



DP Pulveriser[®]
since 1962



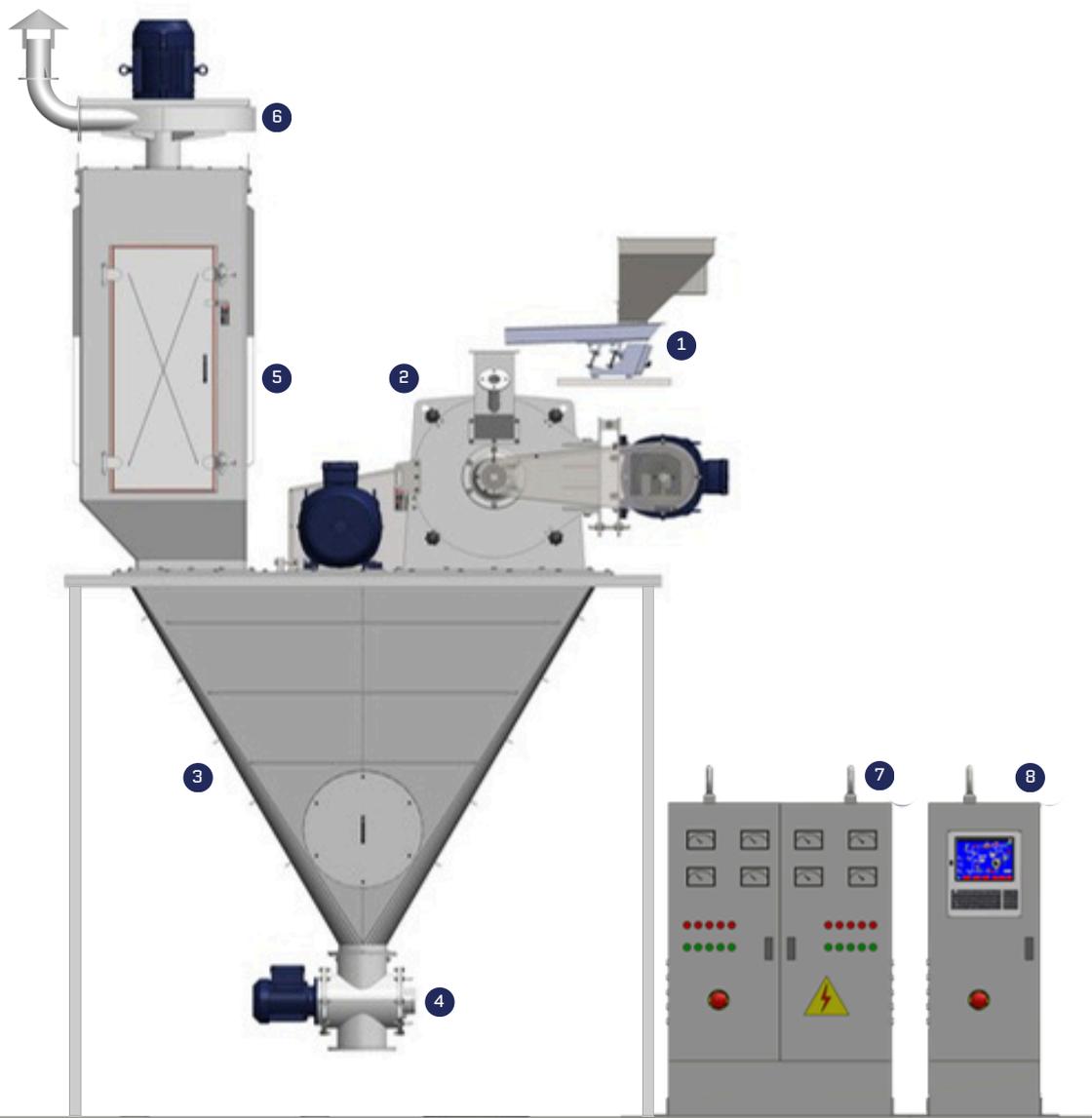
DP@ CONTRA Pin Mill

Counter Rotating Mill

Introduction

The DP® CONTRA Pin Mill is a high-speed, counter rotating pin disc mill designed for fine grinding of sticky, greasy, or heat-sensitive materials. Its efficient design ensures precise size reduction, low energy consumption, and minimal liquid nitrogen usage—making it ideal for cryogenic and fine grinding applications.

- 1 Feed Hopper with Vibratory Feeder
- 2 DP® CONTRA Pin Mill
- 3 Material Discharge
- 4 Rotary Air Valve
- 5 Dust Collector
- 6 Blower
- 7 Control Panel
- 8 PLC Panel



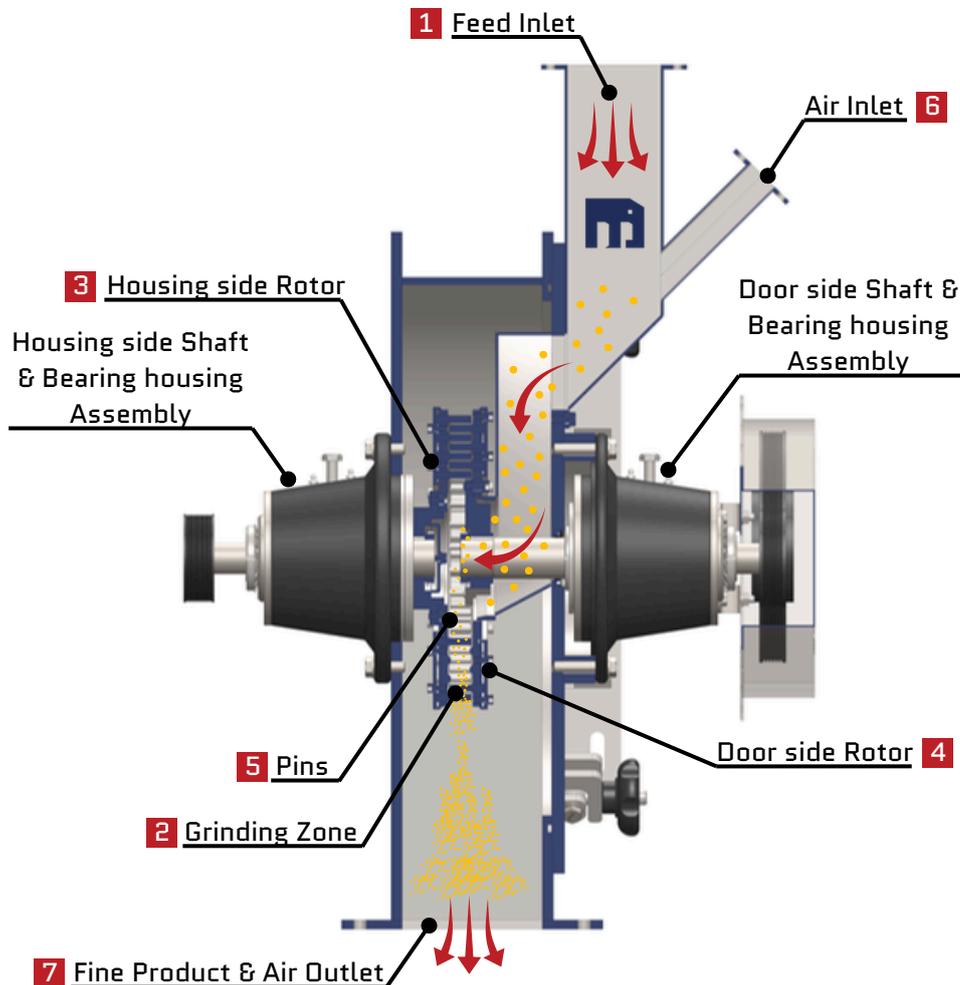
► Typical process flow diagram of a standard CONTRA

Working Principle

The DP® Contra Pin Mill is designed for efficient ultra-fine grinding using two contra-rotating pin discs. Material enters through the **feed inlet (1)** and is directed into the **grinding zone (2)** with the aid of controlled feeding systems such as a screw or vibratory feeder. Simultaneously, air is introduced through the **air inlet (6)** to assist in transporting and fluidizing the material.

At the heart of the mill are two precision-engineered rotors—the **housing side rotor (3)** and the **door side rotor (4)**—each equipped with intermeshing **pins (5)**. These rotors spin in opposite directions, generating a maximum relative tip speed of up to 250 m/s. This high-speed counter-rotation creates intense impact and shear forces, resulting in rapid deagglomeration and efficient particle size reduction.

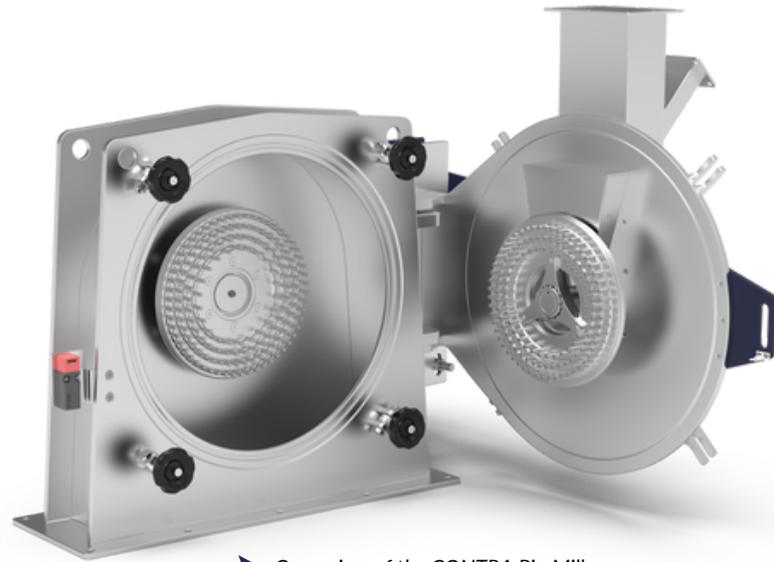
This mechanism is particularly well-suited for brittle, crystalline, greasy, or heat-sensitive materials, delivering fine grinding without the need for screens. After size reduction, the fine product exits the chamber via the **fine product & air outlet (7)** and can be collected or pneumatically conveyed as per process requirements. The fineness can be easily adjusted by controlling the rotational speed and configuration of the pin discs.



► A cross-sectional view of the CONTRA

Features & Benefits

- ▶ High grinding fineness with low specific energy consumption
- ▶ Intensive, agglomerate-free and homogeneous mixing-grinding of products
- ▶ Dual driven pin discs for achieving high fineness values in the range of approx. 10 to 500 μm
- ▶ Individual setting of the grinding parameters - speed, direction of rotation, etc.



▶ Open view of the CONTRA Pin Mill

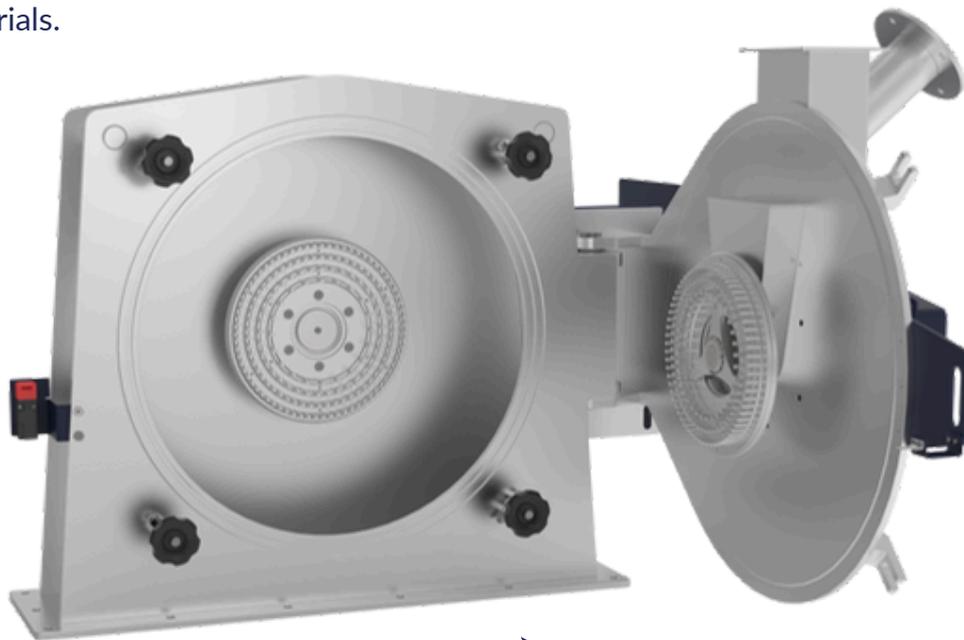


▶ DP® CNT-320PD CONTRA Pin Disc Mill

- ▶ High relative disc speed up to 250 m/s enables superior fineness, especially for brittle and crystalline materials.
- ▶ Hassle-free operation with our screen less design, eliminating common issues associated with traditional screening methods

Options and Accessories

- ▶ **Cryogenic Capability:** Optional design for cryogenic grinding using liquid nitrogen enables efficient processing of greasy, sticky, or heat-sensitive materials without degradation.
- ▶ **Explosion Protection:** Can be engineered with pressure shock-resistant housing to comply with dust explosion safety standards, supporting overpressure resistance up to 10 bar.
- ▶ **Metal Separation:** Optional inline metal detectors or magnetic separators ensure product purity and protect downstream equipment from metal contamination.
- ▶ **Custom Rotor Configurations:** Pin disc and rotor setups can be tailored for coarse or fine grinding requirements, offering flexibility in impact intensity and particle size range.
- ▶ **Instrumentation & Safety Systems:** Can be equipped with vibration sensors, temperature sensors, and interlock safety switches to monitor operational conditions and ensure equipment protection.
- ▶ **Wide-Chamber Housing:** A wide-chamber design can be provided to minimize coating buildup and internal blockages, especially when processing sticky or greasy materials.



▶ *Wide chamber design of the CONTRA Pin Disc Mill*

Machine size

Model	Rotor drive		Rotor speed (Max.)		Max. air flow rate	Scale-up factor
	Housing side	Door side	Housing side	Door side		
CNT	kW [HP]		RPM		m3/h	
255	15	7.5	11250	5500	950	1
320	22	15	9000	4800	1800	1.6
450	37	37	8000	4500	2350	3
640	55	55	3500	3500	4350	5.5
805	132	132	3000	3000	8150	11



► Intermeshing Pin Rotor Assemblies

► DP® CNT-320PD CONTRA Pin Disc Mill complete system



Application

Type	Feed Material	Fineness	Capacity [kg/h] CNT-255PD
Spices	Cardamom	d ₉₅ 400 µm	100
	Cinammon	d ₉₅ 200 µm	150
	Mustard seeds	d ₉₅ 500 µm	200-250
		d ₉₅ 400 µm	100-150
	Nutmeg	d ₉₅ 800 µm	175-200
		d ₉₅ 600 µm	125-150
	Mace	d ₉₅ 1000 µm	150-200
	Cloves	d ₉₅ 500 µm	70-80
		d ₉₅ 850 µm	100
	Cumin seeds	d ₉₅ 850 µm	150-200
	Coriander seeds	d ₉₅ 630 µm	200
	Fennel seeds	d ₉₅ 600 µm	100
Ginger	d ₉₅ 300 µm	60-80	
Foods	Sugar	d ₉₉ 63 µm	150
	Skimmed milk powder	d ₈₀ 32 µm	550
	Cocoa press cake (12-14% fat)	d ₉₉ 75 µm	160
	Cocoa press cake (22-24% fat)	d ₉₉ 75 µm	120
	Agar agar	d ₉₀ 100 µm	70
	Extrusion cooked full fat soya soyflour	d ₉₈ 200 µm	160-240
Plastics (cryogenic grinding)	Polypropylene (-30 deg C)	d ₅₀ 160 µm	100
	EVA (-30 deg C)	d ₂₅ 100 µm	250
	Rubber granules	d ₈₈ 500 µm	300
Minerals	Limestone	coating with stearic acid (0.5-1.5%)	350
Agrochemicals	DDT (75%)	d ₉₇ 70 µm	200
	Captan (100%)	d ₉₇ 40 µm	250
	Aldrin (40%)	d ₉₇ 75 µm	200
Chemicals	Magnesium oxide	d ₉₉ 30 µm	300
	Potassium sulphate	d ₉₉ 20 µm	200
	Vitamin C	d ₉₈ 120 µm	450





► Display of DP® CNT-255PD CONTRA Pin Mill at Anuga Exhibition in Mumbai



► DP® CNT-320PD CONTRA Pin Mill ready for dispatch



► Installation of 2 Nos. DP® CNT-320PD CONTRA Pin Mill in West India



► Display of DP® CNT-255PD CONTRA Pin Mill at IndusFood Exhibition in Delhi



► DP® CNT-255PD CONTRA Pin Mill ready for dispatch



► Installation of 2 Nos. DP® CNT-320PD CONTRA Pin Mill in West India

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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