



The Processall U-Max Dryer® expands the uses of the mechanically induced fluidized bed agitation principle beyond mixing to include drying. To achieve the drying function, the vessel is equipped with a heating jacket affixed to the outside of the vessel shell. The jacket can be used with hot water, steam, or hot oil. The jacket will raise the temperature of product contact surfaces inside the vessel. The baffles in the jacket assure turbulent flow to maximize heat transfer. Because of the intense agitation imparted to the material, coupled with the fact that it is in constant axial and radial motion, the material is continually exposed to the heated surface of the vessel. Contact of the material with the heated surface is long enough to allow heat transfer to take place, but short enough to prevent the material from being thermally degraded.

Use of vacuum will keep the product temperature low due to evaporative cooling. “U” factors (overall coefficient of heat transfer) of up to 100 or more have been achieved with these units. Since the material is mechanically agitated, segregation during the drying of the product with varying bulk

Mechanically Fluidized Bed Agitation Principle

The Processall mechanically fluidized bed agitation principle is generated by the rotation of a shaft within the confines of a horizontal cylinder. Permanently affixed arms with plow-shaped agitating elements extend from this shaft.

Material is constantly moving in an axial and radial motion within the confines of the vessel. A constant folding action of the material is also caused by the plow shaped agitator elements with their overlapping paths. This assures the constant interchanging and intermingling of material with each rotation of the shaft.



140 Liter Dryer-Mixer Combo

densities and shapes is eliminated. With the high “U” factors found in this equipment, they can also be used for cooling if required.

The U-Max Dryer® is available in sizes ranging from 4 to 25,000 liters of total volume. Additional continuous (CVDR) patented design is also available. Dryer efficiency is enhanced when drying under vacuum. With fast agitational speeds, the drying cycle is shorter due to the chopping mill that breaks agglomerates. By increasing the surface area, we end up with fine product that may not require additional milling.

Typical Applications:

- Stearates
- Pharmaceutical Intermediates
- Pigments
- Filter Cakes
- Ceramic & Semi-Conductor Material
- Encapsulation
- Food Products
- Chemical Products
- Hot Melt Adhesives
- Contaminated Soil Treatment
- Sludge Reduction for Dispersal

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