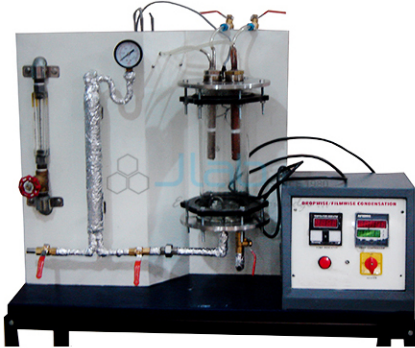


Product Code . JA-HTLE-7379

Dropwise and Filmwise Condensation Apparatus



Description

Dropwise Condensation Apparatus

Description:

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 processes as present in mechanical and chemical engineering applications.

The condensation of vapor on a surface is of two types:

1. Dropwise Condensation,
2. Film-wise Condensation.

This setup is designed for determining heat transfer coefficient of two types of condensation and for visualization of these processes.

It consists of a vertical frame. Condensation tubes are fitted inside a compact glass cylinder.

The steam generator is fitted at the backside of the cylinder. Steam comes directly from the generator to the cylinder.

A Digital Temperature Controller is provided for controlling the temperature of Steam.

Water level indicator is provided in the steam generator.

Two valves are fitted to control flow rate of water in individual tubes

Digital Temperature Indicator monitors the temperatures.

Condensate is measured by a measuring cylinder.

Pressure gauge and Rotameter can observe steam pressure and cold water flow rates respectively.

Specification:

Steam Generator: 8 Ltrs. (Approx.) made of Stainless steel with 1.5 kW heater.

Insulated with ceramic wool and cladded by aluminum foil.

Pressure Gauge: Bourdon type

Temperature Sensors: RTD PT-100 type

Control valves: one each for Steam, Cooling water & Drain

Copper tubes (2 Nos.): One with natural finish and other nickel polished

Diameter: 19 mm (Approx.)

Digital Temp. Indicator: 0-199.90C, with multi-channel switch

Length: 170 mm (Approx.)

Water Flow measurement: Rotameter

Condensate Measurement: Measuring Cylinder & Stopwatch

Digital Temp. Controller: 0-199.90C (For Steam Generator)