



Donaldson®
FILTRATION SOLUTIONS



PowerCore®
Smaller. Smarter Dust Collectors.



Changing the World of Dust Collection

Outperforming Dust Collection Technology

▶ The new PowerCore® dust collection technology from Donaldson outperforms every traditional baghouse collector and does so in less space. In one extremely small but powerful package, the PowerCore dust collector handles high airflow, high grain loading, challenging particulate, and fits into the smallest places. The filter changeout process is easy, quick, and astoundingly clean compared to traditional filter bags.

▶ Innovative PowerCore dust collectors combine PowerCore filter packs with a new and patented compact oblique pulse cleaning system, delivering high filtration efficiencies not usually found in baghouse filtration.

Up to 70% Smaller

▶ Today's streamlined and lean manufacturing facilities demand peak performance in the smallest spaces. PowerCore® space-saving dust collectors are available as stand-alone models that can be ducted to many different applications, and bin vent models used on silos, conveyor transfer points, conveyor dischargers, blenders and mixers.

▶ Compared to conventional baghouse collectors with similar airflow capacity, PowerCore CPC¹ dust collectors are up to 50% smaller. The comparison to traditional bag bin vents is even more dramatic. CPV² bin vent collectors are almost 70% smaller and solve minimal space requirements.

¹CPC = Compact Pulsed Cased Unit

²CPV = Compact Pulsed Venting Unit



PowerCore® CPC-6 Dust Collector vs. Traditional Baghouse (81 Filter Bags)



PowerCore® CPV-6 vs. Traditional Bin Vent

Not a Bag, Not a Cartridge

An Entirely New Approach to Dust Collectors

▶ The PowerCore® filter pack is small, lightweight, and easily handled by one person. Donaldson's PowerCore technology allows more effective filter area to be packaged in a smaller space: one PowerCore filter pack contains as much filtering area as 6 traditional filter bags. And the filter media inside PowerCore filter packs is our well-proven Ultra-Web® advanced nanofiber technology.

PowerCore® Filter Pack

- ▶ Changeout from the clean side of the collector – only 1 person required
- ▶ Self-centering with a handle for easy changes without tools
- ▶ Intergrated gasket ensures a good seal with every change.



Just one 178 mm deep Power Core filter pack replaces six 2,4 m long filter bags.

PowerCore® Advantages

- ▶ **Smaller**
- ▶ **Smarter**
- ▶ **Easy maintenance**
- ▶ **Cost effective**

www.emea.donaldson.com/powercore

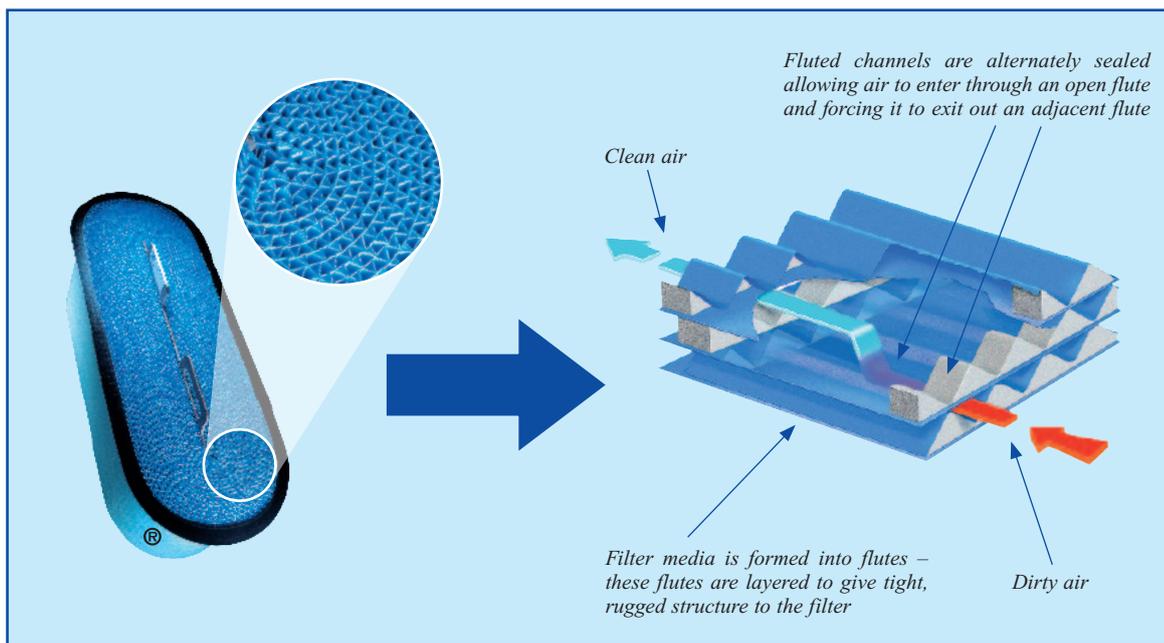


Leading the Way with PowerCore®

Breakthrough Technology Unfolds

► At the core is PowerCore® – The most innovative filtration technology from Donaldson. PowerCore

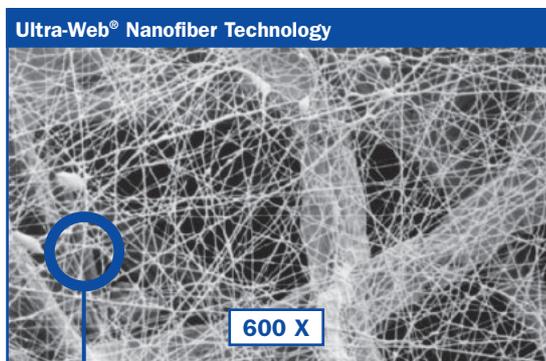
filter packs combine patented Ultra-Web® nanofiber technology with new media packaging expertise, creating a revolutionary filtration technology unlike anything else in the industrial filtration market.



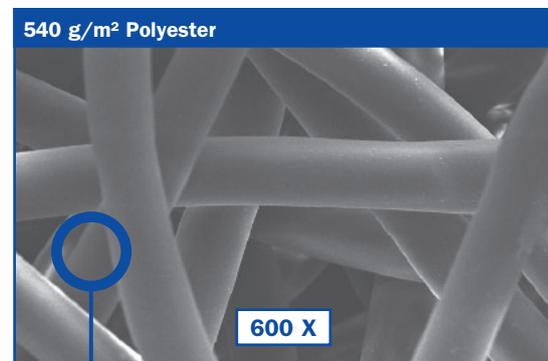
High Performance Filter packs

► A dramatic departure from traditional filter bags, PowerCore® filter packs obround shape, in conjunction with patented Ultra-Web® media, trap more dust on the surface of the media flutes – down

to submicron in size – than conventional filter bag materials such as depth-loading 540 g/m² polyester. Surface loading greatly promotes filter cleaning. Better pulse cleaning lowers pressure drop and energy use.



10 Micron Particulate

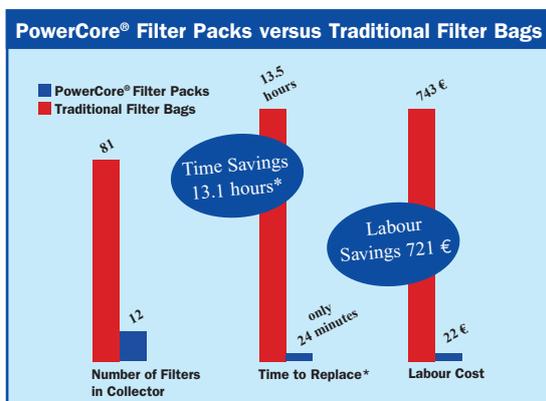


10 Micron Particulate

Changing Expectations

Count on Significant Savings

► Now you can significantly lower your cost of dust collection. An application requiring 81 filter bags (2,4 m) in the past now only needs 12 PowerCore® filter packs (178 mm). Fewer filters mean lower filter changeout costs and faster changeouts. And the smaller footprint can save costly factory floor space.



* Savings are based on one changeout. Calculations assume bags and PowerCore filter packs show equal life time; one person replacing one traditional filter bag in 10 minutes; one person changing PowerCore in only 2 minutes; labour rates equal 55 EUR/h.

Easy Maintenance

► Replacing PowerCore® filter packs is as easy as 1-2-3. PowerCore filter packs are lightweight and accessed from the clean side of the collector. Easy. Fast. Clean. No tools or cages required!

PowerCore® Advantages

- **Smaller.** Due to smaller footprints less floor space is required and the mounting next to the application is possible.
- **Smarter.** PowerCore filter packs with Ultra-Web® technology provide higher efficiency with less emissions and an improved filtration performance.
- **Easy maintenance.** The replacement of the PowerCore filter packs is a remarkably clean process. The clean-side filter access and fewer, lighter filters enable an easy filter changeout and are therefore very service-friendly.
- **Cost effective.** Installation is faster and easier because the PowerCore system arrives mostly assembled and there are no bags or cages to install separately. Due to lighter weight, less crane time, and pre-assembly transport and installation costs can be reduced to a minimum.

PowerCore® Filter Pack Replacement – Easy Fast Clean!



Lift up filter access door.
(Clean side of the system)



Loosen the captive hardware and
remove the filter retainer/accumu-
lator.



Lift out the filter pack for easy
replacement.

No entry
required!

Engineered to Perfection

The Right Airflow Management

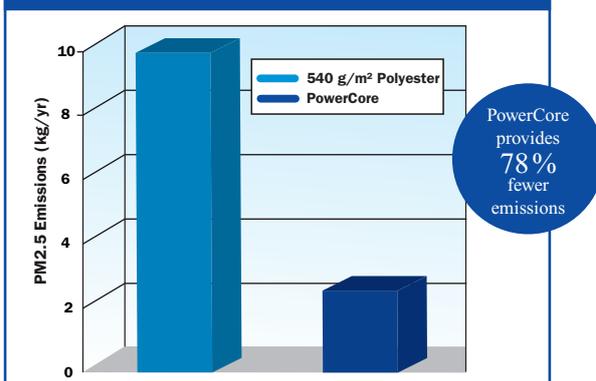
► The design of the pulse accumulator is a result of Donaldson's commitment to technical research and development. *FLUENT*[®]* Airflow Modeling Software created the shape of the pulse accumulators to optimize the pulse energy without restricting the airflow and wasting energy. The pulse accumulators also serve as a filter retention mechanism, securing the filter pack in place and ensuring optimum gasket compression.

Effective Filter Cleaning

► PowerCore[®] collectors include a new Compact Oblique Pulse Cleaning System, a patented, computer-modeled pulse cleaning technology designed to match the obround shape of the PowerCore filter packs. The resulting pulse flow effectively covers the entire media pack, easily pulses the dust out of the fluted channels, improving filtration efficiency, keeping the pressure drop low, and prolonging filter life.

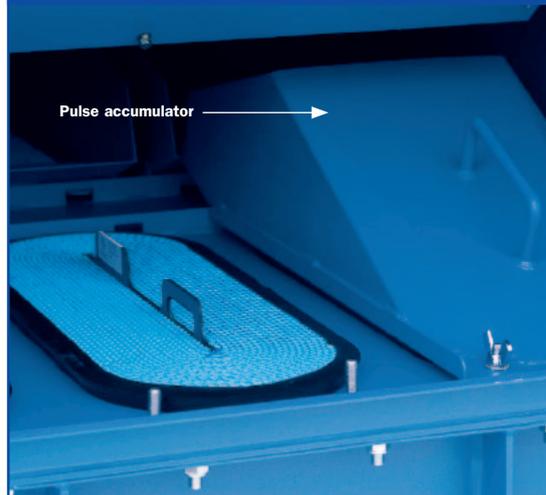
FLUENT[®]* is a registered trademark of Fluent, Inc.

PowerCore[®] Filter Packs: 78% Lower Emissions than Standard Polyester Bags



These flat sheet results are based on independent lab tests using ASTM D6830-02 per EPA PM 2.5 performance verification. Annual emissions calculated assuming 24,466 m³/h airflow rate, 265 working days per year, and two shifts per day. Field measurements may vary due to differences in dust contaminant and sensitivity of measurement equipment.

Pulse Accumulator Optimizes Pulse and Seals Filter Pack



FLUENT[®]* Flow Modeling Software enhances the uniform air velocity distribution through a CPC-6 dust collector.

Compact Oblique Pulse Cleaning System



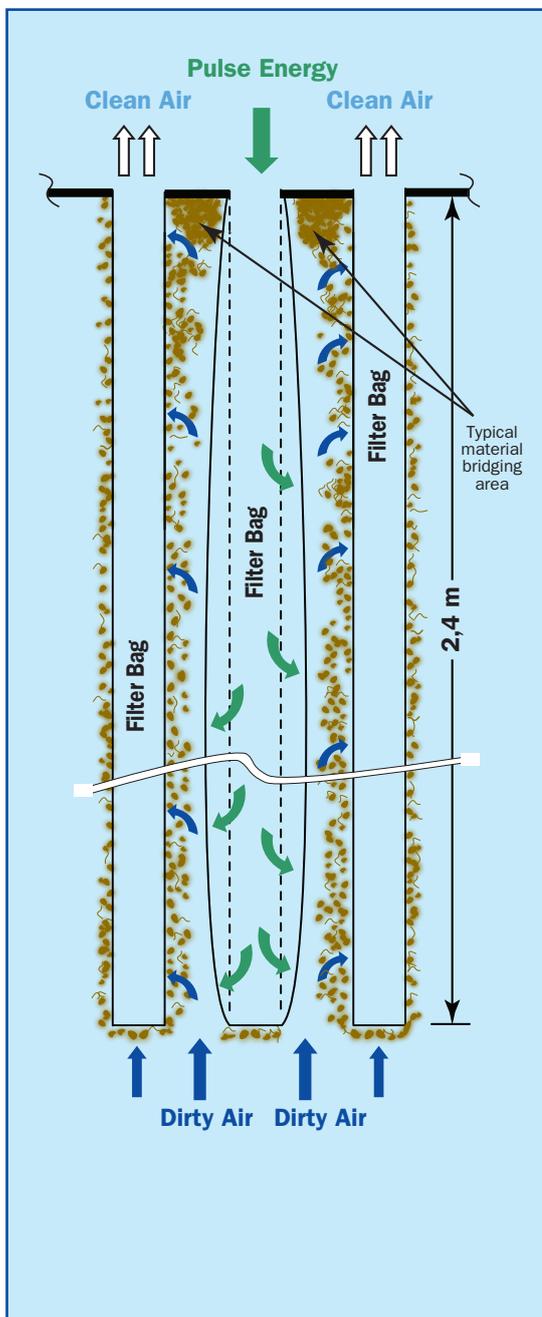
Patented Technology That Performs

► For more than two decades, Donaldson has advanced Ultra-Web[®] technology to deliver high efficiency filter media that lasts. PowerCore[®] filter packs with Ultra-Web are engineered to perfection, balancing high efficiencies with long filter life.

No more Bridging

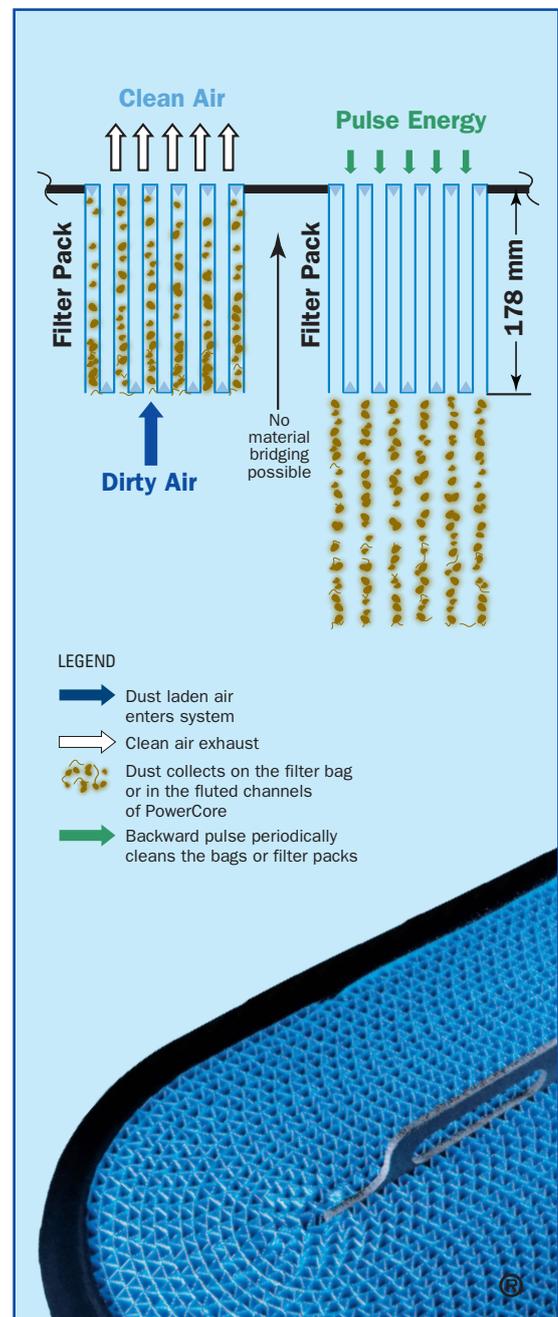
In a Typical Baghouse Collector

► Bridging can start at the top of the filter bags, where they aren't cleaned very effectively. It continues to build until the entire collector is packed full of dust. Dust collected on the top of the bag may need to be pulsed multiple times before it leaves the filtration section.



In a PowerCore® Collector

► Air flows in through the bottom face of the PowerCore filter packs, so that dust doesn't accumulate between them and bridging can't get started. Each flute in the 178 mm deep filter pack is effectively and fully cleaned with every pulse.



Standard Features & Equipment Options

PowerCore® CPC

Collector Design	Standard	Optional
Mild Steel Construction	X	
Clean-Side Filter Pack Removal	X	
Tool-Free Filter Removal	X	
Hopper Access Panel	X	
Mountable Fan Package	X	
Filter packs		
PowerCore with Ultra-Web®	X	
Antistatic Filter Pack		X
Paint System		
RAL 5019 (Blue) Spatter Finish Semi-Gloss	X	
Hostile Environment Finish		X
Custom Colours		X
Hopper Design		
Pyramid Hopper	X	
Hopper Discharge		
80 Litre Bin with Sealer Gear		X
Transitions for Rotary Valves		X
Support Structure		
1 x 2 m Clearance Beneath RV Flange	X	
Electrical Controls, Gauges and Enclosures		
IPC Delta P Control	X	
Total Control Board		X
Safety Features		
Explosion Vents		X
ATEX Version		X

PowerCore® CPV

Collector Design	Standard	Optional
Mild Steel Construction	X	
Clean-Side Filter Pack Removal	X	
Tool-Free Filter Removal	X	
Mountable Fan Package	X	
Filter packs		
PowerCore with Ultra-Web®	X	
Antistatic Filter Pack		X
Paint System		
RAL 5019 (Blue) Spatter Finish Semi-Gloss	X	
Hostile Environment Finish		X
Custom Colours		X
Electrical Controls, Gauges and Enclosures		
IPC Delta P Control	X	
Total Control Board		X
Safety Features		
ATEX Version		X

U.S. Patent US Pat. 7338544, 6235195, 6673136, 6974490, 7090712, 7270692, 6743273, 6924028, 7270693, 7070640 & 7179317, 3,512,559; for use in US Pat. 7338544; AU Pat. Nos. 1284771 & 776588; GB Pat. Nos. 1317317 & 1169109; SG Pats. 95161 & 83229; RSA 2001/6729; PRC 18151655; KS 0603425; EP Pats. 1317317 & 1169109; RU Pats. 2300543 & 2281146; Others Pending

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Donaldson. And everything just got better.

Total Filtration Management

► Donaldson offers a wide variety of solutions to reduce your energy costs, improve your productivity, guarantee production quality and help protect the environment.

Filtration, Sterile Filtration, Process Filtration, Refrigerant Drying, Adsorption Drying, Condensate Drains, Condensate Purification Systems, Water Chillers, Air/Oil Separation, Dust and Fume Removal, Process Air and Gas Processing, Oil Mist Separation, Industrial Hydraulics

Total Filtration Service

► A comprehensive range of services especially designed to keep your production at peak performance and at the lowest total cost of ownership.

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