

## SATURN SPECIFICATIONS

**PUMPING CAPACITIES:** The aerator shall be a floating, surface spray aerator with a full mushroom shaped spray pattern. The spray height shall be \_\_\_\_\_ feet or \_\_\_\_\_ meters and the spray diameter \_\_\_\_\_ feet or \_\_\_\_\_ meters. The primary pumping rate shall be \_\_\_\_\_ GPM or \_\_\_\_\_ m<sup>3</sup>/hr and the secondary or induced circulation rate shall be \_\_\_\_\_ GPM or \_\_\_\_\_ m<sup>3</sup>/hr.

**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. The float shall have protective pockets for lights and handles molded into the bottom for easy handling. Metal floats or those with an internal void for additional ballast are not acceptable.

**IMPELLER:** The impeller shall be dynamically balanced and die cast from types 304 stainless steel. A type 304 stainless steel bolt and set- screw shall secure the impeller to the motor shaft. Flexible shaft couplings are not acceptable.

**MOTOR:** The motor shall be a \_\_\_\_\_ HP, \_\_\_\_\_ volt, \_\_\_\_\_ phase, 60 Hz oil-cooled, submersible motor operating at 3450 RPM or 50 Hz operates at 2875 RPM. The service factor shall be 1.15 except for 5HP 1Ph which shall be 1.00. 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 thermoplastic motor base plate. The motor shall be protected against oil and water leakage by a combination of rotary seals, stationary seals, and molded rubber "O" rings. The rotary seal shall be accessible without removing the motor base plate. Motor shall be serviceable.

**MOTOR HOUSING:** The external motor housing shall be a canister formed from deep drawn 316 stainless steel. The motor base plate shall be constructed of 420 Valox thermoplastic. A Valox boss will provide support and protection for the male electrical connector.

**FASTENERS:** All fasteners are to be metric and 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 threaded into the motor base plate. The connector system shall be ETL and UL approved.

**UNDERWATER POWER CABLE:** The power cables shall be type SOOW specifically designed for underwater use. The conductors shall be flexible, stranded bare copper 12, 10 or 8 gauge, 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 one thousand feet (305 m) 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



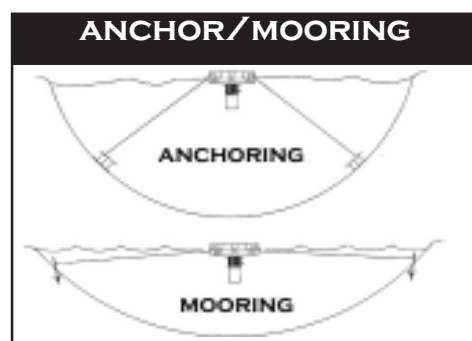
GFCI (Ground Fault Circuit Interrupter). To operate the GFCI on 208-230 volt systems a grounded neutral must be present or an optional control transformer may be supplied. The electrical system for units operating on 400 and 460 volt shall include fuses. Fuses, if used, shall be dual-element type, mounted in three pole fuse blocks, and 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 lightning arrester, rated for a maximum of 100,000 amperes discharge for three phase and a maximum of 60,000 amperes discharge for single phase. 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 provided by the University of Minnesota.

**WARRANTY:** Warranty shall be five years.

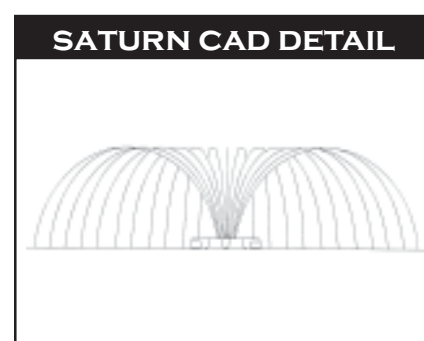
**ACCEPTABLE MANUFACTURER:** This unit shall be an OTTERBINE \_\_\_\_\_ Model, \_\_\_\_\_ horsepower manufactured by OTTERBINE/BAREBO, INC., 3840 MAIN ROAD EAST, EMMAUS, PA U.S.A. 18049 PH: (610) 965-6018. [www.otterbine.com](http://www.otterbine.com)



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 Saturn unit, for a more detailed diagram of this and other models visit [www.caddetails.com](http://www.caddetails.com)

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HP	Voltage Phase/Hz	Motor RPM	Running Amp Draw	Spray Height ft/m	Spray Diameter ft/m	*Pumping Rate GPM/m³/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	3450	14	1.5 ft	7 ft	400 GPM	30"	n/a	175	275	150 lbs
	230/1/50	2875	6.2	.5 m	2.1 m	86.3 m³/hr	75cm	385	610	975	68 kg
	230/1/60	3450	8.3 - 7.5	1.5 ft	7 ft	400 GPM	30"	385	615	985	150 lbs
2	230/1/50	2875	10.8	.9 m	3.3 m	103.6 m³/hr	75cm	220	350	565	68 kg
	230/1/60	3450	13.7 - 12.4	3 ft	11 ft	480 GPM	30"	210	340	535	150 lbs
	230/1/50	2875	11.6	1.4 m	6.1 m	125.1 m³/hr	75cm	n/a	330	520	70 kg
3	230/1/60	3450	15.5 - 14	4.5 ft	20 ft	580 GPM	30"	n/a	315	500	155 lbs
	230/3/60	3450	9.7 - 8.6	4.5 ft	20 ft	580 GPM	30"	380	610	965	155 lbs
	400/3/50	2875	3.4	1.4 m	6.1 m	125.1 m³/hr	75cm	1375	2200	3500	70 kg
5	460/3/60	3450	4.3	4.5 ft	20 ft	580 GPM	30"	1600	2525	4000	155 lbs
	230/1/60	3450	23	5 ft	24 ft	825 GPM	30"	n/a	n/a	370	160 lbs
	230/3/60	3450	15.1 - 13.4	5 ft	24 ft	825 GPM	30"	235	375	590	160 lbs
4	400/3/50	2875	6	1.5 m	7 m	178 m³/hr	75cm	785	1275	2000	73 kg
	460/3/60	3450	7.2	5 ft	24 ft	825 GPM	30"	925	1475	2350	160 lbs

\*Induced circulation is 10x the pumping rate \*\*Package includes unit, cable and power control center, 50Hz applications do not receive power panel. 415 and 575 volt units available upon request. Pumping rates may vary due to voltage, elevation and relative humidity.