



Donaldson®
Filtration Solutions



PowerCore® 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.

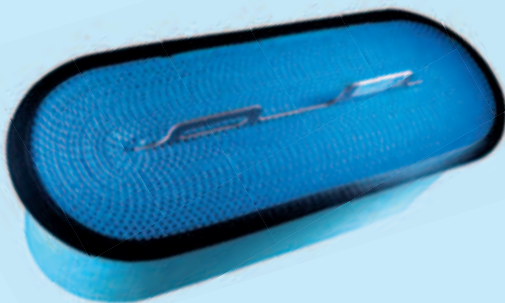
▶ Compared to conventional baghouse collectors with similar airflow capacity, PowerCore CPC¹ dust collectors are up to 50% smaller. The comparison to traditional bag bin vents is even more dramatic. CPV² bin vent collectors are almost 70% smaller and solve minimal space requirements.

¹CPC = Compact Pulsed Cased Unit

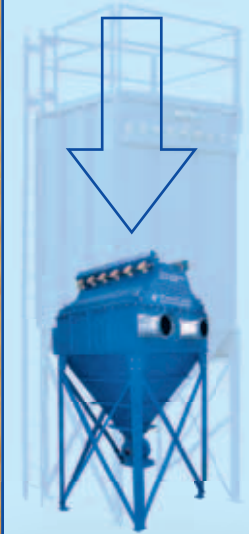
²CPV = Compact Pulsed Venting Unit

PowerCore® Advantages

- ▶ **Small**
- ▶ **High efficiency**
- ▶ **Easy maintenance**
- ▶ **Cost effective**

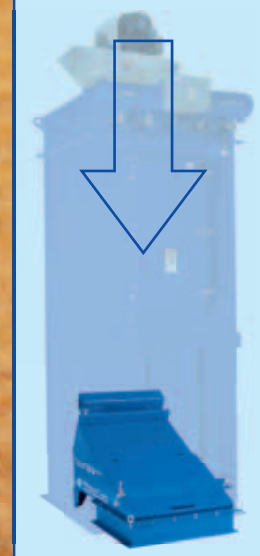


Up to
50% Smaller
than traditional
baghouses



PowerCore® CPC-12 Dust Collector vs. Traditional Baghouse (81 Filter Bags)

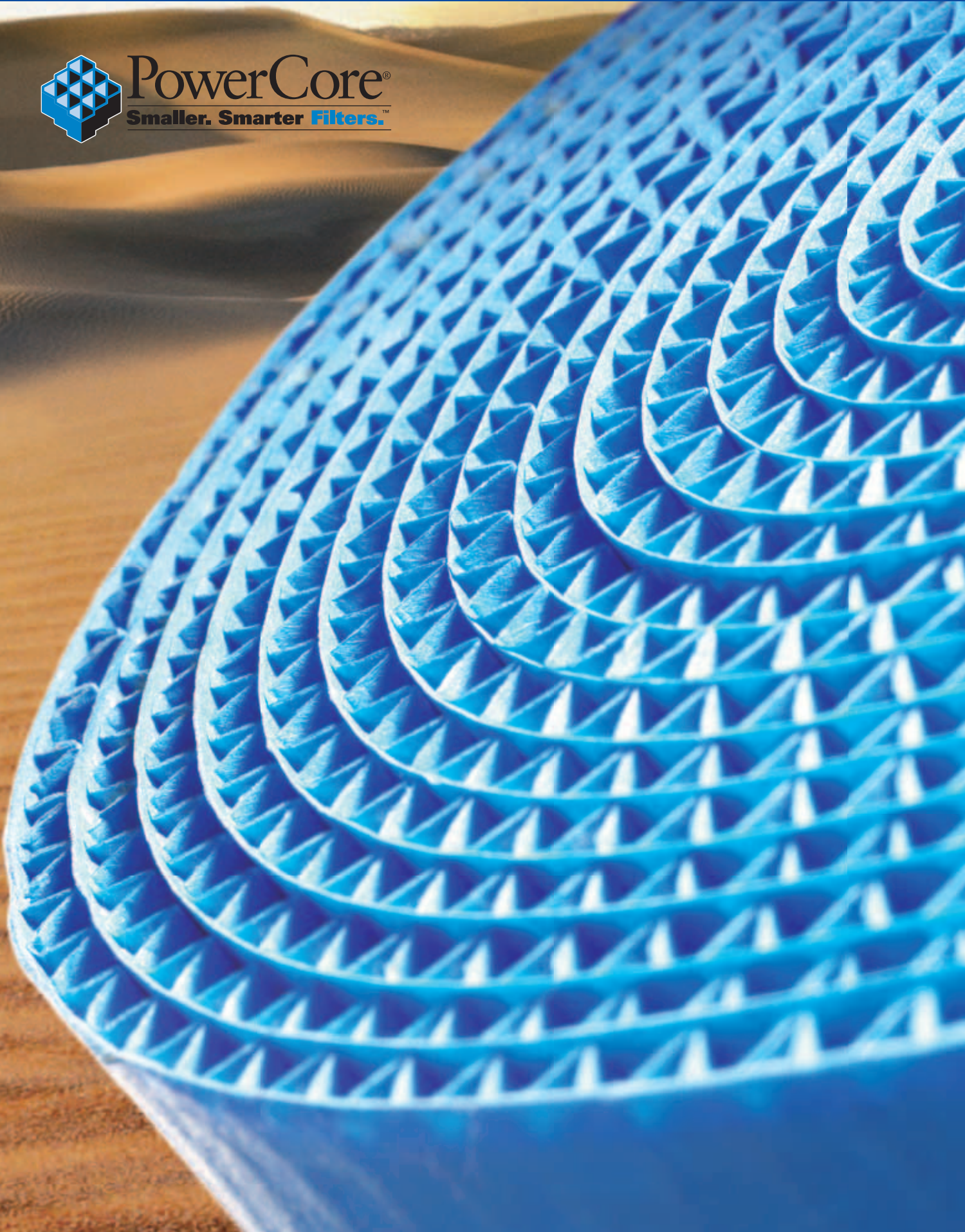
Up to
70% Smaller
than traditional
bag bin vents



PowerCore® CPV-3 vs. Traditional Bin Vent



PowerCore[®]
Smaller. Smarter Filters.[™]

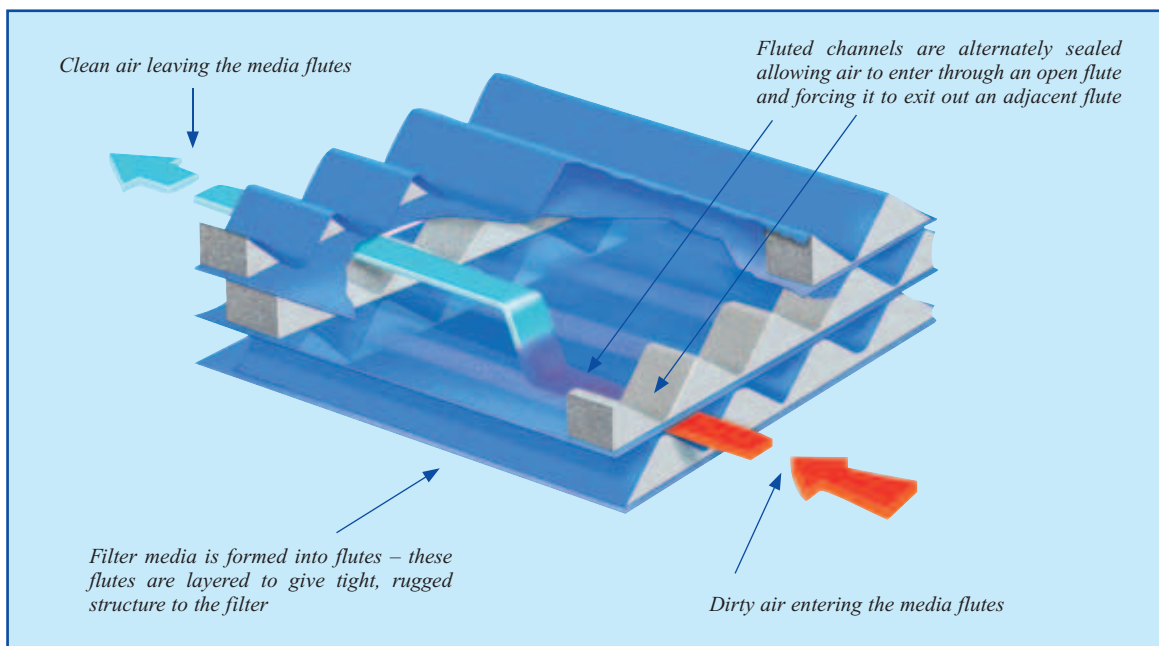


Leading the Way with PowerCore®

Breakthrough Technology Unfolds

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

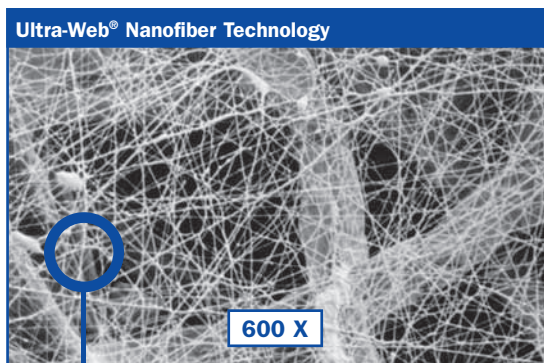
filter packs combine patented Ultra-Web® nanofiber technology with new media packaging expertise, creating a revolutionary filtration technology unlike anything else in the industrial filtration market.



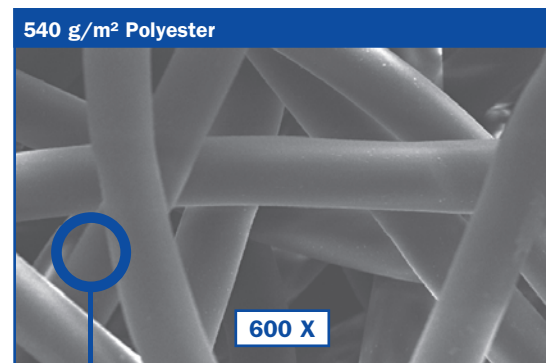
High Performance Filter Packs

► 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 (18 cm). Fewer filters mean lower filter changeout costs and faster changeouts. And the smaller footprint can save costly factory floor space.

	Number of Filters in Collector	Time to Replace*	Labor Cost	Time Savings*	Labor Savings*
PowerCore® Filter Packs	12	only 24 minutes	€ 22	13.1 hours	€ 721 (Saved)
Traditional Filter Bags	81	13.5 hours	€ 743	0	0

* 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.

PowerCore® stands out due to:

- **Small.** Due to smaller footprints less floor space is required and the mounting next to the application is possible.
- **High efficiency.** 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 enables an easy filter changeout and is therefore very service-friendly.
- **Cost effective.** The innovative PowerCore filtration technology reduces transport and installation costs to a minimum.

Easy Maintenance

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

PowerCore® Filter Pack Replacement – Easy Fast Clean!



Lift up filter access door.



Remove the filter retention bracket.



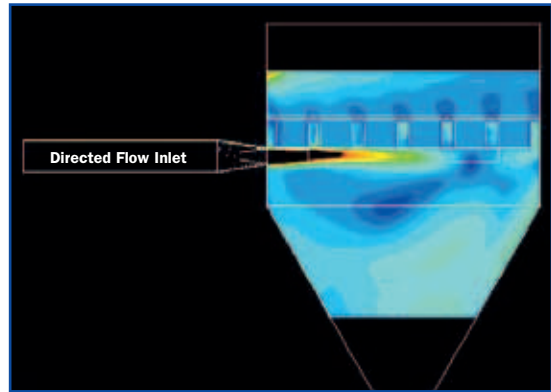
Lift out the filter pack for easy replacement.

No confined space permit needed!

Engineered to Perfection

The Right Airflow Management

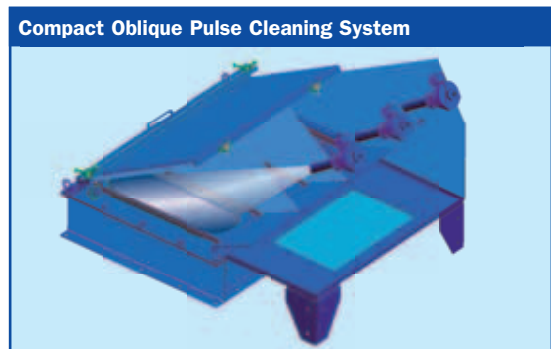
► PowerCore® is a reflection of the Donaldson commitment to technical research and development. Computer modeling for fluid dynamics puts PowerCore technology in a technical class all its own. Utilizing a Directed Flow Inlet, PowerCore dust collectors manage airflow and velocities below the filters. The optimized air management technique effectively keeps the bottom of the filter packs clean, causes most dust particles to drop out, and prevents filter abrasion. No hopper sweeping. No dust re-entrainment.



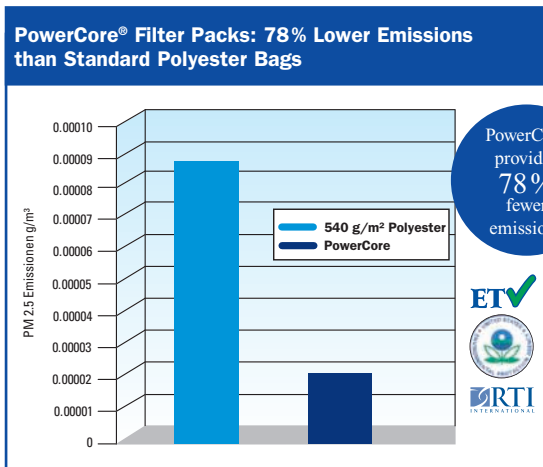
FLUENT® Flow Modeling Software enhances the uniform air velocity distribution through a CPC-12 dust collector.

Effective Filter Cleaning

► Effective filter cleaning is the key to long filter life. 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.



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.

These flat sheet results are based on independent lab tests using ASTM D 6830-02 per EPA PM 2.5 performance verification from the Environmental Technology Verification (ETV) Program comparing PowerCore media from standard 540 g/m² polyester.

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	
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	
Custom Control Panels		X
Safety Features		
Explosion Vents		X

PowerCore® CPV

Collector Design	Standard	Optional
Mild Steel Construction	X	
Clean-Side Filter Pack Removal	X	
Tool-Free Filter Removal	X	
Filter Packs		
PowerCore with Ultra-Web®	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	
Custom Control Panels		X

U.S. Patent US Pat. 7338544, 6235195, 6673136, 6974490, 7090712, 7270692, 6743273, 6924028, 7270693, 7070640 & 7179317; 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

Technical alterations reserved (9/2008)



Millions of Filters Sold!

Proven Performance on Hundreds of Applications

▶ PowerCore® filter packs are new to the industrial filtration market, but have long been proven in other related filtration industries. Donaldson makes them in many shapes and sizes for high performance vehicles, construction, agricultural and medium/heavy duty transportation applications.



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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