

**SPECIFICATIONS**  
**MASTERS SERIES® FLOATING FOUNTAIN AERATOR SYSTEM**

**1.0 GENERAL**

**1.1 DESCRIPTION**

- A. Manufacturer shall furnish a floating fountain aerator system capable of pumping water from below the surface of a body of water.
- B. A submersible motor shall draw water into an impeller housing where it shall be pumped into the atmosphere in the form of a decorative spray - type fountain.
- C. The water droplets shall become oxygen enriched and return to the surface, therefore transferring oxygen from the atmosphere into the body of water. Surface area of water body shall also be increased through constant wave action resulting in additional atmospheric oxygen transfer.
- D. This repeated action shall effectively mix and de-stratify the body of water and distribute the dissolved oxygen continuously.
- E. Fountain aerator system shall include an oil-cooled motor sealed in a stainless steel housing, with shaft mounted impeller, attached to a float. This assembly shall be connected to an electrical control panel by underwater power cable, all of which as specified in SECTION 1.2.

**1.2 AERATOR COMPONENTS DESCRIPTION**

- A. **1/2 - 5HP Float** shall be made of linear low density polyethylene. Float shall contain a center tube which shall be minimum Schedule 40 PVC and is attached to the impeller housing with four series 300 stainless steel hex head bolts. An o-ring is used to prevent leakage. A protective series 300 stainless steel intake screen shall be mounted around the impeller housing between the float assembly and motor housing. The motor housing shall be attached to the impeller housing with series 300 stainless steel hardware. All optional lights and anchor mounting shall be capable of being installed into fixture mounting areas which are molded into the float design as an integral part of the float. (See SECTION 5).
- B. **Impeller** shall be precision machined and balanced, formed using Series 300 Stainless Steel for 1-5HP and polypropylene polymer with brass shaft insert for 1/2HP. The impeller is connected to the motor shaft by a series 300 stainless steel bolt and lockwasher.
- C. **Impeller Housing** shall be molded from glass reinforced nylon type 6 material. The impeller housing shall be precision molded to accept the float tube and capable of being bolted to the motor housing. The impeller housing shall house the impeller, insert and flow straightener (if applicable).

- D. **Flow Straightener (where applicable)** shall be precision machined from nylon type 6 material and shall have 20 curved vanes. The vanes shall take the spinning discharge water from the impeller and convert it to a straight, vertical flow. The gap between the vanes shall be at least 3/8" (.95cm) wide and have a total length not less than 2-1/2" (6.34 cm) long. It shall be factory installed for various optional spray patterns.
- E. **Motor Housing** shall be Series 300 Stainless Steel. 1-5HP shall have a permanent Series 300 stainless steel electrical hub welded on the side of the housing to allow electrical cable entry. The 1/2HP shall have a series 300 stainless steel electrical hub welded on the bottom of the housing to allow electrical cable entry.
- F. **Motor** shall contain a Series 316 Stainless Steel shaft incorporating a permanent split phase capacitor run on single phase motors and a polyphase induction on three phase motors. The rotor shall be dynamically balanced and run in a ball bearing supported system. The stator windings shall be double dipped and baked with Class F insulation, designed for oil immersion operation. The oil shall be a highly refined, mineral oil of food grade quality, specially formulated for lubrication. It shall meet FDA regulations. The oil shall provide continuous lubrication of bearings and internal seals and further function as an efficient heat transfer medium, allowing the motor to operate at 2875 RPM, at relatively low temperatures. The motor shall be contained in the motor housing by a series 300 stainless steel top plate.
- G. **Seals** used to protect the motor against water or oil leakage shall be a mechanical, rotating type assembly, composed of silicon carbide and series 300 stainless steel. All elastomers shall meet UL 778 requirements. This assembly shall then be encapsulated and protected within a series 300 stainless steel cartridge assembly.
- H. **Underwater Power Cable** shall be UL Listed and specifically designed for underwater use. The conductors are flexible, stranded copper wire sized for the amp draw and length of run. The conductors shall be resistant to oil, water and cracking. Power cable shall be fitted with a cable strain relief device, located within five feet of motor housing, capable of being attached to the latch mounted on the motor housing clamp. This will ensure that no potential damage can occur to any cable connections, due to tension on the cable.
- I. **Underwater Power Cable Disconnect** shall be located approximately three feet from the motor housing. It is a two piece molded assembly made of thermoplastics, meeting UL 778 requirements. The cap end shall be permanently connected to the underwater pin and socket connector (see Section 1.2 Item J.). The body end of the disconnect shall be permanently attached to the underwater power cable and sealed with an approved compound. This is intended to prevent water

entry if damage should occur to the cable. The disconnect shall be sealed with an internal o-ring and by an external series 300 stainless steel clamp ring, which can be easily opened.

- J. **Underwater Pin and Socket Connector (1-5HP)** shall consist of a Series 900 IP68 pin and socket connector. It shall be of a 4 pin configuration rated 32 amps at 600 volts AC. The pin end shall be potted into a series 300 stainless steel 90° adapter elbow with an approved ridged epoxy. This assembly shall be permanently attached to the series 300 stainless steel hub that is welded onto the side of the series 300 stainless steel motor housing. The socket end shall be attached to a 36" piece of UL Listed underwater power cable. It shall be permanently secured to the UL Listed power cable by means of an integrated clamp and series 300 stainless steel screws. It shall be completely epoxied to prevent entry of water or any other foreign matter. The other end of this assembly is permanently attached to the cap end of the underwater cable disconnect. It is sealed with a flexible potting compound.  
1/2HP shall consist of a Series 900, IP68 pin and socket connector. It shall be of a 4 pin configuration rated 32 amps at 600 volts AC. The pin end shall be potted into a series 300 stainless steel straight bell-shaped adapter with an approved ridged epoxy. This assembly shall be permanently attached to a reinforced braided hose assembly, a series 300 stainless steel motor housing. This complete assembly shall be sealed with an approved flexible potting compound. The socket end shall be attached to a 36" piece of UL Listed underwater power cable. It shall be permanently secured to the UL Listed power cable by means of an integrated clamp and series 300 stainless steel screws. It shall be completely epoxied to prevent entry of water or any other foreign matter. The other end of this assembly shall be permanently attached to the cap end of the underwater cable disconnect. It shall be sealed with an approved flexible potting compound.
- K. **Fasteners and Anchor Connectors** shall be Series 300 Stainless Steel.
- L. **Electrical Control Panel** specifications, see SECTION 3.
- M. **Intake Screen** shall be made of 20 Gauge, Series 300 Stainless Steel. The screen shall have a minimum of 58% open area, representing 91 square inches of open intake area for 1-5HP and 76 square inches for 1/2HP.
- N. **Large Custom Intake Screen** (optional) shall be made of 18 Gauge, Series 300 Stainless Steel. The large custom intake screen shall completely enclose the motor power unit assembly. It shall have a minimum of 58% open area representing 765 (4935 sq. cm.) square inches of open intake area for 1-5HP and 367 square inches for 1/2HP. Additional depth is required.

- O. **Nozzles** (optional) shall be interchangeable without the use of tools, in most cases. Nozzles will be sealed to the float tube utilizing an o-ring and series 300 stainless steel thumb screws to prevent leakage.
- P. **Series 316 Stainless Steel Upgrade** (optional) is available for sites with salt or brackish water. This option will upgrade all series 300 stainless steel components to series 316.
- Q. **Horizontal MASTERS SERIES<sup>®</sup>** (optional) is designed for 1-5HP fountain aerators in shallow applications. Requires a minimum operating depth of 16 inches and the use of a straightened flow pattern. Includes a large custom intake screen and supplemental float.

### FOUNTAIN AERATOR DETAIL SPECIFICATIONS

#### 2.0 DETAILED INFORMATION - Refer to TABLES 1, 2 and 3 to complete this section

2.1 This specification is intended to provide prospective bidders the necessary information pertaining to the fountain aerator(s) specified for the \_\_\_\_\_ Project.

2.2 The MOTOR(S) shall be \_\_\_\_\_ HP, operating at \_\_\_\_\_ Volts, 50 Hertz, \_\_\_\_\_ Phase at 2875 RPM.

2.3 The MASTERS SERIES<sup>®</sup> MODEL(S) specified shall be the \_\_\_\_\_ MODEL NUMBER \_\_\_\_\_ capable of creating a \_\_\_\_\_ pattern. It shall come complete with an electrical control panel, protective intake screen to be attached to a float assembly and \_\_\_\_\_ meters/feet of \_\_\_\_\_ gauge, 3 (1/2 HP models only) or 4 conductor underwater power cable.

2.4 The fountain aerator shall produce a SPRAY PATTERN \_\_\_\_\_ meters/feet in diameter and \_\_\_\_\_ meters/feet in height.

#### 3.0 ELECTRICAL CONTROL PANEL COMPONENTS DESCRIPTION

A. **Electrical Enclosure** shall be NEMA 3R type, galvanized and powder-coat painted gray in color. Panel shall be both lock and mount capable.

B. **Ground Fault Protection**

1. Single phase applications, a GFCI breaker shall provide overload and short circuit protection, combined with Class A ground fault protection.

- 2. Three phase applications, a molded case breaker shall provide overload and short circuit protection, while a residual current device rated at 30 mA shall provide ground fault protection.
- C. **Control Breaker** shall provide overload protection and be capable of disconnecting all incoming electricity from the control panel.
- D. **Motor Contactor** shall provide a means for disconnection of all motor leads. It shall be a magnetic, across the line starter type.
- E. **Overload Relay** shall provide overload protection by means of a bi-metallic overload relay. It is adjustable over the full load amperage draw of the motor. It shall have a visual trip indicator, test button and manual/automatic reset modes.
- F. **Digital Timer** shall be a single pole type, rated at 120 Volts, 20 Amps, capable of 8 ON / OFF functions per day for 7 days. Digital timer has a lithium battery to retain the programming when power is disconnected.

### **3.1 SAFETY TESTING CONTROL PANEL**

The electrical control panel shall be tested and approved as a complete unit. It is inspected and listed by Underwriters Laboratories, Inc. under Category 508: Industrial Control Panels and Category 778: Submersible Aerators and Aerating Fountain Pump Systems.

### **3.2 ACCEPTABLE MANUFACTURER**

This fountain aerator electrical control panel, as specified in Section 3.0, shall be manufactured by AQUAMASTER® FOUNTAINS AND AERATORS, 16024 CTH X, Kiel, WI 53042, (920) 693-3121 or approved equal.

### **3.3 INSTALLATION**

The electrical control panel must be installed in accordance with the installation instructions, in compliance with all local and National Electrical Code requirements. This should be done by a licensed electrical contractor. Any alterations to or substitution for items in this system, unless allowed by the installation instructions, will void the Underwriters Laboratories Listing and will void the product warranty. It may also create a hazardous installation. Read the instructions thoroughly before starting the installation and follow them carefully throughout.

### **3.4 ELECTRICAL CONTROL PANEL WARRANTY**

All control panels and their components have a 3 year warranty on parts and 1 year on labor.

### **4.0 SAFETY TESTING**

The floating fountain aeration system shall be tested and approved as a complete unit. This approval must meet Underwriters Laboratories Inc. requirements in compliance with Category 508: Industrial Control Panels and Category 778: Submersible Aerators and Aerating Fountain Pump Systems. Individual component testing and wet niche environment equipment approval are not acceptable.

### **4.1 ACCEPTABLE MANUFACTURER**

This fountain aerator, as specified in Sections 2.2, 2.3 and 2.4, shall be manufactured by AQUAMASTER® FOUNTAINS AND AERATORS, 16024 CTH X, Kiel, WI 53042, (920) 693-3121, or approved equal.

**4.2 INSTALLATION**

All AQUAMASTER® FOUNTAIN AERATORS are designed and built to be installed with an AQUAMASTER® UL Listed control panel and to be operated as a complete system. Any alterations to or substitution for items in this system, unless allowed by the installation instructions, will void the UL Listing and will void the product warranty. It may also create a hazardous installation. Read the instructions thoroughly before starting the installation and follow them carefully throughout.

**4.3 WARRANTY**

All 1/2 - 5HP AQUAMASTER® THE MASTERS SERIES® FOUNTAIN AERATORS motor, seal assembly, float and underwater power cable (referred to as in-water components) are covered under warranty at 100% replacement cost should it fail due to defects in materials or workmanship for a period of 3 years on parts and labor. This is in effect from the date of shipment, when given normal and proper usage as determined by The Seller upon examination, and when owned by the original user.

**FOUNTAIN AERATOR LIGHTING SYSTEMS AND OPTIONS SPECIFICATIONS**

**5.0 LIGHTING SYSTEM** shall be LED/Halogen \_\_\_\_\_ Volts/Watts, Model #(s)\_\_\_\_\_. There are \_\_\_\_\_ total fixtures, containing \_\_\_\_\_ (clear or choose color(s): amber, blue, red, green or turquoise) lenses.

**5.1** A total length of \_\_\_\_\_ meters/feet of \_\_\_\_\_ gauge 3 conductor underwater power cable is required. Two runs of cable may be required; reference cable sizing chart.

**5.2 MULTI-PURPOSE ELECTRONIC LIGHT SYSTEM SEQUENCER** shall be capable of cycling light fixtures off and on, up to 6 programs. Yes\_\_\_No\_\_\_

**5.3** A total length of \_\_\_\_\_ meters/feet of \_\_\_\_\_ gauge 4 conductor underwater power cable is required for sequencer. Two runs of cable are required.

**5.4 DEEP WATER INTAKE SYSTEM** shall be capable of drawing water from further depths, in three foot increments. This system provides the fountain aerator the capability to de-stratify the pond very efficiently. Total length should reach beyond 50% depth but not to exceed 75%. Total \_\_\_\_\_ meters/feet.

- 5.5 **LARGE CUSTOM INTAKE SCREEN** shall provide additional protected intake area if Fountain Aerator(s) will operate in a potentially high debris filled aquatic environment. Yes \_\_\_\_ No \_\_\_\_
- 5.6 **SERIES 316 STAINLESS STEEL UPGRADE** is available for sites with salt or brackish water. Yes \_\_\_\_ No \_\_\_\_
- 5.7 **HORIZONTAL MASTERS SERIES®** is designed for 1-5HP fountain aerators in shallow applications. Yes \_\_\_\_ No \_\_\_\_  
Please refer to TABLE 4 to assist in the completion of SECTION 5.

6.0 **DESCRIPTION - LIGHTING SYSTEM**

- A. **Lamp Housings** shall be of Series 300 Stainless Steel construction. They shall have a permanent series 300 stainless steel electrical hub welded on the bottom of the housing to allow electrical cable entry and be mounted to the float with series 300 stainless steel spring loaded retainers.
- B. **Construction** shall consist of nonmetallic Cord Connectors to prevent water from entering the lamp housing. Halogen lamp holders shall be double contact base constructed of stainless steel with wires rated for a minimum of 105 degrees Celsius. Reflectors shall be metal spun with Alzak finish for high reflectivity. Lamps shall be high intensity, quartz halogen flood, double contact bayonet base rated at 2200 VAC, mounted vertically.
- C. **Light Fixture Assembly** shall consist of "V" shaped Lamp gaskets made of silicon construction. Lens shall be of tempered glass with a clear non-diffusing surface with a minimum of 5/32<sup>nd</sup> (.40 cm) thickness. Clamp ring shall be of series 300 stainless steel. Fasteners and mounting hardware shall be of series 300 stainless steel.
- D. **Underwater Pin and Socket Connector** shall consist of a Series 900, IP68 pin and socket connector. It shall be of a 3 pin (4 pin when a sequencer is used) configuration rated 32 Amps at 600 VAC. The pin and socket ends shall each be attached to a 30" (76.2 cm) piece of UL Listed underwater power cable rated at 600 Volts. They both shall be permanently secured to their UL Listed power cables by an integrated neoprene grommet and compression nut assembly. These assemblies shall be epoxy filled to prevent entry of water or any other foreign matter. The pin end assembly shall be permanently attached to the light housing with a nonmetallic connector. This shall be potted using a flexible approved potting compound. The underwater disconnect is a two piece molded assembly made of glass reinforced nylon meeting UL 676 requirements. The socket end assembly shall be permanently attached to the underwater disconnect cap end with a nonmetallic connector. The body end of the underwater disconnect shall be permanently attached to the power cable assembly with a nonmetallic connector. Both cap and body ends shall be potted with an

approved sealing compound. The disconnect shall be sealed with an o-ring and by and external series 300 stainless steel clamp ring, which can be easily opened.

- E. **Safety Testing Lighting** shall be tested and approved as a complete assembly. This approval must meet Underwriters Laboratories Inc. requirements in compliance with UL Category 676: Underwater Lighting Fixtures.
- F. **Warranty** on all AQUAMASTER<sup>®</sup> LIGHTING SYSTEMS are covered under warranty at 100% replacement cost should it fail due to defects in materials or workmanship for a period of 3 years including the LED light engine, halogen lamps have no warranty. This is in effect from the date of shipment, when given normal and proper usage as determined by The Seller upon examination, and when owned by the original user.



# TECHNICAL DATA

## REFERENCE MATERIAL FOR SECTION 2.0 DETAILED INFORMATION

Table 1: THE MASTERS SERIES® Performance Specifications

Model Number	HP	Voltage and Phase	Running Amp Draw @ 2875 RPM	Minimum Operating Depth (m)	Ship Weight (kgs.)	LAKEWOOD FULL FLOW (no nozzle)	MASTERS NOZZLE SERIES	
							Masters Ace	
F50-M5400	1/2	220 - 1PH	3.0	0.91 m	126 kgs.	1.2 x 4.6 GPM N/A	N/A	
F50-M5410	1	220 - 1PH	8.0	0.91 m	125 kgs.	2.2 x 5.5 GPM 270	Upper 1.8 x 3.1 Lower 0.8 x 7.6 GPM 233	
F50-M5410-3		220-230 - 3PH	5.0					
F50-M5410-3		380-415 - 3PH	2.6					
F50-M5420	2	220 - 1PH	10.5	0.91 m	125 kgs.	3.1 x 7.3 GPM 316	Upper 2 x 3.1 Lower 0.9 x 9.1 GPM 271	
F50-M5420-3		220-230 - 3PH	7.0					
F50-M5420-3		380-415 - 3PH	3.7					
F50-M5435	3.5	220 - 1PH	19.0	0.91 m	125 kgs.	3.4 x 9.1 GPM 380	Upper 2.1 x 3.7 Lower 0.9 x 9.1 GPM 320	
F50-M5435-3	3	220-230 - 3PH	9.5					
F50-M5435-3		380-415 - 3PH	5.0					
F50-M5450	5	220 - 1PH	24.0	0.91 m	150 kgs.	4.6x 11.6 GPM 490	Upper 3.7 x 3.7 Lower 1.5 x 13.4 GPM 655	
F50-M5450-3		220-230 - 3PH	15.0					
F50-M5450-3		380-415 - 3PH	8.0					
Model Number	HP	Voltage and Phase	Running Amp Draw	MASTERS NOZZLE SERIES				
				Masters Birdie	Masters Biscayne	Masters Crown & Geysier	Masters Crystal Geysier	
F50-M5400	1/2	220 - 1PH	3.0	N/A	Upper 1.8 Lower 1.2 x 3 GPM N/A	Geysier Ht 1.8 Crown 0.9 x 7.6 GPM N/A	1.8 x 5.5 GPM N/A	
F50-M5410	1	220 - 1PH	8.0	0.9 x 2.1 GPM 258	Upper 3.7 Lower 2.4 x 6.1 GPM 172	Geysier Ht 3.7 Crown 1.5 x 7.9 GPM 138	4 x 7.6 GPM 147	
F50-M5410-3		220-230 - 3PH	5.0					
F50-M5410-3		380-415 - 3PH	2.6					
F50-M5420	2	220 - 1PH	10.5	1.5 x 3.1 GPM 319	Upper 4.6 Lower 3.4 x 5.5 GPM 210	Geysier Ht 4.0 Crown 1.8 x 9.4 GPM 146	5 x 7.3 GPM 192	
F50-M5420-3		220-230 - 3PH	7.0					
F50-M5420-3		380-415 - 3PH	3.7					
F50-M5435	3.5	220 - 1PH	19.0	2 x 3.7 GPM 385	Upper 5.5 Lower 3.1x 7.3 GPM 238	Geysier Ht 5.3 Crown 1.8 x 9.1 GPM 161	5.5 x 7 GPM 209	
F50-M5435-3	3	220-230 - 3PH	9.5					
F50-M5435-3		380-415 - 3PH	5.0					
F50-M5450	5	220 - 1PH	24.0	2.4 x 6.1 GPM 674	Upper 6.7 Lower 3.7 x 6.7 GPM 385	Geysier Ht 6.7 Crown 3.1 x 15.2 GPM 308	6.7 x 10.8 GPM 344	
F50-M5450-3		220-230 - 3PH	15.0					
F50-M5450-3		380-415 - 3PH	8.0					

## REFERENCE MATERIAL FOR SECTION 2.0 DETAILED INFORMATION

Table 1: THE MASTERS SERIES® Performance Specifications (cont.)

Model Number	HP	Voltage and Phase	Running Amp Draw	MASTERS NOZZLE SERIES			
				Masters Eagle	Masters Geyser	Masters Par	Masters Wide Geyser
F50-M5400	1/2	220 - 1PH	3.0	1.8 x 0.9 GPM N/A	2.4 x 0.9 GPM N/A	Upper 0.9 Lower 0.3 x 4.3 GPM N/A	2.4 x 1.2 GPM N/A
F50-M5410	1	220 - 1PH	8.0	3.4 x 3.7 GPM 102	5.2 x 0.9 GPM 109	Upper 2.1 Lower 0.9 x 7.6 GPM 209	4.3 x 1.2 GPM 138
F50-M5410-3		220-230 - 3PH	5.0				
F50-M5410-3		380-415 - 3PH	2.6				
F50-M5420	2	220 - 1PH	10.5	4.3 x 3.7 GPM 116	5.5 x 0.9 GPM 145	Upper 3.1 Lower 1.2 x 9.1 GPM 247	5.5 x 1.8 GPM 146
F50-M5420-3		220-230 - 3PH	7.0				
F50-M5420-3		380-415 - 3PH	3.7				
F50-M5435	3.5	220 - 1PH	19.0	4.9 x 3.7 GPM 127	6.1 x 0.9 GPM 159	Upper 3.7 Lower 1.5 x 9.1 GPM 340	6.1 x 2.4 GPM 161
F50-M5435-3	3	220-230 - 3PH	9.5				
F50-M5435-3		380-415 - 3PH	5.0				
F50-M5450	5	220 - 1PH	24.0	5.8 x 3.7 GPM 260	7.6 x 0.9 GPM 293	Upper 4.6 Lower 2.1 x 13.4 GPM 528	7.32 x 3.1 GPM 308
F50-M5450-3		220-230 - 3PH	15.0				
F50-M5450-3		380-415 - 3PH	8.0				
Model Number	HP	Voltage And Phase	Running Amp Draw	NOZZLES REQUIRING FLOW STRAIGHTENERS			
				Masters Arabella	Masters Augusta	Masters Bayside	Masters Champion
F50-M5400	1/2	220 - 1PH	3.0	Upper 1.8 x 2.4 Lower 0.6 x 6.1 GPM N/A	2.1 x 4.3 GPM N/A	Upper 1.2 x 1.5 Lower 0.3 x 1.8 GPM N/A	1.2 x 3.4 GPM N/A
F50-M5410	1	220 - 1PH	8.0	Upper 2.1 x 3.7 Lower 0.9 x 8.5 GPM N/A	2.7 x 6.1 GPM N/A	Upper 2.3 x 2.7 Lower 0.8 x 4.9 GPM 184	3.2 x 8.2 GPM 136
F50-M5410-3		220-230 - 3PH	5.0				
F50-M5410-3		380-415 - 3PH	2.6				
F50-M5420	2	220 - 1PH	10.5	Upper 2.7 x 4.6 Lower 1.5 x 10.7 GPM N/A	3.6 x 8.5 GPM N/A	Upper 2.7 x 3.7 Lower 0.8 x 4.9 GPM 205	3.7 x 9.1 GPM 134
F50-M5420-3		220-230 - 3PH	7.0				
F50-M5420-3		380-415 - 3PH	3.7				
F50-M5435	3.5	220 - 1PH	19.0	Upper 3.4 x 4.9 Lower 1.5 x 11.6 GPM N/A	3.7 x 9.1 GPM N/A	Upper 4 x 5.5 Lower 0.9 x 6.1 GPM 244	4.6 x 10.7 GPM 171
F50-M5435-3	3	220-230 - 3PH	9.5				
F50-M5435-3		380-415 - 3PH	5.0				
F50-M5450	5	220 - 1PH	24.0	Upper 4 x 5.5 Lower 1.5 x 16.8 GPM N/A	4.7 x 13.7 GPM 454	Upper 5.5 x 6.7 Lower 1.2 x 8.5 GPM 383	5.5 x 13.4 GPM 432
F50-M5450-3		220-230 - 3PH	15.0				
F50-M5450-3		380-415 - 3PH	8.0				

## REFERENCE MATERIAL FOR SECTION 2.0 DETAILED INFORMATION

Table 1: THE MASTERS SERIES® Performance Specifications (cont.)

Model Number	HP	Voltage And Phase	Running Amp Draw	NOZZLES REQUIRING FLOW STRAIGHTENERS			
				Masters Colonial	Masters Diamondback	Masters Doral	Masters Double Eagle
F50-M5400	1/2	220 - 1PH	3.0	Upper 2.7 Lower 2.1 x 5.5 GPM N/A	0.9 x 7.6 GPM N/A	Upper 1.5 x 1.8 Lower 0.9 x 1.8 GPM N/A	2.4 x 0.3 GPM N/A
F50-M5410	1	220 - 1PH	8.0	Upper 4.3 Lower 3.0 x 7.9 GPM N/A	1.5 x 15.2 GPM N/A	Upper 2.4 x 3.0 Lower 1.2 x 2.4 GPM N/A	5.5 x 1.5 GPM 103
F50-M5410-3		220-230 - 3PH	5.0				
F50-M5410-3		380-415 - 3PH	2.6				
F50-M5420	2	220 - 1PH	10.5	Upper 5.8 Lower 4.0 x 9.8 GPM N/A	1.8 x 18.3 GPM 168	Upper 3.0 x 3.7 Lower 1.5 x 3.0 GPM N/A	6.4 x 1.5 GPM 102
F50-M5420-3		220-230 - 3PH	7.0				
F50-M5420-3		380-415 - 3PH	3.7				
F50-M5435	3	220 - 1PH	19.0	Upper 6.1 Lower 4.3 x 10.7 GPM N/A	2.4 x 20.1 GPM 211	Upper 3.4 x 4.3 Lower 1.5 x 3.7 GPM N/A	7 x 1.8 GPM 110
F50-M5435-3		220-230 - 3PH	9.5				
F50-M5435-3		380-415 - 3PH	5.0				
F50-M5450	5	220 - 1PH	24.0	Upper 9.1 Lower 6.7 x 18.7 GPM N/A	3.7 x 22.6 GPM 389	Upper 4.0 x 5.5 Lower 2.1 x 4.0 GPM N/A	7.6 x 2.4 GPM 242
F50-M5450-3		220-230 - 3PH	15.0				
F50-M5450-3		380-415 - 3PH	8.0				
Model Number	HP	Voltage and Phase	Running Amp Draw	NOZZLES REQUIRING FLOW STRAIGHTENERS			
				Masters Firestone	Masters Half Moon	Masters Medinah	Masters Prestwick
F50-M5400	1/2	220 - 1PH	3.0	Upper 1.8 Middle 1.2 x 1.5 Lower 0.6 x 4.9 GPM NA	0.9 x 3 GPM N/A	1.8 x 2.4 GPM N/A	Upper 1.5 x 2.1 Lower 0.9 x 6.1 GPM N/A
F50-M5410	1	220 - 1PH	8.0	Upper 3.1 Middle 1.5 x 3.1 Lower 0.8 x 4 GPM 173	2 x 7 GPM 195	3.2 x 4.9 GPM 155	Upper 2 x 2.4 Lower 0.9 x 7 GPM 197
F50-M5410-3		220-230 - 3PH	5.0				
F50-M5410-3		380-415 - 3PH	2.6				
F50-M5420	2	220 - 1PH	10.5	Upper 3.7 Middle 1.8 x 3.1 Lower 0.8 x 4.3 GPM 186	2.5 x 8.2 GPM 228	3.7 x 5.5 GPM 167	Upper 2.1 x 3.1 Lower 1.1 x 8.5 GPM 229
F50-M5420-3		220-230 - 3PH	7.0				
F50-M5420-3		380-415 - 3PH	3.7				
F50-M5435	3	220 - 1PH	19.0	Upper 4.9 Middle 2.6 x 4.3 Lower 0.9 x 6.7 GPM 236	3.1 x 9.1 GPM 272	4.6 x 7 GPM 199	Upper 3.4 x 5.5 Lower 1.5 x 10.7 GPM 267
F50-M5435-3		220-230 - 3PH	9.5				
F50-M5435-3		380-415 - 3PH	5.0				
F50-M5450	5	220 - 1PH	24.0	Upper 6.1 Middle 3.1 x 6.1 Lower 1.2 x 8.5 GPM 427	4.9 x 11 GPM 449	6.1 x 9.1 GPM 396	Upper 5.2 x 6.7 Lower 2.1 x 15.2 GPM 502
F50-M5450-3		220-230 - 3PH	15.0				
F50-M5450-3		380-415 - 3PH	8.0				

## TECHNICAL DATA

### REFERENCE MATERIAL FOR SECTION 2.0 DETAILED INFORMATION

Table 1: THE MASTERS SERIES® Performance Specifications (cont.)

Model Number	HP	Voltage and Phase	Running Amp Draw	NOZZLES REQUIRING FLOW STRAIGHTENERS			
				Masters Riviera	Masters Royal	Masters Turnberry	Masters Valhalla
F50-M5400	1/2	220 - 1PH	3.0	Upper 3.4 Middle 2.7 x 3 Lower 1.8 x 4.9 GPM N/A	Upper 0.9 x 3 Lower 0.3 x 3.7 GPM N/A	0.9 x 3 GPM N/A	Upper 5 Middle 1.2 x 2.7 Lower 0.5 x 5.5 GPM N/A
F50-M5410	1	220 - 1PH	8.0	Upper 4.6 Middle 2.7 x 3.6 Lower 0.9 x 3 GPM N/A	Upper 1.8 x 7.3 Lower 0.9 x 9.1 GPM N/A	1.9 x 4.9 GPM 203	Upper 3.7 Middle 2.1 x 3.7 Lower 1.2 x 9.1 GPM 149
F50-M5410-3		220-230 - 3PH	5.0				
F50-M5410-3		380-415 - 3PH	2.6				
F50-M5420	2	220 - 1PH	10.5	Upper 6.1 Middle 3.4 x 3.7 Lower 1.2 x 3 GPM N/A	Upper 2 x 7.3 Lower 1.1 x 9.8 GPM N/A	2.5 x 5.5 GPM 235	Upper 3.7 Middle 2.4 x 6.1 Lower 1.2 x 10.7 GPM 183
F50-M5420-3		220-230 - 3PH	7.0				
F50-M5420-3		380-415 - 3PH	3.7				
F50-M5435	3.5	220 - 1PH	19.0	Upper 6.4 Middle 3.6 x 4.3 Lower 1.2 x 3.7 GPM N/A	Upper 2.63 x 11.6 Lower 1.2 x 11.6 GPM N/A	3.1 x 7.6 GPM 274	Upper 5.2 Middle 3.1 x 6.1 Lower 1.8 x 12.2 GPM 222
F50-M5435-3	3	220-230 - 3PH	9.5				
F50-M5435-3		380-415 - 3PH	5.0				
F50-M5450	5	220 - 1PH	24.0	Upper 9.1 Middle 5.5 x 4.9 Lower 2.7 x 6.1 GPM N/A	Upper 2.6 x 11.6 Lower 1.2 x 12.8 GPM N/A	4.6 x 9.8 GPM 405	Upper 6.1 Middle 3.7 x 9.1 Lower 1.8 x 12.8 GPM 447
F50-M5450-3		220-230 - 3PH	15.0				
F50-M5450-3		380-415 - 3PH	8.0				
Model Number	HP	Voltage and Phase	Running Amp Draw	ADJUSTABLE NOZZLES W/FLOW STRAIGHTENERS			
				Masters Cypress	Masters Longbow	Masters Reflection	Masters Sanibel
F50-M5400	1/2	220 - 1PH	3.0	0.9 x 1.5 GPM N/A	Upper 1.2 Lower 0.3 x 4.3 GPM N/A	Upper 1.2 x 1.5 Lower 0.3 x 4.3 GPM N/A	N/A
F50-M5410	1	220 - 1PH	8.0	1.8 x 2.7 GPM 198	Upper 2.4 Lower 0.9 x 7.3 GPM 175	Upper 1.5 x 3.7 Lower 0.6 x 5.6 GPM 198	2.7 x 3.1 GPM 164
F50-M5410-3		220-230 - 3PH	5.0				
F50-M5410-3		380-415 - 3PH	2.6				
F50-M5420	2	220 - 1PH	10.5	2.4 x 3.7 GPM 225	Upper 2.7 Lower 1.1 x 8.5 GPM 206	Upper 2.4 x 6.1 Lower 0.9 x 9.1 GPM 228	3.7 x 4.3 GPM 177
F50-M5420-3		220-230 - 3PH	7.0				
F50-M5420-3		380-415 - 3PH	3.7				
F50-M5435	3.5	220 - 1PH	19.0	3.1 x 4.9 GPM 267	Upper 3.7 Lower 1.5 x 8.5 GPM 258	Upper 3.4 x 7.9 Lower 1.5 x 10.7 GPM 269	4.6 x 5.5 GPM 222
F50-M5435-3	3	220-230 - 3PH	9.5				
F50-M5435-3		380-415 - 3PH	5.0				
F50-M5450	5	220 - 1PH	24.0	5.2 x 6.1 GPM 543	Upper 4.9 Lower 2.1 x 12.2 GPM 612	Upper 4.3 x 8.5 Lower 2.4 x 14 GPM 581	5.8 x 7.6 GPM 506
F50-M5450-3		220-230 - 3PH	15.0				
F50-M5450-3		380-415 - 3PH	8.0				
F50-M5450-3		220-230 - 3PH	15.0				
F50-M5450-3		380-415 - 3PH	8.0				

## TECHNICAL DATA

### REFERENCE MATERIAL FOR SECTION 2.0 DETAILED INFORMATION

**Table 1: THE MASTERS SERIES® Performance Specifications (cont.)**

Model Number	HP	Voltage and Phase	Running Amp Draw	ADJUSTABLE NOZZLES W/FLOW STRAIGHTENERS		SPECIALTY NOZZLES	
				Masters Sawgrass	Masters Captiva		
F50-M5400	1/2	220 - 1PH	3.0	Upper 1.2 x 3.7 Lower 0.9 x 4.9 GPM N/A	1.2 x 0.6 GPM N/A		
F50-M5410	1	220 - 1PH	8.0	Upper 1.4 x 3.7 Lower 0.9 x 5.5 GPM 199	2.7 X 1.2 GPM N/A		
F50-M5410-3		220-230 - 3PH	5.0				
F50-M5410-3		380-415 - 3PH	2.6				
F50-M5420	2	220 - 1PH	10.5	Upper 2.4 x 6.1 Lower 1.2 x 9.1 GPM 215	1.1 X 1.2 GPM N/A		
F50-M5420-3		220-230 - 3PH	7.0				
F50-M5420-3		380-415 - 3PH	3.7				
F50-M5435	3.5	220 - 1PH	19.0	Upper 3.1 x 7.3 Lower 1.5 x 9.1 GPM 279	4.6 X 1.2 GPM N/A		
F50-M5435-3	3	220-230 - 3PH	9.5				
F50-M5435-3		380-415 - 3PH	5.0				
F50-M5450	5	220 - 1PH	24.0	Upper 4.3 x 7.9 Lower 2.7 x 12.2 GPM 546	5.8 X 2.1 GPM N/A		
F50-M5450-3		220-230 - 3PH	15.0				
F50-M5450-3		380-415 - 3PH	8.0				
F50-M5450-3		220-230 - 3PH	15.0				
F50-M5450-3		380-415 - 3PH	8.0				

\*All performance data (heights and diameters), have been tested at 220 volt single phase electrical.  
Your overall performance may vary due to actual voltage, intake restrictions and cable lengths.

**TABLE 2: CABLE SIZING CHARTS**  
**MAXIMUM RECOMMENDED LENGTH FOR FOUNTAIN TO CONTROL PANEL**

4 conductor: Required on all Single Phase & Three Phase Aerators										
Single Phase			4 conductor Copper Wire Gauge Size							
Unit	Volts	Approx Amps @ 2875 RPM	14 (m)	#14 (ft)	12 (m)	#12 (ft)	10 (m)	#10 (ft)	8 (m)	#8 (ft)
1 HP	220	8.0	--	--	100	340	180	570	270	880
2 HP	220	10.5	--	--	80	260	130	440	210	670
3.5 HP	220	19.0	--	--	--	--	70	240	110	370
5 HP	220	24.0	--	--	--	--	60	190	90	290

Three Phase			4 conductor Copper Wire Gauge Size							
Unit	Volts	Approx Amps @ 2875 RPM	12 (m)	#12 (ft)	10 (m)	#10 (ft)	8 (m)	#8 (ft)	6 (m)	#6 (ft)
1 HP	220 - 230	5.0	190	640	320	1060	500	1630	790	2590
1 HP	380 - 415	2.6	640	2110	1070	3520	1650	5410	2630	8610
2 HP	220 - 230	7.0	140	450	230	760	360	1160	560	1850
2 HP	380 - 415	3.7	450	1480	750	2470	1160	3800	1840	6050
3 HP	220 - 230	9.5	100	330	170	560	260	860	420	1360
3 HP	380 - 415	5.0	330	1100	560	1830	860	2810	1370	4480

5 HP	220 - 230	15.0	70	210	110	350	170	540	260	860
5 HP	380 - 415	8.0	210	690	350	1140	540	1760	850	2800

**TABLE 3: FOUNTAIN AERATOR SPRAY PATTERN DESCRIPTIONS**

1. **Masters Series® ACE - Basic Flow Pattern (BFP)**  
Full circle, two-tiered pattern with multi-point center formation.  
SPECIFICATION DESCRIPTION: POINTED FAN SHAPE
2. **Masters Series® ARABELLA - Straightened Flow Pattern (SFP)**  
Sparkling, two-tiered pattern consisting of an upper multi-stream and a lower full conical spray design.  
SPECIFICATION DESCRIPTION: COMBINED FAN AND STREAMS
3. **Masters Series® AUGUSTA - Straightened Flow Pattern (SFP)**  
Beautiful multi-tiered streamed pattern with a center geyser to add height.  
SPECIFICATION DESCRIPTION: FAN SHAPE INDIVIDUAL STREAMS WITH CENTER GEYSER
4. **Masters Series® BAYSIDE - Straightened Flow Pattern (SFP)**  
Narrower version of Red Tail, excellent in smaller contained areas.  
SPECIFICATION DESCRIPTION: COMBINED FAN AND STREAMS
5. **Masters Series® BAYTREE - Straightened Flow Pattern (SFP)**  
Frothy tri-tiered pattern providing aeration benefits beautifully.  
SPECIFICATION DESCRIPTION: TRI-TIER FROTHY SPRAY
6. **Masters Series® BIRDIE - Basic Flow Pattern (BFP)**  
Creates a dense, round ball of water, perfect for smaller containments of water.  
SPECIFICATION DESCRIPTION: ROUND
7. **Masters Series® BISCAYNE - Basic Flow Pattern (BFP)**  
Variation of classic two-tier with taller, narrower lower spray.  
SPECIFICATION DESCRIPTION: UPRIGHT FAN & COLUMN
8. **Masters Series® CAPTIVA - Specialty Pattern**  
Heavy-water vertical frothy column, excellent in open areas.  
SPECIFICATION DESCRIPTION: DENSE FROTHY COLUMN
9. **Masters Series® CHAMPION - Straightened Flow Pattern (SFP)**  
Multi-stream pattern with specific points resulting in a dramatic surface effect.  
SPECIFICATION DESCRIPTION: INDIVIDUAL STREAMS FAN SHAPE
10. **Masters Series® COLONIAL - Straightened Flow Pattern (SFP)**  
Two tier pattern that has a narrow center geyser, surrounded by a multi-streamed lower tier.  
SPECIFICATION DESCRIPTION: FAN SHAPED INDIVIDUAL STREAMS WITH CENTER GEYSER
11. **Masters Series® CROWN & GEYSER - Basic Flow Pattern (BFP)**  
A beautiful, dramatic pattern still achieves aeration results. This nozzle combines the Lakewood Full Flow with the vertical Geyser column of water through its center.

SPECIFICATION DESCRIPTION: COMBINED FAN & COLUMN

12. **Masters Series® CRYSTAL GEYSER- Basic Flow Pattern (BFP)**  
This nozzle produces a very decorative crystalline spray pattern in an abstract, multi-tiered formation.  
SPECIFICATION DESCRIPTION: FROTHY SPRAY
13. **Masters Series® CYPRESS - Adjustable Straightened Flow Pattern (ASFP)**  
Upright funnel-shaped pattern that you can set to your pond's requirements.  
SPECIFICATION DESCRIPTION: ADJUSTABLE NARROW FAN SHAPE
14. **Masters Series® DIAMONDBACK - Straightened Flow Pattern (SFP)**  
Low height pattern sending streams of water in tremendous diameter.  
SPECIFICATION DESCRIPTION: WIDEST LOW FAN SHAPE
15. **Masters Series® DORAL - Straightened Flow Pattern (SFP)**  
A two-tiered multi-streamed arch pattern.  
SPECIFICATION DESCRIPTION: TWO TIERED FAN SHAPED INDIVIDUAL STREAMS
16. **Masters Series® DOUBLE EAGLE - Straightened Flow Pattern (SFP)**  
Statuesque, frothy vertical pattern creates a stunning full profile.  
SPECIFICATION DESCRIPTION: SOLID VERTICAL COLUMN
17. **Masters Series® EAGLE - Basic Flow Pattern (BFP)**  
Elongated, frothy vertical pattern creates a beautiful, full profile.  
SPECIFICATION DESCRIPTION: FROTHY VERTICAL COLUMN
18. **Masters Series® FIRESTONE - Straightened Flow Pattern (SFP)**  
Beautiful tri-tier, perfect for smaller area applications.  
SPECIFICATION DESCRIPTION: TRI-TIER MULTIPLE STREAMS
19. **Masters Series® GEYSER - Basic Flow Pattern (BFP)**  
A multi-port nozzle achieves a dramatic vertical pattern in a solid column of water, fanning slightly at the top.  
SPECIFICATION DESCRIPTION: SOLID VERTICAL COLUMN
20. **Masters Series® HALF MOON - Straightened Flow Pattern (SFP)**  
Gorgeous multi-stream pattern results in a full floral effect.  
SPECIFICATION DESCRIPTION: SCALLOPED FAN SHAPE
21. **LAKWOOD - Basic Flow Pattern (BFP)**  
Internal impeller technology creates this full, more upright cone pattern, **without a nozzle**. This is the base model for The Masters Series®.  
SPECIFICATION DESCRIPTION: FAN SHAPE
22. **Masters Series® LONGBOW - Adjustable Straightened Flow Pattern (ASFP)**  
Two-tiered pattern combining a thick, center geyser with full lower circle spray.  
SPECIFICATION DESCRIPTION: ADJUSTABLE COMBINED FAN AND STREAMS
23. **Masters Series® MEDINAH - Straightened Flow Pattern (SFP)**  
Taller, narrower version of the Turnberry.  
SPECIFICATION DESCRIPTION: NARROW FAN SHAPE
24. **Masters Series® MONTEREY - Straightened Flow Pattern (SFP)**

Frothy tri-tiered pattern combines both aesthetics and aeration.

SPECIFICATION DESCRIPTION: TRI-TIER FROTHY SPRAY

25. **Masters Series® PAR - Basic Flow Pattern (BFP)**  
Heavy-water version of the Crown & Geyser, excellent choice in open areas.  
SPECIFICATION DESCRIPTION: DENSE COMBINED FAN & COLUMN
26. **Masters Series® PRESTWICK - Straightened Flow Pattern (SFP)**  
Dramatic multi-streamed two-tiered pattern.  
SPECIFICATION DESCRIPTION: TWO-TIERED MULTIPLE STREAMS
27. **Masters Series® RED TAIL - Straightened Flow Pattern (SFP)**  
Dazzling, full circle, two-tiered pattern with multiple-point sprays for a refreshing ambience.  
SPECIFICATION DESCRIPTION: TWO-TIERED INDIVIDUAL STREAMS
28. **Masters Series® REFLECTION - Adjustable Straightened Flow Pattern (ASFP)**  
Dazzling, full circle, two-tiered pattern with multiple-point formation.  
SPECIFICATION DESCRIPTION: ADJUSTABLE COMBINED FAN AND STREAMS
29. **Masters Series® RIVIERA - Straightened Flow Pattern (SFP)**  
Dazzling, three tier display that combines a narrow multi-streamed geyser with two surrounding conical shaped tiers. Great for applications that require a tiered, narrower pattern.  
SPECIFICATION DESCRIPTION: TWO TIERED FAN SHAPED INDIVIDUAL STREAMS WITH CENTER GEYSER
30. **Masters Series® ROYAL - Straightened Flow Pattern (SFP)**  
Spectacular two-tier, multiple-point rotating formation creating a dramatic effect.  
SPECIFICATION DESCRIPTION: ROTATING COMBINED FAN AND STREAMS
31. **Masters Series® SANIBEL - Adjustable Straightened Flow Pattern (ASFP)**  
Taller and frothier version of Medina.  
SPECIFICATION DESCRIPTION: NARROW FAN SHAPED
32. **Masters Series® SAWGRASS - Adjustable Straightened Flow Pattern (ASFP)**  
Slightly taller, more upright version of the Reflection.  
SPECIFICATION DESCRIPTION: ADJUSTABLE COMBINED FAN AND STREAMS
33. **Masters Series® TURNBERRY - Straightened Flow Pattern (SFP)**  
Upright funnel shape creates a stunning full profile pattern.  
SPECIFICATION DESCRIPTION: HEAVY FAN SHAPE
34. **Masters Series® VALHALLA - Straightened Flow Pattern (SFP)**  
Stunning tri-tier resulting in both excellent height and diameter.  
SPECIFICATION DESCRIPTION: TRI-TIER SPRAY
35. **Masters Series® WIDE GEYSER - Basic Flow Pattern (BFP)**  
A modification of the Geyser nozzle produces a less dense, more decorative version.  
SPECIFICATION DESCRIPTION: WIDE VERTICAL COLUMN



**TABLE 4: FOUNTAIN AERATOR LIGHTING SYSTEMS**

AQUAMASTER® FOUNTAIN AERATORS are even more dramatic at night, with the addition of a UL and cUL Listed NIGHT GLOW LIGHTING SYSTEM.

Any lighting system choice includes stainless steel lamp housings, ready to be installed in the float, sealed with clear tempered glass lenses in a stainless steel clamp ring. Minimal installation is required. All lights remain water-cooled and out of sight below the surface.

All necessary electrical controls, including digital timer, are pre-wired into the fountain aerator's existing UL Listed control panel. Optional glass colored lenses (amber, blue, red, green or turquoise), with or without an optional sequencer complete your dramatic aquatic display.

**For uniformity of spray pattern coverage, 4 lights minimum is recommended.**

**LINE VOLTAGE: 220 Volt Lighting Systems**

A. 1/2HP Fountain Aerators are only available with 75 watt fixtures

<b>75 Watt Fixtures</b>	<b>Each system includes:</b>
2 light system: Model # 770242	<ul style="list-style-type: none"> <li>• 75 Watt Par 30 halogen flood lamps</li> <li>• 50' of underwater cable</li> <li>• GFCI Protection</li> <li>• Timer</li> <li>• Clear lenses</li> <li>• UL, cUL Listing and CE Recognized</li> </ul>
4 light system: Model # 770244	

**LINE VOLTAGE: 220 Volt LED Lighting Systems**

B. 1/2HP Fountain Aerators are only available with 12 watt fixtures

<b>12 Watt Fixtures - 1/2HP Units</b>	<b>Each system includes:</b>
2 light system: Model # 871282	<ul style="list-style-type: none"> <li>• 12 Watt Par 30 LED</li> <li>• 50' of underwater cable</li> <li>• GFCI Protection</li> <li>• Timer</li> <li>• Clear lenses</li> <li>• UL, cUL Listing and CE Recognized</li> </ul>
3 light system: Model # 871283	
4 light system: Model # 871284	
6 light system: Model # 871286	
8 light system: Model # 871288	

**LINE VOLTAGE: 220 Volt Halogen Lighting Systems**

C. 1 - 5HP Fountain Aerator Lighting Systems available in 75, 150, or 250 watt fixtures

<b>75 Watt Fixtures</b>	<b>Each system includes:</b>
-------------------------	------------------------------

2 light system: Model # 770262	<ul style="list-style-type: none"> <li>• 75 Watt Par 30 halogen flood lamps</li> <li>• 50' of underwater cable</li> <li>• GFCI Protection</li> <li>• Timer</li> <li>• Clear lenses</li> <li>• UL, cUL Listing and CE Recognized</li> </ul>
3 light system: Model # 770263	
4 light system: Model # 770264	
6 light system: Model # 770266	
8 light system: Model # 770268	

<b>150 Watt Fixtures</b>	<b>Each system includes:</b> <ul style="list-style-type: none"> <li>• 150 or 250 Watt quartz halogen flood lamps</li> <li>• 50' of underwater cable</li> <li>• GFCI Protection</li> <li>• Timer</li> <li>• Clear lenses</li> <li>• UL, cUL Listing and CE Recognized</li> </ul>
2 light system: Model # 770197	
3 light system: Model # 770198	
4 light system: Model # 770199	
6 light system: Model # 770200	
8 light system: Model # 770201	
<b>250 Watt Fixtures</b>	
2 light system: Model # 770202	
3 light system: Model # 770203	
4 light system: Model # 770204	
6 light system: Model # 770205	
8 light system: Model # 770206	

**LINE VOLTAGE: 220 Volt LED Lighting Systems**

D. 1 - 5HP Fountain Aerator Lighting Systems available in 18 or 21 watt fixtures

<b>18 Watt Fixtures</b>	<b>Each system includes:</b> <ul style="list-style-type: none"> <li>• 18 or 21 Watt LED light engine</li> <li>• 50' of underwater cable</li> <li>• GFCI Protection</li> <li>• Timer</li> <li>• Clear lenses</li> <li>• UL, cUL Listing and CE Recognized</li> </ul>
2 light system: Model # 871262	
3 light system: Model # 871263	
4 light system: Model # 871264	
6 light system: Model # 871266	
8 light system: Model # 871268	
<b>21 Watt Fixtures</b>	
2 light system: Model # 871272	
3 light system: Model # 871273	
4 light system: Model # 871274	
6 light system: Model # 871276	
8 light system: Model # 871278	

**TABLE 4: FOUNTAIN AERATOR LIGHTING SYSTEMS (cont.)**

**CABLE SIZING CHART FOR LIGHTS**

MAXIMUM RECOMMENDED LENGTH FROM FOUNTAIN LIGHTS TO CONTROL PANEL

3 Conductor			Copper Wire Gauge Size							
Watts Per Fixture	# of Fixtures	Approx Amps	#14 (m)	#14 (ft)	#12 (m)	#12 (ft)	#10 (m)	#10 (ft)	#8 (m)	#8 (ft)
75	2	0.7	770	3540	1200	3930	2000	6550	3070	10070
75	3	1.1	490	1610	760	2500	1270	4170	1950	6410
75	4	1.4	390	1270	600	1960	1000	3270	1540	5040
75	6	2.1	260	850	400	1310	670	2180	1020	3360
75	8	2.8	190	630	300	980	500	1640	770	2520
150	2	1.4	390	1270	600	1960	1000	3270	1540	5040
150	3	2	270	890	420	1380	700	2300	1080	3530
150	4	2.7	200	660	310	1020	520	1700	800	2610
150	6	4.1	130	430	200	670	340	1120	520	1720
150	8	5.5	100	320	150	500	250	830	490	1280
250	2	2.3	240	770	360	1200	610	1990	930	3070
250	3	3.4	160	520	250	810	410	1350	630	2070
250	4	4.5	120	390	190	610	310	1020	480	1570
250	6	6.8	75	250	120	400	210	670	320	1040
250	8	9.1	60	200	90	300	150	500	240	780
500	4	9.1	60	200	90	300	150	500	240	780
500	6	13.6	40	130	60	200	100	340	160	520
500 *	8	18.2	<i>2 runs of cable required</i>							
<i>2 runs of cable required</i>			--	--	90	300	150	500	240	780

### CABLE SIZING CHART FOR LIGHTS WHEN ORDERED WITH A SEQUENCER

3 & 4 Conductor; see notes below		Copper Wire Gauge Size							
Watts Per Fixture	# of Fixtures	#14 (m)	#14 (ft)	#12 (m)	#12 (ft)	#10 (m)	#10 (ft)	#8 (m)	#8 (ft)
75	3 or 4	701	2300	1067	3500	1768	5800	2743	9000
75	6 Lights (3 colors)	351	1150	533	1750	899	2950	1371	4500
75	8 Lights (4 colors)	351	1150	533	1750	899	2950	1371	4500
150	3 or 4	351	1150	533	1750	899	2950	1371	4500
150	6 Lights (3 colors)	175	575	267	875	442	1450	686	2250
150	8 Lights (4 colors)	175	575	267	875	442	1450	686	2250
250	3 or 4	206	675	320	1050	549	1800	686	2250
250	6 Lights (3 colors)	107	350	168	550	274	900	427	1400
250	8 Lights (4 colors)	107	350	168	550	274	900	427	1400
500	4 Lights (4 colors)	107	350	168	550	274	900	427	1400
500	6 Lights (3 colors)	53	175	76	250	137	450	213	700
500	8 Lights (4 colors)	53	175	76	250	137	450	213	700

Lighting sequencer requires 2 lengths of cable:

1. Sequencer with 3 colors require (1) run of 3 conductor cable and (1) run of 4 conductor cable
2. Sequencer with 4 colors require (2) runs of 4 conductor cable

**TABLE 4: FOUNTAIN AERATOR LIGHTING SYSTEMS (cont.)**

### Electrical Cable and Cable Sizing Charts for LED Night Glow Lighting

**IMPORTANT** - To ensure proper sized cable runs.

*Maximum recommended length from fountain aerator to control panel*

*AquaMaster® recommends consulting a Licensed Electrician to properly size any underground cable from the main power source to our control panel. Cable runs to the panel located away from main power source require recalculating voltage drop to insure proper cable sizing. Please contact AquaMaster® if assistance is required.*

3 Conductor Copper Wire Gauge Size					
Watts Per Fixture	# of Fixtures	Volts	Approx Amps	#14 (m)	#14 (ft)
12	2	220	0.09	6075	19935
12	3	220	0.13	4050	13290
12	4	220	0.18	3035	9967
12	6	220	0.27	2025	6645
12	8	220	0.36	1510	4984
18	2	220	0.20	2675	8783
18	3	220	0.30	1780	5855
18	4	220	0.40	1335	4392
18	6	220	0.61	890	2928
18	8	220	0.81	665	2196
18	12	220	1.21	445	1464
21	2	220	0.20	2680	8783
21	3	220	0.30	1785	5855
21	4	220	0.40	1340	4392
21	6	220	0.60	890	2928
21	8	220	0.81	670	2196
21	12	220	1.21	445	1464

*Lighting sequencer requires 2 runs of cable:*

- 1) Sequencer with 3 colors require (1) run of 14-3 conductor cable and (1) run of 14-4 conductor cable
- 2) Sequencer with 4 colors require (2) runs of 14-4 conductor cable