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**Product Name :**  
Film and Dropwise Condensation

**Product Code :**  
LBNY-0005-10200022



#### **Description :**

The process of Dropwise Condensation is enhanced by the special water cooled condenser surface finish that prevents wetting of the surface. This continuous cleaning puts the water cooled surface in direct contact with the vapour. Condensation then occurs in droplets which grow and fall under gravity. These falling droplets wipe the surface clean ready for more droplets to form.

Vapour may condense onto a cooled surface in two distinct modes known as Filmwise and Dropwise. However it involves special surface finishes or treatment in order to maintain Dropwise Condensation and for this reason, though desirable, it seldom occurs in real plant operation. For the same temperature difference between the vapour and the surface, Dropwise Condensation is several more times effective than filmwise.

The film effectively acts as a resistance to heat transfer, as heat must be conducted through this film to the internal cooling water. The duplicate Filmwise Condenser is not specially treated and allows condensation to form as a film. This effectively grows and runs down the condenser gaining thickness as it falls.

#### **Technical Specification :**

##### **Experimental Capability:**

Measurement of heat flux and surface heat transfer coefficient in both Filmwise And Dropwise Condensation at pressures up to atmospheric.

Demonstration and investigation of the effect of air in condensers.

Demonstration of Daltons law.

Visual observation of Filmwise And Dropwise Condensation and .nucleate boiling.

Investigation of the saturation pressure/temperature relationship for water between ambient temperature (20-30°C) and 100°C.



**Laboratory Instrument India**