

# 1/2 HP FRACTIONAL SERIES

## SPECIFICATIONS

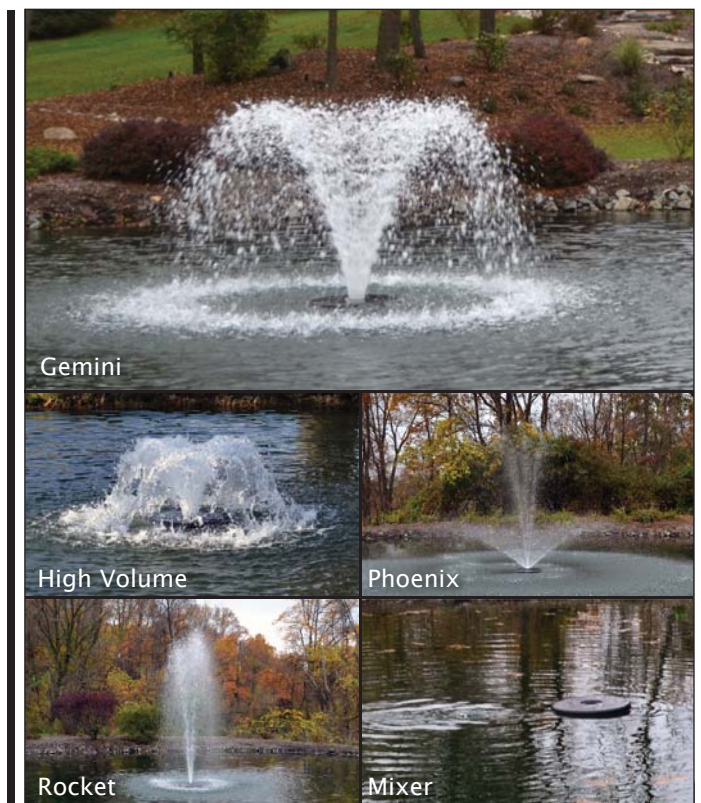
**MODEL:** The Fractional Series is a floating aerator that includes five interchangeable configurations. The **Gemini** is a “trumpet” shaped spray pattern with Spray dimensions as: 1.2 m in height, and 1.8 m in diameter.

The **High Volume** is a “boil” shaped spray pattern with Spray dimensions as: 1 m in height, and 1.4m in diameter.

The **Phoenix** is a dual spray pattern; a geyser type center spray surrounded by a fan shaped pattern with Spray dimensions for the Upper pattern as: 2.8 m in height, and 30 cm in diameter. Lower pattern as: 1 m in height, and 3 m in diameter.

The **Rocket** is a geyser-like spray pattern dimensions as: 3 m in height, and 40 cm in diameter.

The **Mixer** is a floating horizontal mixer providing subsurface aeration and directional flow. The pumping capacity is sufficient to influence 6938 cubic meters of water.



[www.otterbine.com/fractional\\_series](http://www.otterbine.com/fractional_series)



**PUMPING CAPACITIES:** The primary pumping rate of the **Gemini** unit is 115 m<sup>3</sup>/hr and the secondary or induced circulation rate is 1150 m<sup>3</sup>/hr. The primary pumping rate of the **High Volume** unit is 99 m<sup>3</sup>/hr and the secondary or induced circulation rate is 990 m<sup>3</sup>/hr. The primary pumping rate of the **Phoenix** unit is 44 m<sup>3</sup>/hr and the secondary or induced circulation rate is 440 m<sup>3</sup>/hr. The primary pumping rate of the **Rocket** unit is 41 m<sup>3</sup>/hr and the secondary or induced circulation rate is 410 m<sup>3</sup>/hr. The **Mixer** unit's pumping capacity shall be sufficient to influence 6938 cubic meters of water.

**FLOAT:** The float construction is roto-molded from a black polyethylene material and is filled with closed cell polyurethane foam. The float is capable of providing full floatation if the shell is punctured or cracked. Lighting fixtures snap into the float eliminating the need for brackets or tools to mount them. Metal floats or those with an internal void for additional ballast are not acceptable.

**IMPELLER:** The impeller is molded using glass reinforced thermoplastic polyurethane resin. The impeller is fastened to the keyed motor shaft by means of 18-8 Stainless Steel M6 bolt and washers (one lock washer, one flat washer). Flexible shaft couplings are not acceptable.

**PUMP COMPONENTS:** All pump components are constructed of glass reinforced thermoplastics.

**MOTOR:** The motor is a 1/2HP, 230 volt, single phase, 50 Hz thermally protected PSC (Permanent Split Capacitor) ball bearing motor operating at 3250 RPM or 50Hz operates at 2750 RPM. The internal thermal overload will reset automatically. The motor will operate in an oil bath and be continuous duty rated with a service factor of 1.00 at 50Hz. The stator (windings) are coated with class F rated insulation for complete immersion in oil. The motor is to be bolted to a glass fiber reinforced Polybutylene Terephthalate (PBT) motor base plate. Water ingress and oil leakage are to be prevented using a silicon carbide mechanical rotary seal on the motor shaft and a motor base plate Buna-N o-ring.

**MOTOR HOUSING:** The motor housing is a deep drawn 316 stainless steel canister.

**DEBRIS SCREEN:** A debris screen constructed of 1/4" (.64cm) nylon mesh shall enclose the intake of the Fractional Series aerator.

**FASTENERS:** All fasteners shall be made of type 18-8 stainless steel.

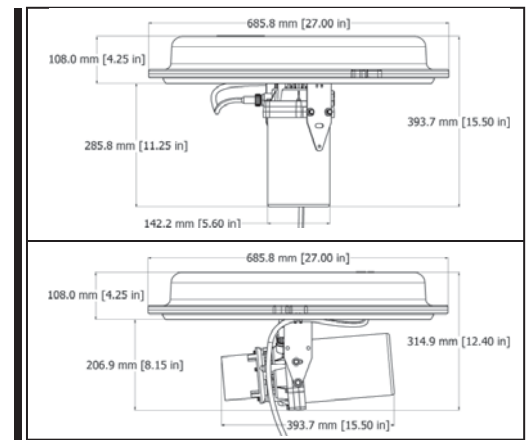
**UNDERWATER POWER CABLE:** The power cable shall be SJOOW 12AWG (4mm<sup>2</sup>) rated for 300 volts, constructed with synthetic rubber insulation and a thermoset jacket to resist heat, moisture, cracking and softening. It shall be UL and CSA listed.

**ELECTRICAL CONTROLS:** The electrical control components for the 230V (50Hz) units shall be mounted in a NEMA 4X enclosure and consist of a 24-hour timer, fuse, contactor, and a GFCI.

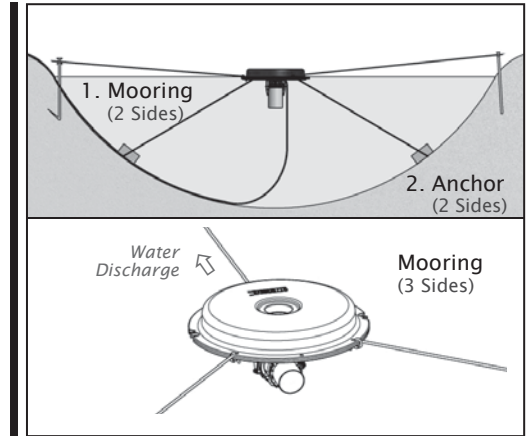
**TESTING:** A. Safety - The 1/2 HP Fractional Series shall be tested and approved as a unit. Separate component testing is not allowed. Unit must be tested by ETL, ETL-C, CE, UL or another accredited testing facility. B. Performance - Unit must have independent performance testing provided by GSEE, Inc.

**WARRANTY:** The warranty shall be three years.

**ACCEPTABLE MANUFACTURER:** This unit is an OTTERBINE 1/2HP Fractional Series manufactured by OTTERBINE BAREBO, INC., 3840 MAIN ROAD EAST, EMMAUS, PA 18049 U.S.A.  
PH: (610) 965-6018. WEB: [www.otterbine.com](http://www.otterbine.com)



Dimensional Drawing: (Top) Surface Aerator (Bottom) Mixer



Installation Methods: (Top) Surface Aerator (Bottom) Mixer

1/2HP FRACTIONAL SERIES								
Model	Motor RPM/Hz	Voltage/Phase	Running Amps	Spray Height	Spray Diameter	Pump Rate	Oxygen Transfer (HP/Hr)	Max Cable 12AWG/4mm <sup>2</sup>
 Gemini	2750/50	220/1	2.8	1.2m	1.37m	115m <sup>3</sup> /hr	1.0kg	182.8m
 High Volume	2750/50	220/1	2.8	1m	1.4m	99m <sup>3</sup> /hr	.91kg	182.8m
 Phoenix	2750/50	220/1	2.6	Upper: 2.8m Lower: 1m	Upper: 30cm Lower: 3m	44m <sup>3</sup> /hr	.36kg	182.8m
 Rocket	2750/50	220/1	2.6	3m	40cm	41m <sup>3</sup> /hr	.36kg	182.8m
 Mixer	2750/50	220/1	2.8			n/a*	n/a	182.8m

\*1/2HP Mixer volume influenced is 6938m<sup>3</sup> and effectively moves water 35 linear meters. Induced Circulation is 10X the Pumping Rate. Estimated shipping weight is 21.8kg; this includes unit, power control center and 15m of cable. (50Hz units do not receive a power control center.) Minimum operating depth is 41cm. Pumping rates may vary due to voltage, elevation and relative humidity. Specifications are subject to change.