

## ABSTRACT

Master's degree dissertation, "Influence of Climatic Conditions on Heat Utilization in Air Conditioning Systems of Public Buildings" consists of 128 pages of text, has 55 illustrations, 58 tables, 7 applications, and contains 61 sources in the list of references.

This study has three major purposes: studying the operation process and calculation of ventilation heat recovery in cooling mode; the proposed method allows selecting experimental conditions, especially temperature difference, in order to provide the desired accuracy and reliability in the internal shortcuts determination; determine the influence of climatic conditions for heat recovery systems for ventilation and air conditioning.

Relevance of the topic is to reduce energy consumption for cooling the incoming air with exhaust through the installation of air-handling units with heat recovery. And make recommendations on energy and economy saving of ventilation heat recovery corresponds to the different climatic conditions.

The task of the study - conducting theoretical research methods for assessing the energy efficiency of recovery; based on SolidWorks perform mathematical modeling of process of heat exchange in the heat exchanger of the ventilation system; an analysis of experimental data obtained with the help of supply and exhaust installation type Lossnay, located in the classroom academic building and analysis of weather data for the heating season; and research the effect of heat recovery on load and energy consumption of air conditioning (for Kyiv – Ukraine & Hanoi – Vietnam)

The results obtained, the proposed methods and approaches can be used in implementing similar projects in the construction or reconstruction of existing ventilation systems.

The research results have been tested and presented at three scientific conferences and in the article in the scientific journal.

*Keywords: supply and exhaust ventilation system, heat exchangers, heat recovery, enthalpy efficiency coefficient, temperature efficiency coefficient, moisture content, relative humidity, enthalpy of the air flow, heat recovery, energy efficiency, energy consumption.*