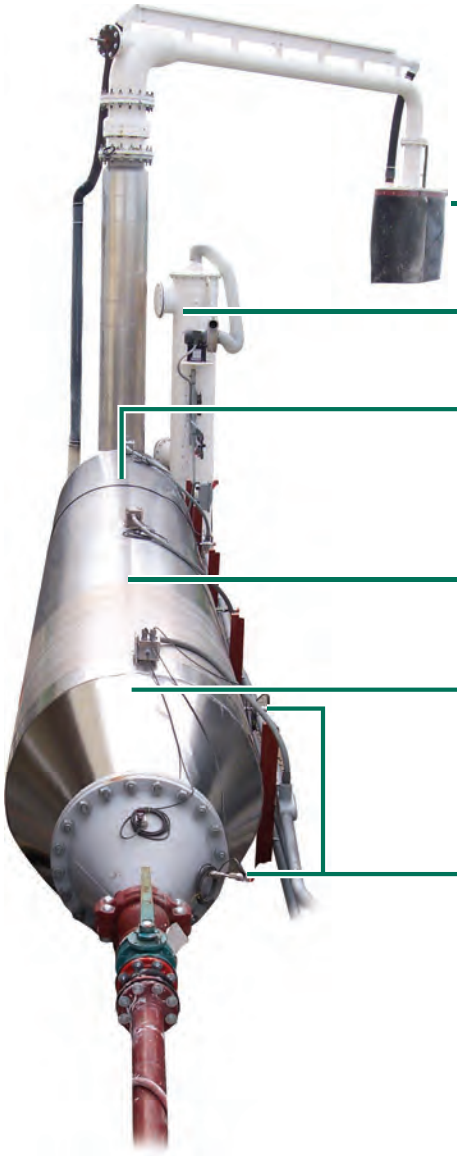
Bioset Process

Alkaline Stabilization/Pasteurization - Class ‘A’

SCHWING BIOSET

Features



Odor control hood

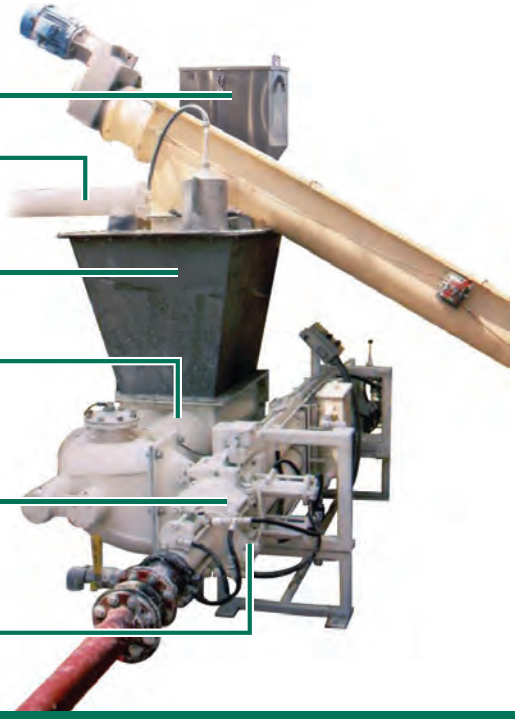
Ammonia scrubber and collection line, 3 gpm of water flow.

Biosolids exposed to high temperature and high pH within reactor. Ammonia kills pathogens before temperature does enabling PFRP approval to reduce operating temperature from 70C to 55C. This approval results in a reduction of the already low operating costs

No external heat is required. All energy is produced by chemical reactions.

Enclosed reactor contains odor and dust

Temperature sensors monitor process



Sulfamic acid feeder

Quicklime screw feed

Totally enclosed hopper that contains all dust and odors

Counter-rotating, intermeshing, twin-screw auger provides efficient homogenized mixing of the biosolids and chemicals.

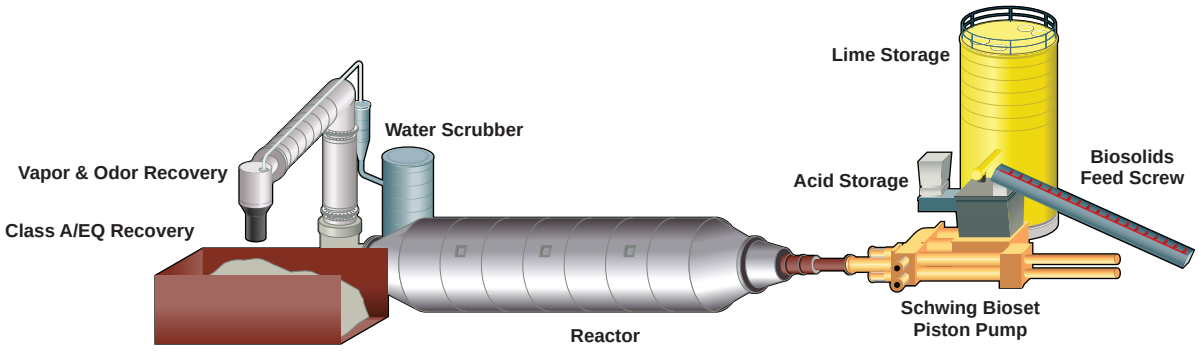
Schwing Bioset positive displacement piston pump capable of pumping organic materials up to 50% solids content at pressures over 1,500 psi.

Poppet valve discharge assembly that allows use of Schwing Bioset's Sludge Flow Measuring System (SFMS™) which measures, to within +/-5%, the amount of biosolids pumped.

Benefits

The Bioset process achieves Class ‘A’ biosolids via the time vs. temperature equation and pH adjustment per the EPA 503 regulations. Additionally, the USEPA has granted PFRP approval such that the Bioset process can also operate at 55C for 40 minutes. Operating under the PFRP approved conditions reduces operating expenses by 25-30% offering end-users a significant savings on the already low operating costs. Temperature is achieved through the addition of Quicklime and Sulfamic acid and the high pH is achieved through the addition of the Quicklime. Biosolids and chemicals are homogenously mixed in a Schwing Bioset twin screw feeder and pumped with a Schwing Bioset piston pump through an insulated reactor.

As the Bioset process is totally enclosed within the reactor the process operates odor free. The reactor discharge provides the only location for gases to escape and they are easily collected and scrubbed utilizing a small water scrubber. The resulting final product has an odor that is similar to wet-concrete.



Easy operation and reliable results

From start-up to shut-down the Bioset process remains the easiest to operate and most reliable Class ‘A’ system available. Even on shut-down, biosolids that remain in the reactor are treated to Class ‘A’ levels and discharged as such on the next start-up.

Cleanliness

The Bioset process is a clean system to operate as it is totally enclosed from start to finish. Being totally enclosed prevents dust and odors from escaping at the inlet, prevents biosolids from spilling during the process, and allows point source odor capture at the discharge.

No supplemental heat

All of the heat to operate the Bioset process is achieved via chemical addition. No expensive and maintenance intensive supplemental heat sources are required.

Odor control

As the Bioset process is contained within the reactor the process operates odor free. The reactor discharge is where gases are emitted and they are easily captured at this single point with a small water scrubber. The final Class ‘A’ material has an odor, due to the high lime content, similar to wet concrete.

Operating cost

With ever-rising energy costs the Bioset process stands out as the most economical method of producing Class ‘A’ biosolids as it is not reliant on auxiliary electrical, steam or thermal oil based heating systems.

Reduced operating costs through PFRP approval

PFRP approval to reduce the operating temperature is possible as the ammonia that is generated through lime addition is entrained with the biosolids inside the reactor and kills the pathogens. The EPA has recognized this phenomena and has granted site specific approval to reduce operating temperatures from 158F (70C) to 131F (55C).

A Name You Can Trust

Schwing Bioset Solutions for Water and Wastewater

Piston Pumps for Solids
High-pressure positive displacement piston pumps with lowest life cycle costs to efficiently transport biosolids through pipelines.

Class A Bioset Process
Advanced alkaline stabilization technology that is totally enclosed and PFRP approved to operate at 55C.

Screw Press Dewatering
High-performance dewatering with low energy and maintenance requirements and the widest range of model sizes available.

Container Wagons
Evenly load containers with ground accessible service points, minimal maintenance requirements, and full automation.

Membrane Bioreactors (MBRs)
Microfiltration systems with end-free hollow fiber membranes.

Sliding Frames & Storage Silos
Truck receiving, truck loading, or intermediate storage of dewatered solids with lowest cost of ownership.

Class A Fluid Bed Drying
Thermal drying technology operating under inert conditions with high thermal efficiencies and low maintenance requirements.

Phosphorus Removal / Struvite Recovery
Remove nutrients from wastewater, improve dewatering, reduce scaling, and create a struvite end product.

Residuals Management
Offered through a partnership with our resource recovery company to transport, market, and beneficially reuse residuals.

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