

Framatome - Gearing up for liquid hydrogen valve testing

Hydrogen is poised to become a significant energy source by 2030, and yet the valve industry appears to be struggling to develop products to meet the perceived demand.

UK challenges – standardisation, testing and facilities

Not only is it technically challenging, but when it comes to liquid hydrogen, there is a lack of appropriate standards, test methods and facilities to carry out the required development/testing work.

Moving forward to meet demand

However, it is possible to proceed in a pragmatic and safe manner by adapting existing standards and best practices.

Having been involved in standards development for over 40 years, Framatome BHR has comprehensive experience in developing and testing products under extreme conditions using potentially hazardous fluids.

We were instrumental in the development of ISO 15848-1, Industrial valve – Measurement, test and qualification procedures for fugitive emissions, and regularly test valves to current industry standards on a range of test facilities at our Cranfield site.

"...we are performing tests using gaseous hydrogen down to -196°C..."

Proven track-record of testing with hazardous materials

Not only has the Framatome BHR team tested with hydrogen gas over the years, but we also have experience with liquified natural gas and liquid nitrogen, which is valuable when gearing up for testing with liquified hydrogen. This experience enables us to identify and deliver appropriate testing protocols for even the most complex applications.

UK facilities supported by global capabilities

Framatome BHR has been part of Framatome's operations in the UK since 2021. Framatome also has operations in Bristol and Suffolk providing engineering and maintenance services to industry.

We are currently developing and strengthening our Cranfield facilities to enable us to test with liquid hydrogen, something that is currently only offered abroad.

As part of this process and due to the difficulty in obtaining liquid hydrogen for testing purposes in the UK, we plan to generate and liquefy hydrogen on site.

This will include the utilisation of the hydrogen electrolyzers manufactured by our Framatome colleagues in Germany.

In the meantime, we are performing tests using gaseous hydrogen down to -196°C, which allows us to tease out many of the problems of operating under liquid hydrogen service.



Cryogenic testing on site at Cranfield

Learn more at the BVAA's Annual Spring Conference

Mark Willey, Business Development Manager, will be discussing this hot topic further at the BVAA's Annual Spring Conference on the 17th May. If you'd like to find out more before then, please contact us via email at: info@framatomebhr.com.

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