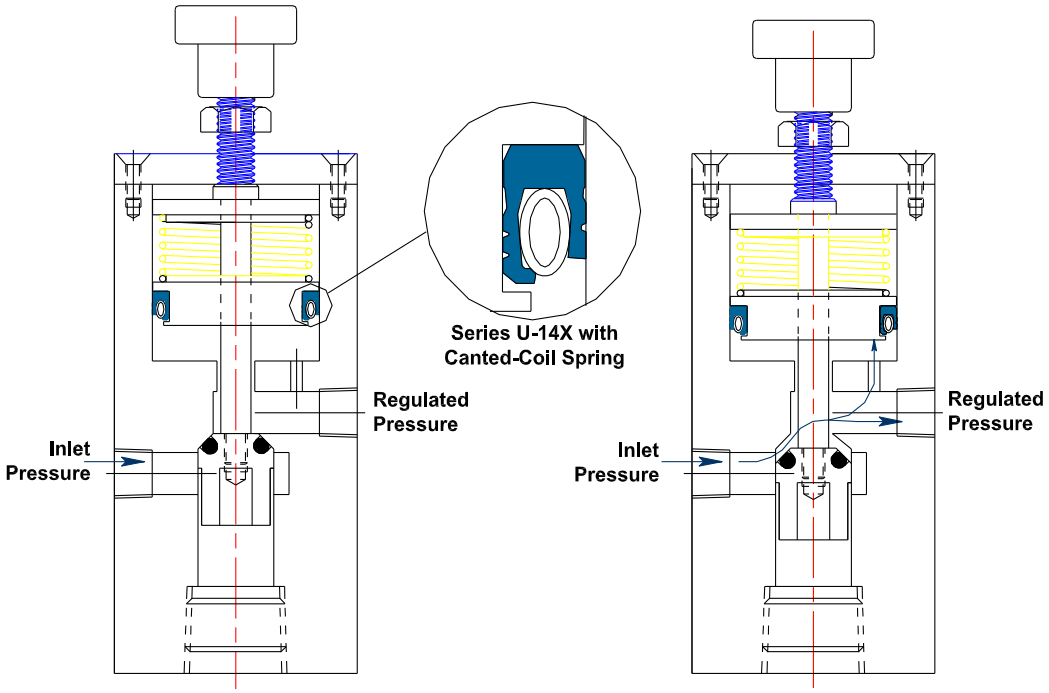
BAL SEAL® SEALS IN HYDROGEN FUEL CELLS

Bal Seal Engineering, Inc., the leader in spring-loaded sealing technology, produces a line of reciprocating seals that offer specific advantages for sealing hydrogen gas in fuel cell powered vehicles.

Fuel cells generate power by capturing the energy released when hydrogen and air form water. The hydrogen source is typically a fuel processor or hydrogen-generation system that converts hydrocarbon-based fuels, such as natural gas or propane, into a hydrogen-rich product gas.

The gas must be stored in high-pressure containers. Sealing of the dry, gaseous hydrogen molecules as the hydrogen flows through a regulator from the high-pressure container into the fuel cell is critical to the performance of the fuel cell as well as to vehicle performance.



Operating Parameters

Pressure:	Vacuum to 3,000 psi (211 kg/cm^2)
Temperature:	-425 °F to 350 °F (-254 °C to 177 °C)
Media:	Hydrogen, various gases
Friction:	Low
Features:	Consistent, frictional force

Advantages:

- High-pressure ratings: 3,000 psi (211 kg/cm^2)
- Low friction
- Non-lubricated operation in dry, gaseous environments

Seal Selection:

- The Bal Seal U-14X series features a unique short-lip design that minimizes friction due to its reduced contact area with the dynamic counter surface
- The Bal Seal patented, canted-coil spring energizer maintains a near-constant force at both low and high deflections, enabling the seal to compensate for wear and dimensional variations
- Filled PTFE compounds offer long seal life under a variety of media and operating conditions

For more information and technical assistance, contact a technical sales representative.

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