

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 _____ ICE-AWAY ice melters. Each ice melter shall consist of a motor, and a direct drive propeller driven at a constant speed, a diffuser, and a sling mount kit.

2. SUBMERSIBLE MOTOR ASSEMBLY

- 2.1 The motor shall deliver one-half brake horsepower at 3,450 rpms and shall be wired for _____ volts, _____ HZ, single phase service.
- 2.2 The motor shall be totally enclosed, water-cooled, water-lubricated, and rated for chemical duty.
- 2.3 The motor shall, in all cases, equal or exceed standard NEMA specifications.
- 2.4 The motor winding shall be non-hygroscopic. Basic insulation shall equal or exceed NEMA Class H.
- 2.5 A minimum service factor of 1.6 shall be furnished.
- 2.6 A 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.
- 2.7 **MOTOR SHAFT**
 - 2.7.1 Each motor shall have a one-piece shaft, continuous from the bottom bearing to the ice melter's propeller.
 - 2.7.2 The motor shaft shall be manufactured from type 303 stainless steel.
 - 2.7.3 The motor shaft shall measure 5/8" diameter at the top bearing.
 - 2.7.4 The motor shaft nominal length shall not exceed more than 1-1/2 inches beyond the motor.

2.8 MOTOR BEARINGS

- 2.8.1 Bearing shall be water-lubricated. No ball bearings shall be used.
- 2.8.2 The top and bottom motor bearings shall be radial sleeve type.
- 2.8.3 The lower thrust bearing shall be a Kingsbury self-aligning, self-equalizing, water-lubricated thrust bearing.

2.9 MOTOR TERMINAL

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

3. DIFFUSER

- 3.1 The diffuser shall be manufactured of corrosion resistant materials.
- 3.2 The design of the diffuser head shall be such that the liquid will be discharged in an angle of 45 degrees to the motor shaft and over a 360 degree pattern in the horizontal plane.

4. MOUNTING HARDWARE

- 4.1 Mounting fasteners shall be stainless steel.
- 4.2 Motor mounting hardware will be designed in such a way as to furnish maximum rigidity and stability with minimum flow interference.

5. PROPELLER

- 5.1 The propeller shall be precision molded non-corrosive material and shall be specifically designed for the application intended.
- 5.2 The propeller shall be streamlined to prevent cavitation and reduce drag, and shall have trailback blades to minimize fouling while in operation.
- 5.3 The propeller shall be hydraulically balanced to assure equalization of load under full operation.
- 5.4 The propeller shall be dynamically balanced to within 5 gramcentimeters.

6. VIBRATION

- 6.1 The propeller and motor rotor unit shall be dynamically balanced to a vibration level not to exceed .70 mils while hydraulically submerged.

7. ELECTRICAL SERVICE CABLE

- 7.1 Each unit shall be furnished with _____ feet of AWG #14/3 conductor, UL approved, water resistant electrical cable.
- 7.2 The ICE-AWAY manufacturer shall furnish cable with one (1) end sealed into the motor and shall be responsible for the water tightness of this seal.

8. OPERATION AND MAINTENANCE MANUALS

- 8.1 Operation and maintenance manuals shall be furnished before start up of the equipment.