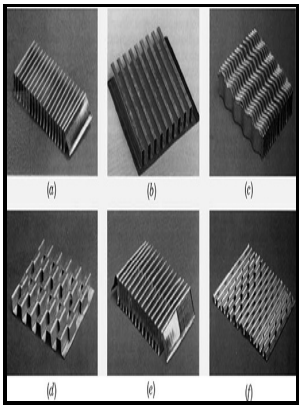
Flow distribution in plate heat exchangers - a theoretical and experimental study of the distribution of flowbetween the channels forming a pass of a plate heat exchanger.

The author - Frost formation in the cross



Description: -
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ThesesFlow distribution in plate heat exchangers - a theoretical and experimental study of the distribution of flowbetween the channels forming a pass of a plate heat exchanger.
Notes: Ph.D. thesis.
This edition was published in 1977

Filesize: 7.42 MB

Tags: #Single

Single

Numerical simulation reveals many unique features of considered heat exchanger connected with the heat and mass transfer occurring in the return air channel under ice formation conditions.

Experimental and theoretical analysis of transient response of plate heat exchangers in presence of nonuniform flow distribution

Two models calculate the pressure profile in the headers by 3-D CFD modeling and 1-D mass and momentum conservation equation.

Frost formation in the cross

Plate heat exchangers are making their presence felt in the power and process industry in the recent past. The key result of this investigation is the strong correlation between the plate design and the tendency for deposit formation. Unlike previous studies, the present study indicates the importance of considering the heat-transfer coefficient inside the channels as a function of flow rate through that particular channel.

Single

The experimental results indicate that in a U-type brazed plate heat exchanger, the channel flow rate first increases for the first several channels near the heat exchanger entrance due to the sudden expansion of flow in the inlet header. Full film flow takes place at large mass fluxes and intermediate mass fluxes of low vapor qualities, while partial film flow occurs at small mass fluxes and intermediate mass fluxes at high vapor qualities.

Experimental study of flow distribution in plate

The investigated operating parameters were solution concentration, flow velocity, and bulk and surface temperatures.

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