



ANALYSIS OF USING DOUBLE BY-PASS IN THE AIR HANDLING UNIT'S WITH COUNTER FLOW HEAT EXCHANGERS

G. Plavenieks, A. Lesinskis

*Riga Technical University
Azenes str. 16-20, LV 1010 Riga – Latvia*

ABSTRACT

The European Union (EU) energy consumption is growing each year, and along with their dependencies on external oil and gas suppliers. EU buildings consume 40% of the total energy consumption in Europe. Predicts that by the year 2020, two times increase in energy consumption of air handling systems, and it should be limited to the higher standards for air handling units. Using counter flow heat exchanger in the ventilation system, it will reduce considerably heat energy consumption of ventilation, but the same time create pressure loses. The paper presents analysis of using double by-pass in the air handling units. In the article will be represented test data of measurements of air flow rate and pressure test model of air handling unit with double by-pass of counter flow heat exchanger. Objective of my work is to improve ventilation systems performances in terms of sustainability, indoor comfort and economics. Reduction of energy consumption, improvement of energy efficiency and optimization of air handling units is important to address the improvement of indoor air quality.

Keywords: counter flow heat exchanger, air handling units