



**Product Name :** " FULL SCALE AIR CONDITIONING TRAINER "  
**Product Code :** " R.A.C 22 "



**Description :**

## **FULL SCALE AIR CONDITIONING TRAINER:-**

### **AIM:-**

- Layout and maintenance of a ventilation and air conditioning system
- Principles of air conditioning a room
- Explanation of the components: filter, heater, cooler, humidifier, condenser, controller, flaps, outlets
- Function of safety devices
- Effect of cooler, heater and humidifier on the air condition at the outlet

### **INTRODUCTION:-**

Air conditioners and refrigerators work the same way. Instead of cooling just the small, insulated space inside of a refrigerator, an air conditioner cools a room, a whole house, or an entire business.

The experimental set-up constitutes a real air conditioning system. The performance of the system is sufficient to air condition a laboratory room.

The air conditioning system contains a filter insert, a blower with electronically controlled speed, a direct evaporator, an electric heating coil and a humidification section. The following functions are available: Heating / cooling and humidifying / dehumidifying. For these purposes the components can be controlled either individually in manual mode or by a central PLC climatic controller in automatic mode. The climatic controller allows temperature and humidity to be controlled independently. The timer program allows values to be varied

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through the day or through the week, as in real life. Pressure loss can be measured in each section of the duct. All popular components such as filters, heaters / coolers, louvered flaps, outlets, examination flaps and fire dampers are fitted and can be explained. A standard connection spigot permits a link to an external ventilation system, so that an existing room can be air-conditioned. Because of the heat it dissipates, the condenser is not installed in the room to be air-conditioned.

The well-structured instructional material outlines the technological fundamentals and provides a step-by-step guide through the experiments.

### **TECHNICAL SPECIFICATION:-**

The experimental set-up constitutes a real air conditioning system. The performance of the system is sufficient to air condition a laboratory room.

#### **Specification**

1. Mobile experimentation stands air conditioner.
2. System with condenser / direct evaporator as cooler, multi-stage heater.
3. Ventilation duct of galvanized sheet metal with viewing windows.
4. Duct with typical elements: filter, ceiling outlet, louvered flap, ventilation grille, air damper.
5. Duct cross-section: lower: w x h: 630x630mm, upper: w x h: 358x358mm.
6. External standard connection spigot.

#### **FEATURES:**

- Complete ventilation and air conditioning system for laboratory use.
- Highly relevant practical experience thanks to full scale and use of commercially-available components.
- Can be connected to external ventilation systems