



### Altek presents three types of proprietary Hydrogen Fuel Sources for the fuel cell.

Altek has developed (patents are pending) low pressure (less than 10psi), hydrogen on-demand sources, which **do not require a high pressure storage tank**. These hydrogen sources are based on the release of hydrogen from chemically bonded compounds.

Hydrogen released through chemical reactions yield 3.7-11.1 percent of hydrogen from the components weight:

- Ø hydrogen from water by aluminum assisted water split  
3.7 Wt% without secondary use of water  
7 Wt% with secondary use of generated water from fuel cell power plant
- Ø hydrogen from water by aluminum hydrolysis  
5.55 Wt% - without secondary use of water  
11.1 Wt% with secondary use of generated water from fuel cell power plant
- Ø 7-10 Wt% - hydrogen from sodium borohydride

These hydrogen sources are self-contained units to create a virtually unlimited environmentally safe source of hydrogen.

## Hydrogen Cartridge

(Chemical hydrogen sources)

Specifications	<i>Water hydrogen source 3.7 Wt% Efficiency</i>		<i>Water hydrogen source 5.55 Wt% Efficiency</i>		<i>NaBH<sub>4</sub> hydrogen source 7 Wt% Efficiency</i>	
Energy [Wh]	800		1800		2000	
Weight [kg]	1.0		1.0		1.0	
Dimensions	Design can be made per customer requirements.		Design can be made per customer requirements.		Design can be made for customer requirements.	
Components	Name	Weight [g]	Name	Weight [g]	Name	Weight [g]
	Water	500	Water (steam)	500	NaBH <sub>4</sub>	200
	Al	330	Al	500	Water	600
	NaOH	160	-	-	NaOH	150
	Additives (Proprietary)	10	-	-	Catalyst on a bed (Proprietary)	50
Duration of Hydrogen Fuel Cartridge	With 100 watts average power output - 8 hours continuous		With 100 watts average power output - 18 hours continuous		With 100 watts average power output - 20 hours continuous	

Notes: Each supplementary Hydrogen Fuel Cartridge provides a similar additional number of hours of operation

Specifications and descriptions in this document were in effect at the time of publication. Company reserves the right to change specifications or to discontinue products at any time (02/07)