



Fluid Bed Dryer – PFBD



Prism Fluid Bed Processing involves fast drying, cooling and agglomeration of particulate materials. It is ideal for heat sensitive and non-heat sensitive products in Pharmaceuticals, Chemicals and Biochemical, Food and Dairy Industries.

The Fluid Bed Dryer have a bed of solid particles which are fluidized by passing a stream of air upward through a specially designed perforated sheet. The upward velocity of air is so maintained so as to slightly lift the solid particles and set them in motion. This motion can be utilized to bring about mixing as well as forward movement of the solids particles. The air is heated and the process hot air evaporates the fluid and dries the solids. Fines get agglomerated to larger granules particles thus providing large size

The machine is designed with correct volume of bowl, air velocity, direction and the temperature of the clean inlet air is maintained throughout the fluidization, retarding, and expansion chambers, filtration area, pitch of the perforations of the plate at the bottom of product container, the leak-proof fluidization space by proper sealing, material of the filters and process controls with electrical & pneumatically.

The uniform drying is achieved by exposing the full surface of every particles of the solid mass to the incoming high velocity hot air.

Option for the process parameters are controlled by using latest PLC controls with HMI touch screen thus making equipment operationally safe and eliminating the possibility of human error. The process consistency with batch records is maintained for every batch every time.

The equipment can be inbuilt CIP system gives a thoroughly cleaned equipment for every batch eliminating contamination of subsequent batches.

Salient Features:

- Design is cGMP - Current Good Manufacturing Practices compliance.
- All contact parts AISI 316 & non contact parts AISI 304.
- Single piece construction with Integrated retarding expansion chamber cum filter bag housing
- Batch type dryer with available capacity 30 kg to 500 kg. Batch size
- Pneumatic Sealing of Filter Bag and Product container by inflatable silicon rubber tube.
- Inlet Air handler with Air Filter- Micro, HEPA and Heat Exchanger Steam or Electric.
- Exhaust air blower with dynamic balance fan.
- Built in Explosion vents and isolation valve protect equipment.
- Automatic Temperature controls for Inlet Air and Process cycle time controls.
- Washable filter media, FDA approved.
- Auto pneumatic filter bag shacking system.
- Sampling pot on product container.
- Electric and Pneumatic controls panel.

Optional Features:

- Additional Product container.
- Advance PLC controls with touch screen
- Double scan AHU with Dehumidifier.
- Steam or Electric Heater
- Exhaust AHU with Filter
- Silencer at exhaust blower.
- CIP - WIP system.
- Explosion proof motor and push button.
- Solid flow detection System.
- Differential Pressure gauge for filter.
- Standard model machine with contact parts in S.304 & Non contact parts epoxy painted.

Safety Features:

- Product Bowl interlocking mechanism.
- Automatic Temperature & controls, Process cycle controls.
- Explosion flap ensure at retarding chamber.
- Safe earthing system for static current.
- Air pressure switch installed to ensure pressure is in limit.
- Overload relay Protection and Emergency stop button.

Model	Container Volume Liter	Batch Capacity Kg.	Drying Temp. °C	Blower Motor hp/kw	Heating loads Kw	Steam consumption kg/hr
PFBD- 30	100	30	Atm. to 85			
PFBD -60	220	60	Atm. to 85			
PFBD-120	410	120	Atm. to 85			
PFBD -200	590	200	Atm. to 85	Please contact us for more details.		
PFBD -250	750	250	Atm. to 85			
PFBD -300	950	300	Atm. to 85			
PFBD -500	1500	500	Atm. to 85			