

NEW GEAR

Hydromax Fuel Cell

£3,305 £62.16 for 10lt of fuel (both powders), which lasts 35-40 hours

What is it? A smaller, lighter, cleaner alternative to diesel generators for battery charging. **Contact:** www.allspars.co.uk www.dynad-hydromax.com

Hydrogen fuel cells offer a mobile, silent form of power that can be useful for recharging batteries in place of generators. But although the technology has been available to yachtsmen for nearly a decade now, uptake has been slow. The Hydromax 150 could change that; this new fuel cell promises to provide more power for lower cost than competitors, using portable, non-flammable fuel.

The niggles with fuel cells have previously been associated with shipping and storing the methanol fuel – and they offer an average of only five to nine amps of charge. The Hydromax uses a non-flammable fuel, stored in powder form, to provide 150-180W per hour – up to 14A charge for 12V batteries. Compared with the market-leading EFOY Comfort 210, which provides 8.8A, the Hydromax offers a third more charge for two-thirds of the outlay.

Hydromax was developed by Dynad in the Netherlands and launched into the motorhome market this year. The company is now expanding into the marine field and has appointed Allspars as a dealer in the UK.

It is the fuel that is the novel part. It uses malic acid found in acidic fruit and a saline solution. These come in powder form and are mixed with water to make a safe, transportable fuel. The powder can be stored anywhere on board and comes in 2.5lt malic acid cans and 1.2lt hydrofuel cans. These are poured into the 5lt fuel tank, before being topped up with fresh water. Mixing fuels does sound complicated, and the powders are comparatively expensive.

The Hydromax can be sited anywhere – not necessarily next to the batteries – but the fuel cable supplied is only 1m. The fuel cell measures 40x19x31cm and weighs 9kg. It will automatically recharge batteries to protect them from deep discharging, like the EFOY Comfort, and can easily be set to operate at a desired voltage level.

Alternative energy is in increasing demand by yachtsmen. A fuel cell combined with a modern hydrogen generator offers a temptingly quiet solution to onboard power generation. Is this the beginning of the end of the diesel generator?

Two fuel powders are mixed with water and fed from a separate fuel tank into the cell through the black inlet tube

The two powder components are pumped into the Hydromax and react inside the reactor (stainless steel part)



The filter removes any remaining moisture from the hydrogen, before it is moved to the 'dry' part of the unit for powering up the battery charger

FUEL CELL FACTS

- The Hydromax runs on an acid found in apples. The powder refills can be shipped and stored easily.
- One key attraction of fuel cells is that they have no moving parts and run almost silently

