Bio-Scru®

BCR
Solid Solutions

Bio-Scru®

BCR's Bio-Scru® dryer technology delivers safe, energy-efficient, automated, continuous drying of biosolids to Class A requirements for beneficial reuse.

At the heart of the Bio-Scru® system is our patented, self-cleaning, hollow-flight auger technology providing optimum heat transfer. PLC-controlled operating parameters (temperature, feed rates, residence time) ensure that Class A requirements* are consistently maintained.

Automated startup, operation and shutdown procedures require minimal operator interaction.

Why Bio-Scru®?

BCR's Bio-SCRU® dryer technology is the right choice when you want:

Environmental sustainability: energy-efficient system creates a nutrient-rich soil amendment for agriculture as well as parks, golf courses and other landscapes.

Economic viability: lower operating and maintenance expenses than traditional treatment systems.

Efficiency: continuous operation is PLC-controlled for consistent results with minimal operator interaction.

Safety: hollow-screw heat exchanger system with inert atmosphere and hermetic drying chamber provides safe operation without the need for explosion doors.

Low odor: small vent stream and slight negative-pressure system contributes to odor-free operation

Product Specifications:

Bio-SCRU's twin-screw design provides the highest surface-area density, allowing the smallest dryer footprint.

It is also scalable from 100 to 9,000 dry-tons per year biosolids at a feed composition of 14-30%TS.

Designed to handle a range of feeds including undigested primary-, waste-activated and digested sludges, as well as a mix of types.

Less than 100 cubic feet per hour vent stream under negative pressure to contain odors.

Inerted atmosphere conforming to NFPA requirements for the prevention of fires and explosions and low vapor velocities to minimize dust entrainment.

How does it work?:

Input: A covered hopper with live-bottom augers keeps the biosolids moving, avoiding bridging and odors. An auger or progressive cavity pump conveys the biosolids to the dryer insuring a consistent feed rate and material uniformity.

Drying: The Bio-SCRU® dryer chamber is a jacketed housing with two, intermeshed, hollow-flight augers. Biosolids which indirectly heat the b in a hermetic environment. at a slight negative pressure to contain the water vapors and odors Thermal fluid circulating through the dryer's metal augers and housing jacket provides indirect heat-transfer, keeping the heating medium separate from the biosolids, which avoids both cross-contamination and the need to treat large volumes of odorous flue gases or air. A multi-stage condenser system provides high-efficiency condensation of water vapor as well as capturinge ofany particulates and soluble odorous gases.

Cooling: A water-cooled conveyor reduces the temperature of the dried biosolids for safe storage and handling.

Ongoing Support:

BCR's service agreement includes remote monitoring of operations with operational and maintenance alerts as well as monthly reports with key unit ratios (utility consumption etc.).

We also provide quarterly reports, inspections, training and program upgrades.

Requirements:

Footprint: Compact design means the largest Bio-SCRU® dryer has a footprint of approximately 47 ft. by 9 ft. The smallest is less than half that size.

Energy Source: The Bio-SCRU® thermal fluid heater can be powered by a variety of energy sources including natural gas, bio-gas, LPG, diesel, fuel oil or electricity.

*Complies with 40 CFR, part 503

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