



# **Lab Spray Dryer**



# **Principle:**

A peristaltic pump delivers liquid from the sample container to the 2 fluids 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 tempetare.the dry powder particles are separated from the airing 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 pumps are placed in a panel with free and easy access.

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

The chamber & 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 ease 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.
- Compressor 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.
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Spray System:	2 Fluid nozzle.
Spray / hot air flow:	Download Co-current /
	Upward counter Co-current
Air Compressor:	Inbuilt.
Power Supply:	230V-50HZ.15 Amps.
Dimensions:	700x 600 x 450 mm(H) x (W) x (D)

# **Application:**

The Laboratory Spray Dryer can be used for various applications:

- Pharmaceutical Products
- Bio-chemicals Herbal extracts
- Flavors
- Foodstuffs
- Training agents
- Dyestuffs and pigments
- Inorganic & organic chemicals
- Plastics



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