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## Coarse Bubble Diffusers Relia-bill™ Diffuser Specifications

### **1.0 GENERAL**

- 1.1 Relia-bill™ Diffusers shall be manufactured by Stamford Scientific International, Inc. (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 removable and replaceable membranes.

### **2.0 MATERIALS**

- 2.1 Diffuser Base: The Diffuser Base shall be molded high rigidity Acetyl plastic. The Diffuser Base shall be of one piece construction and shall have 3/4" NPT threads for connection to the air header system. The base is a hollow centered flared cone with fitted membrane clamped at the bottom. Diffusers without a functional check valve are not acceptable.
- 2.2 Diffuser Diaphragm Membrane: The Diffuser Diaphragm Membrane shall be of EPDM rubber compounded to meet SSI specifications. The Diffuser Diaphragm Membrane shall contain eight (8) engineered orifices spaced to release air from the bottom of the diffuser, rising to a common exit port around the hollow centered top. Diffuser assembly and to initiate immediate fluid interaction with maximum bubble formation and dispersion, without risk of backflow or clogging. The Diffuser Diaphragm Membrane shall be designed to cover the Diffuser Base and attach to the base with a SS ear clamp.

The membrane shall be replaceable for future service/maintenance requirements.

- 2.3 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 10 inches water column, at 5 scfm air flow per diffuser.
- 2.4 Diffuser Elevation: The maximum allowable installed elevation of the diffuser over the pipe shall be 2.5”.

### **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 5-15 scfm, with maximum recommended air flow rate of 30 scfm.

### **4.0 WARRANTIES**

- 4.1 Stamford Scientific International, Inc. warrants the Relia-bill™ diffuser assembly for a period of one (1) year from the date of purchase against defects in materials and workmanship under normal usage.