

# TRISTAR AERATING FOUNTAIN SPECIFICATIONS

**MODEL:** The aerator shall be a floating, surface spray aerator with a three-tier spray pattern; a geyser type center spray surrounded by a two fan shaped patterns.

Spray dimensions for the upper pattern are: \_\_\_\_\_ feet ( \_\_\_\_\_ m) in height, and \_\_\_\_\_ feet ( \_\_\_\_\_ m) in diameter.

Spray dimensions for the middle pattern are: \_\_\_\_\_ feet ( \_\_\_\_\_ m) in height, and \_\_\_\_\_ feet ( \_\_\_\_\_ m) in diameter.

Spray dimensions for the lower pattern are: \_\_\_\_\_ feet ( \_\_\_\_\_ m) in height, and \_\_\_\_\_ feet ( \_\_\_\_\_ m) in diameter.

**PUMPING CAPACITIES:** The primary pumping rate of the unit is \_\_\_\_\_ GPM ( \_\_\_\_\_ m<sup>3</sup>/hr) and the secondary or induced circulation rate is \_\_\_\_\_ GPM ( \_\_\_\_\_ 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 injection molded from a polyurethane isoplast material with a brass insert. All Aerating Fountain impellers and pumping chambers are interchangeable.

**MOTOR:** The motor shall be a \_\_\_\_\_ HP, \_\_\_\_\_ volt, \_\_\_\_\_ phase, \_\_\_\_\_ 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. Motor shall be serviceable.

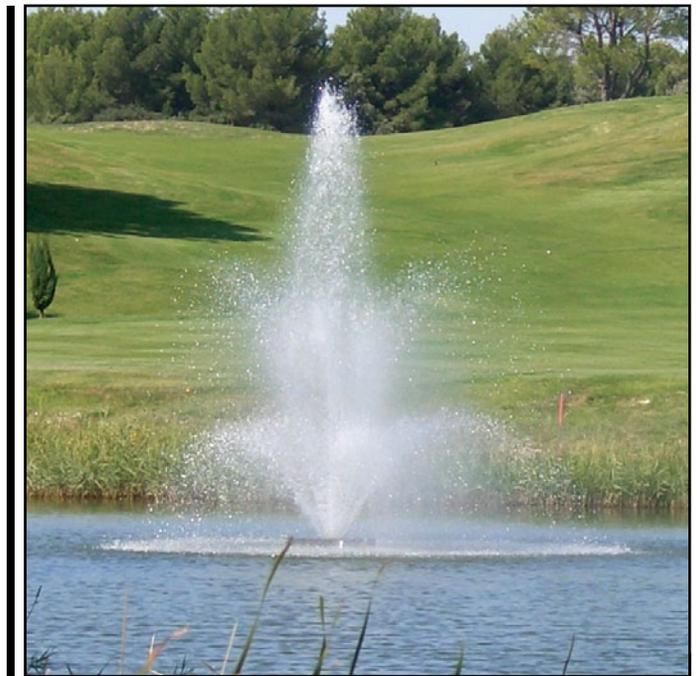
**MOTOR HOUSING:** The external motor housing shall be a canister formed from deep drawn 316 stainless steel. The motor base plate shall be constructed of 420 Valox thermoplastic. A Valox boss will provide support and protection for the male electrical connector.

**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 (305m) if necessary.

**POWER CONTROL CENTER:** The electrical components shall be mounted in a NEMA 4X rated enclosure with an externally mounted disconnect switch, and a MANUAL - OFF - AUTO selector switch. The electrical system for all units (115, 208-230, 380-415 & 460V) shall include a non-reversing 600V rated Manual Motor Controller (MMC) with thermal overload and short circuit trip and 24hr timer. 115, 208-230 volt, single and three phase units shall



[www.otterbine.com/tristar](http://www.otterbine.com/tristar)

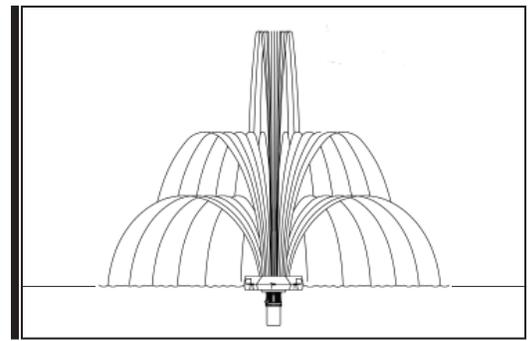
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include GFCI (Ground Fault Circuit Interrupter) protection. To operate the GFCI and control circuit on 208-230 volt systems a neutral must be present or an optional control transformer may be supplied. The electrical system shall include a lightning arrester, rated for a maximum of 60,000 amperes discharge.

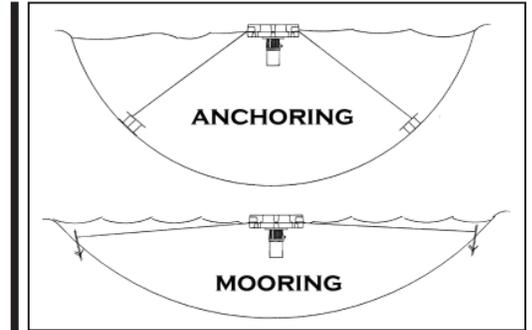
**TESTING:** A. Safety - The aerator system shall be tested and approved as a unit. Separate component testing not allowed. Unit must be tested by ETL, ETL-C, CE, UL or other accredited testing facilities. B. Performance - Unit must have independent performance testing provided by the University of Minnesota.

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

**ACCEPTABLE MANUFACTURER:** This unit shall be an OTTERBINE Tristar Aerating Fountain manufactured by OTTERBINE BAREBO, INC., 3840 MAIN ROAD EAST, EMMAUS, PA 18049 U.S.A. PH: (610) 965-6018. WEB: www.otterbine.com



CAD Detail: Tristar



Installation Methods

MODEL: TRISTAR AERATING FOUNTAIN										
Motor	HP	Spray Height ft (m)	Spray Diameter ft (m)	Pumping Rate* GPM (m <sup>3</sup> /hr)	Electrical Rating	Running Amps	Maximum Cable Gauge/Length (†Additional cable options may be available)			Shipping Weight**
							12AWG/4mm <sup>2</sup>	10AWG/6mm <sup>2</sup>	8AWG/10mm <sup>2</sup>	
3450RPM @ 60Hz	1	UPPER: 8ft	UPPER: 2ft	150 GPM	115V 1Ph	15	<del>300/375ft</del>	150ft	250ft	150lbs
		MIDDLE: 5ft	MIDDLE: 9ft		208/230V 1Ph	8.3/7.5	300/375ft	500/600ft	800/975ft	
	2	UPPER: 12ft	UPPER: 2ft	210 GPM	208/230V 1Ph†	13.7/12.4	175/225ft	300/375ft	475/575ft	150lbs
		MIDDLE: 7ft	MIDDLE: 10ft		208/230V 1Ph†	15.5/14	<del>175/225ft</del>	250/325ft	425/525ft	
	3	UPPER: 16ft	UPPER: 3ft	275 GPM	208/230V 3Ph	9.7/8.6	<del>1000ft</del>	500/625ft	800/975ft	155lbs
		MIDDLE: 11ft	MIDDLE: 13ft		460V 3Ph†	4.3	1000ft	<del>500/625ft</del>	<del>800/975ft</del>	
	5	UPPER: 19ft	UPPER: 3ft	400 GPM	230V 1Ph	23	<del>200/250ft</del>	<del>300/400ft</del>	300ft	160lbs
					MIDDLE: 13ft	MIDDLE: 15ft	208/230V 3Ph	15.1/13.4	200/250ft	
LOWER: 8ft		LOWER: 27ft	460V 3Ph†	7.2	925ft	1000ft	<del>500/625ft</del>			
2875RPM @ 50Hz	1	UPPER: 3m	UPPER: 0.6m	32.4 m <sup>3</sup> /hr	220V 1Ph	8.3	99m	160m	259m	68kg
	2	UPPER: 4m	UPPER: 0.6m	45.3 m <sup>3</sup> /hr	220V 1Ph	12.6	61m	106m	168m	68kg
		MIDDLE: 2.4m	MIDDLE: 3m		220V 1Ph	13.5	<del>305m</del>	99m	160m	
	3	UPPER: 4.6m	UPPER: 0.9m	59.3 m <sup>3</sup> /hr	380/415V 3Ph†	4	305m	<del>305m</del>	<del>160m</del>	70kg
MIDDLE: 3.2m		MIDDLE: 3.8m	220V 1Ph		13.5	<del>305m</del>	99m	160m		
5	UPPER: 4.6m	UPPER: 0.9m	59.3 m <sup>3</sup> /hr	380/415V 3Ph†	4	236m	305m	<del>160m</del>	73kg	

\*Induced Circulation is 10X the Pumping Rate. \*\* Shipping weights are estimates and include unit, power control center and 50ft (15m) of cable. (50Hz units do not receive power control center.) Minimum operating depth is 30in (75cm). 415V and 575V units available upon request. Spray performance and pumping rates are approximate and may vary due to voltage, elevation and relative humidity. Specifications are subject to change.