



## ADVANCED HYDROGEN LABORATORY SOLUTIONS BY fluidXlab

### TAKE ACTION AGAINST CLIMATE CHANGE

At fluidXlab, we understand the importance of climate change and provide accurate, fast and reliable laboratory solutions designed to help our clients optimise their hydrogen storage projects and thus secure a safe energy supply.

### LEADING THE WAY IN H<sub>2</sub> CHARACTERISATION

Our focus on efficiency, accuracy, and automation makes us the preferred partner for technical experts in hydrogen storage, PVT, and departments active in core flooding and simulation. In addition, our newly upgraded PVT lab allows us to offer a specialised set of measurements for hydrogen storage, combined with our proprietary and advanced microfluidics technology.

### fluidXlab's CONTRIBUTIONS TO HYDROGEN STORAGE

#### Optimising Underground Storage for a Greener Future & Energy Supply

By providing valuable laboratory data in a timely manner, we assist clients in optimising underground storage operations and evaluating the geological and technical integrity of underground hydrogen storage projects.



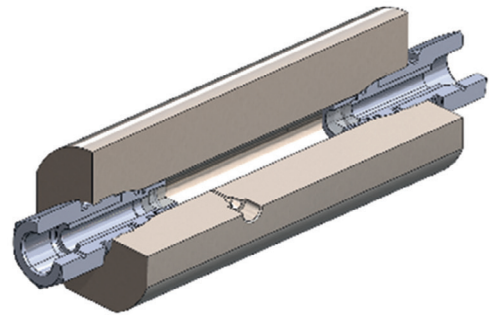
## fluidXlab's SPECIALISED SERVICES FOR HYDROGEN STORAGE

In addition to our conventional lab services covering PVT & Phase Behaviour, Fluid Analysis, Rock-Fluid Compatibility, Porous Media Flow & Caprock Integrity and Diffusion, we are a leading provider of comprehensive laboratory services for investigating hydrogen applications:

### PVT, PHASE BEHAVIOUR & TRANSPORT PROPERTIES OF HYDROGEN MIXTURES

We characterise hydrogen mixtures at **High Pressure High Temperature (HPHT) and sub-ambient conditions:**

- ⌞ Capillary entry pressure
- ⌞ Diffusion (gas-gas, gas-liquid)
- ⌞ Hydrogen Adsorption
- ⌞ Content of water in gas at ppm levels and liquid drop-out
- ⌞ Single phase and Vapor Liquid Equilibrium (VLE) density and viscosity



High p, T view cell for diffusion measurements

### MICROFLUIDICS

To complement the above, we also offer **leading microfluidics technology** for fast and accurate **Hydrogen testing at high pressure and extreme temperature conditions**, requiring only a few millilitres of sample:

#### ⌞ Methanation – bacteria visualisation and growth quantification

Fluid volume required per experiment: 2 ml

#### ⌞ Solubility and flow assurance

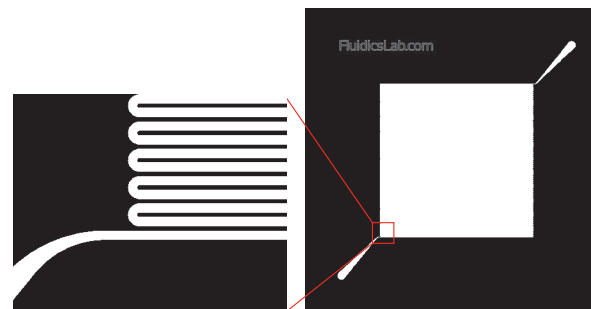
Fluid volume required per experiment: 1.5 ml  
Experiment duration: 3–6 h

#### ⌞ Fast phase envelopes

Fluid volume required per experiment: 2 ml  
Experiment duration: 2–6 h

#### ⌞ Pore scale trapping mechanisms, residual/initial saturation distributions (Ostwald ripening)

Fluid volume required per experiment: 3 ml  
Experiment duration: 8 h



Fluid testing micromodel for Microbial and Flow Assurance

## LET'S STREAMLINE YOUR LAB!

Visit: [www.fluidXlab.com](http://www.fluidXlab.com)

Contact us at [fluidXlab@hoteng.com](mailto:fluidXlab@hoteng.com)

### ABOUT US

HOT fluidXlab's activities focus on experiments with hydrogen (H<sub>2</sub>), carbon dioxide (CO<sub>2</sub>) and oil & gas mixtures in compliance with the highest HSE standards. The company helps energy companies and research organisations around the globe perform lab experiments faster and at significantly lower costs. The turnkey InspiOR® device is the industry-leading microfluidic flooding platform and is a registered trademark of the HOT Energy Group.

