



HEAT PUMP MODULE



DL DKC031

The system can clearly demonstrate the operation of a heat pump air/water.

The system consists of:
compressor, circulation pump, flow control valve, accumulator tank, condenser, filter/drier, expansion valve and evaporator fan, water flow meters, temperature and pressure sensors with display in strategic points of the circuit.

TRAINING OBJECTIVES

- Study of the operation of a heat pump.
- Study of the main components of the heat pump.
- Representation of reversible thermodynamic processes.
- Monitoring temperatures and pressures in the process.
- Use of accumulated heat.
- Energy balances:
 - Open circuit.
 - Closed circuit.

TECHNICAL DESCRIPTION

With this comprehensive training equipment, students can study the utilization of environmental energy used to heat water.

The refrigerant absorbs the ambient heat while passing through the evaporator fan, and subsequently, it is transferred to the water in the condenser.

The hot-water storage tank includes an internal heat exchanger, which can be connected also to the network, in order to exchange energy with the flow of tap water.

The heat, absorbed by the water in the condenser, turns into the hot-water storage tank, where this heat energy can be exchanged with tap water flow.

The system is also ready to operate in an open circuit: the mains water can enter directly the condenser providing instantaneous heating.

TECHNICAL DATA

- Compressor: output power 400W.
- Condenser: tubular heat exchanger.
- Fin evaporator fan.
- Hot water circulation through recirculation pump.
- Hot water storage tank with internal heat exchanger, capacity: 5.5l