LAB ENGINEERING

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Product Name : Computerized Air Conditioner Trainer	**Product Code :** RAC0005

Description :

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.
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.
For air conditioning, air cooler (direct evaporator with condensing unit), steam humidifier, fan, air preheaters and reheaters are arranged in an open-air duct.
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