

## HIGH VOLUME SPECIFICATIONS

**PUMPING CAPACITIES:** The aerator shall be a floating, surface spray aerator with a “fan” shaped spray pattern. The spray height shall be \_\_\_\_\_ feet (\_\_\_\_\_ m) and the spray diameter shall be \_\_\_\_\_ feet (\_\_\_\_\_ m). The primary pumping rate shall be \_\_\_\_\_ GPM (\_\_\_\_\_ LPM) and the secondary or induced circulation rate shall be \_\_\_\_\_ GPM (\_\_\_\_\_ LPM).

**FLOAT:** The float shall be made of seamless, one piece high density polyethylene plastic, filled with high density closed cell polyurethane foam. The float shall be capable of providing full floatation if the shell is punctured or cracked. Metal floats or those with an internal void for additional ballast are not acceptable.



**IMPELLER:** The impeller shall be dynamically balanced and constructed of type 304 stainless steel. It shall be welded to a type 304 stainless steel sleeve with integral key. The welded assembly shall be connected to the motor by a type 304 stainless steel bolt, extending through the impeller and sleeve. Flexible shaft couplings are not acceptable.

**MOTOR:** The motor shall be a \_\_\_\_\_ HP, \_\_\_\_\_ volt, \_\_\_\_\_ phase, 60 - 50 Hz submersible motor operating at 1725 RPM. 50 Hz motors shall operate at 1425 RPM. High speed motors (ie. 2000+ RPM's) are not acceptable. The service factor shall be 1.15. The motor shall operate in a reservoir of Otterbine oil for continuous lubrication of bearings and for efficient transfer of heat through the motor housing wall. Top mounted motors and water lubricated motors are not acceptable. The rotor shall be dynamically balanced. The winding (stator) wires shall be covered with class F rated insulation designed for complete immersion in oil. The motor shall be attached to a Valox thermoplastic upper plate. This plate will house the bearings and upper motor seals (internal and external). A tube shall feed the oil for the upper bearings. The motor shall be protected against oil and water leakage by a combination of rotary sealing, stationary seals, and molded rubber “O” rings.

**MOTOR HOUSING:** The external motor housing shall be a canister formed from deep drawn 316 stainless steel.

The top plate shall be constructed of Valox thermoplastic. A Valox boss will provide support and protection for the male electrical connector.

**SUPPORT FRAME:** The support frame for the aerator shall be constructed of type 304 stainless steel tube welded with type 308 stainless steel weld. The frame shall minimize vibration of the unit and allow the angle of discharge to be changed from 20 degrees off horizontal either up or down.

**FASTENERS:** All fasteners are to be type 304 or 316 stainless steel.

**ELECTRICAL CONNECTORS:** The electrical connectors shall consist of a receptacle and a plug constructed of non-conductive polymers. The system shall create a vacuum seal when connected and have a threaded nut system as a backup. The plug shall have a keyway and be molded into the top plate. The connector system shall be ETL and UL approved.

**UNDERWATER POWER CABLE** - The power cable shall be type SOOW specifically designed for underwater use. The conductors shall be flexible, bunch stranded bare copper 12, 10, or 8 AWG triple insulated to resist moisture, cracking, and softening. The outer jacket of the cable shall be a black CPE material. All underwater connections shall be vulcanized. Power cable shall be able to be furnished in unspliced lengths up to 1000' (305m) if necessary.

**POWER CONTROL CENTER:** The electrical control components shall be mounted in a NEMA 3R enclosure with an externally mounted disconnect switch and a HAND - OFF - AUTO selector switch. The electrical system

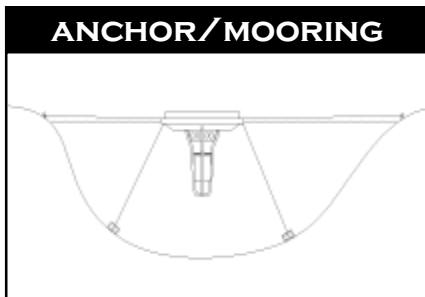
for units operating on 115, 208-230 volt, single or three phase, shall include a circuit breaker and a GFCI (Ground Fault Circuit Interrupter). To operate the GFCI on 208-230 volt systems a grounded neutral must be present or an optional control transformer may be supplied. The electrical system for units operating on 380(50 Hz) and 460 volt shall include fuses. Fuses, if used, shall be dual-element type, mounted in three pole fuse blocks, with spring reinforced clips. For all units the motor starter shall be a combination magnetic full-voltage non-reversing type, 600 volts maximum, with bimetallic, ambient compensated overload relays. The electrical system shall include a three-pole lightning arrester, rated for a maximum of 60,000 amperes discharge. The system will include a 24-hour timer.

**TESTING:**

- A. Safety - The aerator system shall be tested and approved as a unit. Separate component testing not allowed. Unit must be tested by ETL, ETL-C, CE, UL or other accredited testing facilities.
- B. Performance - Unit must have independent performance testing with Standard Oxygen Transfer Rate of 3.25 lbs./1.5kg per horsepower hour.

**WARRANTY:** Warranty shall be three-years.

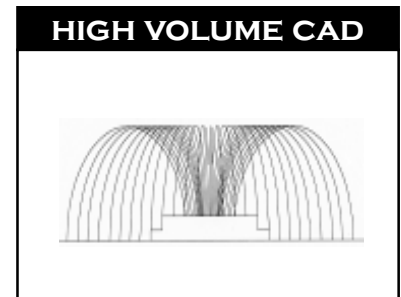
**ACCEPTABLE MANUFACTURER:** This unit shall be an OTTERBINE \_\_\_\_\_ Model, \_\_\_\_\_ horsepower manufactured by OTTERBINE/BAREBO, INC., 3840 MAIN ROAD EAST, EMMAUS, PA 18049 U.S.A. PH: (610) 965-6018.



Anchoring/mooring the Otterbine Unit is simple. Each owner's manual provides the steps necessary to securely place your unit in the waterway.



U.S. Package: Unit, NEMA 3R Power Panel (with timer, GFCI (except 460V), breaker, surge arrester, HOA switch and thermal overload protection), 50 ft. of SOOW cable. Int'l Package: Unit and 15m of cable (no cable on CE).



Line drawing of the 3HP High Volume unit, for a more detailed diagram of this and other models visit [www.caddetails.com](http://www.caddetails.com)

# HIGH VOLUME SPECIFICATIONS

HP	Voltage Phase/Hz	Motor RPM	Running Amp Draw	Spray Height ft/m	Spray Diameter ft/m	*Pumping Rate GPM/m <sup>3</sup> /hr	Min. Oper. Depth	Maximum Cable Runs (in feet) (approximate length)			**Ship Weight 60Hz-lbs 50Hz dim. kg
								12awg	10awg	8awg	
1	115/1/60	1725	13.4	3 ft	5 ft	920 GPM	40"	110	175	275	200 lbs
	230/1/50	1425	7.5	0.8m	1.4m	198.5 m <sup>3</sup> /hr	1m	385	610	975	91 kg
2	230/1/60	1725	6.8	3 ft	5 ft	920 GPM	40"	385	615	985	200 lbs
	230/1/50	1425	11	1.2m	2.6m	329 m <sup>3</sup> /hr	1m	220	350	565	91 kg
3	230/1/60	1725	11.5	4 ft	9 ft	1525 GPM	40"	210	340	535	200 lbs
	230/1/50	1425	13.3	1.4m	3m	453.1 m <sup>3</sup> /hr	1m	n/a	330	520	93 kg
4	230/1/60	1725	12.9	5 ft	10 ft	2100 GPM	40"	n/a	315	500	205 lbs
	230/3/60	1725	8.2	5 ft	10 ft	2100 GPM	40"	380	610	965	205 lbs
5	380/3/60	1680	4.7	1.4m	3m	453.1m <sup>3</sup> /hr	1m	1200	1925	3075	93 kg
	400/3/50	1425	4.2	1.4m	3m	453.1m <sup>3</sup> /hr	1m	1375	2200	3500	93 kg
6	460/3/60	1725	4.1	5 ft	10 ft	2100 GPM	40"	1600	2525	4000	205 lbs
	230/3/60	1725	14	5 ft	11 ft	3000 GPM	40"	240	385	615	210 lbs
7	380/3/60	1680	7.6	1.4m	3.2m	647.2m <sup>3</sup> /hr	1m	735	1175	1870	95 kg
	460/3/60	1725	7.2	5 ft	11 ft	3000 GPM	40"	940	1500	2390	210 lbs

\*Induced circulation is 10x the pumping rate \*\*Package includes unit, cable and power control center, 50Hz applications do not receive power panel.