



“Biosolids disposal is becoming increasingly restricted and therefore expensive. Aerobic Sludge Digestion provides a robust solution to sludge management.”

Philip Whittaker, UK & Ireland Water Systems Business Development Manager

Halia[®] Oxygen Sludge Digestion



Sludge Digestion

Sludge disposal routes from biological waste water treatment processes are becoming increasingly restricted, and therefore expensive, especially with the implementation of new Legislation. Therefore it is becoming important to reduce the final volumes of sludge (biosolids) requiring disposal.

Processes can be optimised to reduce the amount of sludge produced, but in all biological treatment systems a significant

amount of sludge is a natural by-product from the process, and this will require further management before disposal in order to minimise costs.

Sludge Digestion provides these benefits and can help turn a waste into a resource, as the high nutrient content can be re-used as a fertiliser and soil conditioner.



Examples

Dairy Products Manufacturer

- 2 days residence time
- Mixed primary and secondary sludge
- 30% dry solids after dewatering
- Sludge used for agricultural purposes
- Temperature range 45-47°C

Municipal Plant

- Final sludge 53% VSS/TSS
- Mixed primary and secondary sludge
- Stabilised to 0.075mgO₂/min.g
- Dryness 24% after digestion
- Temperature up to 40°C

Aerobic Sludge Digestion can reduce the solids by 30-60%

Aerobic Sludge Digestion can reduce the solids by 30-60%, producing a safe, stable, low odour sludge which has a high nutrient value.

Using Pure Oxygen rather than air alone has the added advantage of enabling higher temperatures to be attained in open basins, through auto-thermal digestion, with very low energy requirements. This, with the increase in oxygen delivery rates, enables faster digestion and higher pathogen kill.

The investment cost of a Halia® Oxygen Sludge Digestion process can be significantly lower than that of an equivalent anaerobic process.

Also, biogas and odour management is not required with Halia®, and the process is resistant to shock hydraulic and sludge solids loads. Process control is simple and optimises both oxygen consumption and energy use within the digester.

Air Products has considerable process expertise in high rate aerobic sludge digestion in both the municipal and industrial areas. The Halia® Oxygen Sludge Digestion process can be either retro-fitted in to open tanks and run in a similar fashion to a conventional activated sludge basin, or included in the design of a new sludge treatment plant.

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