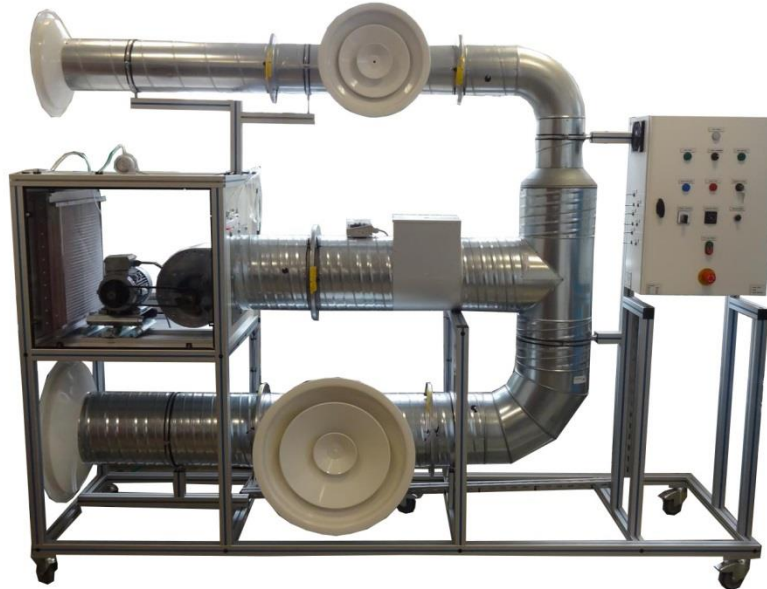


STUDY OF THE VENTILATION AND ALIGNMENT



Experimental capabilities

- Identification of the components of a standard aeraulic circuit
- Commissioning of a ventilation system and settings
- Study of an aeraulic circuit
- Adjustment and measurement of air flow rate
- Balancing of the air flow rate in the ducts
- Pulleys alignment of the fan (maintenance operation)
- Replacement of the fan belt (curative and preventive maintenance)
- Measurement of the electricity consumption according to the air flow rate.
- Measurement of temperature rises (requires infrared camera proposed as an option)
- Engine start test of fan in direct start or inverter

Operating principle

The VEN 100 unit is designed to study aeraulic networks and maintenance operations (alignment ...) on the fans. It is composed of a fan, two networks of aeraulic ducts and of components for adjusting the flow rates and make the measurements. Students must first identify the components of the installation and proceed with commissioning. When the system is in operation, they must balance the various branches of the network and make measurements (air flow rate, differential pressure, electricity consumption).

In a second phase they will do maintenance operations on the system. They can check the pulleys alignment of the fan (preventive maintenance) or if the teacher has misaligned the pulleys before practical work, make a corrective maintenance.

The bench also allows an electrical study. It is equipped with a direct start and a start by inverter of the fan.

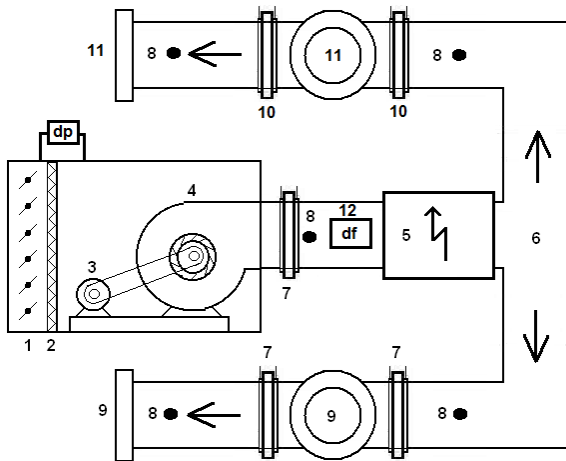
The robust design of this equipment makes it perfectly suited for school use.

Its anodized aluminum structure on wheels makes it very robust as well as a great flexibility of integration into your premises.

The manufacture of this equipment meets European machine directive

This equipment can be used alone or with other compatible devices in our range (see last section of this document).

Illustrations



Technical details

1. Input control registry 510x510mm controlled by an electric servomotor
2. Gravimetric coarse filterG4 with pressure switch in parallel for the clogging detection
3. AC motor with adjustable position and adjustment of the belt tension. Controlled by a frequency converter.
4. Fan squirrel cage with transmission belt pulley with the engine
5. Three phase electrical heating coil diameter 315mm with 9KW power
6. Duct network in galvanized steel (315mm diameter and 200mm diameter)
7. Register with adjustable diaphragm (diameter 315) with 2 connection for measuring the differential pressure
8. Tapping to measure air flow rate with an anemometer
9. Circular air diffusion terminal unit with adjustable flow rate of 315mm diameter (x2)
10. Register with adjustable diaphragm (diameter 200) with 2 connection for measuring the differential pressure
11. Circular air diffusion terminal unit with adjustable flow rate of 200mm diameter (x2)
12. Air flow rate detector (protection of heating coil)

The bench is equipped with an electric box including all the standard safety components (differential circuit breaker, magneto thermal circuit breaker, white LED, emergency stop ...).

The front panel includes pushbuttons of commissioning, operating LEDs, fault LEDs (clogged filters ...), potentiometers (register position and fan speed) and safety sockets for measuring the current and voltage of each phase of fan powering.

Services required

- Electrical supply : 400 Vac – 50 Hz – 20 A
- Electrical network : 3 phase(s) + Neutral + Earth.
- Dimensions: (LxWxH mm): 2900 x 800 x 2300
- weight (Kg): 250

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
- Technical documentation of the components
- Lab exercises
- Certificate of conformity CE

Options

- Infrared camera
- Portable hot wire anemometer
- Ref : VEN 101
- Ref : VEN 102