

Hydrogen stations for automotive, materials handling, and renewable energy storage applications.

hydrogen fueling **INFRASTRUCTURE**

Flexible designs. Innovative solutions.





1. Powertech 700 bar station
 2-4. Powertech 700 bar mobile fueler
 5. Powertech hydrogen station test facility



Powertech

A subsidiary of BC Hydro, the 3rd largest electrical utility in Canada, Powertech is the world's largest testing agency for high pressure hydrogen components.

Over the last 15 years of testing, Powertech has taken their knowledge of tanks, valves, compressors, regulators, flowmeters, hoses, etc., and developed the world's most reliable hydrogen fueling station designs.

Major Achievements

- ↳ World's first 700 bar fast fill station (operational November 2002)
- ↳ World's first use of light-weight carbon fiber composite cylinders for high pressure transportation trailers (Michelin Bibendum – Los Angeles to Las Vegas in 2001)
- ↳ 700 bar mobile fueling support for various OEM activities, including Toyota "AICan" drive (Alaska to Vancouver – September 2007) & CaFCP Hydrogen Road Rally (Los Angeles to Vancouver – May 2010)
- ↳ Advisor to SAE on 700 bar fueling protocols worldwide



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Hydrogen Fueling Station Client Examples:



Shell Hydrogen



UNIVERSITY
of HAWAII
MĀNOA



Natural Resources
Canada

Public Fueling Stations



Key Design Features:

- ↳ Containerized approach
- ↳ Mobile or stationary
- ↳ Automated controls
- ↳ Turn-key designs
- ↳ High safety and reliability – designs supported by the world's largest testing agency for high pressure hydrogen components

Materials Handling Fueling Stations

Strategic alliance with:



1. Powertech 350 bar fueling station
2. Powertech station in Victoria, British Columbia
3. Powertech transportable 700 bar fueler
4. Hydrogen fueling in the Mojave Desert, Nevada, 2001

Providing complete fueling solutions to operators of hydrogen fuel cell electric units in warehouses.

Mobile Stations



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Hydrogen Energy Storage Systems



Hydrogen Fuel Dispensers – Standalone or Integrated



- 1, 2. Hydrogen-Assisted Renewable Power (HARP) Project, Bella Coola, BC
- 3. Powertech 700 bar station with dispenser attached to container
- 4. Powertech hydrogen dispenser for Shell, Newport Beach, CA



Key Benefits of Working with Powertech

- ↳ Flexibility of design
- ↳ Use best available components – not tied to in-house equipment lines
- ↳ Responsive
- ↳ Not tied to hydrogen supplier
- ↳ Turn-key solutions

The Powertech Advantage

Powertech, a BC Hydro subsidiary, has been serving electrical, oil and gas companies, electrical and automotive equipment manufacturers, since 1989, by meeting the complex and changing needs of our global customers.

Our team of 120 professionals support the global power utility and clean transportation industries. These experts provide services to Electric Power Utilities, Large Industrial Operations, Electrical Equipment Manufacturers, and Automotive OEMs. In addition to these services we offer industry proven expertise in clean energy consulting, testing of equipment, and systems for power grid and clean energy applications.

Our reputation has been built on providing world-class expertise to support innovations in clean energy technologies, which include smart grid advances in electrical energy transfer efficiency and conservation initiatives.

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