



NANO-CUBE - LED All-In-One BIOTOPE

OWNER'S MANUAL



28 Gallon

TRANSWORLD AQUATIC ENTERPRISES INC.

28g NANOCUBE - LED

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Important Safety Instructions

WARNING

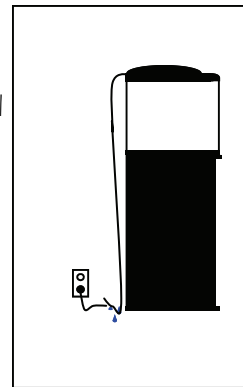
To guard against injury, basic safety precautions should be observed, including the following:

READ ALL SAFETY INSTRUCTIONS BEFORE USE.

DANGER

To avoid possible electric shock, special care should be taken since water is employed in the use of aquarium equipment. 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 falls into water, DON'T reach for it! First unplug it and then retrieve it. If the electrical components of the appliance get wet, unplug the appliance immediately.
- 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. (Continued on pg 4)



Important Safety Instructions

D. (Continued from pg 3)

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. This appliance is intended FOR HOUSEHOLD USE ONLY.

Do not use or mount this appliance in such a way that the top vents are restricted or blocked. These vents are necessary to avoid over-heating and insure safe operating temperature.

Important Safety Instructions

O. Make sure that the appliance is set on a level surface to prevent undue stress on the aquarium tank from stress and leaks. It is not recommended that this appliance is set upon coffee tables, end tables, T.V. stands, or night stands unless the structure has been properly tested to within the weight limits of the aquarium.

CLEANING

It is important to keep this hood appliance clean. Always unplug the appliance before performing maintenance or cleaning of the exterior of this hood. Wipe exposed surfaces carefully with a damp terrycloth to remove any dust or mineral deposits which may collect over time. Make sure all surfaces are dry before re-plugging into an electrical outlet. To prevent scratching the aquarium, use a damp terrycloth when cleaning. Never use algae scrapers, scouring pads, razor blades, glass cleaner or other such abrasives.

SERVICING

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

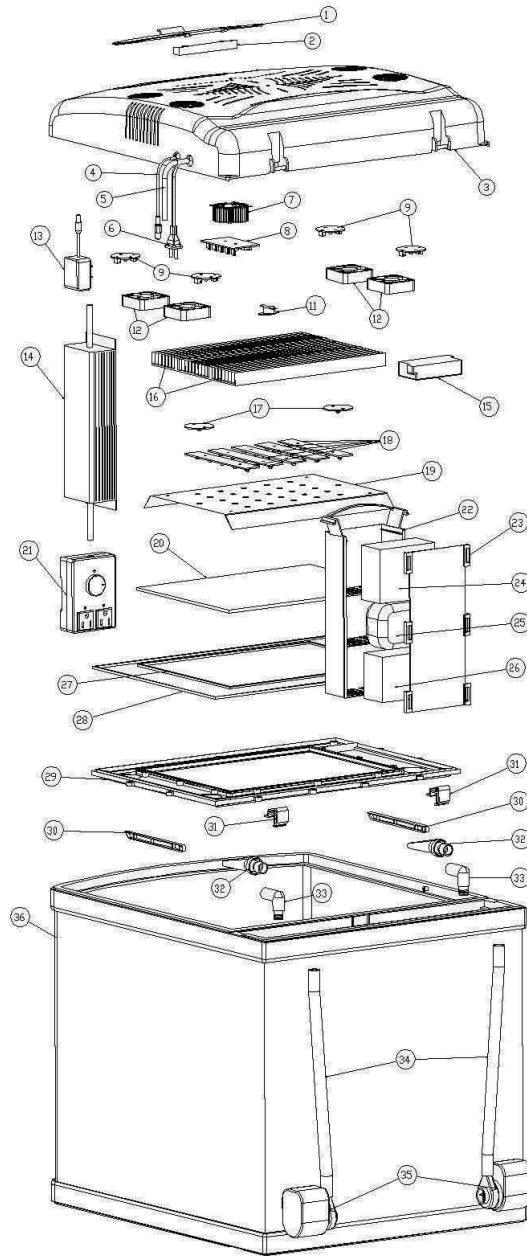
OPERATION

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

28g NANOCUBE - LED Parts

PARTS EXPLODED VIEW & IDENTIFICATION



28g NANOCUBE - LED Parts

PART	#	Name	PART	#	Name
MT-601-	1	Feeding Lid	MT-601-	26	Ceramic Rings
MT-601-	2	Feeding Lid—Bracket	MT-601-	27	Quartz Glass—O-Ring
MT-601-	3	Canopy	MT-601-	28	Splash Guard—O-Ring
MT-601-	4	Moonlight—Cord	MT-601-	29	Splash Guard
MT-601-	5	Daylight—Cord	MT-601-	30	Canopy Leg Stand
MT-601-	6	Dawn/Dusk—Cord	MT-601-	31	Hinge
MT-601-	7	Current Regulator—Heatsink	MT-601-	32	Return Nozzle
MT-601-	8	Current Regulator PCB	MT-601-	33	Return Elbow
MT-601-	9	3 Watt—Dawn/Dusk LEDs	MT-601-	34	Pump Hose
MT-601-	11	Thermal Protector	MT-601-	35	Accela Pump
MT-601-	12	Cooling Fan	MT-601-	36	Tank Body
MT-601-	13	Moon Light—Transformer			
MT-601-	14	Daylight—Remote Ballast			
MT-601-	15	Dawn/Dusk—Internal Ballast			
MT-601-	16	Aluminum Heatsink			
MT-601-	17	1 Watt—Moonlight LEDs			
MT-601-	18	3 Watt—Daylight LEDs			
MT-601-	19	Aluminum Reflector			
MT-601-	20	Quartz Glass			
MT-601-	21	Ocean Pulse Wavemaker			
MT-601-	22	Filter Basket + Handle			
MT-601-	23	Filter Basket—Sliding Door			
MT-601-	24	Sponge			
MT-601-	25	Activated Carbon			

28g NANOCUBE - LED Introduction

Delivering Tomorrow's Technology Today!

Thank you for purchasing the 28g LED NANOCUBE Aquarium. Our high intensity LED illumination system delivers the power of metal halides and the broad coverage of T5 lighting with over 10x the lifespan. It requires less energy consumption, is cool running and offers beautiful shimmering while being eco-friendly.

ILLUMINATION SYSTEM

Our 89 watt LED system provides comparable PAR output to our 150 watt HQI—14K canopy system, while consuming approximately 40% less energy. Enjoy the mesmerizing shimmering of all 3 light cycles generally only found in nature.

Since LEDs turn on to full brightness without having to warm up, you can instantly light up your aquariums without the wait. These revolutionary diodes radiate heat upwards and away from the water to reduce unwanted heat transfer that can be detrimental for aquarium livestock.

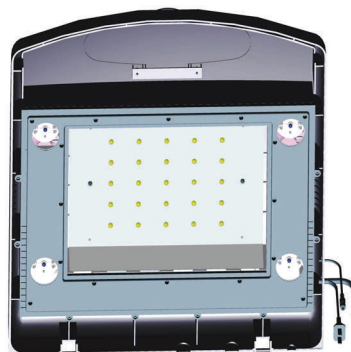
24 Hour Light Cycle

Our new canopy offers around the clock illumination all powered by individual power cords for the daylight, dawn/dusk, and moon cycles.

Daylight—25 x 3 Watt—14K
Dawn/Dusk—4 x 3 Watt—
Actinic / 466 nm
Moon—2 x 1 Watt—Nite-Vu /
456nm

Long Lasting Lamps

Impressive 50,000 hour lifespan with a 30% reduction in output.



28g NANOCUBE - LED Introduction

CRYSTAL CLEAR CURVED GLASS

All Nano-Cube Aquariums offer panoramic viewing with smooth rounded corners for maximum viewing and enjoyment.

INTEGRATED 3 STAGE FILTRATION

Our comprehensive 3 Stage Filtration system keep aquariums sparkling clean and is discreetly hidden behind a false wall to provide an uncluttered and professional look and feel.

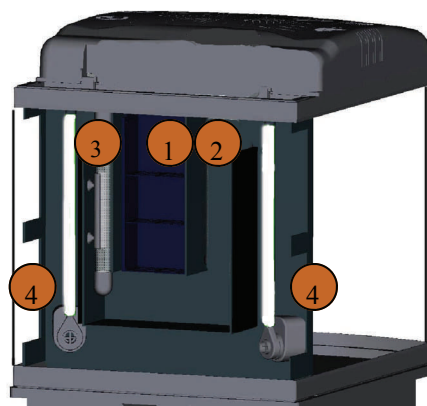
All media is conveniently placed inside our transparent **Removal Filter Media Basket** for quick and easy filter changes. The filter media basket also incorporates a handle and a sliding door for added convenience.



Can also be converted into an "In tank Refugium" to grow Chaetomorpha.

For more information check

FILTRATION LAYOUT



- 1 - 3 STAGE FILTER
 - * Mechanical Sponge
 - * Activated Carbon Bag
 - * Biological Ceramics Bag
- 2 - AUXILLARY COLUMN
- 3 - HEATER COLUMN
(Heater Not Included)
- 4 - RETURN PUMPS

28g NANOCUBE - LED Introduction

3 STAGE FILTER

Mechanical Filtration:

Filter Sponge traps free floating particulate matter and debris.

Chemical Filtration:

Activated Carbon bag removes dissolved organics and odor.

Biological Filtration:

Ceramic Ring bag provides internal/external surface area for housing beneficial bacteria to oxidize harmful ammonia and nitrite that accumulate in the aquarium from fish wastes, over-feeding, and normal biological processes.

* **Note:** Ceramic Ring bag can be removed if using this Nano-Cube as a mini-reef aquarium. Maintaining an average of 1lb per gallon of live rock will create a live biological filtration system as well as denitrification system ultimately creating a balanced biotope.

Submersible Pumps:

Included with flexible hose and elbow connector.

(2) Accela SP1-1000 Pumps

Rated at 266 gph

Ocean Pulse Duo—Wavemaker

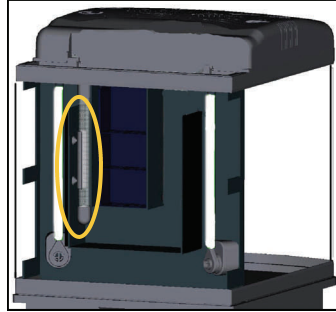
(2) Directional flow nozzles



Heater Placement (not included)

A submersible heater should be placed in the designated heater column. This column ALWAYS has a constant water level to keep the heater submerged and to prevent breakage.

Most tropical fish and corals prefer a range between 74-80F. Please consult with your aquarium professional for specific needs of the animals you intend to keep.



Dual Return Pumps + Wavemaker



Once the water is filtered and heated, the water is redirected back into the aquarium via (2) directional flow nozzles and wavemaker.

The dual return pumps along with the wavemaker recreate the natural turbulent currents normally associated with reef environments.

The Ocean Pulse Wavemaker can be adjusted from 10 Seconds to 6 minute intervals. This alternating cycle will keep detritus from accumulating, provides oxygen, removes waste from coral polyps and provides the optimal environment for corals to flourish.



28g NANOCUBE - LED Getting Started

HANDLING PRECAUTIONS

Never attempt to move a full or partially full Nano-Cube.

Never lift by grabbing the aquarium frame

Never use cleaners that contain ammonia to clean the glass surfaces. Always lift and carry the Nano-Cube from underneath giving support to the bottom at all times.

CHOOSING A LOCATION

A. With a Nano-Cube Stand

1. Find a leveled surface and place Nano-Cube on top of stand before filling with water. Make sure that no part of the tank is overhanging the stand.

B. Without a Nano-Cube Stand

1. Find a leveled surface that can support the weight of the tank, water, and livestock. An average aquarium can weigh 10lbs per gallon once filled with water, rock, gravel, and other accessories.

2. Do not place in direct sunlight to prevent excessive algae growth and higher water temperatures.

FILLING THE TANK

Always dechlorinate tap water before adding into the aquarium. Always fill with room temperature water.

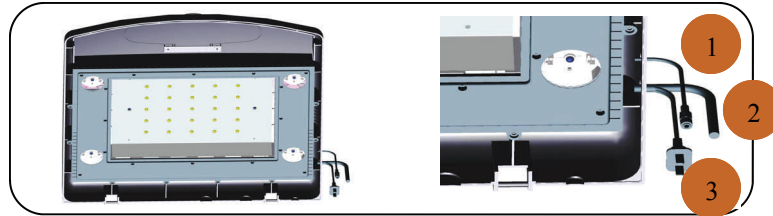
Rinse Activated Carbon which is located in the rear filter compartment under the sink for 30 seconds or until water runs clear.

Fill the main body of the Nano-Cube until water flows through the overflow grill into the rear filter chamber. Once the rear filter chamber is full, plug pumps into the Ocean Pulse Wavemaker.

Adjust the dial on the wavemaker to create the alternating ON/OFF cycles for the pumps. Plug the wavemaker power cord into an approved electrical outlet with a fuse or circuit breaker.

Once pumps are on, water will flow from the rear filter chamber through the directional flow nozzles into the main body of the Nano-Cube. Adjust accordingly to desired flow position.

28g NANOCUBE - LED Lighting



1 TURNING ON YOUR LIGHTING SYSTEM (Nite Lite)

Your Nano-Cube is installed (2) Nite-Vu LED's that simulate nocturnal cycles with very dim blue light (nightlights) that casts sparkling rays that shimmer for a more natural light cycle commonly found in nature.

A. Connect the single male prong cable from the canopy to the small block transformer. We recommend always keeping this plugged into an electrical outlet without a timer.

B. The Nite-Vu LED lighting is very dim not to disturb the night cycles of fish but just bright enough to watch their nocturnal behaviors. The Nite-Vu LED lighting is best seen when surrounding light is turned off in the room.

2 TURNING ON YOUR LIGHTING SYSTEM (Daytime)

Your Nano-Cube is installed with 25 individual 3 watt LEDs in the center of the reflector with 14K (color temperature) for daytime illumination

A. Connect the 5 prong cable from the canopy to the larger remote ballast. Align the notched groove and insert. Twist coupling until tight.

B. Plug into a household timer for 6-8 hours of a day. Fans will simultaneously start to keep the hood at proper operating temperatures.

3 TURNING ON YOUR LIGHTING SYSTEM (Dawn/Dusk)

Your Nano-Cube is installed with (4) individual 3 watt LEDs in the four corners of the canopy to simulate a sunrise/sunset effect.

A. Plug the power cord from the canopy into a household timer.

B. We recommend that the timer be set to turn on 2 hours before the daylight starts and stay on 2 hours after the daylight turns off.

Maintenance Procedures

Regular maintenance is the key to a successful thriving aquarium. Maintaining an aquarium can be very easy with a regular cleaning schedule. Changing filter media is fast and easy with our Removal Filter Media Basket.

Simply, lift up on the handle and the water will drain out from the bottom. Take to the sink and slide open the door for a convenient filter change.

WATER CHANGES

- A. Water changes should be carried out on monthly to bi-monthly schedule depending on how much bio-load is kept.
- B. 25% water changes with gravel vacuuming is essential to keep dissolved organic carbons to a minimum.

REPLACING THE FILTER SPONGE (Chamber 1)

- A. Filter Sponge should be changed on a monthly basis to remove trapped debris and free floating particulate matter.

REPLACING THE ACTIVATED CARBON (Chamber 2)

- A. Activated Carbon adsorbs dissolved pollutants and removes the yellow discoloration of water and associated odors.
- B. Replace Activated Carbon Bag on a monthly basis.

CERAMIC RINGS (Chamber 3 / Bottom Level)

- A. Biological media should not be removed as it houses the beneficial nitrifying bacteria for removal of ammonia and nitrite.
- B. This media does not need to be changed.

Maintenance Procedures

SAFETY

Always disconnect the power supply from the wall outlet when performing lamp changes

CHANGING THE LAMPS

Your 28g Nano-LED is installed with the following:

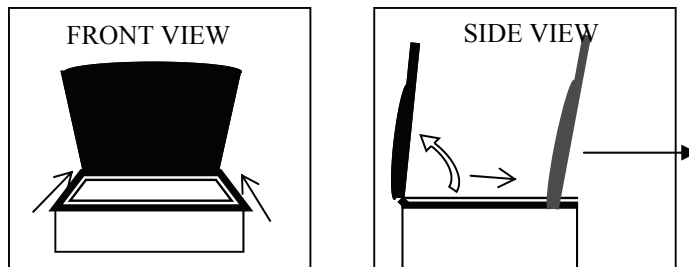
Model	Daylight	Dawn/Dusk	Moonlight
MT-601-LED 28g Nano-Cube LED	25x3 Watt 14K	4x3 Watt 466nm	2x1 Watt 456nm

LEDs have a remarkable 50,000 hour lifespan with a 30% reduction in output.

You won't need to change lamps for at least 10 years based on a photoperiod of 10 hours a day.

Removing the Canopy Lid

Your canopy lid is fastened into 2 hinges located towards the rear of the canopy. To remove canopy, simply lift the canopy lid at a 90 degree angle from the tank and pull canopy lid towards yourself. The canopy lid will "unsnap" from the hinges on the tank.



SPECIFICATIONS

28g NANOCUBE LED- SPECS

Product Name—28g Nano Cube LED
Item No: MT-601-LED
Tank Volume: 28 gallons
Glass Thickness: 6mm
Accela Pumps: (2) x 266 gph/ 16 watt each
Cooling Fans: (4) 3000 rpm/ Ball Bearing Type
Tank Dims: 18" x 22" x 22" high
Optional Stand: 18"x 22"x 32" high
Lighting Type: Light Emitting Diodes
Thermally Protected
Warranty: 1 Year parts and labor

Customer Service Information

For additional information or technical assistance please call us at (877) 374-9981, M-F from 9AM-5PM (Pacific Standard Time).

Optional Stand:

18" x 22" x 32"

Item Code: MTS-60

- Ventilated Side Cabinets
- 32" high
- Chiller Storage
- Hardware Included



28g NANOCUBE - LED Maintenance Log

DATE	MAINTENANCE

28g NANOCUBE - LED Maintenance Log

DATE	MAINTENANCE

28g NANOCUBE - LED Notes

28g NANOCUBE - LED **Notes**



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