

RESEARCH OF SINGLE ROOM DECENTRALIZED HEAT RECOVERY UNIT

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Abstract

Mechanical ventilation systems with heat recovery units are one of the key elements of low energy residential buildings and it has gained increasing interest during the last years. This research presents experimental investigation of the work of the compact recuperator, as a part of the decentralized, single pipe ventilation system, in real conditions. An experimental study was carried out to obtain data for tested unit efficiency calculation, for supply and exhaust mode. The scope of measurement encompassed the air temperature and airflow rate. Tested recuperator fulfilled its role of ventilation with heat recovery, however, some deficiencies were indicated. As a result of measurements it has been noticed that it is possible to improve the device in the future. This possibility of improvement of this device was suggested in the conclusions.

Keywords: Decentralized ventilation; Heat recovery; Measurements; Single room unit; Recuperator.