

### Technical specifications

Item	Unit	TP-S15	TP-S30	TP-S30C	TP-S50	TP-S100
Max capacity	ml/h	1500-2000	3000	3000	5000	10000
Temperature range of inlet air	°C	40°C~300°C	30°C~300°C	30°C~300°C	140°C~300°C Adjustable	50°C~300°C
Temperature range of outlet air	°C	40°C~140°C	30°C~140°C	30°C~140°C	80°C~90°C	30°C~150°C
Spray system	/	Two-fluid nozzle	Two-fluid nozzle	Centrifugal nozzle	Centrifugal nozzle	Centrifugal nozzle
Precision of temp	°C	±1				
Dryer time	S	1.0 ~ 1.5				
Speed of squirt pump	ml/h	50 ~ 2000	3000	3000	5000	10000
Nozzle size	mm	0.5/0.7/0.75/1.0/1.5/2.0		\	\	\
Spray direction	/	Downwards co-current				
Heat source	/	Electric				
Air compressor	/	Built-in oil-free air compressor				
Dimension	mm	940*850*1500	1700*1100*150	1700*1100*150	1800*930*2200	2500*1600*2800
Maximum moisture evaporation	Kg/h	2	3	3	5	10



# Spray Dryer

## Application

Chemical Industry	Battery raw materials, basic dyes and pigments, dye intermediates, compound fertilizers, formaldehyde silicic acid, catalysts, sulfuric acid agents, amino acids, and silica, etc.
Plastic Resin	AB, ABS emulsion, urea-formaldehyde resin, phenol-formaldehyde resin, mastic (urea) formaldehyde resin, polyethylene, polyvinyl chloride, etc.
Food Industry	Enriched milk powder, prunes, cocoa milk powder, milk replacer, animal blood powder, egg white (yolk) whole egg powder, etc.
Food & Plants	Oats, chicken juice, coffee, instant tea, flavored spiced meats, proteins, soy, peanut proteins, hydrolysates, etc.
Sugar	Corn syrup, corn starch, glucose, pectin, maltose, potassium sorbate, etc.
Ceramics	Aluminum oxide, tile materials, magnesium oxide, talcum powder, etc.

## Application Field



## Working Principle

The air is filtered and heated, and enters into the air distributor at the top of the dryer, and the hot air enters into the drying chamber in a spiral shape uniformly. The material liquid is sprayed into very fine mist liquid beads by the high-speed centrifugal atomizer at the top of the tower (rotating), and can be dried into finished products in a very short time with the contact of hot air in parallel flow. The finished product is continuously output from the bottom of the drying tower and cyclone separator, and the exhaust gas is exhausted by induced draft fan.

It is best suited for the production of powdered and granular solid products from solutions, emulsions, suspensions and pasty liquid materials. Spray drying is therefore an ideal process when the particle size distribution, residual moisture content, bulk density and particle shape of the finished product must meet precise criteria.

## Performance Characteristics

⊙ Fast drying speed, the material is atomized by the surface area greatly increased, in the hot air stream, instantaneous (0.01-0.04s) can be evaporated 95%-98% of the water, the completion of the drying time in just a few seconds, especially for heat-sensitive materials drying.

⊙ Good product quality: spray drying using a wide range of temperatures (80-300 °C), dry product quality is better, not easy to protein denaturation, vitamin loss, oxidation and other defects, especially suitable for easy decomposition, denaturation of heat-sensitive food processing.

⊙ The product has good homogeneity, fluidity and solubility, and the product has high purity and good quality.

⊙ The production process is simplified and the operation control is convenient. For the moisture content of 40-60% (special materials up to 90%) of the liquid can be dried into powder products, control and management are very convenient, to ensure the health conditions and avoid dust flying.

⊙ High productivity: spray drying can be adapted to continuous large-scale production in industry, the material can be continuously fed and discharged continuously, combined with the cooler and wind conveying, forming a continuous production line. Few operators, low labor intensity.

