

## SPECIFICATIONS

### FLOATING GALAXY SELECT FOUNTAINS® SYSTEM

#### 1.0 GENERAL

##### 1.1 DESCRIPTION

- A. Manufacturer shall furnish a floating fountain system capable of pumping water from below the surface of a body of water.
- B. A submersible motor shall draw water past itself and into an impeller chamber where it shall be pumped into the atmosphere in the form of a decorative 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.
- D. This repeated action shall effectively mix the body of water and distribute the dissolved oxygen continuously.
- E. Fountain system shall include a submersible motor assembly combined with an inline turbine type pump, attached to a modular floatation system. 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 FOUNTAIN COMPONENTS DESCRIPTION

- A. **Floats** shall be made of linear low density polyethylene. Float system shall be a modular circular configuration and field adjustable to maintain an even floatation level. Series 300 stainless steel rails shall be formed into a circular configuration and bolted to the fountain framework for float mounting. All optional lights and anchor mounting shall be capable of being installed into fixture mounting areas which are provided on the framework. (See SECTION 5).
- B. **Pump** shall be of an inline type, Series 300 Stainless Steel and sand resistant. The impeller is housed in a series 300 stainless steel, single stage mixed flow type pump housing with vertical discharge. Discharge piping shall be designed with sufficient size to minimize pumping losses. Discharge piping shall vary in design by type (Standard or Specialty) of nozzle.
- C. **Framework** shall be a bolted assembly of flat and square series 300 stainless steel tubing with a minimum wall thickness of 1/8 inch. Framework shall be equipped with four heavy duty linear low density polyethylene wheels mounted on series 300 stainless steel axles for ease of installation and routine maintenance practices. Wheels shall have a diameter of not less than ten inches and a width not less than five inches for ground bearing purposes.

- D. **Submersible Motor** shall be of encapsulated construction with a series 304 Stainless Steel shaft and with a Kingsbury Thrust bearing and ball bearing support system. The rotor shall be dynamically balanced. The stator windings shall be baked with a Class F insulation. The motor shall be water cooled and filled with a FES91 solution from new. This will be exchanged with water as the pump runs. The motor shall utilize a silicon carbide shaft seal with Sand Slinger to prevent water and debris ingress around the motor shaft. The motor is designed to operate at 3450 RPM.
- E. **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 latches mounted on the cart framework. This will ensure that no potential damage can occur to any cable connections, due to tension on the cable.
- F. **Underwater Power Cable Disconnect** shall be located approximately five feet from the motor assembly. It is a two-piece molding assembly made of thermoplastic material meeting the UL 778 requirements. The cap half of this disconnect shall be attached to the flat pump cable by use of a threaded cord grip. The free end of the disconnect cap shall be attached to a fixed polymeric mounting saddle by a stainless-steel strap. This complete assembly shall be sealed with a flexible potting compound. The disconnect assembly shall be sealed with an internal o-ring and by an external series 300 stainless steel clamp ring, which can be easily opened. This allows removal of the complete fountain assembly without the power cable attached for storage and maintenance.

- G. **Fasteners and Anchor Connectors** shall be Series 300 Stainless Steel.
- H. **Electrical Control Panel** specifications, see SECTION 3.
- I. **Intake Screen** shall be made of 18 Gauge, Series 300 Stainless Steel. Two stainless steel handles shall be attached to the top end of the screen for easy removal without tools for cleaning as required. The screen shall have a minimum of 58% open area.
- J. **Spray Patterns (Standard Nozzles)** shall be threaded and tightened onto the discharge assembly. Standard nozzles are interchangeable.
- K. **Spray Patterns (Specialty Nozzles)** shall consist of a modified discharge assembly to achieve the desired spray pattern.
- L. **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.

## FLOATING FOUNTAIN SYSTEM 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 GALAXY SELECT FOUNTAIN® 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 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.

## FLOATING FOUNTAIN DETAIL SPECIFICATIONS (cont.)

### 3.0 ELECTRICAL CONTROL PANEL COMPONENTS DESCRIPTION

- A. **Electrical Enclosure** shall be NEMA 3R type, gray in color. Panel shall be both lock and mount capable.
- B. **Ground Fault Protection**  
A residual current device or ground fault relay kit 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 (single phase ONLY)** shall provide a means for disconnection of all motor leads. It shall be a magnetic, across the line starter type.
- E. **Overload Relay (single phase ONLY)** shall provide overload protection by means of a bi-metallic overload relay. It is adjustable over the listed full load amperage draw of the motor. It shall have a visual trip indicator, test button and manual/automatic reset modes.
- F. **Soft Start (three phase ONLY)** shall provide ramped starting and stopping to minimize electrical and mechanical stresses to the motor and power source.
- G. **Manual Motor Protector (three phase ONLY)** shall provide overcurrent and overload protection and be capable of disconnecting all incoming electricity from the control panel.
- H. **Digital Timer** shall be a single pole type, rated at 120 Volts, 16 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's 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 and 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 shall have a 3 year warranty on parts and labor.

## FLOATING FOUNTAIN DETAIL SPECIFICATIONS (cont.)

### 4.0 SAFETY TESTING

The floating fountain system shall be tested and approved as a complete unit. This approval must meet Underwriters Laboratories Inc. requirements in compliance with 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 floating fountain, as specified in Sections 2.2, 2.3 and 2.4, shall be a GALAXY SELECT FOUNTAIN® as manufactured by AQUAMASTER® FOUNTAINS AND AERATORS, 16024 CTH X, Kiel, WI 53042, (800) 693-3144, or approved equal.

### 4.2 INSTALLATION

All AQUAMASTER® FLOATING FOUNTAIN 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 and may also create a **hazardous installation**. Read the instructions thoroughly before starting the installation and follow them carefully throughout.

### 4.3 WARRANTY

All 10-25 HP AQUAMASTER® GALAXY SELECT FOUNTAINS® motor, pump, 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 4 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.

## FLOATING FOUNTAIN LIGHTING SYSTEMS AND OPTIONS SPECIFICATIONS

- 5.0 LIGHTING SYSTEM** shall be LED/RGBW \_\_\_\_\_ Volt/Watts, Model #(s)\_\_\_\_\_. There are \_\_\_\_\_ total fixtures, containing \_\_\_\_\_ (choose color(s) if applicable: white, warm white, amber, blue, red, or green) color board assemblies.
- 5.1** A total length of \_\_\_\_\_ feet of \_\_\_\_\_ gauge 3(LED) or 5(RGBW) conductor underwater power cable is required. Two runs of cable may be required; reference cable sizing chart.
- 5.2 SERIES 316 STAINLESS STEEL UPGRADE** is available for sites with salt or brackish water. Yes \_\_\_\_\_ No \_\_\_\_\_

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

## FLOATING FOUNTAIN LIGHTING SYSTEMS AND OPTIONS SPECIFICATIONS (cont.)

### 6.0 DESCRIPTION - LIGHTING

- A. **Light Set** shall consist of line voltage (120 VAC) 35W LED lighting system with either 4, 6, or 8 lights. 72W RGBW LED lighting system will consist of 4 or 6 lights.
- B. **Lights** shall consist of a power supply/driver module with a 35W or 72W RGBW LED light engine.
- C. **Light Fixture** 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 with series 300 stainless steel brackets and fasteners.
- D. **Light Fixture Assembly** shall consist of a lens made of tempered glass with a clear non-diffusing surface with a minimum of 5/32<sup>nd</sup> thickness and sealed with "V" shaped lens gasket made of silicon. Clamp ring shall be of series 300 stainless steel. Fasteners and mounting hardware shall be of series 300 stainless steel.
- E. **Underwater Pin and Socket Connector** shall consist of a Series 900, IP68 pin and socket connector. It shall be of a 3(LED) or 5(RGBW) pin configuration rated 32 Amps at 600 VAC. The pin and socket ends shall each be attached to a 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 fixture with a nonmetallic connector and potted using a flexible approved potting compound. The socket end assembly shall be permanently attached to the power cable. Both the pin end and socket end assemblies come with protector caps.
- F. **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 the first light fixture. This will ensure that no potential damage can occur to any cable connections, due to tension on the cable.
- G. **Light Controls** shall consist of a GFCI (Ground Fault Circuit Interrupter), overcurrent protection (fuse), digital timer with battery back-up. The RGBW WiFi controller (optional) is pre-programmed with assorted color, shows and holiday themed selectable programs. The WiFi controller consists of a wireless module that allows control of the lights through the use of an interface on a phone or tablet.
- H. **Safety Testing** shall be tested and approved as a complete assembly. This approval must meet Underwriters Laboratories Inc. requirements in compliance with UL category 676: Underwater Luminaires.
- I. **Warranty** on all AQUAMASTER 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.



**Table 1: GALAXY SELECT FOUNTAINS PERFORMANCE SPECIFICATIONS**

| Model Number | HP       | Voltage | Running Amp Draw | Spray Pattern Specifications (ft) |         |         |         |
|--------------|----------|---------|------------------|-----------------------------------|---------|---------|---------|
|              |          |         |                  | Aquarius                          | Aries   | Gemini  | Leo     |
| GS84102      | 10 - 1PH | 220-240 | 58               |                                   |         |         |         |
| GS84102-3    | 10       | 220-240 | 34               | 55                                | 47      | 65 x 2  | 50 x 10 |
| GS84104-3    |          | 440-480 | 17               | 15 x 55                           | 30 x 60 |         |         |
| GS84152-3    | 15       | 220-240 | 44               | 65                                | 58      | 76 x 2  | 56 x 10 |
| GS84154-3    |          | 440-480 | 22               | 18 x 60                           | 35 x 60 |         |         |
| GS84202-3    | 20       | 220-240 | 54               | 70                                | 64      | 85 x 2  | 61 x 10 |
| GS84204-3    |          | 440-480 | 27               | 20 x 70                           | 37 x 60 |         |         |
| GS84252-3    | 25       | 220-240 | 64               | 80                                | 70      | 104 x 2 | 67 x 10 |
| GS84254-3    |          | 440-480 | 32               | 22 x 80                           | 40 x 65 |         |         |

| Model Number | HP       | Voltage | Running Amp Draw | Spray Pattern Specifications (ft) |         |         |
|--------------|----------|---------|------------------|-----------------------------------|---------|---------|
|              |          |         |                  | Olympian*                         | Scorpio | Taurus  |
| GS84102      | 10 - 1PH | 220-240 | 58               | 18 x 3                            | 28 x 10 | 42      |
| GS84102-3    | 10       | 220-240 | 34               | 15 x 3                            |         | 28 x 50 |
| GS84104-3    |          | 440-480 | 17               | 10 x 3                            |         | 12 x 65 |
| GS84152-3    | 15       | 220-240 | 44               | 24 x 3                            | 32 x 10 | 55      |
| GS84154-3    |          | 440-480 | 22               | 18 x 3                            |         | 30 x 50 |
|              |          |         |                  | 16 x 3                            |         | 13 x 65 |
| GS84202-3    | 20       | 220-240 | 54               | 28 x 4                            | 35 x 10 | 60      |
| GS84204-3    |          | 440-480 | 27               | 20 x 4                            |         | 31 x 55 |
|              |          |         |                  | 17 x 4                            |         | 15 x 70 |
| GS84252-3    | 25       | 220-240 | 64               | 31 x 4                            | 43 x 10 | 64      |
| GS84254-3    |          | 440-480 | 32               | 27 x 4                            |         | 32 x 60 |
|              |          |         |                  | 23 x 4                            |         | 16 x 75 |

All performance data (heights & diameters) have been tested at 230 volts 3PH, except for 10HP 1PH which was tested at 240 volts 1PH. Your overall performance may vary due to actual voltage, intake restrictions, relative humidity and cable lengths.

\*Olympian is a multi-geyser pattern with adjustable flow valves. Pattern dimensions may vary.

## TABLE 2: CABLE SIZING CHART

Maximum recommended length (in feet) from fountain 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 requires recalculating voltage drop to insure proper cable sizing. Please contact AquaMaster® if assistance is required.*

| 4 conductor: Required on all Galaxy Select Fountains |         |             |                                    |     |     |     |      |      |      |
|------------------------------------------------------|---------|-------------|------------------------------------|-----|-----|-----|------|------|------|
| Single Phase 4 conductor                             |         |             | 4 conductor Copper Wire Gauge Size |     |     |     |      |      |      |
| Unit                                                 | Volts   | Approx Amps | #14                                | #12 | #10 | #8  | #6   | #4   | #2   |
| 10HP                                                 | 220-240 | 58          | --                                 | --  | --  | --  | 150  | 300  | 450  |
| Three Phase 4 conductor                              |         |             | 4 conductor Copper Wire Gauge Size |     |     |     |      |      |      |
| Unit                                                 | Volts   | Approx Amps | #14                                | #12 | #10 | #8  | #6   | #4   | #2   |
| 10HP                                                 | 220-240 | 34          | --                                 | --  | --  | 200 | 350  | 600  | 900  |
| 10HP                                                 | 440-480 | 17          | --                                 | --  | 600 | 950 | 1500 | 2400 | 3700 |
| 15HP                                                 | 220-240 | 44          | --                                 | --  | --  | 150 | 250  | 450  | 700  |
| 15HP                                                 | 440-480 | 22          | --                                 | --  | --  | 700 | 1150 | 1850 | 2850 |
| 20HP                                                 | 220-240 | 54          | --                                 | --  | --  | --  | 200  | 350  | 550  |
| 20HP                                                 | 440-480 | 27          | --                                 | --  | --  | 600 | 950  | 1500 | 2350 |
| 25HP                                                 | 220-240 | 64          | --                                 | --  | --  | --  | 200  | 300  | 450  |
| 25HP                                                 | 440-480 | 32          | --                                 | --  | --  | 500 | 800  | 1250 | 1950 |

Actual voltage to motor will affect your fountain's performance.

### TABLE 3: FLOATING FOUNTAIN SPRAY PATTERN DESCRIPTIONS

1. **AQUARIUS**  
Magnificent two-tiered fountain combining a Gemini geyser rising through a perfect, lower circle.  
SPECIFICATION DESCRIPTION: COMBINED FAN & COLUMN
2. **ARIES**  
Narrower, two-tiered pattern reaching fantastic heights.  
SPECIFICATION DESCRIPTION: TWO-TIERED MULTI-STREAMS & COLUMNS
3. **GEMINI**  
Dramatic geyser reaching amazing heights in a massive column of water.  
SPECIFICATION DESCRIPTION: SOLID VERTICAL COLUMN
4. **LEO**  
Dramatic geyser creates a full profile in a massive column of water.  
SPECIFICATION DESCRIPTION: FROTHY VERTICAL COLUMN
5. **OLYMPIAN**  
Multi-geyser pattern with adjustable valves for harmonizing water columns from full open to stepped patterns for customized look. This pattern requires a circular float.  
SPECIFICATION DESCRIPTION: THREE MULTI WIDE GEYSER HEAVY COLUMNS WITH WATER
6. **SCORPIO**  
Wide full-flow geyser that creates a massive heavy column of water.  
SPECIFICATION DESCRIPTION: WIDE-FULL FLOW VERTICAL COLUMN
7. **TAURUS**  
Stunning tri-tier reaching amazing heights with a massive column of water.  
SPECIFICATION DESCRIPTION: TRI-TIER SPRAY

**TABLE 4: FLOATING FOUNTAIN LIGHTING SYSTEMS**

AQUAMASTER® GALAXY SELECT FOUNTAINS® 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, sealed with clear tempered glass lenses in a stainless steel clamp ring. All lights remain water-cooled.

All necessary electrical controls, including timer, are pre-wired into the fountain’s existing UL Listed control panel. Color board assemblies (White, Warm White, Red, Green, Blue, or Amber) must be selected for each light.

**For uniformity of spray pattern coverage, 6 lights minimum is recommended.**

**LINE VOLTAGE:** 120 Volt LED Lighting Systems

|                                |                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>35 Watt Fixtures</b>        | <b>Each system includes:</b> <ul style="list-style-type: none"> <li>• 22 or 35 Watt LED light engine</li> <li>• GFCI Protection</li> <li>• Digital Timer</li> <li>• Clear lenses</li> <li>• UL and cUL Listing</li> <li>• Choice of White, Warm White, Red, Green, Blue, or Amber Light Engine (35W LED)</li> <li>• 22 Watt LED Light Engine Available in White Only</li> </ul> |
| 4 light system: Model # 870782 |                                                                                                                                                                                                                                                                                                                                                                                 |
| 6 light system: Model # 870783 |                                                                                                                                                                                                                                                                                                                                                                                 |
| 8 light system: Model # 870784 |                                                                                                                                                                                                                                                                                                                                                                                 |

**LINE VOLTAGE:** 120 Volt RGBW LED Lighting Systems

|                                                           |                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>72 Watt Fixtures</b>                                   | <b>Each system includes:</b> <ul style="list-style-type: none"> <li>• 72W RGBW LED light engine</li> <li>• GFCI Protection</li> <li>• Clear lenses</li> <li>• UL and cUL Listing</li> <li>• 72W RGBW has ALCs on every fixture for expandability and ease of service</li> <li>• 72W RGBW Recommended in 4 or 6 Light Configurations</li> </ul> |
| Single light system: Model #3005271 (ordered in quantity) |                                                                                                                                                                                                                                                                                                                                                |

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

**CABLE SIZING CHART FOR LED LIGHTS**

**Maximum recommended length from fountain lights 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 requires 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                    | #12  | #10  |
| 35                | 4             | 120   | 1.167       | 800                    | 1250 | 2100 |
| 35                | 6             | 120   | 1.750       | 550                    | 850  | 1400 |
| 35                | 8             | 120   | 2.330       | 400                    | 600  | 1050 |

**CABLE SIZING CHART FOR RGBW LED LIGHTS**

| 5 Conductor       |               |       |             | Copper Wire Gauge Size |      |
|-------------------|---------------|-------|-------------|------------------------|------|
| Watts Per Fixture | # of Fixtures | Volts | Approx Amps | #12                    | #8   |
| 72                | 4             | 120   | 2.000       | 750                    | 1900 |
| 72                | 6             | 120   | 3.000       | 500                    | 1250 |