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.

**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 celluloseblend 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.

**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.**

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

**Pleats balloon and trap powder at bottom of pleat.**

**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.**

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

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.

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.

Specifications

<table>
<thead>
<tr>
<th>Height</th>
<th>Type</th>
<th>Nordson Cartridge Booths</th>
<th>Filter Area</th>
<th>Airflow Capacity</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>26&quot;</td>
<td>Close-End</td>
<td>New 800/900/NHC-4 and 8*, Versa-Coat, Econo-Coat Series I</td>
<td>86.33 ft² (7.92 m²)</td>
<td>500 cfm (800 cmh)</td>
<td>11.5 lbs. (5.2 kg)</td>
</tr>
<tr>
<td>26&quot;</td>
<td>Flange-Mount</td>
<td>500 Series*</td>
<td>86.33 ft² (7.92 m²)</td>
<td>500 cfm (800 cmh)</td>
<td>13.0 lbs. (5.9 kg)</td>
</tr>
<tr>
<td>26&quot;</td>
<td>Flow-Through</td>
<td>Old and New 800/900/ NHC-4 and 8*, Versa-Coat, Econo-Coat Series I</td>
<td>86.33 ft² (7.92 m²)</td>
<td>500 cfm (800 cmh)</td>
<td>11.0 lbs. (5.0 kg)</td>
</tr>
<tr>
<td>26&quot;</td>
<td>Vertical-Mount</td>
<td>500 Series with Hanger Or Tower Mount*</td>
<td>86.33 ft² (7.92 m²)</td>
<td>500 cfm (800 cmh)</td>
<td>11.5 lbs. (5.2 kg)</td>
</tr>
<tr>
<td>26&quot;</td>
<td>Center-Mount</td>
<td>Enhanced 500 Series</td>
<td>86.33 ft² (7.92 m²)</td>
<td>500 cfm (800 cmh)</td>
<td>11.7 lbs. (5.3 kg)</td>
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<tr>
<td>36&quot;</td>
<td>Flow-Through</td>
<td>Horizon 400*, Horizon 200* NHC-4 and 8 Stretch, Econo-Coat Series II</td>
<td>120 ft² (11.02 m²)</td>
<td>700 cfm (1019.5 cmh)</td>
<td>13.6 lbs. (6.2 kg)</td>
</tr>
<tr>
<td>36&quot;</td>
<td>Closed-End</td>
<td>Horizon 400*, Horizon 200* Econo-Coat Series II</td>
<td>120 ft² (11.02 m²)</td>
<td>700 cfm (1019.5 cmh)</td>
<td>14.0 lbs. (6.4 kg)</td>
</tr>
<tr>
<td>36&quot;</td>
<td>Center-Mount</td>
<td>Excel Series*, Enhanced 500 Series</td>
<td>120 ft² (11.02 m²)</td>
<td>700 cfm (1019.5 cmh)</td>
<td>14.2 lbs. (6.4 kg)</td>
</tr>
<tr>
<td>32&quot;</td>
<td>Center-Mount</td>
<td>Enhanced 500 Series-Torit** Manufactured Collectors</td>
<td>105 ft² (9.72 m²)</td>
<td>600 cfm (874 cmh)</td>
<td>13.2 lbs. (6.0 kg)</td>
</tr>
</tbody>
</table>

* Standard: Installed when system is shipped from factory.
** Torit is a trademark of Donaldson Company.