

Product Name :
Drop Wise and Film Wise Condensation Apparatus**Product Code :**
ALABS-A104-352**Description :****Drop Wise and Film Wise Condensation Apparatus**

- Condensation is a phase change heat transfer process occurring in many industrial applications, such as in steam power plants, refrigeration plants etc.
- Thus this is one of the important heat transfer process as present in mechanical and chemical engineering applications.
- The condensation of vapour on a surface is of two types: 1. Drop wise Condensation, 2. Film wise Condensation.
- This setup is designed for determining heat transfer co-efficient of two types of condensation and for visualization of these processes.
- It consists of a vertical frame. Condensation tubes are fitted inside compact glass cylinder.
- Steam generator is fitted at the backside of the cylinder. Steam comes directly from generator to the cylinder.
- Two valves are fitted to control flow rate of water in individual tubes

- Digital Temperature Indicator monitors the temperatures.
- Pressure gauge and Rotameter can observe steam pressure and cold water flow rates respectively
- A Digital temperature Controller is provided for controlling the temperature of Steam
- Water level indicator is provided in steam generator
- Condensate is measured by a measuring cylinder

Experimentation:

- To study the Film wise & Drop wise condensation of steam on a vertical surface.
- Visualization of condensation process in drop wise as well as film wise condition.

Utilities Required:

- Water supply 5 lit/min (approx.)
- Electricity Supply : 1 Phase, 220 V AC, 1.5 kW.
- Table for set-up support.

Technical Specifications:

- Steam Generator: 8 Ltrs. (Approx.) made of Stainless steel with 1.5 kW heater. Insulated with ceramic wool and clad by aluminum foil
- Pressure Gauge: Bourdon type
- Copper tubes (2 Nos.): One with natural finish and other nickel polished
- Diameter: 19 mm (Approx.)
- Length: 170 mm (Approx.)
- Water Flow measurement: Rotameter
- Condensate Measurement: Measuring Cylinder & Stopwatch
- Control valves: one each for Steam, Cooling water & Drain
- Digital Temp. Controller: 0-199.90C (For Steam Generator)

- Digital Temp. Indicator: 0-199.90C, with multi-channel switch
- Temperature Sensors: RTD PT-100 type
- Instruction Manual: An ENGLISH instruction manual will be provided along with the Apparatus
- The whole set-up is well designed and arranged on a Powder Coated structure



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