

## FZB Series

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### Conical Mill



# FZB Series

Conical Mill(Under-Driven)



FZB-150

FZB-300

FZB-450

FZB-700

FZB-1000

AUTO

EASY  
TO USE

UP TO  
1000  
KGS/HR

**FZB Conical Mill** for dry and wet processes in the pharmaceutical, food and related industries. Suitable for laboratory, pilot and full-scale production applications.

## Features

### Features

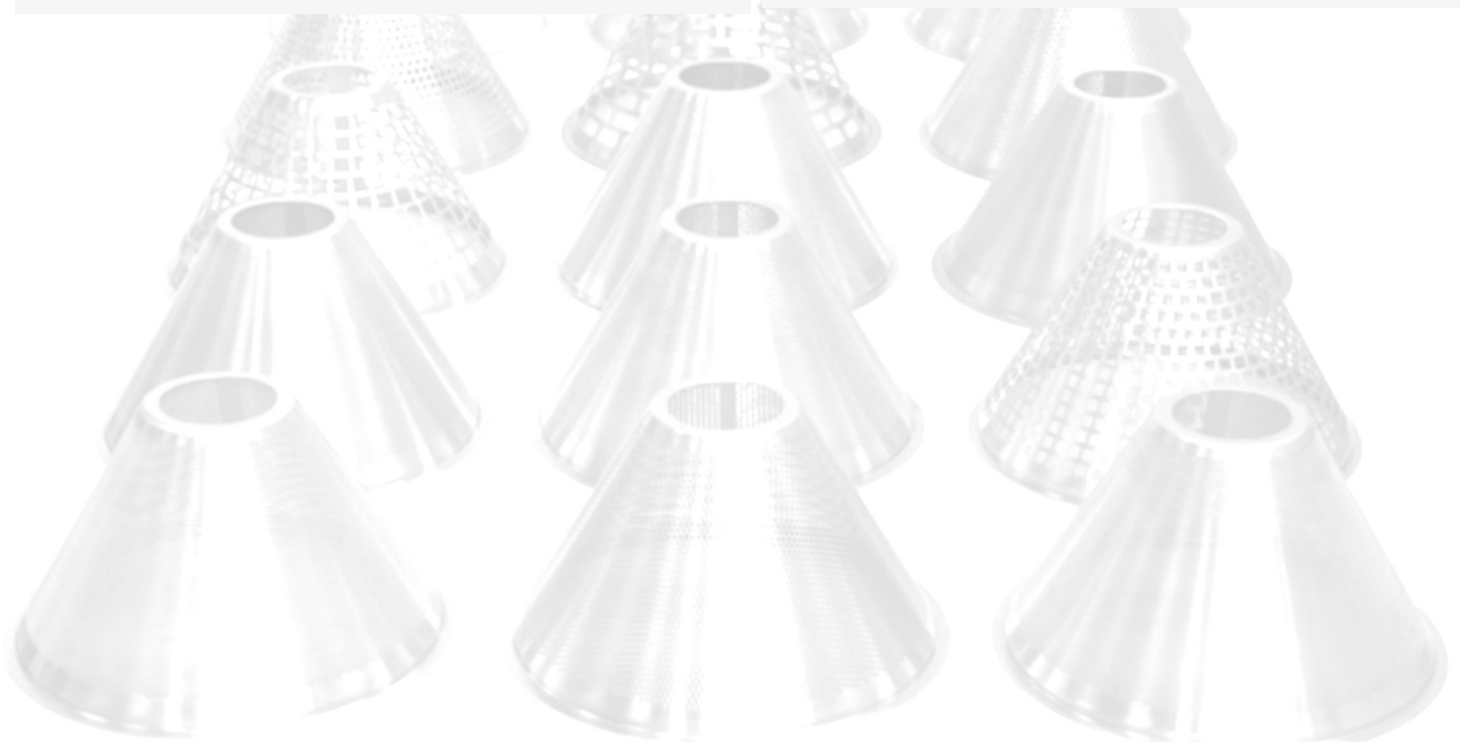
- Stainless steel construction (with 316L contact parts)
- No metal-to-metal contact
- Easy-clean, GMP design (with optional features such as detachable millhead for autoclave or CIP/WIP)
- Explosion resistant versions available
- High throughput for maximum productivity
- Achieve various particle sizes on one machine, simply by changing screen and / or impeller
- Easy to operate
- Low heat, dust and noise generation for improved
- Process scalability from lab to pilot to production



### Product Overview

**Conical mills** are designed for milling processes in the pharmaceutical, food, chemical and related industries. The conical mill offers numerous benefits over alternative milling methods including higher throughput, tighter particle size distribution, easier cleaning/maintenance and less noise, heat and dust.

They are suitable for a wide range of applications and offer full process scalability from laboratory to pilot to production.



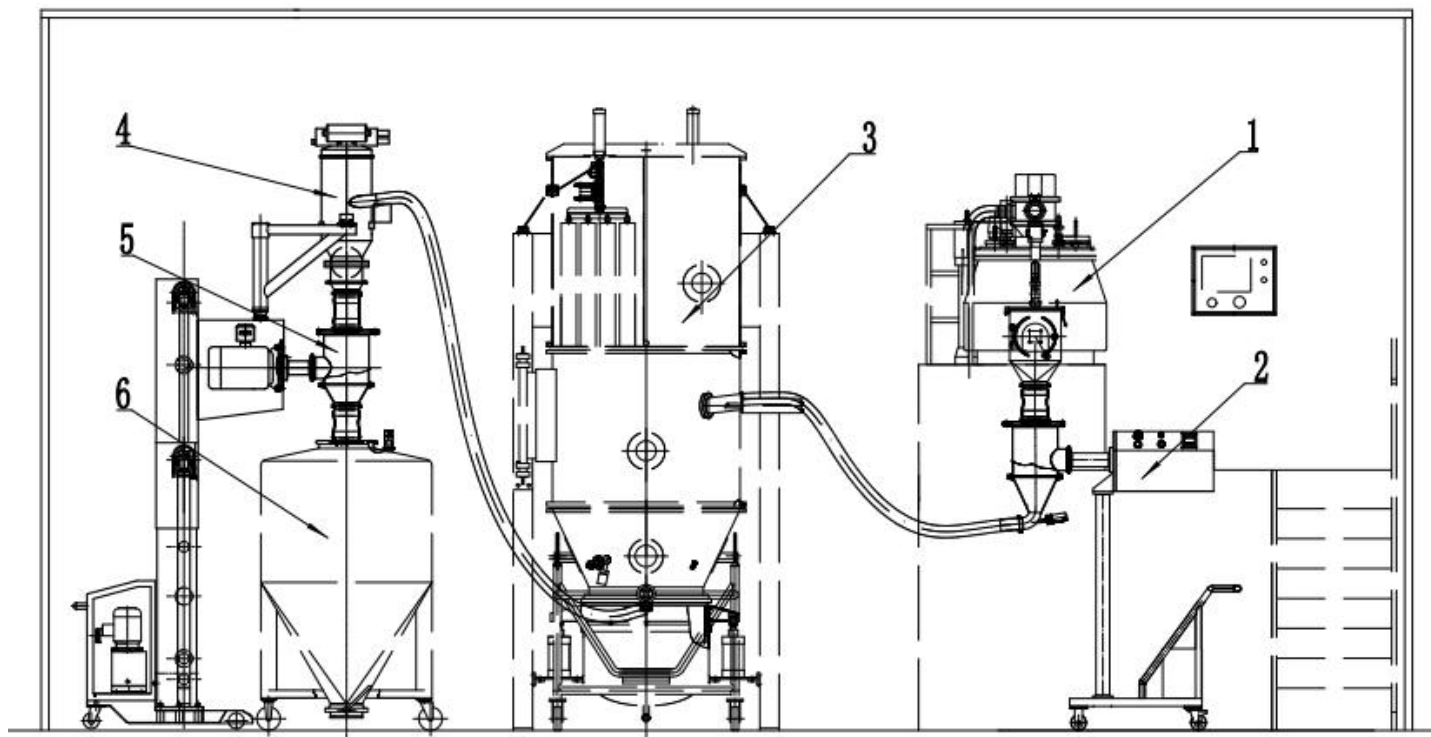
## Work Principle

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### **Work Principle**

The machine utilizes the high-speed relative motion between the rotor and the sieve, which make the agglomerating materials granulated through the sieve pores under the crush of the rotor, and then the finished particles are discharged from the machine quickly with less heat, high efficiency and good quality. It adopts frequency conversion by which the main axis speed is adjustable within a wide range; also, it adopts under drive which enables the materials to be fed smoothly. The parts that contact the materials are made of stainless steel and the surface is polished and it can support the use of the wet granulator and the fluid bed dryer respectively. It is easy to be disassembled and cleaned, with no cross infection and meeting GMP standard.



**(1)Wet Granulator, (2)&(5)Cone Mill, (3)Fluid-bed Processor, (4)Vacuum Loading Device, (6)Bin**

**Operation Process:** Wet granulation material (1) granulated by mobile cone mill (2), into the fluid bed drying equipment (3) under negative pressure, after the end of drying, via vacuum loading device (4) the material transport into Cone Mill and then into the Bin (6).

| Technical Data                      | FZB-150  | FZB-300 | FZB-450                    | FZB-700                       | FZB-1000 |
|-------------------------------------|--|---------|----------------------------|-------------------------------|----------|
| Max.Throughput(kgs/hr)              | 15-150   | 30-300  | 45-450                     | 70-700                        | 100-1000 |
| Screen Diameter(mm)                 | 125  | 150     | 200                        | 250                           | 270      |
| Standard Motor(kW)                  | 1.5  | 3.0     | 3.0                        | 4.0                           | 5.5      |
| Approx.Weight(kgs)                  | 150  | 220     | 270                        | 300                           | 320      |
| Standard Speed(RPM)                 | 1800   | 1450    | 960                        | 960                           | 960      |
| Wet Granulation<br>(Square hole mm) | 3×3,6×6,8×8,10×10  |         | 3×3,6×6<br>8×8,10×10,12×12 | 3×3,6×6,8×8,10×10,12×12,14×14 |          |
| Dry Granulation<br>(Round hole mm)  | Φ0.5(35mesh),Φ0.6(30mesh),Φ0.8(20mesh),Φ1.0(18mesh), Φ1.2(16mesh),<br>Φ1.5(14mesh), Φ1.8(12mesh), Φ2.0(10mesh), Φ2.5(8mesh), Φ3.0(7mesh) |         |                            |                               |          |
| Power                               | 220/380V,50/60Hz   |         |                            |                               |          |
| Typical Noise Level                 | <75dB (under factory test conditions)  |         |                            |                               |          |
| Contact Parts                       | AISI 316L stainless steel (1.4404)   |         |                            |                               |          |
| Non-Contact Parts                   | AISI 304 stainless steel (1.4301)  |         |                            |                               |          |

# Attention to Detail

## Inlet Options

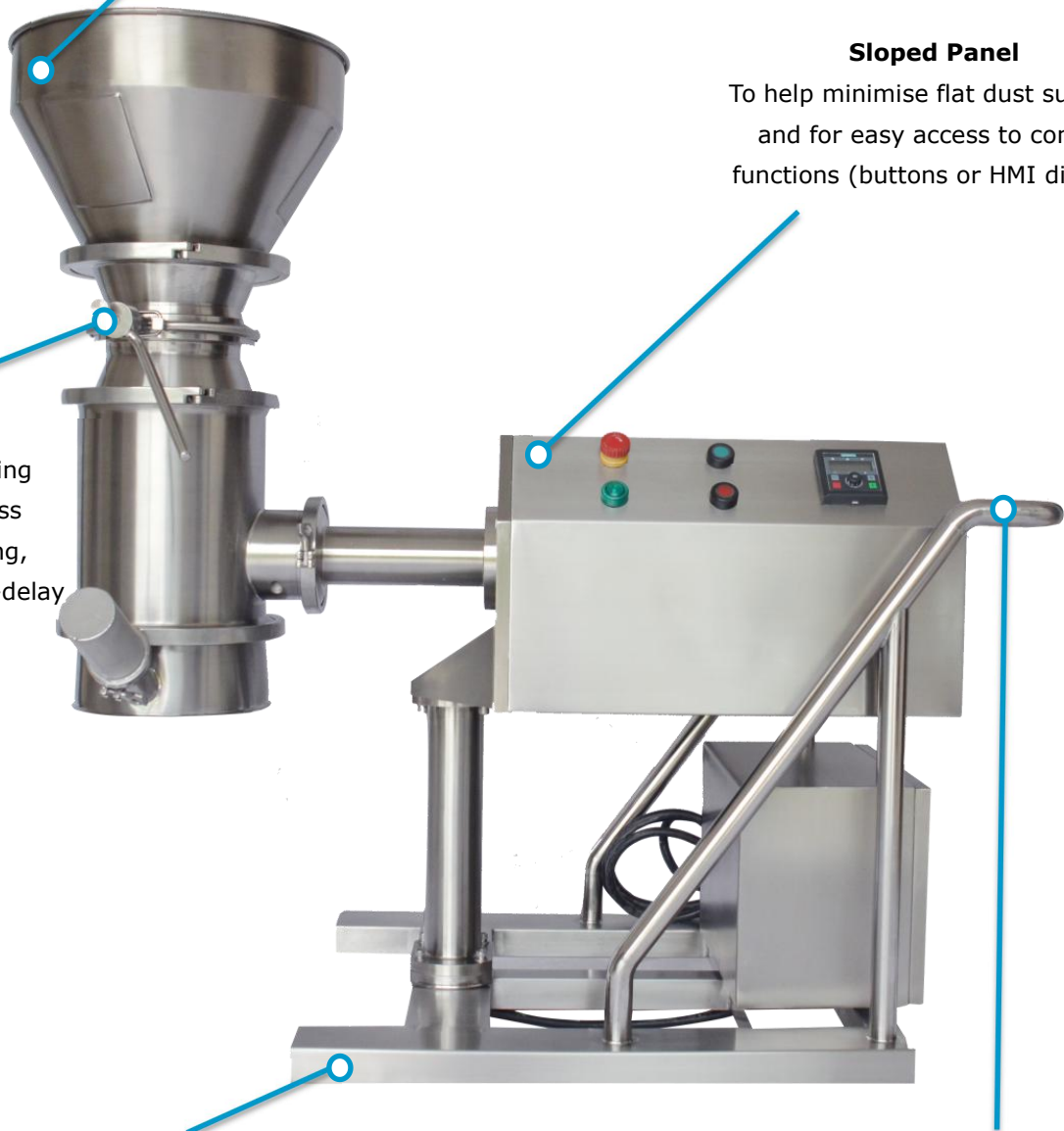
Hand-feed chute, tri-clover connections, silicone cap mounting ring, vacuum adaptors or any bespoke design required for process integration

## Sloped Panel

To help minimise flat dust surfaces and for easy access to control functions (buttons or HMI display)

## Interlock Options

Various options including Castell Key for wireless mechanical interlocking, magnetic switches, time-delay bolts etc.



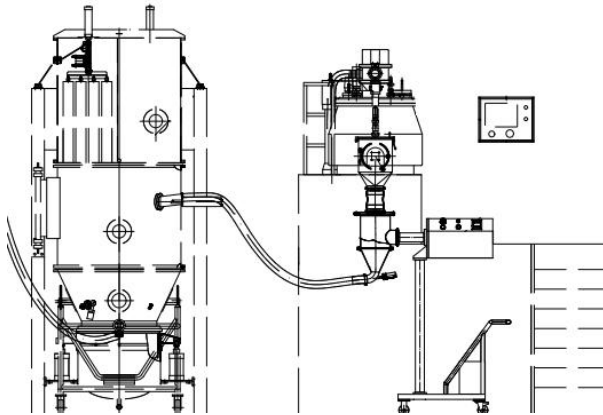
## Frame

Various options including mobile trolley with box section frame or optional curved profile for improved GMP. Other options include swingarm, post hoist, fixed post or supplied freestanding.

## Ergonomic Design

Mobile units are supplied with smooth handle at waist height for ease of manoeuvre and operation

# Typical Applications



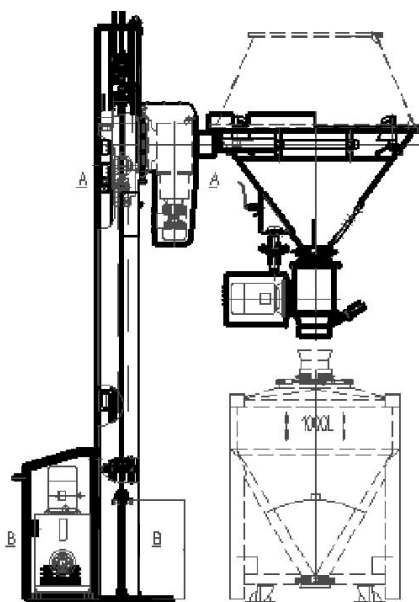
## **In-Line Vacuum Transfer Milling**

The Conical Mill can be integrated with vacuum transfer systems for the automated loading or unloading of process machinery, with in-line conical milling (example application: unloading a fluid bed dryer).



## **Wet Milling (Post-Granulation)**

Milling after granulation increases the surface area of the material. This enables a faster, more consistent drying process downstream.



## **IBC to IBC Milling**

By positioning a bin above the mill, and another bin below the mill, product is released from the top IBC, milled, and then passes directly into the bottom IBC.

# Tooling



## **Screens:**

A wide range of screens are available for satisfying the required particle size across nearly all milling applications.

Screens are available with a wide range of hole sizes, and the following hole shapes: Round, Square, Slotted, Grater and Conidur hole.



## **Impellers:**

A wide range of impellers are also available, for providing the right milling action (e.g. maximising throughput or minimising fines).

Impellers are available with the following arm profiles: round-bar, square-bar, bevel-bar, reverse bevel bar. We can also engineer custom impeller shapes upon request



SaintyCo also offer:

Fluid-Bed Processors

High Shear Mixer Granulator

Roller Compactor

Blister Packing Solutions

