

1. GENERAL

- 1.1 The following specifications direct attention to certain required features of the design package, but do not purport to cover all details entering into the design, construction, and/or installation of the equipment.
- 1.2 Furnish _____ floating fountains. Each fountain shall consist of a motor, a direct drive propeller/impeller driven at a constant speed, a nozzle, a propeller guard and an integral float.

2. PERFORMANCE

- 2.1 Each fountain shall be capable of a direct pumpage rate of _____ gpm.
- 2.2 Each unit shall have a minimum operating depth of _____ inches.
- 2.3 All units shall be designed so that 95% of the weight of the unit is below the top level of the flotation.

3. FOUNTAIN DRIVE MOTOR

- 3.1 Each motor shall deliver _____ brake horsepower and deliver a motor shaft speed of 3,450 rpm on 230 volts, 60 HZ, single (1) or three (3) _____ phase service.
- 3.2 The motor shall be totally enclosed, water-cooled, water-lubricated, and rated for chemical duty and be supplied with a Silicon Carbide mechanical sealing system.
- 3.3 The motor shall, in all cases, equal or exceed standard NEMA specifications.
- 3.4 The motor winding shall be hermetically sealed with an anti-track resin system.
- 3.5 Basic insulation shall equal or exceed NEMA Class H.
- 3.6 A minimum service factor of 1.15 shall be furnished.
- 3.7 The manufacturer's nameplate shall be provided with each motor and shall be securely fastened thereto. The voltage, motor speed, basic insulation class, amperage, service factor, serial number, and manufacturer's name and address shall be stamped or otherwise permanently affixed.

3.8 MOTOR SHAFT

- 3.8.1 Each motor shall have a one piece shaft, continuous from the bottom bearing to the fountain's propeller/impeller.
- 3.8.2 The motor shaft shall be manufactured from type 303 stainless steel.
- 3.8.3 The motor shaft shall be machined to a tolerance of (plus or minus) .002 T.I.R. from lower bearing to upper end of the motor shaft.
- 3.8.4 The motor shaft shall measure 5/8" in diameter at the top bearing.
- 3.8.5 The motor shaft nominal length shall not extend more than 1-1/2" beyond the motor end bell.

3.9 MOTOR BEARINGS

- 3.9.1 Bearings shall be water-lubricated. No ball bearings shall be used.
- 3.9.2 The top and bottom motor bearings shall be radial sleeve type.
- 3.9.3 The lower thrust bearing shall be a Kingsbury self-aligning, self-equalizing, water-lubricated thrust bearing.

3.10 MOTOR TERMINAL

- 3.10.1 The motor terminal shall be of the removable type, submersible connector construction, field replaceable without disturbing the seal of the stator.

4. NOZZLES

- 4.1 The nozzles shall be manufactured from corrosion resistant materials.

5. MOUNTING HARDWARE

- 5.1 Mounting fasteners shall be a minimum 316 type alloy stainless steel.
- 5.2 Motor mounting hardware shall be designed in such a way as to furnish maximum rigidity and stability with minimum flow interference.

6. FLOTATION

- 6.1 The flotation unit shall be square in shape for stability and rotationally molded of polyethylene for durability and shall not be less than 1/8" sectional thickness.
- 6.2 The flotation unit shall be filled with closed cell, non-hygroscopic, pressure molded polystyrene.
- 6.3 The flotation shall be capable of supporting not less than two (2) times the weight of the unit.

**7. ELECTRICAL SERVICE CABLE
(MOTOR TO CONTROL BOX)**

- 7.1 All units shall be furnished with _____ feet of AWG# _____ UL approved, water resistant electrical cable.
- 7.2 All units will have a water tight removable power cord from the junction box located on the unit.

8. PROPELLER PUMP MODEL #FNA-PP

- 8.1 The propeller shall be specifically designed for the application intended and made of corrosion resistant material.
- 8.2 The propeller shall be streamlined to prevent cavitation, reduce drag and shall have trailback blades to assure foul resistant operation.
- 8.3 The propeller shall be hydraulically balanced to assure equalization of load while in operation.
- 8.4 Each propeller pump unit shall have a spray height of _____ feet.
- 8.5 Each propeller pump unit shall have a spray diameter of _____ feet.

9. CENTRIFUGAL PUMP MODEL # FNA-CP

- 9.1 The pump shall be manufactured from corrosion resistant material.
- 9.2 The impeller shall be specifically designed for the application intended.
- 9.3 The impeller shall be hydraulically balanced to assure equalization of load under full operation.

10. PROPELLER SHROUD

- 10.1 A propeller shroud shall be used to minimize possible damage to the unit.
- 10.2 The propeller shroud shall be constructed of corrosion resistant materials.

11. CONTROL PANEL

- 11.1 The control panel enclosure shall be NEMA 4X or greater.
- 11.2 The control panel shall be ETL listed, ANSI/UL 508.
- 11.3 Each single phase control panel shall contain an Equipment Leakage Circuit Interrupter, a time clock and motor controls.
- 11.4 Each single phase control panel shall have the necessary motor manufacturers operating controls.
- 11.5 Each three phase control panel shall contain an operator switch, a fuse block, a time clock and the appropriately sized IEC contactor and overload relay.

12. MOORING

- 12.1 Mooring rope and anchors are to be supplied by others.

13. LIGHTING (OPTIONAL)

- 13.1 Lighting shall be 12-volt low voltage located on the fountain flotation.
- 13.2 The transformer shall be manufactured to pool and spa specifications with overload protection, Farraday shield and have removable water tight electrical connectors.
- 13.3 All components of the lighting transformer shall be housed in a polycarbonate enclosure.
- 13.4 All components of the lighting transformer shall be sealed to provide continued water tight integrity and is to be factory rated for submergence per NEC 680.52 (B2) and 680.10.
- 13.5 There shall be four (4) 50-watt halogen sealed beams in four (4) light housings for a total of 200-watts of lights.
- 13.6 Lighting system is to only operate while the fountain is running.

14. OPERATION AND MAINTENANCE MANUALS

- 14.1 Operation and maintenance manuals shall be furnished before startup of the equipment