

MAXIMISING ANAEROBIC DIGESTION WITH RELIABLE MIXING



FEATURES AND BENEFITS

RETAINED DIGESTER VOLUME

Rotamix guarantees that over 90% of the digester volume will be retained during its working life. ie minimal settlement

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MAXIMISED SOLIDS REDUCTION

Continuous recirculation during mixing

- ensures full distribution and breakdown of solids both mechanically and biologically .

RETAINED GAS PRODUCTION

- Gas production is maintained to levels seen at system start with no drop -off

MINIMAL CLEANOUT COSTS

- Digester can be easily emptied at minimal cost

LOW INSTALLATION COST.

All rotating equipment is externally mounted & internal equipment is easily installed

PUMPED DIGESTER MIXING SYSTEMS. PROVIDING RELIABILITY & PERFORMANCE

System Mix Ltd, a Cambridgeshire based company have been involved in the severe duty solids pumping business for over 15 years. During the last 10 years we have seen a very positive change in the way that waste has been considered as a source of alternative energy. System Mix provide an innovative method of mixing a tank using strategically positioned large orifice nozzles to create a mixing action compatible with mixing waste materials. These materials could be considered difficult due to the possibility of unclassified solids being present. The experience gained with working with the wastewater industry on all types of sewage sludge has provided

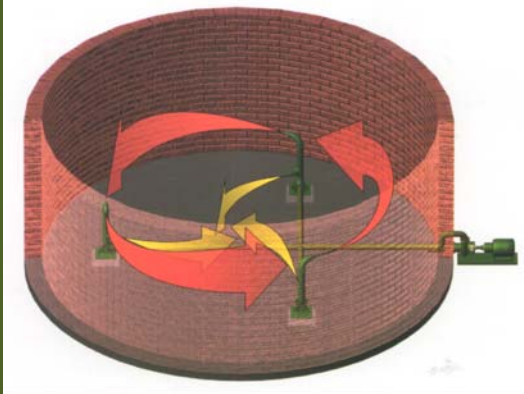
System mix with the confidence to design and supply an effective reliable answer to the traditional problems associated with waste solids mixing in anaerobic digesters .

- Solids deposition
- Fibrous material hang-up
- Clumping and reweave
- Poor gas production
- Poor heat distribution
- High maintenance and energy costs
- High installation cost.





Rotamix is a jet nozzle mixing system with the Vaughan Chopper pump at its 'heart'. The chopper pump allows optimum liquid velocity and pressure to be introduced at pre determined positions inside a vessel without fear of clogging pump or nozzles. This allows solids that are fibrous and prone to re-weave to be constantly reconditioned. It also maximises the effective volume of the tank by eliminating settlement of solids on the tank floor. We call it Dual Zone Mixing.



SystemMix Ltd have significant experience of mixing sewage sludge digesters and are well established in the UK waste water industry as a solution provider. Several large capacity sewage sludge digesters have been working well for several years and have provided tangible results in this time. Stratification and scum blankets are eliminated thus providing ideal living conditions for microorganisms resulting in best possible gas production. Solids are constantly re-circulated through a Vaughan Chopper pump providing a conditioned, homogenous material that is more effectively dewatered post digestion.

Our government's aim to achieve targets for zero food and packaging to landfill by 2015 will be significantly affected by access to technology that can contribute a real impact to a reduce reliance on carbon based fuels and reducing emissions. System Mix Limited are excited about the potential for converting problems associated with disposing of organic waste materials into energy generation by the process of anaerobic digestion and are looking forward to being given the opportunity to working with the principle stakeholders in this technology. Having worked with most of the UK Water Utility companies over the past 15 years in various AD mixing projects System Mix Limited has the knowledge and experience to deliver mixing systems that will ensure 100% performance over the life of the plant. The Rotamix tank mixing technology ensures consistent performance for stakeholders to achieve targets and accurately forecast plant performance. The Vaughan Rotamix System is a large scale mechanical mixing system that guarantees a complete mix inside the anaerobic digester. The Rotamix system effectively suspends all organics, FOG, grit and non-organic solids into a homogenous mix. The Rotamix System eliminates stratification, grit deposition and scum blankets. Overall energy costs are comparable with existing mixing technologies due to the ability of the system to be operated on an intermittent basis. The system is designed to quickly move the entire contents of the tank from standstill. This also allows important maintenance to be carried out on the chopper pump that supplies the recirculation and mixing action inside the digester without reducing the effectiveness of the digestion process. With the introduction of household waste there are situations where processed material, containing screened fibrous material will reform when mixed inside a tank and will eventually accumulate and become heavy enough to fall out of suspension unless these accumulations are processed. Similarly fibrous solids, left to rotate in a tank with a top or side mounted blade type mixer will wrap themselves onto the blades eventually leading to imbalance and reduced mixing performance.

