

SPECIFICATIONS

A FLOATING FOUNTAIN AERATION SYSTEM

1.0 GENERAL

1.1 DESCRIPTION

- A. Manufacturer shall furnish a floating fountain aeration 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 stainless steel hex head screws. An o-ring is used to prevent leakage. A protective 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 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. The impeller is connected to the motor shaft by a Series 300 Stainless Steel bolt and lockwasher.
- C. **Impeller housing** shall be cast from nylon type 6 material. The impeller housing shall be precision machined to accept the float tube and capable of being bolted to the motor housing. The impeller housing shall house the stainless steel 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" wide and have a total length not less than 2-1/2" 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 300 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 a 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 3450 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 S hooks 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 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. Nozzles will be sealed to the float tube utilizing an o-ring and stainless steel thumb screws to prevent leakage.

FOUNTAIN AERATOR DETAIL SPECIFICATIONS

2.0 DETAILED INFORMATION

- 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, 60 Hertz, _____ Phase at 3450 RPM.
- 2.3 The MASTERS SERIES[®] 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 _____ feet of _____ gauge, 4 conductor underwater power cable.
- 2.4 The fountain aerator shall produce a SPRAY PATTERN _____ feet in diameter and _____ feet in height.

Please refer to TABLES 1, 2 and 3 to assist in the completion of SECTION 2.0

FOUNTAIN AERATOR DETAIL SPECIFICATIONS (cont.)

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. **GFCI breaker** shall provide overload and short circuit protection, combined with Class A 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 assembly** 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. **Timer** shall be a single pole type, rated at 120 Volts, 20 Amps, capable of a timing cycle, in 30 minute increments up to 24 hours.

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, (800) 693-3144 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 electrical panel and on-shore components shall have a 1 year warranty.

FOUNTAIN AERATOR DETAIL SPECIFICATION (cont.)

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, (800) 693-3144, 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 – 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 5 years. 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. All 1/2HP units have a similar 2 year warranty.

FOUNTAIN AERATOR LIGHTING SYSTEMS AND OPTIONS SPECIFICATIONS

- 5.0 LIGHTING SYSTEM shall be _____ Volt, 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 _____ 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 _____ feet of _____ gauge 4 conductor underwater power cable is required for sequencer. Two runs of cable is 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 _____ 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 ____

Please refer to TABLE 4 to assist in the completion of SECTION 5.

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	Minimum Operating Depth	Ship Weight LBS.	LAKEWOOD FULL FLOW (no nozzle)	MASTERS NOZZLE SERIES
							Masters Geyser
M5401-ESC	1/2	120-1PH	5.0	3'	250	N/A	11 x 2 GPM 70
M5402-ESC		240-1PH	2.5				
M5410-SC	1	120 - 1PH	18.0	3'	250	8 x 18 GPM 318	18 x 2 GPM 141
M5412-SC		208-240 - 1PH	9.0				
M5412-3SC		208-240 - 3PH	5.0				
M5414-3SC		440-480 - 3PH	2.5				
M5422-SC	2	208-240 - 1PH	12.0	3'	250	10 x 24 GPM 344	20 x 2 GPM 205
M5422-3SC		208-240 - 3PH	6.0				
M5424-3SC		440-480 - 3PH	3.0				
M5432-SC	3.5	208-240 - 1PH	15.0	3'	250	13 x 34 GPM 415	24 x 2 GPM 209
M5432-3SC	3	208-240 - 3PH	10.0				
M5434-3SC		440-480 - 3PH	5.0				
M5452-SC	5	208-240 - 1PH	26.0	3'	300	15 x 30 GPM 535	28 x 2 GPM 380
M5452-3SC		208-240 - 3PH	12.0				
M5454-3SC		440-480 - 3PH	6.0				
Model Number	HP	Voltage and Phase	Running Amp Draw	MASTERS NOZZLE SERIES			
				Masters Wide Geyser	Masters Crown & Geyser	Masters Crystal Geyser	Birdie
M5401-ESC	1/2	120-1PH	5.0	9 X 6 GPM 72	Geyser Ht 6 Crown 2 X 24 GPM 84	N/A	N/A
M5402-ESC		240-1PH	2.5				
M5410-SC	1	120 - 1PH	18.0	18 x 10 GPM 182	Geyser Ht 13 Crown 5 x 24 GPM 215	15 x 26 GPM 214	3 x 5 GPM 336
M5412-SC		208-240 - 1PH	9.0				
M5412-3SC		208-240 - 3PH	5.0				
M5414-3SC		440-480 - 3PH	2.5				
M5422-SC	2	208-240 - 1PH	12.0	22 x 10 GPM 203	Geyser Ht 15 Crown 6 x 40 GPM 282	17 x 30 GPM 241	3.5 x 5 GPM 361
M5422-3SC		208-240 - 3PH	6.0				
M5424-3SC		440-480 - 3PH	3.0				
M5432-SC	3.5	208-240 - 1PH	15.0	26 x 10 GPM 208	Geyser Ht 20 Crown 6 x 42 GPM 297	19 x 30 GPM 254	4.5 x 8 GPM 454
M5432-3SC	3	208-240 - 3PH	10.0				
M5434-3SC		440-480 - 3PH	5.0				
M5452-SC	5	208-240 - 1PH	26.0	28 x 10 GPM 345	Geyser Ht 22 Crown 7 x 50 GPM 465	22 x 32 GPM 396	5 x 12 GPM 546
M5452-3SC		208-240 - 3PH	12.0				
M5454-3SC		440-480 - 3PH	6.0				

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	MASTERS NOZZLE SERIES			
				Ace	Par	Eagle	Biscayne
M5410-SC	1	120 - 1PH	18.0	Upper 4 x 10 Lower 3 x 22 GPM 305	Upper 6 Lower 3 x 20 GPM 274	11 x 8 GPM 119	Upper 11 x 2 Lower 5 x 30 GPM 204
M5412-SC		208-240 - 1PH	9.0				
M5412-3SC		208-240 - 3PH	5.0				
M5414-3SC		440-480 - 3PH	2.5				
M5422-SC	2	208-240 - 1PH	12.0	Upper 6 x 11 Lower 4 x 26 GPM 345	Upper 10 Lower 4 x 26 GPM 294	15 x 9 GPM 136	Upper 14 x 2 Lower 10 x 19 GPM 217
M5422-3SC		208-240 - 3PH	6.0				
M5424-3SC		440-480 - 3PH	3.0				
M5432-SC	3.5	208-240 - 1PH	15.0	Upper 8 x 12 Lower 5 x 32 GPM 412	Upper 13 Lower 6 x 30 GPM 377	17 x 11 GPM 143	Upper 16 x 2 Lower 10 x 20 GPM 250
M5432-3SC	3	208-240 - 3PH	10.0				
M5434-3SC		440-480 - 3PH	5.0				
M5452-SC	5	208-240 - 1PH	26.0	Upper 10 x 12 Lower 6 x 35 GPM 532	Upper 15 Lower 7 x 40 GPM 487	20 x 12 GPM 308	Upper 20 x 4 Lower 14 x 28 GPM 403
M5452-3SC		208-240 - 3PH	12.0				
M5454-3SC		440-480 - 3PH	6.0				
Model Number	HP	Voltage And Phase	Running Amp Draw	NOZZLES REQUIRING FLOW STRAIGHTENERS			
				Double Eagle	Turnberry	Half Moon	Medina
M5401-ESC	1/2	120-1PH	5.0	N/A	N/A	N/A	8 x 10 GPM 67
M5402-ESC		240-1PH	2.5				
M5410-SC	1	120 - 1PH	18.0	18 x 5 GPM 109	5.5 x 1.5 GPM 226	7 x 28 GPM 253	9 x 14 GPM 218
M5412-SC		208-240 - 1PH	9.0				
M5412-3SC		208-240 - 3PH	5.0				
M5414-3SC		440-480 - 3PH	2.5				
M5422-SC	2	208-240 - 1PH	12.0	23 x 5 GPM 137	7 x 18 GPM 278	9 x 30 GPM 278	12 x 18 GPM 253
M5422-3SC		208-240 - 3PH	6.0				
M5424-3SC		440-480 - 3PH	3.0				
M5432-SC	3.5	208-240 - 1PH	15.0	25 x 5 GPM 129	8 x 20 GPM 300	12 x 34 GPM 315	14 x 20 GPM 275
M5432-3SC	3	208-240 - 3PH	10.0				
M5434-3SC		440-480 - 3PH	5.0				
M5452-SC	5	208-240 - 1PH	26.0	32 x 5 GPM 297	10 x 23 GPM 391	13 x 40 GPM 466	18 x 24 GPM 410
M5452-3SC		208-240 - 3PH	12.0				
M5454-3SC		440-480 - 3PH	6.0				

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			
				Valhalla	Champion	Diamondback	Red Tail
M5401-ESC	1/2	120-1PH	5.0	N/A	6 X 15 GPM 76	N/A	N/A
M5402-ESC		240-1PH	2.5				
M5410-SC	1	120 - 1PH	18.0	9 x 14 GPM 273	7 x 20 GPM 157	5 x 50 GPM 184	Upper 8 x 18 Lower 4 x 35 GPM 233
M5412-SC		208-240 - 1PH	9.0				
M5412-3SC		208-240 - 3PH	5.0				
M5414-3SC		440-480 - 3PH	2.5				
M5422-SC	2	208-240 - 1PH	12.0	12 x 18 GPM 308	9 x 24 GPM 168	6 x 60 GPM 181	Upper 10 x 28 Lower 4.5 x 42 GPM 265
M5422-3SC		208-240 - 3PH	6.0				
M5424-3SC		440-480 - 3PH	3.0				
M5432-SC	3.5	208-240 - 1PH	15.0	14 x 20 GPM 341	10 x 30 GPM 195	7 x 60 GPM 226	Upper 13 x 30 Lower 5 x 45 GPM 281
M5432-3SC	3	208-240 - 3PH	10.0				
M5434-3SC		440-480 - 3PH	5.0				
M5452-SC	5	208-240 - 1PH	26.0	18 x 24 GPM 507	15 x 37 GPM 414	5 x 60 GPM 398	Upper 15 x 38 Lower 5.5 x 52 GPM 469
M5452-3SC		208-240 - 3PH	12.0				
M5454-3SC		440-480 - 3PH	6.0				
Model Number	HP	Voltage and Phase	Running Amp Draw	NOZZLES REQUIRING FLOW STRAIGHTENERS			
				Captiva	Firestone	Bayside	Prestwick
M5410-SC	1	120 - 1PH	18.0	9 x 4 GPM 141	Upper 11 Middle 6 x 11 Lower 2 x 14 GPM 181	Upper 9 x 11 Lower 3 x 18 GPM 188	Upper 10 x 10 Lower 5 x 30 GPM 188
M5412-SC		208-240 - 1PH	9.0				
M5412-3SC		208-240 - 3PH	5.0				
M5414-3SC		440-480 - 3PH	2.5				
M5422-SC	2	208-240 - 1PH	12.0	12 x 4 GPM 177	Upper 13 Middle 7 x 12 Lower 3 x 14 GPM 205	Upper 11 x 14 Lower 3 x 22 GPM 231	Upper 10 x 12 Lower 5 x 32 GPM 237
M5422-3SC		208-240 - 3PH	6.0				
M5424-3SC		440-480 - 3PH	3.0				
M5432-SC	3.5	208-240 - 1PH	15.0	15 x 5 GPM 223	Upper 15 Middle 9 x 20 Lower 3 x 23 GPM 251	Upper 13 x 16 Lower 3 x 24 GPM 242	Upper 12 x 14 Lower 5 x 35 GPM 255
M5432-3SC	3	208-240 - 3PH	10.0				
M5434-3SC		440-480 - 3PH	5.0				
M5452-SC	5	208-240 - 1PH	26.0	19 x 7 GPM 290	Upper 18 Middle 11 x 26 Lower 4 x 28 GPM 399	Upper 16 x 20 Lower 4 x 30 GPM 394	Upper 13 x 18 Lower 6 x 40 GPM 452
M5452-3SC		208-240 - 3PH	12.0				
M5454-3SC		440-480 - 3PH	6.0				

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			
				Sanibel			
M5410-SC	1	120 - 1PH	18.0	11 x 14 GPM 172			
M5412-SC		208-240 - 1PH	9.0				
M5412-3SC		208-240 - 3PH	5.0				
M5414-3SC		440-480 - 3PH	2.5				
M5422-SC	2	208-240 - 1PH	12.0	15 x 17 GPM 186			
M5422-3SC		208-240 - 3PH	6.0				
M5424-3SC		440-480 - 3PH	3.0				
M5432-SC	3.5	208-240 - 1PH	15.0	16 x 18 GPM 199			
M5432-3SC	3	208-240 - 3PH	10.0				
M5434-3SC		440-480 - 3PH	5.0				
M5452-SC	5	208-240 - 1PH	26.0	19 x 20 GPM 406			
M5452-3SC		208-240 - 3PH	12.0				
M5454-3SC		440-480 - 3PH	6.0				
Model Number	HP	Voltage and Phase	Running Amp Draw	ADJUSTABLE NOZZLES W/FLOW STRAIGHTENERS			
				Cypress	Longbow	Reflection	Sawgrass
M5401-ESC	1/2	120-1PH	5.0	5 X 8 GPM 87	N/A	Upper 4 x 6 Lower 2 x 12 GPM 84	N/A
M5402-ESC		240-1PH	2.5				
M5410-SC	1	120 - 1PH	18.0	9 x 14 GPM 273	Upper 9 Lower 3 x 36 GPM 251	Upper 7 x 16 Lower 3 x 22 GPM 273	Upper 8 x 24 Lower 5 x 24 GPM 276
M5412-SC		208-240 - 1PH	9.0				
M5412-3SC		208-240 - 3PH	5.0				
M5414-3SC		440-480 - 3PH	2.5				
M5422-SC	2	208-240 - 1PH	12.0	12 x 18 GPM 308	Upper 11 Lower 4 x 34 GPM 261	Upper 9 x 20 Lower 3 x 30 GPM 307	Upper 10 x 30 Lower 6 x 30 GPM 293
M5422-3SC		208-240 - 3PH	6.0				
M5424-3SC		440-480 - 3PH	3.0				
M5432-SC	3.5	208-240 - 1PH	15.0	14 x 20 GPM 341	Upper 14 Lower 5 x 30 GPM 290	Upper 12 x 26 Lower 3 x 30 GPM 354	Upper 13 x 34 Lower 7 x 34 GPM 338
M5432-3SC	3	208-240 - 3PH	10.0				
M5434-3SC		440-480 - 3PH	5.0				
M5452-SC	5	208-240 - 1PH	26.0	18 x 24 GPM 507	Upper 16 Lower 6.5 x 30 GPM 459	Upper 13 x 16 Lower 4 x 37 GPM 485	Upper 15 x 24 Lower 7 x 38 GPM 493
M5452-3SC		208-240 - 3PH	12.0				
M5454-3SC		440-480 - 3PH	6.0				

*All performance data (heights and diameters), have been tested at 240 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

Single Phase 3 Conductor			3 Conductor Copper Wire Gauge Size						
Unit	Volts	Approx Amps	#14	#12	#10	#8	#6	#4	#2
1/2 HP	120	5.0	175	275	450	675	1000	1700	2700
1/2 HP	208-240	2.5	550	875	1400	2200	3500	5500	8000

4 conductor: Required on all 1 - 10HP Single Phase & Three Phase Aerators									
Single Phase 4 Conductor			4 Conductor Copper Wire Gauge Size						
Unit	Volts	Approx Amps	#14	#12	#10	#8	#6	#4	#2
1 HP	120	18.0	----	----	130	200	325	500	800
1 HP	208-240	9.0	----	250	375	600	1000	1500	2400
2 HP	208-240	12.0	----	200	300	475	775	1200	1900
3.5 HP	208-240	15.0	----	--	200	350	550	850	1350
5 HP	208-240	26.0	----	----	150	250	400	650	1000

Three Phase 4 Conductor			4 Conductor Copper Wire Gauge Size						
Unit	Volts	Approx Amps	#14	#12	#10	#8	#6	#4	#2
1 HP	208-240	5.0	---	450	700	1200	1800	3000	4800
1 HP	440-480	2.5	---	1700	2700	4300	6900	11000	17500
2 HP	208-240	6.0	---	300	500	800	1200	1900	3100
2 HP	440-480	3.0	---	1100	1750	2800	4450	7000	11200
3 HP	208-240	10.0	---	250	400	650	1000	1650	2600
3 HP	440-480	5.0	---	1000	1600	2550	4000	6400	10000
5 HP	208-240	12.0	---	150	250	400	600	950	1500
5 HP	440-480	6.0	---	600	950	1550	2475	3900	6250

TABLE 3: FOUNTAIN AERATOR SPRAY PATTERN DESCRIPTIONS

1. **LAKESWOOD FULL FLOW**

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

2. **MASTERS GEYSER**

A multiport nozzle achieves a dramatic vertical pattern in a solid column of water, fanning slightly at the top.

SPECIFICATION DESCRIPTION: SOLID VERTICAL COLUMN

3. **MASTERS WIDE GEYSER**

A modification of the Geysler nozzle produces a less dense, more decorative version.

SPECIFICATION DESCRIPTION: WIDE VERTICAL COLUMN

4. **MASTERS CROWN & GEYSER**

A beautiful, dramatic pattern still achieves aeration results. This nozzle combines the Lakewood Full Flow with the vertical Geysler column of water through its center.

SPECIFICATION DESCRIPTION: COMBINED FAN & COLUMN

5. **MASTERS CRYSTAL GEYSER**

This nozzle produces a very decorative crystalline spray pattern in an abstract, multi-tiered formation.

SPECIFICATION DESCRIPTION: FROTHY SPRAY

6. **BIRDIE**

Creates a dense, round ball of water, perfect for smaller containments of water.

SPECIFICATION DESCRIPTION: ROUND

7. **ACE**

Full circle, two-tiered pattern with multi-point center formation.

SPECIFICATION DESCRIPTION: POINTED FAN SHAPE

8. **PAR**

Heavy-water version of the Crown & Geysler, excellent choice in open areas.

SPECIFICATION DESCRIPTION: DENSE COMBINED FAN & COLUMN

9. **EAGLE**

Elongated, frothy vertical pattern creates a beautiful, full profile.

SPECIFICATION DESCRIPTION: FROTHY VERTICAL COLUMN

TABLE 3: FOUNTAIN AERATOR SPRAY PATTERN DESCRIPTIONS (cont.)

10. BISCAYNE

Variation of classic two-tier with taller, narrower lower spray.
SPECIFICATION DESCRIPTION: UPRIGHT FAN & COLUMN

11. DOUBLE EAGLE

Statuesque, frothy vertical pattern creates a stunning full profile.
SPECIFICATION DESCRIPTION: SOLID VERTICAL COLUMN

12. TURNBERRY

Upright funnel shape creates a stunning full profile pattern.
SPECIFICATION DESCRIPTION: HEAVY FAN SHAPE

13. HALF MOON

Gorgeous multi-stream pattern results in a full floral effect.
SPECIFICATION DESCRIPTION: SCALLOPED FAN SHAPE

14. MEDINA

Taller, narrower version of the Turnberry.
SPECIFICATION DESCRIPTION: NARROW FAN SHAPE

15. VALHALLA

Stunning tri-tier resulting in both excellent height and diameter.
SPECIFICATION DESCRIPTION: TRI-TIER SPRAY

16. CHAMPION

Classic multi-stream pattern with specific points resulting in a dramatic surface effect.
SPECIFICATION DESCRIPTION: INDIVIDUAL STREAMS FAN SHAPE

17. DIAMONDBACK

Low height pattern sending streams of water in tremendous diameter.
SPECIFICATION DESCRIPTION: WIDEST LOW FAN SHAPE

18. RED TAIL

Dazzling, full circle, two-tiered pattern with multiple-point sprays for a refreshing ambience.
SPECIFICATION DESCRIPTION: TWO-TIERED INDIVIDUAL STREAMS

19. CYPRESS

Upright funnel-shaped pattern that you can set to your pond's requirements.
SPECIFICATION DESCRIPTION: ADJUSTABLE NARROW FAN SHAPE

TABLE 3: FOUNTAIN AERATOR SPRAY PATTERN DESCRIPTIONS (cont.)

20. LONGBOW

Classic, two-tiered pattern combining a thick, center geyser with full lower circle spray.
SPECIFICATION DESCRIPTION: ADJUSTABLE COMBINED FAN AND STREAMS

21. REFLECTION

Dazzling, full circle, two-tiered pattern with multiple-point formation.
SPECIFICATION DESCRIPTION: ADJUSTABLE COMBINED FAN AND STREAMS

22. SAWGRASS

Slightly taller, more upright version of the Reflection.
SPECIFICATION DESCRIPTION: ADJUSTABLE COMBINED FAN AND STREAMS

23. CAPTIVA

Heavy-water vertical frothy column, excellent in open areas.
SPECIFICATION DESCRIPTION: DENSE FROTHY COLUMN

24. FIRESTONE

Beautiful tri-tier, perfect for smaller area applications.
SPECIFICATION DESCRIPTION: TRI-TIER MULTIPLE STREAMS

25. BAYSIDE

Narrower version of Red Tail, excellent in smaller contained areas.
SPECIFICATION DESCRIPTION: COMBINED FAN AND STREAMS

26. PRESTWICK

Dramatic multi-streamed two-tiered pattern.
SPECIFICATION DESCRIPTION: TWO-TIERED MULTIPLE STREAMS

27. SANIBEL

Taller and frothier version of Medina.
SPECIFICATION DESCRIPTION: NARROW FAN SHAPED

28. MONTEREY

Frothy tri-tiered pattern combines both aesthetics and aeration.
SPECIFICATION DESCRIPTION: TRI-TIER FROTHY SPRAY

29. BAYTREE

Frothy tri-tiered pattern providing aeration benefits beautifully.
SPECIFICATION DESCRIPTION: TRI-TIER FROTHY SPRAY

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 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: 120 Volt Lighting Systems

A. 1/2HP Fountain Aerator

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

75 Watt Fixtures	Each system includes:
2 light system: Model # 870282	<ul style="list-style-type: none"> • 75 Watt Par 30 halogen flood lamps • 50’ of underwater cable • GFCI Protection • Timer • Clear lenses • UL and cUL Listing
3 light system: Model # 870283	
4 light system: Model # 870284	
6 light system: Model # 870286	
8 light system: Model # 870288	

TABLE 4: FOUNTAIN AERATOR LIGHTING SYSTEMS (cont.)

LINE VOLTAGE: 120 Volt Lighting Systems (cont.)

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

75 Watt Fixtures	Each system includes: <ul style="list-style-type: none"> • 75 Watt Par 30 halogen flood lamps • 50' of underwater cable • GFCI Protection • Timer • Clear lenses • UL and cUL Listing
2 light system: Model # 870252	
3 light system: Model # 870253	
4 light system: Model # 870254	
6 light system: Model # 870256	
8 light system: Model # 870258	

150 Watt Fixtures	Each system includes: <ul style="list-style-type: none"> • 150 or 250 Watt quartz halogen flood lamps • 50' of underwater cable • GFCI Protection • Timer • Clear lenses • UL and cUL Listing
2 light system: Model # 870262	
3 light system: Model # 870263	
4 light system: Model # 870264	
6 light system: Model # 870266	
8 light system: Model # 870268	
250 Watt Fixtures	
2 light system: Model # 870272	
3 light system: Model # 870273	
4 light system: Model # 870274	
6 light system: Model # 870276	
8 light system: Model # 870278	

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	Volts	Approx Amps	#14	#12	#10	#8	#6	#4	#2
75	2	120	1.3	750	1150	1900	2950	4750	7500	11500
75	3	120	1.9	500	775	1300	2000	3250	5100	7950
75	4	120	2.5	375	600	1000	1550	2450	3900	6000
75	6	120	3.8	250	375	650	1000	1600	2550	3950
75	8	120	5	190	300	500	775	1200	1950	3000
150	2	120	2.5	375	600	1000	1550	2450	3900	6000
150	3	120	3.8	250	375	650	1000	1625	2550	3950
150	4	120	5	190	300	500	775	1200	1950	3000
150	6	120	7.5	125	200	325	500	800	1300	2000
150	8	120	10	--	150	250	380	600	975	1500
250	2	120	4.2	25	350	600	900	1450	2300	3600
250	3	120	6.3	150	240	400	600	980	1550	2400
250	4	120	8.5	100	175	290	450	725	1125	1775
250	6	120	12.5	--	120	200	300	490	775	1200
250 *	8	120	17	Requires 2 runs of cable						
			2 runs at:	100	200	300	500	750	1250	2000
500 *	4	120	17	Requires 2 runs of cable						
			2 runs at:	100	200	300	500	750	1250	2000
500 *	6	120	25	Requires 2 runs of cable						
			2 runs at:	--	125	200	325	500	800	1300
500 *	8	120	34	Requires 2 runs of cable						
			2 runs at:	--	100	150	250	400	625	1000

CABLE SIZING CHART FOR LIGHTS WHEN ORDERED WITH A SEQUENCER

MAXIMUM RECOMMENDED LENGTH FROM FOUNTAIN LIGHTS TO CONTROL PANEL

3 & 4 Conductor see notes below			Copper Wire Gauge Size						
Watts Per Fixture	# of Fixtures	Volts	#14	#12	#10	#8	#6	#4	#2
150	4	120	400	600	1000	1600	2500	4300	-
150	6 (3 colors)	120	200	300	500	800	1250	2150	-
150	8 (4 colors)	120	200	300	500	800	1250	2150	-
250	4	120	250	400	650	1000	1600	2600	-
250	6 (3 colors)	120	125	200	325	500	800	1300	-
250	8 (4 colors)	120	125	200	325	500	800	1300	
500	4 (4 colors)	120	--	200	325	500	800	1300	2000
500	6 (3 colors)	120	--	100	175	250	400	650	1000
500	8 (4 colors)	120	--	100	175	250	400	650	1000

Lighting sequencer requires 2 runs 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.)

2. LOW VOLTAGE: 12 Volt kits

A. Set #1: Model #870102
2 light kit

B. Set #2: Model #870104
4 light kit

Each set includes:

- 50 Watt Par 36 halogen sealed beam lamps
- Fifty feet of underwater cable
- Heavy duty transformer
- Timer
- Clear lenses

CABLE SIZING CHART

MAXIMUM RECOMMENDED LENGTH FROM FOUNTAIN AERATOR LIGHTS TO TRANSFORMER AT CONTROL PANEL

3 Conductor			Copper Wire Gauge Size				
# Of Fixtures	Volts	Watts	#14	#12	#10	#8	#6
2	12	100	50	100	150	N/A	N/A
4	12	200	---	50	100	150	N/A