

Heat Exchange Intensification of Refrigerating Systems Units

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The results of investigations on intensification of heat exchange of cooling units and condensers at the expense of electroconvection using are cited.

The process of crystallization and frost formation organized in the electrostatic field on the surface of units is examined.

The application of electroconvection in cooling units allows reducing difference between temperatures of the refrigerant boiling and air medium in the cold chamber by 3-5K, lowering the condensation temperature of the refrigerant by 4-6 K, reducing the coefficient of operating time up to 30% and daily energy consumption up to 18-29%. The heat exchange processes are intensified 1.2 – 4 times. The constructive solutions of units using electroconvection are cited. The units presented in the paper are recent. It is proved with 30 patents of the Russian Federation.

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