

OPERATING MANUAL

RAINMAKER BIO-WHEEL VERTICAL MODULAR DISPLAY SYSTEMS



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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.

1.
 - A. 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.
 - B. If the appliance shows any sign of abnormal water leakage, immediately turn off power at main disconnect.
 - C. Carefully examine the appliance after installation. It should not be plugged in if there is water on parts not intended to be wet.
 - D. 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.
2. Close supervision is necessary when any appliance is used by or near children.
3. To avoid injury, do not contact moving parts or hot parts such as heaters, reflectors, lamp bulbs, etc.
4. Always turn off power at main disconnect when not in use, before putting on or taking off parts and before cleaning. Never yank a cord to pull a plug. Grasp the plug and pull to disconnect.
5. 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.
6. Do not install or store the appliance where it will be exposed to the weather or to temperatures below freezing.
7. Make sure appliance is securely installed before operating it.
8. Read and observe all the important notices on the appliance.
9. This appliance should be connected to a grounded, metallic, permanent wiring system, or an equipment-grounding conductor should be run with the circuit conductors and connected to the equipment-grounding terminal or lead on the appliance.
10. This appliance is to be installed by a qualified electrician in accordance with all appropriate codes and ordinances.

SAVE THESE INSTRUCTIONS

The High Capacity Vertical Display System for Healthier Fish, Easier Maintenance, Increased Sales!



This manual will provide you with the information you need to successfully operate and maintain your RainMaker BIO-Wheel Vertical Modular Display System. Please read it carefully and keep it for future reference.

Your fully integrated Marineland System provides easy-to-maintain filtration for multiple tanks. Its high performance mechanical, chemical, and commercial BIO-Wheel wet/dry biological filtration ensure optimum water quality at all times.

The system's compact design allows for convenient self-contained installation. It also provides the option of maintaining isolated filtration "zones", each showcasing a different aquatic environment. Every modular unit is equipped to provide ideal system conditions warm or cold, freshwater or marine. Front access panels ensure fast, trouble free maintenance and service.

While all units function in essentially the same manner, the marine systems come equipped with a Protein Skimmer to remove organic matter.

Inside the 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 system pump directs filtered water to the display tanks, the UltraViolet (UV) Disinfection Unit, the Protein Skimmer (Marine only) and Heating or Refrigeration unit.



The UV Disinfection Unit helps stop the spread of bacteria and disease throughout the system. Water enters the UV Housing, surrounding the lamp where it is exposed to UV Light. This exposure destroys the DNA of free swimming bacteria, viruses and algae, preventing them from reproducing.

The system features a Thermostatically Controlled Heating or Refrigeration Unit. It can be preset to the temperature (within a range of 70° / 80°F) required by your individual system. A thermometer strip is provided for every section module.

The Protein Skimmer (Marine System only) employs heavy aeration to remove organic matter from the tank in the form of foam. The foam is flushed from the system and deposited into the drain. Foam level can be easily and effectively regulated by means of the Air Adjustment Valve attached to the Venturi Air Inlet.

Water uniformly flows into each display tank, exiting via the Surface Skimmer. The Skimmer draws water and floating debris from both the middle and surface levels to ensure uniform water circulation. It's easily removable for cleaning.

Water is directed from the tanks to the BIO-Wheel Filtration Module. Solid waste is mechanically trapped by the Coarse 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 tannin.

Passing through the Filter Media Tray, water flows 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 shipped to you ready to go. They provide full load biological filtration capacity immediately upon installation.

SPECIAL FEATURES

Tilt Door Access System

Corrosion-free Aluminum Tilt Doors

Vented Service Panels

Latch panels provide easy access to filtration media, heating or refrigeration unit and electrical system components. All aluminum panels are equipped with locks for maximum safety.



Fish Feeding Timer

Allows you to shut down the system pump for feeding (preset for 5 minutes) and then automatically restores the system to full operation after the pre-selected time has elapsed.



Fish Jumper Guards

Each individual tank is equipped with side jump guards and center guards. The side guards slot into the top side edge of each tank and press into place. A rear jump guard mounts on the top of the display tank frame and is easily removable for cleaning.



SPECIAL FEATURES cont...

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.



Surface Skimmers

The Surface Skimmers pull water from the surface and middle of the aquarium for optimum water clarity.



Lighting

The 5000K daylight fluorescent lamps are protected by a molded plastic lamp cover. To ensure maximum safety, the power cord is routed inside the system framework to connect to a central junction box. A single power cord exists the junction box for direct plug-in to any standard GFCI wall socket.



Optional Lighting: Low voltage (energy saving) LED Lighting . To ensure maximum safety, the power cord is routed inside the system framework to connect to a central junction box. A single power cord exits the junction box for direct plug-in to any standard wall socket. Note: All programming is performed via Light Timer located in the lower right-side compartment of the system.



OPTIONAL FEATURES

Backup Thermostat (refrigerated units only)

If water temperature drops below 40°, a second thermostat activates, stopping refrigeration unit output and preventing freezing of the heat exchanger.

Other Optional Features

Angled Faux Bottom Gravel with Accumulation Channel.



Carbon and Sediment Filter Assembly

The carbon and sediment filter assembly can be purchased within the Marineland Prep Station or purchased separately to provide treated “new” water supply.



Illuminated Header(s), above Vertical Display

Enhance the look of your Vertical Display Rack with an Illuminated Header. First impression counts and signs are one of the best forms of advertising for your business. Choose from a variety of Marineland Signs or provide your input to create a custom sign ideal for your business.



SYSTEM Specifications

Integrated Rack System MV4FHT 4 Foot Heated, BIO-Wheel Vertical Display System

MECHANICAL (approximate):

Size: 51 ½" L x 20" W x 86H (94"H, with Illuminated Header)

Shipping Height: 86"

Shipping Weight: 600 lbs (approx.)

System Gallon Capacity: 98 Gallons

Floor-attached for seismic loads

ELECTRIC:

ETL listed for permanent installation.

Voltage: 115 VAC / 60Hz

Current: Filtration/Circulation/Heater: 10.5 AMPS

Lighting 2.2 AMP

Recommendation: 15 AMP Dedicated Circuit

FILTRATION:

Mechanical Filter: White Course Pad and Filter Cartridge

Chemical: Black Diamond Activated Carbon.

Biological Filter: CBW-1 (1 each)

UV Treatment: Marineland UV Module UVC-18

"NEW" WATER FROM TREATED WATER SUPPLY:

Flow Rate: 1 gallon per hour (Per Sump)

Float Valves (1 per sump)

CIRCULATION/FILTRATION PUMP:

Pump: MD-40RLT-115; 750 GPH; UL recognized

Display tank turns per hour (TPH): 5 TPH minimum

HEATER:

1000 watt, titanium heater; UL listed Thermostat Controller, UL listed; Temperature Range: 50-130° F

GFCI protected

LIGHTING:

T8 Light Fixtures: 32-T8 (Dual Lamp)

With polycarbonate Lamp Covers

T8 (rapid Start, fluorescent; 5,000 K Lamp

LED Light Module Other Option:

120 VDC (90 watts total)

MATERIALS OF CONSTRUCTION:

Tanks- Glass

Frames (2 options): Galvanized, Powder Coated, Tubular Steel or Commercial Grade Aluminum

Doors – Aluminum

Misc. Panels, Covers and Extrusions: Expanded PVC, ABS, Polycarbonate

BUYER SUPPLIED CONNECTIONS FOR INSTALLATION:

Electrical Supply:

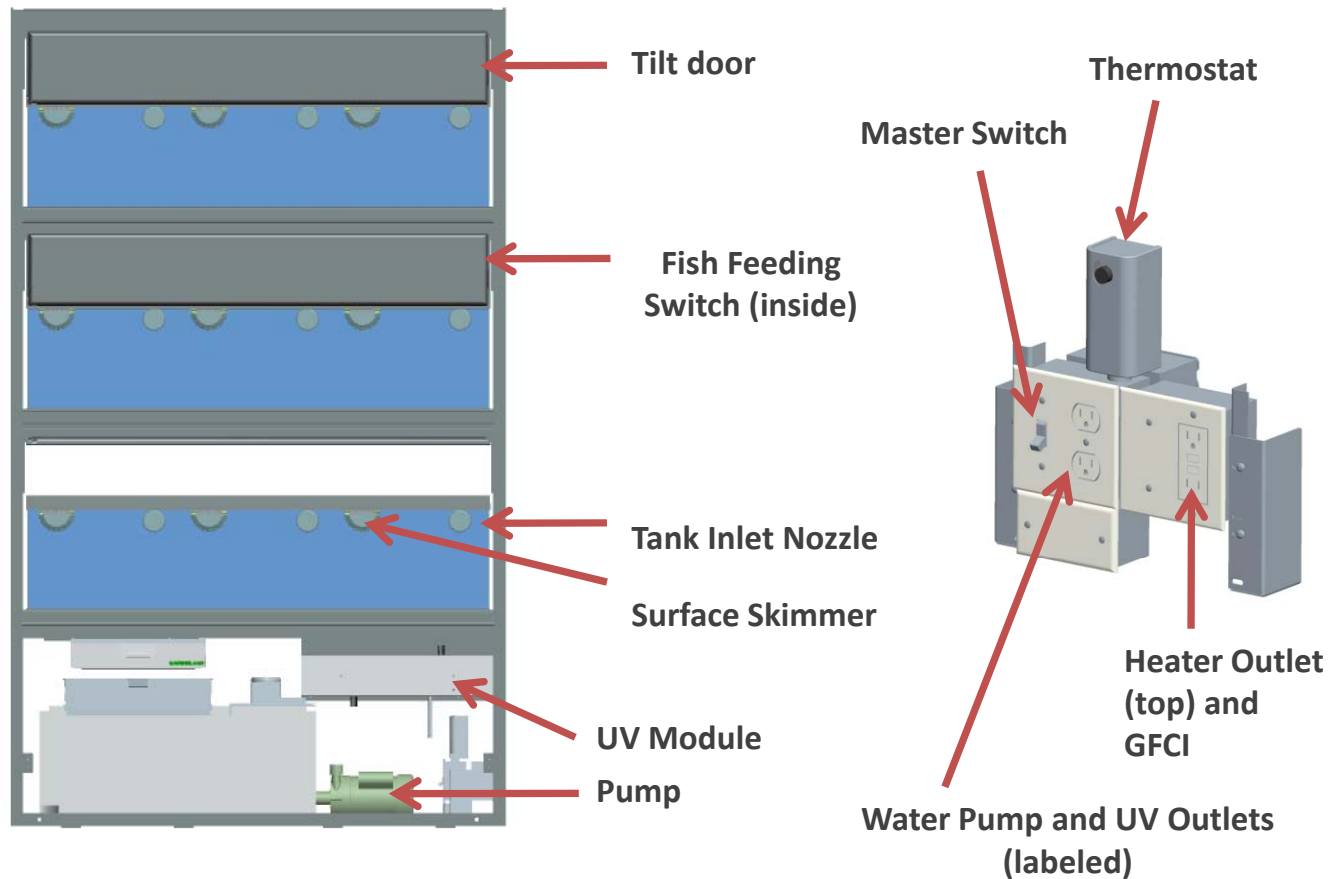
MAIN CIRCUIT: Hard Wired J-Box, 115 VAC, 60 Hz, 15 AMP

Lighting: Plug connected, 2 places; 115 VAC, 60Hz, 2.2 AMPS each, GFCI Protected

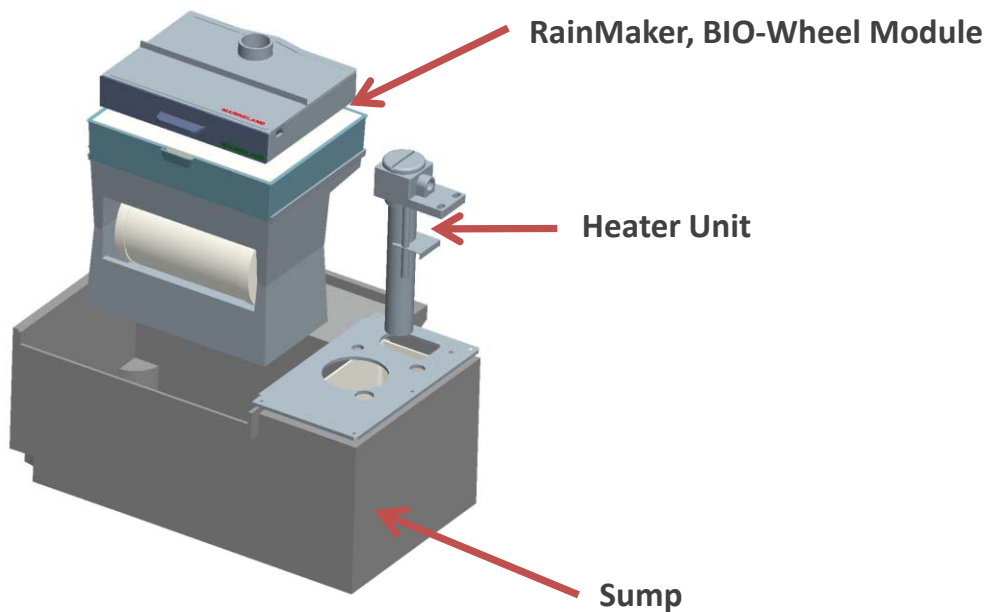
Treated Water Supply: 1 GPH, regulated to 25 PSIG

Drain: At or below grade, 30' run

Three-Tier, 4 Foot, Vertical Display Exploded View



Sump w/ BIO-Wheel Filtration Module Exploded View



SYSTEM Specifications

Integrated Rack System MV8FHT 8 Foot Heated, BIO-Wheel Vertical Display System

MECHANICAL (approximate):

Size: 103" L x 20" W x 86H (94"H, with Illuminated Header)

Shipping Height: 86"

Shipping Weight: 1200 lbs (approx.)

System Gallon Capacity: 192 Gallons

Floor-attached for seismic loads

ELECTRIC:

ETL listed for permanent installation.

Voltage: 115 VAC / 60Hz

Current: Filtration/Circulation/Heater: 12.5 AMPS (Lighting 2.2 AMP for each 4' section, 4.4 AMP total)

Recommendation: 15 AMP Dedicated Circuit

FILTRATION:

Mechanical Filter: White Course Pad and Filter Cartridge

Chemical: Black Diamond Activated Carbon.

Biological Filter: CBW-1 (1 each)

UV Treatment: Marineland UV Module UVC-18

"NEW" WATER FROM TREATED WATER SUPPLY:

Flow Rate: 1 gallon per hour (Per Sump)

Float Valves (1 per sump)

CIRCULATION/FILTRATION PUMP:

Pump: MD-70RLT-: 1200 GPH; UL recognized

Display tank turns per hour (TPH): 5 TPH minimum

HEATER:

1000 watt, titanium heater; UL listed Thermostat Controller, UL listed; Temperature Range: 50-130° F

GFCI protected

LIGHTING:

T8 Light Fixtures: 32-T8 (Dual Lamp)

With polycarbonate Lamp Covers

T8 (rapid Start, fluorescent; 5,000 K Lamp)

LED Light Module Other Option:

120 VDC (90 watts total)

MATERIALS OF CONSTRUCTION:

Tanks- Glass

Frames (2 options): Galvanized, Powder Coated, Tubular Steel or Commercial Grade Aluminum

Doors – Aluminum

Misc. Panels, Covers and Extrusions: Expanded PVC, ABS, Polycarbonate

BUYER SUPPLIED CONNECTIONS FOR INSTALLATION:

Electrical Supply:

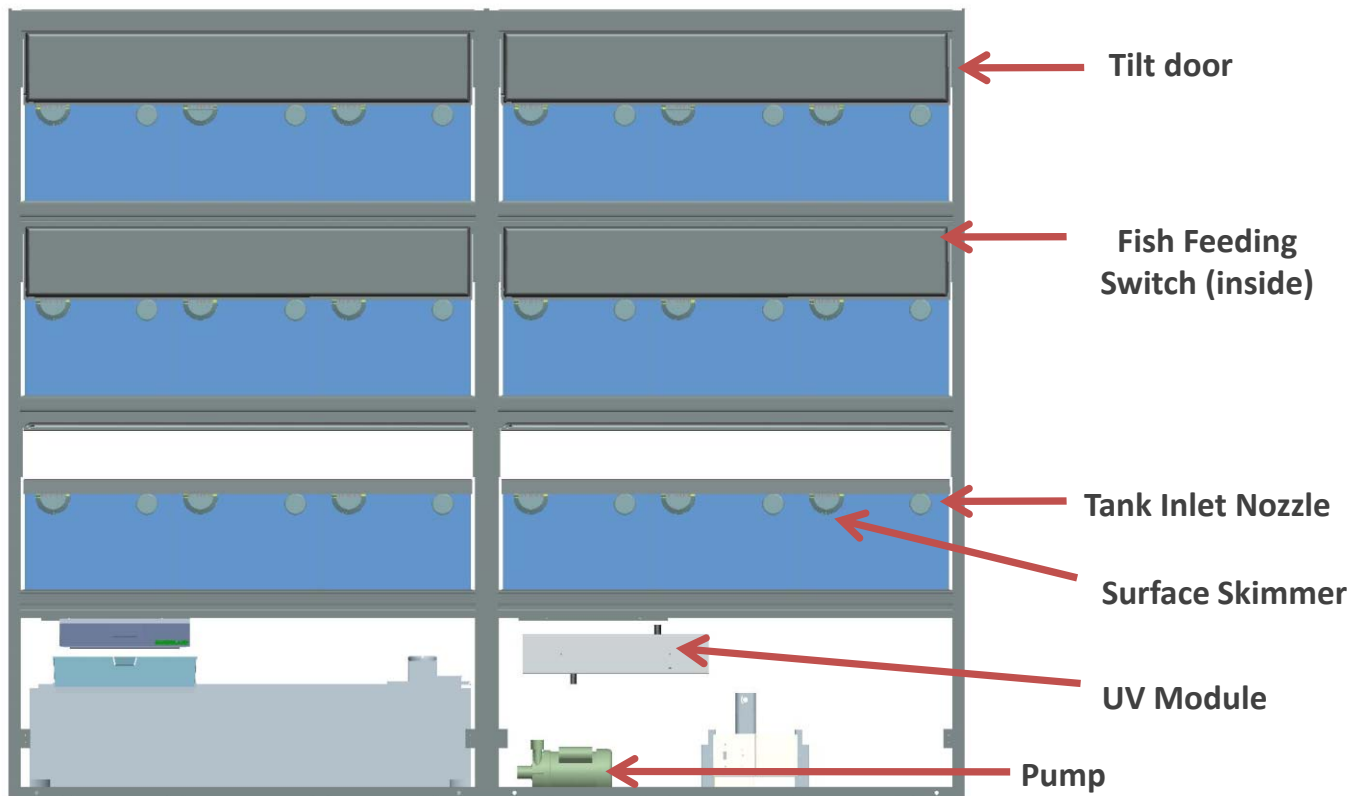
MAIN CIRCUIT: Hard Wired J-Box, 115 VAC, 60 Hz, 20 AMP

Lighting: Plug connected, 2 places; 115 VAC, 60Hz, 2.2 AMPS each, GFCI Protected

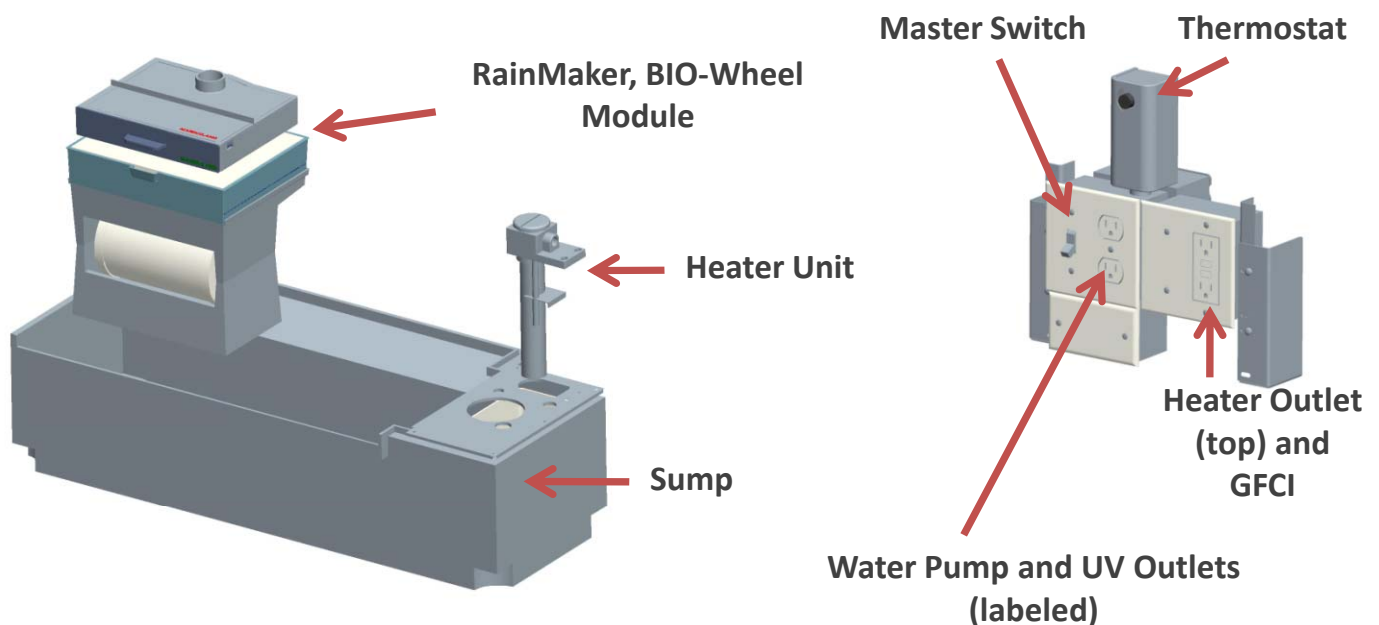
Treated Water Supply: 1 GPH, regulated to 25 PSIG

Drain: At or below grade, 30' run

Three-Tier, 8 Foot, Vertical Display Exploded View



Sump w/ BIO-Wheel Filtration Module and Electrical Assembly Exploded View



SYSTEM Specifications

Integrated Rack System MV4FRT 4 Foot Refrigerated, BIO-Wheel Vertical Display System

MECHANICAL (approximate):

Size: 51 ½" L x 20" W x 86H (94"H, with Illuminated Header)

Shipping Height: 86"

Shipping Weight: 600 lbs (approx.)

System Gallon Capacity: 98 Gallons

Floor-attached for seismic loads

ELECTRIC:

ETL listed for permanent installation.

Voltage: 115 VAC / 60Hz

Current: Filtration/Circulation/Heater: 10.5 AMPS

Lighting 2.2 AMP

Recommendation: 15 AMP Dedicated Circuit

FILTRATION:

Mechanical Filter: White Course Pad and Filter Cartridge

Chemical: Black Diamond Activated Carbon.

Biological Filter: CBW-1 (1 each)

UV Treatment: Marineland UV Module UVC-18

"NEW" WATER FROM TREATED WATER SUPPLY:

Flow Rate: 1 gallon per hour (Per Sump)

Float Valves (1 per sump)

CIRCULATION/FILTRATION PUMP:

Pump: MD-40RLT-115; 750 GPH; UL recognized

Display tank turns per hour (TPH): 5 TPH minimum

REFRIGERATION:

1/3 HP, R134A with Helical Heat Exchanger.
Thermostat Controller, UL listed; Temperature Range: 50-130° F

GFCI protected

LIGHTING:

T8 Light Fixtures: 32-T8 (Dual Lamp)

With polycarbonate Lamp Covers

T8 (rapid Start, fluorescent; 5,000 K Lamp

LED Light Module Other Option:

120 VDC (90 watts total)

MATERIALS OF CONSTRUCTION:

Tanks- Glass

Frames (2 options): Galvanized, Powder Coated, Tubular Steel or Commercial Grade Aluminum

Doors – Aluminum

Misc. Panels, Covers and Extrusions: Expanded PVC, ABS, Polycarbonate

BUYER SUPPLIED CONNECTIONS FOR INSTALLATION:

Electrical Supply:

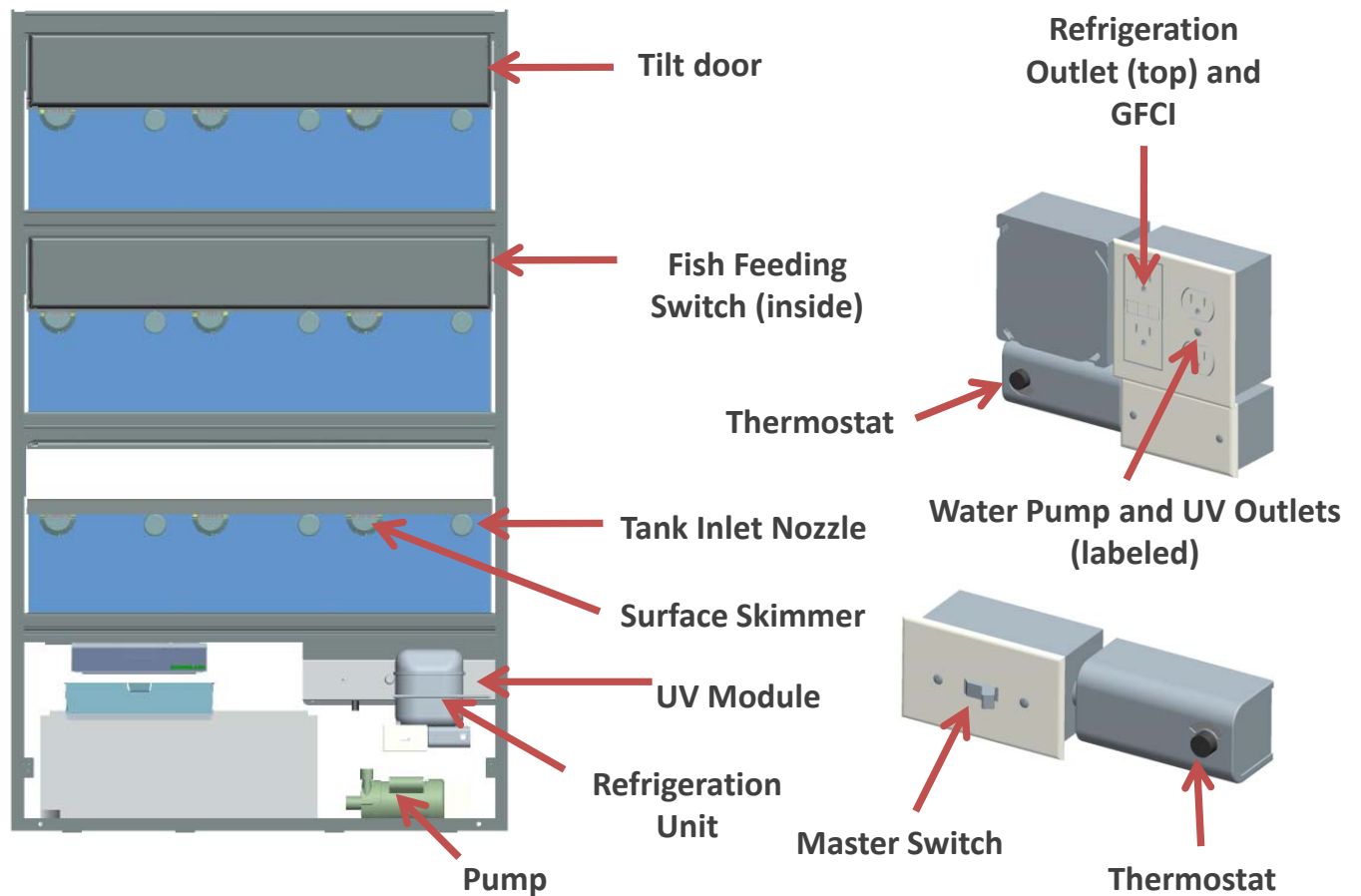
MAIN CIRCUIT: Hard Wired J-Box, 115 VAC, 60 Hz, 15 AMP

Lighting: Plug connected, 2 places; 115 VAC, 60Hz, 2.2 AMPS each, GFCI Protected

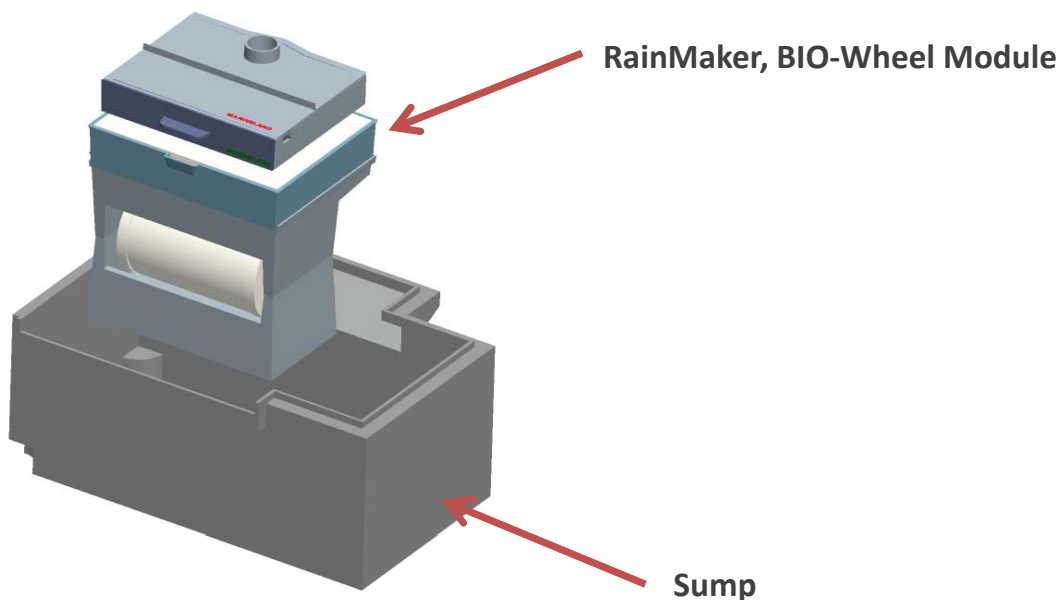
Treated Water Supply: 1 GPH, regulated to 25 PSIG

Drain: At or below grade, 30' run

Three-Tier, 4 Foot, Vertical Display Exploded View



Sump w/ BIO-Wheel Filtration Module Exploded View



SYSTEM Specifications

Integrated Rack System MV8FRT 8 Foot Refrigerated, BIO-Wheel Vertical Display System

MECHANICAL (approximate):

Size: 103" L x 20" W x 86H (94"H, with Illuminated Header)

Shipping Height: 86"

Shipping Weight: 1200 lbs (approx.)

System Gallon Capacity: 192 Gallons

Floor-attached for seismic loads

ELECTRIC:

ETL listed for permanent installation.

Voltage: 115 VAC / 60Hz

Current: Filtration/Circulation/Heater: 12.5 AMPS (Lighting 2.2 AMP for each 4' section, 4.4 AMP total)

Recommendation: 15 AMP Dedicated Circuit

FILTRATION:

Mechanical Filter: White Course Pad and Filter Cartridge

Chemical: Black Diamond Activated Carbon.

Biological Filter: CBW-1 (1 each)

UV Treatment: Marineland UV Module UVC-18

"NEW" WATER FROM TREATED WATER SUPPLY:

Flow Rate: 1 gallon per hour (Per Sump)

Float Valves (1 per sump)

CIRCULATION/FILTRATION PUMP:

Pump: MD-70RLT-: 1200 GPH; UL recognized

Display tank turns per hour (TPH): 5 TPH minimum

REFRIGERATION:

1/2 HP, R134A with Helical Heat Exchanger.
Thermostat Controller, UL listed; Temperature Range: 50-130° F

GFCI protected

LIGHTING:

T8 Light Fixtures: 32-T8 (Dual Lamp)

With polycarbonate Lamp Covers

T8 (rapid Start, fluorescent; 5,000 K Lamp

LED Light Module Other Option:

120 VDC (90 watts total)

MATERIALS OF CONSTRUCTION:

Tanks- Glass

Frames (2 options): Galvanized, Powder Coated, Tubular Steel or Commercial Grade Aluminum

Doors – Aluminum

Misc. Panels, Covers and Extrusions: Expanded PVC, ABS, Polycarbonate

BUYER SUPPLIED CONNECTIONS FOR INSTALLATION:

Electrical Supply:

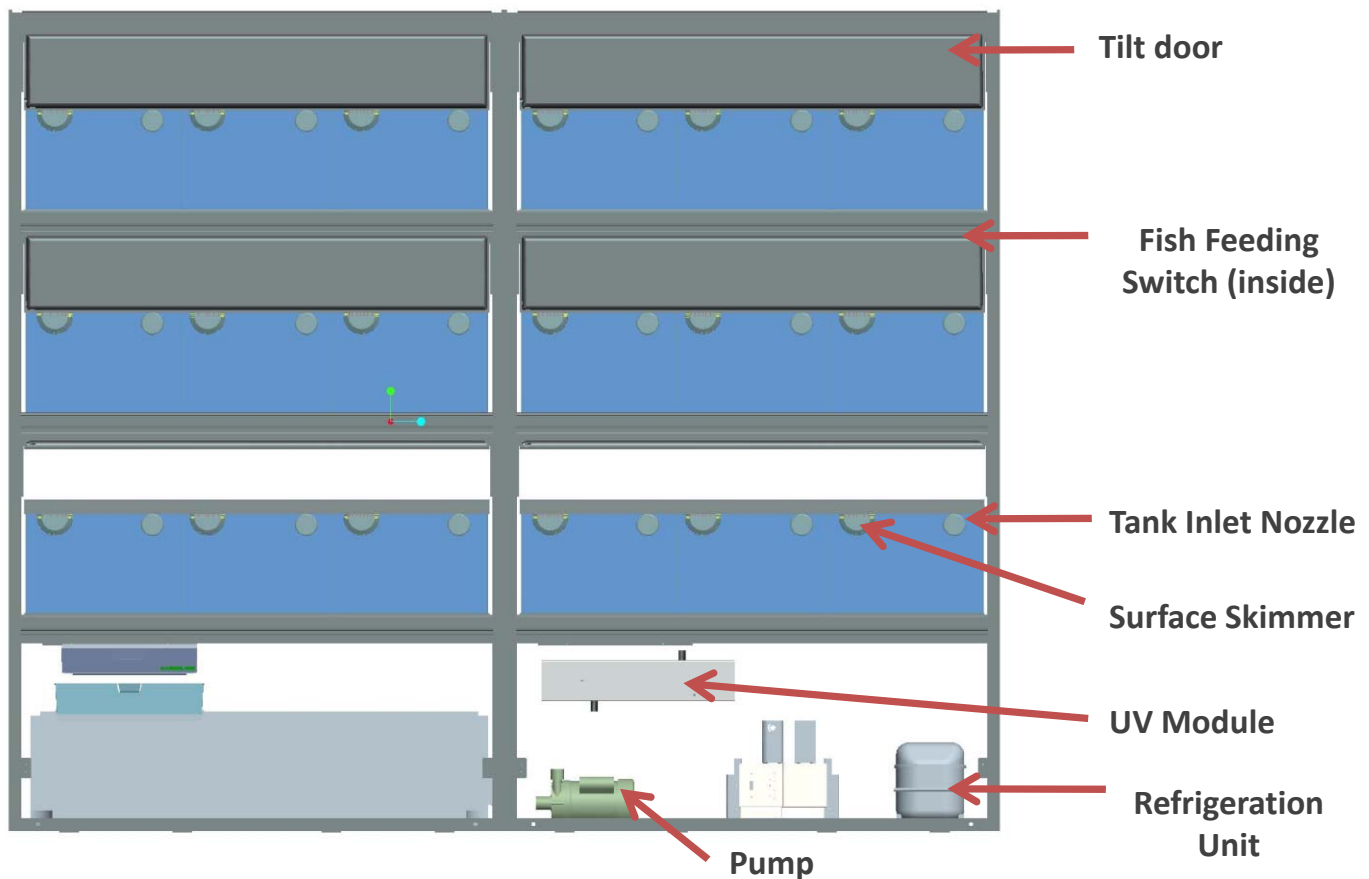
MAIN CIRCUIT: Hard Wired J-Box, 115 VAC, 60 Hz, 20 AMP

Lighting: Plug connected, 2 places; 115 VAC, 60Hz, 2.2 AMPS each, GFCI Protected

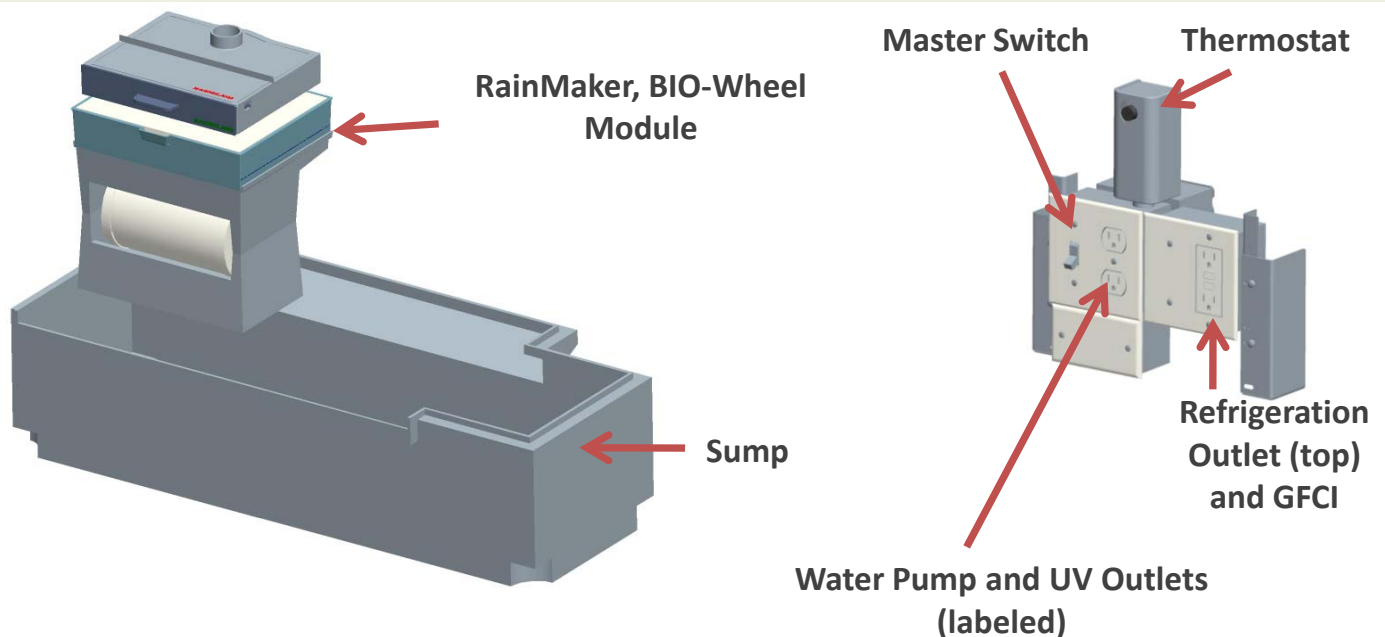
Treated Water Supply: 1 GPH, regulated to 25 PSIG

Drain: At or below grade, 30' run

Three-Tier, 8 Foot, Vertical Display Exploded View



Sump w/ BIO-Wheel Filtration Module and Electrical Assembly Exploded View



SYSTEM Specifications

Integrated Rack System MV4MHT 4 Foot Heated, BIO-Wheel, Marine Vertical Display System

MECHANICAL (approximate):

Size: 51 ½" L x 20" W x 86H (94"H, with Illuminated Header)

Shipping Height: 86"

Shipping Weight: 600 lbs (approx.)

System Gallon Capacity: 98 Gallons

Floor-attached for seismic loads

ELECTRIC:

ETL listed for permanent installation.

Voltage: 115 VAC / 60Hz

Current: Filtration/Circulation/Heater: 12.5 AMPS

Lighting 2.2 AMP

Recommendation: 15 AMP Dedicated Circuit

FILTRATION:

Mechanical Filter: White Course Pad and Filter Cartridge

Chemical: Black Diamond Activated Carbon.

Biological Filter: CBW-1 (1 each)

UV Treatment: Marineland UV Module UVC-18

Protein Skimmer: Marineland Foam Fractionator

"NEW" WATER FROM TREATED WATER SUPPLY:

None: Buyer supplies saltwater as needed

CIRCULATION/FILTRATION PUMP:

Pump: MD-70RLT-115; 1200 GPH; UL recognized

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

HEATER:

1000 watt, titanium heater; UL listed Thermostat Controller, UL listed; Temperature Range: 50-130° F

GFCI protected

LIGHTING:

T8 Light Fixtures: 32-T8 (Dual Lamp)

With polycarbonate Lamp Covers

T8 (rapid Start, fluorescent; 5,000 K Lamp

LED Light Module Other Option:

120 VDC (90 watts total)

MATERIALS OF CONSTRUCTION:

Tanks- Glass

Frames (2 options): Galvanized, Powder Coated, Tubular Steel or Commercial Grade Aluminum

Doors – Aluminum

Misc. Panels, Covers and Extrusions: Expanded PVC, ABS, Polycarbonate

BUYER SUPPLIED CONNECTIONS FOR INSTALLATION:

Electrical Supply:

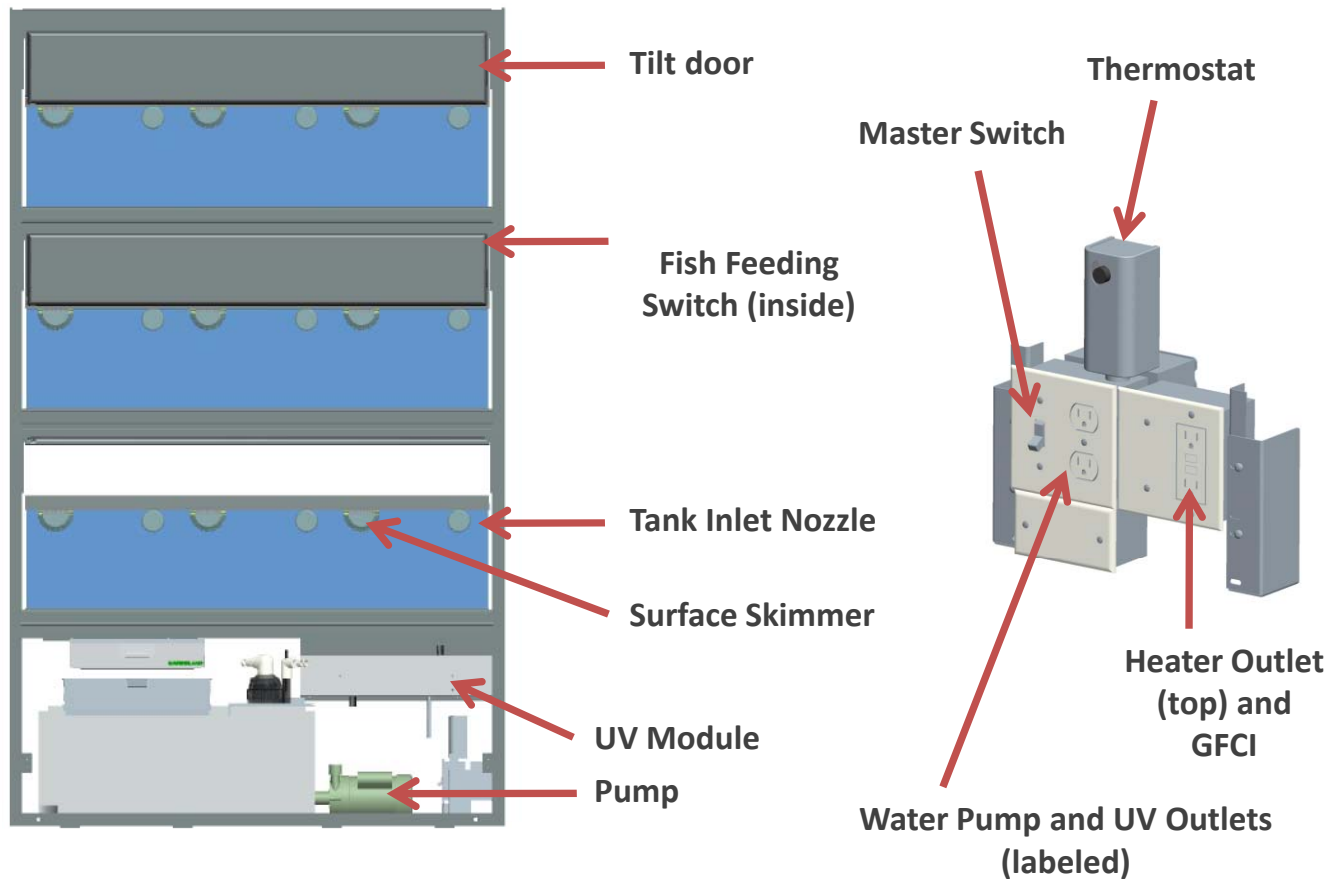
MAIN CIRCUIT: Hard Wired J-Box, 115 VAC, 60 Hz, 15 AMP

Lighting: Plug connected, 2 places; 115 VAC, 60Hz, 2.2 AMPs each, GFCI Protected

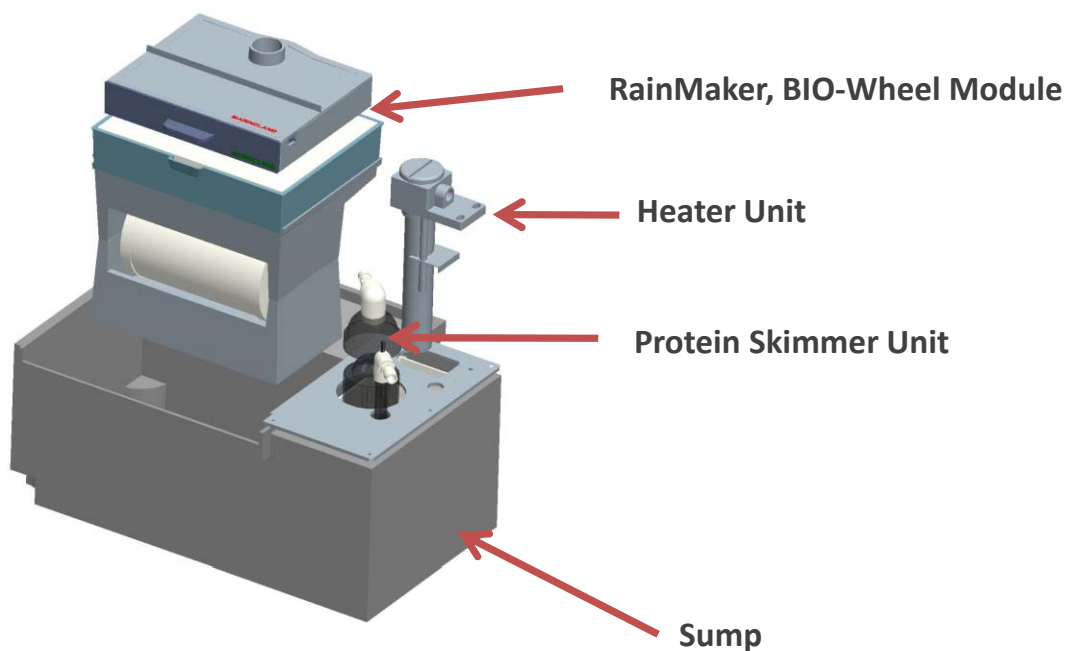
Treated Water Supply: None

Drain: At or below grade, 30' run

Three-Tier, 4 Foot, Vertical Display Exploded View



Sump w/ BIO-Wheel Filtration Module Exploded View



SYSTEM Specifications

Integrated Rack System MV8MHT 8 Foot Heated, BIO-Wheel, Marine Vertical Display System

MECHANICAL (approximate):

Size: 103" L x 20" W x 86H (94"H, with Illuminated Header)

Shipping Height: 86"

Shipping Weight: 1200 lbs (approx.)

System Gallon Capacity: 192 Gallons

Floor-attached for seismic loads

ELECTRIC:

ETL listed for permanent installation.

Voltage: 115 VAC / 60Hz

Current: Filtration/Circulation/Heater: 12.9 AMPS

Lighting 2.2 AMP for each 4 foot section, 4.4 AMP total

Recommendation: 20 AMP Dedicated Circuit

FILTRATION:

Mechanical Filter: White Course Pad and Filter Cartridge

Chemical: Black Diamond Activated Carbon.

Biological Filter: CBW-1 (2 each)

UV Treatment: Marineland UV Module UVC-18

Protein Skimmer: Marineland Foam Fractionator

"NEW" WATER FROM TREATED WATER SUPPLY:

None: Buyer supplies saltwater as needed

CIRCULATION/FILTRATION PUMP:

Pump: MD-100RLT-115; 1700 GPH; UL recognized

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

HEATER:

1000 watt, titanium heater; UL listed Thermostat Controller, UL listed; Temperature Range: 50-130° F

GFCI protected

LIGHTING:

T8 Light Fixtures: 32-T8 (Dual Lamp)

With polycarbonate Lamp Covers

T8 (rapid Start, fluorescent; 5,000 K Lamp

LED Light Module Other Option:

120 VDC (90 watts total)

MATERIALS OF CONSTRUCTION:

Tanks- Glass

Frames (2 options): Galvanized, Powder Coated, Tubular Steel or Commercial Grade Aluminum

Doors – Aluminum

Misc. Panels, Covers and Extrusions: Expanded PVC, ABS, Polycarbonate

BUYER SUPPLIED CONNECTIONS FOR INSTALLATION:

Electrical Supply:

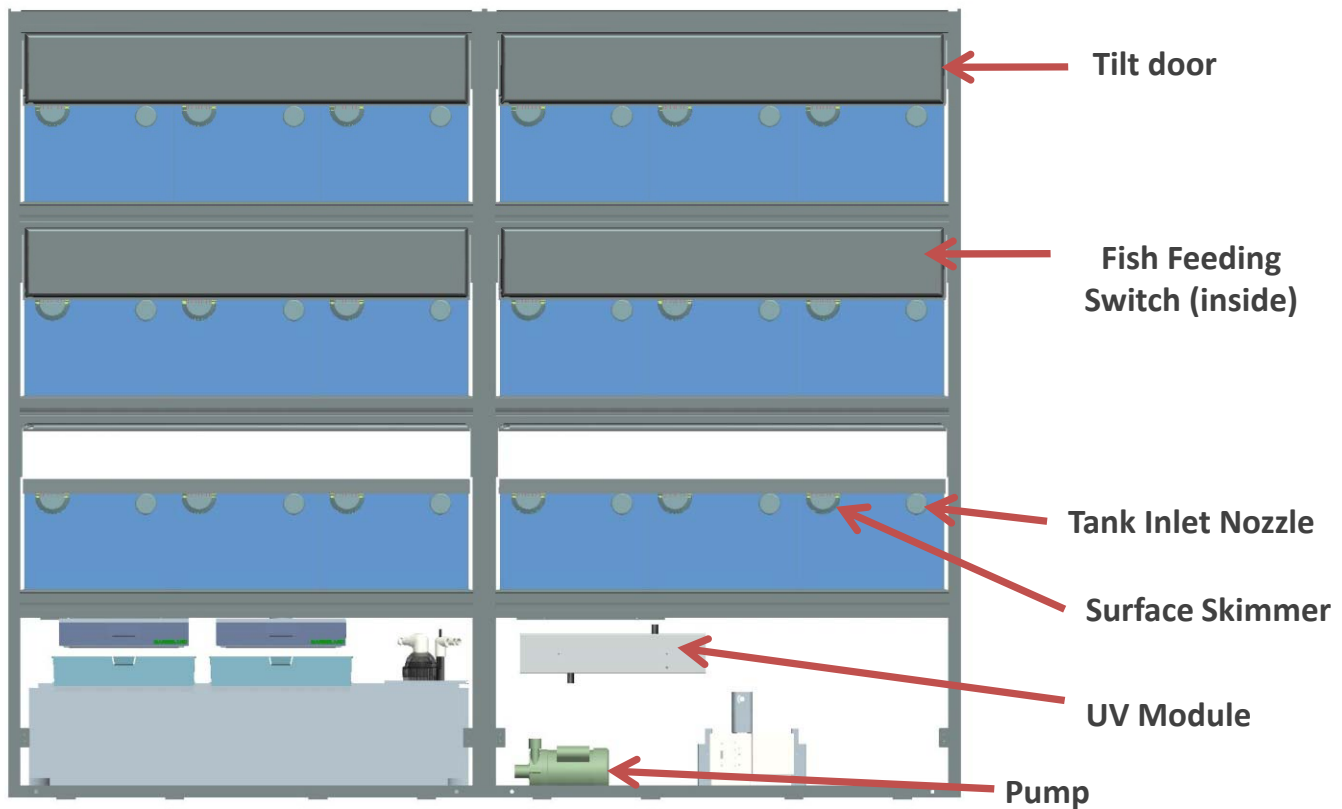
MAIN CIRCUIT: Hard Wired J-Box, 115 VAC, 60 Hz, 15 AMP

Lighting: Plug connected, 2 places; 115 VAC, 60Hz, 2.2 AMPS each, GFCI Protected

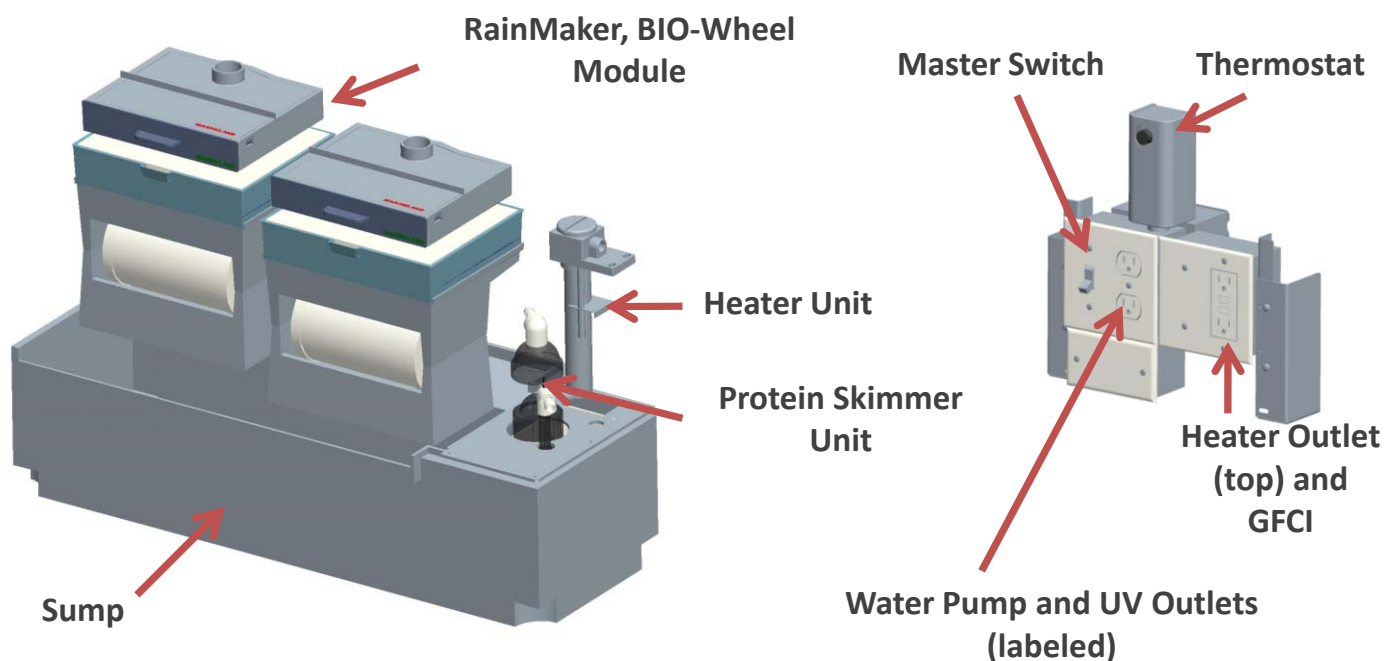
Treated Water Supply: None

Drain: At or below grade, 30' run

Three-Tier, 8 Foot, Vertical Display Exploded View



Sump w/ BIO-Wheel Filtration Module and Electrical Assembly Exploded View



SYSTEM Specifications

Integrated Rack System MV4MRT 4 Foot Refrigerated, BIO-Wheel, Marine Vertical Display System

MECHANICAL (approximate):

Size: 51 ½" L x 20" W x 86H (94"H, with Illuminated Header)

Shipping Height: 86"

Shipping Weight: 600 lbs (approx.)

System Gallon Capacity: 98 Gallons

Floor-attached for seismic loads

ELECTRIC:

ETL listed for permanent installation.

Voltage: 115 VAC / 60Hz

Current: Filtration/Circulation: 12.5 AMPS

Lighting 2.2 AMP

Recommendation: 15 AMP Dedicated Circuit

FILTRATION:

Mechanical Filter: White Course Pad and Filter Cartridge

Chemical: Black Diamond Activated Carbon.

Biological Filter: CBW-1 (1 each)

UV Treatment: Marineland UV Module UVC-18

Protein Skimmer: Marineland Foam Fractionator

"NEW" WATER FROM TREATED WATER SUPPLY:

None: Buyer supplies saltwater as needed

CIRCULATION/FILTRATION PUMP:

Pump: MD-70RLT-115; 1200 GPH; UL recognized

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

REFRIGERATION:

1/3 HP, R134A with Helical Heat Exchanger.
Thermostat Controller, UL listed; Temperature Range: 50-130° F

GFCI protected GFCI protected

LIGHTING:

T8 Light Fixtures: 32-T8 (Dual Lamp)

With polycarbonate Lamp Covers

T8 (rapid Start, fluorescent; 5,000 K Lamp

LED Light Module Other Option:

120 VDC (90 watts total)

MATERIALS OF CONSTRUCTION:

Tanks- Glass

Frames (2 options): Galvanized, Powder Coated, Tubular Steel or Commercial Grade Aluminum

Doors – Aluminum

Misc. Panels, Covers and Extrusions: Expanded PVC, ABS, Polycarbonate

BUYER SUPPLIED CONNECTIONS FOR INSTALLATION:

Electrical Supply:

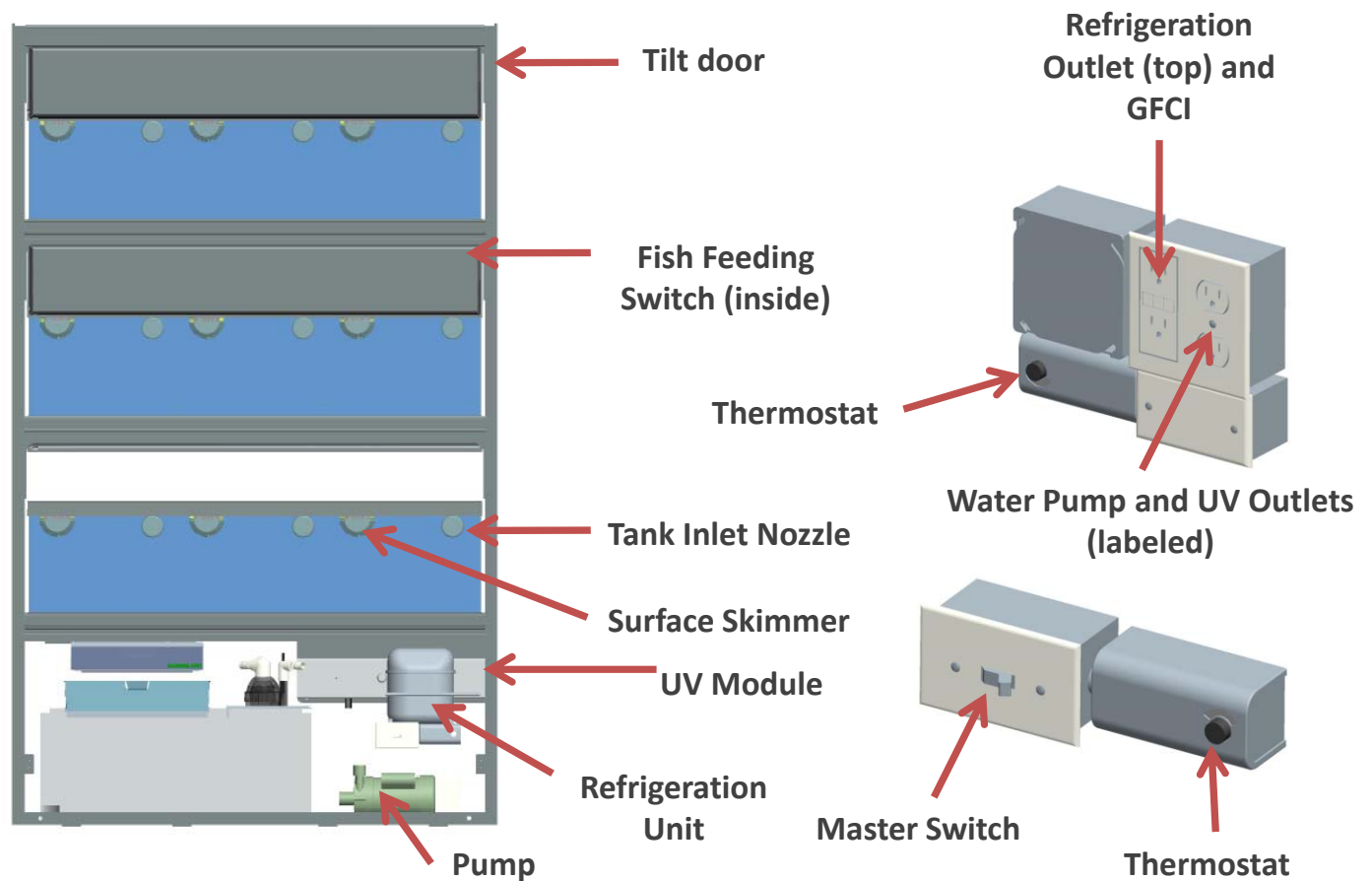
MAIN CIRCUIT: Hard Wired J-Box, 115 VAC, 60 Hz, 15 AMP

Lighting: Plug connected, 2 places; 115 VAC, 60Hz, 2.2 AMPS each, GFCI Protected

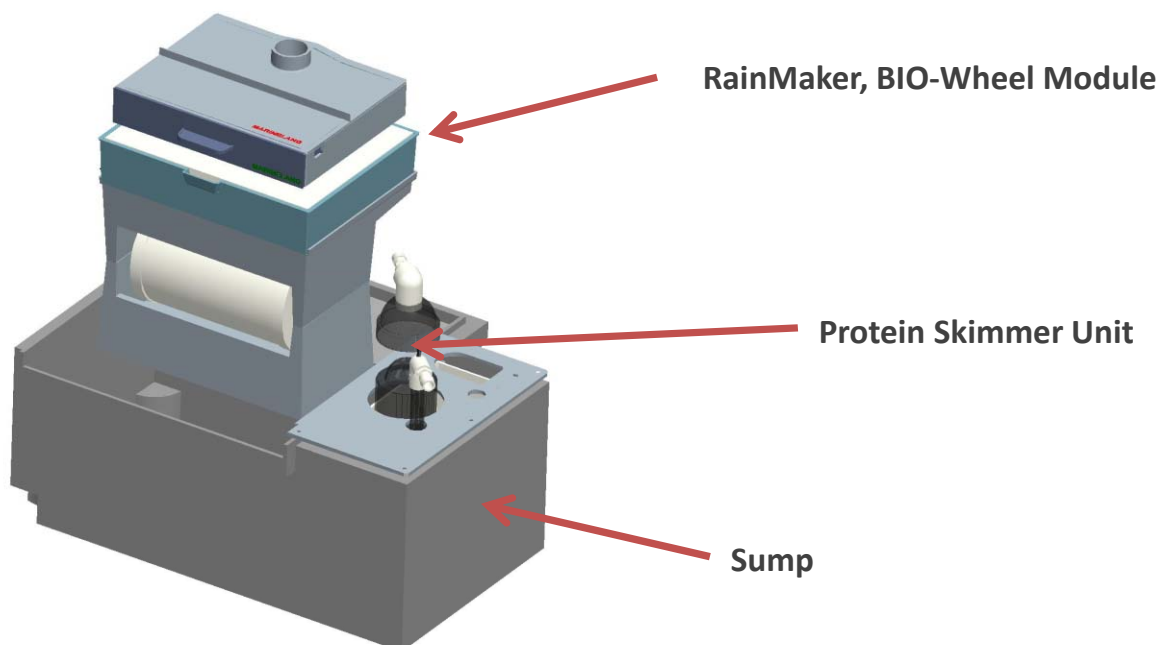
Treated Water Supply: None

Drain: At or below grade, 30' run

Three-Tier, 4 Foot, Vertical Display Exploded View



Sump w/ BIO-Wheel Filtration Module Exploded View



SYSTEM Specifications

Integrated Rack System MV8MRT 8 Foot Refrigerated, BIO-Wheel, Marine Vertical Display System

MECHANICAL (approximate):

Size: 103" L x 20" W x 86H (94"H, with Illuminated Header)

Shipping Height: 86"

Shipping Weight: 1200 lbs (approx.)

System Gallon Capacity: 192 Gallons

Floor-attached for seismic loads

ELECTRIC:

ETL listed for permanent installation.

Voltage: 115 VAC / 60Hz

Current: Filtration/Circulation: 12.9 AMPS

Lighting 2.2 AMP for each 4 foot section, 4.4 AMP total

Recommendation: 20 AMP Dedicated Circuit

FILTRATION:

Mechanical Filter: White Course Pad and Filter Cartridge

Chemical: Black Diamond Activated Carbon.

Biological Filter: CBW-1 (2 each)

UV Treatment: Marineland UV Module UVC-18

Protein Skimmer: Marineland Foam Fractionator

"NEW" WATER FROM TREATED WATER SUPPLY:

None: Buyer supplies saltwater as needed

CIRCULATION/FILTRATION PUMP:

Pump: MD-100RLT-115; 1700 GPH; UL recognized

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

REFRIGERATION:

1/2 HP, R134A with Helical Heat Exchanger.
Thermostat Controller, UL listed; Temperature Range: 50-130° F

GFCI protected GFCI protected

LIGHTING:

T8 Light Fixtures: 32-T8 (Dual Lamp)

With polycarbonate Lamp Covers

T8 (rapid Start, fluorescent; 5,000 K Lamp

LED Light Module Other Option:

120 VDC (90 watts total)

MATERIALS OF CONSTRUCTION:

Tanks- Glass

Frames (2 options): Galvanized, Powder Coated, Tubular Steel or Commercial Grade Aluminum

Doors – Aluminum

Misc. Panels, Covers and Extrusions: Expanded PVC, ABS, Polycarbonate

BUYER SUPPLIED CONNECTIONS FOR INSTALLATION:

Electrical Supply:

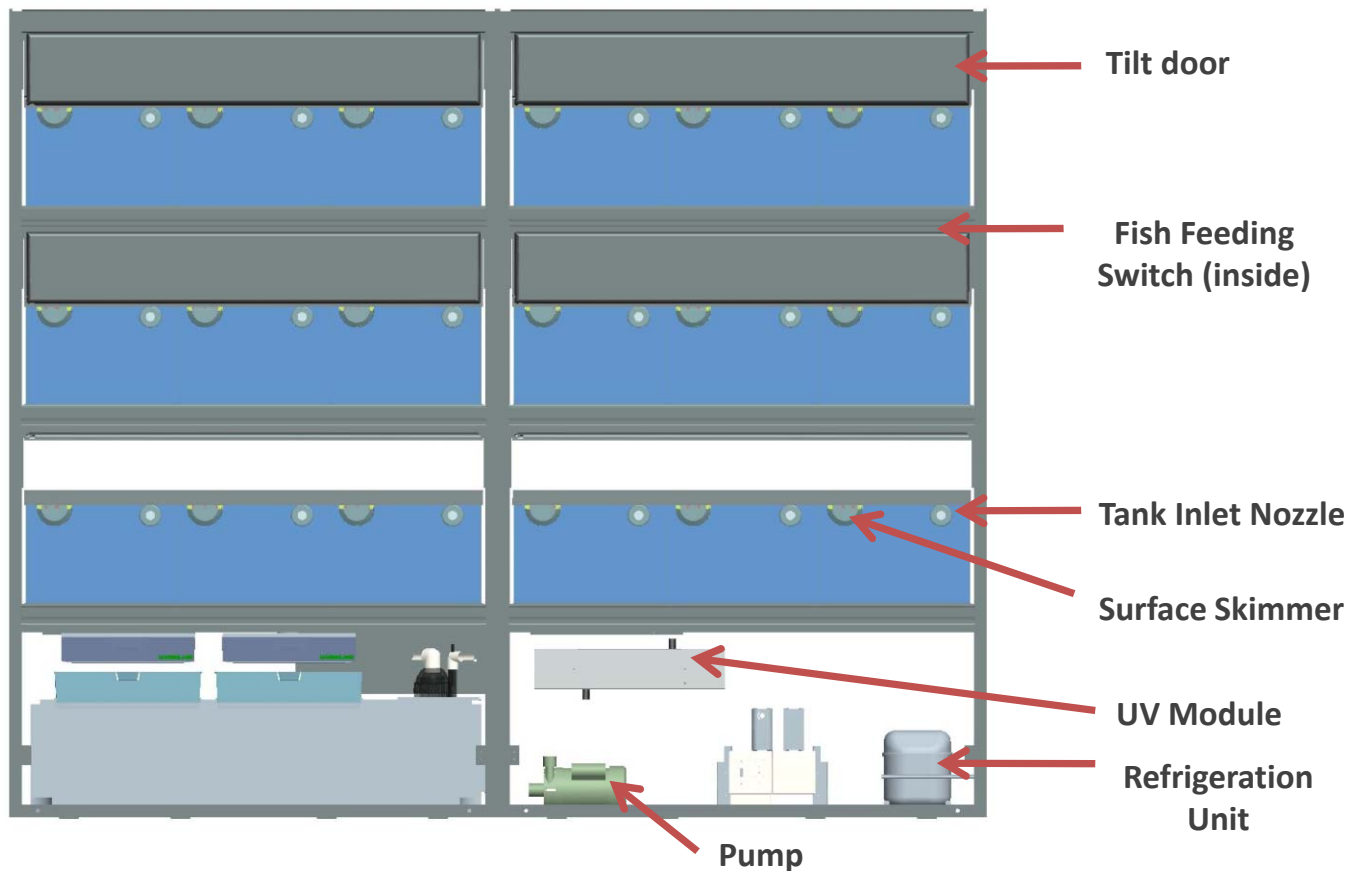
MAIN CIRCUIT: Hard Wired J-Box, 115 VAC, 60 Hz, 20 AMP

Lighting: Plug connected, 2 places; 115 VAC, 60Hz, 2.2 AMPS each, GFCI Protected

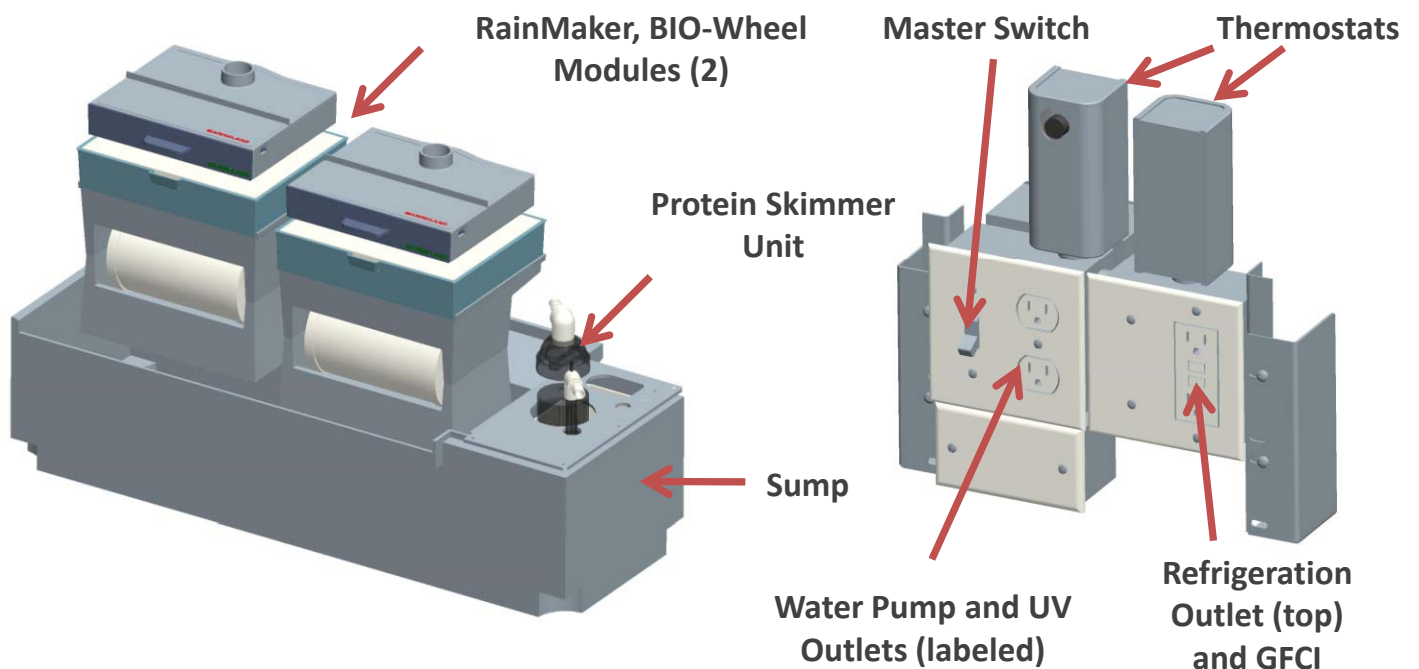
Treated Water Supply: None

Drain: At or below grade, 30' run

Three-Tier, 8 Foot, Vertical Display Exploded View



Sump w/ BIO-Wheel Filtration Module and Electrical Assembly Exploded View



SYSTEM Specifications

Integrated Rack System MV8MHRT 8 Foot Heated and Refrigerated, BIO-Wheel, Marine Vertical Display System

MECHANICAL (approximate):

Size: 103" L x 20" W x 86H (94"H, with Illuminated Header)

Shipping Height: 86"

Shipping Weight: 1200 lbs (approx.)

System Gallon Capacity: 192 Gallons

Floor-attached for seismic loads

ELECTRIC:

ETL listed for permanent installation.

Voltage: 115 VAC / 60Hz

Current: Filtration/Circulation: 12.9 AMPS

Lighting 2.2 AMP for each 4 foot section, 4.4 AMP total

Recommendation: 20 AMP Dedicated Circuit

FILTRATION:

Mechanical Filter: White Course Pad and Filter Cartridge

Chemical: Black Diamond Activated Carbon.

Biological Filter: CBW-1 (2 each)

UV Treatment: Marineland UV Module UVC-18

Protein Skimmer: Marineland Foam Fractionator

"NEW" WATER FROM TREATED WATER SUPPLY:

None: Buyer supplies saltwater as needed

CIRCULATION/FILTRATION PUMP:

Pump: MD-100RLT-115; 1700 GPH; UL recognized

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

REFRIGERATION AND HEATER:

1/2 HP, R134A with Helical Heat Exchanger.
Thermostat Controller, UL listed; Temperature

1000 watt titanium heater; UL Listed

Refrigeration and Heater Range: 50-130° F

GFCI protected GFCI protected

LIGHTING:

T8 Light Fixtures: 32-T8 (Dual Lamp)

With polycarbonate Lamp Covers

T8 (rapid Start, fluorescent; 5,000 K Lamp

LED Light Module Other Option:

120 VDC (90 watts total)

MATERIALS OF CONSTRUCTION:

Tanks- Glass

Frames (2 options): Galvanized, Powder Coated, Tubular Steel or Commercial Grade Aluminum

Doors – Aluminum

Misc. Panels, Covers and Extrusions: Expanded PVC, ABS, Polycarbonate

BUYER SUPPLIED CONNECTIONS FOR INSTALLATION:

Electrical Supply:

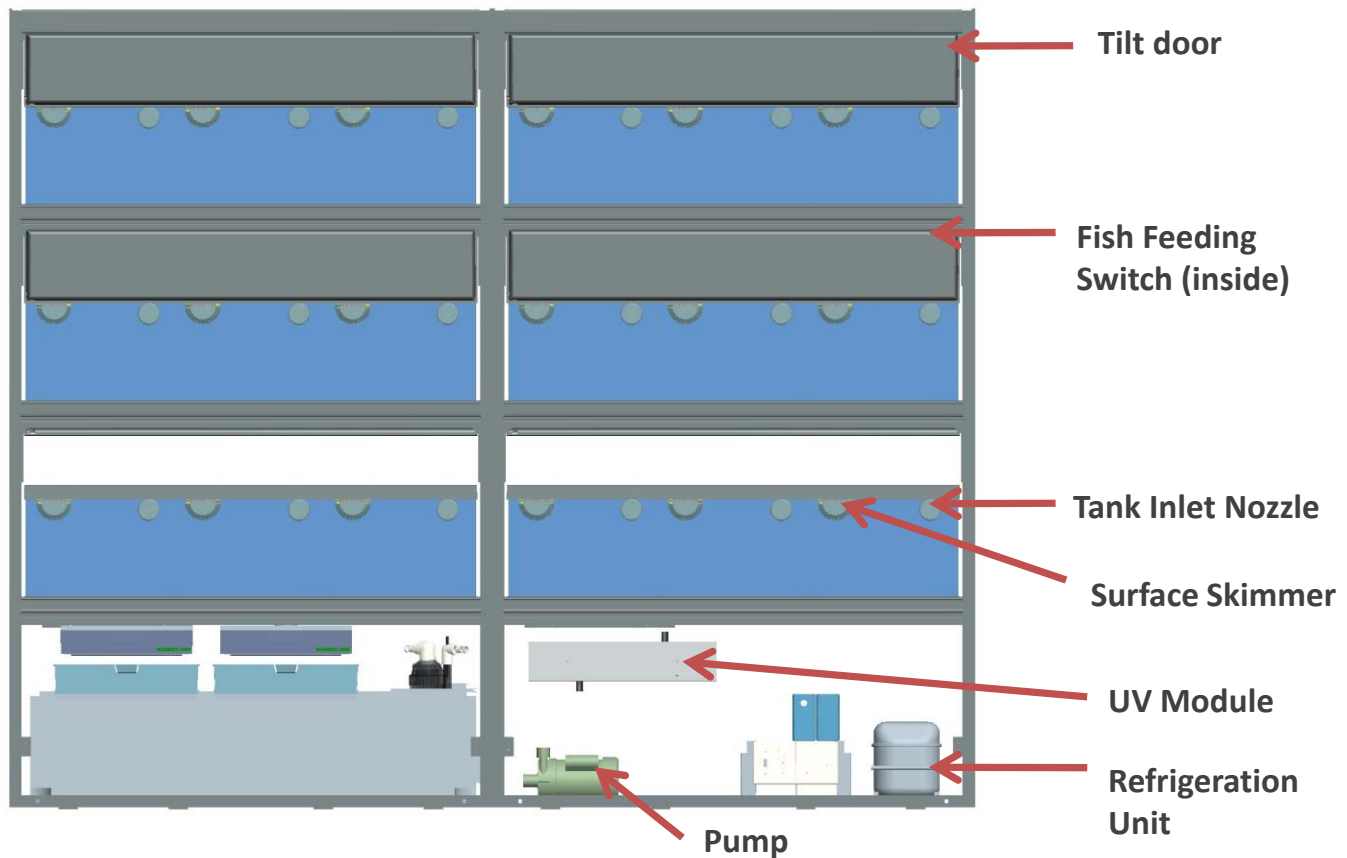
MAIN CIRCUIT: Hard Wired J-Box, 115 VAC, 60 Hz, 20 AMP

Lighting: Plug connected, 2 places; 115 VAC, 60Hz, 2.2 AMPS each, GFCI Protected

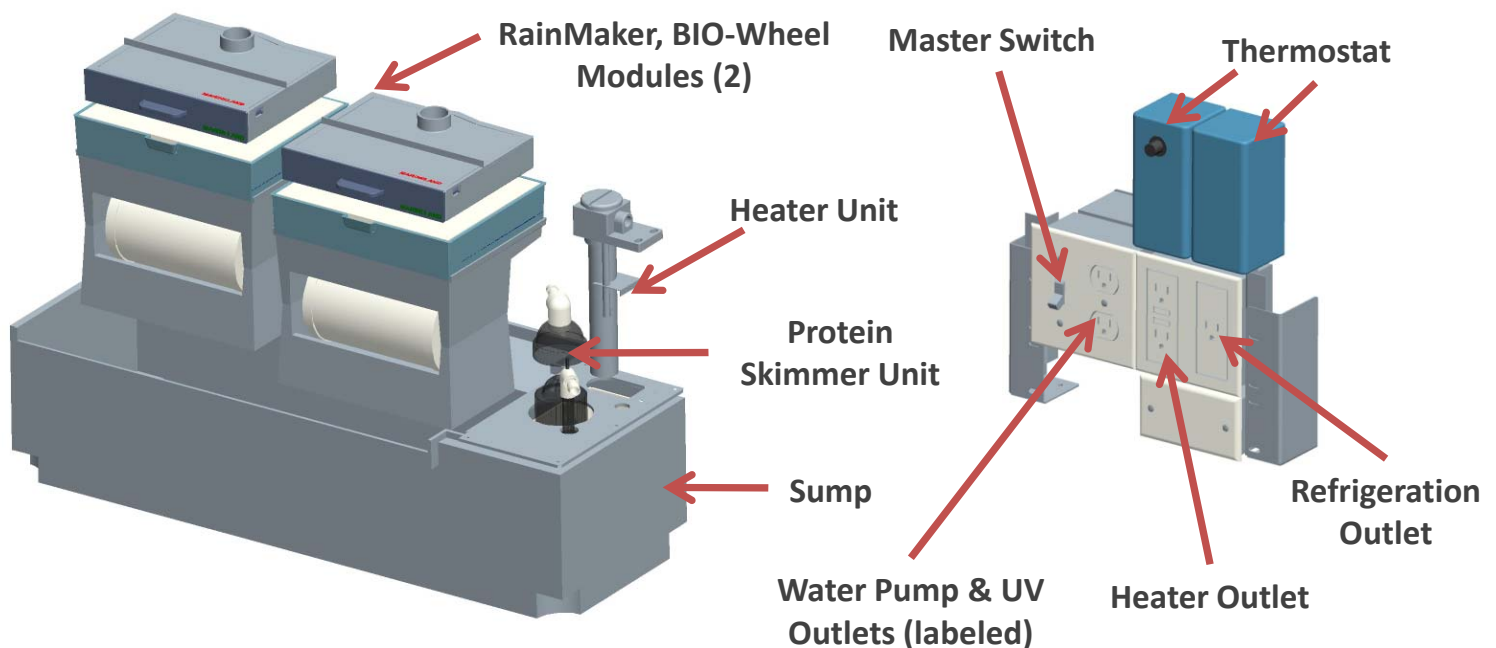
Treated Water Supply: None

Drain: At or below grade, 30' run

Three-Tier, 8 Foot, Vertical Display Exploded View



Sump w/ BIO-Wheel Filtration Module and Electrical Assembly Exploded View



OPERATION

Six simple steps are required to get your system up and running, prior to the addition of filtration media.

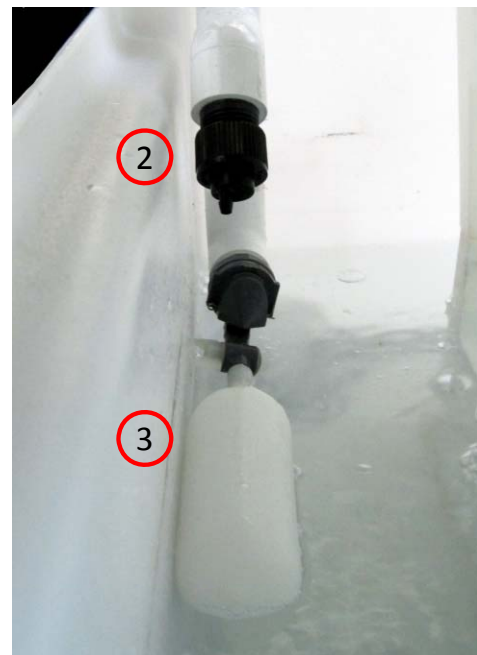
Startup

1. Open Tilt Doors and fill display tanks manually to desired levels with sediment-free dechlorinated water.
2. Open Sump Access Panel (pull latch and move panel towards you to open). Manually fill sumps to level of overflow.
3. **For Freshwater Systems Only:** Open new water supply valve (A). Check drip emitter (B) for slow trickle of new water into Sump.



A Float valve is located in the sump to keep the water level under control. The Overflow and Drip Emitter are also located in the sump to help the system perform automatic water changes.

Note: Both Float Valve and Drip Emitter are located up front within the sump for easier access. Store associates should check the operation of both Drip emitter and Float Valve week or as needed.



1. Overflow
2. Drip Emitter
3. Float Valve

OPERATION cont...

4. Unlock and remove Electrical Service Panel. Activate Master Switch. After system has operated for five minutes, fill Sump to level of Overflow.

Caution:

Never activate Master Switch without water in tanks and sump with heater fully submerged. This can damage your system and/or blow thermal fuse.



Refrigerated System



Heated System

5. Allow system to operate with mechanical and chemical filtration media (White Course Pad and Carbon Filter Cartridge) for a period of 24 hours. Be sure to inspect areas near pump, UV and other components for leaks.



6. Adjust “IN” water nozzles in display tanks to ensure optimum circulation.

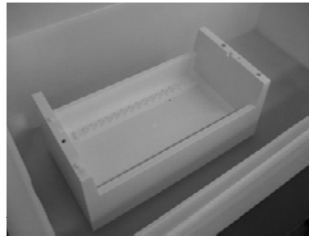
Note: *Water flow should just break the surface.*



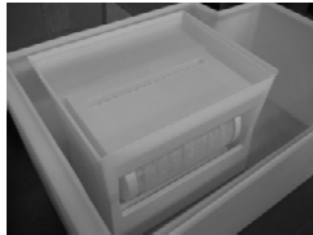
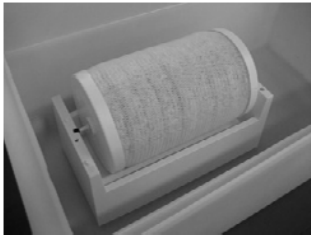
ADDING FILTRATION MEDIA

Follow the few easy steps outlined below to install filtration media.

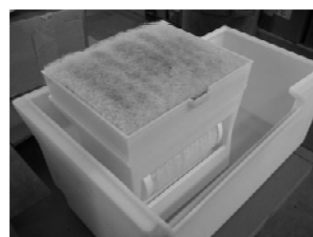
1. Open Sump Access Panel.
2. Fit Bottom BIO-Wheel Housing securely over Raised Housing Locator in bottom of Sump.



3. Place cultured BIO-Wheel in Bottom Housing. Tray guides will ensure correct positioning. Place Top BIO-Wheel Housing over BIO-Wheel and on Top of Bottom BIO-Wheel Housing (notches on Bottom Housing align with holes in Top Housing).



4. Install Filter Media Tray and Place Carbon Filter Cartridge and White Coarse Pad inside.

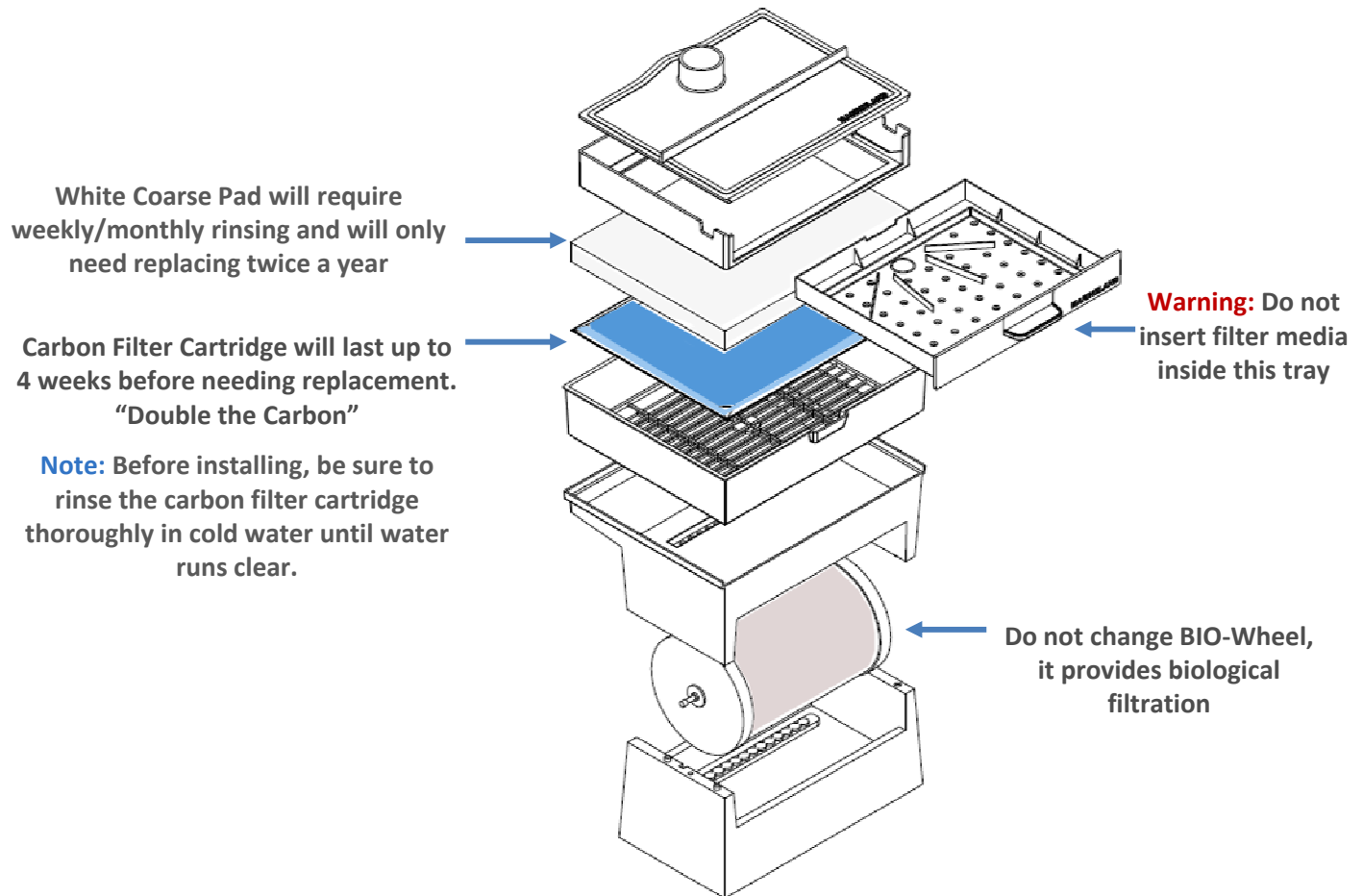


Note: Before installing, be sure to rinse the carbon filter cartridge thoroughly in cold water until water runs clear.



ADDING FILTRATION MEDIA ON THE BIO-WHEEL FILTRATION SYSTEM

Follow the few easy steps outlined below to install or replace The Marineland, RainMaker Filtration Media.



CONSUMABLES ITEMS

1- WHITE COARSE PAD (1 EACH)

AQ76538

2- CARBON FILTER CARTRIDGE (SIX PACK)

MZ0374

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*

As NEEDED

Check Surface Skimmers

Water uniformly flows into each display tank, exiting via the Surface Skimmer. The skimmer draws water and floating debris from both the middle and surface levels to ensure uniform water circulation. It's easily removable for cleaning.



1. Remove Surface Skimmer. Grasp Skimmer Cover on both sides and pull forward. Gently pull away from tank back/bulkhead slot.
2. Wipe area clean with designated tank algae scrubber pad.
3. Replace Surface Skimmer. Insert by pushing Skimmer gently into place.

Clean Gravel

Gently stir gravel in each tank and allow debris to be pulled through the Bi-Level Skimmer. This will eliminate the need to vacuum gravel on a regular basis. For more intense spot cleaning or excessively dirty tanks, use the H.O.T. Magnum Canister Filter and Power Kleen Gravel Washer included in the MaRS Maintenance Kit.

Note: The MaRS Maintenance Kit can be ordered by calling 1-800-576-6277.

Check Sump Water Level

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

Refrigerated Systems: 68-70°F

Heated Systems: 78-80°F

MAINTENANCE cont...

As NEEDED

Check Water Pump and BIO-Wheel Operation

Observe flow of water to the BIO-Wheel Assembly. Make sure that water flow to the BIO-Wheel is unhindered. The BIO-Wheel should rotate freely and remain wet at all times. Speed of rotation is not important. If a BIO-Wheel is turning – regardless of the rate – it is working.



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.

Note: A properly cultured BIO-Wheel is brown or discolored. There is no reason to clean a BIO-Wheel or replace it – unless it is damaged. If removed from the system for any reason, it should be kept moist and exposed to air until you reinstall it. If a BIO-Wheel is allowed to dry out or is inadvertently exposed to a contaminant, the bioculture may be destroyed. A precultured replacement can be purchased directly from Marineland (see back page).

Check Drip Emitter

It's the job of the drip emitter to regulate the amount of new water introduced to your MaRS system. Because the Drip Emitters are vital to optimal operation, it is necessary to Check them each week if possible to ensure their 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.*

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.

MAINTENANCE cont...

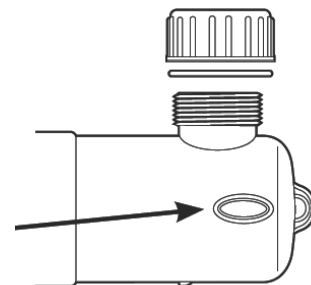
As NEEDED

Check UV “Lamp Viewing Window”

When lit, it indicates the UV Lamp is operating. See service section for replacement instructions. Should be replaced every 6 months on both Heated and Refrigerated Systems.

SAFTY TIP: DO NOT LOOK DIRECTLY AT THE UNSHIELDED BULB AS DAMAGE TO THE EYES MAY OCCUR.

MONITORING OF LAMP OPERATION SHOULD ONLY TAKE PLACE BY LOOKING THROUGH THE VIEWING WINDOW ON THE UNIT.



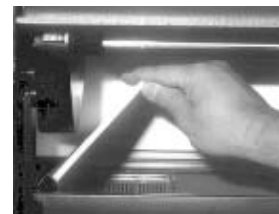
Wipe Down All Exterior Casing Surfaces

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 Fish Jumper Guards

1. **Remove Side Jumper Guards:** Grasp top and gently pull toward you to free Guard from frame. Lift bottom of Guard up and away from tank rim.
2. **Remove Back Jumper Guard:** Using brackets, lift top up and out from system frame.
3. **Wipe down with a damp cloth:** If necessary, use tank scrubber pad for any calcium buildup.
4. **Remount Back Jumper Guard:** Slot bottom notch onto top rim of tank. Press into position.
5. **Replace Side Jumper Guards:** Slot bottom notch onto top rim of tank. Press into position beneath Locator Bumps in Lamp Cover.

Note: Center Jumper Guards may be wiped clean without having to be removed. Be sure to use only a clean, damp cloth.



MONTHLY

Change Carbon Filter Cartridge and Rinse White Coarse Filter Pad

Replace Carbon Filter Cartridge and Rinse White Coarse Pad. Note: *Before installing, be sure to rinse the carbon filter cartridge thoroughly in cold water until water runs clear.*

MAINTENANCE cont...

Six Month or AS NEEDED

Replace White Coarse Pad

White Coarse Pad will require weekly/monthly rinsing and should only need replacing twice a year



Clean Heat Exchanger Screen (on Refrigeration Unit)

1. Remove Service Panel and shut down system.
2. With handled brush (provided) reach through rack and brush accumulated dust and debris from rear screen.
3. Restart system. Replace Service Panel.



UV lamps and O-rings Change

It's recommend that the UV lamps and O-rings are serviced at Six Month Intervals. Marineland network of field service technicians can provide maintenance, call us at 800-576-6277 if needed.



Carbon and Sediment Filter Change

The carbon and sediment filters need to be changed at Six Month Intervals.

Note: Some areas due to their local water, may require the filters to be changed earlier/more frequently.



Clean Titanium Heater Housing (heated unit only)

Reach into sump and scrub Housing.
Clean with brush or scrubber pad.

WEEKLY MAINTENANCE PROCEDURES FOR MARINE MODULES

Water Change

Change 25% per week. Water should be mixed in a container used only for that purpose (recommended: 30 gallon refuse container on a dolly) with appropriate amount of salt (recommended: use a standard measuring cup for exact amount). Water should be added and a new batch mixed on the same day to ensure that supply is always available.

MODEL	SYSTEM CAPACITY	25% CHANGE
MV4	98 GALLONS	25 GALLONS
MV8	192 GALLONS	48 GALLONS

Gravel Cleaning

Siphon clean gravel thoroughly.



Algae Removal

Scrub inside of glass lightly with appropriate algae scrubber.

Salt “Creep” Removal

Wipe outer aquarium surface with a clean, damp cloth.

MAINTENANCE cont...

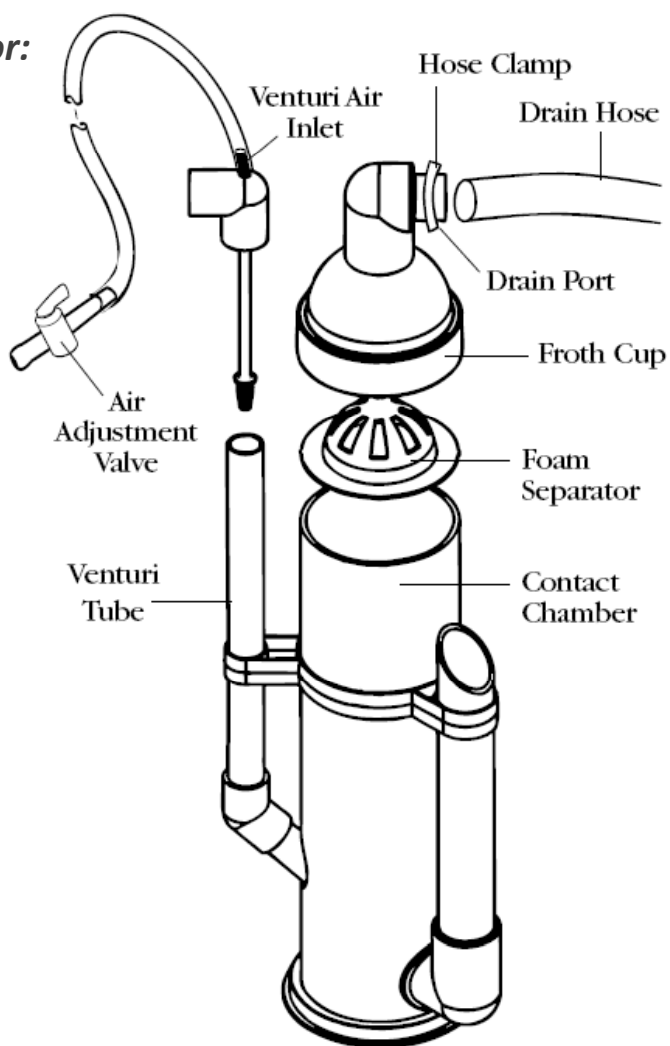
Clean Protein Skimmer Froth Cup / Foam Separator

(Marine System Only)

To ensure proper operation, Froth Cup and Foam Separator should be cleaned every week with warm water.

To remove Froth Cup and Foam Separator:

1. Shut down system.
2. Remove Sump Access Panel.
3. Remove Hose Clamp from Drain Hose.
4. Remove Drain Hose from Drain Port.
5. Remove (lift up) Froth Cup from Contact Chamber.
6. Clean Cup and Separator.
7. Return Cup and Separator to position atop Contact Chamber.
8. Reconnect Drain Hose and Clamp.
Note: Make sure Clamp is fastened.
9. Turn on system. Inspect Skimmer for leaks.
10. Replace Sump Access Panel.



Clean Protein Skimmer Venturi Air Inlet

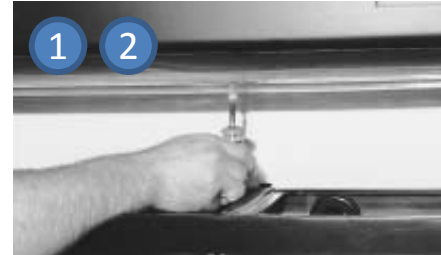
Using pipe cleaner or squirt bottle, make sure Inlet orifice is clear and drawing air into Venturi Tube.

FLUORESCENT LAMP CHANGE

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. Remove Side Fish Jumper Guards.
2. Using a dime or screwdriver, unscrew placement bolts (3) in Lamp Cover.

Note: *Placement Bolts are attached to Lamp Cover and will not fall out.*



3. Carefully Remove Lamp Cover.
4. Switch “Off”. **Never Change Fixtures while switch is on.**
5. Remove front fluorescent lamp. Gently twist 90° and push backward and out from mounted station slots. Discard (*according to established environmental procedure*).
6. 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. Switch “On”.
9. Replace Lamp Cover. Line up cord notch (to the rear of cover on one side) with power cord and screw in Placement Bolts.



NOTE: Lamp Cover is specifically formed on one side to fit over the On/Off Switch. Be sure to match switch with molded protrusion before replacing Placement Bolts.

10. Replace Fish Jumper Guards.

LIGHT TIMER OPERATION (OPTIONAL)

PROGRAM LIGHTING:

Please refer to instructions below (also located on inside of Timer Box).

MODEL: T101 24 HOUR DIAL TIME SWITCH



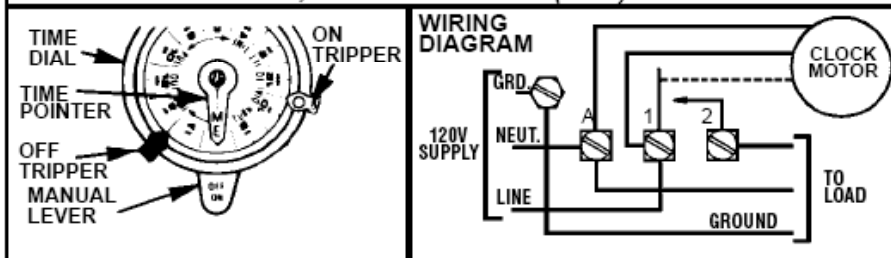
LR3730

SINGLE POLE SINGLE THROW (SPST)

40 AMP. RESISTIVE, INDUCTIVE, TUNGSTEN
OR 1000 VA PILOT DUTY 120/208/240 VOLT AC;
2 HP (24 FLA) - 120V AC; 5 HP (28 FLA) - 240V AC

CLOCK MOTOR: 110-125 VOLTS - 60 HZ.

CLOCK MOTOR VOLTAGE AND CYCLE MUST BE AS SPECIFIED. TO
ORDER REPLACEMENT, INDICATE PART NO. (WG--) ON MOTOR COVER.



WIRING INSTRUCTIONS: To wire switch follow diagram above. Use solid or stranded **COPPER** only wire with insulation to suit installation. See gauge selection table for normal service applications. To make power connections remove 1/2 inch of insulation from wire ends. Insert bare ends of wire under the pressure plate of terminals. Use 3/16 or larger screwdriver to tighten terminal screws firmly. (25 lb-in minimum).

REPLACE INSULATOR BEFORE TURNING ON ELECTRICITY.

MINIMUM COPPER WIRE SIZE (AWG)	MAX. LOAD (AMP)	MIN. INSUL- ATION TEMP (°C)	75°C INSULATION MAX. MOTOR LOAD (HP)			
			SINGLE PHASE		3 PHASE	
			120 V.	240 V.	208 V.	240 V.
14	15	60	1/2	2		
12	20	60	1	2 1/2	N/A	N/A
10	30	60	2	3		
8	40	75	-	5		



PROGRAMMING INSTRUCTIONS

- TO SET "ON" AND "OFF" TIMES:** Hold trippers against edge of **CLOCK-DIAL**, pointing to time (AM or PM) when **ON** and **OFF** operations are desired, tighten tripper screws firmly. For additional tripper pairs on **CLOCK-DIAL** order 156T1978A.
- TO SET TIME-OF-DAY:** Pull **CLOCK-DIAL** outward. Turn in either direction and align the exact time-of-day on the **CLOCK-DIAL** (the time now, when switch is being put into operation) to the pointer. **DO NOT MOVE POINTER.**

OPERATING INSTRUCTIONS

- TO OPERATE SWITCH MANUALLY:** Move **MANUAL LEVER** below **CLOCK-DIAL** left or right as indicated by arrows. This will not effect next operation.
- IN CASE OF POWER FAILURE,** reset **CLOCK-DIAL** to proper time-of-day. See programming instructions.

INTERMATIC INCORPORATED

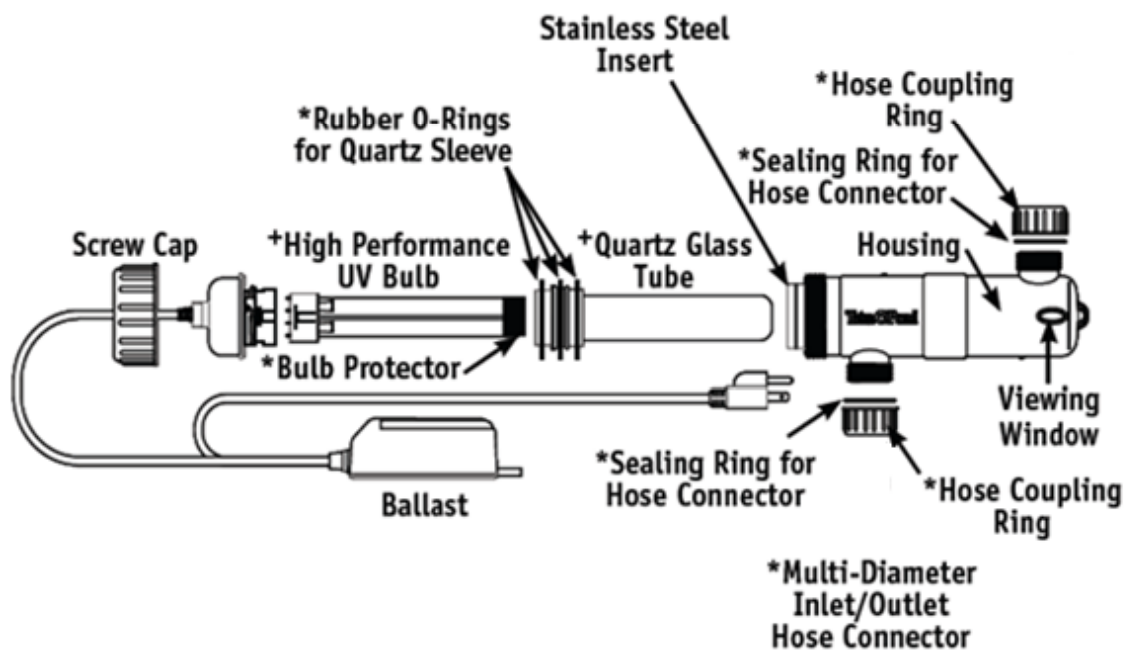
SPRING GROVE, ILLINOIS 60081-9698

158TS10941

MARINELAND UV SERVICE

We strongly recommend that all servicing for your system be performed by a qualified technician or trained associate. For service, call: (800) 576-6277

UV CLARIFIER COMPONENTS



IMPORTANT:

To prolong the life of the UV Disinfection Unit and avoid leaving fingerprints on the UV Lamp, we strongly recommend that you wear cotton gloves at all times during servicing of UV Disinfection Unit.

Never look directly into UV Lamp while in operation...eye injury may occur.

Never restore power while UV Lamp is separated from Treatment Chamber.
Skin damage and/or injury may result.

Always make sure hands are absolutely dry and if possible gloved before servicing equipment.

EVERY SIX MONTHS

Clean UV Disinfection Unit Quartz “Glass” Tube

The Quartz Tube will develop a layer of scum on its surface which can reduce UV Lamp effectiveness. Scum should be cleaned off on a regular basis.

When performing the six-month UV Lamp service, always clean the Quartz Glass Tube.

Note: We strongly recommend that all servicing of the UV Disinfection Unit be performed by a qualified technician or trained associate. If you or your staff are not familiar with aquatic filtration systems design and installation, call the

MaRS Technical Support division at 800-576-6277 (7a.m. – 5p.m. Monday – Friday).

Replace UV Disinfection Unit Lamp

The UV Lamp has a useful service life of about six months. After this time – whether it continues to appear functional or not – *its effectiveness has been greatly diminished*. It must be replaced.

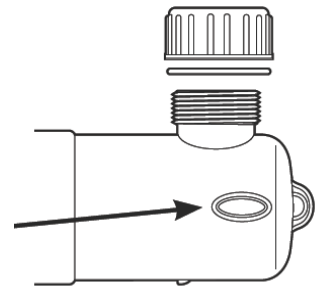
See service section (next page) for replacement instructions.



Marineland Quartz Tube

SAFTY TIP: DO NOT LOOK DIRECTLY AT THE UNSHIELDED BULB AS DAMAGE TO THE EYES MAY OCCUR.

MONITORING OF LAMP OPERATION SHOULD ONLY TAKE PLACE BY LOOKING THROUGH THE VIEWING WINDOW ON THE UNIT.



UV Disinfection Unit O-Ring:

The sealing O-rings should be replaced each year, (recommended every six months with UV lamp service). Always clean and lubricate O-Rings with a very thin coating of silicone lubricant before screwing the screw cap.

CLEAN QUARTZ GLASS TUBE

1. Turn OFF Master Switch. Allow UV unit to drain (3-5 minutes).
2. Hold UV Module and unscrew the screw cap. Carefully remove the quartz sleeve. The quartz tube may be loosened by gently using a small coin or a screwdriver. Once loosened remove by hand.
3. Wash/rinse Quartz Sleeve thoroughly with a soft cloth and water to avoid scratching the quartz glass tube. **Note:** For heavier deposits, we recommend cleaning with warm vinegar.
4. Gently wipe sleeve with clean cloth before reinstalling.

TO REASSEMBLE:

5. Be sure that the **inside of the quartz sleeve is completely dry prior to reassembly.**
6. When reassembling, ensure that the sealing o-rings are properly seated, (*see drawing on page 37*). Always clean and lubricate rings with a very thin coating of silicone lubricant before screwing the screw cap.
7. Hold UV module and carefully screw on the screw cap with UV lamp (hand tighten).
8. Turn ON Master Switch and check the UV module area for leaks.

CAUTION: Quartz Sleeves are very fragile. Handle with care to prevent breaking or chipping.

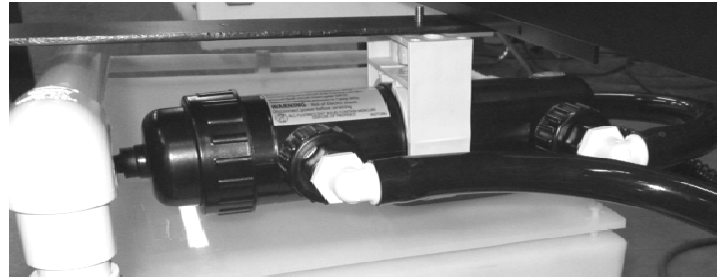


If Quartz Sleeve breaks during service and a replacement is not readily available, close the UV Inlet Valve (Marine System: Close Inlet and Outlet Valve). Unplug UV. Do not replace UV Lamp until new Sleeve is acquired. Turn on Master Switch (system will operate without UV Lamp). When new Quartz Sleeve is acquired, follow installation procedure. Be sure to open UV Inlet and Outlet Valves...and plug UV Power Cord into proper receptacle.

REPLACE UV LAMP

The UV Lamp has a useful service life of about six months. After this time – whether it continues to appear functional or not – it must be replaced.

Note: If the UV operation display light goes off before this time, it's



*recommended that a service is scheduled to change the UV lamp immediately. For Service and system part orders call the **Walmart MaRS 24-Hour Customer Service Hotline at 800-322-7384, 7a.m. – 5p.m. Monday – Friday.***

IMPORTANT:

To prolong the life of the UV Disinfection Unit and avoid leaving fingerprints on the UV Lamp, we strongly recommend that you wear cotton gloves at all times during servicing of UV Disinfection Unit.

Never look directly into UV Lamp while in operation...eye injury may occur.

Never restore power while UV Lamp is separated from Treatment Chamber. Skin damage and/or injury may result.

Always make sure hands are absolutely dry and if possible gloved before servicing equipment.

1. Turn off Master Switch. Allow UV unit to drain (3-5 minutes).
2. Hold UV Module and unscrew the screw cap.
3. Gently disconnect UV Lamp from lamp socket. *Lamp socket is connected to screw cap.*
4. If needed clean quartz sleeve then replace quartz sleeve (see page 40).
5. Carefully insert new UV Lamp into lamp socket .
6. Replace screw cap and screw into place. *Do not over tighten.*
7. Turn on Master Switch. Inspect unit for leaks. Check to make sure UV Operation Display Light is on.

Tip: UV Disinfection Unit O-Ring:

The sealing O-rings should be replaced each year, (recommended every six months with UV lamp service). Always clean and lubricate O-Rings with a very thin coating of silicone lubricant before screwing the screw cap.



High Performance UV Bulb



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...

- Make sure Feeding Timer Switch has not been activated (will reset in 5 minutes).
- Reset GFCI and/or circuit breaker in main electrical panel.
- Make sure Master Switch is turned on.
- Check pump intake strainer in sump for obstructions.

If water turns yellow or odors develop...

- Check pump intake strainer in sump for obstructions.

If a BIO-Wheel fails to rotate...

- Inspect Coarse Pad and Carbon Filter Cartridge for clogging. Clean or change as needed.
- See if BIO-Wheel is obstructed. Clean bearings, check for unimpeded rotation and reinstall.
- Ensure that sump is not overfilled. Check return tube for obstructions.
- Check pump intake strainer in sump for obstructions.

If water flow to BIO-Wheels or display tanks stops or is sluggish...

- Inspect pump inlet strainer in sump. Clean and/or remove any debris or obstructions.
- Remove electrical service panel and make sure system pump is plugged in, motor fan is turning and all valves are open (parallel to direction of flow pipe).
- Call for service if problem persists.

If water level in a single tank is low or significantly lower than that in adjacent tanks...

- Check "IN" water nozzles for obstructions. Clean inside of nozzle with small brush or pipe cleaner. If necessary, remove nozzle from bulkhead (using open end wrench), clean and replace. Be sure to put removed nozzle back in the same tank it was removed from.
- Call for service if problem persists.

TROUBLESHOOTING GUIDELINES cont...

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

If UV Light goes out...

- Replace UV Lamp, if problem persists after lamp is replaced, call for service.

If water temperature 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 or heating unit is plugged into proper outlet.
- Call for service if thermostat, refrigeration or heating unit is malfunctioning.

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

- Check water level in sump. If below standpipe, add water by pushing down on the float valve bulb (part# AQ75522) and check frequently.
- Inspect “new” water entry into sump. If water is not trickling into sump, make sure hose bibs are open and flow meters are functioning properly.
- Make sure pump intake strainer is fitted firmly in place.
- Call for service if problem persists.

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 fluorescent lamps will not light...

- Make sure lights are plugged into wall receptacle.
- Check wall mounted GFCI's. Reset if necessary. If GFCI's trip repeatedly, call for service.
- Make sure lamps are inserted into the fixture properly.
- Call for service if problem persists.

TROUBLESHOOTING GUIDELINES cont...

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

If LED will not light...

- Make sure lights are plugged into wall receptacle.
- Check wall mounted GFCI's. Reset if necessary. If GFCI's trip repeatedly, call for service.
- Call for service if problem persists.

If water leaks from rear of rack...

- Remove sump service panel and electrical service panel and check all hose connections.
Tighten if necessary.
- Remove back jump guards and check all hose connections. Tighten if necessary.
- Call for service if problem persists.

If protein skimmer does not operate (no air bubbles)

- Use fish feeding timer to shut down and restart system. After restart, check protein skimmer operation.
- Shut down system and check aeration tube for blockage.
- Call for service if problem persists.

If water level in protein skimmer drops...

- Close Venturi Air Adjustment Valve (partially or completely) to decrease oxygen intake.
- Call for service if problem persists.



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- WHITE COARSE PAD (1 EACH)	AQ76538
2- CARBON FILTER CARTRIDGE (SIX PACK)	MZ0374

SERVICING ITEMS

1- CARBON & SEDIMENT FILTER REPLACEMENT	MZ0040
2- UV LAMP	
3- UV REPLACEMENT O-RINGS	
4- UV STERILIZER SERVICING KIT	
5- UV QUARTZ TUBE	

ADDITIONAL ITEMS

1- BiG DIPPER VENDING SCOOP	MZ0257
2- SURFACE SKIMMER (BLACK)	MZ0381



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



Z090----- 7/12



A Division of The United Pet Group · Moorpark, CA 93021