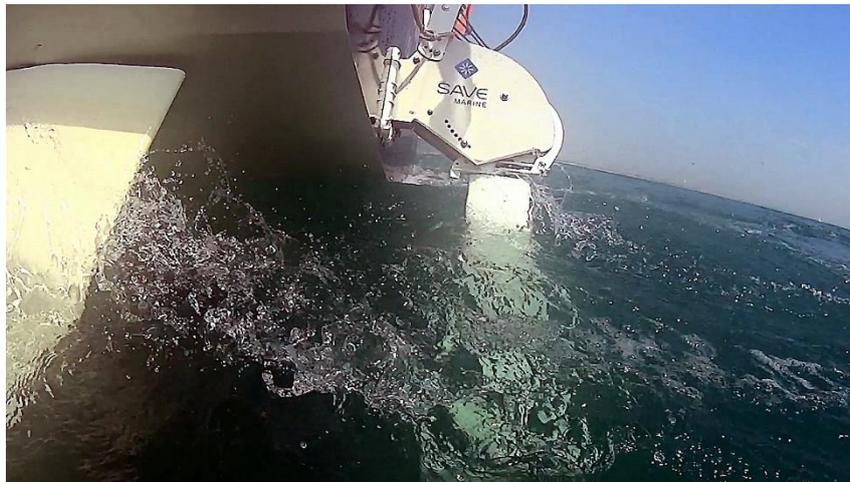




SAVE
MARINE



SAVE MARINE - H240 HYDROGENERATOR



USER MANUAL

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This manual describes the different modes of operating of the H240 hydrogenerator. It is consecutive to its installation on the sailboat. See the relative booklet.

The use of the hydrogenerator must follow the **limits and conditions for using** described in the relative booklet.

The different parts are listed and described on the diagram on page 4 of the [installation guide](#).

1 Handling and management of the hydrogenerator

1.1 Placing in the home plate

Place the H240 in front up of the home plate.

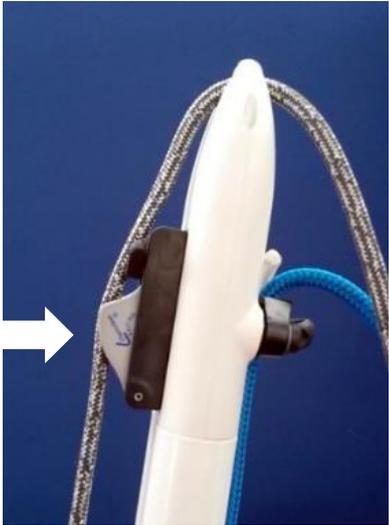
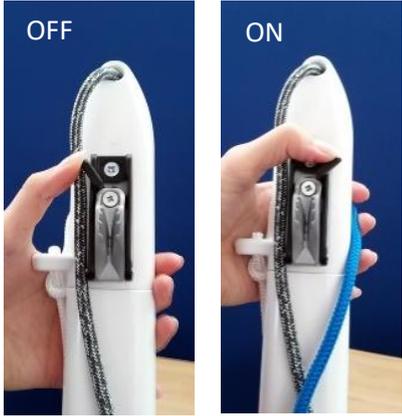
Slide the hydrogenerator in the home plate by pulling the white rope in order to release the guard locking pin.

Check that the guard locking pin is well fitted into the home plate.



Place the H240 in the home plate

1.2 Operate the automatic clamcleat

<p>This is a security element: the clamcleat is automatically activated and releases the rope if the submerged part of the hydrogenerator strikes a heavy object.</p> <p>It ensures that the rope maintains the profil arm and turbine in functioning position and releases it in case of shock. This ensures that the transom cannot be damaged.</p>	
<p>The clamcleat is equipped with a two-position pivoting finger:</p> <ul style="list-style-type: none"> - switch the finger on the left to release the clam - put back the movable part in its initial position and rotate the finger on the right to reset the Clamcleat. 	

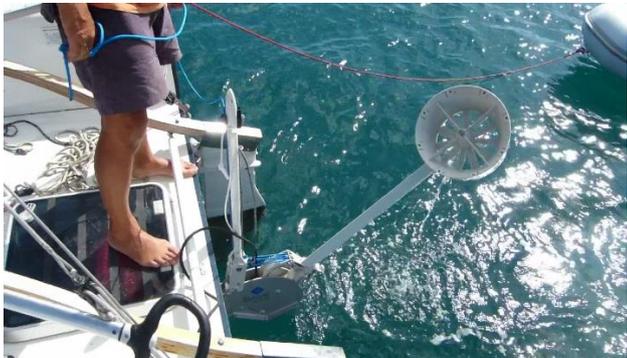
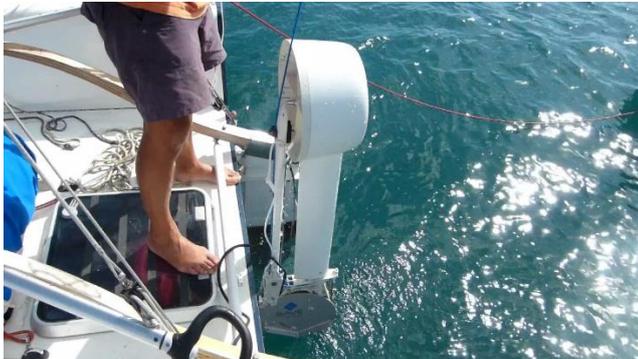
1.3 Hydrogenerator electrical connection

<p>Unscrew the plug of each connector and connect the hydrogenerator cable to the through-hull (there is an alignment failsafe).</p> <p>NB: it is not necessary to disconnect the hydrogenerator when not in use.</p>	
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1.4 Operating position

<ol style="list-style-type: none">1. This operation must be performed with a boat speed less than or equal to <u>2 knots</u>.2. Release the black and white rope from the automatic clamcleat.	
<ol style="list-style-type: none">3. Ensure that the turbine faces the water so that the profile arm enters easily into the water.4. Pull up the black and white rope until the profile arm and turbine reaches its low position.	
<ol style="list-style-type: none">5. Lock the black and white rope in the automatic cleamcleat	

1.5 Raise the hydrogenerator

<p>1. Release the black and white rope from the automatic cleamcleat.</p>	 A person on a boat is shown from the waist down, standing on the deck. They are holding a black rope that is attached to a white automatic cleat. The boat is on the water, and a blue tarp is visible on the deck.
<p>2. Pull on the blue rope to lift the hydrogenerator up to the surface of the water.</p>	 A person on a boat is pulling a blue rope. The hydrogenerator is being lifted out of the water, and a splash is visible. The boat is on the water, and a blue tarp is visible on the deck.
<p>3. Wait until the turbine empties itself of its water.</p> <p>4. Continue to raise the hydrogenerator.</p>	 A person on a boat is standing on the deck. The hydrogenerator is partially submerged in the water. The turbine is visible, and it appears to be emptying itself of water. The boat is on the water, and a blue tarp is visible on the deck.
<p>5. Hang the blue rope at the cleat.</p>	 A person on a boat is hanging a blue rope at a cleat. The hydrogenerator is now fully out of the water. The boat is on the water, and a blue tarp is visible on the deck.

1.6 Remove the hydrogenerator from the home plate

1. Pull on the white rope to unlock the guard locking pin.
2. Slide up the hydro to extract it from its home plate.



2 Use of the Wi-Fi monitoring tool

A monitoring tool coupled to a Wi-Fi module is embedded into the regulator.

It enables to view on your smartphone, tablet or computer the information regarding the electrical production of your hydrogenator.

- Instantaneous production,
- Production since the last power up,
- Cumulative production.

It also enables remote checks and analysis of your data.

The tool consists of four tabs. The description of each tab is provided hereafter.

2.1 « Information » tab



It enables to follow the instantaneous production of the hydrogenerator.

Data are separated into two categories:

<ol style="list-style-type: none"> 1. Instantaneous production <ul style="list-style-type: none"> - the power (in Watt) delivered by the hydrogenerator at the input of the regulator - the rotating speed of the turbine (in RPM) 2. Battery charging status <ul style="list-style-type: none"> - voltage (in Volt) - current (in Amps) 	<table border="0"> <tr> <td colspan="2">Hydrogénérateur :</td> </tr> <tr> <td>Puissance :</td> <td>0 W</td> </tr> <tr> <td>Vitesse de rotation :</td> <td>0 RPM</td> </tr> <tr> <td colspan="2">Batterie :</td> </tr> <tr> <td>Tension Batterie:</td> <td>11.80 V</td> </tr> <tr> <td>Courant Batterie:</td> <td>0.00 A</td> </tr> </table>	Hydrogénérateur :		Puissance :	0 W	Vitesse de rotation :	0 RPM	Batterie :		Tension Batterie:	11.80 V	Courant Batterie:	0.00 A
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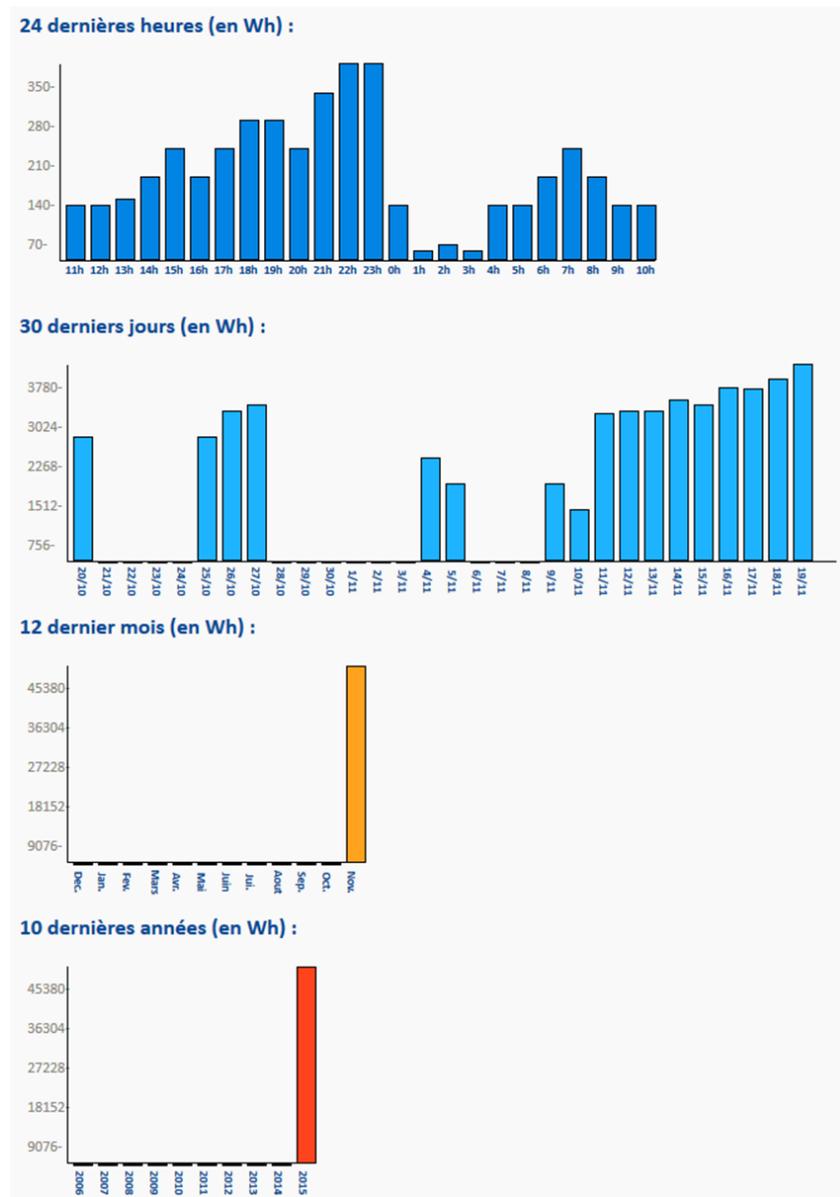
2.2 « Statistics » tab



It enables to monitor the production statistics of the hydrogenerator.

The tool monitors the electrical energy (in Watt.hour) produced by the hydrogenerator at the input of the regulator. The production is displayed in 4 different categories :

- histogram of the production during the last 24 hours,
- histogram of the production during the last 30 days,
- histogram of the production during the last 12 months,
- histogram of the production during the last 10 years.



Example of statistics

Mode of operation:

- When the battery charge is low, the regulator takes the maximum power available from the hydrogenator.
- When the battery is fully charged, the regulator takes the minimum power from the hydrogenator, even if this one can produce more than needed.

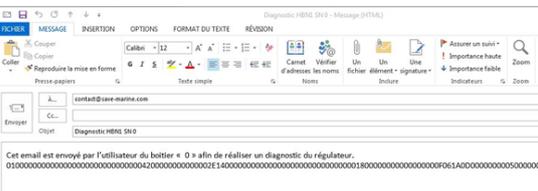
 Therefore, when you observe a very low instantaneous power from the hydrogenator while the rotate speed of the turbine is high, you can deduce that the battery is fully loaded.

2.3 « Service » tab



It enables to configure the regulator accordingly to your battery characteristics when installing the system. The procedure is described in the [installation guide](#) (page 17).

It also enables a remote maintenance service thanks to the automatic email generation for a production data analysis.

<p>Click on the corresponding icon at the bottom of the page</p> <p>An email is automatically sent to Save technical service</p>	
<p>Save this automatic email into your mail management system.</p> <p>As soon as you have an internet connection, press the « send » button.</p> <p>Information are then sent to Save technical service.</p>	

 Check that a mailbox has been configured as « default mailbox » on your computer.

2.4 « Contact » tab



This tab gives Save Marine contact details

3 Maintenance

The materials used to manufacture the hydrogenator are marine environment compliant. However, we recommend to rinse the hydrogenator with fresh water when not used for a long period.

Algae deposition is possible on the immersed parts of the hydrogenator. A regular cleaning will maintain the system in good working conditions. We recommend using a cleaning product like "Clean Boat Polyvalent".

Check on a regular basis that the home plate, through-hull and hydrogenator support screws are correctly tightened.

Check on a regular basis that the charge status of your battery is not too low, it would then not be able to communicate with the regulator.

A storage and transportation bag is supplied with the hydrogenator.





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