EMBRY-RIDDLE HYDROGEN

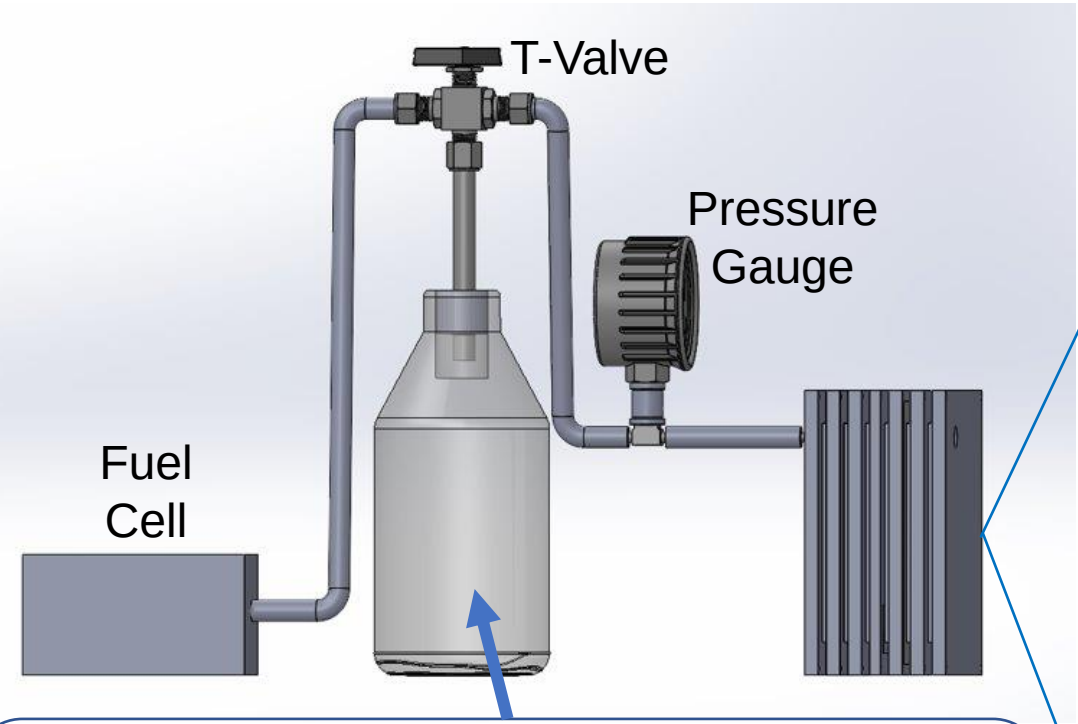
Objective

Generate and store hydrogen gas to run Embry-Riddle's fuel cell as an educational demonstrator.

Key Requirements

1. Produce 0.02 grams of H_2
2. Run the fuel cell for 10 mins
3. Store 0.04 grams of H_2
4. Visible internal components

Team



Material Storage

Lithium-Doped Graphitic Carbon Nitride holds 10wt% hydrogen gas and releases hydrogen gas at 300°C [1]. The material will be heated via electrical resistance in a Nichrome wire.

References

A. Murali, M. Sakar, S. Priya, R. J. Bensingh, and M. A. Kader, "Graphitic-Carbon Nitride for Hydrogen Storage," in *Nanoscale Graphitic Carbon Nitride*, Elsevier, 2022, pp. 487–514. doi: 10.1016/B978-0-12-823034-3.00017-0.

Alkaline Electrolysis