



Phenomena Kecepatan Bubble Dari Aliran Gas-Liquid Dalam Mikro-Canal

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Abstract

Micro-reactor are reactors with three dimensional structures, the inner dimensions of which are under a millimeter in size. Micro-structured reactors can be advantageously used as process engineering tools for acquiring information which allow in a short time and with greater safety, a process to be transferred to the pilot and production scale. Information from micro-structured reactors can also be used for optimizing process plants already in operation. Micro-structured reactors are suitable for the exothermic/endothermic reaction and or limited by mass transfer.

The objects of the experiment are to study phenomenon of bubble velocity for gas-liquid flow as Taylor flow at 2 conditions of which are first constant-volumetric flow rate of gas 0.75 ml/min and volumetric flow rate of ethanol varies between 0.2 ml/min - 1 ml/min, and second for constant-volumetric flow rate of ethanol 0.3 ml/min and volumetric flow rate of gas varies between 0.3 ml/min - 1 ml/min.

Two configuration of reactors (canal take form "T"; canal take form serpent/meander) are used in this experiment. Results of experiment show that the bubble velocity has fluctuated to time with certain period and amplitude. Bubble velocities are proportional inverse to dimension of bubble.

Keywords: *micro-canal, hydrodynamic, gas-liquid flow*