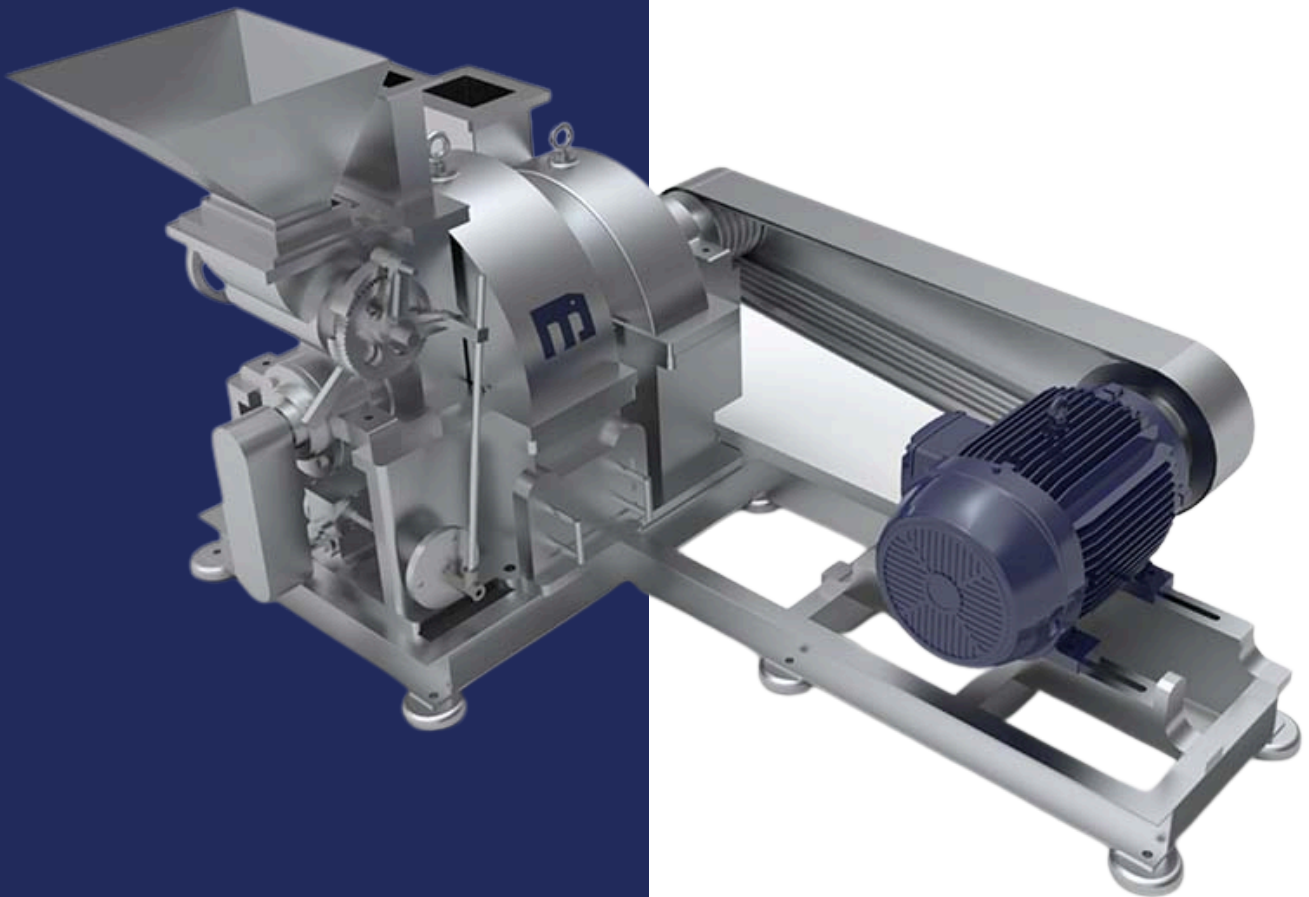




**DP Pulveriser**<sup>®</sup>  
since 1962



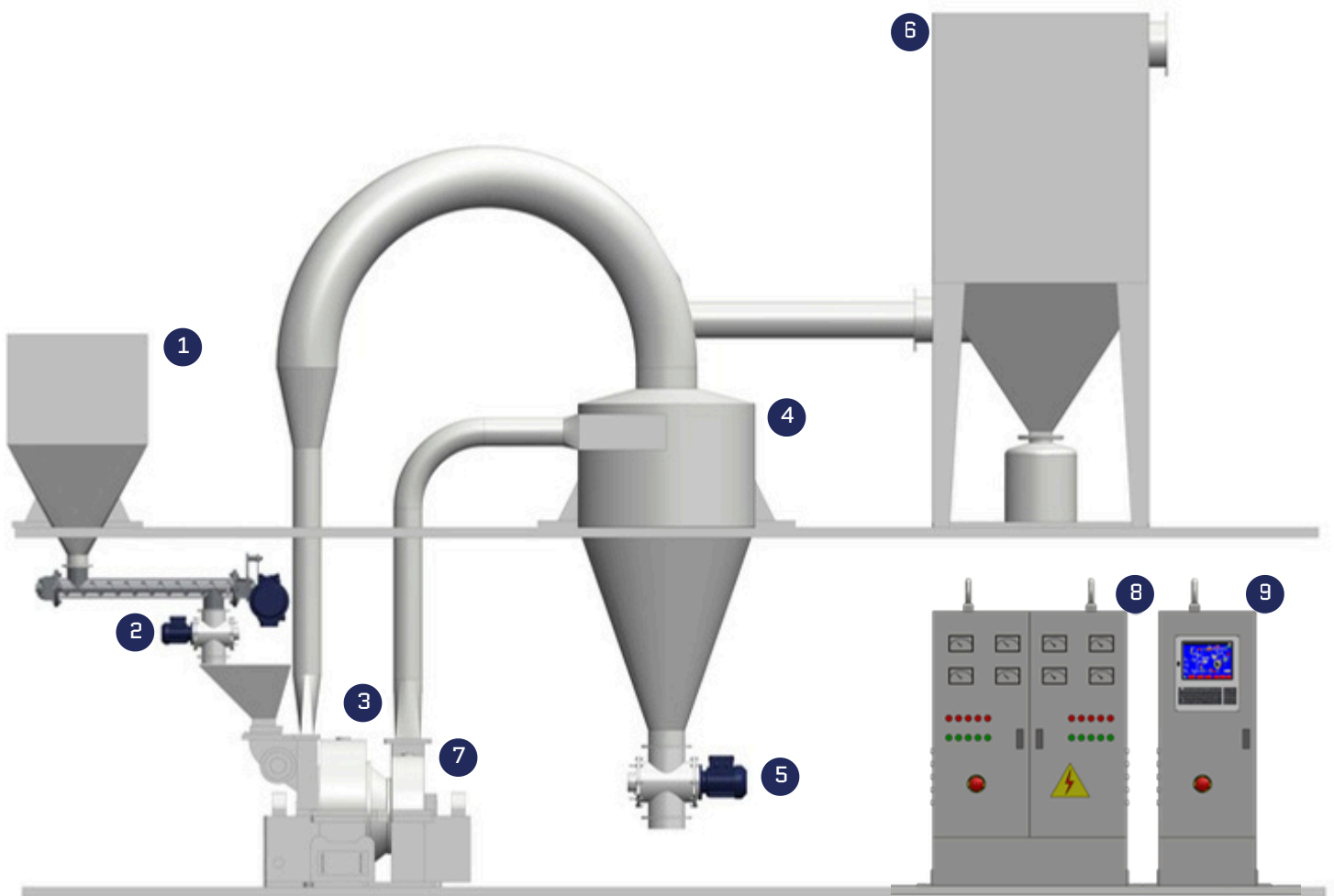
## **DP® IP Impact Pulveriser**

*Pulverisers & Classifier Mills*

## Introduction

The DP® Impact Pulveriser is a medium-speed, screenless hammer mill with an integrated whizzer classifier. It combines impact grinding and dynamic classification in a compact unit, typically producing particle sizes from 60 to 300 mesh. The system ensures adjustable fineness control, versatile performance, and reliable operation—even for continuous duty and diverse materials.

- 1 Feed Hopper With Screw Feeder
- 2 Rotary Air Valve
- 3 DP® Impact Pulveriser
- 4 Cyclonic Separator
- 5 Rotary Air Valve
- 6 Pulse Jet Dust Collector
- 7 Internal Conveying Fan
- 8 Control Panel
- 9 PLC Panel



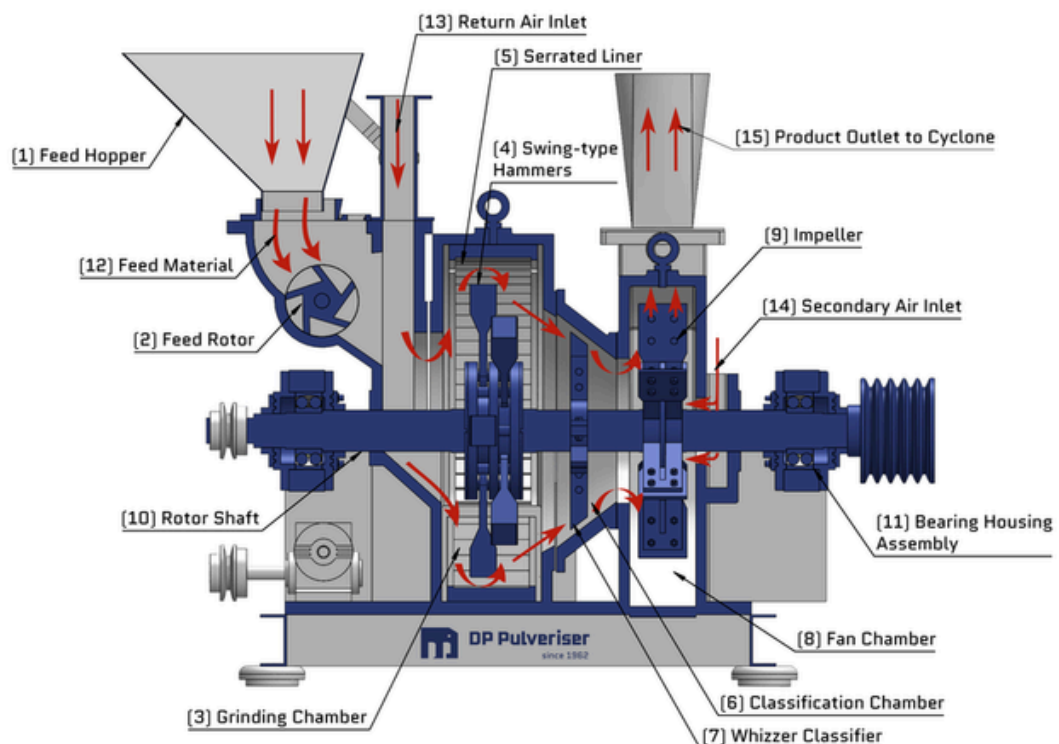
Typical process flow diagram of a standard IP

## Working Principle

The **DP® Impact Pulveriser** combines continuous grinding and dynamic classification within a single compact system. Feed material enters through the **feed hopper (1)** and is regulated by the **feed rotor (2)** before being directed into the **grinding chamber (3)**. Inside this chamber, high-speed **swing-type hammers (4)** mounted on the rotating shaft strike and accelerate the material outward toward the **serrated liner (5)**. The liner redirects particles back into the hammer path, causing repeated impacts and efficient size reduction through collision and attrition.

As grinding progresses, the air stream generated within the system and assisted by the return **air inlet (13)** helps convey the material toward the **classification chamber (6)**. In this zone, the **whizzer classifier (7)** separates particles according to size. Finer particles pass through the classifier while coarser particles are rejected and returned to the grinding chamber for further reduction, creating an internal recirculation loop that ensures uniform product fineness.

The accepted fine material is then drawn into the **fan chamber (8)** where the **impeller (9)** provides conveying airflow. Secondary air introduced through the **secondary air inlet (14)** supports smooth transport and stabilizes flow conditions. The final product, carried in the air stream, exits through the **product outlet to cyclone (15)** for downstream separation and collection, ensuring efficient operation, controlled particle size, and continuous processing performance.



► A cross-sectional view of the IP

## Features & Benefits

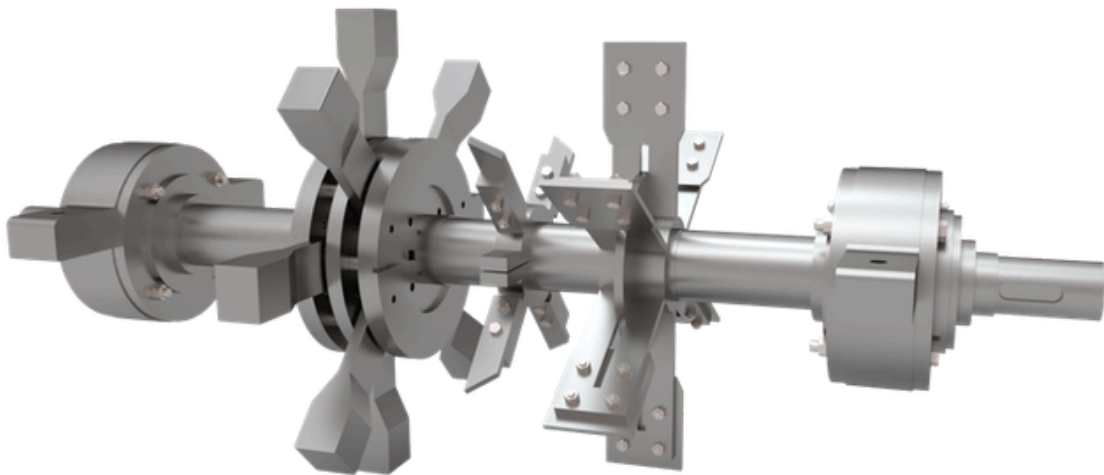
- ▶ Integrated grinding and classification system combining size reduction and particle separation in one compact unit.
- ▶ Wide fineness control range capable of producing powders from coarse granulation down to fine mesh sizes.
- ▶ Adjustable whizzer classifier enables precise control of particle size distribution without changing internal components.
- ▶ Heavy-duty hammer rotor design delivers strong impact energy for efficient grinding of diverse materials.
- ▶ Integrated conveying airflow eliminates the need for separate external conveying systems in many installations.
- ▶ High airflow operation promotes cool grinding, making it suitable for temperature-sensitive materials.
- ▶ Available in abrasion resistant design for materials up to 6-7 Mohs hardness



▶ DP® IP-52 Impact Pulveriser

## Options and Accessories

- ▶ **Construction Materials:** Available in carbon steel, stainless steel (SS304, SS316, SS316L), or custom-engineered configurations to meet specific product or regulatory requirements.
- ▶ **Pressure Shock Resistance:** Can be designed to withstand pressures up to PSR 11 Bar.
- ▶ **Wear Protection Options:** Replaceable liners, hard-faced components, and abrasion-resistant materials extend service life in demanding applications.
- ▶ **Hammer Configurations:** Interchangeable hammer types (swing, fixed, serrated, or hardened alloy) optimized for different feed materials and fineness ranges.
- ▶ **Feeding & Discharge Systems:** Compatible with screw feeders, vibratory feeders, gravity feed hoppers, pneumatic conveying, and gravity discharge arrangements.
- ▶ **Safety Mechanisms:** Can be equipped with vibration sensors, temperature sensors, and safety interlocks to ensure operational safety and equipment protection.
- ▶ **Metal Separation:** Can be provision for inline magnetic separators or metal detectors to protect the classifier and ensure high product purity.



▶ *Interchangeable hammer, Whizzer classifier and shaft assembly*

## Machine size

Model	Rotor drive	Mill speed [Max.]	Air flow rate [Max.]	Scale-up factor	Space Required
IPR	HP	rpm	m <sup>3</sup> /h	-	[L x W x H ft]
8 Mini	5	5000	510	0.5	4 x 4 x 8
12 Mini	7.5 - 10	3500	900	0.8	6 x 5 x 10
15	10 - 15	3000	1350	1	8 x 7 x 12
20	15 - 20	2200	1800	2.5	10 x 9 x 14
25	25 - 40	2000	2700	4.5	12 x 9 x 14
32	50 - 60	1800	5400	9	19 x 10 x 18
32 Broad Chamber	75 - 80	1800	6600	11	20 x 10 x 18
42	100 - 120	1600	9000	21	20 x 20 x 25
52	200 - 215	1200	11300	45	26 x 22 x 30



► DP® IP-52 Impact Pulveriser system

## Application

Type	Feed Material	Fineness	Capacity [kg/h] IPR-15	Capacity [kg/h] IPR-20	Capacity [kg/h] IPR-25	Capacity [kg/h] IPR-32
Minerals & Rocks	Calcite / Limestone / Dolomite	100–400 mesh	50–80	100–150	200–300	400–600
	Kaolin / China Clay / Bentonite	100–300 mesh	80–120	180–240	350–450	700–900
	Talc / Soapstone / Mica	200–400 mesh	100–150	200–280	400–500	750–900
	Gypsum / Barites / Anhydrite	100–325 mesh	60–100	130–180	250–350	500–700
	Phosphate Rock / Apatite	80–200 mesh	40–60	80–110	150–200	300–400
	Silica / Quartz / Feldspar	60–150 mesh	30–50	70–100	130–180	280–380
	Graphite / Coal / Pet Coke	100–300 mesh	60–90	130–180	250–340	500–680
	Calcium Sulphate / Barium Sulphate	100–325 mesh	55–80	110–160	210–300	420–600
Metallic Dross	Aluminium Dross	30–100 mesh	–	120–150	240–280	700–750
	Zinc / Copper / Brass Dross	50–150 mesh	–	80–130	160–240	500–650
Low Carbon Ferro Alloys	Fe-Ti / Fe-Mo-60% / Fe-V-50% / Fe-Mn(ductile / soft grades)	-50 +150 mesh	40–70	120–200	210–350	525–875
	Fe-Mo-80% / Fe-V-80% / Fe-Cr-65–75% (hard / dense grades)	-50 +150 mesh	35	100	175	440
Ni–Al Alloys	Ni–Al Alloys (50-50, 80-20, 95-5 variants)	200–300 mesh	–	30–35	60–70	–
Food Products (non-oily, dry feed only)	Turmeric / Dry Ginger / Black Pepper	80–150 mesh	–	90–100	225–250	350–375
	Coriander seeds / Cumin / Fenugreek / Bay leaves	60–100 mesh	–	80–100	200–250	320–380
	Tamarind Seeds	100–120 mesh	100–150	250–350	450–500	1,000–1,250
	Pulses – Besan / Urid Dal / Chana Dal	60–80 mesh	–	260–270	410–420	800–850
	Desiccated Coconut / Dehydrated Vegetables	60–100 mesh	50–70	100–150	180–250	300–400
Ayurvedic & Herbal	Ayurvedic herbs / Dried botanicals	80–100 mesh	10–15	25–30	40–50	100–150
	Gum Arabic / Gum Karaya / Guggul resin	80–100 mesh	–	70–80	120–140	300–350
	Coconut Shell †	80–100 mesh	13–16	28–31	44–50	69–81
	Psyllium / Neem / Amla / Ashwagandha (dried)	80–100 mesh	8–15	20–30	35–50	80–130
Pigments & Dyes	Food Colours (water-soluble dyes)	300–325 mesh	45–50	95–100	170–180	400–450
	Iron Oxide / Chrome Oxide / Ochre pigments	200–325 mesh	30–50	80–120	150–200	300–400
	Organic / Synthetic dye powders	200–325 mesh	20–25	60–70	120–140	280–300
	Ultramarine Blue / Prussian Blue / Carbon Black	300+ mesh	10–15	30–40	60–80	140–180
Chemicals	Stearates – Zn, Ca, Pb, Mg (200 mesh)	200 mesh	80–100	220–250	350–375	650–750
	Boric Acid / Borax powder	100–200 mesh	100–150	250–300	450–550	900–1,000
	Oxalic / Tartaric / Citric Acid	100–200 mesh	60–100	150–200	280–350	550–700
	Sodium Sulphate / Carbonate / Bicarbonate	80–200 mesh	80–120	200–280	380–480	750–900
	Urea / Melamine / Cyanuric Acid	100–200 mesh	60–100	150–200	280–350	550–700
	Potassium Salts – KCl / K <sub>2</sub> SO <sub>4</sub> / KNO <sub>3</sub>	100–200 mesh	80–120	200–280	380–480	750–900
	Zinc Oxide / Titanium Dioxide (fine grade)	200–325 mesh	20–30	50–70	100–130	220–280



▶ DP® IP52 Impact Pulveriser for processing of Bentonite at Damman, Saudi Arabia



▶ DP® IP42 with Close Dust Collector and RAV in Ghana, Africa



▶ DP® IP25 Impact Pulveriser with SS304 Contact Parts



▶ DP® IP25 Impact Pulveriser in SS304



▶ DP® IP8 Mini Impact Pulveriser



▶ DP® IP20 Impact Pulveriser at Nickel-Al Manufacturer in Vapi, Gujarat



▶ DP® IP32 Impact Pulveriser



▶ DP® IP20 Impact Pulveriser SS316-SS304 MOC at leading food ingredient manufacturer in Mumbai



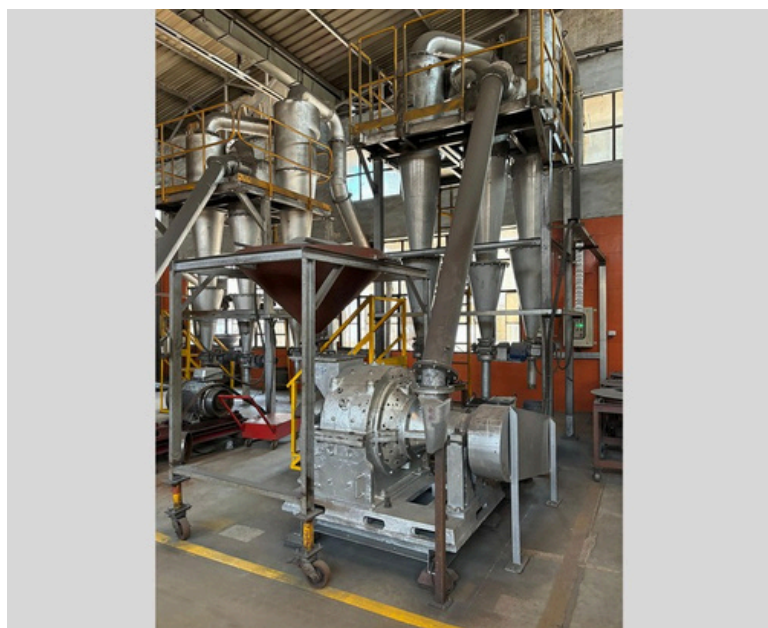
▶ DP® IP32 Impact Pulveriser for grinding of Pigment at large Indian MNC at Jamshedpur, Ranchi



▶ DP® IP32 Broad Chamber Impact Pulveriser for Grinding of Dehydrated Onion at Customer in Mahua, Gujarat



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



▶ DP® IP32 Impact Pulveriser for grinding of Iron Powder at Pune, Maharashtra



▶ DP® IP32 Spice Plant at Spice Manufacturer in Punjab



▶ DP 8 Mini Impact Pulveriser for Crushing of Manganese Ore in Zambia, Africa



▶ DP® IP32 Impact Pulveriser for Metallic Dross Separation at Coin Manufacturer in Delhi



▶ DP® IP52 Impact Pulveriser Body with 215 HP motor



▶ DP® IP32 Impact Pulveriser with SS304 Contact Parts



▶ DP 15 Mini Impact Pulveriser SS316-SS304 at a leading food dye manufacturer in Roha, Maharashtra

## 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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