Tideflex® Technologies

AERATION and MIXING SYSTEMS Product Sheet

HIGH VOLUME / REINFORCED DIFFUSERS & SPARGERS

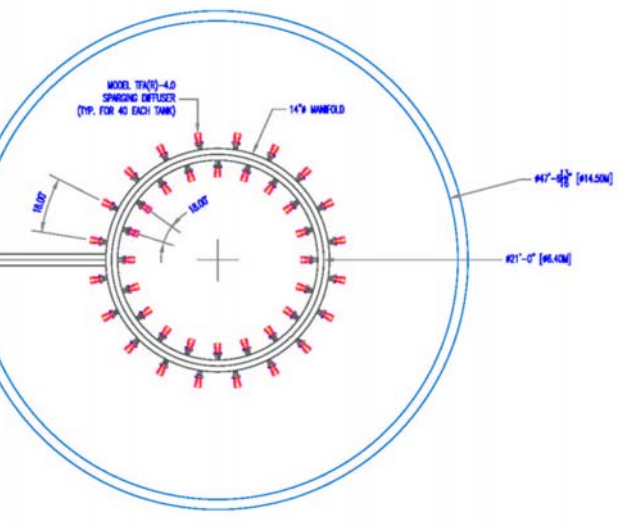
"Diffusers Designed to Handle High Airflow Rates where the design values exceed 100 cfm/1000 cuft of Process Liquid Volume"

Many chemical processes are based on Oxidation – Reduction of the process solution where free and dissolved oxygen will completely react with constituents within the process solution. This reaction rate can be significantly greater than with the limitations associated to biological wastewater treatment processes (oxygen transfer rates, biological uptake rates, etc.). For these types of processes, much larger volumes of air per liquid volume are applied to optimize the oxidation-reduction process. This increases the unit airflow rate per diffuser, typically well above what standard wastewater diffusers and spargers are capable of delivering without causing detrimental damage to the units. Tideflex Technologies has integrated it's reinforced elastomer technology into the design of these types of diffusers. As compared to standard molded elastomer diffusers, these units have internal fabric reinforcing plys between the elastomer layers. These two materials work together in the same way concrete and steel are applied to produce reinforced concrete where both the dynamics of tensile and compression stresses are addressed.

Typical for many of these types of processes, the solution contains significant amount of abrasive materials (slurries, sludges, mining wastes, etc.) which can also be destructive to standard diffusers. Elastomer has a very high resilience to the abrasion and impact of coarse particulates because of it's elastic properties. Tideflex modifies the external coating of these reinforced diffusers to withstand the aggressive nature of the particular process fluid. The elastomer compound can also be varied with these units to ensure the diffuser is chemically resistant to the constituents within the process liquid. The prevention of back-flow of the liquid into the air distribution piping becomes even more valuable as the percent concentration of solids within the process fluid increases.

Unique Performance Features

- Handles large airflow per unit flowrates
- Resistant against abrasive solutions
- Resistant to corrosive and aggressive chemicals
- Prevents backflow of the liquid into the piping system



Tideflex Technologies / Red Valve Company holds the patent for elastomer duckbill diffusers and their incorporation into a multiport diffuser piping system. Any suppliers of systems incorporating duckbill diffusers would need authorization from Tideflex Technologies / Red Valve Company. Soliciting of systems incorporating Tideflex diffusers by others without the consent of Tideflex Technologies constitutes intent to violate the patent protection of this product and is subject to the penalties defined within the Patent Protection Laws of the United States.

US Patent No. 6,016,839 / 6,193,220 / 6,372,140 / 6,702,263
Canada Patent No. 2,366,252 / 2,385,902; United Kingdom Patent No. 2,326,603

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