

Product Name :
Astra Scientific Computerized Air Conditioner Trainer

Product Code :
RefrigerationLab0005



Description :

Astra Scientific Computerized Air Conditioner Trainer

Technical Specification :

The Air conditioner trainer examines the operation and effect of the individual components of an air conditioning system. Includes all the components also used in building services engineering. Particular importance was placed on the use of original components.

For air conditioning, air cooler (direct evaporator with condensing unit), steam humidifier, fan, air preheaters and reheaters are arranged in an open-air duct. Each of these components can be switched on or off individually. The effect of each individual component on the conditioning of the air is as interesting as the effect of any combination of components.

Sensors record the air temperature and air humidity before and after each stage as well as the pressures and temperatures of the refrigerant. The flow rate of the refrigerant is determined by means of the pressure measurement. The measured values can be read on digital displays. At the same time, the measured values can also be transmitted directly to a PC via USB. The data acquisition software is included.

FEATURES:

- Setup of an air conditioning system: main components and their function
- Variables in air conditioning
- Measure temperature and air humidity
- Effect of the airflow
- Changes of state in the h-x diagram
- Cyclic process in the log p-h diagram
- Determine heating and cooling capacities
- Air conditioning system with steam humidifier
- Wide experimental program for conditioning of room air

SPECIFICATION:

- Steam humidifier

Power consumption: 4kW

Steam capacity: 5,5kg/h, switchable in three stages

- Fan

Power consumption: 167W

Max. Volumetric flow rate: 1150m³/h

Speed: 1000...2600min⁻¹

Pmax: 460Pa

- Air preheater: 1kW, switchable in two stages
- Air reheater: 2kW, switchable in two stages
- Air duct, WxH: 300x350mm
- Direct evaporator as air cooler: 6kW
- Condensing unit

Power consumption: 968W at 5/25°C

Refrigeration capacity: 2,3kW at 5/25°C

- Refrigerant: Refrigerant: R134a/22/etc

Filling volume: 3,3kg

CO2-equivalent: 2,1t

- Measuring ranges

Differential pressure: 0...100Pa

Temperature: 5x 0...50°C, 4x -100...200°C

Humidity: 5x 10...90%

Pressure: -1...15bar, -1...24bar (refrigerant)

Flow rate: 8...102L/h (refrigerant)

- Required for operation

230V, 50Hz, 1 phase

230V, 60Hz, 1 phase



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