



Ocean

Pulse

Wave Maker

Ocean Pulse - DUO

W/M-01



W/M-02

Ocean Pulse - QUADRA

CREATING MOTION IN CAPTIVE OCEANS

TRANSWORLD AQUATIC ENTERPRISES INC.

OCEAN PULSE Important Safety Instructions

WARNING

To guard against injury, basic safety precautions should be observed, including the following:

READ ALL SAFETY INSTRUCTIONS BEFORE USE.

DANGER

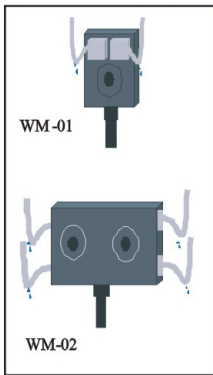
To avoid possible electric shock, special care should be taken since water is employed around the use of this product. For each of the following situations, do not attempt to repair yourself: return the appliance to an authorized service facility for service or discard the appliance.

A. If the appliance shows any sign of abnormal behavior, immediately unplug from the power source.

B. Carefully examine the appliance after installation. It should not be plugged in if there is water on parts not intended to be wet.

C. 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.

D. To avoid the possibility of the appliance plug or receptacle getting wet, position 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", shown in the Figure at the right should be arranged by the user for each cord connecting an aquarium appliance to a receptacle. The "drip loop" is that part of the cord below the level of the receptacle or the connector if an extension cord is used, to prevent water travel along the cord and coming in contact with the receptacle. If the plug or the receptacle do get wet, DON'T unplug the cord. Disconnect the fuse to the circuit breaker that supplies power to the appliance. Then unplug and examine for the presence of water in the receptacle.



- E. Close supervision is necessary when any appliance is used by or near children.
- F. To avoid injury, do not contact moving parts or hot parts such as heaters, reflectors, lamp bulbs, and etc.
- G. Always unplug an appliance from the outlet when not in use, before putting on or taking off parts, and before cleaning. Never yank the cord to pull plug from the outlet. Grasp the plug and pull to disconnect.
- H. Do not use an appliance for other than intended use. The use of attachments not recommended or sold by the appliance manufacturer may cause an unsafe condition.
- I. Do not install or store the appliance where it will be exposed to the weather or to temperatures below freezing.
- J. Make sure an appliance mounted on a tank is securely installed before operating it.
- K. Read and observe all the important notices on the appliance.
- L. This Appliance has a polarized plug (one blade is wider than the other). As a safety feature, this plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician. Never use with an extension cord unless plug can be fully inserted. Do not attempt to defeat this safety feature.
- M. 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.

SAVE THESE INSTRUCTIONS

CLEANING

It is important to keep this appliance clean. Always unplug the appliance before performing maintenance or cleaning of the exterior of this pump. Wipe exposed surfaces carefully with a damp terrycloth to remove any dust or mineral deposits which may collect over time. Make sure hands are completely dry before re-plugging into an electrical outlet.

SERVICING

In order to assure proper electrical connections and polarity, replacement parts and servicing should be performed only by a qualified electrician.

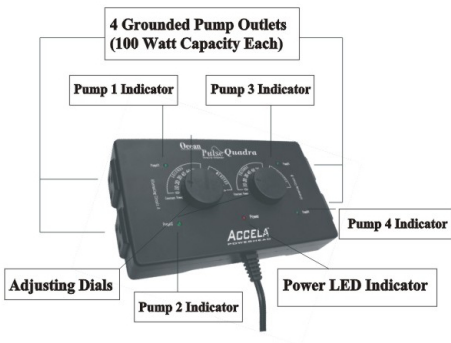
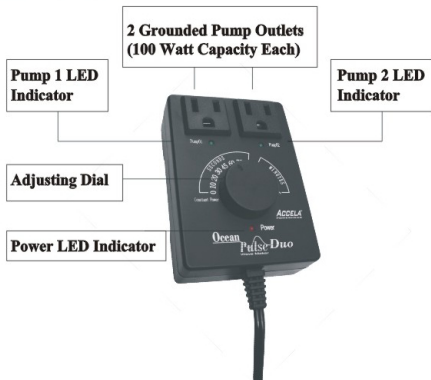
OPERATION

Please carefully read the entire "Owner's Manual" for proper operation procedures before proceeding with turning on this appliance and adding livestock such as fish, corals, and invertebrates.

SAVE THESE INSTRUCTIONS

OCEAN PULSE Identification

IDENTIFICATION



**DUO**
#WM-01**QUADRA**
#WM-02

OCEAN PULSE WAKEMAKER

Thank you for purchasing the Ocean Pulse Duo / Ocean Pulse Quadra. This innovative wavemaker is designed to replicate the natural alternating rhythms of tides and currents for home aquariums.

Creating Motion in Captive Oceans

This wavemaker instantly creates turbulent flow patterns with adjustable alternating cycle times from 10 seconds to 6 minutes. All models are equipped with an adjustable dial(s) for quick and easy set-up for virtually all type of invertebrates, corals, filter feeders, and fish who will gain immediate benefits.

Always research specific flow rate requirements for individual animals before making adjustments.

Water movement is vital for the success of invertebrates, animals with symbiotic algae, filter feeders, and fish. The natural currents in the ocean bring random flow and wave cycle patterns that provide nourishment while suspending waste particles for filters to effectively trap.

Benefits of Replicating Wave Patterns

Recreating water movement is essential for captive animals within our aquariums for long-term success. By installing the Ocean Pulse Wavemaker you will immediately be rewarded, as you see your aquarium transform into a cleaner, healthier, and more natural environment.

Benefits:

- Provides Oxygen Rich Water to entire aquarium
- Provides more stable water temperature
- Creates desirable turbulent flow patterns only found in nature
- Flushes "dead spots" of detritus and accumulated waste
- Increases Fish Activity
- Stimulates Coral and Invertebrate Growth
- Allows Corals more Exposure to Light

Understanding Water Movement

The 3 main forms of water movement that we try to replicate are:

Laminar Flow: Characterized by water that moves in parallel layers, normally steady in one constant direction.

Example: The typical powerhead with one uniform direction with same constant flow output.

Turbulent Flow: Characterized by water that moves in irregular or random patterns, normally multi -directional flow output and varying time for on/off alternating cycles.

Example: Using multiple powerheads on Ocean Pulse Wavemaker to create different flow outputs with varying time sequences.

Surge Flow: Characterized by water that moves in a strong wavelike volume. Normally in an uneven flow and strong momentum that temporarily rises and falls.

Example: The rolling and swelling of a wave in the ocean.

Specifications: Ocean Pulse Wavemaker 110V/60Hz

Model #	Name	# of Pumps	Outlet Capacity	# of Dials	Power Draw
WM-01	Duo	2	100 Watt	1	2 Watt
WM-02	Quadra	4	100 Watt	2	3 Watt

WARNING: ALWAYS plug into a Ground Fault Interrupter Circuit when used near water.

Note: The Ocean Pulse Wavemaker is NOT waterproof, and should be placed with a "drip loop" and away from moisture. Please place in a well ventilated area and mount vertically. A hanging hole is supplied on the rear side of the wavemaker.

Caution: Do Not plug into electrical power source until pumps are connected and adjustments to dial have been made.

Programming On/Off Cycle Times

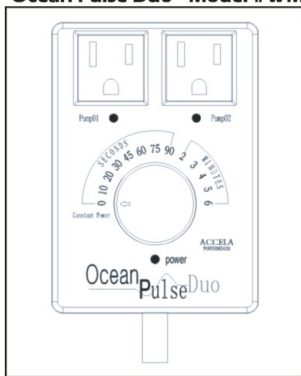
Your Ocean Pulse™ Wavemaker is very simple to program. It is factory set for time sequences to alternate from 10 seconds to 6 minute duration periods.

The wavemaker can also be used in Constant Power Mode by lining up the arrow on the Adjustment Dial to Constant Power.

Note: The Ocean Pulse Wavemaker will need to be reset if there is a power failure. All Pump Indicator lights will be on and will be in Constant Power Mode for all pumps. You can reset by turning the Adjustment Dial(s) to 6 minutes and back to Constant Power setting.

Adjust to desired time sequence for normal operation.

Ocean Pulse Duo—Model #WM-01



OCEAN PULSE - DUO
2 Pump Capacity

Insert 1 -2 powerheads into outlets. Turn Adjustment Dial to desired time sequence duration period.

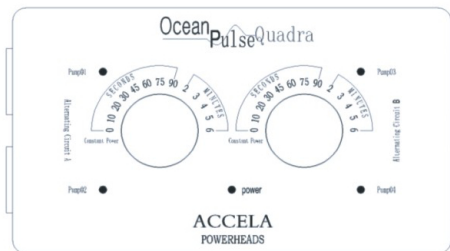
Powerheads will be alternate On/Off according to the desired set time sequence.

Pump Indicator Lights will illuminate when power is reactivated to show which powerhead is in use.

Note: Ocean Pulse Wavemakers should be used with powerheads that are wavemaker approved. Constant on/off cycles may cause damage to powerheads not approved. We recommend ACCELA Powerheads for best results.

Ocean Pulse Quadra—Model # WM-02

4 Pump Capacity



Insert 1-4 powerheads into outlets located on the sides of the wavemaker. Turn Adjustment dials to desired time sequence duration period.

Powerheads 1 & 2 are on "Alternating Circuit A" while powerheads 3 & 4 are on "Alternating Circuit B". Place pumps in aquarium at various positions to create random flow patterns.

The Ocean Pulse Quadra has the advantage of an extra Adjustment Dial that can overlap Alternating Circuit A (Pumps 1 & 2). This will allow you to create varying wave patterns with dramatic effects.

Note: Ocean Pulse Wavemakers are NOT waterproof. Please place in a moisture free environment which is well ventilated.

Current simulation can be created by trying various settings on the Adjustment Dial.

Gentle Currents

Slower currents can be created by turning the Adjustment Dial(s) to 6 minute setting. This is the longest time cycle period that will replicate a more gentle wave action. This is a very good setting for "stream" pumps that need more time to generate speed for a wider water disturbance.

Turbulent Currents

Turbulent currents can be created by turning the Adjustment Dial(s) to seconds between 10-90 second cycle periods. This will cause a more random wave action that is faster and re-directs water constantly in a smaller amount of time.

Combination Currents (For Quadra Model Only)

The best current pattern will be a combination of gentle and turbulent flow sequences. You can easily recreate this with the Ocean Pulse Quadra Model that has the 4 pump capacity.

Connect 2 "stream" type pumps on one Alternating Circuit set at longer cycle time between 5-6 minutes. Then connect 2 regular pumps to the other Alternating Circuit for faster on/off cycles to create a more turbulent environment.

This set up is very beneficial for animals since it creates different wave patterns for all livestock.

Try different time sequences and set for what works best for your individual needs.

Customer Support

If you require further support or have questions, please contact us at:

Customer Support: (310) 672-4021

Or email us at support1@jblighting.com

Or visit our website for any updates on your product.

Web Address: www.jblighting.com

Please call or email us for any warranty related concerns:

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