

## **Using heat pipes in air conditioning systems As a heat exchanger to recovery of waste heat\***

**Dr. Eng. Ghassan Moudallal\*\***

---

---

### Abstract

The recovery of waste heat contribute to decrease power consumption and increase the effectiveness of heating systems. So a heat pipe heat exchanger has been studied and constructed for heat recovery. To use it in many places such as laboratories and hospitals where the air must be changed up to 40 times per hour, air-to-air heat pipe heat exchanger was designed, constructed and tested under low temperature (15-55°C) operating conditions, using methanol as the working fluid. The absorbed heat by the evaporator section are very close to the applicable heat transfer rate

---

---

**Keywords:** Heat recovery, Heat pipe, Heat pipe heat exchanger, HVAC Systems

---

\* For the paper in Arabic see pages (99-106).

\*\*Damascus University- Faculty of Mechanical and electrical Engineering