

COOLING TOWER
Make : ETHER
Model No : EE-1578

DESCRIPTION

The apparatus consists of a forced draught, counter flow type-cooling tower. A blower supplies cooling air. Air enters the tower at the bottom. Hot water is, obtained from a Water Bath. Hot water is sprayed over the mesh packing through the nozzles and it flows downwards. Operation of cooling of water occurs due to the Heat Transfer between air and water. So, water gets cooled. This student can study the operation of cooling tower and calculate the energy balance.

EXPERIMENTATION

- To Study the Operation of Cooling Tower.
- To determine the mass Transfer Coefficient on Cooling Tower.
- To examine the effect of various parameters such as feed flow rate, air flow rate, inlet water temperature etc. on the performance of the cooling tower

UTILITIES REQUIRED

- Water Supply & Drain
- Drain.
- Electricity 220V AC, 50 Hz, Single phase
- Space required : 2 x 2 m

TECHNICAL DETAILS

- Cooling Tower : Material Stainless Steel
- Size : Cross-Section (150 x 150) mm,
Height 750 mm
- Packing : Expanded Wire mesh.
- Air circulation : By forced draft fan, arrangement is done to vary air flow rate.
- Air Flow Measurement : Orifice meter with U-tube Manometer
- Water Flow Measurement : By Rotameter
- Dry & Wet Bulb Temperature : Measured by Temperature Sensors.
- Hot Water Tank : Material Stainless Steel, Double Wall, insulated with ceramic fibre Wool
- Hot Water Circulation : Magnetic Pump to circulate hot water.
- Heater : Nichrome wire heater.
- Temperature Sensors : RTD PT-100 Type, 6 Nos.
- All the water tank should be of SS 304Grade with minimum 1.2 mm thickness
- Digital Ultrasonic Cleaner, Temperature range RT +7°C ~ to 80°C, Blue LED Display, Normal and Soft power control for the cleaning spots, Degas Function Available. Time Setting, Tank SS304, Capacity 12 liter or above
- Control panel comprising of :
 - Digital Temperature controller : PID Controller, 0-199.9°C (for hot water tank)
 - Digital Temperature Indicator : 0-199.9°C, with multi-channel switch
 - With standard make ON/OFF switch, Mains Indicator & Fuse etc.
- An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus
- The whole set-up is well designed and arranged on a good quality painted MS structure.

