

ALUM SLUDGE MIXING & AERATION SYSTEMS

“Providing Mixing & Aeration of Waste Alum Sludge from Water Treatment Processes”

Alum sludge produced as a by-product of water treatment processes has significantly more aggressive characteristics for clogging of systems as compared to biological waste sludges. The Alum sludge is comprised primarily of inorganic materials but contains a percentage of organics captured during the water treatment process. These organics, when subjected to an anaerobic holding environment can become septic producing undesirable by-products such as hydrogen sulfide gas.



If this type of sludge is to be held for any extended periods of time prior to dewatering and/or disposal processes then the ability to mix the sludge and keep it aerobic is essential. The oxygen supply rate to achieve this is relatively low but the energy to mix typically governs the design criteria. Coarse Bubble Aeration is the preferred method to achieve both these objectives; consideration should be given to the maintenance requirements of the selected system due to the inherent clogging tendencies of the solution. Achieving a homogeneous solution will also make transfer of the solution through pumping easier and also maintain a constant solids loading concentration to the receiving dewatering equipment.

The Tideflex Coarse Bubble Aeration System prevents this sludge from clogging the diffuser discharge openings as well as entering the air distribution piping network. Alum sludge has a high settleability rate and requires significant agitation near the tank floor to be able to maintain suspension of the sludge in solution. The Tideflex diffuser tips are oriented directly against the floor to provide this required direct influence.

Unique Performance Features

- Check Valve Diffuser Prevents Sludge Backflow and System Clogging
- Diffuser Orientation Provides Re-suspension of Heavy Solids
- Maintains an Aerobic Environment within the Holding Vessel
- Is a Maintenance Free System for a Difficult Material



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*