



DP Pulveriser®
since 1962



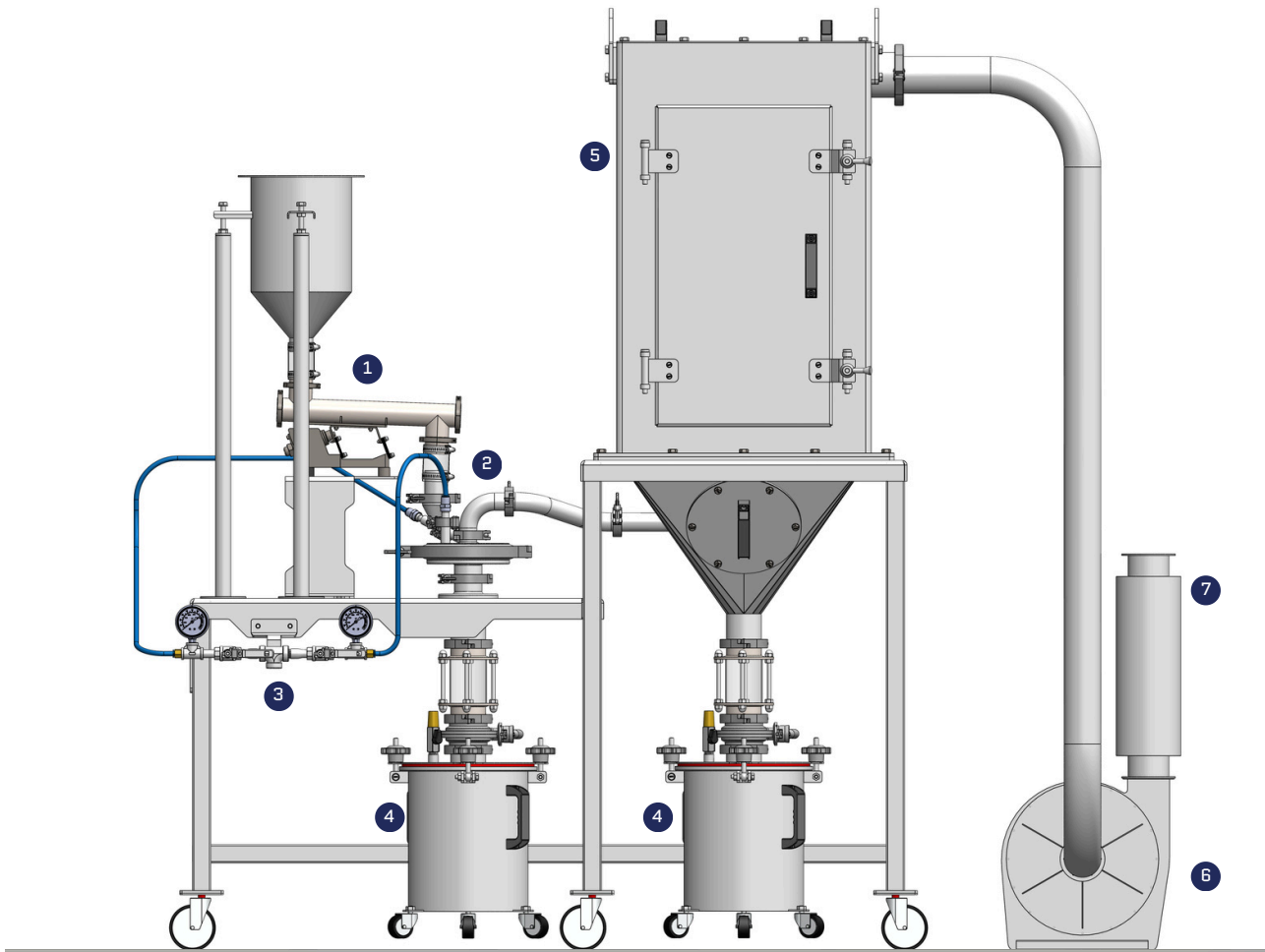
DP® Spiral Jet Mill

Jet Mill

Introduction

The DP® Spiral Jet Mill is designed for ultra-fine grinding using high-velocity compressed air or inert gas to create particle-to-particle impact within the milling chamber. With no moving grinding components, it delivers contamination-free processing, narrow particle size distribution, and excellent control over fine particle generation—making it ideal for pharmaceuticals, chemicals, minerals, and heat-sensitive materials.

- | | |
|-------------------------------------|------------|
| 1 Feed Hopper With Vibratory Feeder | 6 Blower |
| 2 DP® Jet Mill | 7 Silencer |
| 3 Manifold | 8 Silencer |
| 4 Bottom Container | |
| 5 Pulse Jet Dust Collector | |



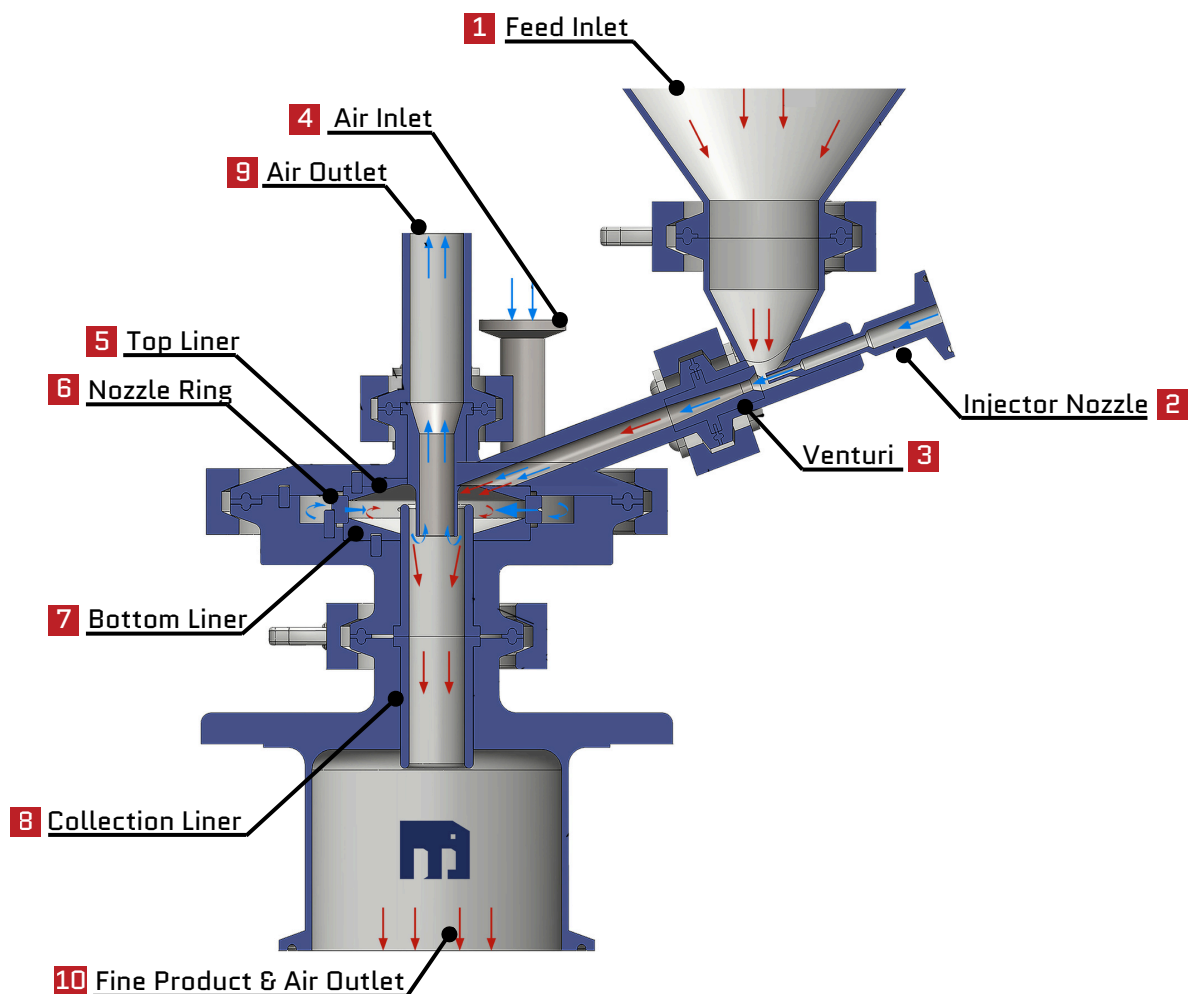
► Typical process flow diagram of a standard Jet Mill

Working Principle

The DP® Spiral Jet Mill operates on the principle of particle-to-particle impact generated by high-velocity compressed air or inert gas streams. Material enters through the **feed inlet (1)** and is conveyed through the **injector nozzle (2)**, where it is accelerated by the **venturi system (3)**. Compressed air enters through the **air inlet (4)** and is directed into the **nozzle ring (6)**, generating high-velocity spiral airflow within the grinding chamber.

Inside the grinding zone, particles are accelerated to extremely high velocities and collide repeatedly with one another along the **top liner (5)** and **bottom liner (7)**. Since there are no moving grinding components, size reduction occurs entirely through inter-particle collision and attrition, resulting in contamination-free ultra-fine grinding with minimal heat generation.

This system is ideal for ultra-fine processing of heat-sensitive, abrasive, and high-purity materials in pharmaceutical, chemical, and mineral applications. The finely ground product, together with process air, passes through the **collection liner (8)** and exits through the **air outlet (9)** and **fine product & air outlet (10)** for downstream product collection and filtration.



Features & Benefits

- ▶ Achieves ultra-fine grinding through high-velocity particle-to-particle impact using compressed air or inert gas.
- ▶ Capable of producing micronized powders with narrow particle size distribution for precision applications.
- ▶ No moving grinding parts inside the milling chamber, ensuring contamination-free processing and minimal wear.
- ▶ Suitable for heat-sensitive, abrasive, and high-purity materials due to low-temperature grinding operation.



▶ DP® 2 Inch Spiral Jet Mill



▶ DP® 2Inch Mill assembly

- ▶ Screen-free grinding design eliminates blockage, reduces maintenance, and ensures uninterrupted operation.
- ▶ Available in laboratory and production models for R&D, pilot, and industrial-scale processing requirements.
- ▶ Grinding chamber and internal components designed for easy access, quick cleaning, and simplified maintenance.

Options and Accessories

- **Explosion Protection:** Can be engineered with pressure shock-resistant construction and ATEX-compliant safety features for dust explosion protection.
- **Metal Separation:** Can be fitted with inline magnetic separators or metal detectors to maintain product purity and protect equipment.
- **Inert Gas Grinding System:** Compatible with nitrogen or inert gas circulation systems for oxidation-sensitive, explosive, or reactive materials.
- **Feeding & Product Collection Systems:** Compatible with screw feeders, vibratory feeders, cyclone separators, bag filters, and pneumatic conveying systems.
- **Instrumentation & Monitoring:** Can be equipped with temperature probes, vibration sensors, and safety interlocks for process control and equipment protection.
- **Ceramic / PU / Wear-Resistant Liners:** Optional internal grinding chamber areas can be supplied with ceramic, polyurethane, tungsten carbide, or special wear-resistant liners for abrasive and contamination-sensitive applications.
- **Laboratory & GMP Design:** Available in laboratory, pharmaceutical, and sanitary constructions with easy-clean and CIP/SIP-compatible designs.



► DP® 2 INCH Jet Mill-Explosion proof with rupture disc



► Ceramic contact parts for minimal contamination

Machine size

Model		Air required free air compressed to 100 PSIG (690 kPa)		Approximate HP necessary to generate 100 PSIG compressed air	Typical feed rate in kg/hr
SJM		SCFM	m ³ /hr	HP	-
50	2"	20	34	5	0.45-7.0
100	4"	50	85	13	0.90-22
200	8"	100	170	31	7-45
300	12"	225	380	62	11-115
375	15"	350	595	83	22-180
500	20"	550	935	130	45-360
600	24"	1200	2040	236	90-680
750	30"	1600	2720	356	180-1800
900	36"	2200	3740	531	360-2700
1050	42"	2900	4930	779	680-4500



► DP® 12 INCH Jet Mill-Explosion proof with rupture disc

Who are WE?

We are DP Pulveriser Industries and have been designing and building size reduction equipment in India since 1962. We believe in using the materials of the highest grade to build our equipment because we understand your need for a machine that will perform - without breakdown - day in and day out. 60+ years, 7500 installations and 32 countries later we now hold the reputation of being one of India's finest manufacturers of size reduction equipment. Regardless of the industry you operate in, DP can optimize, innovate and automate your entire process with tailor made solutions and expertise that is backed by 60+ years of experience. We are a young bunch of passionate engineers excited to work on your next challenging project



What do we DO?

DP Pulveriser Industries' offerings are broadly classified under 3 segments:



Powder Processing Equipment

Built for durability and low maintenance even after years of service, Our core strength lies in Size Reduction and Air Classification. We offer a wide range of machines to meet all your particle size requirements.

Testing and Other Services

We offer various services such as material trials of our equipment, grinding and air classification of your material on a contract basis and even particle testing and analysis at a fully equipped laboratory on the campus of our partner IIT Gandhinagar.



Turnkey Systems & Plant Automation

Thanks to our decades of experience, we understand what processing technologies and equipment are best suited for your application and industry. This means we can be your one stop solution for setting up complete powder processing plants carefully tailored to your needs.



Our Global Footprint

- Australia
- Bahrain
- Germany
- Mexico
- New Zealand
- South Africa
- Qatar
- Canada
- United Arab Emirates
- Bangladesh
- Ghana
- Hongkong
- Iran
- Nepal
- Singapore
- Nigeria
- Bhutan
- China
- Tanzania
- Oman
- Philippines
- Switzerland
- Uruguay
- Zambia
- Kenya
- Estonia
- Egypt
- Mauritius
- Madagascar
- Guatemala
- Indonesia
- Sri Lanka
- Bremen



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