

WINDOW AIR CONDITIONING SYSTEM



Experimental capabilities

- Identification of components of an air conditioning system type window
- Commissioning of a window air conditioning system
- Measurement of operating parameter (pressure, temperature, electrical power...)
- Functional analysis and drawing the refrigerating cycle on enthalpic diagram
- Study of the transformation on air (psychrometric diagram)
- Thermal balance of the bench
- Failures simulation (6) and diagnostic

Operating principle

The bench CRM 014 is made to study a window air conditioning system.

The user will first identify the components of the system, and then do the commissioning. He will check that the system is in good working order and measure the parameters to determine the transformations involved.

The bench is equipped with switches to simulate failures. The user will then make a diagnosis and determine the origin of the failure.

The robust design of this device makes it suitable for use in schools.

The equipment is set up on an Anodized aluminium frame on casters wheels. This gives it great strength and a flexibility of integration into your premises. The manufacture of this equipment complies with the European standard for machinery manufacturing.

Illustrations



Technical details

Details of the structure:

The equipment is set up on an Anodized aluminium frame with blue shutters.

It is mounted on 4 multidirectional casters wheels 100mm diameter equipped with non-marking tread.

The electrical box includes:

- A steel power supply box
- Standard safety elements (main switch, differential circuit breaker, earth connection, white indicator, emergency switch)
- A thermal magnetic circuit breaker
- A button to start the installation
- A multi-line digital indicator to display the temperatures and the compressor power
- Six switches for the simulation of fluidic and electric failures.

The air conditioning side includes:

- A window air conditioning with the following characteristics:
- Power: 3600W
- Refrigerant : R32
- Inverter air conditioning
- Remote control

Integrated instrumentation:

- High pressure gauge: -1 to 36 bars
- Low pressure gauge: -1 to 54 bars
- Thermocouple temperature sensor :-20 et 100°C
- Compressor power wattmeter

Portable instrumentation

- Anemometer

Services required

- Electrical supply : 230 Vac – 50 Hz – 10 A
- Electrical network : 1live(s) + Neutral + Earth.
- Dimensions: (LxWxH mm): 770 x 730 x 1700
- weight (Kg): 102

Note : if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine

Documentation

- User's manual
- Pedagogical manual
- Technical documentation of the components
- Lab exercises
- Wiring diagram
- Fluidic diagram
- Certificate of conformity CE