

Notes:

1 Square = ____ Foot / Feet




 National Garden Wholesale.
 Sunlight Supply, Inc.

VANCOUVER, WASHINGTON U.S.A. 

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Revision F – 01/19/2015 © Titan Controls®

Part #111289



12 Site Ebb & Flow System Instruction Manual

Featuring Titan Controls® Oceanus® 1 Controller




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Ebb & Flow System Contents

- Warnings & Cautions
- Oceanus® 1 Controller by Titan Controls®
- Built in Safeguard for your Plants
- Assembly Instructions
- System Test Instructions

- Operating Instructions
- Maintenance of the Ebb & Flow System
- System Specifications
- Troubleshooting Tips
- Warranty Information

Warnings & Cautions

- Read all instructions before filling or operating the 12 Site Ebb & Flow System.
- Do not remove the GRO sites when the system is cycling water, flooding will likely occur.
- If you 'top-off' your reservoir, do this when system has completed the 'DRAIN' cycle or you will have flooding.
- When using "bug bombs" in area, cover Oceanus® 1 to avoid corrosion and contamination.
- Do not attempt to repair the Oceanus® 1, there are no serviceable parts and any tampering voids warranty.
- Do not put paperclips, tools, etc. into the Oceanus® 1. Possible electrocution may occur.
- Make sure to verify your power source is 120 Volt prior to plugging in your Oceanus® 1.
- Check that all equipment that will be activated by this controller is 120 Volts.
- This controller is designed for 'Inside Use' only.
- Avoid placing the controller near heat generating sources including CO₂ generators.
- Use caution when operating controller in extremely humid environments.
- Do not use controller for purposes other than the unit was designed to function.
- Use controller within defined environmental specifications.
- Ask your Dealer for tips and techniques regarding the use of this system.
- Be environmentally conscientious when disposing of any expended nutrient or growing products.

Ebb & Flow System Controlled by the Oceanus® 1

As controlled by the Oceanus® 1, the 12 Site Ebb & Flow System is the latest innovation in ebb and flow gardening:

- Straight forward step by step assembly instruction printed in large easy to read text with pictures, makes assembly a pleasure, not a pain.
- With the disabled and physically impaired grower in mind, easy to attach tees and tubes connect the GRO sites.
- Oxygen rich nutrient water soaks the root zone by flowing through the 360° mesh inserts.
- Simple to operate, 24 hour dial sets your watering period.
- Completely adjustable from one GRO site to twelve!

The grower gains the advantages of an expandable multi-site ebb and flow garden without the difficulties of complicated assembly or the high maintenance normally attributed to systems of this type.

Built In Safeguard for your Plants

BRAIN DRAIN

The Oceanus® 1 includes the proprietary Titan "Brain Drain" feature that accurately and consistently manages the 'DRAIN' pump through digitally controlled mini cycles pumping out the exact amount of nutrient solution while leaving an emergency reserve at each GRO site to safeguard your plants against power outages!

THE TITAN CONTROLS® PROMISE

The Oceanus® 1 represents the latest innovation in ebb and flow controller technology. Coupled with our Flo-n-Gro® 12 Site Ebb & Flow System, you will enjoy years of trouble free operation.

Service and Repair Program

• For all service and repairs please contact one of our Technical Service Representatives for a Return Merchandise Authorization (RMA) number. • All factory service & repairs will be completed within 48 hours after receipt of controller and after authorization by customer for repairs. • Titan Controls® will, at its discretion, repair or replace the controller. • Returning Units: Please contact your retail store for returns.

WARRANTY SERVICE: Please read warranty information first

If after reviewing the troubleshooting tips the unit will still not work, you should return it to the Dealer where you purchased the controller. They will be able to further evaluate the unit and test its various components and quite possibly will be able to identify and/or fix any problems. If the Dealer is unable to fix the unit, they will return it to us for factory repair. If there are no Dealers in your area, you may contact us directly for technical support. If we cannot help you resolve the problem over the phone, we will issue you an RMA # (return merchandise authorization) authorizing you to return the unit to us for factory reconditioning (if the unit is under warranty). Contact the number below for an RMA # and shipping address. Complete the form below and include it with your unit. Also please write the RMA # on the outside of the box. Please package the unit in its original packaging. If it is damaged in shipment we cannot be responsible. Once we receive the unit back, we will repair or replace the controller within 48 hours (business) and return it to you freight prepaid via UPS ground shipment.

Include the following if returning directly to Titan Controls®

- Proof of purchase
- This completed form
- RMA # on the outside of the box

Return Merchandise Authorization Number (Required) _____

Company Name: _____

Contact Name: _____

Address: _____

Phone #: _____

Email address: _____

What is the nature of the problem? _____

Shipping address will be given when the RMA # is issued.



www.titancontrols.net

For technical assistance call us at 1-888-80-Titan or 1-888-808-4826.

Representative available Monday – Friday, 8 a.m. – 5 p.m. PST.

Maintenance of the 12 Site Ebb & Flow System:

- The nutrient solution in your Ebb & Flow System will need to be changed every 7 to 14 days based on your plants requirements. In between water changes, you can 'top off' your reservoir by adding water or a reduced strength nutrient solution.
- To insure proper function:
 1. Clean the drain filters out on both pumps;
 2. Check the tubing for any cracks or kinks.;
 3. Verify that the float switches in the Oceanus® 1 are clean and clear of obstructions;
 4. Inspect anti-siphon holes in fittings on the top of the reservoir to make sure there is no build up or clogging (PHOTO 8);
 5. Occasionally wipe down the inside of the Oceanus® 1 and the reservoir with a soft cloth to remove debris.

System Specifications:

Reservoir:	Oceanus® 1 – Flo-n-Gro® 12 Site Ebb & Flow controller:	Storage Temperature = 32°F (0°C) to 135°F (57°C)
Size = 24"W x 37" H	Size = 10"W x 13"D x 14"H	Operating Temperature = 40°F (5°C) to 90°F (32°C)
Total volume = 55 gallons	Weight = 6.25 lbs	
	Voltage Input = 120 Volts	System pumps:
	Voltage Output = 120 Volts	See pump package for specifications.
GRO sites:	Minimum Amperage = 1 Amp	
4 gallon Gro sites	Maximum Amperage = 10 Amps	
360° 3 gallon mesh inserts	Hertz = 60 Hz	

Troubleshooting Tips

If your Flo-n-Gro® Ebb & Flow System is not functioning as expected, try the following:

- Verify that you have power coming from your outlets providing 120 Volt power to pumps.
- If your pumps making noise but not pumping water, 'prime' the pump by leaning from side to side to release air bubbles trapped in the pump. This needs to be accomplished when your pump has run dry or you're using it for the first time.
- Don't allow the Ebb & Flow System to run 'dry', keep the reservoir at a minimum of 50% full.
- Check and clean GRO sites tee fittings from any debris or materials that may potentially clog the fittings.

Warranty Information

- Titan Controls® warrants the original purchase of this product against defects in material and workmanship under normal use for one (1) year from the date of purchase.
- During the warranty period, Titan Controls® will, at our option, and without charge, repair or replace this product if the controller or any of its components fail or malfunction.
- All returns or repairs must be accompanied by a Return Merchandise Authorization (RMA) number prior to any service of the product.
- This warranty is expressly in lieu of all other warranties, expressed or implied, including the warranties of merchantability and fitness for use and of all other obligations or liabilities on the part of the seller.
- This warranty shall not apply to this product or any part thereof which had been damaged by accident, abuse, misuse, modification, negligence, alteration or misapplication.
- Controllers with serial numbers or date tags that have been removed, altered or obliterated; broken seals or that show evidence of tampering; mismatched board serial numbers or nonconforming parts; are excluded from coverage.
- Titan Controls® makes no warranty whatsoever in respect to accessories or parts not supplied by Titan Controls®.
- Monetary refunds of the warranty will not be given.
- The Buyer assumes all responsibility regarding the use & installation of this controller.
- All warranty service is provided through the factory or an authorized service representative.
- This warranty shall apply only to the United States.
- Defective controllers need to be returned with the "proof of purchase" receipt.
- For additional warranty information, contact a Titan Controls® Technical Service Representative. Our normal business hours are Monday – Friday, 8 a.m. to 5 p.m. Pacific Standard Time. We are closed most major holidays.
- NOTE: Titan Controls® is a controller manufacturer. All sales offerings to the public are done through a nationwide group of Dealers. No sales offerings will be made directly to the general public.

Assembly Instructions

STEP 1- Remove Green Factory Seal From Reservoir and Organize the Parts

Become familiar with your system components, organize your parts to make assembly a pleasure, and complete the below check list.

Flo-n-Gro® 12 Site Grow System Components

Check	QTY	Part Name	Part Description
	1	Controller	Oceanus® 1 - Ebb & Flow System with ¾" black 'EZ Pull End Caps'
	12	GRO site	Blue 4 Gallon with grommet installed
	12	Insert	Black 360° mesh pot insert
	2	Pump	1st Maxi Jet Pump and 2nd Maxi Jet Pump (Same Type)
	12	tee	¾" tub outlet tee fittings
	2	Wrap	10" black spiral tubing wraps
	1	½" Spool	20' spool of ½" black tubing coil
	1	¾" Spool	10' spool of ¾" black tubing coil
	8	Short Tube	2' pieces of ¾" black tubing
	4	Clamp	½" hose clamps
	1	Reservoir	Blue 55 Gallon Reservoir

Everything checked off? If yes, proceed to STEP 2. If you are missing anything or have any questions or problems, please call the Titan Controls® technical phone line 1-888-808-4826.

STEP 2 - Assemble and Set-Up Assemble Flood Lines

1. Snap the Inserts in place within the GRO sites
2. Arrange GRO sites to match the lighting footprint of your garden.
 - a. Hint: It is important to remember that the GRO sites must be at the same level as the Oceanus® 1 for the Ebb & Flow System to function properly. (PHOTO #1)
 - b. Hint: Consider locating close to a drain or available method of properly disposing of exhausted nutrient solutions.
3. Insert tub outlet tees into GRO Site. Make sure to have a washer on both sides. (Photo # 2)
4. Connect Short Tubes between each GRO site at tees to form desired number of Flood Lines. (PHOTO #3)



PHOTO #1

Connect Oceanus® 1 to the Flood Lines

5. Cut a length of ¾" tubing matching the desired distance between the Oceanus® 1, and the first Flood Line.
6. Remove one of the black ¾" 'EZ PULL END CAP' from one Oceanus® 1 output fittings (they are located at the bottom of the unit) and connect the first end of the cut tubing to the now exposed output tee fitting.
7. Connect the second end of the cut tubing to the one end of a Flood Line and slide connect the just removed "EZ PULL END CAP" over the last tee fitting on the other end of the Flood Line.
8. Repeat for each Flood Line.
 - a. 'EZ PULL END CAP' provides expanding and contracting options for your system and are necessary to prevent flooding, **do not discard**.
 - b. Flooding will occur if you fail to cap each Flood Line end.



PHOTO #2

Connect Oceanus® 1 To 1st Pump

9. Use the included 25" section of black ½" tubing and attach it to the 1st Pump outlet securing with a ½" hose clamp.
10. Secure the 1st Pump to the interior wall of the Oceanus® 1 with

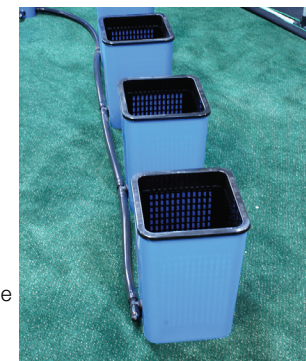


PHOTO #3

the 1st Pump filter placed flush against the bottom of the bucket. (PHOTO #4)

11. Attach the other end of the 25" section to the 'DRAIN' fitting under the controller lid. (PHOTO #5)
12. Pull the power cord for the 1st Pump through the hole in the top lid of the Oceanus® 1 and plug it into the 'DRAIN OUTPUT' power outlet on the side of Oceanus® 1 (PHOTO #6)

Connect Reservoir to 2nd Pump

13. Cut a piece of ½" tubing that is long enough to reach from the ½" straight fitting at the top of the Reservoir to the bottom of the reservoir (approximately 42").
14. Connect first end of the ½" tubing to the 2nd Pump outlet, and lower the 2nd Pump to the bottom of the Reservoir (PHOTO # 7)
15. Connect the other end of the ½" cut tubing to the ½" 'FILL' straight fitting at the top of the Reservoir, and secure with ½" hose clamp. (PHOTO #8)

Connect Reservoir to the Oceanus® 1

16. Locate the Reservoir where it will be easy to fill and in close proximity to the Oceanus® 1.
17. Take the power cord from the pump through the hole in the lid of the reservoir and plug it into the 'FILL' output on the left side of the Oceanus® 1. (PHOTO # 9)
18. Cut (2) two pieces of ½" tubing long enough to reach from the top of the reservoir to the ½" straight connectors located at the top of the Oceanus® 1. (PHOTO #10)
19. Attach the first end of the cut ½" tube to the 'DRAIN' fitting on the top of the reservoir, secure with a ½" hose clamp, and attach the second end to the 'DRAIN' fitting on the top of the Oceanus® 1. (PHOTO 11)
20. Attach the first end of the other ½" cut tube to the 'FILL' fitting on the top of the reservoir, secure with a ½" hose clamp to the 'FILL' fitting on the top of the Oceanus® 1.
21. Use the two 10" Wraps to prevent kinking or bending in the hose. (PHOTO # 12)

System Test Instructions

Suggested System Pre-Use Test

1. Double check each fitting connection for secure fit to prevent leaks!
2. Fill Reservoir with warm water only. (The warm water will relax the tubing)
 - a. Do not put your growing media in the mesh pots, as you need to watch the water levels.
 - b. Do not put your valuable nutrients in, you may have to drain and fix something.
3. Plug the Oceanus® 1 into the wall outlet
4. Turn the 24 hour timer clockwise just until the 'FILL' cycle is initiated.
 - c. You should hear the 2nd Pump in the Reservoir run.
 - d. You should see a green blinking 'FILL' light on the face of the Oceanus® 1 controller.
 - e. You should see the GRO sites fill with water until the

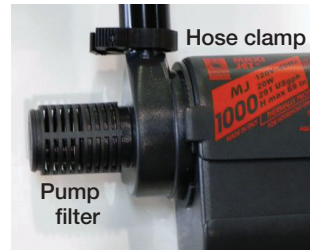


PHOTO #4



PHOTO #5



PHOTO #6

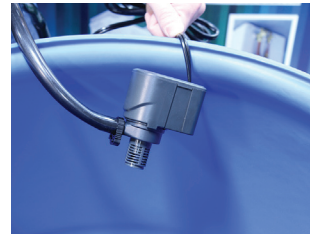


PHOTO #7



PHOTO #8



PHOTO #9

upper float switch within the Oceanus® 1 has floated up for five seconds.

- f. After five seconds, the 2nd Pump should shut off.
- g. You should see a solid green 'FILL' light indicating the 'FILL' cycle is complete.
5. Turn the 24 hour timer clockwise until the 'DRAIN' cycle initiates.
 - h. You should hear the 1st Pump in the Oceanus® 1 come on.
 - i. You should see a red blinking 'DRAIN' light on the face of the Oceanus® 1 controller.
 - j. You should see the water being pumped out of the GRO sites and back into the Reservoir.
 - i. A proprietary controller "Brain Drain" feature will manage the 1st pump through a few extra cycles to pump out the exact amount of water leaving enough in the GRO sites to maintain the seals at the tees, keep the 1st Pump primed, and to safeguard your plants in the event of a power outage.
 - k. After the "Brain Drain" cycle, you should see a solid red 'DRAIN' light on the face of the Oceanus® 1.
 - l. You should see a small amount of reserve water in each GRO site.

If you have successfully conducted the Pre-Use Test, proceed to Operation.

Operating Instructions

1. Unplug the Oceanus® 1 power cord from wall socket.
2. Fill up to 2 inches from the top of each GRO site with your choice of hydroponic growing media.
3. When transplanting, place the top of the transplant cube approximately 2 inches under the surface of the grow media to prevent 'floating' the transplant during 'FILL' cycles.
4. Fill the reservoir with your choice of balanced hydroponic nutrient solution.
5. For longer periods between maintenance, fill the reservoir completely.
6. Set the desired number and times for the 'FILL' cycle by pushing the 15 minute trippers on the timer to the inside, showing an orange ring. (PHOTO # 13)
 - a. Each GRO site will approximately require one minute to fill, so one 15 minute trip should fill 12 GRO sites.
 - b. Depending on your grow media, you may want 'FILL' the GRO sites two to four times daily.
7. Set the timer to the correct time by aligning the white triangle to the corresponding time.
8. There are 'FILL' and 'DRAIN' lights on the front of the Oceanus® 1.
 - a. The green 'FILL' light will blink slowly to begin with and then faster as the system continues to fill.
 - b. After the system is full of water, the green 'FILL' light will be a solid green.
 - c. When the 'DRAIN' function begins, the red 'DRAIN' light will begin to blink slowly, and then faster as the system drains the water out.
 - d. After the 'DRAIN' function has completed, the red 'DRAIN' light will be solid. (PHOTO #14)
9. After you have set the 'FILL' cycles plug the Oceanus® 1 into a confirmed 120 Volt power source.
10. The System will now begin to function based on your custom settings.
11. If both the 'FILL' and 'DRAIN' lights blink back and forth, unplug the Oceanus® 1, count to five, and plug it back into the 120 Volt power source. Sync timer with cycle function. This will reset the controller.



PHOTO #10



PHOTO #11



PHOTO #12



PHOTO #13



PHOTO #14