

High efficiency cyclones manufactured in **GRUBER HERMANOS, S. A.** are used in dust separation processes or with materials suspended in an air stream.

Most common uses are:

- prevention of environmental pollution,
- pneumatic transport,
- dust collection circuits,
- flues with high concentrations of product in suspension,
- air classification equipment of fine particles,
- recovery of fly ash,
- industrial ventilation,
- normally placed before the filtering stage.



Cyclonic group composed of four cyclones, common hopper discharge and support legs.

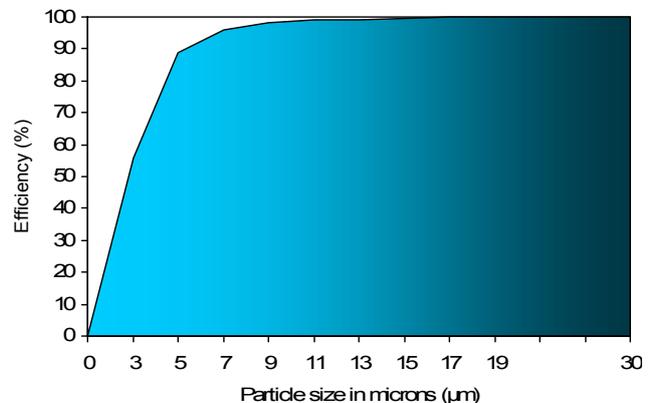


Installation of cyclones in industrial process.

There are many reasons to include a set of cyclones in a separation circuit of gas/particles, for example:

- ✚ they don't have any moving parts that require any maintenance,
- ✚ can work at high pressure and temperature,
- ✚ their simple construction,
- ✚ their low cost,
- ✚ their high efficiency,
- ✚ they can work with most gases and solid materials,
- ✚ workload for the air filter is reduced (smaller filter surface, longer life of the filter, ...)

Efficiency diagram (typical) of a AC 850/100 cyclone



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 V.02.04

Operation principle

The entrained particles in suspension by an air/gas stream enter tangentially to the cyclone through the cylindrical top.

In this zone, the air stream is subjected to a strong centrifugal acceleration, causing solids elements to adhere to the walls of the cyclone, with a force that is proportional to its mass.

As **solids** strike against the cyclone's walls, their speed decreases, **until they eventually fall to the bottom** of the cyclone's cone by the effect of gravity. Those particles with a size less than 10µm or with a low specific weight are not affected by this phenomenon and can be carried by the updraft.

The air stream will tend to come out through the cyclone's top carrying the ultrathin elements.

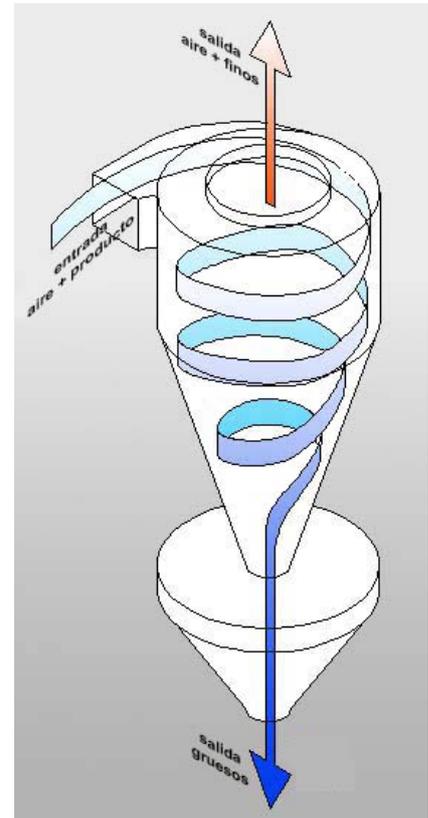


Diagrama de flujo de un ciclón



Cyclone with fan and alveolar valve for discharge.

The air stream changes its direction inside the cyclone and goes out through the top. This change of direction causes a vortex in the lower of the cyclone.

The efficiency of the cyclone can substantially decreased if the vortex enters into the zone of discharge of the solids. To avoid such situations, it is recommended to place a decompression deposit in the discharge outlet and/or an alveolar valve that isolates the pressure of the cyclone from atmospheric pressure.

Special executions:

- ✓ Special steel construction
- ✓ Inside hatches for cleaning
- ✓ Reinforced construction to work under pressure or vacuum
- ✓ Explosion-proof panels for explosive atmospheres
- ✓ Special features on demand.

Our technical department is at your disposal to study which is the most suitable type of cyclone for your specific problem/your installation.

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