



condenser section, as well as the vapour temperature of the working fluid were recorded. The flow patterns in a steady state at any of the hot water bath temperatures were recorded by a camera. Also, the flow patterns were continuously recorded by a video camera to observe the working fluid's movement. The results showed that ;

1. The varied hot water temperature.

With the aspect ratios equal to or greater than 10, the flow patterns at low temperature were bubble flow at lower, churn flow at middle and annular flow at upper parts for vertical evaporator sections but only slug flow for inclined evaporator sections. At higher temperature, the flow patterns were still bubble flow but with increased bubbles, churn flow with greater vapour spaces and annular flow with interfacial roughness liquid film for vertical evaporator sections, and slug flow was made more expanded for inclined evaporator sections.

2. The varied aspect ratios.

With the aspect ratios equal to or greater than 10, the flow patterns for vertical evaporator section were bubble flow at lower, churn flow at middle, and annular flow at upper parts with the ratio of the maximum heat transfer rate to the vertical heat transfer rate ( $Q/Q_{90}$ ) experimentally constant with varied aspect ratio. With the aspect ratios less than 10, the flow patterns on the same sections were bubble flow with  $Q/Q_{90}$  transfer rate experimentally inverse to the varied aspect ratio. The flow patterns for inclined evaporator sections were only slug flow for all aspect ratios.