THE ANNALS OF "DUNAREA DE JOS" UNIVERSITY OF GALATI
FASCICLE IV REFRIGERATING TECHNIQUE, INTERNAL COMBUSTION ENGINES,
BOILERS AND TURBINES, ISSN 1221-4558
2016

HEAT RECOVERY FROM STERILIZATION PROCESSES IN CLINICS AND HOSPITALS

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Abstract: The paper presents an experimental study on the identification of a heat recovery solution from the sterilization areas. Hospitals and health care buildings are among the most complex indoor facilities with numerous different end uses of indoor spaces and functions. Heating, ventilating and air-conditioning (HVAC) installations control indoor air quality and aseptic conditions, and secure healthy, safe and suitable indoor thermal (i.e. temperature, humidity, air quality and airflow) conditions for medical staff and patients. According to the legislation, all dental clinics must have a space for the sterilization processes of medical instruments. In these spaces there are a series of high temperature sterilization medical devices (134 - 180 0C): Autoclave, dry heat sterilization devices, ultrasonic cleaning systems, etc. Heat released through the exterior walls or by opening the doors of these devices is significant. In most cases, this heat is exhausted outdoors by ventilation systems without recovery. The number of sterilization devices and the time of operation depend on the size of the clinic and the number of patients. In large clinics and hospitals, heat released in sterilization spaces can be used to preheat air or water in different processes.