PRODUCT SPECIFICATION & EVALUATION

SOLTECK
SOLUTIONS ● TECHNOLOGY ● KNOWLEDGE

Product Name: BioWave® Duel-Fueled Microwave System | Reviewed By: SOLTECK Engineering Dept

DESCRIPTION & SPECIFICATIONS

The Burch BioWave is a patented process which uses a duel-fueled microwave system to remove water or other liquid from a variety of waste materials. The BioWave has municipal, industrial, and agricultural applications and is recognized by the USEPA as a system capable of producing Exceptional Quality Bio-solids.

The process eliminates pathogen content while reducing weight and volume of the material. The end product is environmentally safe and nutrient rich and has a variety of beneficial uses.

The BioWave equipment is available in different sizes, each with the ability to dry a certain throughput of material. Equipment sizing is dependent on the amount of material to be dried and the amount of water to be removed.

- All stainless steel construction
- Safety systems that meet or exceed OSHA requirements
- Complete system automation utilizing up to date programming software
- Touch-screen controls
- The ability to dry materials with initial moisture contents as high as 85% to moisture contents as low as 10%

Fig.1 – Unit in Operation

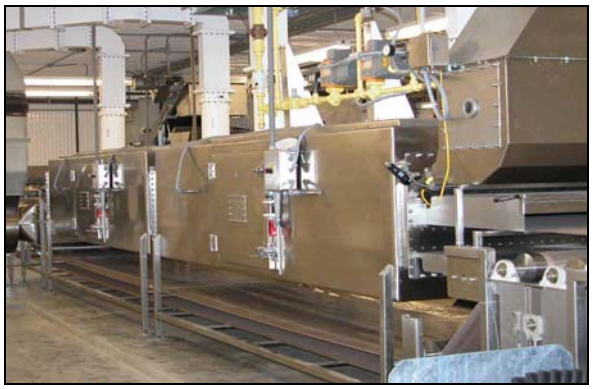


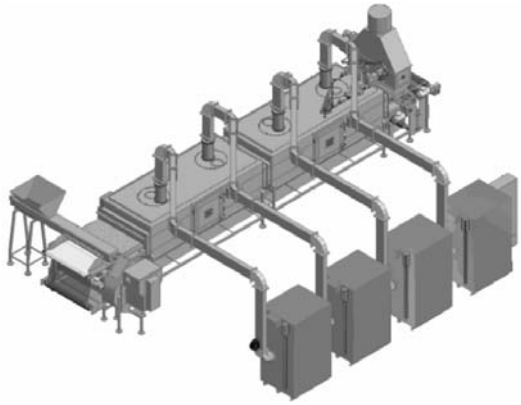
Fig.2 – Dried Sludge Output

PROCESS

The BioWave® is a new and patented continuous-flow process for drying and pathogen destruction in various byproducts including municipal bio-solids. The BioWave® process utilizes a high-efficiency multi-mode microwave system specifically designed to remove moisture and destroy the pathogen content of byproducts resulting from a variety of municipal, industrial, and agricultural operations.

The BioWave® process is currently in use both in the United States and Europe and is recognized by the EPA as a process that has the ability to produce Exceptional Quality bio-solids. The BioWave® equipment is available in different sizes, each with the ability to dry a certain throughput of material. Equipment sizing is dependent on the amount of material to be dried and the amount of water to be removed.

Fig.3 – Assembly showing twin unit configuration



STRENGTHS

- Significant reduction of weight and volume from 20% DS to 95% DS
- Nutrient value of material is unaffected
- Pathogen destruction
- Can produce Class A, Exceptional Quality Bio-solids and is recognized by the EPA (USA and in Europe)
- Energy efficient
- No warm up or cool down period required
- Heating of material is volumetric
- No dust control or air permits required
- Minimal maintenance required
- Easily added to existing dewatered waste processing streams
- Minimal usage of gas
- Systems sized for specific throughput needs

LIMITATIONS OF USE

Mobile operation (except for on-site performance testing, for specific limited time periods) . Volumes below “250 kg per hour” should be bulked up, for planned continuous processing.

PERFORMANCE RESULTS IN LIVE OPERATION:

Based on live operation of the system, independent assessors have recorded in their study, the following performance (ton for ton) between the legacy N-Viro solution and the results achieved with the new Burch BioWave solution. Annual gross results showed that the N-Viro method produced 2,284 tons of sludge cake to be hauled and applied as fertilizer to 571 acres of farmland, while the BioWave system when annualized would produce only 306 tons of cake that could be applied to 76 acres. This represents a reduction of 86.6% in sludge volume.

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