



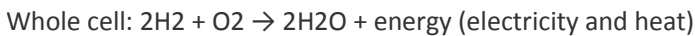
Q: What is the HYDROMAX 150 and how does it work?

The HYDROMAX 150 is a safe and efficient fuel cell battery charger that uses breakthrough Fuel Cell technology. It is a reliable and eco-friendly power supply - for wherever your boat takes you. Irrespective of the weather and even at sub-zero temperatures, the HYDROMAX 150 converts the solutions in two tanks directly into electrical current using the in-built Fuel Cell.

You never need to open the unit (in fact, that will void the warranty) so in order for it to work for you, all you need to do is hook up the two tanks of solution and a waste line, and connect the system to your 12V batteries.

What's happening inside? Well, the mixing of the two water-based solutions – a salt (we call it the Hydrofuel) and an acid (the Additive, aka malic acid) – provide a chemical reaction that produces Hydrogen gas. The Hydrogen molecules are then split by a catalytic converter and this process produces electrons. The electrons flow through an electric circuit and this is the electric current which can be used! Finally, the split hydrogen molecules come into contact with oxygen (O₂) and water (H₂O) is created.

After the Hydromax has been used, a washing cycle automatically cleans the unit and pumps out the waste product (the water and a small amount of malic acid).



Q: What will a HYDROMAX 150 fuel cell do for me?

Achieving an energy neutral boat is desirable for many cruisers... but it's not always easy. It's amazing how power demands can escalate - perhaps there's not enough sun or wind, you've been sitting at anchor for days, you want to make water or run your fridge, or you have friends on board with more ipads and iphones to charge!

The Hydromax 150 is easy, safe, quiet, and won't generate excessive heat. You won't have to maintain it (other than refilling the Fuel and Additive tanks), it is environmentally friendly, and best of all – it's on-demand power (anytime, anywhere) so your batteries will never draw down too low.

Not only that, but the HYDROMAX's integrated voltage regulator will monitor your battery voltage, so you will have one less thing to worry about.

Q: Why should I buy a HYDROMAX 150 fuel cell when I can use free power generation?

We think every cruising boat should have as many solar panels as possible! Solar, wind, and hydrogenerators are fantastic free energy resources, but they only work in the right conditions (sunny days, windy days, with boat speed).

We see the HYDROMAX 150 as an excellent complement to those other methods of green power generation.

It will provide the extra amps you need, as you need them - when the other methods aren't producing and can't keep up with the power demands of the boat.

Q: Why should I buy a HYDROMAX 150 when there are petrol or diesel powered generators that cost less?

Generators are noisy, they are a second engine that requires maintenance, and they produce toxic emissions.

In contrast, the HYDROMAX 150 is quiet and emission-free – which is good for you, your neighbors in the anchorage, and the environment.

No oil changes, no new filters, no repairs, no noise, no heat, no smell, no combustible fuel....

Q: Is the salt or acid flammable?

No. In fact, the salt (Hydrofuel) is highly **NON flammable!** It is a proprietary substance containing sodium borohydride. Like household dishwashing detergent, it is corrosive so should be handled with care, but it is not hazardous in its dry form or when mixed with water.

The Additive is malic acid - also known as apple acid - that is commonly used as a food additive.... not dangerous at all.

The small amount of waste product is also environmentally harmless.

Q: What must I watch out for when installing a HYDROMAX 150?

Make sure there is adequate air supply for ventilation, as the fuel cell unit must vent both waste heat and water vapour. Please also ensure that there is enough space for the fuel tanks and the unit itself to be installed comfortably and properly secured.

Q: Should I connect electrical appliances directly to a HYDROMAX 150?

No. The HYDROMAX 150 is designed to charge 12V batteries. Electrical appliances would be supplied in turn with power from your batteries.

Q: What types of battery can I charge with a HYDROMAX 150?

12 V lead-gel, lead-acid or AGM batteries, and lithium batteries (in GEL mode)

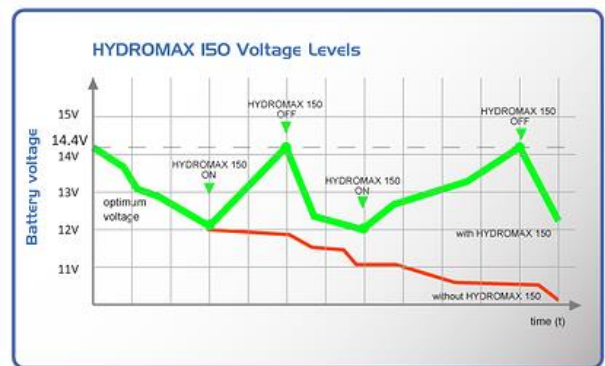
Q: Is there a risk that my batteries can be exhaustively discharged?

No. The HYDROMAX 150 has an in-built mechanism to prevent exhaustive discharge and will activate in STAND-BY mode if configured correctly and fuel is available. This will protect your batteries from exhaustive discharge and give you peace of mind.

Q: How do I operate the HYDROMAX 150?

Operation is simple and controlled by two buttons. The unit comes with an optional remote control so that the performance can be monitored. This is particularly useful if it is stowed away in a lazarette or other out-of-way location.

Thanks to the integrated voltage regulator, should voltage drop below a predetermined threshold, the HYDROMAX kicks in to recharge the batteries automatically. Once desired voltage is reached, it will stop charging.



Q: What is the brief hissing sound from the HYDROMAX 150 and what other sound should I expect?

The hissing sound you will hear is part of the normal operating process as the unit simply expels air from the fuel cell during start-up.

Only the fluid pumps are audible. A sounds level of 54 dB means that, if installed correctly, the system will not be loud enough to bother you.

Q: How much fuel does the unit consume?

Approximate consumption is 1.25L of both the salt (Hydrofuel) and the acid (Additive) per kilowatt hour.

Q: How long does a HYDROMAX 150 Hydrofuel cartridge last on average?

It depends on your usage. The tanks of Hydrofuel and Additive are approximately 5 L each and consumed at a rate of 1:1. Based on the above calculation, each set of tanks will provide approximately 300 Ah.

If you have an average energy requirement of 30 Ah/day (375 Wh/day), the 5 L Hydrofuel and 5 L Additive tanks will last approximately ten days.

Q: Can a HYDROMAX 150 be operated with other fuels or fuel cartridges?

No. It is NOT recommended to use fuels other than those supplied by Dynad International BV through a dealer. Using non-approved fuel will likely result in damage to the HYDROMAX 150, and will void the warranty.

Q: Is it possible to refill the Hydrofuel and Additive tanks by myself?

Yes. That's how it works. You can purchase **DRY POWDER** Fuel and Additive refill cartridges from your HYDROMAX distributor or dealer. These are lighter and smaller - so easier to ship and store.

The dry Hydrofuel cartridges weigh 900 g, and the Additive cartridges are 2 kg.

As required, refill each 5 L tank with a dry cartridge of each substance and deionized/distilled water and reconnect to the unit.

Q: How long does the Hydrofuel cartridge keep?

Dry Hydrofuel cartridges (no water added) can be stored for ten years. Once water has been added, the Hydrofuel solution should be used within three months.

Q: What waste products does a HYDROMAX 150 produce?

Spent Hydrofuel liquid (water and a small amount of malic acid) is discharged to a waste tank that needs to be disposed of appropriately. We recommend doing so into the boat's holding tank.

The HYDROMAX fuel cell itself produces very small quantities of water vapor and heat, which are dispelled by an inbuilt fan.

Q: What is the temperature range in which the HYDROMAX 150 operates?

We guarantee the HYDROMAX 150 will operate in an ambient temperature range of -15°C to +40°C. Should you require a power source to operate under more extreme conditions, please contact us to discuss.

Q: What happens above +40 °C?

The HYDROMAX 150 will stop charging if the temperature is too high, but will restart automatically once the temperature falls below about 40 °C. This prevents damage to the in-built fuel cell.

Q: Does Dynad International BV provide a warranty for the HYDROMAX 150?

Yes. The manufacturer guarantees against manufacturing defects for 24 months from the date of purchase.

Q: Is it possible for me to buy parts to repair or modify a HYDROMAX 150, and install them myself?

No. The HYDROMAX 150 should never be opened by the consumer. Doing so will void the manufacturer's warranty.