

Donaldson.  
Torit®

**TORIT® POWERCORE®**  
**DUST COLLECTORS**  
**VH SERIES**



# SMARTER, SMALLER COLLECTORS

On every measurable scale, Torit® PowerCore® dust collectors outperform traditional baghouse and cartridge collectors. The new VH Series is smaller and much more cost-effective. And, from installation until the day it retires, it is so easy to use and maintain, you will never have to think twice about your Torit PowerCore dust collector.



Filter Baghouse

ctors)  
/H 2-8  
2) 8-ft

## Lower Total Cost of Ownership

Fewer filters. Less downtime. Lower shipping costs. It all adds up to major cost savings over the life of the collector.

## Smaller Footprint

Up to 70% smaller footprint clears space for other equipment.

## Shorter

Lower clearance height fits in more low headroom applications and reduces transportation costs.

## More Durable

Each PowerCore dust collector is built to the demanding standards you expect from Donaldson® Torit®. Its heavy-gauge steel and all-welded design withstands abrasive dust and harsh external environments. Plus, the chance of filter abrasion is greatly reduced due to the collector and filter design. Single air inlets/outlets reduce ducting and installation costs. And, of course, Donaldson Torit stands by the VH Series with strong technical support, 24-hour replacement filter shipping, and a 10-year warranty.

## Easy Filter Replacement

Changing filters requires no special tools or entering confined spaces, and downtime is held to a minimum.



## Fewer Filters

PowerCore filter packs save you money with every filter change.



One PowerCore filter pack replaces up to twenty 8' bag filters or three cartridge filters.

# MINING AND METALWORKING DUST HAS MET ITS MATCH

The VH Series brings the performance and simplicity of PowerCore technology to the mining and metalworking markets. Available for indoor and outdoor applications from 5,000 to 50,000 cfm, the VH Series is specially designed to handle the heavy and abrasive dust loads found in:

## MINING



**Crushing**  
**Classifying**  
**Screening**  
**Material Handling**  
**Blending**  
**Mixing**

## METALWORKING



**Grinding**  
**Blasting**

# THE NEW STANDARD IN DUST COLLECTION

It's not a cartridge. It's not a bag. PowerCore® filter packs take proprietary Ultra-Web® nanofiber filter media and form it into flutes that collect particles without depth-loading.

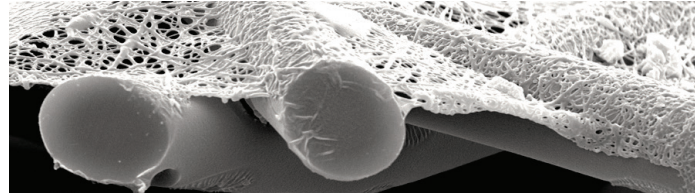
## Ultra-Web Media

PowerCore filter packs employ Donaldson® Torit's proprietary Ultra-Web nanofiber technology, and are backed by more than ten years of field tests.

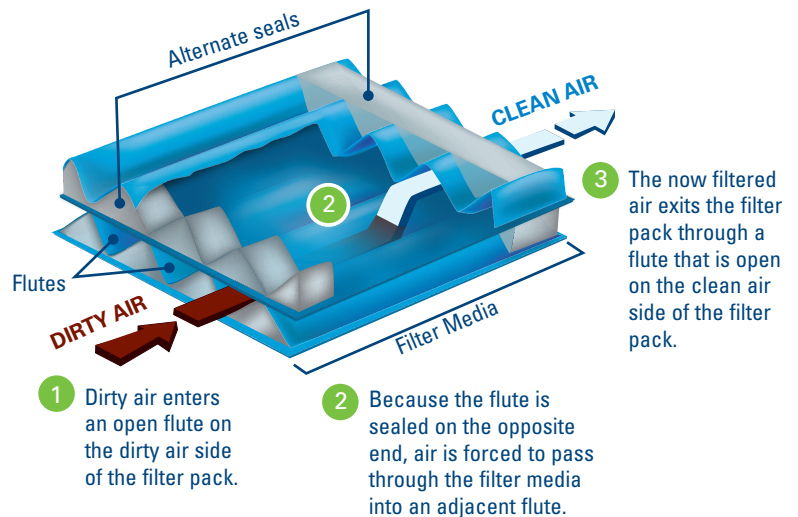
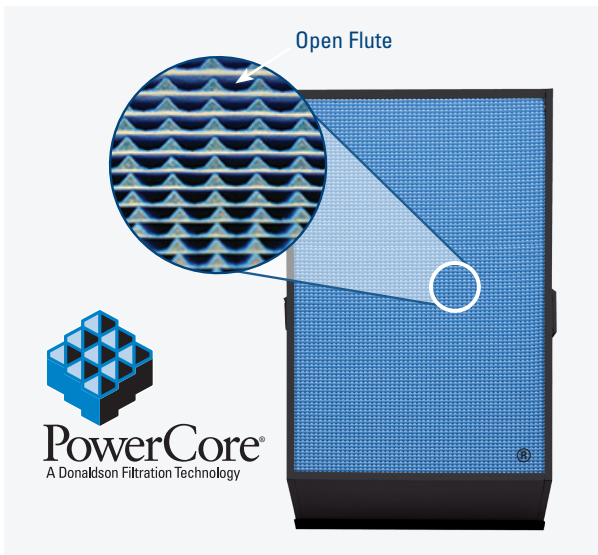
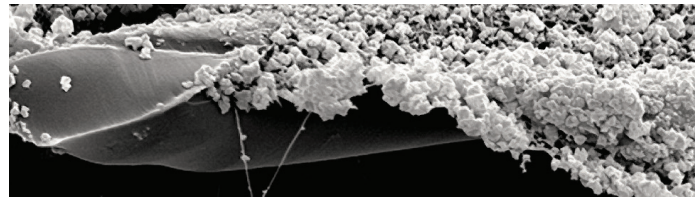
Durable Ultra-Web nanofibers intercept even the smallest dust particles on the surface of the flutes. This surface-loading keeps the filter pack cleaner and improves the effectiveness of pulse cleaning, thus lowering both operational pressure drop and energy use.

## PowerCore Technology How It Works

Clean Ultra-Web Media



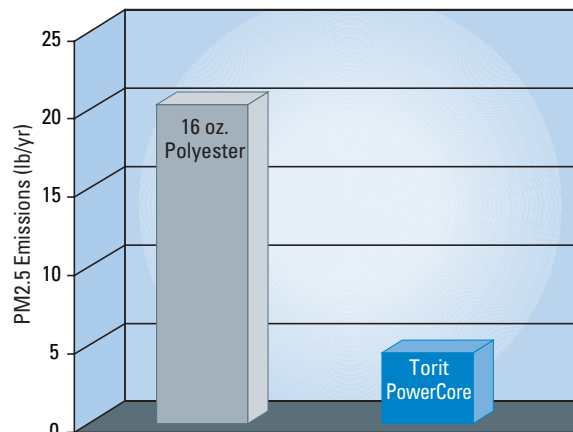
Surface-Loaded Ultra-Web Media (substrate still clean)



## Lower Emissions with PowerCore Filter Packs

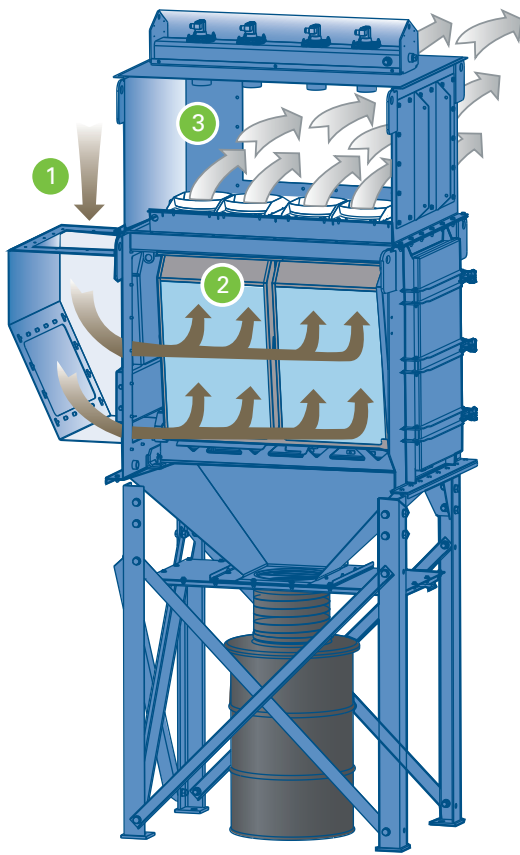
The Torit PowerCore VH Series with PowerCore filter packs provides outstanding filtration efficiencies to help meet emission goals. Compared to standard 15-ounce polyester bag filters, PowerCore filter packs reduce emissions by 78%.

**78%** FEWER EMISSIONS | **MERV 15**

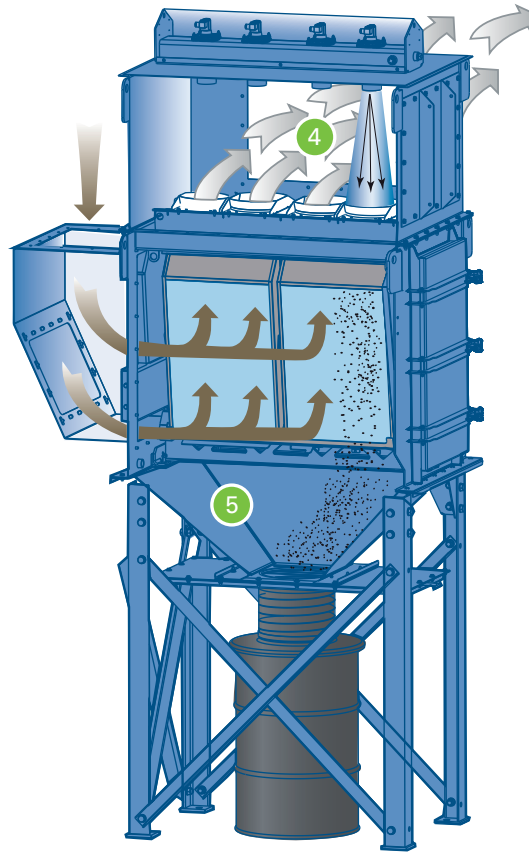


Independent lab results obtained using ASTM D6830-02 per EPA PM 2.5 performance verification.

# INSIDE THE POWERCORE VH



Standard Operation



Pulse Cleaning

## STANDARD OPERATION

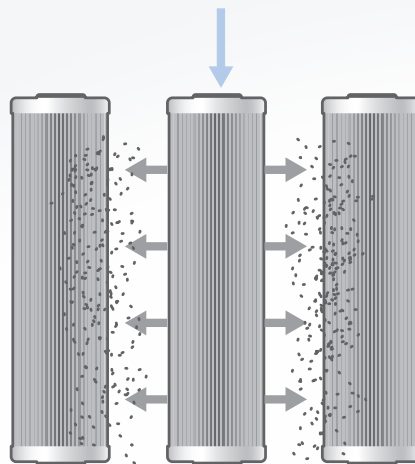
- 1 Dirty air enters chamber
- 2 Air is pulled through filter media
- 3 Clean air exits

## PULSE CLEANING

- 4 Compressed air is pulsed directly into filter media
- 5 Dust particles exit directly into the hopper

## Zero-Turn Pulse Cleaning System

We call it Zero-Turn because the pulsed air is blown directly into the filters for maximum cleaning effectiveness. The V configuration of the PowerCore filter packs aligns the flutes in a near vertical formation allowing the dust to be pulsed directly into the hopper, preventing pulsed dust from being re-entrained on adjacent filter packs. Other collectors don't feature this directional alignment.



**Other Collectors**  
Pulsed dust blows from filter to filter.

**PowerCore Collectors**  
Pulsed dust is shot directly into the hopper.

# QUICK CHANGE

Changing Torit PowerCore filter packs couldn't be easier. It's a one-person job and in a few minutes your operation is back up and running. A cartridge collector can't beat that. And a baghouse? Forget about it.

## Labor Savings at Filter Changeout

	Numbers of Filters	Time to Replace (hrs)	Labor Rate	Labor Cost	Savings in Hours*	Labor Savings*
PowerCore VH Filter Packs	8	0.5	\$45	\$23	26.3	\$1,192
Traditional Bag Filters	162	27.0	\$45	\$1,215		
PowerCore VH Filter Packs	8	0.5	\$45	\$23	1.0	\$45
Traditional Cartridge Filters	24	1.5	\$45	\$68		

\* Savings are based on one changeout. Calculations assume bags, cartridges, and PowerCore filter packs show equal life span; one person replacing one traditional bag filter in 10 minutes; one person changing PowerCore filter pack and cartridge in 3.75 minutes.



- 1 Open the quick-release hatch
- 2 Remove the first set of dirty filter packs
- 3 Slide out the tray and remove the second set of dirty filter packs
- 4 Insert new PowerCore filter packs and reverse the process

\* No special tools are required, and you never have to enter a confined space or dirty air plenum to do the job.

### Considering a Baghouse? Think Again.

If you really want one, Donaldson Torit offers the best in the business. But the fact is, the industry has evolved. PowerCore is the leading dust collector technology available today.

# GAINS VALUE AS IT AGES

PowerCore VH Series dust collectors are a smart decision that looks even better over time. That's because it is an investment that keeps paying off the longer you use it. You save money on installation. You save money on changeouts. And its improved performance allows you to run your equipment with less filter changeout downtime for improved productivity.



## Space Savings

A 40-70% smaller footprint frees up valuable floorspace.

## Fewer Filters to Change

65-95% fewer filters to change dramatically cuts filter changeout costs related to labor and downtime.

## Easier Changeouts

Side entry doors and no confined spaces make changing filter packs fast and easy.

## Lower Emissions

Up to 78% fewer emissions than baghouses with traditional 16 oz (453.6 g) polyester bag filters.

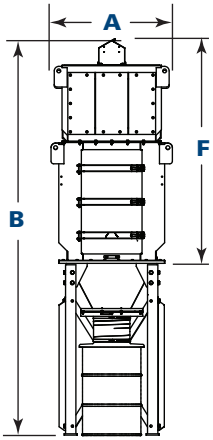
## Reduced Shipping Costs

Its smaller size reduces shipping, installation and accessory costs.

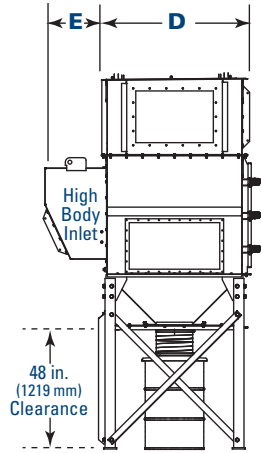
## Improved Paint Performance

New paint tested to withstand a 2,000-hour salt spray keeps your Torit PowerCore dust collector looking good for years to come.

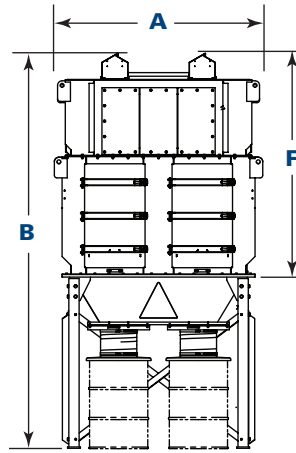
# DIMENSIONS & SPECIFICATIONS



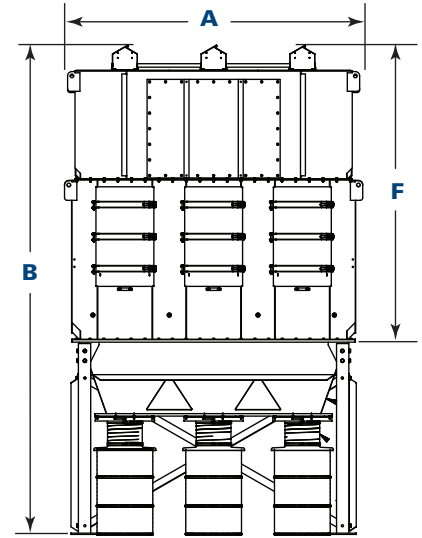
VH 1-4  
front view  
w/55 gal drum



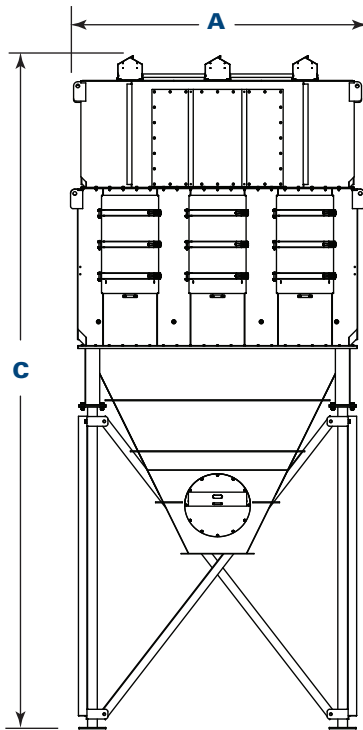
VH 1-4  
left side view  
w/55 gal drum



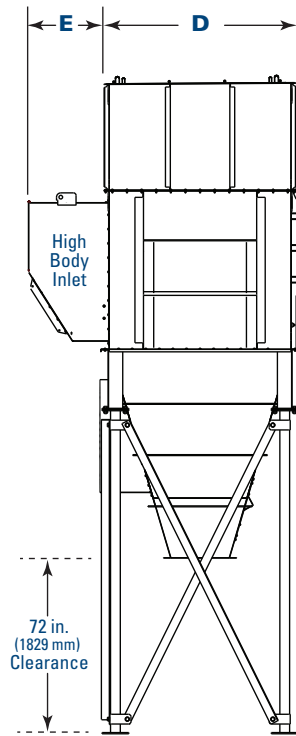
VH 2-8  
front view  
w/55 gal drum



VH 3-18  
front view  
w/55 gal drum



VH 3-18  
front view  
w/single outlet  
60° hopper



VH 3-18  
left side view  
w/single outlet  
60° hopper



# DIMENSIONS & SPECIFICATIONS

Model	Dimensions											
	A		B*		C**		D		E		F	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VH 1-4	44.5	1130.3	152.8	3881.1	187.3	4757.4	56.5	1435.1	21.9	556.3	85.3	2166.6
VH 1-6	44.5	1130.3	164.3	4173.2	207.3	5265.4	78.9	2004.1	21.9	556.3	85.3	2166.6
VH 2-8	78.5	1993.9	152.8	3881.1	204.3	5189.2	56.5	1435.1	21.9	556.3	85.3	2166.6
VH 2-12	78.5	1993.9	192.8	4897.1	242.8	6167.1	78.9	2004.1	25.9	657.9	112.8	2865.1
VH 2-16	82.5	2095.5	N/A	N/A	265.8	6751.3	101.3	2573.0	30.9	784.9	118.8	3017.5
VH 3-18	118.5	3009.9	197.8	5024.1	276.3	7018.0	78.9	2004.1	30.9	784.9	118.8	3017.5
VH 3-24	118.5	3009.9	N/A	N/A	290.8	7386.3	101.3	2573.0	30.9	784.9	122.8	3119.1

\* Height with 55-Gallon (208.20-liter) drum.

\*\* Height with 60° single rotary valve hopper.

Model	Nominal Airflow with High Body Inlet*		No. of Filter Packs	Power Core Filter Area		No. of Doors	No. of Valves	Shipping Weight**	
	cfm	m <sup>3</sup> /h		ft <sup>2</sup>	m <sup>2</sup>			lb	kg
VH 1-4	5,000 - 6,800	8,493 - 11,551	4	792	73.6	1	4	2,900	1,315.4
VH 1-6	6,800 - 10,200	11,551 - 17,326	6	1,188	110.4	1	6	4,000	1,814.4
VH 2-8	10,200 - 13,600	17,326 - 23,102	8	1,584	147.2	2	8	4,600	2,086.5
VH 2-12	13,600 - 20,400	23,102 - 34,652	12	2,376	220.7	2	12	5,800	2,630.8
VH 2-16	20,400 - 27,200	34,652 - 46,203	16	3,168	294.3	2	16	7,700	3,492.7
VH 3-18	23,400 - 30,600	39,748 - 51,979	18	3,564	331.1	3	18	8,400	3,810.2
VH 3-24	31,200 - 40,800	52,998 - 69,305	24	4,752	441.5	3	24	11,400	5,171.0

\* Based on clean filters.

\*\* Shipping weight is for units with 60° single hopper and high body inlet (approximate).

## Operating Conditions for VH Collectors

Seismic Spectral Acceleration	$S_s = 1.5 g$ $S_1 = 0.6 g$ per IBC 2009 FIG 1613.5
Basic Wind Speed and Exposure (mph/kph)	90/145 Exposure C per IBC 2009
Housing Rating (inches of H <sub>2</sub> O/millimeters of H <sub>2</sub> O)	± 20/± 508
Compressed Air Required (psi/bar)	90-100/6.2-6.9
Operating Temperature	120°F/49°C
Housing Construction	3/16" (4.8mm) - 10-gauge steel
Control Voltage	120 VAC -or- 24 VDC

# VH SERIES APPLICATIONS



**VH 1-6 on Grinding**



**VH 2-8 on Abrasive Blast**



**VH 2-12 on Aluminum Blasting**



**VH 2-16 on Crushing**



**VH 2-12 on Pipe Grinding**

# STANDARD FEATURES & AVAILABLE OPTIONS

Collector Design	Std	Opt	Hopper Discharge	Std	Opt
Robust, Welded Mild Steel Construction	X		Slide Gate Packs		X
Clean-Side, Tool-Free Filter Pack Removal	X		55-Gallon (208.2-Liter) Drum Covers		X
Quick Release Filter Tray Levers	X		Rotary Valves and Transitions		X
High Body Inlet	X		Heavy Duty Dumpster Discharge		X
Inlet Transitions		X	<b>Support Structure †</b>		
ZERO-Turn Pulse Cleaning System	X		48" (1219 mm) Clearance Beneath Hopper for 55-Gallon (208.2-Liter) Drum	X	
Diaphragm/Solenoid Valve and Manifold Combination	X		72" (1575 mm) Clearance Beneath Hopper for Rotary Valves		X
Cleaning System Weather Cover	X		62" (1575 mm) Clearance Beneath Hopper for Dumpster Discharge		X
Mountable Fan Package		X	Leg Extensions		X
Filter Access Platform		X	<b>Electrical Controls, Gauges and Enclosures</b>		
<b>Filter Packs</b>			Control Box NEMA Type 4 with Timer	X	
PowerCore Ultra-Web® (MERV* 15)	X		Delta P Control NEMA Type 4 with Timer		X
PowerCore Ultra-Web FR (Flame Retardant) (MERV* 15)		X	Delta P Plus Control NEMA Type 4 with Timer		X
PowerCore Ultra-Web AS (Anti-Static) (MERV* 15)		X	Pre-wired Junction Box to Solenoid Valves		X
PowerCore Ultra-Web SB (Spunbond) (MERV* 15)		X	Magnehelic®** Gauge	X	
<b>Paint System</b>			Photohelic®** Gauge		X
Textured Multi-Coat Paint Finish with 2,000-Hour Salt Spray Performance	X		110 VAC Control Voltage	X	
Premium Duty Finish		X	24 VDC Control Voltage		X
Custom Colors, Materials and Finishes		X	Heavy Duty Cold Climate Kit		X
<b>Hopper Design</b>			Custom Control Panels		X
Multiple Pyramid Hopper	X		<b>Safety Features</b>		
Single Pyramid Hopper		X	Sprinkler Couplings	X	
Single Pyramid Hopper (45 Degree) for 55-Gallon (208.2-Liter) Drum		X	Explosion Vents		X
60° Hopper		X	<b>Warranty</b>		
Hopper Access Panel	X		10-Year Warranty	X	
Hopper Access Panel with Overflow Valve		X			
Hopper Inlet		X			

\* The Minimum Efficiency Reporting Value (MERV) of this filter cartridge has been determined through independent laboratory testing using ASHRAE 52.2 (2007) test standards. The MERV rating was determined at a face velocity of 118 feet (36.0 meters) per minute and loading up to four inches (101.6 mm) water gauge. Actual efficiency of any filter cartridge will vary according to the specific application parameters. Dust concentration, airflow, particle characteristics, and pulse cleaning methods all affect filtration efficiency.

\*\* Magnehelic and Photohelic are registered trademarks of Dwyer Instruments, Inc.

† 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.

## Global Support

- Facilities in 37 countries
- 40 manufacturing plants and 14 distribution centers

## Leading Technology

- Over 1,000 engineers and scientists worldwide
- Broad range of innovative collectors and filters
- 100s of filter media formulations

## Experience and Service

- Technical expertise and support
- Ready-to-ship filters and parts within 24 hours

Call Donaldson® Torit® to get cleaner air today:

**800-365-1331**

[Donaldson.com/ToritPowerCore](http://Donaldson.com/ToritPowerCore)



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### **EXACTLY WHAT YOU NEED.™**

**Torit PowerCore Dust Collectors - VH Series (10/14)**  
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