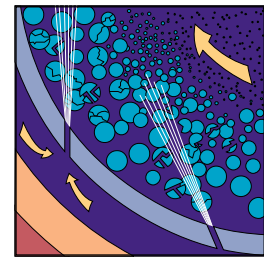
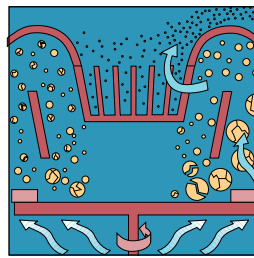


PROVEN PERFORMERS

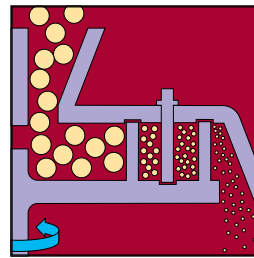
For most dry material size reduction or separation needs, Sturtevant's extensive line of products can meet your requirements.



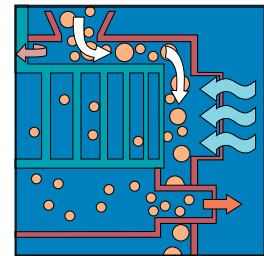
Micronizer®: Jet mills dry particles to sub-micron size; some models USDA-accepted.



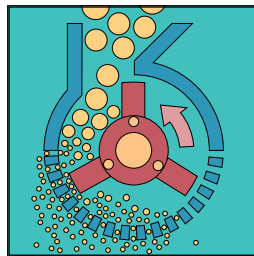
Powderizer®: Air-swept impact mill with integral classifier; grinds to low-micron range with tightest particle size distribution.



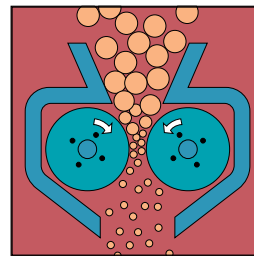
Simpactor®: Centrifugal, pin-type impact mill; reduces low- to medium-density materials to 50-200 mesh.



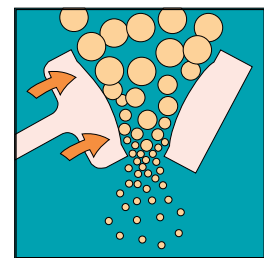
Air Classifiers: Air streams separate fine and coarse particles with mechanical rejector for product quality assurance.



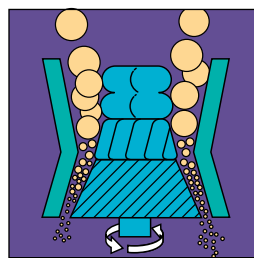
Hammermill: Versatile, perfect for friable materials; easy access for maintenance or inspection.



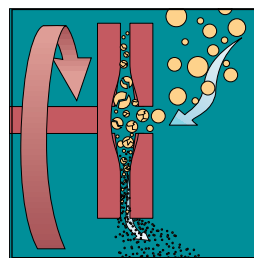
Roll Crusher: Best-suited for controlled reduction of friable materials; minimal fines.



Jaw Crusher: Ideal for coarse and intermediate crushing; minimal fines production.

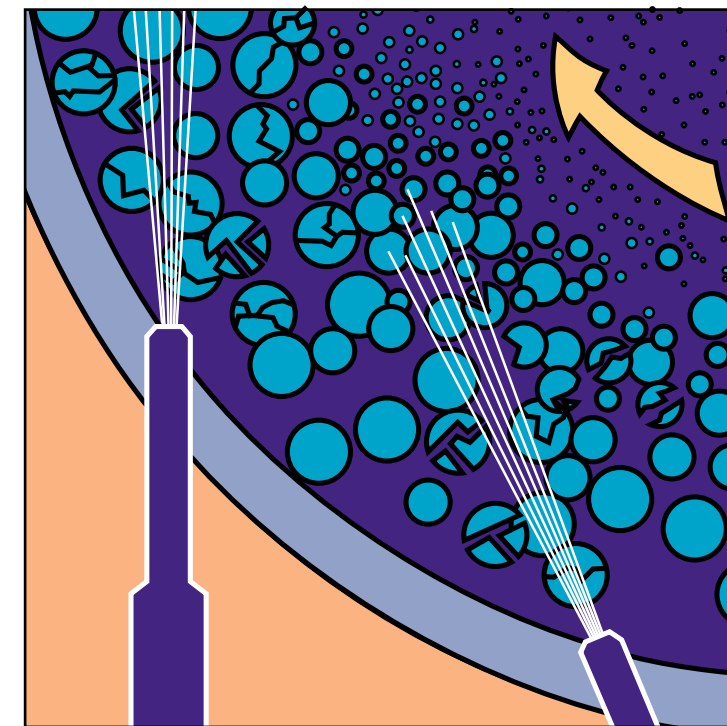


Rotary Crusher: Rugged rotary action produces high reduction ratios and production rates for soft-to medium-hard materials.



Sample Grinders: Disk type grinder for very fine work at small throughput rates.

MICRONIZER® JET MILL



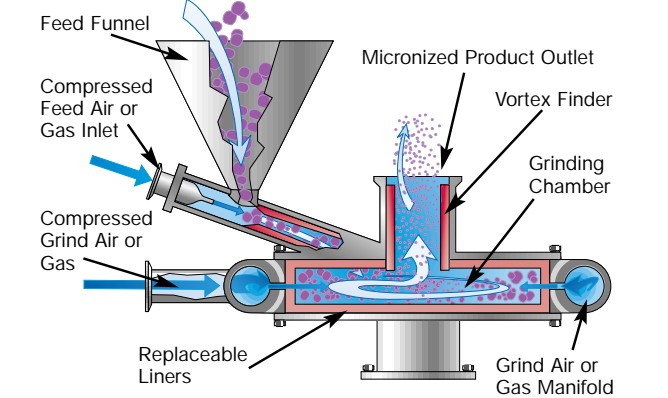
STURTEVANT. INDUSTRIAL STRENGTH EFFICIENCY.

The Sturtevant Micronizer® is our response to meeting industry demands for constant improvement in processing technology. Utilizing a unique fluid energy grinding system to generate particle-on-particle impact, the Micronizer grinds and classifies powders to micron and sub-micron sizes in a single operation, in a single grinding chamber.

A proven performer in thousands of installations around the world, the Micronizer processes a countless variety of materials throughout the food, chemical, ceramic, mineral, and pharmaceutical industries.

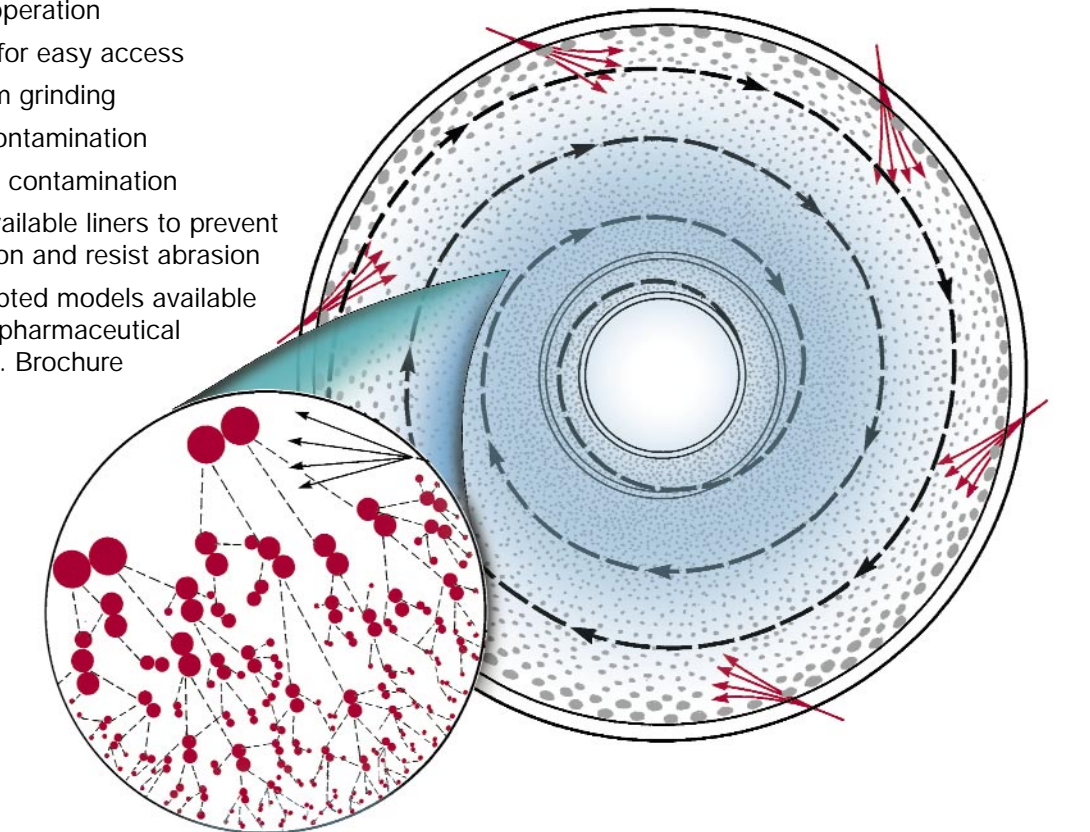
Engineered to meet industrial-strength demands with efficiency, the Micronizer combines high performance and Sturtevant dependability with these benefits:

- Simple, straightforward design with no moving parts
- Efficient, effective one-step grinding and classifying operation
- Engineered for easy access
- No heat from grinding
- No media contamination
- No lubricant contamination
- Variety of available liners to prevent contamination and resist abrasion
- USDA-accepted models available for sanitary/pharmaceutical applications. Brochure available.



Designed for high performance below 325 mesh (44 microns) — the economical fineness limit of many mechanical grinders — the Micronizer can consistently produce fines as small as 0.5 microns.

High-speed rotation subjects material to particle-on-particle impact reduction. Centrifugal force holds larger particles in the grinding area while centripetal force drives preselected-sized fines toward the center for discharge.



Rotation generates high-speed particle collision, creating increasingly smaller fines through particle-on-particle impact reduction.



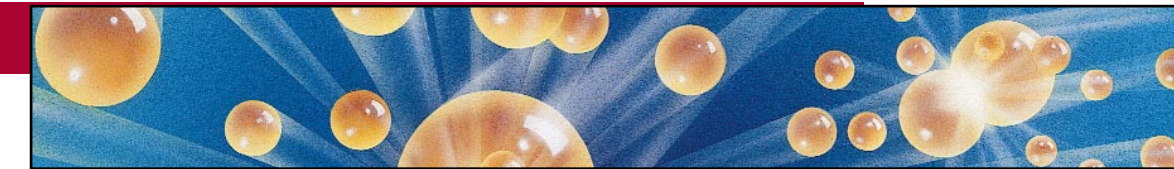
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POWDER PROCESSING TECHNOLOGY: THE STURTEVANT SOLUTION.

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POWDER PROCESSING TECHNOLOGY: THE STURTEVANT SOLUTION.



APPLICATIONS

- Agricultural chemicals
- Carbon Black
- Ceramics
- Pharmaceutical, cosmetics
- Pigments
- Precious metals
- Propellants
- Resins
- Titanium Dioxide
- Toner

LINERS

- Stainless Steel
- UHMWPE (Ultra-High Molecular Weight Polyethylene)
- Polyurethane or Vulcanized Rubber
- Alloy Steel
- Aluminum Oxide
- Silicon Carbide
- Tungsten Carbide



Easily opened Micronizer shows aluminum oxide, wear-resistant liners.

BENEFITS

Predictable Performance

- 1000+ installations and over 50 years of experience
- Sole-source responsibility with complete systems availability

Product Quality

- No heat build-up: process heat-sensitive materials
- Minimized product contamination:
 - A variety of specialty ceramic, low carbon steels, and polymeric liners available for adherent or abrasive materials
 - No media contamination
 - No lubrication contamination
- Uniformity: Produces spherical particle shape for reduced agglomeration

Safety

- Processes materials susceptible to oxidation or explosivity: easily adapts to inert gas and super-heated steam operations

Simple Operation

- Preassembled, with optional clamp connections available
- Grinds and sizes in one step; no additional classifier needed
- Operates in any orientation

Low Maintenance

- No moving parts
- No lubrication required
- Designed for easy access and cleaning
- Abrasion-resistant liners available
- Robust design

Flexibility

- Variety of product collection configurations available with integral cyclone, separate high-efficiency cyclone collector, single batch bag, or continuous cleaning dust collector
- Sizes from wheeled, portable lab units of 2", 4" and 8" to production systems of 42"

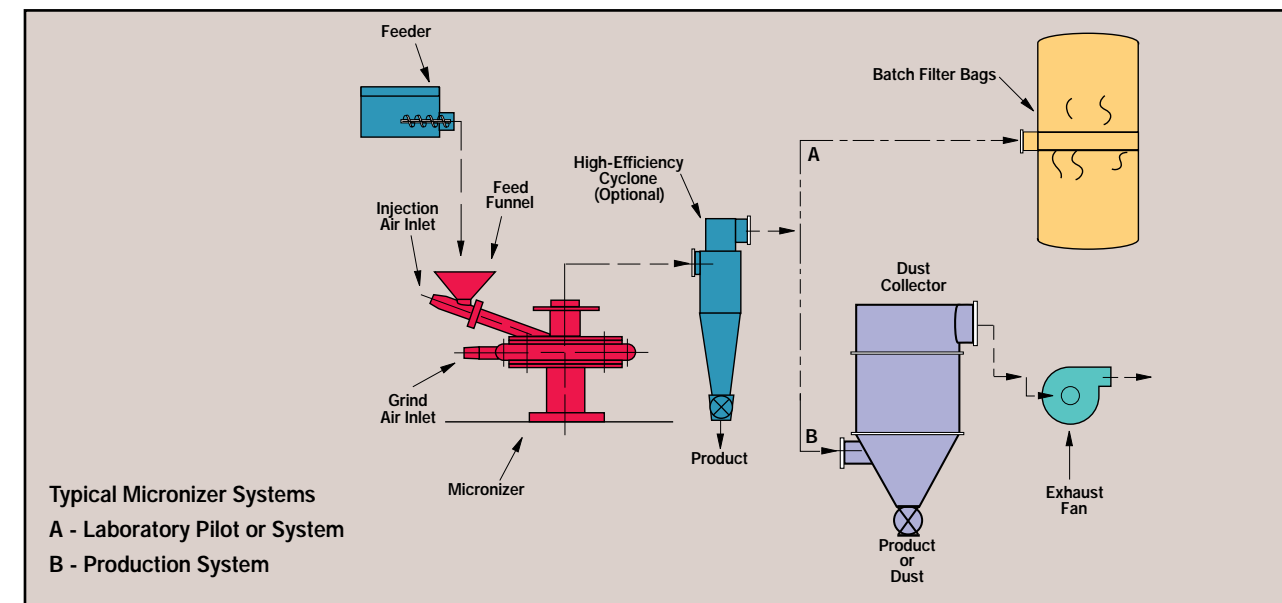
SPECIALIZED APPLICATIONS

The Micronizer's innovative design and fluid energy system enable numerous special-application possibilities for basic grinding, such as:

- Ceramic powders using wear-resistant ceramic liners
- Pharmaceutical powders using sanitary USDA-accepted design (brochure available)
- Agricultural chemicals without attritional heat

CAPABILITIES

Sturtevant Micronizers meet a variety of material and output specifications. The typical feed size for Micronizers is 100 mesh or finer. The product size ranges from sub-micron to 44 microns. Capabilities range from 1/2 to 10,000 pounds per hour. Micronizers may be operated using either compressed air, steam or inert gases.



Typical Micronizer Systems
A - Laboratory Pilot or System
B - Production System

MICRONIZERS				
MILL SIZE/DIA.	ENERGY REQUIREMENTS		HP	CAPACITY LBS./HR.
	¹ COMPRESSED AIR	² SUPER-HEATED STEAM		
2"	30	80	10	1/2 - 1
4"	55	145	15	2 - 40
8"	130	325	40	10 - 100
15"	350	900	100	50 - 300
20"	550	1250	125	100 - 1000
24"	800	2500	200	250 - 1400
30"	1500	4000	350	600 - 3000
36"	2250	6000	600	1000 - 6000
42"	3300	8000	750	2000 - 10,000

¹Volume of free air at 60° F, 14.7 psi compressed to 100 PSIG. Includes air consumed by feed injector nozzle.

²Steam supplied at 550° F and minimum 150 PSIG.

³Approximate HP necessary to generate 100 PSIG compressed air.

SAMPLE STURTEVANT MICRONIZER GRINDING DATA

Material	Feed Size	Product Size	Feed Rate (lbs./hr.)	Mill Size Dia. (in.)
Acetanilide	100% - 325 mesh	5 microns avg.	1/2	2
Aluminum Oxide	100% - 325 mesh	100% - 3 microns	30	8
Ammonium Perchlorate	100% - 80 mesh	3.2 microns avg.	500	15
Barium Ferrite	100% - 20 mesh	100% - 6 microns	6	4
Barium Titanate	100% - 20 mesh	100% - 325 mesh	1	2
Barytes	100% - 200 mesh	3-4 microns avg.	1800	30
Bentonite	100% - 200 mesh	100% - 400 mesh	5	4
Bismuth Trioxide	100% - 200 mesh	2.1 microns avg.	80	8
Carbon Black	100% - 100 mesh	75% - 15 microns	45	8
Chrome Oxides	100% - 325 mesh	6.5 microns avg.	30	8
Chromium Carbide	75% - 200 mesh	100% - 325 mesh	3	4
Cobalt	15 microns avg.	1.5 microns avg.	60	8
Copper Chromate	94% - 325 mesh	1.0 microns avg.	6	4
Copper Oxide	100% - 400 mesh	1.25 microns avg.	90	8
Cryolite	100% - 325 mesh	3.0 microns avg.	1000	30
Cupric Sulfate	100% - 325 mesh	10.0 microns avg.	4	4
Dolomite	25% - 100 mesh	100% - 325 mesh	2400	36
Ferrite	43% - 325 mesh	100% - 10 microns	5	4
Graphite	100% - 325 mesh	100% - 3 microns	20	8
Gypsum	50% - 325 mesh	100% - 15 microns	60	8
Iron Oxide	100% - 10 microns	100% - 1 microns	3	4
Iron Oxide Pigment	90% - 325 mesh	3.0 microns avg.	1000	30
Lead Chromate	100% - 100 microns	100% - 5 microns	120	8
Magnesium Oxide	100% - 14 mesh	3.2 microns avg.	50	8
Mica	100% - 100 mesh	100% - 325 mesh	15	8
Molybdenum	100% - 325 mesh	7.0 microns avg.	12	4
Paladium	100% - 200 mesh	4.2 microns avg.	10	4
Phenolic Resin	50% - 20 mesh	100% - 325 mesh	15	8
Pigments	100% - 50 mesh	100% - 10 microns	45	8
Polyvinyl Resin	100% - 20 mesh	100% - 12 microns	60	8
Potassium Chloride	100% - 20 mesh	100% - 10 microns	90	8
Potassium Perchlorate	100% - 14 mesh	2.3 microns avg.	75	8
Silicon Dioxide	100% - 200 mesh	100% - 6 microns	10	8
Silver Powder	85% - 325 mesh	100% - 10 microns	3	2
Sulfur	100% - 200 mesh	2.0 microns avg.	3000	36
Talc	100% - 20 mesh	2.0 microns avg.	2000	30
Titanium Dioxide	100% - 325 mesh	100% - 1 microns	4000	42
Titanium Oxide	100% - 80 mesh	0.5 microns avg.	20	8
Toner	100% - 100 mesh	7.0 microns avg.	60	8
Tungsten Carbide	100% - 30 mesh	95% - 100 mesh	10	8
Uric Acid	100% - 25 microns	1.0 microns avg.	1	2
Yttrium Oxide	75% - 100 mesh	3.0 microns avg.	30	8
Zinc Oxide	40% - 325 mesh	100% - 325 mesh	300	15
Zirconium Oxide	100% - 325 mesh	100% - 1.5 microns	50	8

Chart data contains typical feed rates. For rates reflective of your specific application, contact our customer test center.