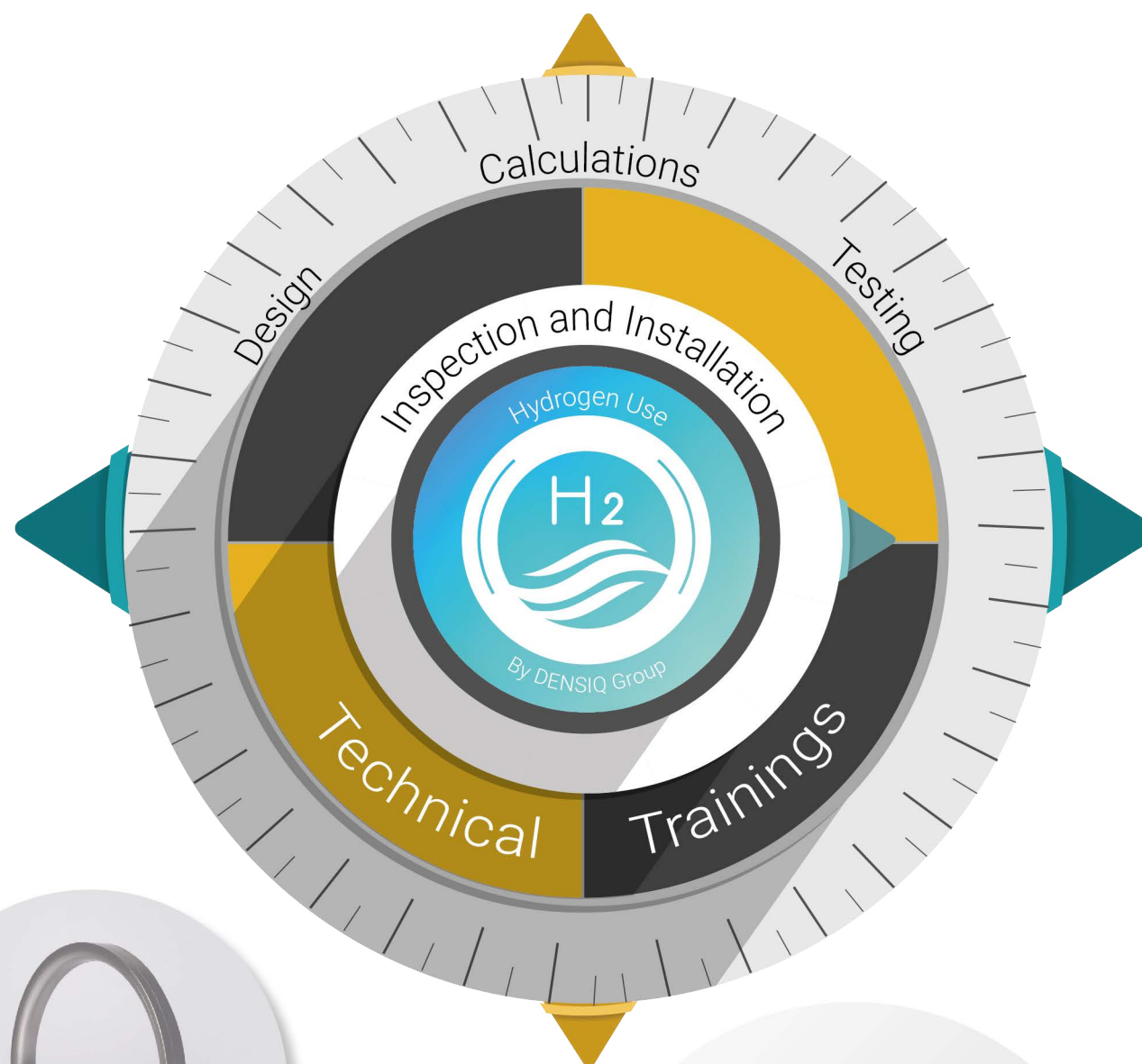
Grafex 100

Braided packing of pure expanded graphite for high pressures and temperatures and most media, providing a tighter seal against gas and fluids.

Carboflon 350

High density carbon fiber braided packing used as a sturdy top and bottom packing together with Grafex Rings and Grafex 100 packings used in our valve sets.

INFOGRAPHIC HYDROGEN



DYNAMIC

Everything from single-layer/multi-layer fabric expansion joints to complete units developed to withstand large movements and high temperatures.

Expansion Joints

Everything from single-layer/multi-layer fabric expansion joints to complete units developed to withstand large movements and high temperatures.

Metal Expansion Joints

Everything from standard expansion joints for pipe flanges to more advanced customized solutions capable of withstanding high temperatures and high pressures.

Rubber Expansion Joints

A large range of standard expansion joints for pipe flanges to more advanced customized solutions that can withstand large movements and pressures.

SEALING SERVICES

Service Solutions

Each sealing product from DENSIQ Group can be delivered with different service solutions ranging from early involvement such as prototyping, testing leakage levels of gasket materials in hydrogen and material testing according to EN 13555 to flange and torque calculations and technical training according to EN 1591.

We apply the sealing service needed for optimal functionality and ease of mind for you resulting in the tightest and best sealing solution.

Different kinds of services from DENSIQ Group

In the case of the process or application not working optimally, we can help with On-Line Valve Testing, On-Site Machining of flanges and other surfaces and if needed, Leaksealing During Operation if the process cannot stop.





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