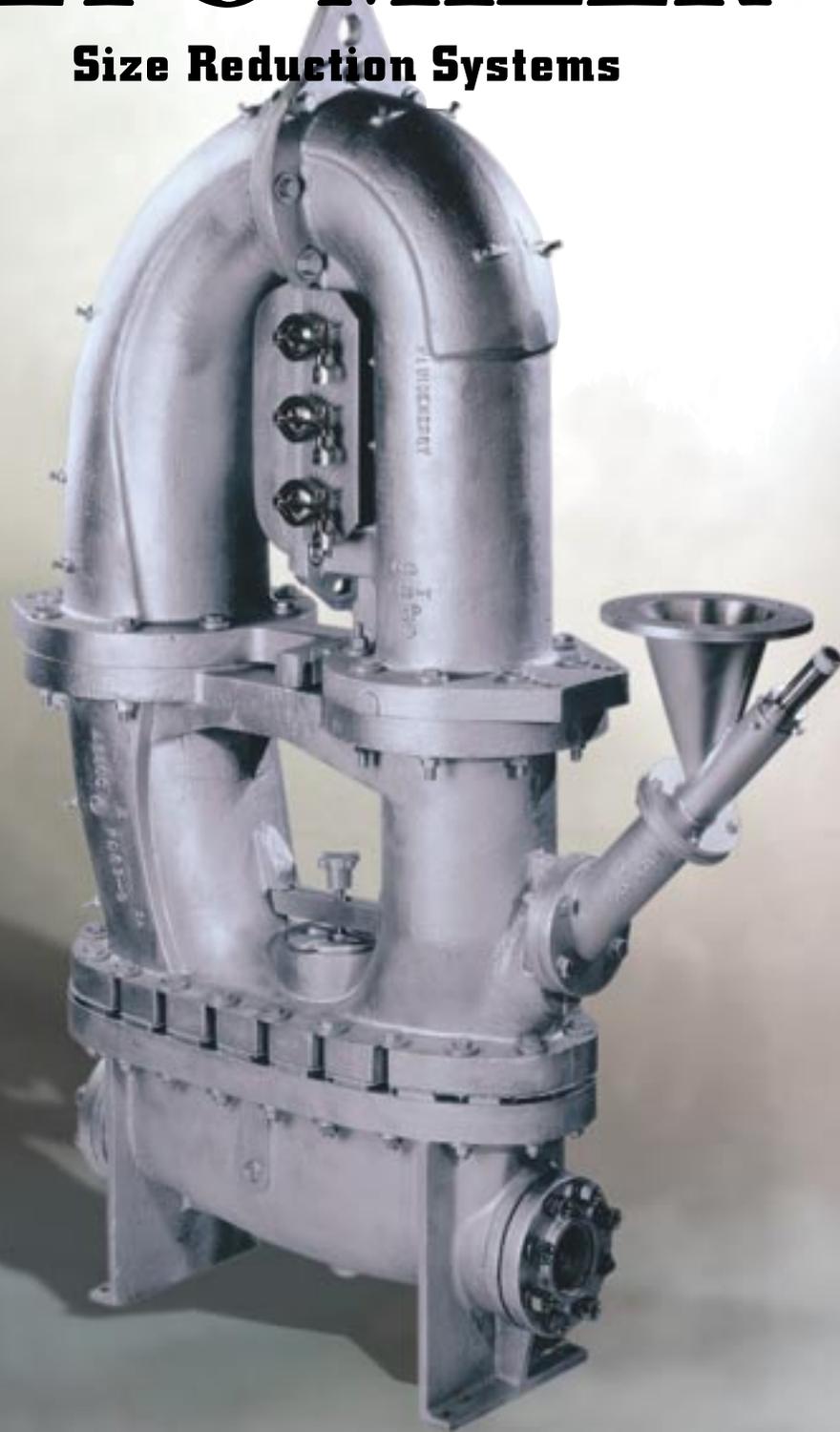


SOLUTIONS FOR GRINDING FINE POWDERS

# JET-O-MIZER™

**Size Reduction Systems**



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**Size Reduction Systems**

## OUTSTANDING EFFICIENCY AND VERSATILITY IN FINE (1.0-45 MICRONS) GRINDING AND CLASSIFICATION

The Jet-O-Mizer has been developed with many distinct design features to consume less power, provide a greater range of throughput (1 gram to 20,000 lb/hr) and ensure exceptional finished product quality.

Thorough application engineering allows determination of the ideal operational conditions for your process. Specific raw material characteristics and production requirements are integrated into a complete Jet-O-Mizer system.

### APPLICATIONS

**HARD, ABRASIVE MATERIALS:**

abrasives • minerals • ores

**HEAT-SENSITIVE MATERIALS:**

waxes • plastics • resins

**SANITARY, STERILE APPLICATIONS:**

pharmaceuticals • foods • cosmetics

**AGRICULTURAL MATERIALS:**

fungicides • herbicides • pesticides

**VOLATILE MATERIALS:**

propellants • explosives • oxidizers



Pictured above is Fluid Energy's complete line of Jet-O-Mizers, from R&D and pilot models, to full-scale production units.

### OPERATING PRINCIPLE

Air, steam or gas is introduced into the Jet-O-Mizer through specially designed nozzles to create a sonic or supersonic grinding stream. Solid particles of raw feed are injected into this violent, turbulent stream. The high-velocity collisions that result provide thorough and effective pulverization of the feed into smaller particles.

The particle stream leaving the reduction chamber flows to the classification zone. As the stream enters the classifier, the direction of flow is reversed. Properly sized product is entrapped by the viscous drag of the exiting flow and conveyed to collection equipment.

Larger particles are recycled to the reduction chamber for further grinding.



Sanitary Jet-O-Mizers are designed to meet USDA and pharmaceutical guidelines for cleaning or sterilization. Units can be designed for the pharmaceutical, cosmetic and food industries.

**High-Efficiency Chamber Design:** The Jet-O-Mizer grinding chamber features an inverted trapezoidal design, which forces the circulating particles to concentrate at the nozzles. This unique design improves grinding efficiency and reduces wear on chamber walls.

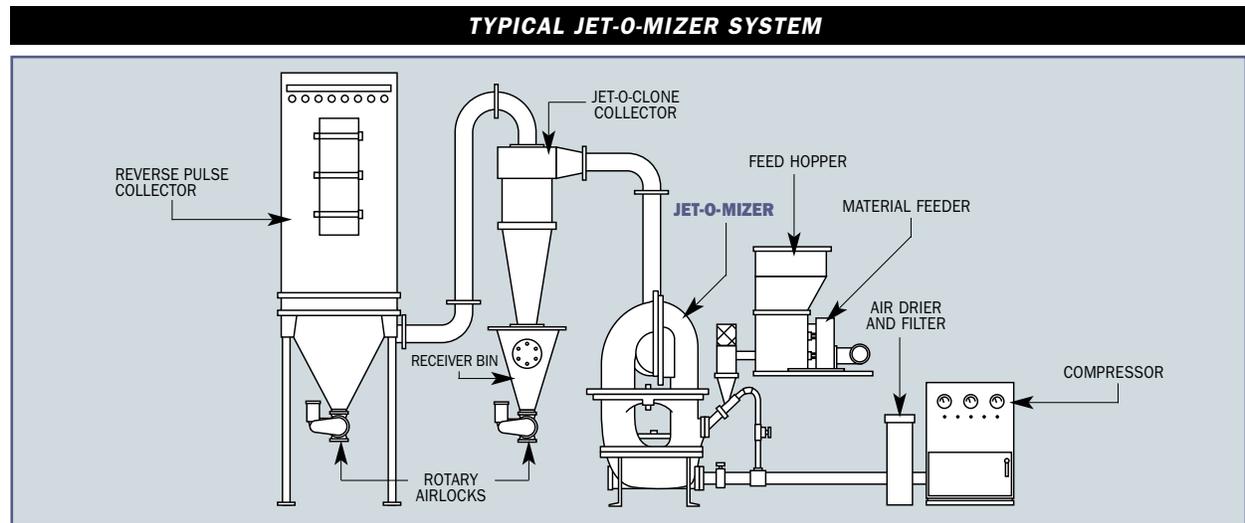
**Adjustable Classification Zone:** The Jet-O-Mizer employs an externally adjustable configuration. This feature controls the velocity gradient to isolate the classification process from the grinding chamber. This patented feature allows efficient control of particle size distribution for multiple products or specifications.

**No Attritional Heat:** The cooling effect of the grinding fluid completely offsets the slight heat generated during grinding. The Jet-O-Mizer system is routinely used to grind products with critical heat limitations.

**Combined Operations:** In the Jet-O-Mizer system, grinding may be combined with other physical and chemical operations. This saves time, reduces energy and minimizes product handling. While grinding, the Jet-O-Mizer can:

- dry wet-feed
- blend and mix ingredients
- coat product with waxes, oils and dyes
- promote chemical reactions (such as oxidization, calcination and sublimation)
- inhibit chemical reactions
- free entrapped solvents

**Replaceable Protective Liners:** Special alloy, polymer or ceramic liners minimize wear or build-up in strategic areas of the mill. This simplifies operation, extends the life of many components and prevents downtime.



The Model 00 Jet-O-Mizer is used for pharmaceutical and chemical research and development. Sample sizes as small as 1 gram to 300 grams per hour can be processed.

**Durable Construction:** The low-maintenance design has no moving parts and can be opened quickly and easily for inspection or cleaning. The Jet-O-Mizer system is designed for continuous operation 24 hours a day, 365 days a year.

**TYPICAL OPERATING PARAMETERS**

MILL SERIES NUMBER	PRODUCTION CAPACITY (LB/HR)	SCFM AIR @70°F & 100 PSIG	STEAM (LB/HR) @700°F & 200 PSIG
000	0.02-0.25	1.0	N/A
00	0.1-2	4.0	N/A
0101	0.5-20	10-30	60-120
0202	1-100	50-120	200-500
0304	50-750	100-500	400-1,000
0405	100-1,500	400-800	1,000-2,000
0506	200-2,500	450-1,200	1,500-2,500
0608	400-6,000	750-1,500	3,000-5,000
0808	500-10,000	1,000-2,000	4,000-6,500
1112	800-12,000	2,000-6,000	6,000-15,000

## APPLICATION ENGINEERING

Fluid Energy Processing & Equipment Company operates a complete test facility to demonstrate the performance of our equipment using your raw feed. Complete raw feed and finished product analyses are conducted in our Quality Control Lab. Engineering and process data are accumulated to develop a total system architecture for your application.

Whether your needs involve large-scale production control or basic benchtop convenience, our expert engineering and complete project coordination ensure efficient, cost-saving solutions to your critical application challenges.

## SPECIAL SERVICES

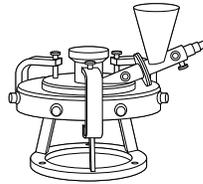
**Rental Systems:** Most of Fluid Energy's advanced systems are available on a rental basis to fulfill your immediate processing requirements.

**Custom Processing:** Fluid Energy maintains two facilities for coarse and fine grinding of your material on a contractual basis. Other services include blending, drying and packaging. The fully equipped QA laboratory in each facility is available for moisture, particle size and custom analyses of your products.



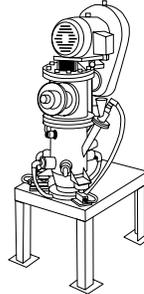
**Fluid Energy** is the world's largest jet mill supplier, representing over fifty years of experience in jet milling and flash drying technologies.

This strong background, combined with aggressive ongoing product development, makes Fluid Energy an innovative leader in the design of fine material processing systems and specialized equipment.



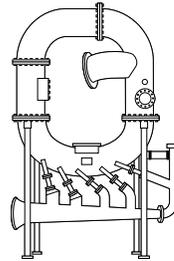
## MICRO-JET

The MICRO-JET is a complete line of horizontal grinding mills capable of producing ultra-fine material down to 0.5-45 micron averages. Replaceable liners and nozzles provide effective grinding of sticky and abrasive materials. An innovative design allows for rapid disassembly and cleaning.



## ROTO-JET

The ROTO-JET is a grinding mill that utilizes a sophisticated grinding technology yielding more controlled size distribution. With the advanced design of the integrated, adjustable classifier, particle size distribution can be more easily controlled. Efficient compressed air usage and total system automation ensure manufactured product is of the highest quality.



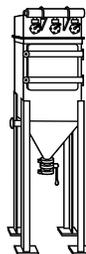
## THERMAJET

The THERMAJET is an established line of compact, highly-efficient flash dryers to deagglomerate and dry any wet solid, slurry, centrifuge or filter cake. Ideal for safe processing of heat sensitive or reactive products, these dryers can also be used for flash calcining operations.



## JET-O-CLONE

The JET-O-CLONE is a line of custom-designed cyclone separators that can provide primary collection of micron and sub-micron particles at 98%+ efficiency. These separators are commonly used in conjunction with our grinding and drying equipment.



## DUST COLLECTORS

Fluid Energy applies its comprehensive processing experience to offer a complete line of DUST COLLECTORS. These advanced systems provide 99.99% effective particulate capture and are designed to ensure compatibility with our grinding and drying systems.

