

CRYSTAL AUTOMATION PVT. LTD.

Crystal introduces long awaited new
State of the Art

Universal Combo Fine Impact Pinmill used for Powder Sizing and
Micronizing in Pharmaceutical and Bulk Drug, Food and allied Industries



Introduction

This mill is one of the most needed machine in the Pharma, Food and Bulk drug industry. This multi system pulverizes, micronizes & dry grinding of different soft, medium and hard materials. The different effective grinding elements/ tools for various grinding tasks are designed to give the most effective and economic process with this Universal Combo Fine Impact Pinmill.

The adaptable grinding tools such as Grinding discs, blast rotors, Wing beater, Pin disc having single disc rotating design and Pin disc having counter rotating design.

The adaptable stators such as screen basket, grinding basket, screen/grinding basket and other tailor-made options

The Principle of Operation

The Crystal Universal Combo Fine Impact Pinmill is a fine Impact Mill with single disc rotation and multiple counter rotating disc design.

Pin disc for single disc rotation

Products handled are crystalline and brittle type

- The fineness shall be **below 50 micron**
- On pin disc mill the fineness is mainly adjusted by the speed of the rotor disc. (Peripheral speed up to 150 m/s)
- Moreover, it is possible to influence the fineness by the no. of pins and their arrangements.

Pin discs for counter rotating design

- With the assembly of a second drive on the door of Universal Combo Fine Impact Pinmill's housing, the stator disc of the single disc Pinmill is changed into a rotor disc as well.

Due to the counter rotation of these two pin discs the relative peripheral speed is increased upto 250 m/s. The product is actually fed through a hollow shaft of the bearing on the door side. Hereby the stability of the grinding disc assembly is best realized and the danger of bridging on the inlet is minimized. The end fineness you can obtain with this configuration with opposed disc rotation is in the range of **< 30 micron and below**. This machine type is used for similar application as single disc Pinmill, however the focus is clearly in the field of cryogenic grinding.



Examples of Applications such as

- Pharmaceutical
- Cosmetic Powder
- Bulk Drug
- Food
- Pigments
- Talcum Powder
- Chemicals

Advantages and Features are

- Adjustable fineness with the inbuilt variable parameters through VFDs
- High efficiency
- Easy cleaning and maintenance
- Special design for cryogenic grinding
- The machine housing can either be standard bottom discharge or Tangential discharge.
- Safety interlocks provided
- The system is very much supportable to Powder Transfer System for online application
- The system can also be supplied with Heat Exchanger/Air chillers for pre-cooling of ingredients/ process air to reduce heat generation while milling.

Our equipments are supplied alongwith validation documents like DQ, IQ, OQ, Manuals, MOC Certificates etc.



Technical Data

(all dimensions are in mm)

Model : UCFIPM 300

Single Rotor Grinding Pin discs

Dia of Grinding Disc : 342 (Ø)

Speed RPM : upto 6000RPM

Drive Power : 15HP, 3 Phase, 440 V AC, 50 cycles AC, Motor (FLP / Non FLP)

Counter Rotating Pin Discs

Dia of Grinding Disc H/D (Ø) * : 342 X 310

Speed H/D * RPM : 6000 X 4000 RPM

Drive Power : 15HP (H)/10HP (D), 3 Phase, 440 V AC, 50 cycles AC, Motor (FLP / Non FLP)

Capacity : 50 to 300 Kg/hr. depending upon on the characteristics of input material, Feed Size and RPM of the machine

Material of construction : all contact parts - SS 316
all non-contact parts - SS304/ MS suitably cladded with SS 304

Overall Dimensions ** : 1700 (L) X 1800 (W) X 2400 (H)

* H = Housing D = Door

** The Dimensions of the machine can be modified as per the requirement.

Products Manufactured:

- Pneumatic Conveying Systems
- Milling, Grinding, Granulating
- Sifting and Screening
- Mixing and Blending
- Dosing & Weighing Systems
- Drum Filling, Weighing and Packing Systems
- Small Bag Filling, Weighing and Packing Systems
- Jumbo Bag Filling Stations
- Multi-purpose Weighing and Packing Systems
- Sealing and Stitching Station
- Drying Systems
- Dust Collectors/ Centralised Dust Collection Systems
- Dry Granulation System
- Special Purpose Machines



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