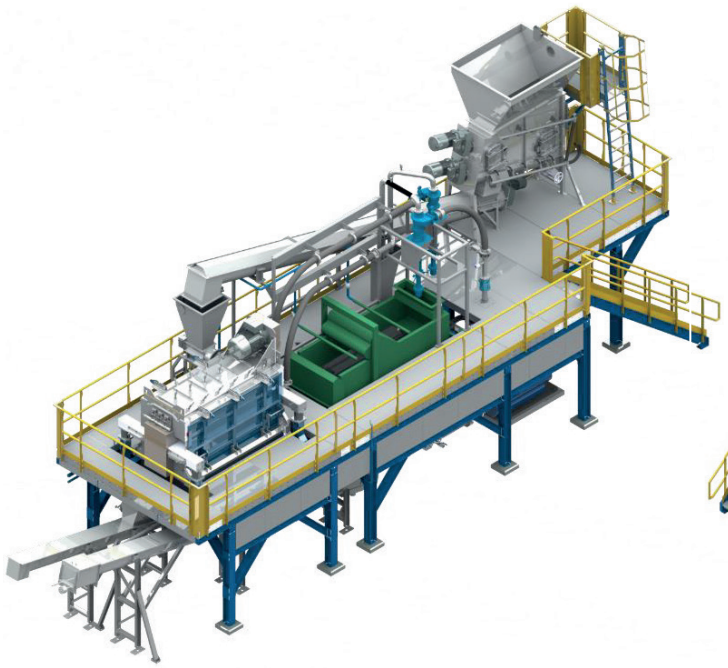
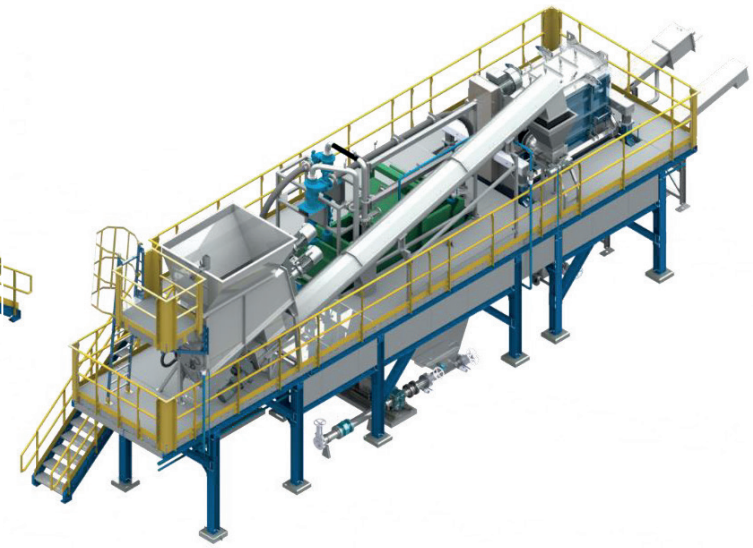
Anaergia
Fueling a Sustainable World™

OPS™ Fact Sheet

Organics Polishing System





Anaergia's **Organics Polishing System (OPS™)** removes plastics and Fast Settling Inorganic Solids (FSINS) contaminants from organic waste streams to prevent them from damaging downstream equipment and accumulating in buffer tanks and digesters.

Organic waste in the form of a cake or a slurry is received by the OPS™ and converted into a clean, polished organic slurry. Two separate reject solid streams (plastics and FSINS) are also produced. Designed on an individual project basis, the Anaergia design team works to find a custom solution to the unique requirements of each of our customers. Our most sophisticated offerings include both grit and plastic removal, as well as a mixing unit for organic cake feedstock, and grit washing and dewatering capabilities.

Advantages

- Maximizes digester capacity by preventing grit buildup
- Protects downstream pumps, mixers, pipes, centrifuges, valves, and instrumentation from premature wear
- Increases process efficiency and minimizes downtime by preventing the formation of floating layers in buffer tanks and digesters
- Produces digestate that meets and exceeds the most stringent fertilizer and composting standards
- Reduces maintenance costs associated with premature equipment failure
- Reduces operation costs associated with digester clean ups, and commissioning
- Maximizes gas production with a clean and highly degradable polished organic feedstock

Applications

The OPS™ can remove plastic and grit contamination from a wide variety of waste streams, source feedstocks include:

- Municipal solid waste (MSW)
- Source separated organics (SSO)
- Municipal sludge
- Agricultural waste
- Sludge and agrifood mixtures

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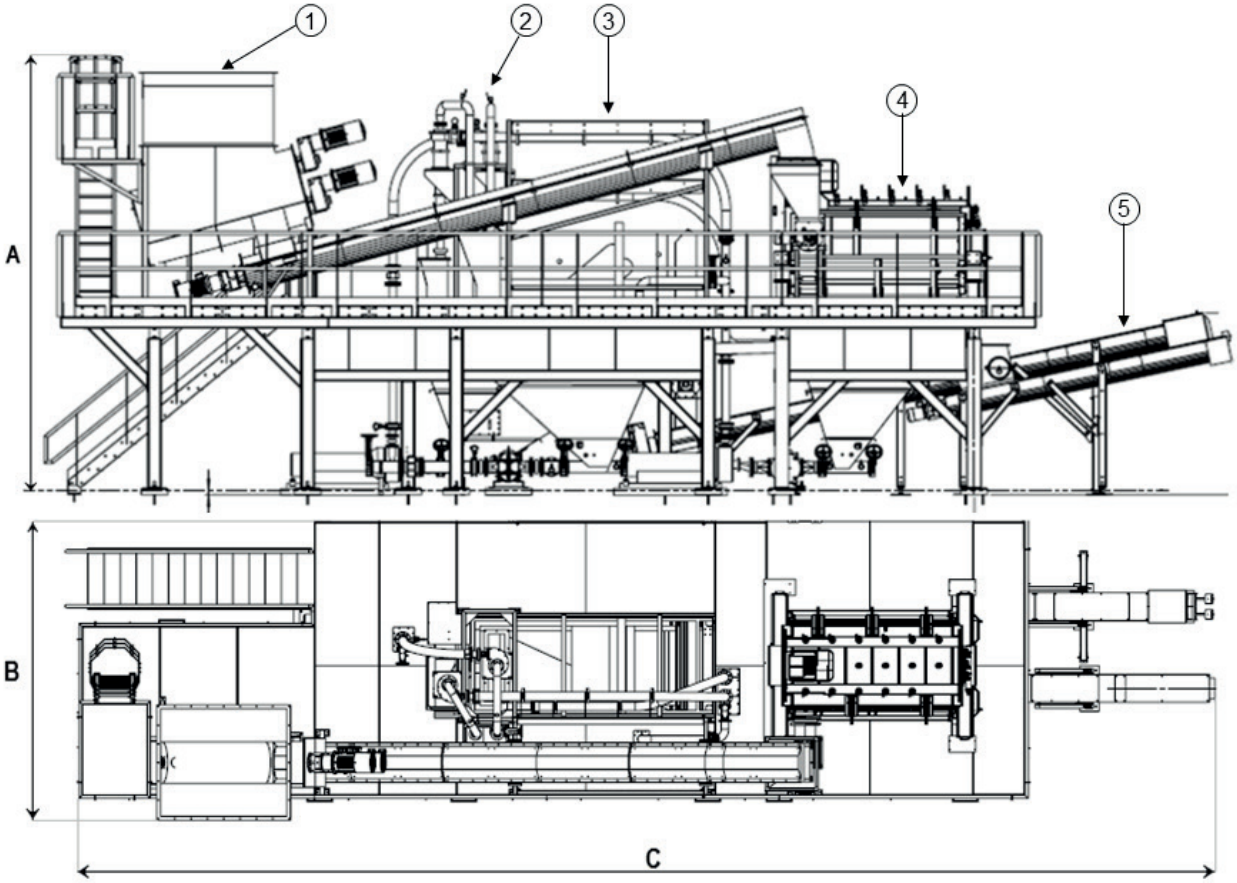
Components

Anaergia's Organics Polishing System OPS™ combines the following:

1. Organic cake blending and mixing unit
   - Buffer tank for continuous operation of the OPS™
   - Blending and dilution of organic cake into a homogenous slurry
2. Anaergia hydrocyclone for grit removal
   - Individually sized to each customer's process using CFD modelling for maximum removal of fine FSINS
3. Vibratory screen for grit washing and dewatering
   - Recovers soluble organics and reduces reject solids moisture content by mechanically removing the free and interstitial water trapped by polymer networks
   - Alternatively, a Grit Washer or a Grit Classifier can be used to achieve project objectives
4. Anaergia CleanREX for plastic removal
   - Actively removes plastic films and low-density contaminants that turn into floating solids inside Anaerobic digesters



***Note that the technologies utilized in the OPS™ can be altered. The OPS™ dimensions and product slurry can be tailored to each customer's specific needs.*

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Unit Specifications		Polished Slurry Characteristics	
Dimensions	• A: 6.6 m • B: 4.4 m • C: 17.6 m	**Capacity**	• Up to 4.5 TPH (dry)
Power Consumption	• Connected Power 160 kW, 215 hp • 4.7 HP / m^3/hr of slurry processed	**Solids Content**	• 7-15 % total solids
Control System	• Local control at panel via HMI • Remote control via SCADA	**Plastics Content**	• Contains less than 0.1% plastics > 2 mm on a w/w (dry solids) basis
Grit Removal Efficiency		• 90% removal of Fast Settling Inorganic Solids (FSINS) (2.65 SG) >500μm	

Features

- Stainless steel tanks, pipes, screw conveyor and mixing hopper for high corrosion resistance
- Heavy duty wear resistant pump designed to handle abrasive slurries reduce maintenance and maximize operating time
- System assembled and shop tested for mechanical fitment, reducing field assembly time
- Rubber lined, wear resistant hydrocyclone designed for aggressive and abrasive slurries. Optimization of the hydrocyclone performance in the field is possible using multiple sizes of APEX liners and vortex finders
- Effective controls system for smooth operation with built in smart process monitoring, cleaning cycles, and data collection
- Choice of stainless steel or carbon steel panels with Human Machine Interface (HMI)
- Complete controls integration and software testing prior to site installation, as well as customer support through real-time remote monitoring of key operation variables
- Operator friendly design with easy access to key equipment for inspections and maintenance, including an open top vibratory screen, fastener free access CleanRex doors with safety interlocks and position sensors, built in tank access hatches, and toggle clamps for apex housing support
- Automatic flush lines to prevent FSINS build up in OPS™, and multiple sample ports for process monitoring
- Shaftless screw conveyors with heavy duty wear liners for abrasive applications
- Large selection of CleanREX sieve inserts enables optimal adaptation to the widest range of material parameters for maximum product purity
- Active cleaning of the CleanREX sieve inserts with integrated sprinkler system for optimal organic material extraction
- CleanREX main drive bearing outside of the machine for a longer service life and accessibility

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