



Cartridge filter

Self-cleaning filter for dust treatment

What is self-cleaning cartridge filter?

The cartridge filter is a self-cleaning mechanical filter used to separate particulate matter contained in an air stream to be treated.

This technology is suitable for powders of different granulometry and, thanks to compactness of cartridges, it is used in industrial contexts characterized by reduced spaces.

Gallery

How does cartridge filter work?

The polluted air stream enters the lower part of the dust remover and passes through a pre-filtering chamber that allows coarse dust to precipitate, protecting the cartridges from excessive loads.

The flow, then, reaches the cartridges and passes through them realizing consequently the separation of particulate matter that stops on the filtering media surface.

Dust collected by the cartridges precipitates down to the lower part of the filter where hoppers convey it to collection system (cochlea, rotary valve...). The filtering surface media is kept clean thanks to automatic air cleaning cycles that are usually made in reverse direction. The process is managed on the basis of filter pressure drop, in order to limit the compressed air consumption and to increase lifetime of filtering elements. Cartridges with thin folds and a high filtering surface are cleaned using a rotating nozzle system.

Cartridges are made with different materials, diameters and heights so can be selected according to end-user's technical needs.

The following table shows main cartridges technical variables:



	Diameter	Height (H)	Application field	Features
Cartridges for fine dust	From 125 to 156 mm	From 600 to 2000 mm	Fumes and powders from laser and plasma cutting processes and welding fumes in general...	Contained filtering surface, wide folds
Cartridges for medium-fine dust	From 218 to 230 mm	From 600 to 2000 mm	Cement, wood and minerals processing...	Filtering surface and folds are sized according to the powders
Cartridges for coarse dust	From 300 to 350 mm	From 600 to 1500 mm	Shot blasting, metalworking, powder coating	High filtering surface, thin folds and compactness

Strenghts of cartridge filters

- **CUSTOMIZATION:**the filter is built and configured according to the customer's specific use and dimensional needs in terms of flow volume, quantity/quality of the dusts, grain size and temperature;
- **EFFICIENCY:** it is designed to reach very high efficiency levels. More than 99.9% of dust can be removed;
- **BY-PRODUCT RECOVERY:** our technology allows the recovered solid residues to be completely reused;
- **ECONOMY:** is considerably more economical in terms of purchase and maintenance costs, when compared with other dust removal technologies;
- Thanks to its small size it is suitable for use in limited spaces;
- May be designed for low or high volumetric flow rates, being constituted by modular panels;
- Is available in a version that is compliant with ATEX certification in accordance with the 2014/34/EU directive

Weaknesses of industrial cartridge filters

- it is not very functional in contexts characterized by a high concentration of powders;
- the use of the cartridge filter is not recommended in the presence of hygroscopic powders

Industrial cartridge filter: standard equipments

- Filtration chamber;
- Cartridges;
- Hopper with inspection hatches, collectors and support legs;
- Pneumatic cartridge cleaning system;
- Pre-separation chamber;
- Ladder and railing for maintenance;
- Triboelectric probe



Available options

- Pressure regulator;
- Economiser;
- Fire prevention systems;
- Insulation

Cartridge filter: maintenance service

Tecnosida® is a perfect partner for planning and execution of ordinary and extraordinary maintenance services required to :

- Verify filter's proper functioning
- Keep high filtration efficiency
- Reduce economic and energetic wastes
- Comply with safety and environmental rules and regulations

Contact us for more information