



**LABORATORY
SPRAY DRYER**



ADVANCED DRYING SYSTEMS

LABORATORY SPRAY DRYER

The Laboratory Spray Dryer is a totally self contained unit and is supplied ready for immediate operation. The unit is compact and can be kept on a table top or bench. The solution or suspension is converted to powder in a single operation. The unit can be used to establish new products / processes as the quantity of sample required is small, only 50 to 100 ml.

PRINCIPLE

A peristaltic pump delivers liquid from the sample container to the 2 fluid nozzle mounted on the drying chamber. Compressed air from the inbuilt compressor is also supplied to the nozzle, resulting in atomization of the liquid into a fine spray.

Air from the blower is heated by an electrical air heater and blown through the drying chamber. Due to the large surface area, drying is very rapid, resulting in a sharp drop in temperature. The dry powder particles are separated from the air in the cyclone separator and collected in the glass collection bottle. The exhaust air is directed through a flexible SS hose into the atmosphere. A bag filter can be provided for secondary powder collection.

CONSTRUCTION

The blower, electrical air heater, air compressor and the pump are placed in a stainless steel panel, with free and easy access.

The air entering the panel is filtered through a fine cloth filter.

The chamber and cyclone are of borosilicate glass with clamp fittings, designed for easy assembly and removal

The peristaltic pump is mounted on the front of the panel with easy accessibility.

CONTROLS

The dryer has easy of operations. The inlet air temperature is precisely controlled by the inlet temperature PID controller. The Panel includes.

- Inlet Temperature controller.
- Outlet Temperature indicator.
- On/Off Switch and indicator for blower.
- On/Off Switch and indicator for heater.
- On/Off Switch and indicator for air compressor.
- On/Off Switch and indicator for feed pump.
- Pump speed control with LCD Display.
- Compressed air pressure control with LCD display of air pressure.

TECHNICAL INFORMATION

Evaporation rate of water at inlet temperature of 250° C

:- Approx 1500ml/hr.

Air inlet temperature range :- Up to 250° C

Heater Capacity :- 3 Kwh.

Spray System :- 2 Fluid nozzle.

Spray/Hot air flow :- Downward Co-current /
Upward counter Co-current

Air Compressor :- Inbuilt.

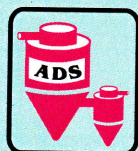
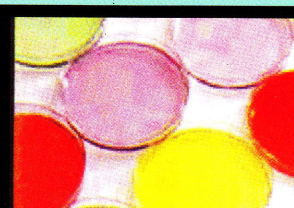
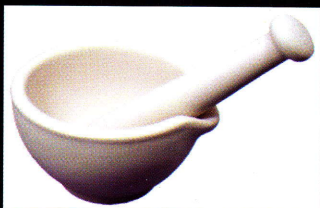
Power Supply :- 230V-50Hz. 15 Amps.

Dimensions :- 700x600x450 mm
(H) (W) (D)

APPLICATION

The Laboratory Spray Dryer can be used for various application :-

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|---------------------------|------------------|-----------------------------------|
| ○ Pharmaceutical products | ○ Flavours | ○ Dyestuffs and pigments |
| ○ Bio-chemicals | ○ Foodstuffs | ○ Inorganic and organic chemicals |
| ○ Herbal extracts | ○ Tanning agents | ○ Plastics |
| ○ Ceramics | | |



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