

## Technical and commercial proposal for the supply of a biocomplex for the utilization of bird droppings BIOKOM-1000

The biocomplex consists of 8 modular anaerobic reactors AP-100 of horizontal design (94 m<sup>3</sup> each) with the following main and auxiliary systems, provides:

- processing of organic waste on the basis of bird droppings and peat (share of litter from 50% and above) in the amount of 60 tons / day. humidity 75%,
- Disinfection of organic waste,
- development of organic effluent for the production of organic fertilizers in the amount of 15 tons / day (humidity 10%),
- production of biogas in the volume of 1,000 m<sup>3</sup> / day.

### **BIOKOM-1000 is performed in two variants: "Oktorin" and "Electro":**

The "**Oktorin**" option provides the use of organic effluent for the production of highly effective organic fertilizer "**OKTORIN**".

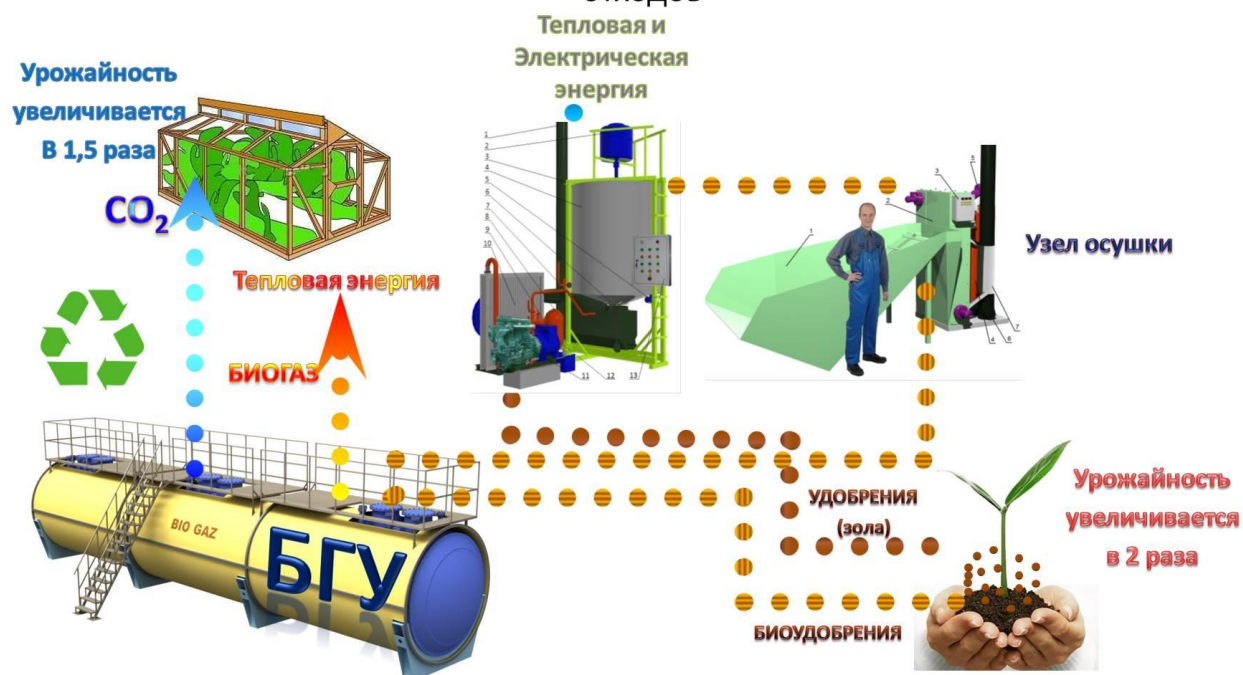
The "**Electro**" option provides priority generation of electricity due to the complete processing of the resulting organic effluent in the combustion process at the EC 1000 Station.

### **Performance indicators for biocomplex variants**

№	Indicator	Measurement unit	BIOKOM-1000 «Oktorin»	BIOKOM-1000 «Electro»
1.	Processing of organic waste based on bird droppings (humidity 75%)	Ton/day	60	60
2.	Production of effluent (humidity 10%)	Ton/day	15	15
3.	Production of biogas (methane content over 60%)	m <sup>3</sup> /day	1 000	1 000
5.	Generation of electricity, total	KWh · h	70	120
	Of these - for technological needs (max - in winter)	KWh · h	15,5	25,5
6.	Generation of thermal energy	Gcal / hour	0,077	0,5
	Of these - for technological needs (max - in winter)	Gcal / hour	0,01	0,075
7.	Production of organic fertilizers	Ton/day	15	-

### **Equipment that is part of BIOKOM:**

## Технологический процесс биологического обеззараживания органических отходов



№	Contents of delivery	Notes
1	8 reactors AP-100, including systems: 1) compensation of heat losses (heating) 2) mixing, 3) loading and unloading	An alternative option is the construction of a vertical tank AP-1000 (costs are higher by 15%). It is realized at a site of small sizes
2	Automated control system (with a set of sensors)	ACS of the block-modular design, provides process control on 16 parameters, remote monitoring and control
3	Substrate preparation system (including ultrasonic treatment)	Includes ultrasound processing equipment for slabs, prepackages and loading systems
4	Separators, screw	Ensuring separation of effluent into dry and liquid fractions
5	Biogas storage system (gasholders, shelter for storage)	Shelter from wind and precipitation from metal structures with gasholders and fire and gas safety system

6	Station for generating electricity and heat from the effluent is EC-1000 ( <b>for the “Electro” version</b> )	A set of equipment for generating electrical energy during the combustion of effluent
7	The system for generating electricity and heat on biogas, including: 1) electric and thermal generator on biogas, electric boiler 2) warm block-module with all types of protection 3) pre-treatment of biogas from hydrogen sulfide and CO <sub>2</sub> , drying of biogas 4) gas explosion-proof compressor 5) automatic protection system 6) PIC 7) Methane analyzer in biogas	It is placed in block-modules
9	System for drying the effluent SBTT-1000 station ( <b>for the “Electro” version</b> )	Drying is necessary to prepare the effluent up to 10% moisture for incineration on the EC-1000
10	Consumables for installation (pipes, fittings, cables, etc.)	Connecting elements, engineering networks according to the project

### **Works and services in project implementation**

1. Inspection and development of technological regimes
2. Designing of construction
3. Installation work
4. Start-up and adjustment works
5. Training
6. Laboratory analyzes according to the technology - substrates, effluent, organic fertilizer
7. Service of technology, remote control of parameters, control of modes

### **Terms of designing and development of bio-disinfection technology:**

Design of the complex with reference to the place 45 days  
Development of bio-disinfection technology 45 days

### **Terms of manufacture and delivery of equipment:**

Manufacturing 120 days

Delivery	14 days
Chef-installation start-up and adjustment of equipment	60 days
Total:	240 days

**Guarantee:**

For a period of 12 months.

Appendix: 1. Characteristics of BIOKOM technology  
2. BIOKOM product line

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