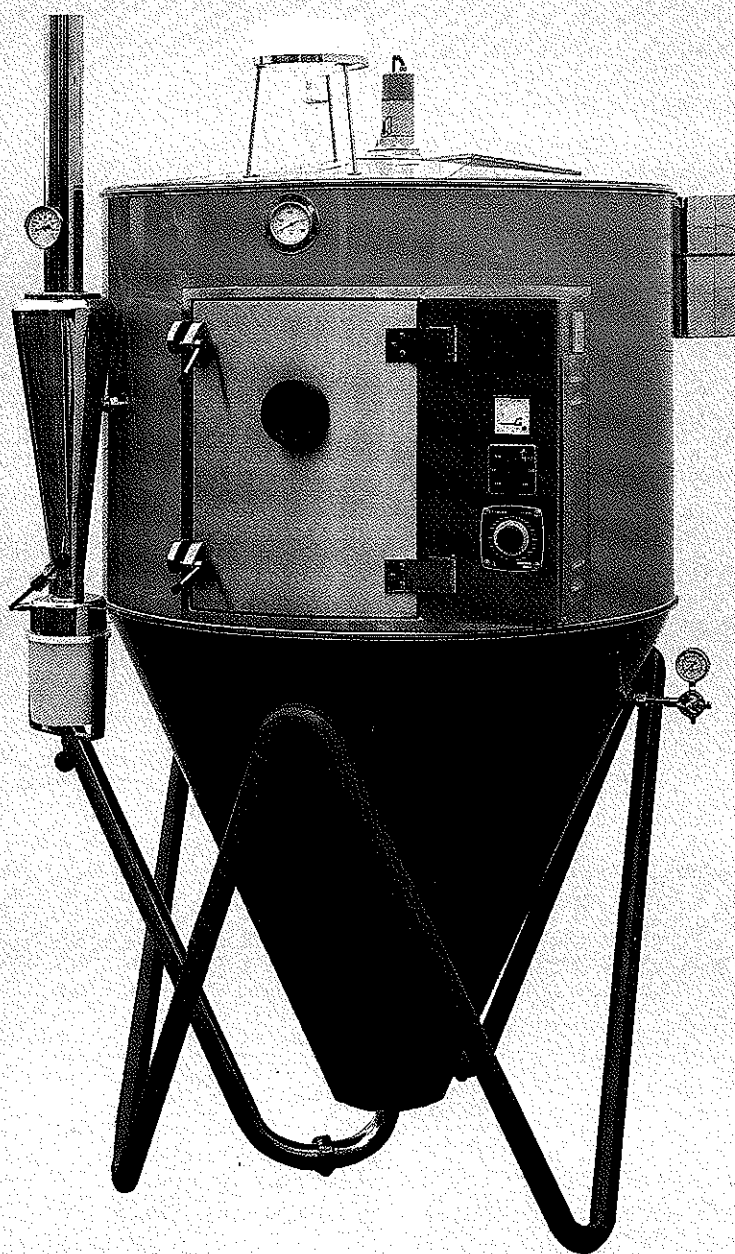


# Laboratory Spray Dryer



APV ANHYDRO A/S

The Anhydro Laboratory Spray Dryer is a small-scale drying plant for scientific test work and industrial research and development.

## Principle

The liquid product is fed to the atomizer system where it is dispersed into a mist of fine droplets in the drying chamber.

Two atomization and drying principles can be applied. Centrifugal atomization where the liquid is dispersed co-currently into the drying air by the rotating disc of a centrifugal atomizer placed in the chamber top, or mixed-flow nozzle atomization by a two-fluid nozzle placed in the chamber cone. Here atomization of the liquid is effectuated by means of compressed air.

Hot drying air is introduced through an air distributor in the drying chamber ceiling. This hot air mixes continuously with the atomized liquid and a practically instantaneous evaporation takes place. The dry material is left as powder particles.

The mixture of drying air and powder leaves through the outlet in the conical bottom of the chamber to a cyclone. From there the powder falls down into a container, while the outlet air is discharged from the top of the cyclone.

Ambient air is conveyed through the unit by a fan and heated when passing an electric heater. The fresh air intake is provided with a filter to remove impurities. The temperature of the drying air is controlled from the instrument panel and is variable between 125°C and 300°C.

## Application

The most important application for the Anhydro Laboratory Spray Dryer is pilot work.

Even closely related products do not always act similarly when subjected to spray drying. Most products undergo careful and thorough performance tests and experiments to determine the optimum operating conditions of the full-size spray drying plant.

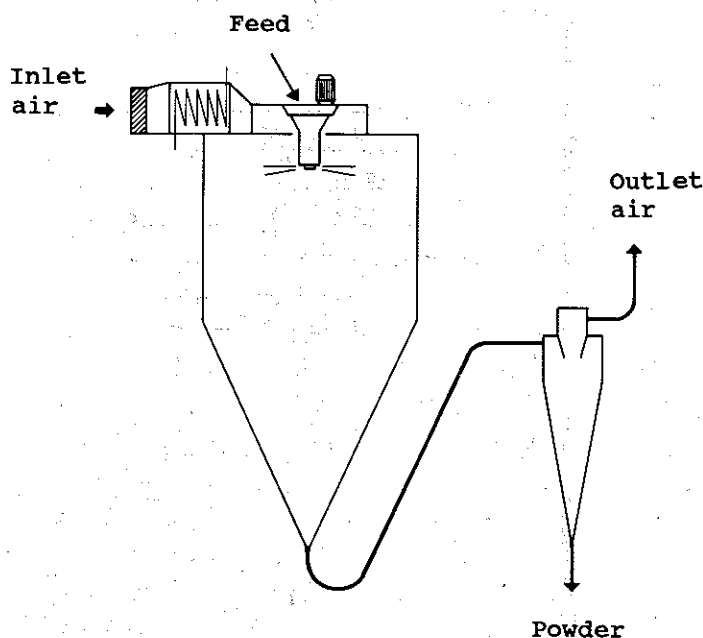
Questions of moisture content, particle shape and size, power and heat consumption are only some of the many variables which need to be studied.

The Laboratory Spray Dryer is an ideal unit for product development and research on the specific aspects of spray drying performed at universities and technical institutes.

The plant can be supplemented by rotary valves, textile filter, air sweeper, etc.

## Additional Information

More information on spray drying processes or the Anhydro Laboratory Spray Dryer i.e. complete technical specifications, standard spare parts etc. is available on request.



## Technical Data

Evaporation rate, approx.	kg/h	7.5
Atomizer speed, max.	r.p.m.	50,000
Power supply	kW	10.1
Compressed air, max.	l/min.	120
Air pressure, max.	bar	4
Chamber diameter	m	1.0
Dimensions, height	m	2.6
width	m	1.2
length	m	1.3

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