

UNIVERSAL MILL / PIN MILL



Universal mill is designed to break solid materials into smaller pieces by means of grinding. It is commonly used in various industries, including food, spices, bakery, agriculture, chemical processing etc. UM mill grind efficiently and pulverize different types of materials, such as sugar, grains, nuts, spices, and more.

Working Principle

Material Intake:

• The material to be processed is introduced into the mill through a feed hopper or inlet. The feed mechanism may vary depending on the specific design of the mill.

Grinding Chamber:

• The material enters the grinding chamber, where it encounters a rotating disc or rotor equipped with impact pins. The disc or rotor spins at a high speed, creating centrifugal force.

Impact and Shearing Forces:

• As the material comes into contact with the rotating disc or rotor, it experiences high-speed impact and shearing forces. The impact pins, strike the material, breaking it into smaller particles through a combination of impact and shear.



Particle Size Reduction:

 The repeated impact and shearing actions of the rotating disc or rotor reduce the size of the material particles. The material is pulverized or ground into finer particles as it passes through the grinding chamber. This adjustability can be achieved through various means, such as changing the rotational speed of the disc or rotor, changing the screens of the stator controlling the feed rate of the material.

Particle Discharge:

• Once the material reaches the desired particle size, it exits the grinding chamber through a discharge outlet. The ground particles are typically collected in a container or conveyed to a subsequent process such as product collection system.

Features:

- Adjustability of Grinding Elements: Highly adjustable to control the final particle size or fineness of the ground material
- Continuous Operation: Universal mills are designed for continuous operation, allowing for a continuous feed of material and continuous discharge of the ground particles.
- Fineness range 20 to 400 Mesh
- Suitable for soft to hard materials
- Cryogenic Grinding can be done
- Designed at 10 Bar for safety

Benefits:

- Reduces food waste
- Improves consistency
- Time Savings
- Versatile
- Cost-effective
- Customizable
- Easy to use and clean
- 100%yield
- No dust nuisance

