



MP40w ES

VorTech™

Propeller Pump



Setup Guide

Customer Support

Congratulations on your purchase of a VorTech™ MP40w ES Propeller Pump!

⚠ Please read this entire setup guide before using your pump. By purchasing, installing or using this product, you are acknowledging that the Limited Warranty on p.19 is part of the sale terms.

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i Many of the steps in this guide have corresponding how-to videos. View them on the EcoTech Marine website at ecotechmarine.com/media-gallery/video.

The EcoTech Marine Community is another tool for users to troubleshoot and learn about our products. For additional information about your VorTech Propeller Pump, please visit us at community.ecotechmarine.com.

UNITED STATES & CANADA

Contact EcoTech Marine directly for all warranty service and returns. Visit ecotechmarine.com/support

INTERNATIONAL

Contact your local distributor directly for all warranty service and returns. Visit ecotechmarine.com/find-retailers/international-distributors



Customer Support
1-800-785-0338
service@ecotechmarine.com or
ecotechmarine.com/support

Inside the Box



POWER SUPPLY



POWER CORD



FOAM GUARD



MOUNTING TABS (X4)



VELCRO STRIPS (X2)



ZIP TIES (X4)



DRIVER



DRY SIDE



WET SIDE

Maintenance

Your VorTech Propeller Pump is designed to operate optimally with little attention after initial setup; however, due to the harsh conditions of a saltwater aquarium and resulting buildup of algae and other organic matter, it is advisable to clean your wet side to ensure the longevity of your purchase.

EcoTech recommends doing a wet side cleaning every 6 to 8 weeks or as necessary.

This can be accomplished by disassembling the pump's wet side and gently brushing with a soft brush under running water. If there is calcium buildup, it may be necessary to soak these parts in a mild acid solution such as vinegar. Do not use strong acids, because these may damage the components.

After cleaning, reassemble the wet side, finger tightening the drive shaft screw and nut. Do not use tools to tighten components.



**WET SIDE
DISASSEMBLY**
WATCH THE VIDEO:
ecotech.ch/mp40disassemble

Installing the VorTech™

STEP 1: Choose Pump Location

- Where the pump output is unobstructed
- High enough above the sand bed so sand is not disturbed
- Sufficiently below the surface so air is not sucked into a vortex

STEP 2: Prepare Aquarium

- Use an aquarium scraper to clean the inside surface of the aquarium and a damp cloth to clean the outside.
- Use caution when handling an aquarium scraper.

STEP 3: Attach Mounting Tab

- Peel backing from the adhesive and place the tab 2-3" above the desired mounting location on the outside of the aquarium (Figure A).

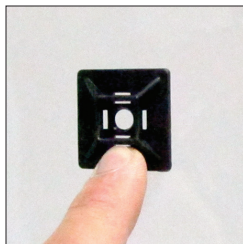


Figure A



SETUP YOUR
MP40
WATCH THE VIDEO:
ecote.ch/mp40setup

STEP 4: Correctly Set Pin Spacer

- Determine the glass thickness by measuring it (or contact the aquarium manufacturer).
- Remove the rubber spacer from the bottom of the motor housing (Figure B).
- Align the power cord according to the thickness marked on the pin spacer. To do this, pull the pin spacer from the motor housing, align the thickness mark and carefully slide the pin spacer onto the motor (Figure C).

i 3/4" (19mm) thick aquariums DO NOT use the pin spacer.

STEP 5: Place Dry Side on Aquarium

- Place the rubber spacer directly on the wall of the aquarium at the desired location (Figure D).
- Position the dry side so the cord points straight up in the 12 o'clock position (Figure E).
- Tie the cord to the mounting tab using a zip tie (Figure E). Trim the excess end of the zip tie.

! Never place the dry side in the aquarium.

! When adjusting the pin spacer, be careful not to bend the rubber pins when inserting them into the holes within the motor housing.



Figure B



Figure C

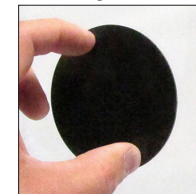


Figure D



Figure E

Installing the VorTech™

Continued

STEP 6: Attach Wet Side

- Place the wet side into the aquarium and allow ALL air to escape from the propeller housing.
- Carefully align the wet and dry sides through the glass (Figures F, G).
- Optional: Place the foam guard over the wet side of the pump. The foam guard can be used to ensure that delicate marine animals do not get caught in the nozzle.



Figure F

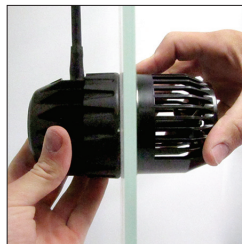


Figure G

STEP 7: Align Pump

- Plug the power supply into the driver. If the pump is not already in Constant Speed Mode, press the MODE button until the control dial is green.
- If there is vibration or excessive noise, carefully adjust the propeller housing (wet side) by moving it very slightly left, right, up or down until the noise/vibration is eliminated or minimized (Figure H).
- Rotate the control dial clockwise and set it to the maximum speed, indicated by the blue LEDs.
- Press the MODE button to select the mode of your choice and then turn the control dial to the desired flow rate.

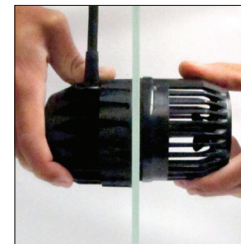
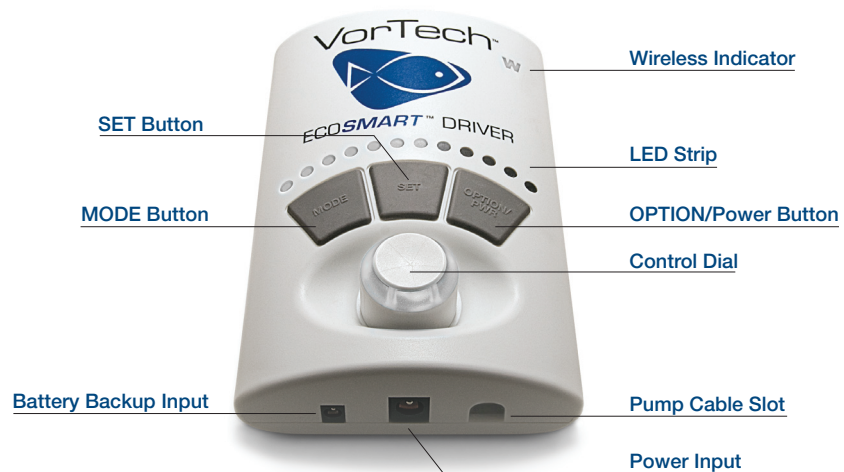


Figure H

i See page 9 for instructions on mounting the driver.

The EcoSmart™ Driver



USING
EcoSmart™
WATCH THE VIDEO:
ecote.ch/ecosmartmodes

Mounting the Driver

1. Mount the driver where it will not get wet using the included velcro strips (Figure A).

i The driver is **NOT** water proof, and water damage will **NOT** be covered under warranty.



Figure A

2. Plug the power supply into the driver and then plug the power cord into the outlet (Figure B). The driver will turn on and be in Constant Speed Mode by default (green control dial).



Figure B

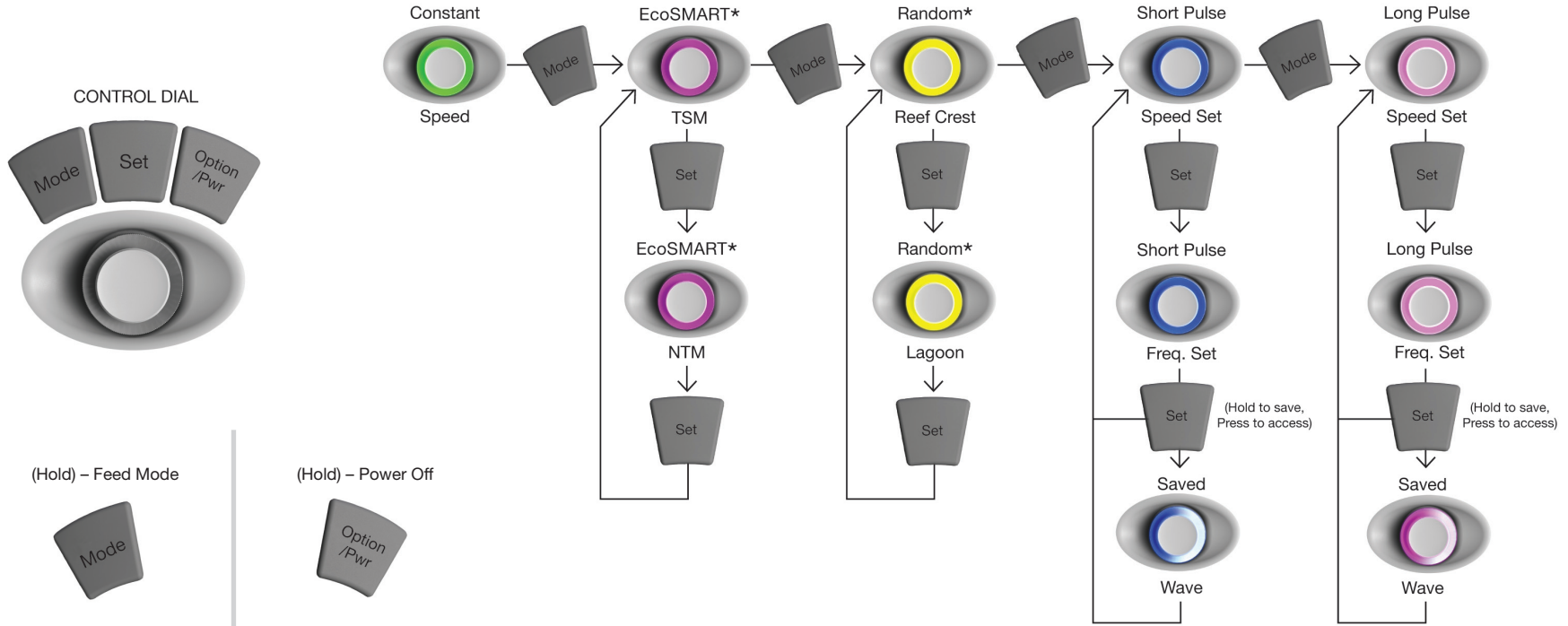
3. Observe that the control dial is illuminated green, indicating that the pump is powered and operational (Figure C).

i If the control dial is not green, check the power cable connections.



Figure C

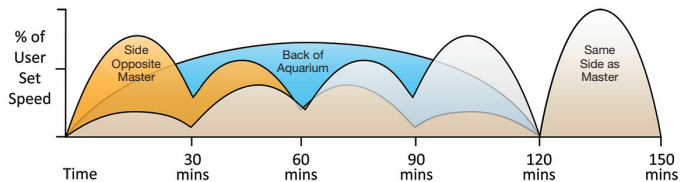
EcoSmart™ Driver Operational Modes



Tidal Swell Mode



Tidal Swell Mode (TSM) creates a harmonic balance reminiscent of the changing flow conditions found in nature. Over the course of several hours, the flow pattern will go from very chaotic to calm, followed by a detritus-clearing surge at the very end of the cycle. The flow direction will change direction every cycle. The control dial is used to set the maximum pump speed during this mode.



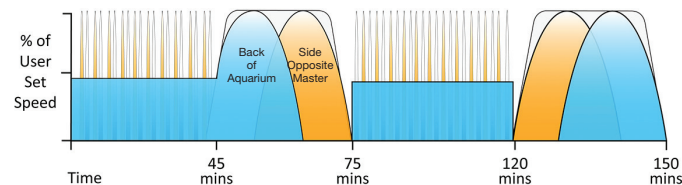
MASTER/SLAVE RELATIONSHIP

Multiple VorTech pumps can be set up to run together. The colors in the diagrams above represent the flow pattern and placement of multiple pumps running together in a Master/Slave relationship. Master/Slave relationships

Nutrient Transport Mode



Nutrient Transport Mode (NTM) creates circulation in a two-phase program. The first phase uses wave motion to stir up detritus. The second phase follows with a surging motion to move the detritus into the overflow and out of the aquarium. This mode promotes maximum health, nutrient export and increased growth for sensitive corals such as SPS. The control dial is used to adjust the maximum pump speed during this mode.



are only available with wireless-enabled versions of the VorTech pump. For more information and instruction, visit our support community at community.ecotechmarine.com.

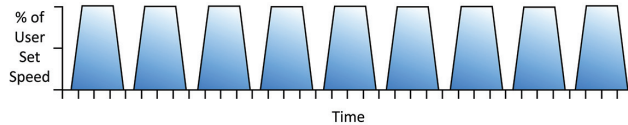


MASTER/SLAVE
WATCH THE VIDEO:
ecote.ch/masterslave

Short Pulse Mode



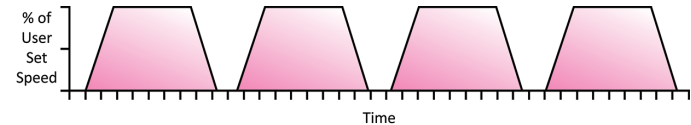
When first entering Short Pulse Mode, set the maximum pump speed with the control dial and press the SET button to lock it. The LEDs will begin to ramp, indicating the pulsing frequency between 0.2 seconds and 2 seconds. Next, use the control dial to adjust the pulse frequency. Press and hold SET until the control dial flashes and then breathes blue, indicating the wave is saved.



Long Pulse Mode



When first entering Long Pulse Mode, set the maximum pump speed with the control dial and press the SET button to lock it. The LEDs will begin to ramp, indicating the pulsing frequency between 2 seconds and 2 hours. Next, use the control dial to adjust the pulse frequency. The first six LEDs represent 2 seconds to 2 minutes. The seventh through 12th LEDs represent 5, 10, 20, 60, 90 and 120 minutes, respectively. Press and hold SET until the control dial flashes and then breathes pink, indicating the wave is saved.



MAKE WAVES
WATCH THE VIDEO:
ecote.ch/makewave

AUTO TUNE

Auto Tune allows you to create a wave within your tank. To create a wave using Auto Tune, Hold SET and OPTION until LEDs move back and forth slowly. Press and hold SET until the control dial flashes and then breathes blue, indicating



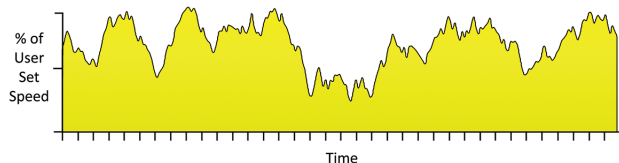
AUTO TUNE
WATCH THE VIDEO:
ecote.ch/autotune

that the wave has been saved. This saved wave will also be used in EcoSmart mode. To fine tune the wave, press MODE to speed up the wave and OPTION to slow it down. Press SET to save the wave.

Reef Crest Random Mode



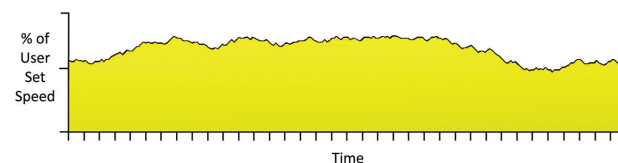
Reef Crest Random Mode simulates a high-energy reef environment. It is indicated by both a yellow control dial and the first two blue LEDs illuminated. The control dial is used to set the maximum pump speed during this mode. The pump will change speed frequently and drastically to simulate crashing waves and surging tide.



Lagoonal Random Mode



Lagoonal Random Mode simulates a low-energy lagoon environment. It is indicated by a yellow control dial and the third and fourth LEDs illuminated. The control dial is used to set the maximum speed of this mode. The speed of the pump is changed slowly to recreate the gentle currents of a lagoon.



Additional Modes

i All modes are set to default duration, speed or percentage of speed. Refer to the full manual to learn how to customize these modes.



FEED MODE

Press and hold the MODE button for 3 seconds to enter Feed Mode. The

control dial will blink white and the pump will spin very slowly for 10 minutes (default setting) and then resume its set mode.



BATTERY BACKUP MODE

When a Battery Backup accessory is added to the VorTech pump, the pump will

automatically switch to Battery Backup Mode during a power outage. The pump will run at the minimum speed to maximize run time during this critical period.



NIGHT MODE

Press and hold the MODE and SET buttons, pause, and then press and hold the MODE and

SET buttons again. The control dial will breathe white and spin at 50% power for 10 hours (default setting), and then resume its set mode.

Troubleshooting

In the event of a problem:

1. Check that the pump is plugged in and there is power.
2. Unplug the pump and check the wet side for damage or obstructions.
3. Reconnect the power and reset the driver (**video: [ecote.ch/resetdriver](https://www.ecotechmarine.com/media-gallery/video)**).
4. If the pump still does not function properly, use one of these support methods:
 - Watch our extensive collection of how-to videos. These videos are available at [ecotechmarine.com/media-gallery/video](https://www.ecotechmarine.com/media-gallery/video)
 - Visit our support community to ask questions and learn more about your VorTech Propeller Pump at [community.ecotechmarine.com](https://www.community.ecotechmarine.com)

If you are still experiencing problems, contact our industry-leading customer service at service@ecotechmarine.com or **1-800-785-0338, Option 2**.



WAVE MOTION WARNING

The generation of waves within the aquarium places additional stress on the aquarium glass and joints. Not all aquariums are designed to withstand this stress, and failure of the glass and/or joints could result. Before generating waves, it is recommended that you consult with your aquarium manufacturer to determine if the tank construction is adequate to withstand the additional stress. You are also encouraged to assure that your aquarium stand or furniture is adequately stable to withstand this stress.



EcoTech Marine **DISCLAIMS AND WILL NOT BE LIABLE FOR** damage to aquariums or their surroundings, water damage or any other consequential damages resulting from wave generation. **MAKE WAVES AT YOUR OWN RISK.**

Warranty

EcoTech Marine warrants to the original purchaser only that the VorTech Propeller Pump will be free from defects in material and workmanship under normal use for a period of (1) year from the date of original purchase if the product is installed and used properly and consistent with the User Manual. The VorTech Propeller Pump consists of a wet side operating unit that will be fully submerged in the aquarium and a motor and driver that must not be exposed to water at any time. EcoTech Marine's warranty shall not apply: (i) to any damaged VorTech Propeller Pump that has been subjected to accident, misuse, neglect, alteration, acts of God, improper handling, improper transport, improper storage, improper use or application, improper installation, improper testing or unauthorized repair, (ii) to any VorTech Propeller Pump where the motor and/or driver have been exposed to water or (iii) to cosmetic problems or defects that result from normal wear and tear under ordinary use, and do not affect the performance or use of the product. EcoTech Marine's warranty applies only to a product that is manufactured by or for EcoTech Marine and identified by the EcoTech Marine trademark, trade name or product identification logo affixed to the product. If you notice a problem with your VorTech Propeller Pump, do not attempt to repair it yourself. Any attempts at self repair shall void this limited warranty. EcoTech Marine shall not be held liable for damage to any aquarium, aquarium life forms, or other personal objects due to improper use of the device. If the product develops a covered defect within the one-year period, EcoTech Marine will, at its option, either repair or replace the VorTech Propeller Pump without charge, provided that the VorTech Propeller Pump is returned during the warranty period.

The VorTech Propeller Pump operates at high temperatures and produces forces within the aquarium that can cause extreme loading and fatigue. Due to this, caution must be used when installing this device on any aquarium. Because the construction of aquariums varies from each manufacturer and the operating conditions of each individual aquarist is different, there is a possibility that the VorTech Propeller Pump may cause damage to your aquarium. Please contact your aquarium manufacturer to determine if your aquarium is properly built and recommended for VorTech Propeller Pump. If you notice any damage to your aquarium, including but not limited to crazing, cracking, bending, scratching, etc, immediately discontinue the use of the VorTech Propeller Pump. EcoTech Marine will not be liable for any damage caused to your aquarium resulting from the use of the VorTech Propeller Pump.

To obtain warranty service or technical support, please contact EcoTech Marine's customer service department at 610-954-8480. You will receive instructions on how to return the product for repair or replacement. To take advantage of this Limited Warranty you will be required to supply an original point of purchase receipt.

ECOTECH MARINE DISCLAIMS ALL OTHER WARRANTIES WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED, TO THE FULLEST EXTENT ALLOWED BY APPLICABLE LAW. NO IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY SHALL APPLY EXCEPT AS REQUIRED BY APPLICABLE LAW. ECOTECH MARINE DOES NOT AUTHORIZE ANY PERSON OR BUSINESS ENTITY, INCLUDING ITS AUTHORIZED DEALERS, TO CREATE FOR IT ANY OBLIGATIONS, LIABILITIES, OR OTHER WARRANTIES IN CONNECTION WITH THIS PRODUCT.

ALL WARRANTIES ARE VOID IF THERE IS DAMAGE TO THE VORTECH PROPELLER PUMP THAT IS NOT A RESULT OF A DEFECT IN THE MATERIALS OR WORKMANSHIP. THE SOLE AND EXCLUSIVE REMEDY FOR ALL CLAIMS THAT YOU MAY HAVE ARISING OUT OF OR IN CONNECTION WITH YOUR USE OF THIS PRODUCT, WHETHER MADE OR SUFFERED BY YOU OR ANOTHER PERSON AND WHETHER BASED IN CONTRACT OR TORT, SHALL BE REPAIR OR REPLACEMENT OF THE PRODUCT. IN NO EVENT WILL ECOTECH MARINE BE LIABLE TO YOU OR ANY OTHER PARTY FOR ANY DIRECT, INDIRECT, GENERAL, SPECIAL, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY OR OTHER DAMAGES ARISING OUT OF THE USE OR INABILITY OF TO USE THE PRODUCT (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF INFORMATION OR ANY OTHER PECUNIARY LOSS, DAMAGE TO YOUR AQUARIUM OR ANY AQUARIUM INHABITANTS), OR FROM ANY BREACH OF WARRANTY, EVEN IF ECOTECH MARINE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO CASE SHALL ECOTECH MARINE'S LIABILITY EXCEED THE AMOUNT YOU PAID FOR THE PRODUCT. IF YOU DISAGREE WITH THESE TERMS AND CONDITIONS DO NOT USE THE VORTECH PROPELLER PUMP.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusions may not apply to you. EcoTech Marine's warranty is governed by the laws of the Commonwealth of Pennsylvania, excluding its conflict of laws principles and excluding the provisions of the United Nations Convention on Contracts for the International Sale of Goods. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Regulatory Information

- This product carries an ingress protection rating of IPX0 and must not be immersed in water.
- **Danger:** To avoid possible electrical shock, special care should be taken since water is employed in the use of aquarium equipment.
- DO NOT attempt repairs yourself; return the appliance to the manufacturer for service or discard.
- DO NOT immerse in water. If the appliance falls into the water, DON'T reach for it! First unplug it and then retrieve it. If electrical components of the appliance get wet, unplug the appliance immediately (non-immersible equipment only).
- Carefully examine the appliance after installation. It should not be plugged in if there is water on parts not intended to be wet.
- The pump's motor housing and Driver are NOT WATERPROOF; water can permanently damage them. This damage IS NOT covered under warranty. Protect these components from splashes, drips, or other contact with water.
- Do not operate any appliance if it has a damaged cord or plug, or if it is malfunctioning or if it is dropped or damaged in any manner. The power cord of this appliance cannot be replaced: If the cord is damaged, the appliance should be discarded. Never cut the cord. DO NOT DROP. The VorTech Pump is fragile, and a fall onto a hard surface can result in permanent damage. Damage may include cracking of the ceramic axle within the Wet Side or a loud Dry Side. Damage from dropping IS NOT covered under warranty.
- Position the aquarium stand and tank to one side of a wall-mounted receptacle to prevent water from dripping onto the receptacle or plug. A "drip-loop" should be employed for each cord connecting an aquarium appliance to a receptacle. A "drip-loop" is the part of the cord below the level of the receptacle (or the connector if an extension cord), to prevent water from travelling along the cord and coming in contact with the receptacle. If the plug or receptacle does get wet, DON'T unplug the cord. Disconnect the fuse or circuit breaker that supplies power to the appliance, then unplug and examine for presence of water in the receptacle.
- Close supervision is necessary when an appliance is used by or near children. Keep out of reach of young children.
- To avoid injury, do not contact moving or hot parts such as heaters, reflectors, lamp bulbs, and the like.
- Always unplug appliance from outlet and battery backup when not in use, before putting on or taking off parts, and before cleaning.
- Never yank cord to pull plug from outlet. Grasp the plug and pull to disconnect.
- Do not use appliance for other than intended use. The use of attachments not recommended or sold by the manufacturer may cause an unsafe condition.
- Do not install or store the appliance where it will be exposed to weather or to temperatures below freezing.
- Make sure appliance is securely installed before operating it. Read and observe all the important notices on the appliance.
- If an extension cord is necessary, a cord with a proper rating should be used. A cord rated for less amperes or watts than the appliance rating may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
- This appliance utilizes extremely powerful magnets that can cause severe personal injury.
- NEVER place either half of this device near magnetically attractive surfaces or sensitive electronics.
- The motor and driver can become HOT. Be cautious around these surfaces.
- DO NOT stick fingers or anything else into the propeller. NEVER connect the two halves of this device without using the proper spacer.

RF Module Important Information: The product you have purchased contains the EcoTech Marine RF Module, part number 10169. This module gives your product the ability to communicate wirelessly to other EcoTech Marine products as well as certain other manufacturer's products that were designed in compliance with the specifications for our RF Module. Use of this module in products not consented by EcoTech Marine is prohibited. This product is for indoor usage only.

Français: Cet équipement est prévu uniquement pour un usage à l'intérieur des bâtiments
English: This device is intended for indoor use only.

European Union – Disposal Information: This symbol means that according to local laws and regulations your product should be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. Some collection points accept products for free. The separate collection and recycling of your product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

FCC Compliance Statement: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation. Any changes or modifications not expressly approved by EcoTech Marine could void the user's authority to operate the RF module, and/or the product that incorporates the RF Module. The user is cautioned to maintain a 20cm (8 inch) spacing from the product to ensure compliance with FCC regulations.

CE Declaration of Conformity: The equipment complies with the RF exposure Requirement 1999/5/EEC, Council Recommendation on the limitation of exposure of the general public to electromagnetic fields (0-300 GHz). This equipment meets the following conformance standards: EN 300 328, EN 301 489-17

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This device contains: EcoTech Marine's RF Module
Part Number: 10169 FCC ID: VKB271829 IC: 7349A-271829



VorTech Pump can be used in the following countries:



AT	BG	BE	CY	CZ	DK
EE	FI	FR	DE	GR	HU
IE	IT	LV	LT	LU	MT
NL	PL	PT	RO	SK	SL
ES	SE	GB	IS	LI	NO
CH					