



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



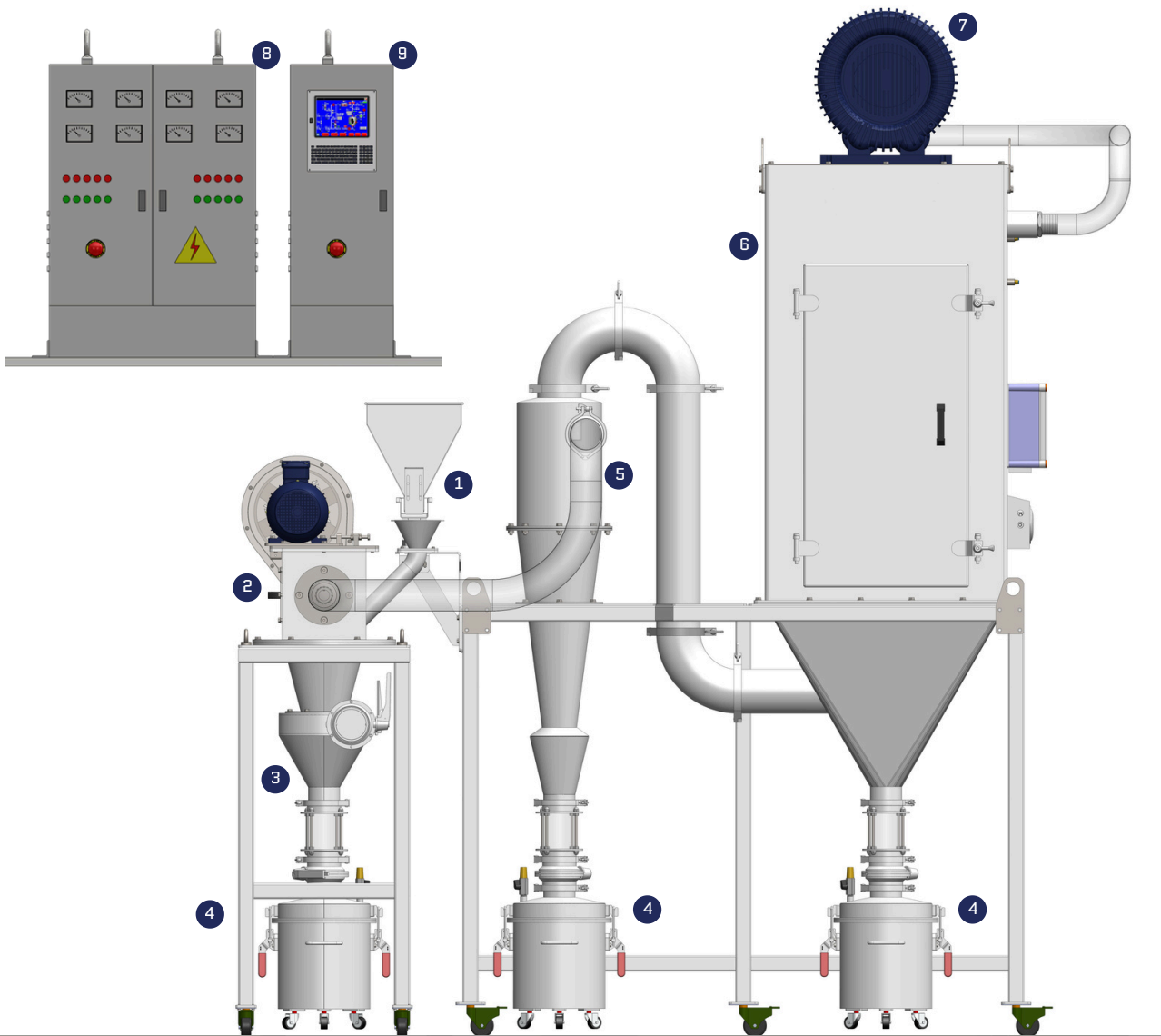
## **DP<sup>®</sup> AEROVA** **Centrifugal Air Classifier**

*Sizing and Air Classification*

## Introduction

The DP® AEROVA Air Classifier is a high-efficiency dry classification system designed for precise separation of fine and ultrafine powders. Using controlled airflow and adjustable rotor speed, it delivers accurate cut-point control without screens. Ideal for minerals, chemicals, spices, and specialty materials requiring uniform particle size.

- 1 Feed Hopper With Vibratory Feeder
- 2 DP® AEROVA Air Classifier
- 3 Material Discharge Trough
- 4 Bottom Container
- 5 Cyclonic Separator
- 6 Pulse Jet Dust Collector
- 7 Blower
- 8 Control Panel
- 9 PLC Panel



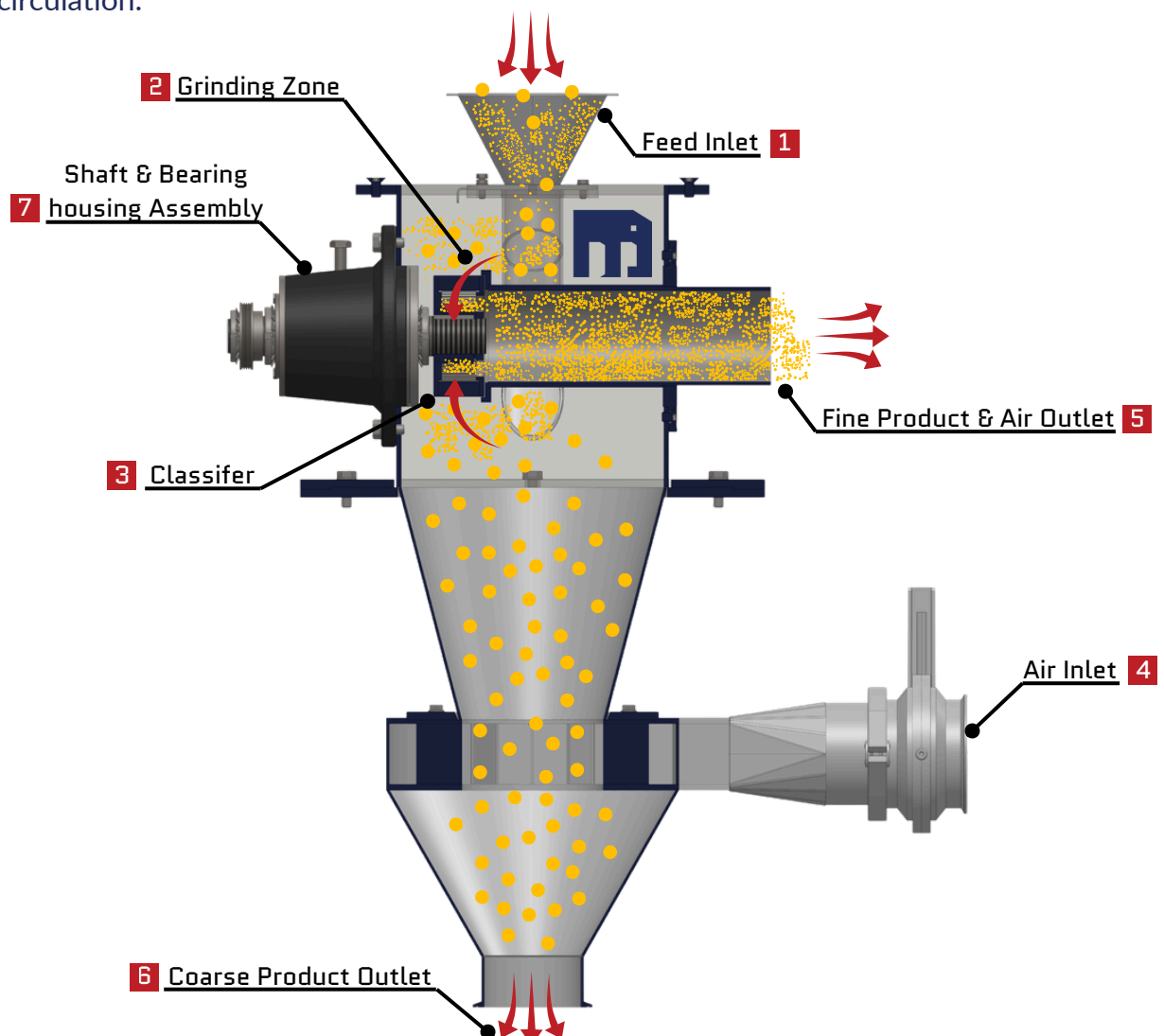
► Typical process flow diagram of a standard AEROVA Air Classifier

## Working Principle

The DP® AEROVA Air Classifier operates on the principle of centrifugal force and controlled airflow generated under negative pressure. Material is fed from the top through the **feed inlet (1)** and enters the **classification zone (2)**, where particles are uniformly dispersed for separation.

Within the classifier housing, the rotating **classifier wheel (3)** creates a centrifugal field that separates particles based on size and density. A blower installed at the downstream end of the system generates negative pressure inside the classifier, which draws fine particles toward the classifier wheel. To maintain airflow balance, the required make-up air is admitted through the **air inlet (4)**.

Fine particles that meet the set cut-point pass through the classifier wheel and are carried with the induced airflow toward the **fine product & air outlet (5)** for downstream separation or collection. Particles that are too coarse are rejected by centrifugal force, lose upward momentum, and descend by gravity to the **coarse product outlet (6)** for discharge or recirculation.



► A cross-sectional view of the AEROVA Air Classifier

## Features & Benefits

- ▶ High-precision dry air classification for ultra-fine, uniform powders with sharp cut-point control – capable of achieving sizes up to  $d_{50}$  5 microns
- ▶ Adjustable cut-point via rotor speed and airflow, enabling fine tuning without downtime.
- ▶ Optimized airflow and aerodynamic design improve classification efficiency and energy use.
- ▶ Adjustable secondary air-wash system boosts classification efficiency.



▶ DP® AEROVA Air Classifier



▶ Pneumatic conveying discharge arrangement

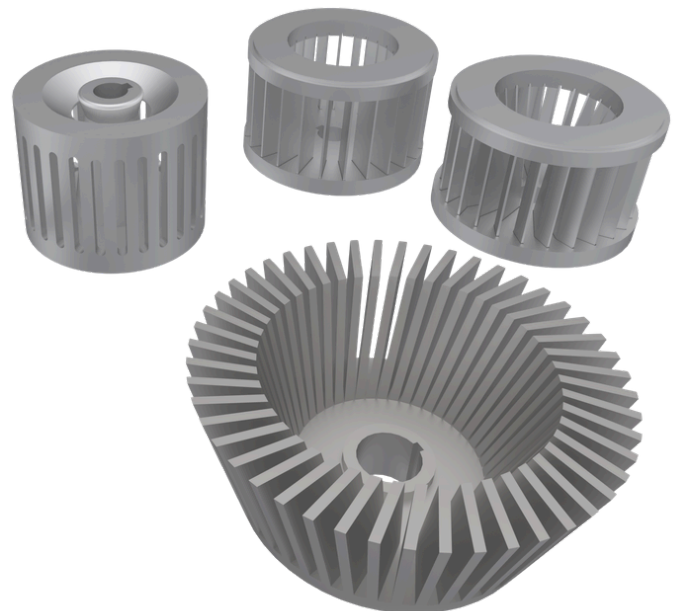
- ▶ Energy-efficient design reduces operational costs and power consumption.
- ▶ Dust-free environment with dust collectors.
- ▶ Screen-free classification eliminates mesh blockage and reduces maintenance.

## Options and Accessories

- ▶ **Classifier Wheel Options:** Available in single or multi classifier wheel configurations to suit required throughput, cut-point range, and separation precision.
- ▶ **Classifier Wheel Materials:** Classifier wheels offered in ceramic-lined or wear-resistant steel construction for handling abrasive materials and extending service life.
- ▶ **Variable Speed Drive:** Frequency-controlled drive for precise adjustment of classifier wheel speed and cut-point control during operation.
- ▶ **Construction Material Options:** Available in mild steel, stainless steel (SS 304 / SS 316), or special coatings to suit food, chemical, and corrosive applications.
- ▶ **Feeding & Discharge Systems:** Compatible with screw feeders, vibratory feeders, gravity feed hoppers, pneumatic conveying, and gravity discharge arrangements.
- ▶ **Instrumentation & Monitoring:** Can be equipped with temperature probes, vibration sensors, and safety interlocks for process control and equipment protection.
- ▶ **Metal Separation:** can be provision for inline magnetic separators or metal detectors to protect the classifier and ensure high product purity.



▶ DP® AEROVA Air Classifier



▶ Different type of Classifier wheel

## Machine size

Model	Rotor drive	Mill speed [Max.]	Max. air flow rate	Scale-up factor
UNV	kW	rpm	m <sup>3</sup> /h	-
150	5.5	8500	600	0.5
205	5.5	6000	1200	1
320	11	4000	3000	2.5
205/4	4 x 5.5	6000	4800	4
500	22	2400	7500	6.25
320/3	3 x 11	4000	9000	7.5
755	37	1600	17000	14
1020	45	1200	30000	25



► DP® AEROVA Air Classifier system

## 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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