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Clients we have successfully completed work for include:

- United Utilities
- Severn Trent Water
- Glaxo SmithKline
- Anhauser Busch
- Unipart
- Welsh Water
- Department of the Environment - Water service NI
- Northumbrian Water
- Southern Water
- Anglian Water
- Scottish Water
- Sydney Water
- Brisbane Water Environmental Alliance (BWEA)
- Thames Water



CROWN SLUDGE HYDROLYSIS



PROFIT FROM OPERATION

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CROWN SLUDGE HYDROLYSIS



CROWN™ FOR ANAEROBIC DIGESTION ENHANCEMENT

Disintegration of biosolids occurs when the cells are ruptured releasing endo and exoenzymes as well as destroying filament-building microorganisms. The release of enzymes in surplus sludge applications leads to a reduction in biosolids volume within the digester and improves Biogas yields. The destruction of filament building microorganisms prevents foaming.

The Crown Sludge disintegration plant is a simple and robust mechanical system for the disintegration of Biosolids. It consists of a worm drive pump to pressurise the sludge to 12 Bar, a homogeniser, disintegrator nozzle assembly, recirculation tank, Discharge pump and HMI control Panel. All components are installed together with the connecting pipework on a skid or within a Container at our plant and requires only electrical and sludge connections on site.

Once the power and sludge inlet/outlet connections are made the system is ready for operation. Sludge is fed into the Homogeniser where it is rendered uniform. It is then pressurised to 12 bar by the eccentric worm pump and forced into the disintegrator where the lysis takes place after the sludge is forced at pressure through a nozzle. From there the disintegrated sludge flows to the recirculation tank. The process is normally repeated twice more before the sludge is discharged by the second pump.



Skid Mounted Crown System Installed at North Shore



Containerised Crown System Installed at Gifhorn

Benefits:

- Reduction of sludge Volume (Average 20%)
- Increased Biogas yield (Average 30%)
- Adapts to variable loads
- Improved de-waterability of sludge
- Improved digester stability
- Eliminates Foaming and bulking sludges
- Containerised or Skid Mounted
- Suitable for applications from 5 m³/hr-500 m³/hr
- Small footprint
- Pre-fabricated for rapid installation
- No specialist maintenance skills
- Minimal running costs
- Low capital cost

CROWN™ FOR CARBON SOURCING APPLICATIONS

Many treatment works suffer from a lack of carbon that is required for effective biological treatment of waste water in extended aeration treatment plants. Currently this issue is generally resolved by importing an external carbon source (normally methanol) and dosing it into the oxidation tanks. However as oil prices rise Methanol dosing is becoming ever more expensive.

The Crown disintegration system is a cost effective mechanical alternative to methanol dosing that releases carbon trapped within a free site resource i.e Surplus Activated Sludge (SAS).

In order to release the carbon trapped within the SAS it is necessary to disintegrate or rupture the cell structure. The Crown system achieves cell disintegration through mechanical means using tried and tested robust equipment, which can be maintained and serviced by non specialist service staff. A feed source of thickened SAS (6%) is required. Sludge is fed into the Homogeniser where it is rendered uniform. It is then pressurised to 12 bar by the eccentric worm pump and forced into the disintegrator where the lysis takes place after the sludge is forced at pressure through a nozzle. From there the disintegrated sludge flows to the recirculation tank. The process is normally repeated twice more before the sludge is discharged by the second pump back into the biological oxidation tank.

Benefits of the CROWN sludge disintegrator in its carbon sourcing role are as follows:

- Releases carbon from existing Surplus Activated Sludge (SAS)
- Reduces Sewage sludge volume index (SSVI)
- Stabilises process allowing system to operate at lower activated sludge levels (mg/l)
- Eliminates the need for storing and handling hazardous chemicals
- No specialist maintenance skills required.
- Eliminates foaming and bulking sludge's
- Reduces sludge for disposal volume
- Low capital cost.
- Minimal running costs.



Crown System Installed at Wiesbaden in Carbon Sourcing Role



CSO TECHNIK CAPABILITIES

- Proposals
- Design & Supply
- Installation & Commissioning
- Testing
- Project Management
- CAD Facilities
- CSCS Trained Staff
- ISO9001
- Achilles Verify registered
- Service & Maintenance
- Spares

ALSO FROM CSO

- Flushing Systems
- Flow Regulators
- Inlet Screens
- Screenings Handling
- Odour Control
- Ventilation Systems
- CSO Screens