

OPERATING MANUAL

KOI / PLANT DISPLAY SYSTEM



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IMPORTANT SAFEGUARDS

WARNING

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

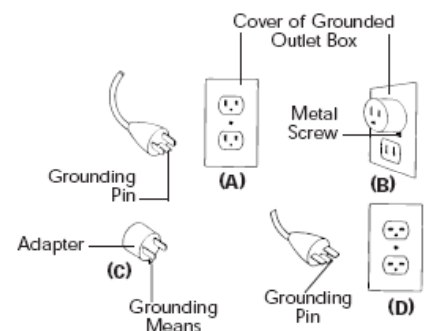
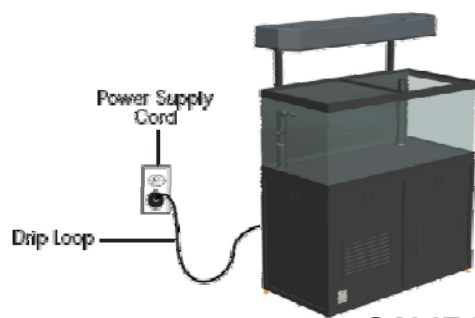
READ AND FOLLOW ALL SAFETY INSTRUCTIONS

DANGER

To avoid possible electric shock, special care should be taken in the use of aquarium equipment.

For each of the following situations, do not attempt repairs yourself;
contact an authorized service facility for service.

- If an appliance falls into the water, **DON'T** reach for it! First turn off power at main disconnect and then retrieve it. If electrical components of the appliance get wet, turn off the appliance immediately.
 - If the appliance shows any sign of abnormal water leakage, immediately turn off power at main disconnect.
 - Carefully examine the appliance after installation. It should not be plugged in if there is water on parts not intended to be wet.
 - 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.
 - To avoid the possibility of the appliance plug or receptacle getting wet, position unit to one side of a wall mounted receptacle to prevent water from dripping onto the receptacle or plug. A "drip loop", shown in the illustration below should be arranged for each cord connecting 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 traveling 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 any appliance is used by or near children.
- To avoid injury, do not contact moving parts or hot parts such as heaters, reflectors, lamp bulbs, etc.
- Always unplug an appliance from an outlet 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 an appliance for other than intended use. The use of attachments not recommended or sold by the appliance manufacturer may cause an unsafe condition.
- Do not install or store the appliance where it will be exposed to the 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 proper rating should be used. A cord rated for less ampere 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 should be grounded to minimize the possibility of electric shock. This appliance is equipped with an electric cord that has an equipment grounding conductor and a grounding type plug. The plug must be plugged into an outlet that is installed and grounded in accordance with all appropriate codes and ordinances.
- This appliance is for use on a nominal 120 volts circuit, and has a grounding plug that looks like the plug illustrated in (A). A temporary adapter which looks like the adapter illustrated in (B) and (C) may be used to connect this plug to a two pin receptacle as shown in (B) if a grounded outlet is not available. The temporary adapter should be used only until a grounded outlet can be installed by a qualified electrician. The green colored rigid ear (lug and the like) extended from the adapter must be fastened to a permanent ground such as a grounded outlet box.



SAVE THESE INSTRUCTIONS

STAND ALONE KOI OR PLANT SYSTEM

The High-Capacity Environment System for Healthier KOI, PLANTS, Easier Maintenance and Increased Sales.



This manual will provide you with the information you need to successfully operate and maintain your Stand Alone Display System.

Please read it carefully and keep it for future reference.

Your fully integrated Marineland Stand Alone System is an easy-to-maintain, super-efficient system for displaying aquatic KOI or plants under ideal freshwater conditions. Its high performance mechanical/chemical filtration and powerful commercial BIO-Wheel wet/dry biological filter ensure optimum water quality at all times. Master and electrical access panels ensure fast, trouble free maintenance and service. And the Stand Alone Display creates a dynamic visual appeal unmatched by any other system.

Inside the SYSTEM...

Water is automatically introduced to the Sump at a preset rate. As “new” water enters the system, “old” water is simultaneously removed. This continuous “water change” cycle ensures constant water level, efficient nitrate removal and constant pH. The systems pump directs filtered water back to the display tank.

*The KOI Stand Alone Display is also routed through a refrigeration unit that ensures an ideal temperature set for KOI.



The KOI system features a thermostatically controlled Refrigeration Unit. It is capable of maintaining tank temperatures of 60-70° F and can be preset to the exact temperature required by the system.

Water uniformly flows into the display tank, exiting via the Drain Overflow. The Drain Overflow draws water and floating debris from the surface levels to ensure uniform water circulation.

Water is directed from the tanks to the Filtration Module. Solid waste is mechanically trapped by the Pre-Filter Pad and filter sleeve of the heavy duty Carbon Filter Pack contained within the Filter Media Tray. The Carbon Filter is packed with Black Diamond Premium Activated carbon for chemical filtration... efficiently adsorbing dissolved organic compounds such as phenols and tannins.

On the KOI Display after passing through the Filter Media Trays, water spills onto the BIO-Wheel Wet/Dry Biological Filter mounted below. Because system flow causes it to rotate, the BIO-Wheel is constantly exposed to both water and air, thus developing a thriving culture of aerobic nitrifying bacteria. This bioculture efficiently oxidizes all ammonia and nitrite on contact.

Note: Precultured BIO-Wheels are available from MARINELAND. Shipped to you ready to go, they provide full load biological filtration capacity immediately upon installation.

Call (800) 576-6277

SPECIAL FEATURES

High Output 5000°K Fluorescent Lighting

High intensity overhead lighting helps you create a beautiful retail environment and ensures optimum plant growth and it's ideal for displaying colorful KOI or fancy goldfish.



Front, Rear, and Side Access Panels

Designed to ensure easy access to Filtration module, refrigeration unit and Junction Box.



Sump Replenishment Float Valve

Adds water to Sump when Sump water level drops below ideal operational levels. During daily operation Sump is automatically replenished by the float valve located within the sump to keep water level under control.



Display Tank Corner Spray Nozzles

Introduces water to the system, providing necessary surface and bottom agitation.



SYSTEM Specifications

STAND ALONE AQUATIC DISPLAY SYSTEMS

MECHANICAL (approximate):

Size: 48½" L x 25½" W x 65"H

Shipping Weight: 400 lbs (approx.)

System Gallon Capacity: 75 Gallons (approx.)

ELECTRIC:

ETL listed for cord-connected installation.

Voltage: 120 VAC / 60Hz

Current: 15 AMPS

FILTRATION:

Mechanical Filter: Course Pad, Pre-Filter Pad

Chemical: Black Diamond Activated Carbon.

Biological Filter: CBW-1 (1 each) * *KOI tank only*

"NEW" WATER FROM TREATED WATER SUPPLY:

Flow Rate: 2 gallons per hour

Float Valves (1 per sump)

CIRCULATION/FILTRATION PUMP:

Pump: 4-MDQX-SC

Display tank turns per hour (TPH): 8 TPH nominal

LIGHTING:

High output 5000°K Fluorescent Lighting

MATERIALS OF CONSTRUCTION:

Tanks- Glass

Frames – Powder Coated, Cold-Galvanized
Tubular Steel

Misc. Panels & Covers: Expanded PVC, ABS,
Polypropylene

BUYER SUPPLIED CONNECTIONS FOR INSTALLATION:

Electrical Supply:

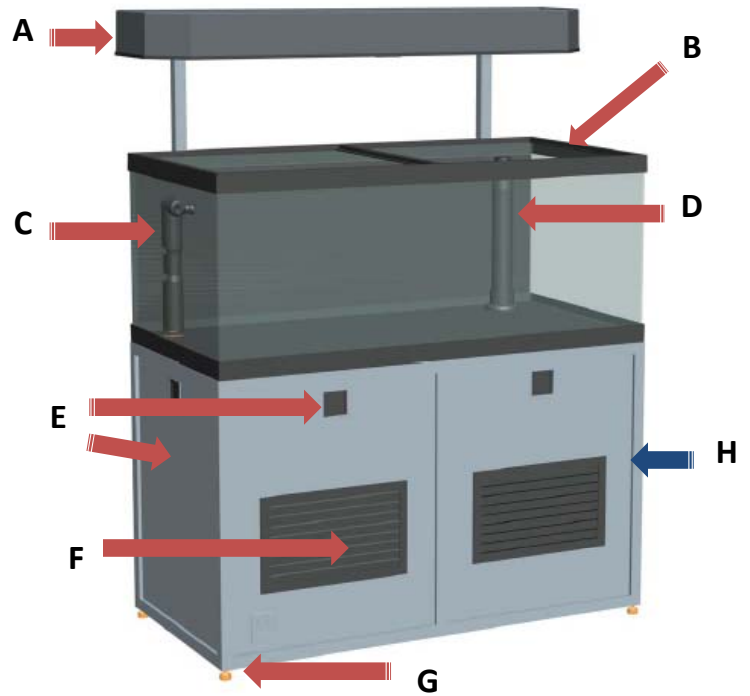
Cord-connected; 115 VAC, 60 Hz, 15 AMP
GFCI-protected outlet recommended

Treated Water Supply: 2 GPH, regulated to 25
PSIG

Drain: 1" pipe, At or below grade, 30' run

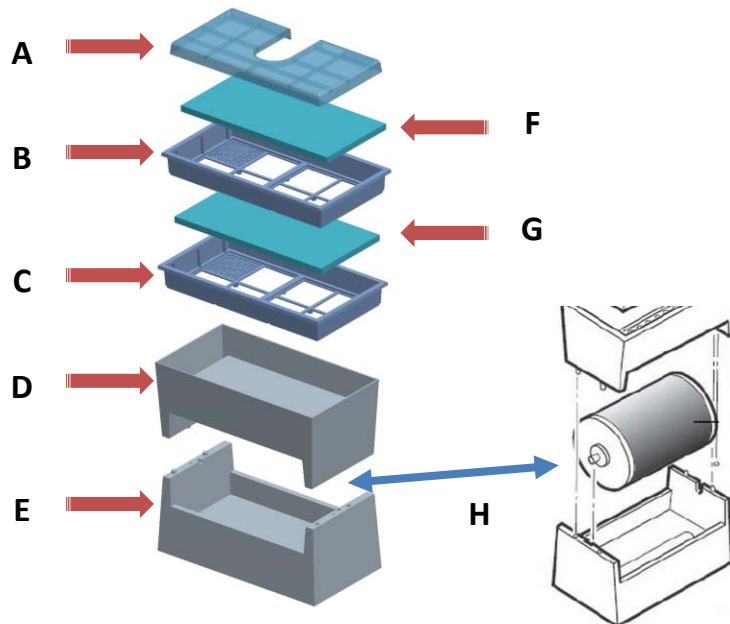
Stand Alone Display Exploded View

A	Canopy with High Output 5000°K Fluorescent Lighting
B	Glass top
C	Tank Corner Spray Nozzle
D	Drain Overflow
E	Access Panels Front and Rear
F	Air Vent
G	Adjustable Feet
H	Sump, Chiller and Filtration Module (inside)



Filtration Module Exploded View

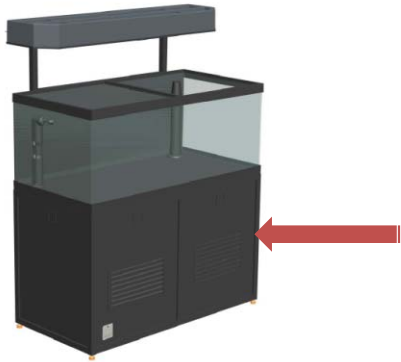
A	Assembly Cover
B	Upper Media Tray
C	Lower Media Tray
D	Upper Housing
E	Lower Housing
F	Pre-Filter Pad
G	Carbon Filter Pack
H	BIO-Wheel (KOI Only)



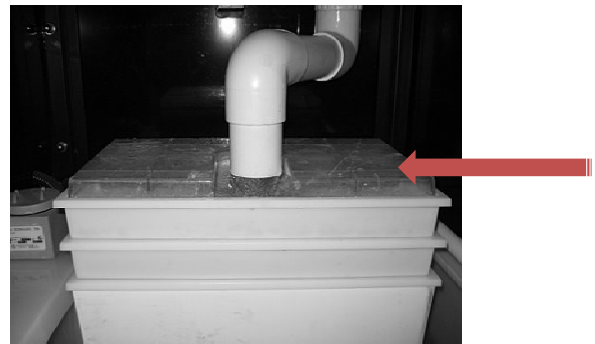
ADDING FILTRATION MEDIA

Prior to system startup, it is necessary to install filtration media. Follow the few easy steps outlined below to get your system ready for operation. The System should be allowed to operate with mechanical and chemical filtration media. No biological filtration is needed, (BIO-Wheel) for aquatic plants, (*only needed for KOI display*).

1. Remove front filtration access panel



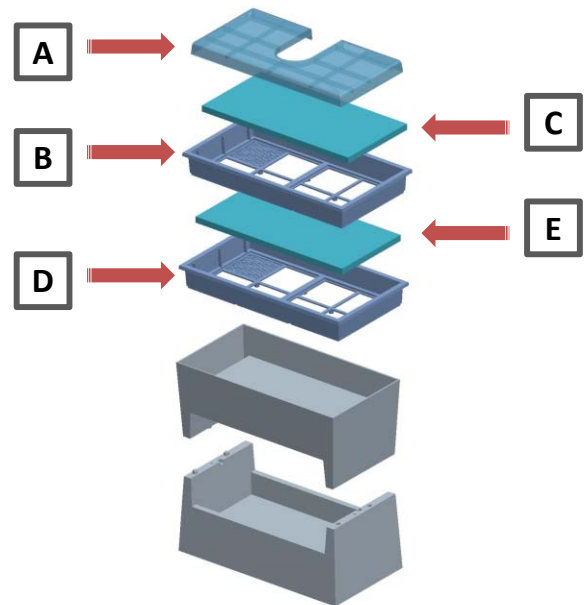
2. Remove clear Assembly Cover (A)



3. Lift out Upper Filter Media Tray with Pre-Filter Pad inside and set aside (B and C)

4. Unwrap Carbon Filter Pack and Place inside Lower Filter Media Tray (D and E)

Note: Before installing, be sure to rinse Carbon Filter Pack thoroughly in cold water (at sink) until water runs clear



5. Replace Lower Filter Media Tray (D and E) with Carbon Filter Pack inside

6. Replace Upper Filter Media Tray (B and C) with Pre-Filter Pad inside

7. Replace clear Assembly Cover (A)

8. Replace Front Access Panel.

OPERATION

When media is in place, follow the steps below to get your system up and running. Consult exploded view (pg. 5) for additional clarification.

Startup

1. Manually fill Display Tank to level of overflow inside Bi-Level Skimmer and allow it to fill the sump.

Note: fill tank slowly to make sure you do not over fill.



2. **If connected to a floor drain:** Open New Water Supply valve. Check drip emitter (shown, 1) for slow trickle of water into Sump.

Note: A Float Valve is located within the sump (shown, 2) to keep water level under control. Overflow is also located in Sumps to help the system perform automatic water changes.



OPERATION cont...

3. Activate Master Switch.



Note: After system has operated for five minutes, Sump water level will momentarily drop. Refill Sump to “Fill To This Line” label.

4. Adjust Thermostat to desired temperature. Check temperature after approximately 8 hours and make any necessary adjustments.



5. Allow system to operate with mechanical and chemical filtration media (Pre-Filter Pad and Carbon Filter Pack) for a period of 24 hours. Be sure to inspect areas near pump and other components for leaks.
6. Adjust water flow nozzles in display tanks to ensure optimum circulation.

AFTER 24 HOURS OF SYSTEM OPERATION (for KOI System):
The BIO-Wheel can be added by removing the Media Filter Trays and Upper BIO-Wheel Housing. Tray guides will ensure correct positioning.



MAINTENANCE

To ensure optimum operational efficiency, routine maintenance must be performed. The procedures listed below are neither difficult nor time consuming. They will keep your system clean and your fish healthy. Failure to follow these simple maintenance steps will adversely affect system performance and could lead to premature failure of some components. We recommend setting up a maintenance log to track procedure completion. Note: *For assistance or questions please call technical support at 1-800-576-6277*

Daily or As NEEDED

Clean or Replace Pre-Filter Pad (recommended daily)

A clogged filter pad overflows and will not collect waste. Uncollected waste is returned to the aquarium and can severely reduce system efficiency.

To replace a Pre-Filter Pad:

1. Remove clear Assembly Cover. **Note:** Have a bucket or large plastic pan ready to catch spills from removed pad.
2. Lift out used pad.
3. Rinse or replace with new pad (MZ0180-Blue Pre-Filter Pad or MZ0181-White Coarse Pre-Filter Pad).
4. Replace clear Assembly Cover.

Replace Carbon Filter Pack (recommended weekly)

To replace a Carbon Filter Pack:

1. Remove clear Assembly Cover.
- Note:** Have a bucket or large plastic pan ready to catch spills from removed trays, pad and pack.
2. Lift out Upper Filter Tray with Pre-Filter pad.
 3. Set Upper Filter Tray aside. Lift out lower Filter Media Tray with Carbon Filter Pack.
 4. Replace Carbon Filter Pack (MZ0175) and rinse out Filter Tray before replacing. Note: Before installing, be sure to rinse Carbon Filter Pack thoroughly in cold water (at sink) until water runs clear.

MAINTENANCE cont...

As NEEDED

Check Water Pump Operation

Observe flow of water to the Filter Module. Make sure that water flow is unhindered. If flow interruption is evident, check Pump Intake Strainer (in Sump) for obstructions. If clogged, shut off system, remove Strainer and clean. If flow interruption is still evident and no obstructions are found, consult Troubleshooting Guidelines section in this manual.

Inspect Tanks for Algae Growth

Algae spores enter the system naturally via tank inhabitants and light allows them to grow. Although your system's UV Sterilizer eliminates the majority of algae spores, the more light you have, the greater the potential for some algae growth. To remove algae, simply wipe inside tank surface and false bottom with an aquarium safe cloth, algae scraper or blue filter pad.

NEVER use soap or metal scouring pads. Maintain a separate cloth only for the tanks. It should be kept clean and isolated from other departments so that it does not get contaminated by multiple task use.

Check Sump Water Level (recommended daily)

Correct water level is designated by the “[Fill To This Line](#)” Label located on the side of the BIO-Wheel Module. If necessary, add water to the sumps via the Sump Float valve located in each sump to keep water level under control.

Note: *Overflows are also located in Sumps to help the system perform automatic water changes.*

Check Temperature: Recommended: 65-75°F

Check Drip Emitter and Float Valve

It's the job of the drip emitter and Float Valve to regulate the amount of new water introduced to your MaRS system. Because the Drip Emitter and Float Valve are vital to optimal operation, it is necessary to Check both each week if possible to ensure proper function. Emitter water flow should be slow and steady. Reduced flow indicates the Drip Emitter should be cleaned or replaced.

CAUTION: Never operate the system with the Drip Emitter removed. This results in too much water passing through the system, which can cause water temperature fluctuations. It can also diminish chlorine removal effectiveness of the Carbon Pack.

A **Float Valve** is located within the sump to keep water level under control.

MAINTENANCE cont...

As NEEDED

Wipe Down All Exterior Casing Surfaces

NEVER use chemicals, soap, detergents or harsh abrasives on any part of the system. Do not use cleaners inside or near the tanks at any time.

Clean Intake Strainer

Remove all debris.



At Least Every Two Weeks

Inspect Corner Spray Nozzles and Overflow within tank.

To Clean: simply wipe with an aquarium safe cloth, algae scraper or blue filter pad. Make sure water is flowing properly.

Monthly

Clean Refrigeration Unit Condenser Intake Screen, (Kio Tank Only)

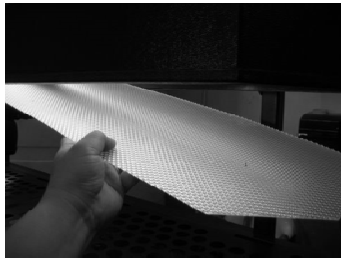
To guard against system failure. The Refrigeration Condenser Intake Screen should be brushed or vacuumed clean every month (shown). This eliminates accumulated dust and prevents clogging. To reach Screen, remove Rear or Side Electrical Access Panel.



Fluorescent Lamp Replacement

To ensure maximum illumination and color reflection, the unit comes equipped with fluorescent lamps that we recommend to be replaced with the same lamp type for proper operation. To replace them with “Cool White” or other lamps of lesser quality will greatly lessen lighting intensity and overall effect.

1. Unplug light power cord from appropriate outlet (labeled)
NEVER change lamps on fixture while plugged in.
2. Carefully Remove Lamp Covers – Push up, lower out.



3. Remove Center Bracket.



4. Remove front fluorescent lamp. Gently twist 90° and push backward and out from mounted station slots. Discard (***according to established environmental procedure***).
5. Remove rear fluorescent lamp. Gently twist 90° and push backward and out from mounted station slots. Discard.

WARNING: DO NOT attempt to remove white Access Housing from mounting. To do so may cause electric shock and severe injury.

7. Replace discarded lamps with new lamps. Gently insert ends into slots and push up and forward or up and back until lamp fits securely in place.
8. Plug unit back in. and replace
9. Replace Lamp Covers and Center Bracket.

TROUBLESHOOTING GUIDELINES

For system technical support or to schedule a service, call the
MaRS Technical Support Division: **(800) 576-6277**

If entire system abruptly shuts down...

- *Reset* circuit breaker.
- *Make sure* Master Switch is turned on.
- *Check* Pump Intake Strainer in Sump for obstructions.

If water turns yellow or odors develop...

- *Replace* Carbon Filter Cartridge.

If water temperature in display tank is too low or too high...

- *Check* Thermostat setting.

NOTE: Thermostat reading may differ from measured Display Tank temperature...adjust thermostat as required and monitor Display Tank temperature with thermometer, allowing 3-4 hours for temperature to stabilize before checking again.

- *Make sure* power cord to Refrigeration Unit is plugged into proper outlet.
- **Call for service if Refrigeration Unit is malfunctioning. 800-576-6277**

If large amounts of air bubbles are evident in display tanks...

- *Check* water level in Sump. If below indicated ideal level, add water by pushing down on the Float Valve bulb (AQ75522) and check frequently.
- *Inspect* “new” water entry into Sump. If water is not trickling into Sump, make sure Hose Bibs are open.
- *Make sure* Pump Intake Strainer is fitted firmly in place.
- **Call for service if problem persists.**

If BIO-Wheel fails to rotate...

- *Inspect* Prefilter Pad and Carbon Filter Pack for clogging. Clean or change as needed.
- *See if BIO-Wheel* is obstructed. Clean bearings, check for unimpeded rotation and reinstall.
- *Make sure* that Sump is not overfilled. Check Return tube for obstruction.
- *Check* Pump Inlet Strainer in Sump for obstructions.

If water flow to BIO-Wheel or display tank stops or flow is sluggish...

- *Inspect* Pump Inlet Strainer in Sump. Clean and/or remove any debris or obstructions.
- Remove Front Electrical Access Panel and make sure System Pump is plugged in, motor fan is turning.
- **Call for service if problem persists. 800-576-6277**

If Replacement Water flow is greatly reduced or stopped...

- *Check* water level in Sump. If below standpipe, add water via Float Valve until water level is at or near normal operating level.

If Drip Emitter or Replenishment Valve flow is greatly reduced or stopped...

- *Check* for plugged carbon/sediment water treatment cartridges.
- **Call for service if problem persists. 800-576-6277**

If fluorescent lamps will not light...

- *Make sure* lights are plugged into proper outlet.
- *Inspect Lamps for burnout. Turn Off power and change if necessary.*
- Make sure lamps are inserted into the fixture properly.
- **Call for service if problem persists. 800-576-6277**



LIMITED WARRANTY

Marineland warrants their systems for one year against defects in materials or workmanship. This warranty applies only to the system and does not cover water quality, live product, replacement parts or maintenance supplies.

If your system is found to be defective - and has not been modified, damaged or misused – call Marineland Commercial Aquariums (toll free) at (800) 576-6277 or fax us at (805) 517-7198. All calls received during regular business hours (8am - 5pm, Pacific Time) will be responded to within 24 hours. Please have your manual and the system serial number ready.

In most cases, the problem will be resolved by a simple maintenance procedure, recommendation or repair authorization. Upon authorization, and in instances where outside repair or replacement of parts is necessary, Marineland will absorb all appropriate costs.

Damage or injuries resulting from negligence, misuse or user modification are not covered by this warranty. Incidental or consequential damages are specifically excluded.

** This warranty gives you specific legal rights. You may also have other rights which vary from state to state.*

** Because some states do not allow the exclusion of incidental or consequential damages, this exclusion may not apply to you.*

CUSTOMER SERVICE

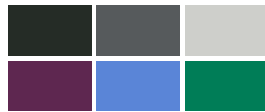
For emergency problems with this system, call the
MaRS Customer Service, Technical Support
at 800-576-6277

For non-emergency problems or questions please call the above
number from 7a.m. – 5p.m. Monday – Friday.

CONSUMABLES ITEMS

1- PRE-FILTER PAD (BLUE)	MZ0180
2- PRE-FILTER PAD (WHITE COARSE, OPTIONAL)	MZ0181
2- CARBON FILTER PACK	MZ0175

Z090614 5/10



CUSTOMIZE YOUR MaRS SYSTEM A MULTITUDE OF OPTIONS, LAYOUTS AND DESIGNS

Creating the perfect system is easy... our sales and technical support team will help you accessorize a system that's perfect for your aquatic merchandising needs. From multi-system "island" layouts to specialized color schemes...the choice is yours. And the possibilities are endless!



All Fluorescent Lamps and Ultra Violet
Lamps contain mercury.
Dispose of Properly.



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