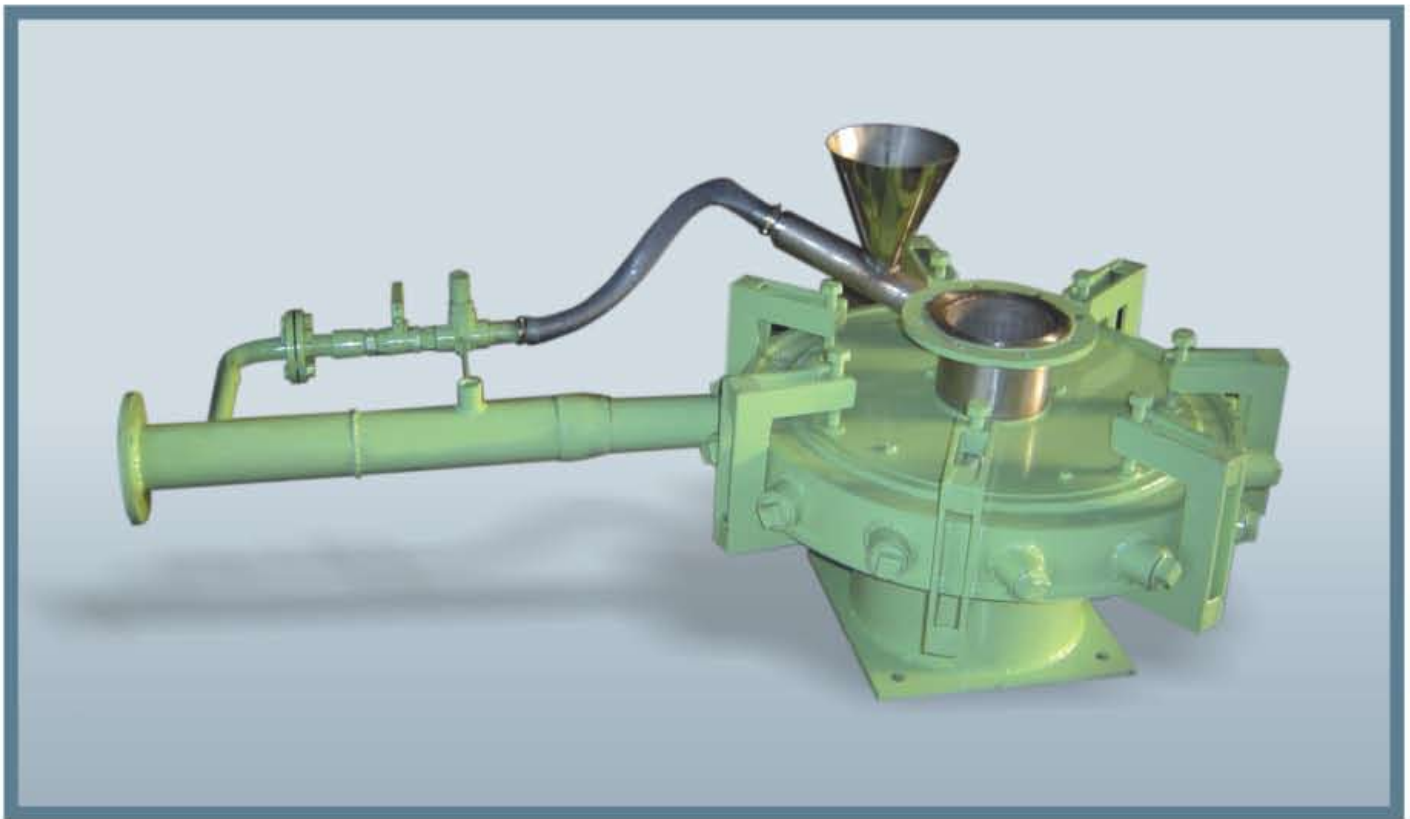




JET MILLS

(FLUID ENERGY MILLS)

Mills for Fine Micronizing of Solids



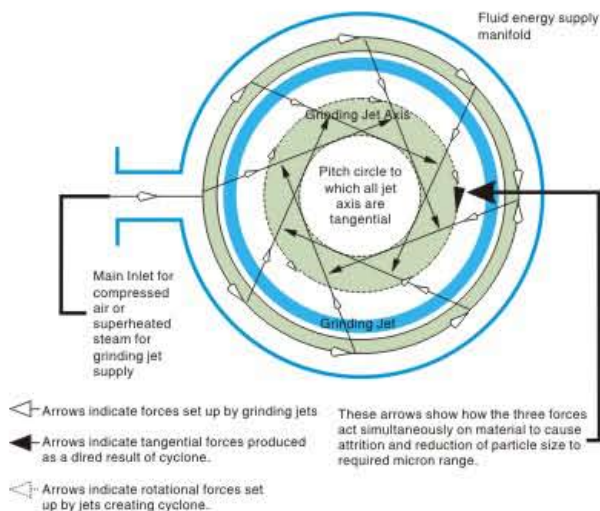
Micronizing of solids of chemicals, pigments, pharmaceuticals, minerals, agrochemicals, thermoplastics and others like heat sensitive, corrosive and abrasive materials.



Jet Mills (Fluid Energy Mills) are used to micronise pharmaceuticals, chemical, pigments, minerals, agrochemicals, thermoplastics and other heat sensitive and abrasive materials.

Jet Mills operate in compressed air, gas or high pressure superheated steam. These mills have no moving parts and thereby eliminating contamination due to contact with external grinding media. Also no attritional heat is generated during grinding process hence suitable for heat sensitive and waxy substances.

PRINCIPLE OF OPERATION



Jet Mill works on fluid energy. Micronizing and classification are to be done in Jet Mill by taking advantage of fluid energy. Mill is designed to inject high pressure air or steam in to shallow cylindrical chamber through specially designed nozzles. Nozzles are placed at equally spaced on peripheral wall to have each jet is tangential at imaginary smaller circumference. Venturi system will control

the feed rate of the material precisely to get productivity. Jets generate high velocity vortex during material feeding which create vacuum to suck product in to high speed vortex. Suspended particle of the material are collided with each other and reduce themselves by attrition as well as collision whenever it comes in strong velocity gradients near the jet. The micronization takes place due to the collision between the incoming particles and the particles, which are accelerated into the spiral path. The larger particles of the product get retained at the periphery of the chamber by centrifugal force and micronised particles exit with the exhaust air from the central port of the chamber and get collected in to the cyclone collector system. Heavier or oversize particles are stay in chamber until micronised due to centrifugal force. The material can, be milled to an average particle size 0.2 to 5 micron or coarse ground to 400 mesh depending upon characteristics of the product. In general, input feed size of 200 mesh with air pressure of 7 kg/sq. cm, adequate quantity of air and controlled feed give better results.

DESIGN

Unique design to micronise wide range of dry solids material very economically and efficiently. Particle collide each other without any moving part, which results absolute productivity and negligible maintenance. Provided with interchangeable liners. Designed for easy dismantle and quick reassemble for cleaning and for material change. Compact design require less floor space.

BENEFITS

Micron size particles improve product quality to great extent as compared to mesh particle in terms of efficiency, dispersions, behavior and intimate blends of different material. It is due to increase in number of particles and surface area. It also increase suspensibility, dispersion rate, surface area of particle and bulk density.

CONSTRUCTION

Simple modular design allowing easy access to internal parts that are mechanically polished to 320–360 grit finish. The main milling chamber is mounted on stand with all the process pressure regulators, gauges and controls valves to monitor pressure across the filters are mounted in the front panel of the chamber so as to have ease of user friendly operations. The jet mill disassembles easily

for perfect cleaning of components and fast changeover, without risk of cross contamination.

The mills are supplied with a wide range of auxiliary equipment for feeding, conveying, classification to product collection.

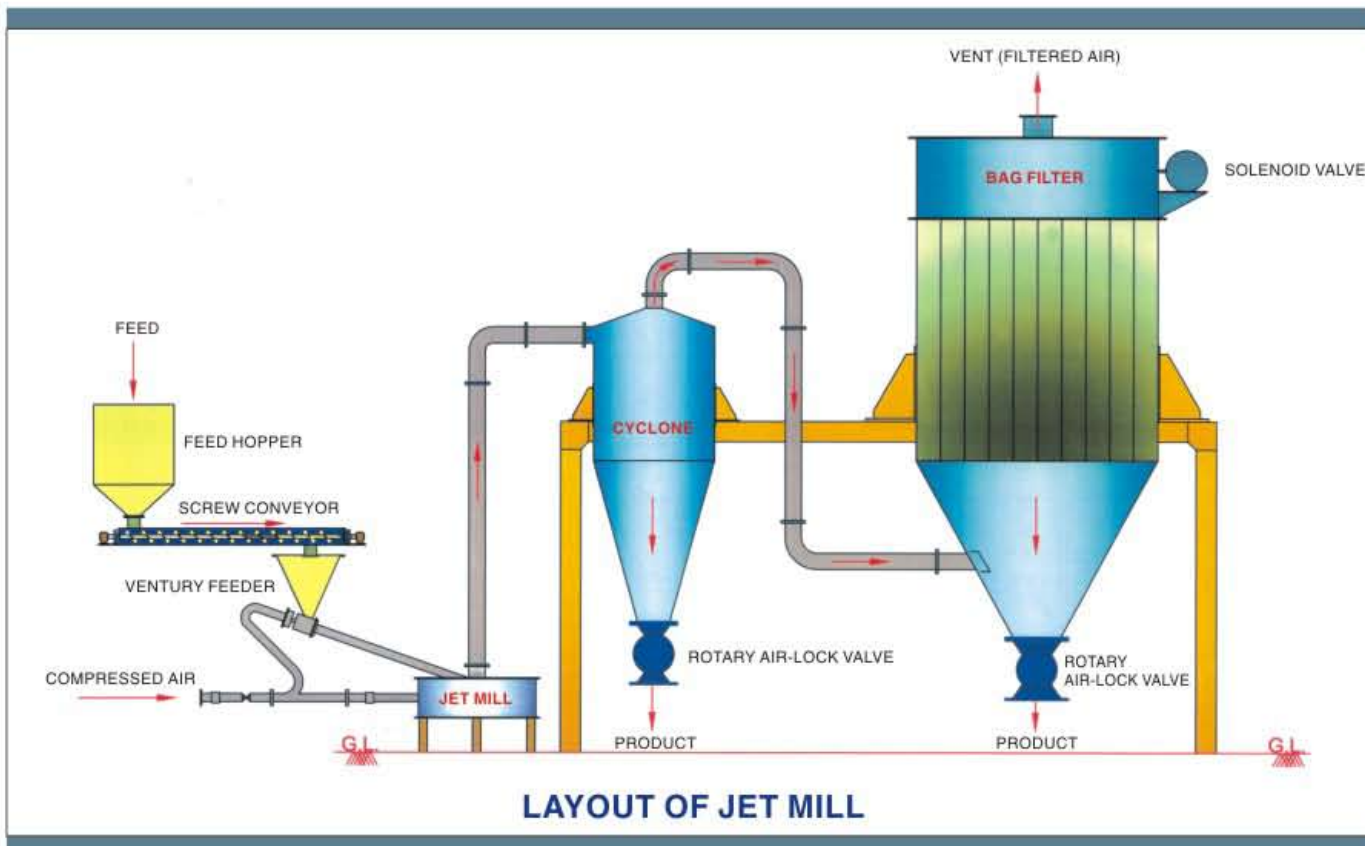
THE PARTICLE SEPARATOR

The particle distribution is controlled by adjusting pressure and feed rate. The particles are trapped by specially designed cyclone separator and dust collector.

APPLICATIONS

The jet mills are widely used in drugs and pharmaceuticals, organic and inorganic pigments, optical brighteners, fluorescent pigments, food colour, synthetic dyes, metal (except malleable metals) – carbides & borides, tobacco, herbicides and pesticides, ceramic, glasses, alumina, feldspar, frit, kaolin, mullite, electronic grade materials such as materials required for semiconductors, phosphors, photo electronic, high temperature critical materials, rocket fuels etc.

INDUSTRIES	SOME OF THE MATERIALS
Agrochemicals	BHC, DDT, Deltamethrine, Carbendezim, Carbaryl, Germicide, Herbicide, Fungicide, Sulphur etc.
Chemicals	Adipic acid, Barium titanate, Calcium chloride, Chrome oxide, Catalysts, TCC etc.
Ceramics	Aluminium hydrates, Silicon carbide, Ferrites, Glass, Zirconium oxide etc.
Metals	Molybdenum disulphide, Noble metal, Copper etc.
Minerals	Gypsum, Graphite, Mica, Talc, Tantalum ore etc.
Paints	Carbon black, Fluorescent pigments, Printing ink etc.
Pharmaceuticals	Albendazole, Antibiotics, Aspirin, Cosmetics, Bulk drugs, Dichlofenac sodium, Glybeneclamide, Furosemide, Omeprezole, Oxfendazole etc.
Plastics	ABS resins, PVC stabilizers, Phenolics, PTEF etc.
Others	Asbestos, Chocolate, Food colours, Fuller earth, Precipitated silica, Silverflake, Toner, Wax, Wolframite ore etc.



TECHNICAL DATA

S.No.	Model	Air Compressor KW rating at Pr. 7 Kg/cm ²	Air (M ³ /Hr.) FAD	Capacity Kg/Hr. (Approx.)	Approximate space required for mill at bagging ht. = 1000mm LxBxH (mm)
1.	NJM-200	30	215	22	3000 x 1000 x 2000
2.	NJM-250	37	340	40	4500 x 2000 x 4000
3.	NJM-300	45	450	65	4500 x 2000 x 4000
4.	NJM-400	56	650	100	5000 x 2000 x 4000
5.	NJM-450	90	900	160	5000 x 2000 x 5000
6.	NJM-500	112	1100	210	5000 x 2000 x 5000
7.	NJM-600	187	1800	400	5000 x 3000 x 6000
8.	NJM-750	337	2900	720	6000 x 3000 x 7500

- Production capacity, fineness and KW of motors are nominal only and vary from case to case depending upon several factors.
- Specifications and designs are subject to change without notice.
- Different designs can be offered for different applications.
- Average feed size of materials is 200 mesh with operating pressure in between 7-8 kg/cm², but results widely depend on material characteristic.

OTHER RANGE OF PRODUCT

CENTRIFUGES	ROTARY VACUUM DRIERS
# MANUAL TOP DISCHARGE	BUCKET ELEVATORS
# BAG LIFTING TYPE	SCREW CONVEYORS
# BOTTOM DRIVEN BOTTOM DISCHARGE	RIBBON BLENDERS
WITH SCRAPER	BELT CONVEYORS
# TOP DRIVEN BOTTOM DISCHARGE	DRUM DRIERS AND FLAKERS
REACTION VESSEL	ROTARY DRIERS
HEAT EXCHANGERS	ROTARY KILNS
AIR CLASSIFYING MILLS (ACM)	



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(An ISO 9001:2000 Certified Company)



ISO 9001:2000 CERTIFIED ORGANISATION

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