

ROTARY DRYER (EE-1638)

Rotary dryer is a unit in which drying is done by forced draft action created by hot air. The set-up consists of a long revolving cylindrical shell slightly inclined towards the outlet. The shell is fitted with two brackets for support. Air from a blower passes through a heating chamber serves the purpose of drying agent. An arrangement for rotating the dryer shell at low RPM is provided by means of an electrical motor and a reduction gearbox. Wet feed enters from one end of the cylinder and dry material discharges from the other end. As the shell rotates internal flights lift the solids and shower them down through the interior of the shell. This action increases the contact of wet solid against hot air making the dryer very effective. The flow of hot air is counter-current to solids. Flow control and by-pass valve are fitted to regulate the airflow.

SCOPE OF EXPERIMENTATION

- To study the operation of a Rotary Dryer.
- To study the drying characteristics of a solid material under batch drying condition in a rotary dryer.

UTILITIES REQUIRED

- Electricity Supply : 1 Phase, 220 V AC, 4 kW.
- Wet Solid
- Floor space of 1.5m x 2m.



TECHNICAL DETAILS

- Drying Shell : Material Stainless Steel, Length 1.5 m, Dia 110 mm.
- Feed Hopper : Material Stainless Steel , Compatible Capacity
- Product Receiver : Material Stainless Steel, Compatible Capacity.
- Rotating Action : Using motor coupled with a Reduction Gear Box.
- Hot Air Circulation : By forced draft fan, Arrangement is done to vary the air flow rate.
- Heating Chamber : Compatible capacity
- Heater : Nichrome wire heater
- Temperature Sensors : RTD PT-100 type.
- Control panel comprises of Digital Temp. Controller 0-199.9°C (For Hot Air) Standard make on/off switch, Mains Indicator etc.
- Instruction Manual : An ENGLISH instruction manual will be provided along with the Apparatus
- The whole set-up is well designed and arranged in a good quality painted structure.