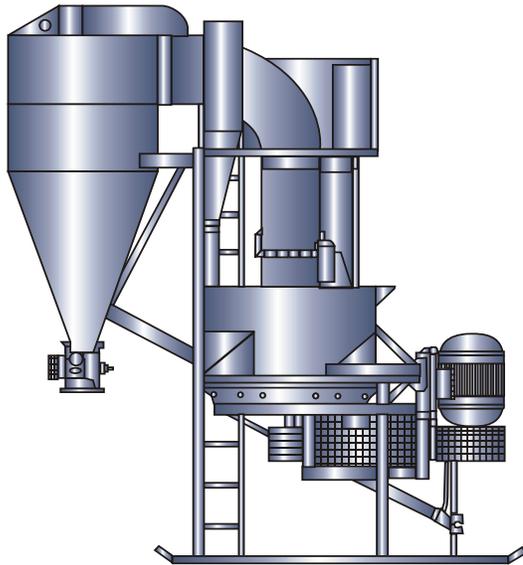




**IRST AMERICAN**  
SCIENTIFIC CORP.

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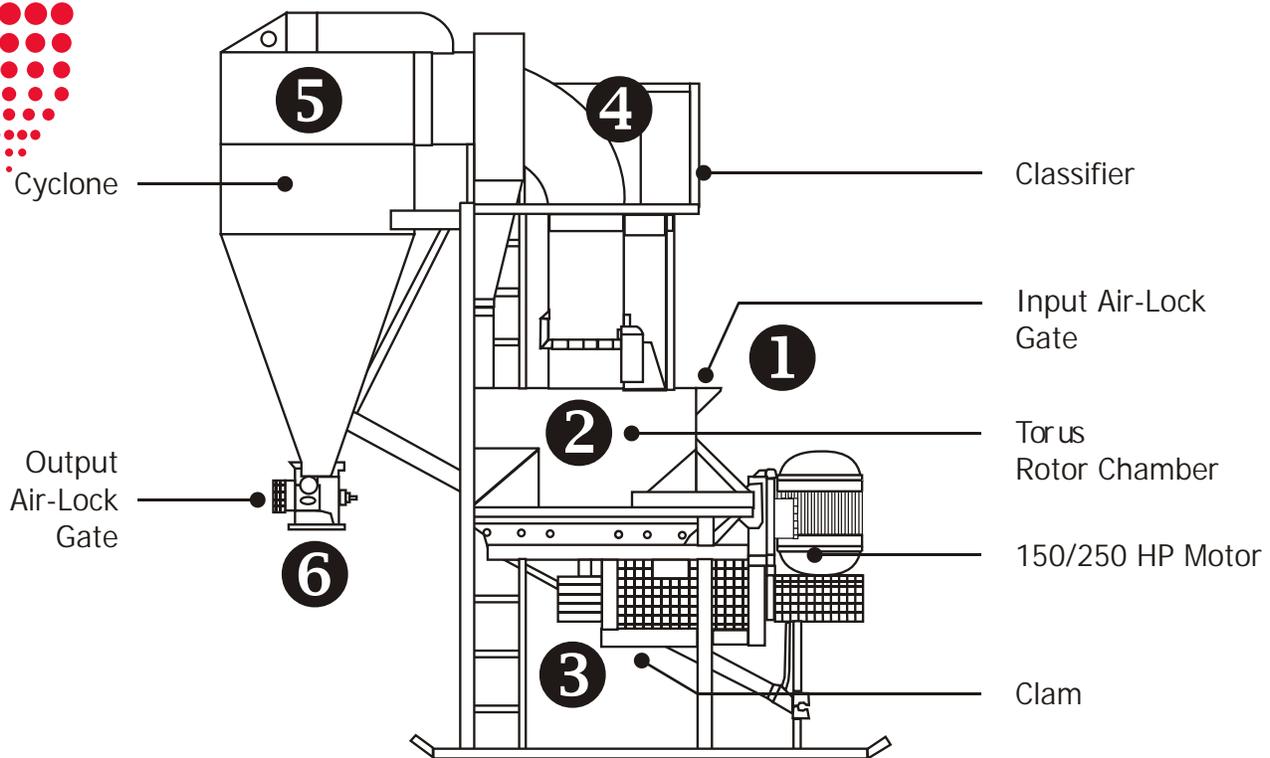
KDS  
**Micronex**<sup>TM</sup>



**TURNING WASTE INTO RESOURCES**



# IRST AMERICAN SCIENTIFIC CORP.



1. Raw material containing up to 80 % moisture is dropped into the throat of the **KDS Micronex™** where it passes through an air-lock gate valve that eliminates blow-back and dust.

2. The material enters the torus rotor chamber where it falls onto spinning chains and is subject to enormous centrifugal accelerations. The chains spin with a tip speed of about 400 mph (640 km/h). The material is “fractured” as it impacts repetitively with the chains and the strike plates on the sides of the torus. Moisture is squeezed out of the material due to the compressive action of the impacts. Heat created from the kinetic energy of the impacts also evaporates some of the moisture in the material. When appropriate particle size reduction is achieved, air flow in the torus lifts the particles upwards towards the classifier.

3. The floor of the torus, i.e., the clam, opens easily for maintenance. Replacing the bars or chains can be accomplished in ten minutes or less.

4. The classifier sorts the “fractured” material and can be adjusted for the desired particle size. Selected particle sizes pass through the classifier and larger particles are forced back to the torus to repeat the impact process.

5. Air containing water vapor and water droplets leaves the top of the cyclone back into the blower and then on to the grinding chamber. Water vapor and droplets leave the chamber through the vapor vents (not shown).

6. Finished material is pneumatically conveyed out of the machine into the cyclone where the fine, dry processed material falls through the bottom air-lock gate valve to be packaged or placed in a bulk container.



## An Overview of the KDS Micronex™ Components and Operations

### **MACHINE CHARACTERISTICS**

- 18' 6" H x 15' D x 12'W  
(Footprint = 180 ft.<sup>2</sup>, 16.7 m<sup>2</sup>)
- 9,200 lbs (4170 kg.)
- 6 Drive Motors (250, 50, 3, 2, 1, 1 Horsepower)
- 480/575 Volt/400/600 Amp Electrical Service
- Hi Grade and/or Stainless Steel Materials
- Moist or Dry Material Input accepted
- High Percentage of moisture removed during processing
- Few moving parts = Low Maintenance
- Simple operation = low staffing requirements

### **SYSTEM COMPONENTS AND OPTIONAL ADD-ONS**

- KDS Micronex™ (First American)
- Hopper + Auger (Storage for Feed Conveyor)
- Conveyor for Feeding the KDS Micronex™
- Output handling system (conveyors, hoppers or other feed system for bulk storage, bagging etc.)
- Dust Control System (dependent on application)
- Scrubber for air emissions (dependant on application)

### **PROCESSING RATE**

- Application Dependent (1-5 tons per hour)

### **FEED SIZE**

- Up to 6" (15 cm) in diameter depending on material. No minimum size.

### **FEED RATE**

- Rate Consistent with Processing + Bagging Capability

### **SAFETY**

- Hearing + Safety Glass Protection Required
- OSHA Approved Operating Environment

### **MANPOWER**

- System can be fully automated and integrated into an existing process
- In non-automated mode:
  - 1 Supervisor with mechanical/electrical skills, 1 Payloader/Forklift Operator, plus 1 laborer(optional)

### **ELECTRICAL (KDS Micronex™ 250hp)**

- Demand Load at Start-Up:
  - 600 Amp @ 575 volt
- Soft Start Capability
- Average KDS Micronex™ Power Consumption: 135kw
- Maximum KDS Micronex™ Power Consumption: 160 kw
- Average Configured System Power Consumption: 150 kw
- Suitable for generator or grid-based power supply

### **MAINTENANCE**

- Regular Inspection + Lubrication (15 minutes daily)
- Materials and labor for replacing bars, belts, bearings, etc (\$3/ hour of operations)
- Standard Parts & Materials Commercially Available
- 24 Hour "Hot-Line" Available

Visit Our Web Site: [www.fasc.net](http://www.fasc.net)



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Incorporated in 1995, First American Scientific Corporation was formed to develop and market new environmental technologies around the world.

FASC's patented KDS Micronex™ Reduction System provides an innovative approach to fine grinding and drying for a wide variety of applications.

The KDS Micronex™ breaks down a wide range of organic and non-organic materials into end products that have the characteristics of a dry talcum powder. It accomplishes this quickly, efficiently and economically, with minimal power requirements and limited maintenance.

The forces in the machine simultaneously grind, reduce moisture, and destroy pathogens. The pathogen destruction ability of the machine is attested by the designation of "Registered Pesticide Device" by the US Environmental Protection Agency.

The KDS Micronex™ provides an economically attractive, environmentally beneficial solution to the problem of many forms of waste management. Lower capital and operating costs than other currently used systems combined with a safe operating environment give the KDS Micronex™ significant competitive advantages in some markets and provide a technological breakthrough in others.

After processing, animal manures and biosolids (sludges) are turned into dry, nutrient rich powders to be used as fertilizers and soil amendments; scrap wood and other biomass, can be used as a high value fuels or in composite building products; limestone, gypsum, zeolite, coal, and glass are reduced to fine, dry, powders, to be used as industrial feedstocks.

We work closely with our customers to design and install reliable, efficient, environmentally sound, and cost-effective solutions for materials processing and waste disposal. FASC can also design and oversee installation of complete material handling systems for blending, pelletizing, bagging, or bulk loading of materials.

First American Scientific Corporation's demonstration and research facility is located just outside of Vancouver, British Columbia, Canada. This location is the hub of our international sales and marketing programs and serves as the research venue for agriculture, forestry, municipal waste, and industrial mineral applications.

## **First American Scientific Corporation**

6473 - 64th Street, Delta, BC, Canada V4K 4E2

Tel: +1-604-940-6220 Fax: +1-604-940-6221 Toll Free: 1-800-561-8656

Web Site: [www.fasc.net](http://www.fasc.net) Email: [help@fasc.net](mailto:help@fasc.net)

Trading Symbol: FASC - NASDAQ - OTC/BB