

Donaldson®  
Torit®

**TORIT® POWERCORE®  
DUST COLLECTORS**

CP SERIES



# SMALLER. SMARTER COLLECTORS.

Torit® PowerCore® dust collection technology from Donaldson® Torit® outperforms traditional baghouse collectors and does so in less space. In one extremely small and powerful package, the Torit PowerCore dust collector handles high airflow, high grain loading, challenging particulate and fits into the smallest places. The filter changeout is remarkably quick, easy and clean compared to the process for traditional bag filters.

Innovative Torit PowerCore dust collectors combine award-winning PowerCore filter packs with a new proprietary compact pulse cleaning system. This proprietary combination delivers high filtration efficiencies not usually found in baghouse filtration.

## TORIT POWERCORE

- **SMALLER**
- **SMARTER**
- **CLEANER**
- **EASIER**
- **COST EFFECTIVE**

UP TO **50%** SMALLER  
THAN TRADITIONAL  
BAGHOUSE COLLECTORS

**Torit PowerCore CPC-12**  
vs.  
**Traditional (81) 8-ft. Filter Baghouse**  
5000 cfm (8493 m³/h) collectors



# OUTPERFORMS TRADITIONAL BAGHOUSE COLLECTORS

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

Compared to traditional baghouse collectors with similar airflow capacities, Torit PowerCore CPC dust collectors (as shown on previous page) are up to 50% shorter. The comparison to traditional bag-style bin vents is even more dramatic. CPV bin vent collectors are almost 70% shorter than other bag-style bin vents and effectively address the frequent challenge of tight space limitations.

## SMALLER

Bin vents fit into the tightest spaces

## CLEANER

PowerCore filter packs with Ultra-Web® technology provide higher efficiency for cleaner air. Plus, replacing PowerCore filter packs is a remarkably clean process

## EASIER

Clean-side filter access and fewer, lighter filters means faster, easier filter changes without tools or filter cages

## SMARTER

An optimized airflow management system delivers optimal pulse cleaning while minimizing airflow restriction

## COST EFFECTIVE

Innovative PowerCore filtration technology means reduced freight and installation costs, fewer filter changeouts, lower maintenance costs, and no entry requirements for filter changes



UP TO **70%** SMALLER  
THAN TRADITIONAL  
BIN VENT COLLECTORS

**Torit PowerCore CPV-3**

vs.

**Traditional Bin Vent**

1500 cfm (2548 m³/h) collectors

# SMALLER. SMARTER FILTERS.

## POWERCORE FILTER PACK—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 7" x 22" (178 x 559 millimeters) PowerCore filter pack contains as much filtering area as 6 eight-foot-long (2.4 meters) traditional filter bags. And the filter media inside PowerCore filter packs is our well-proven Ultra-Web advanced fine fiber 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
- Integrated gasket ensures a good seal with every change
- At only 7" tall, bridging is not a problem

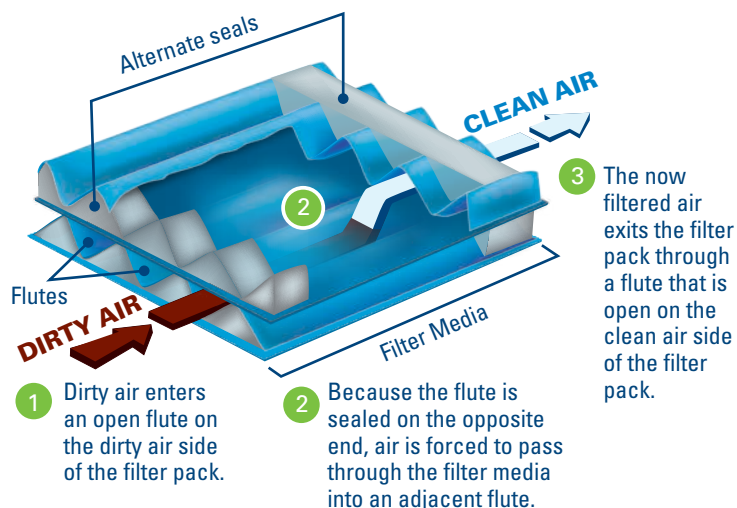
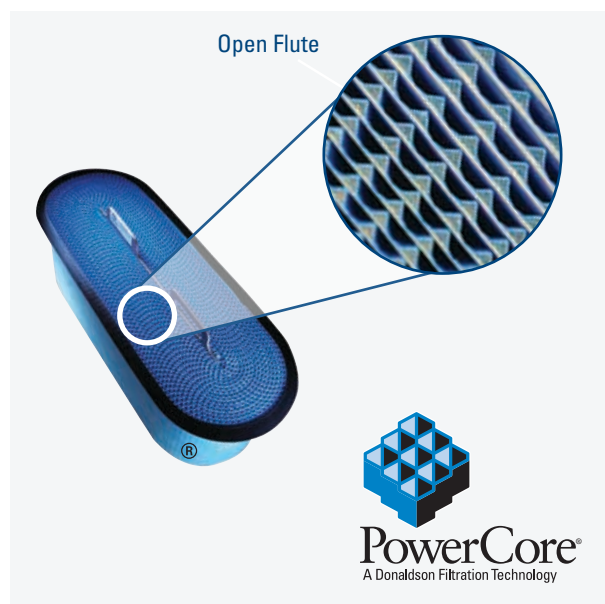


**ONE 7"**  
**POWERCORE**  
**FILTER PACK** | *replaces*  
**SIX 8'**  
**BAG FILTERS**

# INNOVATIVE MEDIA TECHNOLOGY

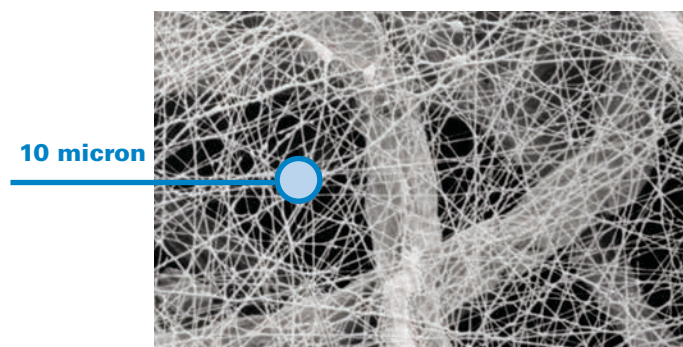
## LEADING THE WAY WITH POWERCORE

At the Core is PowerCore. PowerCore filter packs combine proprietary Ultra-Web fine fiber technology with Donaldson's media configuration expertise. The result is a revolutionary filtration technology unlike anything else in the industrial filtration market.

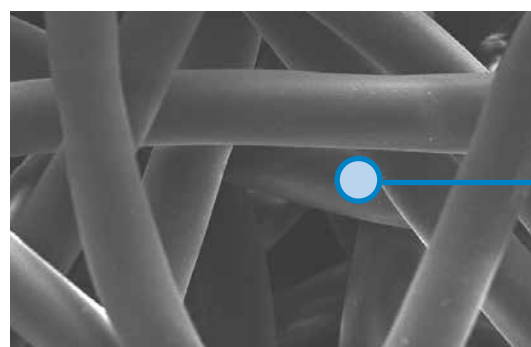


## HIGH PERFORMANCE FILTER MEDIA

In a dramatic departure from the traditional filter bag, the PowerCore filter pack contains Ultra-Web media, which traps more dust on the surface of the fluted channels as compared to conventional bag filter materials like depth-loading 16 oz. (453.6 g) polyester. Surface loading greatly promotes filter cleaning. Better pulse cleaning lowers operational pressure drop and energy use.



**Ultra-Web Fine Fiber Technology**  
(600x)



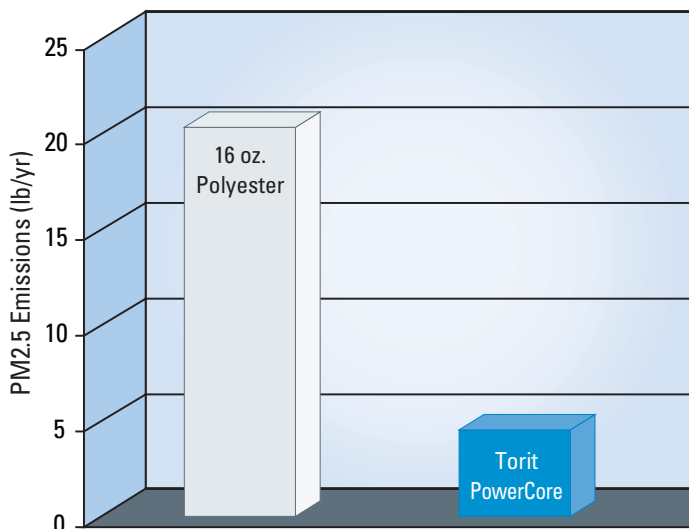
**16 oz. (453.6 g) Polyester**  
(600x)

# POWERCORE FILTER PACKS – ENGINEERED TO PERFORM

## TECHNOLOGY THAT PERFORMS FOR OVER 25 YEARS

Donaldson Torit Ultra-Web technology has delivered high efficiency filters that last. PowerCore filter packs with Ultra-Web are engineered to perform, balancing high efficiencies with long filter life.

### Lower Emissions with PowerCore Filter Packs



Independent lab results obtained using ASTM D6830-02 per EPA PM 2.5 performance verification. Annual emissions calculated assuming 14,400 cfm (24,461 m<sup>3</sup>/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.

### OUTSTANDING PERFORMANCE

Independent laboratory testing conducted on PowerCore CP filter packs with Ultra-Web media have a Minimum Efficiency Reporting Value (MERV) up to 15 based on ASHRAE 52.2 test standard.

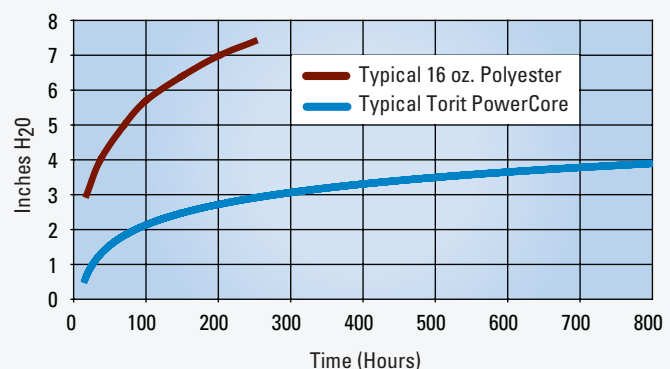
**78%**  
FEWER  
EMISSIONS

## EASY ON THE BUDGET

The surface-loading technology of Ultra-Web is proven to provide lower operating pressure drop over a longer period of time, and energy costs can be dramatically reduced. Pressure drop starts high and rises quickly with traditional depth-loading bag filters, resulting most often in excessive energy use.

For proven technology that delivers savings in energy, maintenance, space, and filter changes, the smartest solution is Torit PowerCore.

### Surface Loading Allows Downsizing



The results from accelerated lab and field tests show that Torit PowerCore can provide lower pressure drop in baghouse applications.

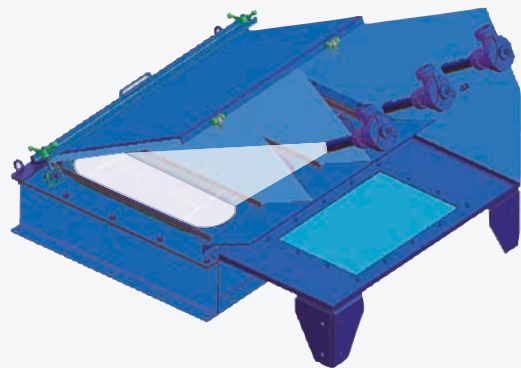
# OPTIMIZED AS A SYSTEM

## SMARTER FILTER CLEANING

Torit PowerCore collectors include a new proprietary compact pulse cleaning system designed to match the pulse energy to the obround shape of the PowerCore filter pack. The resulting pulse flow effectively covers the entire media pack. It easily pulses the dust out of the fluted channels, keeping the pressure drop low and prolonging filter life.



Compact Pulse Cleaning System CPV-1



Compact Oblique Pulse Cleaning System  
CPV-2 through CPV-12

## SOPHISTICATED MODELING

Providing optimized pulse cleaning, the pulse accumulator design is based on Donaldson Torit's commitment to technical research and development. FLUENT®\* Airflow Modeling Software was used to determine the shape of the pulse accumulators to optimize the pulse energy without restricting the airflow or wasting energy. The pulse accumulators also serve as a filter retention mechanism, securing the filter pack in place and ensuring optimum gasket compression.



Pulse Accumulator  
Optimizes Pulse & Seals Filter Pack

\* FLUENT is a registered trademark of Fluent, Inc.

# MAKING MAINTENANCE EASIER

## SMALLER, BETTER, SMARTER

Torit PowerCore can reduce your cost of dust collection resulting in significant operational savings. An application previously requiring (81) 8-foot (2.4 meter) bag filters now needs only (12) 7-inch-tall (177.8 mm) PowerCore filter packs. Fewer filters mean lower filter changeout costs and faster changeouts. The smaller collector means lower installation costs and less factory floor or bin space consumption.

	# of Filters in Collector	Time to Replace*	Labor Cost	Time Savings*	Labor Savings*
PowerCore Filter Packs	12	ONLY 24 minutes	\$18	13.1 hours	\$590 SAVED
Traditional Bag Filters	81	13.5 hours	\$608	0	0

\* Savings are based on one changeout. Calculations assume bags and PowerCore filter packs show equal life span; one person replacing one traditional bag filter in 10 minutes; one person changing PowerCore in 2 minutes; labor rates equal \$45/hr.

## EASY MAINTENANCE

Replacing PowerCore filter packs is as easy as 1-2-3. Contrary to many traditional baghouse collectors, PowerCore filter packs are lightweight and accessed from the clean side of the collector.

### POWERCORE FILTER PACK REPLACEMENT — EASY. FAST. CLEAN. NO TOOLS OR CAGES REQUIRED.

1.

Lift up filter access door.  
(Clean side of the system)
2.

Loosen the captive hardware and remove the pulse accumulator.
3.

Lift out the filter pack for easy replacement.



# NO ENTRY REQUIRED

# HOW SMALLER MEANS SMARTER OPERATION

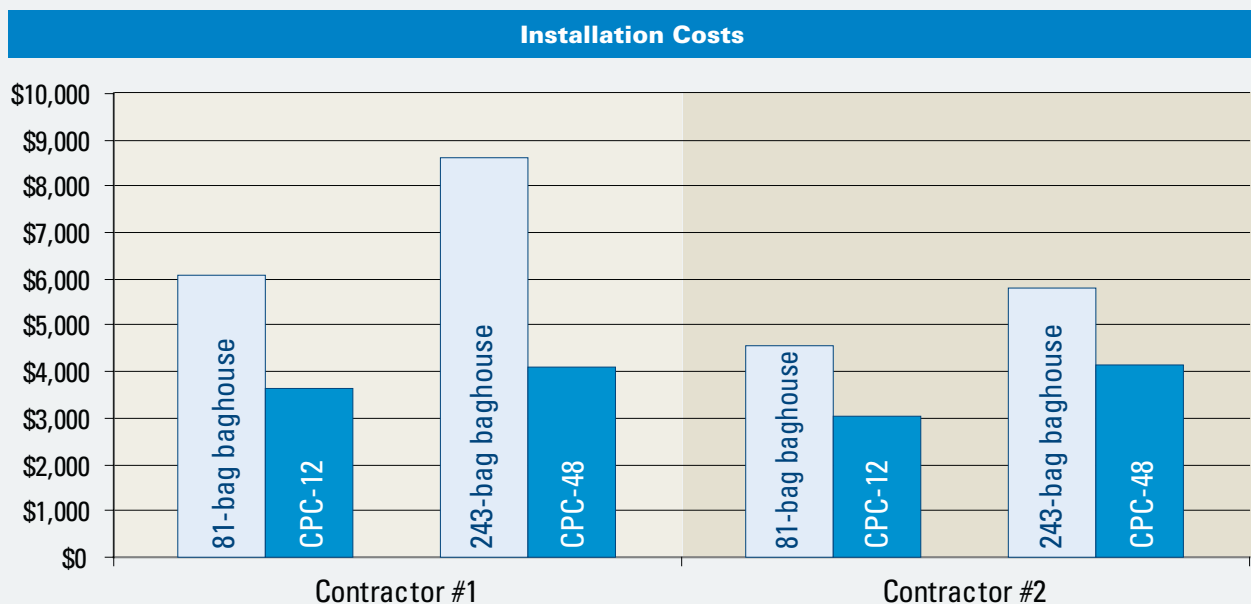
## SMART RESULTS IN MANY WAYS

- Collectors weigh less, so shipping costs are lower
- There are no bag filters or cages to ship and install separately
- Easier filter pack changeouts save time and money
- Airflow design prevents dust bridging between filter packs, creating less maintenance required
- Airflow patterns minimize abrasion, preventing leaks and maintenance common with abrasive dust



A CPV-2 is 70% smaller than a traditional bin vent making shipping easy and reducing freight costs.

## UP TO 50% LOWER INSTALLATION COSTS



The Torit PowerCore system arrives mostly assembled, so installation is faster and easier. Installation costs are reduced 30-50% due to lighter weight, less crane time, and pre-assembly. The filter packs come pre-installed in the collector, so there are no bags or cages to install separately.

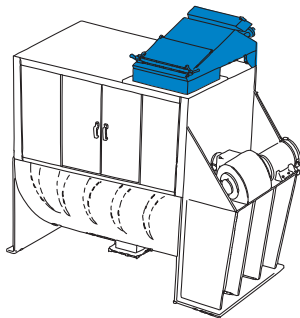
# THE OPTIMIZED SOLUTION FOR MATERIAL HANDLING

## SMARTER SOURCE FILTRATION

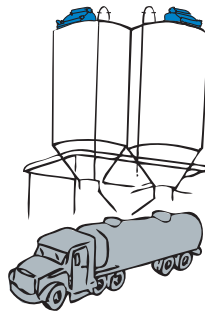
Torit PowerCore CPV bin vent collectors are easily integrated into a variety of material-handling applications—even in tight spaces—providing source filtration that saves money and energy.

## SOURCE COLLECTION WITH TORIT POWERCORE CAN PROVIDE:

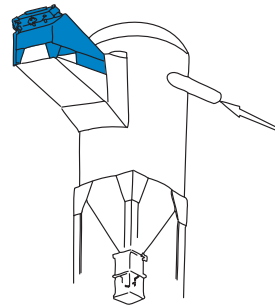
- Lower initial costs: freight, installation, and ducting are all reduced
- Reduced energy consumption as air and dust aren't moved unnecessarily through long ducting runs
- Product will stay in the process, eliminating waste streams and costly recycle systems



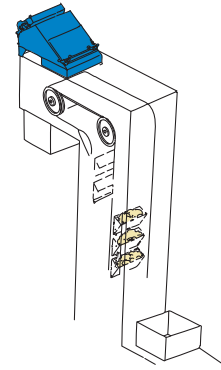
Blender/Mixer



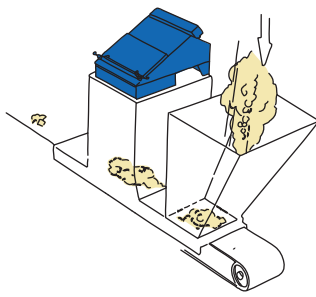
Silo/Bin Vent



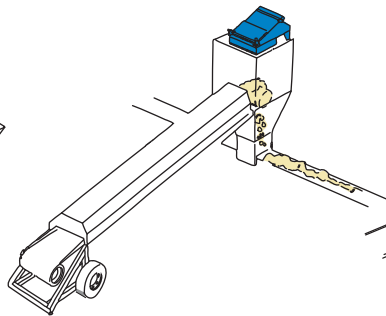
Pneumatic Receiver



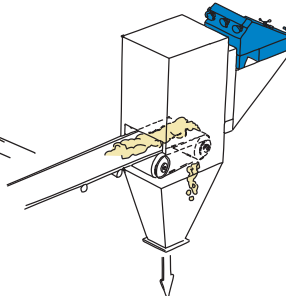
Bucket Elevator



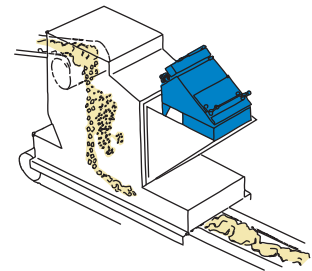
Chute-to-Belt



Tripper Conveyor



Conveyor Discharge



Conveyor Transfer

# HOW THE CP SERIES WORKS

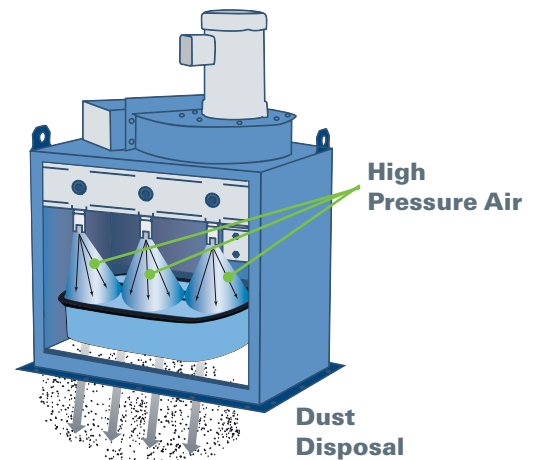
- Dust-laden air enters the collector through the dirty air inlet and is directed upward through the filter packs
- Heavier particulate falls directly into the hopper or bin below
- Air is filtered through the filter packs and directed

out the clean air outlet

- When pressure drop exceeds a pre-set point, the compact pulse system sends a pulse of cleaning air back through the filter packs and thoroughly cleans the media flutes



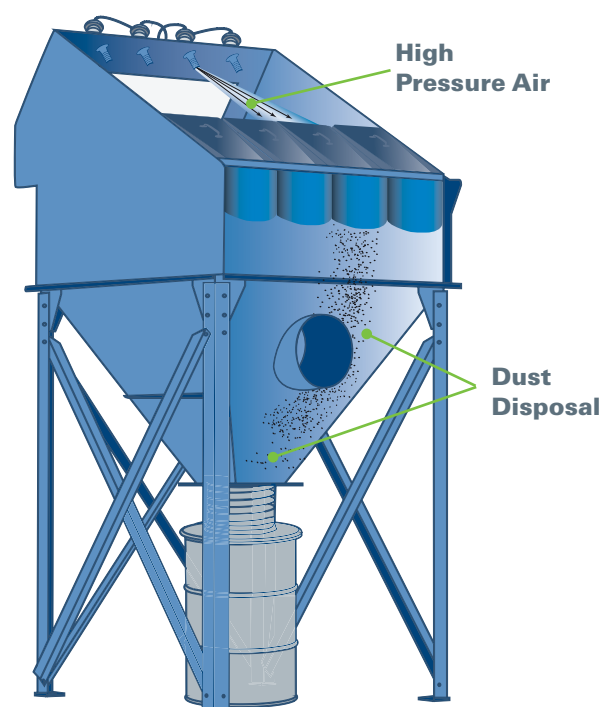
**NORMAL OPERATION**  
FOR CPV-1 MODEL



**FILTER CLEANING OPERATION**  
FOR CPV-1 MODEL



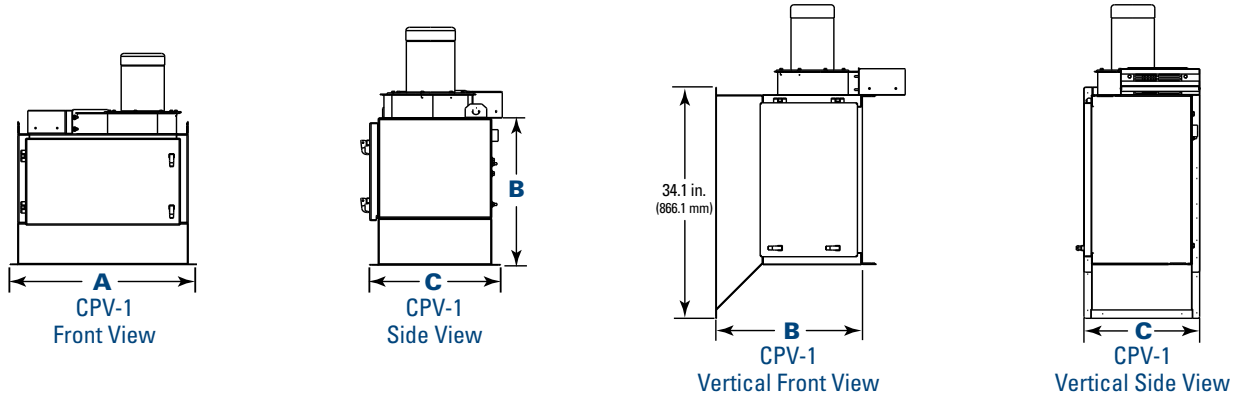
**NORMAL OPERATION**  
FOR CPC-3 THROUGH CPC-48 MODELS



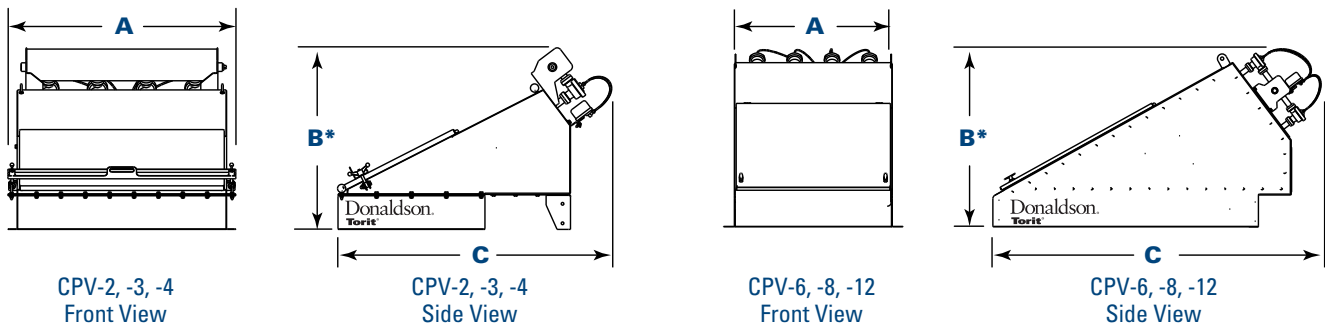
**FILTER CLEANING OPERATION**  
FOR CPC-3 THROUGH CPC-48 MODELS

# DIMENSIONS & SPECIFICATIONS

## MODELS CPV-1



## MODELS CPV-2 TO CPV-12



Model	Nominal Airflow Range**		No. of Filter Packs	PowerCore Filter Area		No. of Valves	Shipping Weight		Housing Rating ("wg)	Dimensions					
	cfm	m³/h		ft²	m²		lb	kg		A		B*		C	
										in	mm	in	mm	in	mm
CPV-1	up to 700	up to 1189	1	63	5.9	3	120¹	54.4¹	±12	28.0	711.2	22.3	566.4	17.6	447.0
CPV-2	450 - 1,400	764 - 2,378	2	126	11.7	2	290	131.5	±20	26.8	680.7	37.2	944.9	47.7	1,211.6
CPV-3	700 - 2,000	1,189 - 3,397	3	189	17.6	3	375	170.1	±20	36.8	934.7	37.2	944.9	47.7	1,211.6
CPV-4	1,400 - 2,700	2,378 - 4,586	4	252	23.4	4	460	208.7	±20	46.8	1,188.7	37.2	944.9	47.7	1,211.6
CPV-6	2,100 - 4,100	3,567 - 6,964	6	378	35.1	6	715	324.3	±20	38.0	965.2	46.1	1,170.9	83.6	2,123.4
CPV-8	2,800 - 5,400	4,756 - 9,173	8	504	46.8	8	800	362.9	±20	48.0	1,219.2	46.1	1,170.9	83.6	2,123.4
CPV-12	4,200 - 8,200	7,134 - 13,929	12	756	70.2	12	1290	585.1	±20	70.0	1,778.0	46.1	1,170.9	83.6	2,123.4

\* For opening access door, allow a minimum of 2.5" (63.5 mm) above unit for models 2, 3, 4, and a minimum of 20.5" (520.7 mm) for models 6, 8, 12.

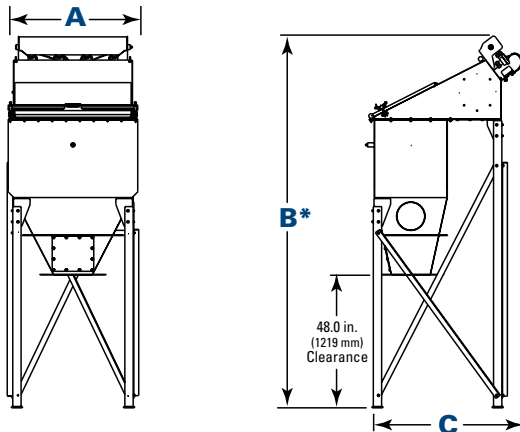
\*\* Based on clean filters.

† Shipping weight with integral fan is 160 lbs. (72.6 kg)

## OPERATING CONDITIONS FOR CP SERIES COLLECTORS

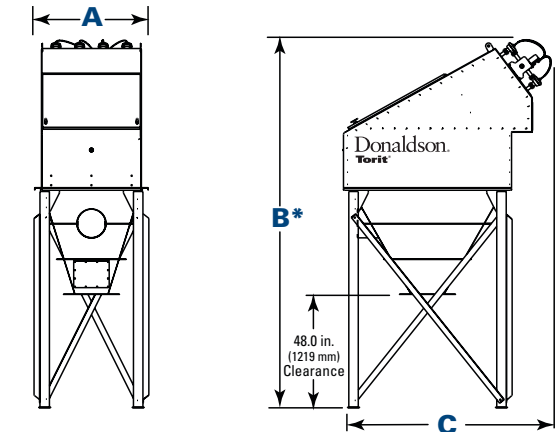
Seismic Spectral Acceleration (at grade)	S <sub>v</sub> +1.5 & S <sub>w</sub> = 0.6	Compressed Air Required (psi/bar)	90-100/6.2-6.9
Wind Load Rating (mph/kph)	90/145	Operating Temperature	150°F/66 °C

## MODELS CPC-3 TO CPC-48



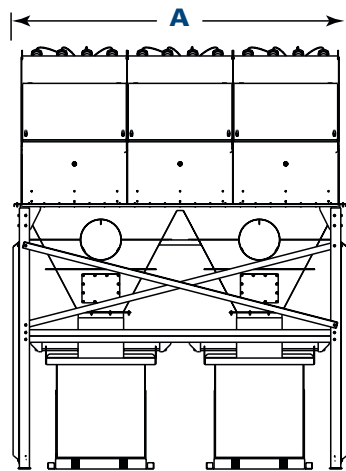
CPC-3, -4  
Front View

CPC-3, -4  
Side View

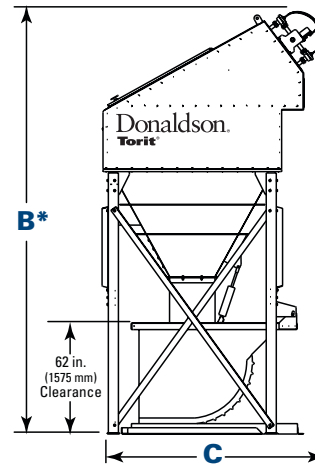


CPC-6, -8, -12, -16  
Front View

CPC-6, -8, -12, -16  
Side View



CPC-24 with optional dumpster hopper\*\*  
Front View



CPC-24 with optional dumpster hopper  
Side View

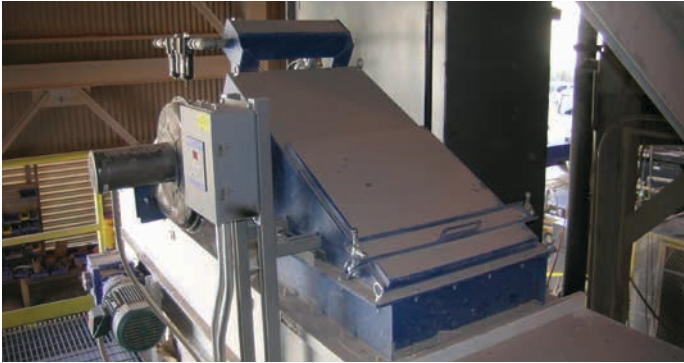
Model	Nominal Airflow Range¹		No. of Filter Packs	PowerCore Filter Area		No. of Valves	Shipping Weight		Housing Rating ("wg)	Dimensions					
	cfm	m³/h		ft²	m²		lb	kg		A		B²		C³	
										in	mm	in	mm	in	mm
CPC-3	700 - 2,000	1,189 - 3,397	3	189	17.6	3	800	362.9	-20	36.8	934.7	118.4	3,007.4	55.5	1,409.7
CPC-4	1,400 - 2,700	2,378 - 4,586	4	252	23.4	4	1020	462.7	-20	46.8	1,188.7	134.2	3,408.7	55.5	1,409.7
CPC-6	2,100 - 4,100	3,567 - 6,964	6	378	35.1	6	1600	725.7	-20	38.6	980.4	154.2	3,916.7	85.0	2,159.0
CPC-8	2,800 - 5,400	4,756 - 9,173	8	504	46.8	8	1685	764.3	-20	48.5	1,231.9	154.2	3,916.7	85.0	2,159.0
CPC-12	4,200 - 8,200	7,134 - 13,929	12	756	70.2	12	2100	952.5	-20	70.0	1,778.0	154.2	3,916.7	85.0	2,159.0
CPC-16	5,600 - 11,000	9,512 - 18,685	16	1008	93.6	16	2915	1,322.2	-20	90.0	2,286.0	169.2	4,297.7	85.0	2,159.0
CPC-24	8,400 - 16,500	14,269 - 28,028	24	1512	140.5	24	3880	1,759.9	-20	132.0	3,352.8	152.2	3,865.9	85.0	2,159.0
CPC-32	11,200 - 22,000	19,025 - 37,370	32	2016	187.3	32	5310	2,408.6	-20	174.0	4,419.6	169.2	4,297.7	85.0	2,159.0
CPC-40	14,000 - 27,000	23,781 - 45,864	40	2520	234.1	40	6210	2,816.8	-20	216.0	5,486.4	154.7	3,929.4	85.0	2,159.0
CPC-48	16,800 - 33,000	28,537 - 56,055	48	3024	280.9	48	7760	3,519.9	-20	258.0	6,553.2	169.2	4,297.7	85.0	2,159.0

\* For opening access door, allow a minimum of 2.5" (63.5 mm) above unit for models 3, 4, and a minimum of 20.5" (520.7 mm) for models 6, 8, 12, 16, 24, 32, 40, 48.

\*\* CPC-24 through CPC-48 are available with optional pyramid hoppers, trough hoppers, or dumpster hoppers.

\*\*\* Standard hoppers. † Based on clean filters.

# SMARTER PERFORMANCE ON MANY TYPES OF DUST



**CPV-2 - Weigh belt feeder with limestone dust**  
800 cfm (1,359 m<sup>3</sup>/h)



**CPC-24 - Paper tissue manufacturing**  
7,600 cfm (12,910 m<sup>3</sup>/h)



**CPV-6 - Direct bin venting distributor head**  
2,400 cfm (4,077 m<sup>3</sup>/h)



**CPV-2 - Day bin with porcelain dust**  
800 cfm (1,359 m<sup>3</sup>/h)



**CPC-12 on Wood Dust at furniture manufacturer**  
7,000 cfm (11,891 m<sup>3</sup>/h)



**CPV-12 - Cement silo bin vent conveyor**  
3,700 cfm (6,285 m<sup>3</sup>/h)



**CPC-3 - Powdered milk dust in cheese factory**  
1,200 cfm (2,038 m<sup>3</sup>/h)

VISIT [DONALDSON.COM/TORITPOWERCORE](https://www.donaldson.com/toritpowercore) FOR LATEST CASE STUDIES.

# STANDARD FEATURES & AVAILABLE OPTIONS

COLLECTOR DESIGN - POWERCORE CPC	STD	OPT
Mild Steel Construction	X	
Clean-Side Filter Pack Removal	X	
Tool-Free Filter Removal	X	
Hopper Access Panel	X	
Sprinkler Taps	X	
Mountable Fan Package (CPC-3 through CPC-24)		X
Stainless Steel Construction		X
<b>FILTER PACKS</b>		
PowerCore Ultra-Web® (MERV 13)	X	
PowerCore Ultra-Web® (MERV 15)		X
PowerCore Ultra-Web SB (Spunbond) (MERV 13)		X
PowerCore Ultra-Web AS (Anti-Static) (MERV 13)		X
<b>PAINT SYSTEM</b>		
Textured Multi-Coat Paint Finish with 2,000-Hour Salt Spray Performance	X	
Premium Duty Finish		X
Custom Colors, Materials, and Finishes		X
<b>PYRAMID HOPPER DISCHARGE OPTIONS</b>		
Pyramid Hopper	X	
Trough Hopper with High Inlet (CPC-16 through CPC-48)		X
Dumpster Hopper (CPC-16 through CPC-48)		X
<b>HOPPER DISCHARGE</b>		
Slide Gate Pack		X
55-Gallon (208.2-Liter) Drum Covers		X
Transitions for Rotary Valves		X
<b>SUPPORT STRUCTURE †</b>		
48" (1219.2 mm) Clearance Beneath Hopper	X	
Leg Extensions		X
<b>ELECTRICAL CONTROLS, GAUGES &amp; ENCLOSURES</b>		
Control Box NEMA Type 4 with Timer	X	
Solenoid Enclosure NEMA Type 4	X	
Magnehelic®** Gauge	X	
Delta P Control NEMA Type 4 with Timer		X
Delta P Plus Control NEMA Type 4 with Timer		X
Delta P Control (no timer)		X
Solenoid Enclosure NEMA Type 9		X
Heated Solenoid Pack		X
Heavy Duty Cold Climate Kit		X
Photohelic®** Gauge		X
Custom Control Panels		X
<b>SAFETY FEATURES</b>		
Explosion Vents		X
Sprinkler Pack		X
Platforms and Ladders (CPC 16-48)		X
Electrical Grounding and Bonding		X
<b>WARRANTY</b>		
10-Year Warranty	X	

COLLECTOR DESIGN - POWERCORE CPV	STD	OPT
Mild Steel Construction	X	
Clean-Side Filter Pack Removal	X	
Tool-Free Filter Removal	X	
Mountable Fan Package		X
Outlet Weatherhood		X
Stainless Steel Construction		X
Vertical Orientation		X
<b>FILTER PACKS</b>		
PowerCore Ultra-Web® (MERV 13)	X	
PowerCore Ultra-Web® (MERV 15)		X
PowerCore Ultra-Web SB (Spunbond) (MERV 13)		X
PowerCore Ultra-Web AS (Anti-Static) (MERV 13)		X
<b>PAINT SYSTEM</b>		
Textured Multi-Coat Paint Finish with 2,000-Hour Salt Spray Performance	X	
Premium Duty Finish		X
Custom Colors, Materials, and Finishes		X
<b>SAFETY FEATURES</b>		
Electrical Grounding & Bonding		X
<b>ELECTRICAL CONTROLS, GAUGES &amp; ENCLOSURES</b>		
Control Box NEMA Type 4 with Timer	X	
Solenoid Enclosure NEMA Type 4	X	
Magnehelic®** Gauge	X	
Delta P Control NEMA Type 4 with Timer		X
Delta P Plus Control NEMA Type 4 with Timer		X
Delta P Control (no timer)		X
Solenoid Enclosure NEMA Type 9		X
Heated Solenoid Pack		X
Heavy Duty Cold Climate Kit		X
Photohelic®** Gauge		X
Custom Control Panels		X
<b>WARRANTY</b>		
10-Year Warranty	X	

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† Donaldson Torit equipment is designed to IBC guidelines for specific wind speed exposure and seismic spectral acceleration at grade level. Contact your Donaldson Torit representative for detailed information available on the equipment's Spec Control drawings. Equipment may be customized to meet unique, customer-specified site requirements.

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