

### TOLL MANUFACTURING PARTICLE PROCESSING SERVICES



## SPRAY DRYING SERVICES

Spray drying is the method whereby solutions or slurries are rapidly dried to final particulate form by atomizing the liquid into a heated chamber. By making droplets small enough and the chamber large enough, the droplets are dried before they reach the wall of the chamber. The resulting product is a free-flowing material.

In a typical drying operation, the slurry to be dried is pumped to the chamber's atomizers or spray nozzles designed to disperse the liquid slurry into a controlled drop size spray.

AVEKA's atomization techniques include two-fluid nozzles and single-fluid high pressure swirl nozzles. The droplets of the solution or slurry are then introduced into the hot air flow in a mixing chamber designed with adequate residence time and droplet trajectory distance to dry the sprayed material.

In all dryers, there is some method for removing the product from the chamber after drying. In tower dryers, the chamber is equipped with a cone bottom. Gravity and air flow from the drying air is used to convey the product from the chamber to a cyclone or baghouse collector. In box type dryers the product falls to the bottom of the chamber and is swept to a discharge point by a reciprocating unloader.

## SERVICES AVAILABLE

- LAB SCALE
- PILOT SCALE
- MANUFACTURING SCALE
- HIGH PURITY SPRAY DRYING



## EXAMPLES OF MATERIALS WE HAVE SPRAY DRIED

- **Industrial materials:** polymers ceramics, surfactants, inorganic salts, pigments microencapsulated particles
- **Food grade materials:** proteins, starch, buffered vinegar, corn stillage, nutraceuticals

### AVEKA WOODBURY

Small to medium scale manufacturing

- **Laboratory dryers**  
Food, personal care or industrial grade materials  
Drying capacity: 0.5 to 10 lb/ hr water evaporation  
Particle sizes 5 to 50 microns
- **Tower dryers**  
Personal care or industrial grade materials  
Drying capacity: 0.5 to 150 lbs/ hr water evaporation

### AVEKA MANUFACTURING

Large scale manufacturing

- **Box Dryer**  
Food grade materials  
Drying capacity: 3,500-4,500 lb/ hr water evaporation  
Particle sizes 50 to 100 microns
- **Evaporator-** capacity 2,500 lbs/hr
- **Packaging Lines-** bags, boxes, drums, super sacks
- **Liquid Processing**

### AVEKA NUTRA PROCESSING

Medium to large scale manufacturing

- **Three tower Dryers**  
Food grade materials  
Drying capacity: 750-4,500 lb/ hr water evaporation  
Particle sizes 25 to 75 microns
- **Evaporator-** capacity 1,000 lbs/hr
- **Packaging Lines-** bags, boxes, drums, super sacks
- **Liquid Processing**



## QUALITY PLEDGE

- COMMITMENT TO SAFETY
- PRIORITIZE CUSTOMER SATISFACTION
- CONSISTENT, EXCEPTIONAL PRODUCT
- STRONG BUSINESS PARTNERSHIPS
- IP MODEL THAT WORKS FOR EVERYONE
- USDA, FSIS INSPECTED & CERTIFIED
- KOSHER CERTIFIED
- CERTIFIED ORGANIC
- FSSC 22000
- ISO 9001
- HACCP PROGRAM