



# Instrumentation Solutions for Hydrogen-Powered Vehicles

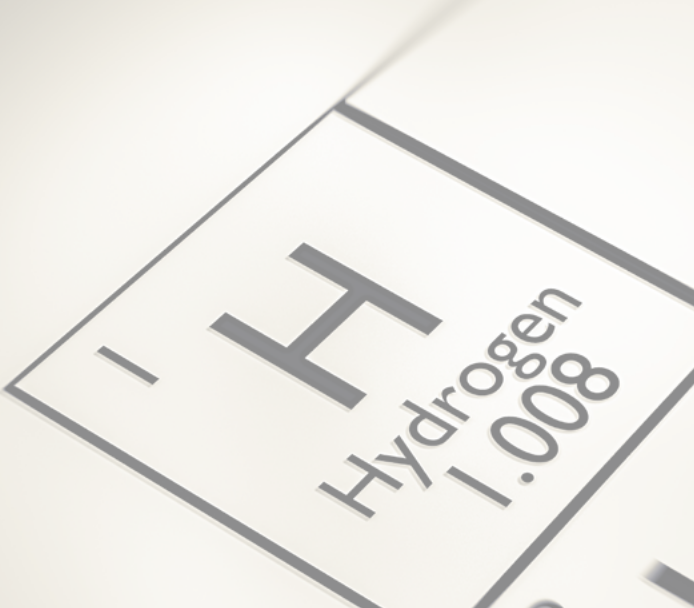
Associated Products for Hydrogen Service




ENGINEERING YOUR SUCCESS.

# Parker at the Front End of Innovation for the Hydrogen Market

Parker Hannifin are committed to supporting the energy transition and safe deployment of Hydrogen as an environmentally friendly future fuel source. And the hydrogen revolution is happening now.



As a leading manufacturer in motion and control technologies, Parker offers a wide range of products orientated to the hydrogen transportation market, from fuel cell platforms for trucks and buses to hydrogen storage.



Our comprehensive product portfolio covers a wide variety of pressures to help design engineers overcome some of the technical challenges of such critical and demanding applications.

Download our catalogue with a range of components and systems for use with gaseous and liquid hydrogen.

## Material and equipment selection for hydrogen service

When it comes to handling hydrogen, material and equipment selection becomes, more than ever, an essential ingredient for success. End users need to pay special attention to the materials of construction and the quality of the equipment that goes into their assets.

As a manufacturer of pressure containing equipment, Parker has decades of experience in serving hydrogen applications. Parker products are designed to minimise the risk associated with corrosion and hydrogen attack, and ultimately provide safe and reliable performance in the field.

The raw materials used are fully traceable and closely controlled from melting stage to the finished product. In addition, Parker's manufacturing processes are selected to ensure minimum operating risk in hydrogen environments.

As well as stainless steel, Parker can also offer a variety of nickel alloys.

We are here to help you. Our knowledge and expertise are at your doorstep.

## On-site training

At Parker, we recognise that leak-free performance is at the top of your agenda. Anyone installing Parker products for hydrogen service will be offered Small Bore Expert (SBEx) training that includes the following topics:

- Instrumentation Safety
- Tube Fabrication and Bending Techniques
- Safe compression Fitting Make-up/Cone & Thread
- Industry Best Practices
- Product Selection
- Installation and Maintenance

Parker has an improved and optimised installation procedure for its A-LOK® parts when they are used in hydrogen service.



# Components for Hydrogen-Powered Vehicles

Parker Instrumentation offers a wide range of components for on-board hydrogen-powered trucks, buses, marine vessels and for hydrogen infrastructure applications.

## TWO FERRULE TUBE FITTINGS - A-LOK® EC-79 Certified

A-LOK® tube fittings have been approved for use on-board hydrogen-powered vehicles up to **350 barg (5,076 psi)** pressures.

A-LOK® tube fittings have provided proven performance in hydrogen systems for many years and are available as an integral end connections on our extended product range, including all valve types. This will reduce the need for 'threaded' components and therefore reduce the number of potential leak points across your installations.



Dispensers

## MEDIUM PRESSURE FITTINGS & NEEDLE VALVES EC-79 Certified

Parker Autoclave Engineers® cone and thread fittings and needle valves SM Series have been approved for use on-board hydrogen-powered vehicles up to **700 barg (10,152 psi)** pressures.

The EC-79 regulation guarantees the safety and performance of H<sub>2</sub> equipment under different pressures, electric, mechanical, thermal or chemical conditions.



Hydrogen fuel cell vehicles



BALL VALVES  
B SERIES

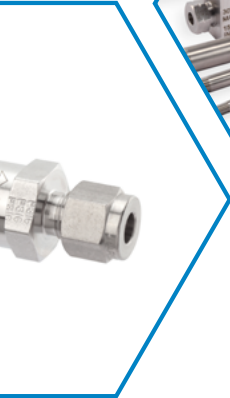
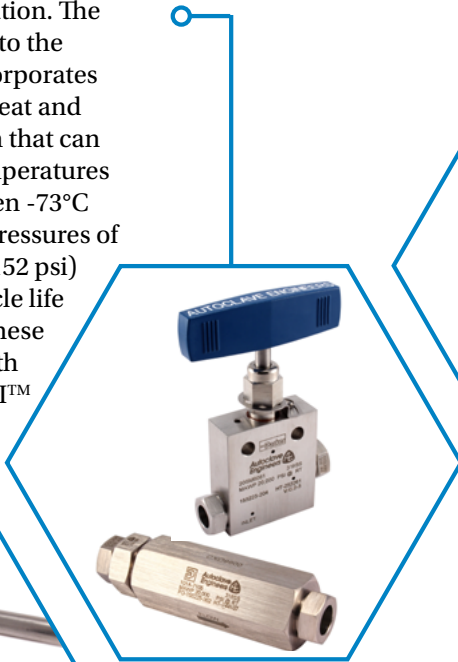


**Parker products are designed to minimise the risk associated with corrosion and hydrogen attack and provide safe and reliable performance in the field.**

**AUTOCLAVE ENGINEERS®  
NEEDLE VALVES 20SM  
AND CHECK VALVES CXO**

**Tested, Pending  
ISO-19880-3 Certification**

These specially modified needle and check valves have passed all the required tests for high pressure gas valves used in hydrogen fuelling stations per ISO 19880-3 specification. The hydrogen variation to the needle valves incorporates a unique stem/seat and packing design that can withstand temperatures ranging between -73°C and 316°C and pressures of up to 700 bar (10,152 psi) while increasing cycle life by as much as 40%. These valves are available with cone & thread and MPI™ connection options.



**OTHER  
AUTOCLAVE  
ENGINEERS®  
PRODUCTS**



Hydrogen storage tanks, compressors and pressure control devices

**Our comprehensive solutions  
for hydrogen-powered  
vehicles include:**

- System Design
- EC-79 Approved Products
- E-Powertrain Expertise
- Alternative Fuel Expertise
- Complementary Technologies

**BESTOBELL  
CRYOGENIC VALVES**

Designed and engineered for use with Group 1 gases, Parker Bestobell valves are suitable for liquid hydrogen applications requiring temperatures as low as -253°C and pressures up to 50 bar (725 psi).

The range includes:

- Globe Valves
- Lift Check Valves
- Swing Check Valves
- Gate Valves

Download our catalogue with a range of components and systems for use with gaseous and liquid hydrogen.

**INLINE FILTERS F SERIES**

 **WARNING**

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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