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## SSI Coarse Cap™ Diffuser Specifications

### **1.0 GENERAL**

- 1.1 SSI Coarse Cap™ Diffusers shall be manufactured by Aeration Store (U.S.A.).
- 1.2 Each diffuser shall be designed to efficiently release air into the aeration tanks at the locations shown on the contract drawings. Each unit shall be factory assembled with all components permanently assembled.

### **2.0 MATERIALS**

- 2.1 Diffuser Base: The Diffuser Base shall be molded high rigidity Acrylonitrile Butadiene Styrene (ABS). The Diffuser Base shall be of one piece construction and shall have 3/4" NPT threads for connection to the air header system.
- 2.2 Diffuser Diaphragm Membrane: The Diffuser Diaphragm Membrane shall be of EPDM rubber compounded to meet Aeration Store specifications. The Diffuser Diaphragm Membrane shall contain twelve (12) engineered orifices spaced to release air from the top of the diffuser assembly and to initiate immediate fluid interaction with maximum bubble formation and dispersion. The Diffuser Diaphragm Membrane shall be designed to cover the Diffuser Base and be permanently locked onto the Diffuser Base by the Retainer Ring. The Retainer Ring will prevent blowoff during operation and designed to withstand a wide range of air flow variations and unusual pressure surges.

- 2.3 Diaphragm Retainer Ring: The Diaphragm Retainer Ring shall be of molded ABS and shall be of one piece construction. The Diaphragm Retainer Ring shall permanently lock into place by means of internal locking devices and shall secure the Diffuser Diaphragm Membrane to the Diffuser Base.
- 2.4 Diffuser Operating Pressure: The Diffuser Diaphragm Membrane shall be engineered to operate at minimum pressure drop to deliver maximum performance at minimum energy consumption. Membrane operating pressure shall distribute air uniformly over the diffuser and throughout the piping system. The pressure drop thru the Diffuser Diaphragm Membrane shall not exceed \_\_\_\_\_ inches water column, \_\_\_\_\_ psi at \_\_\_\_\_ scfm air flow per diffuser.
- 2.5 Diffuser Surface Area: The minimum allowable surface area for the diffuser shall be 19.6 square inches.

### **3.0 OPERATION**

- 3.1 The diffuser diaphragm shall be designed to open under air pressure, to release air in a steady, uniform stream of bubbles and to close when airflow to the diffuser is stopped, thus preventing back flow of fluids and prevent clogging with solids or biomass. The diffuser shall be designed to operate at a design airflow of 0 to scfm, with maximum recommended air flow rate of 10 scfm.

### **4.0 WARRANTIES**

- 4.1 Aeration Store warrants the SSI Coarse Cap™ diffuser assembly for a period of one (1) year from the date of purchase against defects in materials and workmanship under normal usage.