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Product Name : Air Conditioning And Ventilation System	**Product Code :** LBNY-0005-12500020

Description :

The air conditioning and ventilation system includes a filter element, a fan with controlled speed, a direct evaporator as air cooler, an electric air heater and humidification by steam humidifier. The experimental setup represents a real air conditioning and ventilation system. The system capacity is sufficient to climatise a laboratory room. The air conditioning controller controls the temperature and air humidity independent of each other. The following functions are possible: heating / cooling and humdifiying / dehumidifying. For this purpose the active components can be run either manually individually or via a central PLC air conditioning controller in automatic operation. Pressure losses can be measured at each section of the duct. Via time programs, operation is possible dependent on the time of the day or the day of the week, as in reality.

Learning objectives/experiments:
Explanation of components: filter, air heater, air cooler, humidifier, condensing unit, air conditioning controller, flaps, outlets
Operation of safety devices
Investigation of the control behaviour of an automatic air conditioning controller, determination of limiting factors
Practice-oriented principles of air conditioning and ventilation technology
Design and servicing of an air conditioning and ventilation system
Principles of room air conditioning (h-x diagram)
Measurement of pressure curve and pressure losses
Effect of air cooler, air heater and humidifier on the state of the air at the outlet.

Technical Specification :

Air duct from hot galvanised sheet with sight window and pressure measurement connections to record pressure

curves
Air duct with filter, multi-leaf damper, ceiling vent, protective grating, ventilation grille, fire protection flap, inspection flap, sound insulation link, smoke detector
Practice-oriented air conditioning and ventilation system with 3 independent system components: main unit, condensing unit, steam generator
Manual or automatic operation via PLC air conditioning controller
Hoses connect direct evaporator to condensing unit, humidification to steam humidifier
Main unit with air duct, fan, air conditioning system
Air conditioning system with direct evaporator as air cooler, electric air heater, humidification
Standard connection piece to connect to external ventilation system.