

PowderGrid® Plus Cartridge Filters



Innovative cartridge filter design reduces powder waste, improves powder-booth performance and extends filter life.

Reclaim system performance in any powder coating application can dramatically affect overall operating efficiencies. The effectiveness of these operations can be further enhanced with cartridge-filter technology designed to reduce waste and improve powder-booth performance.

PowderGrid Plus cartridge filters, developed specifically for powder coating, include an innovative pleat design, optimum pleat number and spacing, and a unique, filter media dimpling process. This technology provides and maintains maximum effective surface area throughout reclaim operations for the highest operating efficiency and performance available.

Innovative design for optimum performance

Combining an innovative filter pleat design with Nordson's exclusive process of filter media dimpling, the PowderGrid Plus cartridge filter delivers maximum effective surface area throughout a powder coating reclaim system operation. The dimpled filter media is self-supporting, requiring no metallic screens or armature to prevent pleats from pinching or ballooning during operation. This provides unobstructed airflow across the entire surface area for maximum filtration efficiency and lower pressure drop across the filter.

Increased effective surface area

The absence of any pleat-supporting screens and a larger number of pleats provide maximum overall filter surface area. Rounding of the pleat tips further increases effective filtration surface. This results in slower rise in pressure drop, reduced load on the booth fan, and improved overall reclaim system operation.



Unique, dimpled media provides 100 percent open filter area for maximum efficiency.

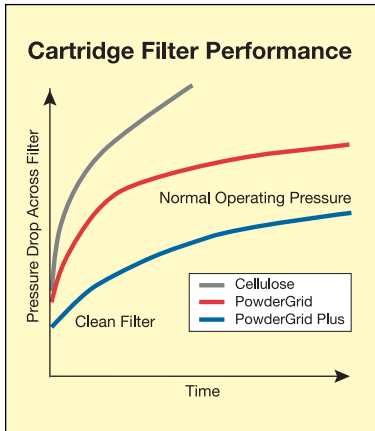


A full line of mounting styles and lengths (26-inch and 36-inch versions shown above) of PowderGrid Plus filters are available for use with all types of powder materials.

Improved cleanability for reduced waste

In comparison testing, a typical paper cartridge filter retained 14 pounds of powder, which must be discarded when the filter is replaced. PowderGrid Plus filters retained only three pounds of powder, reducing waste by as much as 80 percent. Such significant savings are due to the optimized pleat count and spacing of the PowderGrid Plus filters. The excellent powder release characteristics of the 100 percent polyester filter media significantly reduces powder retention and waste.

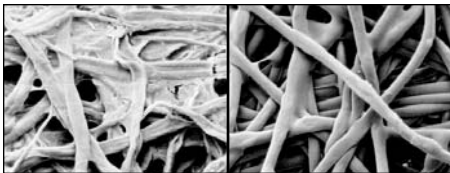
The dimpled media of PowderGrid Plus filters eliminates ballooning of the pleats and trapping of powder during reverse pulsing. This improves the effectiveness of pulsing, allowing the PowderGrid Plus filters to work at a lower average static pressure drop over the life of the filter, and keeps more powder in-process.



Field tests show that lower pulsing pressure is required to maintain the desired pressure drop across PowderGrid Plus cartridges. Pulsing frequency is also reduced in systems equipped with a “pulse-on-demand” feature. Reductions in pulsing pressure and frequency help prolong filter service life and lower compressed air consumption for better operating economy.

Greater filter efficiency

PowderGrid Plus filter media is constructed of 100 percent polyester fibers. Uniform construction of these fibers creates pores that are smaller and more evenly distributed than cellulose and cellulose-blend filters. Polyester fibers are arranged to provide consistent pore size and uniformity of distribution, making filter seasoning unnecessary and increasing filter efficiency. Tests show that the PowderGrid Plus cartridge is more efficient than typical filters in capturing fine powder particles and extending final filter life.

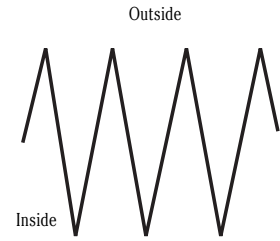
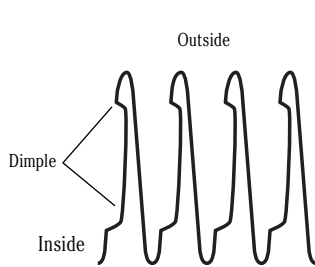


Nordson polyester filter (left) and standard cellulose media (right) magnified 150X.

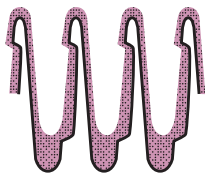
Cartridge Filter Comparison

**PowderGrid Plus
Dimpled Media**

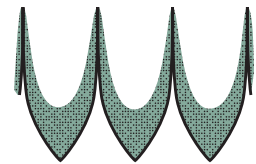
**Conventional Filter
Unsupported Pleat**



With Airflow and Loaded With Powder

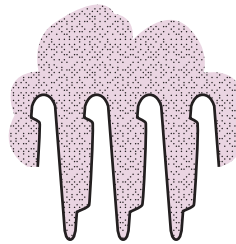


Dimples prevent pleats from pinching together, allowing filtration across 100 percent of surface.

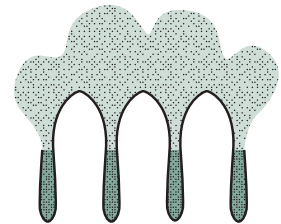


Pleats pinch together at the top, to restrict airflow and reduce effective surface area.

Pulsing

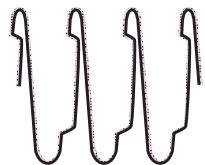


Dimples stiffen the media to prevent ballooning during pulsing to allow 100% cleaning of media.

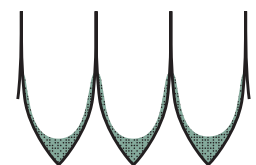


Pleats balloon and trap powder at bottom of pleat.

Immediately After Pulse



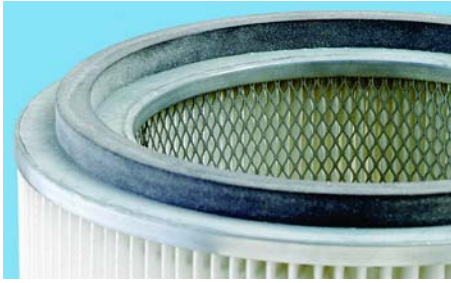
Very little powder remains on media after pulse, maintaining maximum effective surface area.



Trapped powder after pulse reduces effectiveness of pulse and lowers effective surface area.

Durable, air-tight gasket

The flexible, low-durometer gasket of the PowderGrid Plus cartridge filter assures a durable, air-tight seal. The gasket is molded to eliminate the possibility of seam failure under the stress of back-pulse cleaning.



The gasket material resists degradation from contact with powder paint materials to assure long life.

Accommodates many applications

PowderGrid Plus cartridge filters are available in 26-, 32- and 36-inch lengths and a variety of mounting styles for easy installation on a broad range of Nordson side-draft and down-draft powder spray booths. Consult with your local Nordson representative for additional information regarding system specifications.

Features and Benefits

- **Designed specifically for powder coating applications** with all types of powder materials for superior performance.
- **Unique, dimpled pleat design** provides 100 percent open filter area and maximum operating efficiency.
- **Controlled arrangement of media fibers** ensures smaller, more uniform pores. This results in greater efficiency, improved durability, and makes seasoning unnecessary.
- **Optimum pleat number and spacing** assures uniform filtration over the entire surface area for lower pressure drop, more consistent booth airflow and easier cleaning.
- **Rounding of pleat tips** increases effective filter media area for optimum filter performance and long service life.
- **Durable, low-durometer, one-piece gasket** delivers air-tight seal. Gasket material has excellent memory to prevent gapping, and withstands exposure to powder paint materials to resist degradation and provide long life.
- **Full line of mounting styles available** for use in vertical, horizontal and flange-mount applications. Can be used with a wide variety of Nordson side-draft and down-draft powder spray booths.

Specifications

Height	Type	Nordson Cartridge Booths	Filter Area	Airflow Capacity	Weight
26"	Close-End	New 800/900/ NHC-4 and 8*, Versa-Coat, Econo-Coat Series I	86.33 ft ² (7.92 m ²)	500 cfm (800 cmh)	11.5 lbs. (5.2 kg)
	Flange-Mount	500 Series*	86.33 ft ² (7.92 m ²)	500 cfm (800 cmh)	13.0 lbs. (5.9 kg)
	Flow-Through	Old and New 800/900/ NHC-4 and 8*, Versa-Coat, Econo-Coat Series I	86.33 ft ² (7.92 m ²)	500 cfm (800 cmh)	11.0 lbs. (5.0 kg)
	Vertical-Mount	500 Series with Hanger Or Tower Mount*	86.33 ft ² (7.92 m ²)	500 cfm (800 cmh)	11.5 lbs. (5.2 kg)
	Center-Mount	Enhanced 500 Series	86.33 ft ² (7.92 m ²)	500 cfm (800 cmh)	11.7 lbs. (5.3 kg)
36"	Flow-Through	Horizon 400* Horizon 200*, NHC-4 and 8 Stretch	120 ft ² (11.02 m ²)	700 cfm (1019.5 cmh)	13.6 lbs. (6.2 kg)
	Closed-End	Horizon 400* Horizon 200*, Econo-Coat Series II	120 ft ² (11.02 m ²)	700 cfm (1019.5 cmh)	14.0 lbs. (6.4 kg)
	Center-Mount	Excel Series* Enhanced 500 Series	120 ft ² (11.02 m ²)	700 cfm (1019.5 cmh)	14.2 lbs. (6.4 kg)
32"	Center-Mount	Enhanced 500 Series- Torit** Manufactured Collectors	105 ft ² (9.72 m ²)	600 cfm (874 cmh)	13.2 lbs. (6.0 kg)

* Standard: Installed when system is shipped from factory.

** Torit is a trademark of Donaldson Company.



Nordson reserves the right to make design changes to products to improve their function. These changes may occur between printings.

For more information, talk with your Nordson representative or contact your Nordson regional headquarters office.

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