

Spray Cooling

PRINCIPLE

Spray Cooling / Spray Congealing is a process in which a melt is formed into spherical particles by spraying the melt in a cooling chamber.

OPERATION

- The melt can be atomised by a Pressure Nozzle or Rotary Atomiser depending on the particle size desired.
- The cooling is done with air of sufficiently low temperature. The Cooling air is provided to remove the Heat of Fusion of the melt.
- As the spray of melt droplets comes in contact with the cold air, the melt is cooled until it solidifies. In cases where the solid has to be sub-cooled, separate arrangement can be provided as a second cooling stage.
- Any fines that may be carried over with the cooling air are removed with a high-efficiency cyclone separator and/or a bag filter.

DESIGN & SELECTION

The design and selection of the type of Spray Cooler used depends on

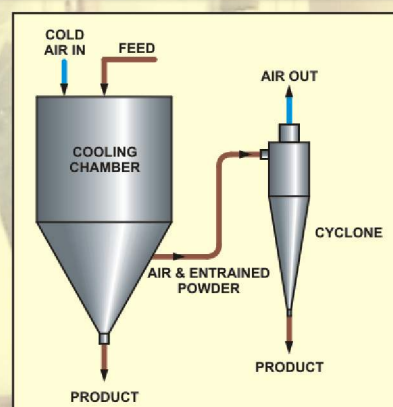
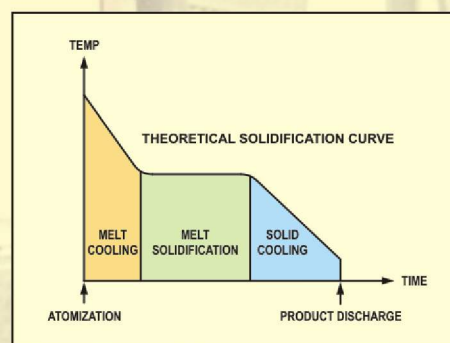
- Particle Size Required
- Solidification Temperature of the melt
- Final Product Temperature
- Properties of the Melt and Solids
- Number of Collection Points

APPLICATIONS

- Resins
- Waxes
- Fats
- Glycerides
- Hydrates
- Inorganic / Organic Melts
- Stearic acid / Stearates
- Quaternary Ammonium Compounds

OUTSTANDING FEATURES

- Uniform Particle Size
- Flexibility in produced Particle Size
- Energy Efficient
- Higher Production Rate
- Low Cost
- Continues & Simple Operation
- Zero Maintenance



Spray Drying

PRINCIPLE

Spray Drying is a one-step, continuous particle-processing operation in which a feed is transformed from a fluid state to a dried particulate form by spraying the feed into a hot drying medium.

OPERATION

- The feed can be atomised by a Pressure Nozzle or Rotary Atomiser depending on the particle size desired.
- The heat of evaporation is provided by hot air at sufficiently high temperature.
- As the spray of feed droplets comes in contact with the hot air, the water in the feed evaporates and dry powder is obtained.
- Any fines that may be carried over with the heating air are removed with a high-efficiency cyclone separator and/or a bag filter.

DESIGN & SELECTION

The design and selection of the type of Spray Dryer used depends on

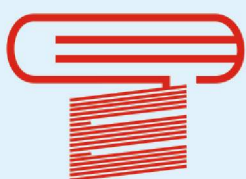
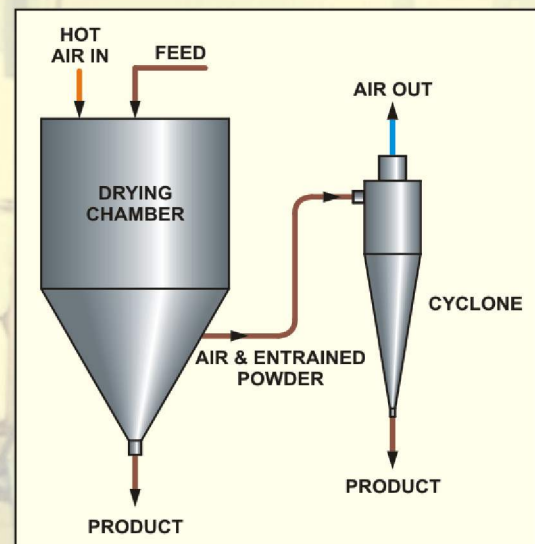
- Particle Size Required
- Final Product Temperature
- Properties of feed and product
- Number of Collection Points

APPLICATIONS

- Dyestuffs
- Detergents
- Food
- Chemicals
- Pharmaceuticals
- Herbal Extracts
- Ceramics
- Natural Products

OUTSTANDING FEATURES

- Uniform Particle Size
- Flexibility in produced Particle Size
- Energy Efficient
- Low Cost
- Continues & Simple Operation
- Zero Maintenance



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