

# What makes Our hydrogen systems different than other Dry cells out there?

This is another commonly asked question- a question I get asked frequently - A question that I should answer for the public to read.

The Typical HHO dry cell available today is a made of a number of stainless steel plates with small holes in the top and bottom for water to flow through. These plates are separated by neoprene gaskets, and compressed together by end polycarbonate plates and through bolts.

The end plates have threaded fittings for water to flow in and gas to flow out.

Dry cell hho hydrogen kits have become popular recently with many attempting to use the home workshop an kitchen bench to assemble Units based on the "Faulty" Neutral plate plans commonly available on the internet and Ebay.

However these plans are Electrochemically faulty and all that is produced are boiling water, carbon dioxide and a minute amount of hydrogen. Being a Chemical / Metallurgical Engineer, Physicist and Civil Engineer, University Researcher and Teacher, I have used my Academic knowledge and Engineering skills to design a system that uses minimal electrical Energy, is chemically treated to prevent electrode breakdown , is uses unwanted heat to generate extra hydrogen and preventing the water temperature rising above 60C – water cannot boil.

My systems are not a makeshift backyard Science experiment. My Hydrogen Systems are Professionally manufactured for the international Commercial market and anyone would be proud to show them off.

My company has been manufacturing hydrogen systems for diesel , petrol and LPG fuelled engine for the past 14 years , now. Today being April 15 2021. We have designed 4 systems to cover a range of engines from cars under 1 litre capacity to trucks over 16 litre capacity and mining engines up to 60 litre capacity. No one has even come close to being that serious, and most just sell a typical, non innovative dry cell hho generator, like everyone else.

In 2007 we were working on a University project that required a reliable and high output Hydrogen generator. We looked at the available systems and .realized the shoddy inefficient design of systems with leaks and poor electrochemistry design of so called "neutral plates" , made it impossible to make large volumes of pure hydrogen with their design. Using my extensive engineering experience and

knowledge we designed an innovative hydrogen generation system that perfectly matched the oxidation / reduction potentials of generating hydrogen from water with the cell geometric configuration and available voltage of the engine battery / generator assembly.

We matched the plate dimensions to the pressure head of the high pressure pump to provide turbulent flow of water through the whole cell, rather than using inefficient steam / heat producing buoyancy circulation/ flow.

We designed a high efficiency constant current MOSFET voltage controlled constant current power supply that didn't waste electrical energy in providing power to the systems. Typical PWM power supplies are current controlled and are designed to operate at a DC motor control that has an inductive load that is needs to be controlled. There is no inductive load in electrolysis and this leads to a PWM unit wasting 20 % of the available energy for no gain.

Our systems are made from stainless steel 316L , which has extra Molybdenum that generates extra hydrogen and is resistant to oxidation / rusting. The cells are Laser cut to shape and Laser welded to increase conductivity, strength and rigidity.

Common Dry cell HHO systems often use poor quality stainless steel 304 and are bolted together , which in time become lose and stop working

Only High density Polyethylene is used in the cell casings which is resistant to heat and chemical attack. Cheap Polycarbonate plastics eventually react with the potassium hydroxide solution and crack / even explode.

Our systems are leak-proof with inert neoprene rubber ring washers mounted into recesses the provide a permanent and perfect seal. Poor quality common neutral plate cells have gasket material squeezed between plates the leak as the nuts loosen due to "thermal cycling" that occurs when HHO generators are turned on and off.

Cheap neutral plate HHO kits use cheap push on plastic fittings and pipe that frequently leak. Our Push/Lock pipe fittings are made of glass reinforced Nylon and are called "Legris" fittings as used by pneumatic and hydraulic trucking fittings , internationally. Our pipes are 10 mm Inert HDPE trucking Pneumatic piping and stainless steel piping This Guarantees these pipes and fittings never leak. No dry cell can boast that.

What we have engineered is a unique and [ultra-compact Hydrogen fuel system/generator](#) that uses original design features no one else has, and gives you the most on the market today.

We eliminated weak points, engineering a original unique [Hydrogen generator casing](#) with specialist commercial Legris hose fittings. This eliminated the fittings leakage and made our kits half the thickness of all other kits (making it much easier to install in tight locations). Then we designed a pumping system to inject multiple jets of High pressure fluid to increase the diffusion coefficient of the systems and produce increased gas production over the total surface area of the electrodes. All materials are HDPE which is a high temp plastic - no differences in thermal expansion, and no leaks. No one has this feature, and it was extremely difficult to overcome the many challenges to make it work - literally hundreds and hundreds of tests and application procedures.

All plates a laser cut so as not to have excessively sharp edges that produce charge concentrations and plate breakdown. Plates are chemically treated to stop thermal runaway and convert unwanted heat energy into Hydrogen. No dry cell can boast that.

What we have engineered is a unique and [ultra-compact HHO generator kit](#) that utilizes design features no one else has, and gives you the most on the market today.