

**JC**  
VALVES

A new horizon  
for industrial valves

**H<sub>2</sub>** JC Hydrogen Valve  
**SEAL**



# We Make Valves Since 1968

H2Seal® is a brand new product range of JC Fabrica de Válvulas S.A.U. Established in 1968, JC is a multinational company specialised in the manufacture and sale of high quality industrial valves.

The expertise and know how acquired over the years coupled with the continued investments in the design of valves, has made JC a world renowned company in the field of valve applications.

## TTV-JC World Wide

TTV-JC provides world wide coverage thanks to the strategic locations of its factories and offices in Spain (Headquarters), Canada, Middle East, Singapore, China, Russia, India, Brazil, Mexico and South Africa.

## Quality Assurance

JC Valves are designed and produced to meet the major international standards and we take great care and put a lot of emphasis on QUALITY, which provides our customers with a total guarantee and trouble free operation of their process.

And in addition, we take great care to make our facilities and our products Environment friendly.

## Global Services

JC Fabrica de Válvulas S.A.U offers its customers a world wide service, from technical advice to the right valve selection up to the design and manufacture of custom built valves to meet special service requirements.

Our R+D department is always ready to find solutions for severe applications and our global distribution network offers quick availability of JC valves and an efficient after sales service.

## Market Sectors

JC develops and designs valves for all applications, but the main focus is in Oil & Gas, Chemical, Petrochemical, Pulp & Paper and Energy sectors.



Oil & Gas



Chemical  
& Petrochemical



Pulp & Paper



Energy

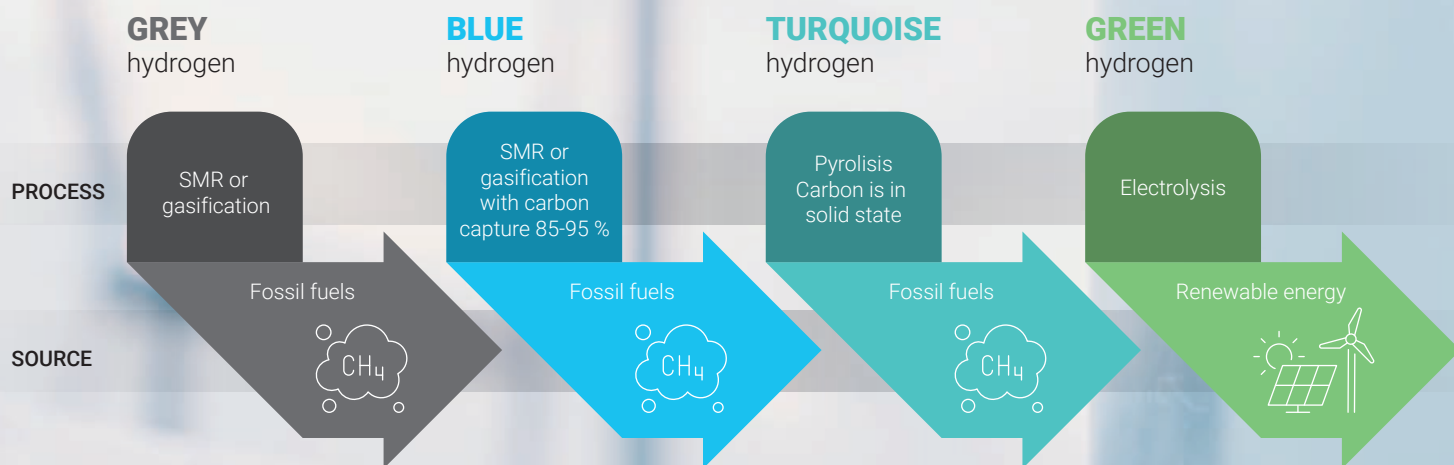




# Ball valves for hydrogen industry and energy

There is a growing international consensus that clean hydrogen will play a key role in the transition to a sustainable energy future and JC is part of this transition leading the ball valve market in the new Hydrogen applications.

The expertise gathered for over 50 years supplying ball valves for the production of Hydrogen from non-renewable sources, give us the knowledge and capacity to develop the most dedicated and specific range in the ball valve market for the New Hydrogen Era: **H2Seal JC Hydrogen Valve®**.



SMR = Steam Methane Reforming.

## Types of hydrogen production

Until very recently, almost all hydrogen gas was produced from non-renewable sources emitting high amounts of CO<sub>2</sub>. This is called Grey or Black Hydrogen. To make this production more sustainable, there are currently some technologies that allow the carbon emissions to be captured, stored, and reused still using fossil fuels. These applications

are known as Blue Hydrogen. In Turquoise Hydrogen, even using Methane as feedstock, the carbon output is in solid form, not as CO<sub>2</sub> that can be emitted to the atmosphere. Yet we believe the future will be Green Hydrogen, where Hydrogen is basically produced through Electrolysis from Renewable energy being fully carbon neutral.

# Product features

**H<sub>2</sub> SEAL**  
JC Hydrogen Valve

Safety is crucial due to the explosion potential in such high-pressure conditions and the emissions must be eliminated.

In JC we are committed to support the industries to overcome current challenges and to adopt as soon as possible the new and more demanding technologies for Hydrogen, focusing on Blue, Turquoise and Green applications.

Following this objective, we have developed the H2Seal JC Hydrogen Valve®. This is a brand new product range and a revolutionary concept, adapting all the requirements from the most demanding hydrogen applications regarding the design, materials, production and testing.

We have a specific design covering from ½" to 24" valves, from low pressure up to 500barg.



## Technical Features

- H2Seal® Double Sealing packing to minimize emissions and maintenance
- Design pressure up to 500barg
- Gas tight
- Flanged and Screwed Ends
- Split Body or Monoblock construction
- Soft and Metal Seated
- Special internal machining to avoid Hydrogen Blistering or Embrittlement
- Tested with Hydrogen

## Approvals

- Fugitive Emission Class A as per ISO 15848-1
- Marine DNV Type Approval
- Fire Safe API 607, ISO 10497, API 6FA
- ATEX 2014/34/EU- (II2GD)
- PED 2014/68/EU - CE marking





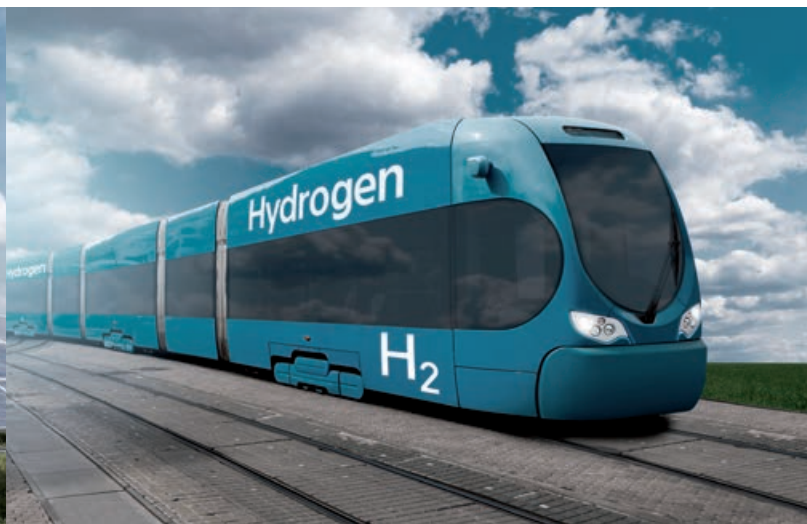
# Applications

According to the Hydrogen Roadmap issued by the European Union, Hydrogen is the best choice for at-scale decarbonization of the gas grid, some mobility applications and industries that can burn hydrogen to produce high-grade heat. At JC, based on our experience,

our R+D strategy is focused on the industrial and gas grid applications. Once the Hydrogen is produced with different processes depending on the colour of Hydrogen, it should be transformed, transported and stored before the End Use.



Hydrogen end uses covered with H2Seal® range.



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