

GB Gasified

power and heat from biomass



Presents the

GB
Micronex
Reduction System



GB Micronex Grinder-Dryer

**“your one-step solution for
fine grinding and drying”**

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Presentation Outline

- **Introduction to the GB Micronex Technology**
- **Benefits of the GB Micronex**
- **GB Micronex Process Flow**
- **GB Micronex Physical Characteristics**

GB Micronex

- The GB Micronex, patented grinder-dryer, efficiently and economically processes a wide variety of raw materials and wastes into fine, dry powders.



Introduction to the GB Micronex Technology

- The GB Micronex is an high volume grinder that dries **WITHOUT** needing any heat input.
- No heat is needed because the forces causing size reduction also dry the material.
- GB Technology uses **LESS** total energy than conventional drying and grinding combined.

Benefits of the GB Micronex

GB Micronex customers benefit by:

- Simplifying on-site grinding and drying operations into a single compact, and easy-to-operate system that has low initial and operating costs
- Creating high-quality, dry, virtually pathogen-free powders that have value as industrial feedstocks, fuels, fertilizers and animal feeds.
- Reducing disposal and handling costs of and long-term liability from materials that were previously non-recyclable

GB Micronex Process Flow



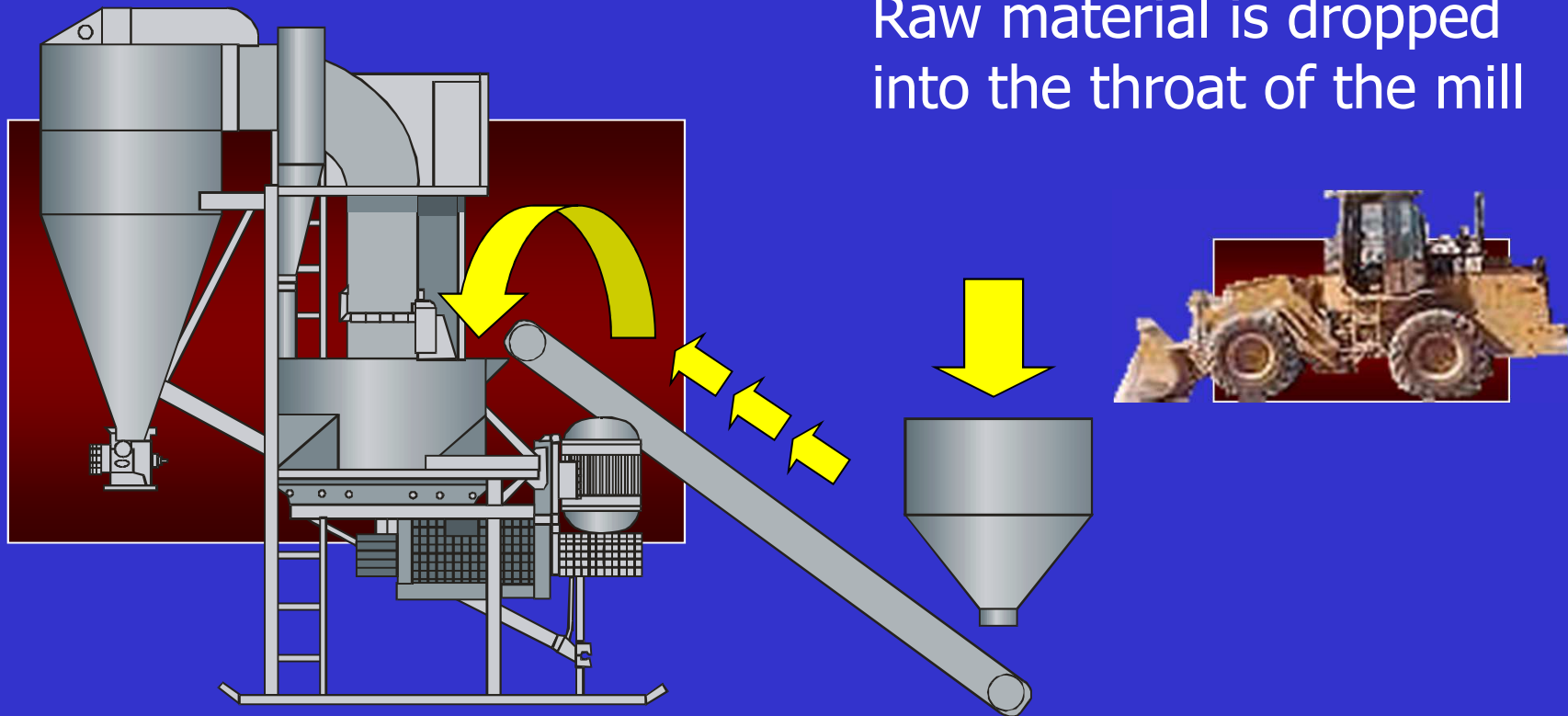
GB Micronex Process Flow

An internal classifier in the unit controls the output particle size to between 100–2,000 microns. The production rate ranges between 1–4 tonnes per hour depending on the raw material characteristics and moisture removal required. While many conventional grinding or milling systems require dried feed material, the GB Micronex can process materials containing up to 70% moisture and can reduce them to less than 10% moisture. For some applications, supplemental drying with a flash dryer or heated pneumatic conveyor can enhance drying efficiency.

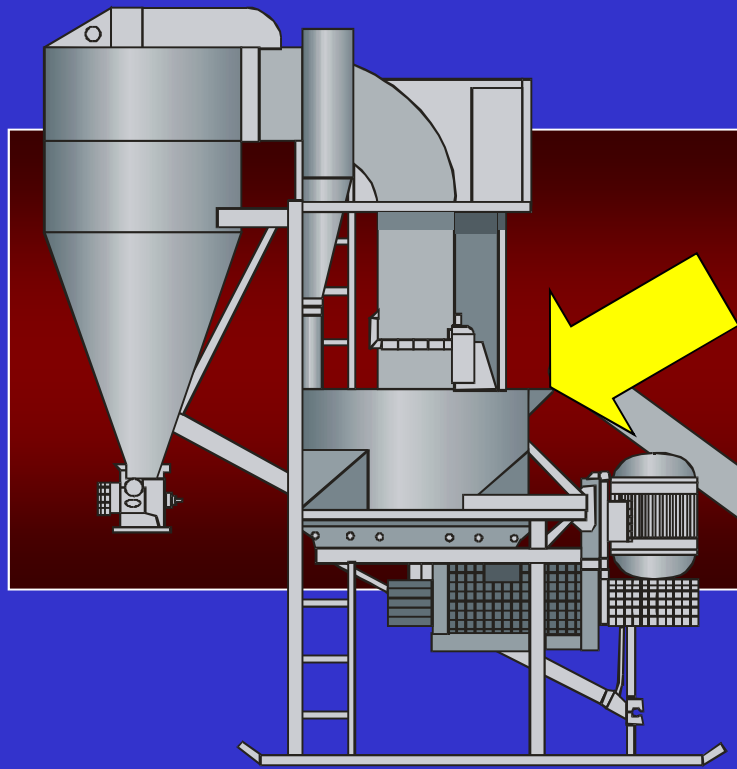


The GB MICRONEX *Process Flow*

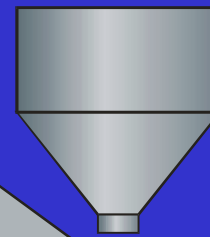
Raw material is dropped
into the throat of the mill



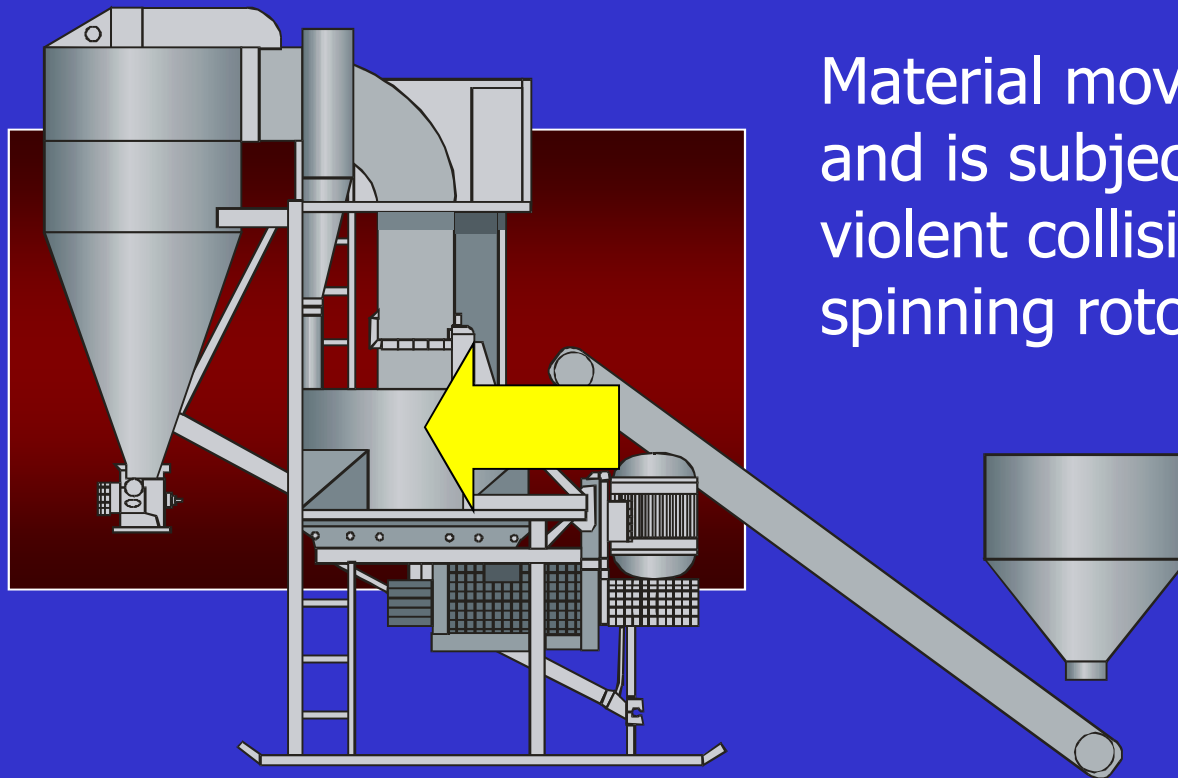
The GB MICRONEX *Process Flow*



An air-lock gate reduces dust and eliminates blow-back

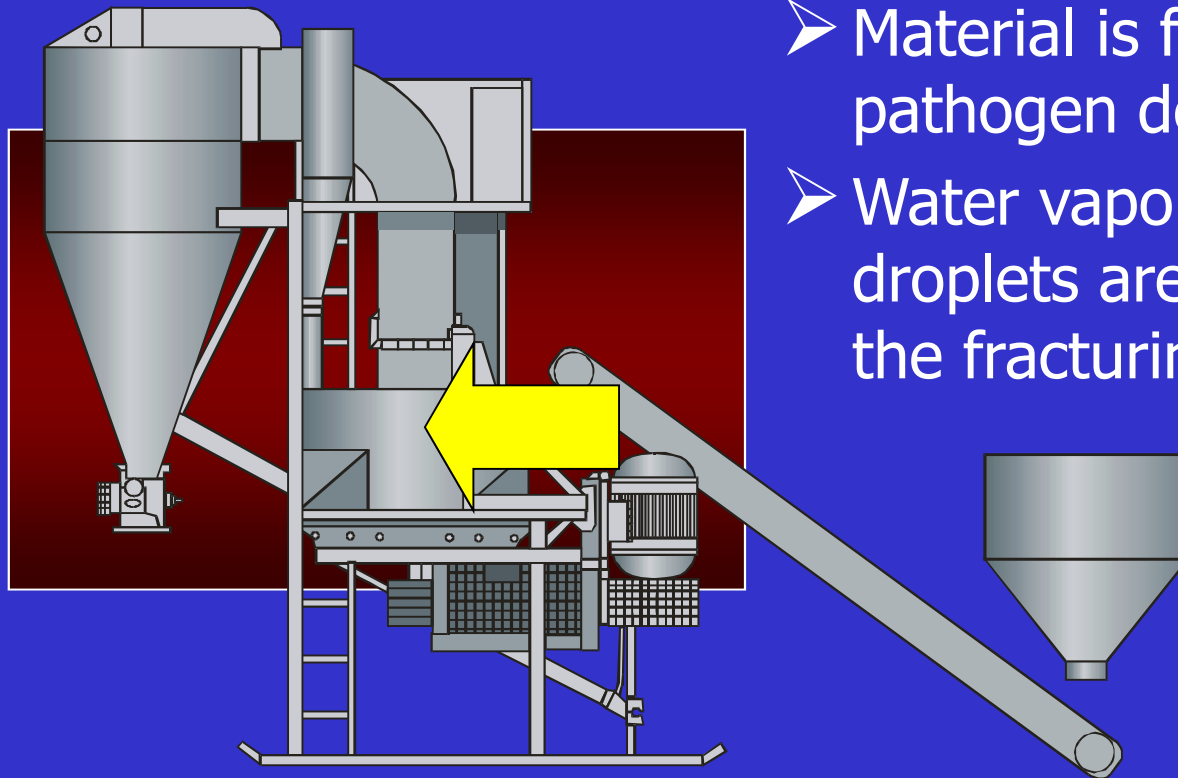


The GB MICRONEX *Process Flow*



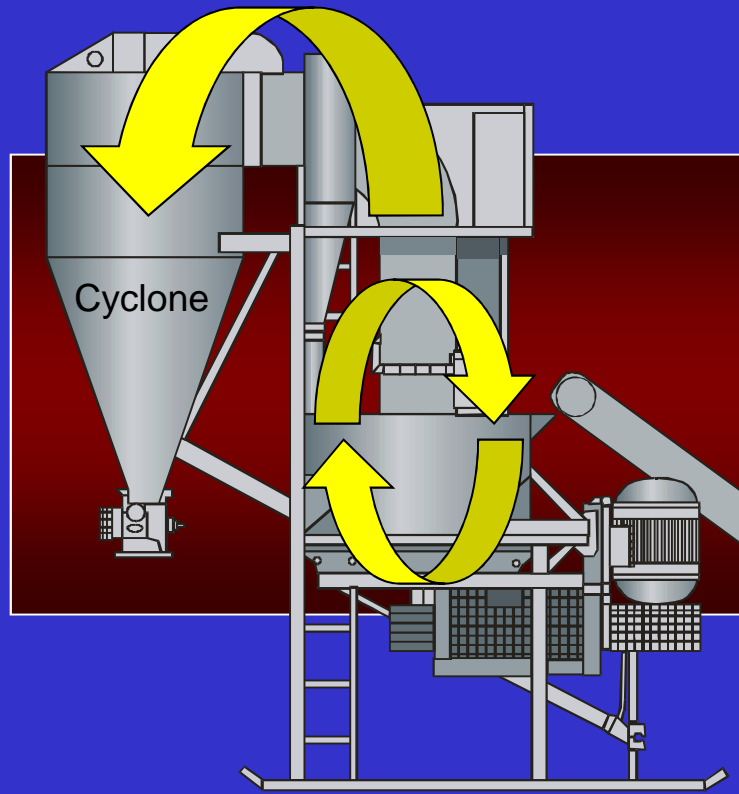
Material moves to the Torus and is subjected to repeated violent collisions with the spinning rotor and strike plates

The GB MICRONEX *Process Flow*

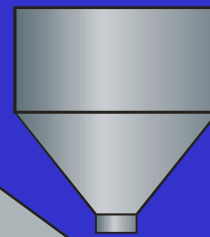


- Material is fractured and pathogen destruction occurs
- Water vapor and water droplets are released during the fracturing process

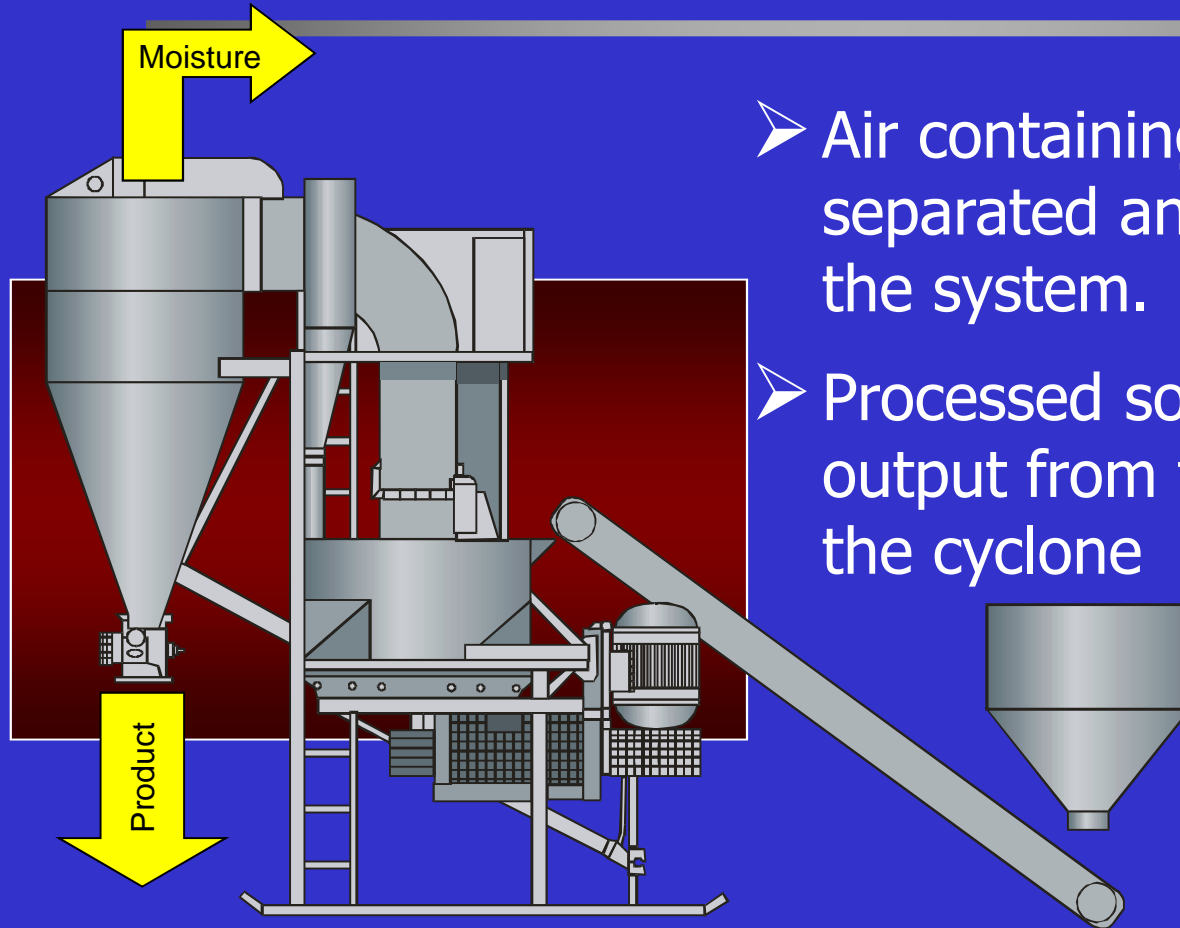
The GB MICRONEX *Process Flow*



The classifier allows finished product to pass through to the cyclone and forces oversize particles to be reprocessed



The GB MICRONEX *Process Flow*



- Air containing moisture is separated and removed from the system.
- Processed solid material is output from the bottom of the cyclone

GB MICRONEX

Physical Characteristics

- 5,5 m (h) x 4,27 m (l) x 2,13 m (w)
- Footprint 92,9 m²
- Weight 4082 kg
- Motors 186, 33.5, 1.5, 1.5, 1.5 kW
- Electrical 570V, 400 Amp
- High grade steel with some stainless components

Target Applications

- **Biomass waste into fuel and fertilizer**
 - manures, paper sludge, biosolids, wood waste and crop residues
- **Soft rock minerals into fertilizers and industrial feedstocks**
 - limestone, zeolite, phosphate rock, gypsum, and clay
- **Agricultural and food waste processing into animal feeds**
 - stalk, straw, grass, sawdust, crushed waste from biomass, bread waste, seaweed, oyster shell, fish bones, food processing waste
- **Specialty applications**
 - glass, metallic mineral ores

Thank you for your attention

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