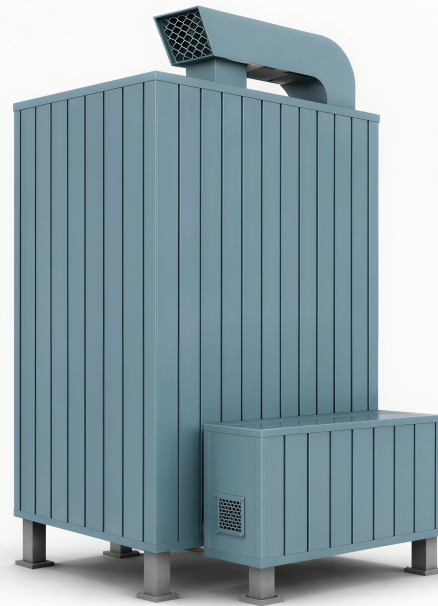


# BIOS

Continuous fermenter and dryer for large-scale organic waste processing



BIOS is a high-capacity vertical aerobic fermentation and drying system for cities, waste processors and industrial facilities. It enables continuous treatment of large volumes of biodegradable waste, sludge-based mixtures and organic-rich fractions from municipal waste sorting lines.

The system can operate as an aerobic fermenter, sanitization unit or dryer when external heat is available. Based on Solbien's patented aerobic process technology, BIOS is designed for rapid stabilization and sanitization-relevant treatment of large material volumes. Its compact vertical design provides high throughput with a low installation footprint, modular scalability and the option of custom capacity according to project requirements.



**Standard or custom capacity**  
Capacity



**Continuous aerobic processing**  
Process



**Large-scale sites**  
Best fit



### Fermentation, sanitization and drying in one system

One vertical unit for controlled aerobic treatment, sanitization-relevant processing or drying depending on process configuration and available heat source.



### Automated process with minimal manual handling

BIOS is designed for continuous automated operation with integration into conveyor feeding, output discharge and downstream processing systems, reducing the need for manual material handling in daily operation.



### Low footprint, scalable by units

High annual throughput with a compact 5 × 5 m installation footprint per unit and modular scalability for larger waste-processing facilities.

## Typical applications

- ✓ Large municipal waste processors
- ✓ Municipal solid waste sorting facilities
- ✓ Composting and biowaste processing centers
- ✓ Wastewater sludge treatment facilities
- ✓ RDF / SRF preparation lines
- ✓ Industrial organic waste processors
- ✓ Facilities requiring high-throughput sanitization or drying
- ✓ Waste-to-energy and energy recovery preparation lines

**FERMENTER & DRYER**

## BIOS — Technical Specifications & Process Data



	BIOS 50	BIOS 80	BIOS 100
Variant	BIOS 50	BIOS 80	BIOS 100
Functional volume	50 m <sup>3</sup>	80 m <sup>3</sup>	100 m <sup>3</sup>
Height	7 m	9.5 m	11 m
installation footprint	5 × 5 m	5 × 5 m	5 × 5 m
Processing capacity	~10,000 t/year	~16,000 t/year	~20,000 t/year

### Process modes



#### Fermentation mode

Controlled aerobic treatment of biodegradable waste and organic-rich fractions with natural biological heat generation and process stabilization.



#### Sanitization mode

Thermophilic process conditions for sanitation-relevant treatment of selected waste streams, depending on input material, residence time and process settings.



#### Drying mode

Operation with an external heat source for drying of selected biodegradable or organic-rich materials.

### Suitable input materials

- Biodegradable municipal waste
- Fine / undersize fraction of municipal solid waste — MSW fines
- Organic-rich fractions from sorting and treatment lines
- Sewage sludge-based mixtures
- Food-processing organic residues
- Agricultural biodegradable residues
- Composting-site input mixtures
- Selected organic-rich materials for drying or RDF/SRF preparation, depending on recipe and heat source

### Industrial integration

BIOS can be integrated into existing waste processing facilities with input reception, conveyor feeding, vertical reactor processing, output discharge and downstream composting, fuel preparation or energy recovery.

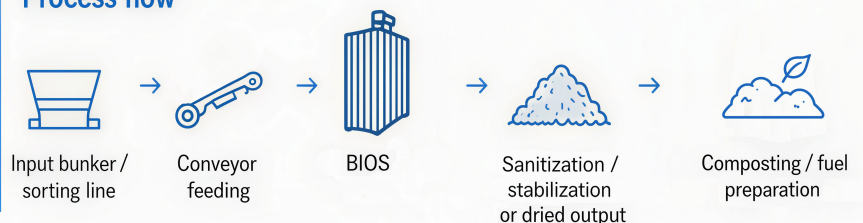
### Output options

Depending on input material, process mode and local regulatory requirements, BIOS can produce stabilized organic material, sanitized material for further treatment, dried organic-rich fraction or a biofuel component suitable for fuel preparation and energy recovery.

### Technology features

- Vertical process chamber
- Compact 5 × 5 m footprint
- Input / feeding point
- Output discharge
- Continuous automated operation
- Aerobic process control
- External heat option for drying mode
- Scalable by parallel units
- Custom capacity option according to project requirements

### Process flow



[www.solbien.com](http://www.solbien.com)

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