



Cyclones are widely used equipment in the industry that allows the separation by centrifugal force of solid particles that are suspended in a gas. They are simple equipments whose operation is based on the separation of the particles by means of the centrifugal force, and that without having movable parts they have a very simple maintenance. As inconvenience we can emphasize that they are not flexible to the changes of concentration, flow or size of the particles.

With this IQ 02.1 centrifugal separation equipment, it is intended to study how cyclones, which are gas cleaning devices with particles, remove these from the gas stream.

LEARNING OBJECTIVES

The experiments and experiences that can be realized are the following:

- View and study the operation of a centrifuge separation equipment.
- Determination of the loss of charge for clean gases.
- Determination of the pressure loss as a function of the concentration of solids in the gas.
- Calculation of the efficiency of a cyclone.

TECHNICAL DATA**Cyclone:**

- Approximate height: 340mm.
- Lower diameter: 50mm.
- Greater diameter: 115mm.
- Approximate discharge tube diameters: 50mm.

Airflow:

- Volumetric flow rate: 20 at 100m³/h.

Digital Indicators:

- Temperature.
- Differential pressure.

Analogic Indicator:

- Rotameter for measuring air velocity.

Tank:

- The system has a tank with quick couplings for easy mounting and dismantling.

Filter:

- The system has a filter for total particle control.

Manual:

- The unit includes a complete experiments manual.

Included Accessories:

- Funnel.
- Shovel.
- 1000ml beaker.
- Scale.
- Stopwatch.
- Industrial suction equipment.

REQUIREMENTS

- Power supply: 230V/50Hz.
- Sands of different granulometries.