

## **DROPWISE & FILMWISE CONDENSATION APPARATUS (EE-1571)**

The equipment consists of a metallic container in which steam generation takes place. The lower portion houses suitable electric heater for steam generation. A special arrangement is provided for the container for filling the water. The glass cylinder houses two water cooled copper condensers, one of which is chromium plated to promote drop wise condensation and the other is in its natural state to give film wise condensation. A connection for pressure gauge is provided. Separate connections of two condensers for passing water are provided. One Rota meter with appropriate can be used for measuring water flow rate in one of the condensers under test.

A digital temperature indicator provided has multipoint connections. Which measures temperatures of steam, two condensers, water inlet & outlet temperature of condenser water flow.

### **OBJECTIVE :**

To find the heat transfer coefficient for Dropwise condensation and Film wise condensation process.



### **TECHNICAL SPECIFICATION:**

Condensers	:	One chromium plated for drop wise condensation & one natural finish for Film wise condensation otherwise identical in construction.
Dimensions	:	19 mm outer dia. 170 mm length. Fabricated from copper with reverse flow in concentric tubes. Fitted with temperature sensor for surface temp Measurement.
Main Unit	:	M.S. Fabricated construction comprising test section & steam generation section. Test section provided with glass cylinder for visualization of the process.
Heating Elements	:	Suitable water heater.
Instrumentation	:	<ol style="list-style-type: none"> <li>1) Temperature Indicator: Digital 0-199.9 ° C with multichannel switch.</li> <li>2) Temperature Sensors : RTD PT – 100 Type</li> <li>3) Rota meter for measuring water flow rate.</li> <li>4) Pressure Gauge: Dial type 0-2 Kg/cm<sup>2</sup></li> </ol>