

CASE STUDY

Safe Hydrogen Access for any Lab With H-Genie, the First Smart Hydrogen Generator



The use of hydrogen gas from cylinders is restricted and limits the customer in terms of pressure and, therefore, chemistry possibilities. Using hydrogen cylinders can mean that hydrogenation is restricted to specialist rooms, which are inconvenient and take up space – as do cylinders used within ordinary labs. Besides these well-known issues, hydrogen cylinders make us reliant on un-disrupted supply chains and, more importantly, have the potential to explode and lead to deadly consequences.

SAFETY & ACCESS

Yes, The H-Genie™ is the first hydrogen cylinder designed for chemists that brings safe and reliable pressurized hydrogen for any instrument in any lab.

Hydrogen generators have always been the safest and most convenient method of using hydrogen in your lab. The problems most scientists run into with the numerous basic hydrogen generators on the market, however, are the inability to run pressurized reactions and the lack of 'intelligence' in the control software. The latter problem restricts you from using the generator for a diversity of applications and means you don't have the ability to monitor reaction progress via the uptake of hydrogen. The H-Genie™ is a compact high-pressure gas generator designed to be the safest and most versatile gas generator in the world.

Utilizing patented pressure cell technology, the H-Genie™ is the only generator capable of generating up to 1,450 psi of hydrogen gas from water at up to 1 NL/min and at 6.0 purity*. With its intuitive touch screen interface, easy to export reaction data and remote operating capability, the H-Genie™ is designed to be a true replacement for cylinders in any laboratory setting.

The H-Genie™ is fully compatible with balloons, any type of batch or flow reactor and even GC's – up to 8 of which can be simultaneously run continuously using the gas output from a single H-Genie™ unit.

When used in its pressurized mode, The H-Genie™ will fill your vessel until the pressure or required volume is reached and automatically maintain a constant pressure of hydrogen in the vessel, even as it is continuously consumed by the reaction. The system will also automatically measure and record the gas consumption allowing for reaction progress monitoring using a simple graphical interface and provide this and other reaction data in readily exportable formats allowing detailed record keeping in environments where this is important.

The H-Genie™ includes numerous safety features including multiple hydrogen detectors to automatically detect any gas leaks, pressure drops, or if the concentration of hydrogen gas shows the potential to rise above a safe level. Critically, the H-Genie™ does not store hydrogen after operation. This protects you in the event of - for example - fires, earthquakes, or electrical malfunctions.