

## WSO Mist Collectors



Synteq™ XP

*Filtration Technology  
for Mist Collection*



# Donaldson Torit Mist Collectors

## The Only Mist Collector You Need

The versatile, new Donaldson® Torit® WSO Mist Collector provides 3 filter solutions for the 3 mist categories: water-soluble coolants, straight oil, and the most challenging, oily smoke. The WSO uses revolutionary new Synteq™ XP filter media engineered for superior draining, resulting in lower pressure drop and longer filter life.

The WSO is ideal for lean work cells. As machining operations change, the WSO can be modified with a simple filter change, leading to leaner operations, cost savings and cleaner plant air.

### WSO Offers:

- **3 in 1 solutions for mist applications**
- **NEW! Advanced Synteq™ XP Media**
- **Cross-flow design for better drainage**
- **Energy savings**
- **Continuous-duty design**
- **Lower life cycle costs**
- **Quiet operation**
- **UL-approved electrical components**
- **10-year warranty**

## 3 APPLICATIONS 1 COLLECTOR



## 3 SOLUTIONS



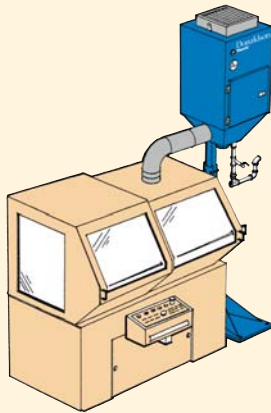
**WSO 15**  
with optional 3rd-stage  
HEPA filter

# Donaldson Torit Mist Collectors

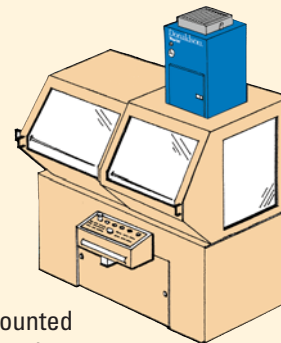
## The WSO Difference

The **WSO mist collector** can be configured to meet your facility's requirements: machine mountable, stand mount for a single machine, and ducted cellular and central systems.

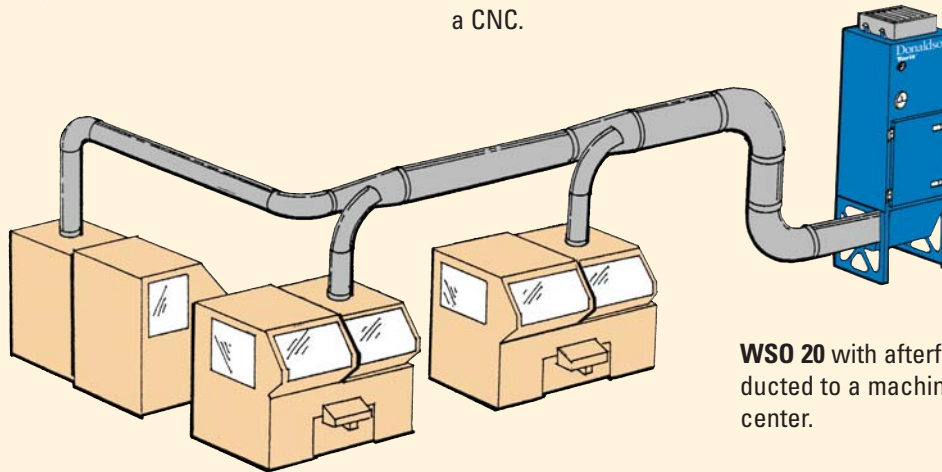
75,000+ Mist Collectors Installed!  
Over 40 Years of Mist Experience



**WSO 15** floor-mounted stand with afterfilter on a horizontal machining center.



**WSO 10** machine mounted with afterfilter mounted on a CNC.



**WSO 20** with afterfilter ducted to a machining center.

## Easy Filter Maintenance



- Differential pressure gauge(s) identifies filter maintenance



- One pivot lever securely retains the primary filter element



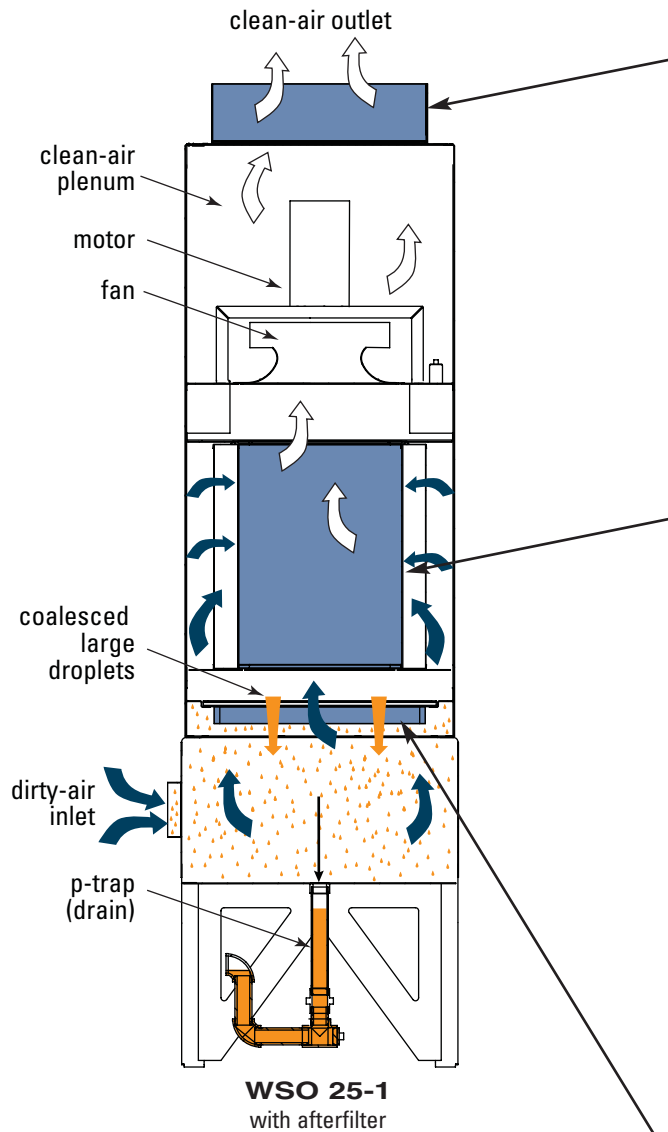
- Filter is easily removed



- Simplified servicing means less maintenance time and cost

# Donaldson Torit Mist Collectors

Versatile in Application, Flexible in Design



## 3rd Stage: Final Filter (Optional)



### DOP

- 95% efficient on 0.3 micron mist & smoke

### HEPA

- 99.97% efficient on 0.3 micron mist & smoke

## 2nd Stage: Primary Filter (select one)



### Synteq XP - W

- For mist from water-soluble coolant
- Economical, fast draining, for heavy water-based liquid load

### Synteq XP - S

- For smoke from machining
- Highest efficiency for challenging applications

### Synteq XP - O

- For mist from straight oil machining
- Efficiency designed for small oil aerosols

## 1st Stage: Prefilter Options (select one)

### Metal Screen

- For heavier dust/grit from wet grinding

### Metal Mesh

- For most water-soluble mist

### Polypropylene Mesh

- For most straight oil mist

### High Efficiency 1st Stage

- For oily smoke





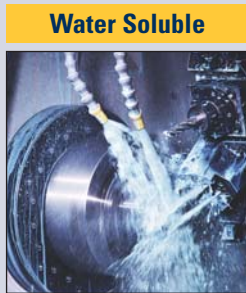
## Oblong Cartridges Outperform Traditional Filters



### WSO oblong filter shape features:

- Up to 45% more filter surface area than pocket filters and round cartridges
- Best fit in rectangular cabinet
- Lower pressure drop
- Longer filter life

### Choose the Best Filter for Your Application



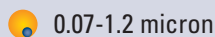
Typical particle size:



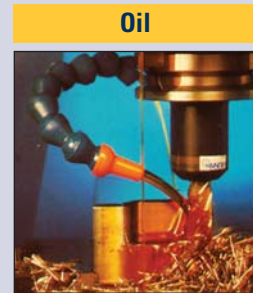
- Largest mist particles
- 99.8%\* removal efficiency



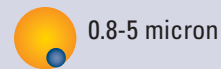
Typical particle size:



- Smallest aerosols from machining
- 99.97%\*\* removal efficiency

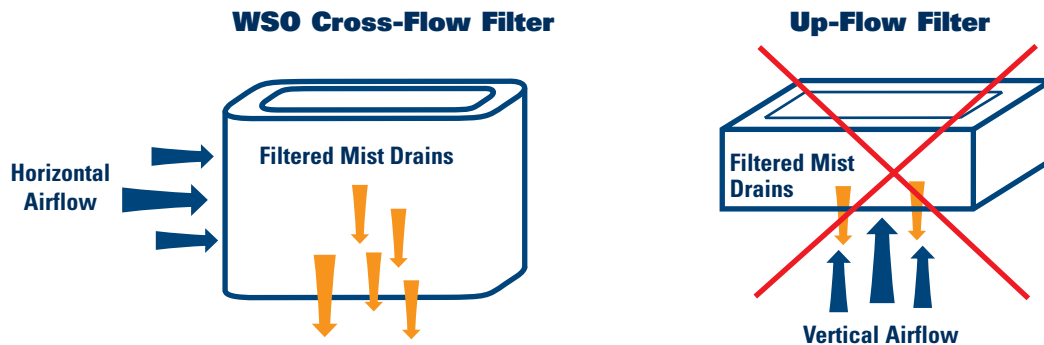


Typical particle size:



- Submicron oil mist
- 99.5%\* removal efficiency

**Cross-flow filter design for better drainage** means longer filter life. Dirty air flows horizontally through the walls of the WSO filter, perpendicular to drainage of collected and coalesced mist. This design promotes optimum drainage, which extends filter life and returns collected coolant for re-use. Conventional mist collectors have an upflow design impeding drainage and causing short filter life.



\* Stated efficiency typical for water soluble and straight oil applications. The use of a 95% DOP or HEPA filter may be required.  
\*\* Stated efficiency typical for oily smoke applications using a HEPA final filter.

# Donaldson Torit Mist Collectors

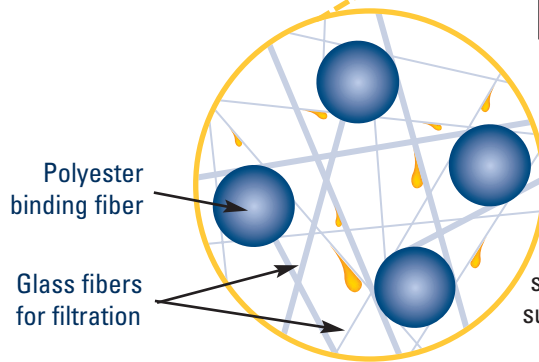
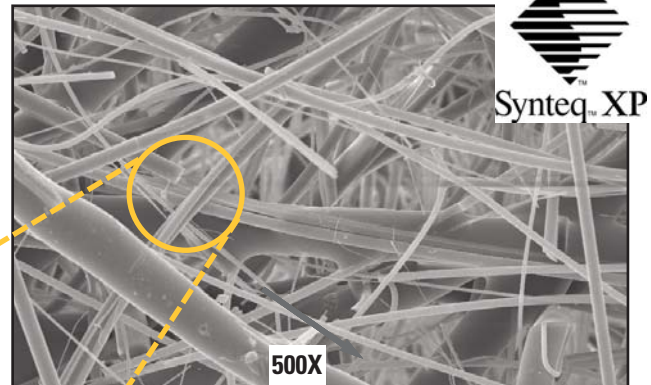
## New Advanced Filter Media for Mist

**Patent-pending Synteq XP is a revolutionary new media** for mist collection that provides high efficiency, low operating pressure drop, and long filter life when compared to traditional media.

This photo from our Scanning Electron Microscope and the illustration show why Synteq XP technology provides superior performance on mist collection applications.

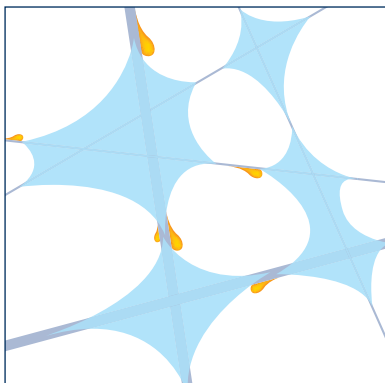
### New Synteq XP Media with Resin-Free, Binding Fibers

- Engineered blend of small & large fibers, with proprietary, resin-free bonding system
- Small fibers are scientifically proven to increase efficiency
- Large fibers provide structural support & clear drain channels
- Proprietary bonding system stabilizes pore structure for optimum performance



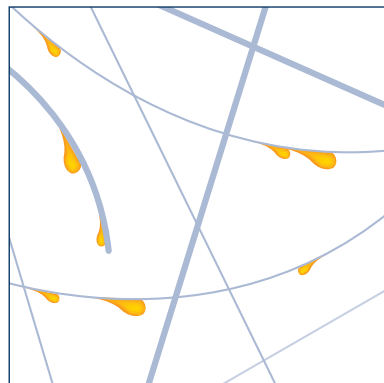
**HOW:** The surface of this special binding fiber is softened with heat just enough to make it bond to the surrounding glass fibers. No webbing, no blocked pores.

#### Traditional Mist Cartridge Media (with Resins)



- Made with resins to bond fibers
- Resins reduce air pathways and block drainage

#### Traditional Mist Panel Filter Media (Loose Fibers)

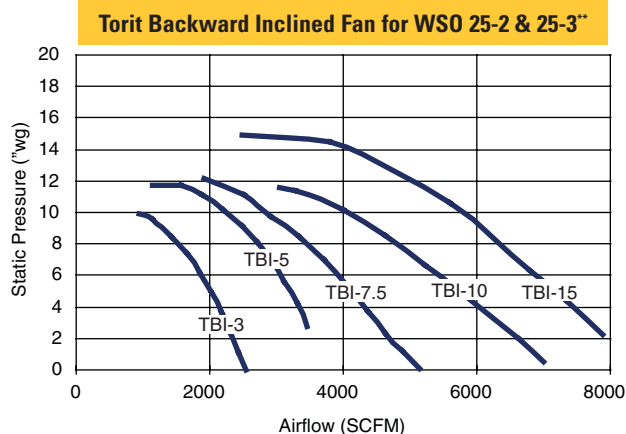
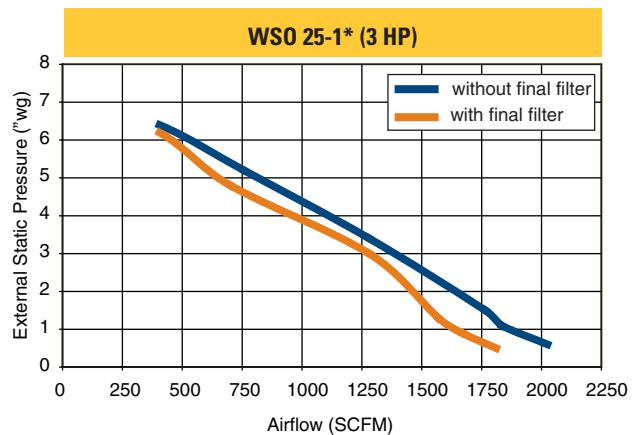
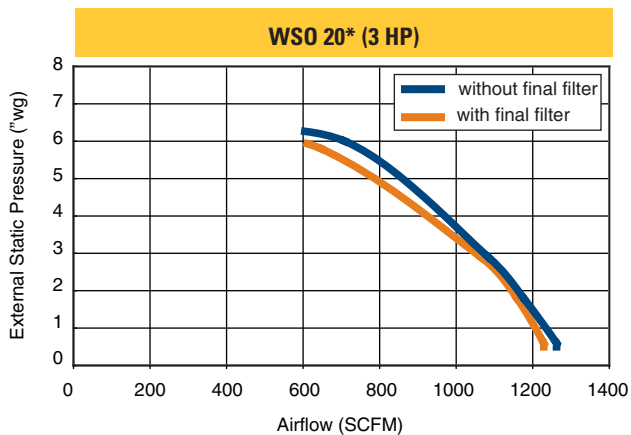
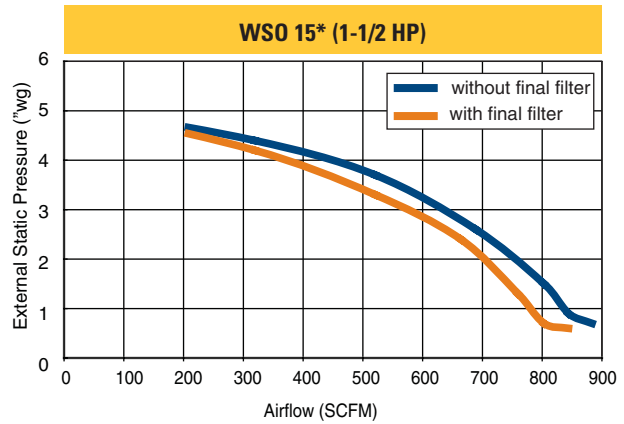
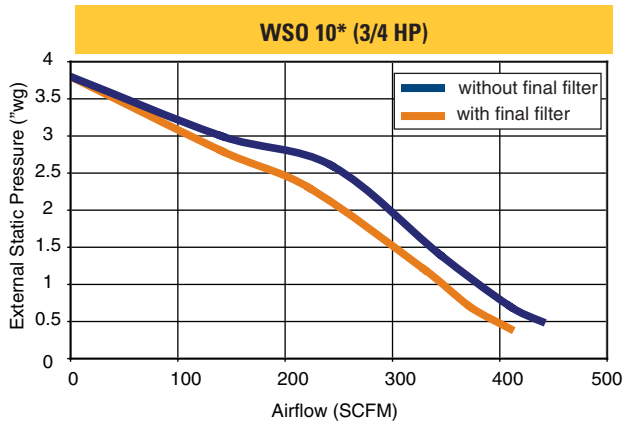


- Four-layer media structure without fiber bonding
- Fibers sag under weight of oil
- Fiber movement creates larger holes that pass oil

# Donaldson Torit Mist Collectors

## System Curves for WSO

**Powerful Performance** Unlike other products that require upgrades for more demanding applications, each WSO comes standard with a unique high performance fan. The system curves below indicate available external static pressure to the unit with clean filters.



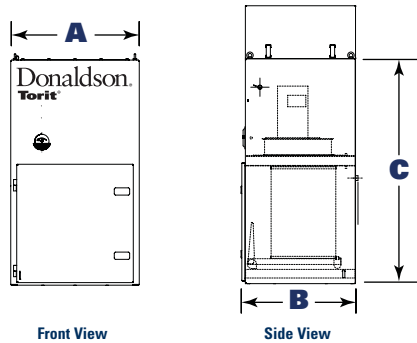
\* WSO 10, 15, 20, and 25-1 have integral power packs (motor and fan).

\*\* These fan curves are for the TBI fan only and do not account for WSO system losses.

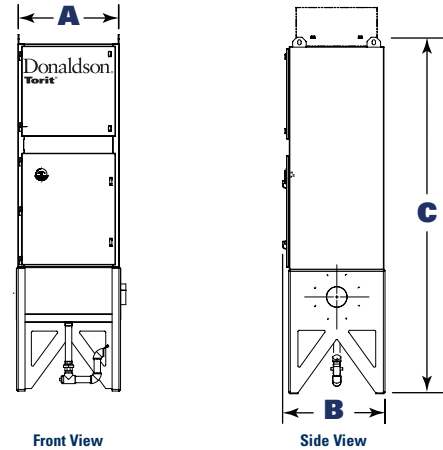
# WSO Mist Collectors

## Dimensions & Specifications

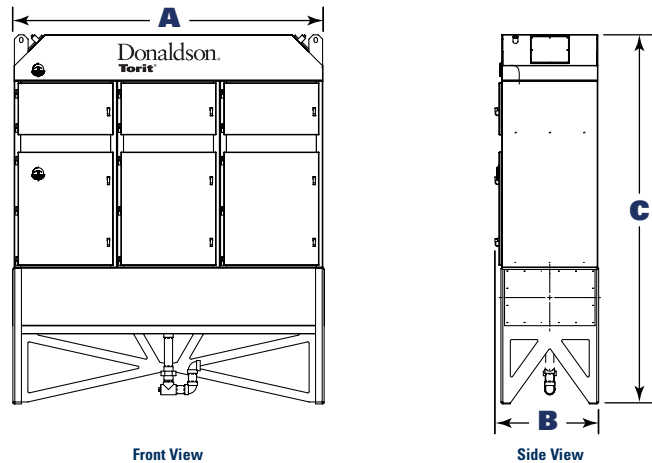
**WSO 10, 15, 20**  
Machine Mounted (MM)



**WSO 20, 25-1**  
Floor Mounted (FM)



**WSO 25-2, 25-3**



Models	Nominal Airflow* (cfm)	No. of Filters	Filter Height (in)	Filter Area			Motor (hp)	Shipping Weight (lbs)	Dimensions (inches)				Sound Level** dB(A)	
				Water (ft <sup>2</sup> )	Oil (ft <sup>2</sup> )	Smoke (ft <sup>2</sup> )			A	B	C without Afterfilter	C with Afterfilter	without Afterfilter	with Afterfilter
WSO 10	450	1	10	50	43	—	¾	180	19.0	19.8	33.2	36.5	66	63
WSO 15	850	1	15	125	109	85	1½	250	24.0	22.8	41.2	44.5	70	68
WSO 20	1230	1	20	167	146	113	3	285	28.0	24.8	49.1	60.6	68	70
WSO 20(FM)	1230	1	20	167	146	113	3	385	28.0	24.8	82.5	96.6	68	70
WSO 25-1	1850	1	25	286	245	185	3	750	30.0	30.3	105.4	114.3	71	69
WSO 25-2	3700	2	25	572	480	390	†	1000	60.8	30.3	87.5	107.6	†	†
WSO 25-3	5550	3	25	858	735	585	†	1330	90.8	30.3	87.5	107.6	†	†

\* Based on clean filters.

\*\* Published dB(A) sound pressure levels were made in a hemi-anechoic chamber. Units were run with clean filters and maximum airflow through approximately 10 feet of ducting connected to an inlet plenum. Measurements were made 1.5 meters off the ground, 1 meter away from the collector, on the filter door side of the mist collector. Actual installed equipment sound pressure levels will vary depending upon the measurement location, the operating conditions, the installation, and the surrounding environment.

† Optional fans available. See optional fan specifications for sound level data.



# Donaldson Torit Mist Collectors

## Standard Features & Equipment Options

	WSO Models*					
	10/15/20		20/25-1		25-2/25-3	
<b>Collector Design</b>	Standard	Optional	Standard	Optional	Standard	Optional
Mild Steel Construction	X		X		X	
Inlet Hopper with Collar		X	X		X	
Inlet Hopper with Legs		X		X		X
Inlet Hopper with Vibration Isolators		X				
Integral Power Packs	X		X			
Machine Mount	X					
Ceiling Mount		X				
Floor Mount		X	X		X	
P-Trap Assembly		X		X		X
Drain Collection Container		X		X		
Flex-Duct		X				
<b>Filters</b>						
First-Stage Wire Mesh	X		X		X	
First-Stage Polypropylene Mesh		X		X		X
High Efficiency First-Stage		X		X		X
Synteq XP for Water Soluble	X		X		X	
Synteq XP for Straight Oil		X		X		X
Synteq XP for Smoke		X		X		X
Third-Stage HEPA Filter		X		X		X
Third-Stage 95% DOP Filter		X		X		X
<b>Paint System</b>						
Blue Powder Coat Finish Meets 350-hr. Salt Spray Corrosion Protection Test	X		X		X	
Custom Color		X		X		X
<b>Electrical Controls, Gauges and Enclosures</b>						
Minihelic <sup>®**</sup> Gauge	X					
Magnehelic <sup>®**</sup> Gauge			X		X	
IEC Motor Starter		X		X		X
Type 12 (NEMA & UL) Motor Starter		X		X		X
Junction Box - Mounted & Prewired		X		X		
Remote Start/Stop		X		X		X
Machine Tool Interlock		X		X		X
Mounted and Prewired Motor Starters		X				
<b>Warranty</b>						
10-Year Warranty	X		X		X	

\* Custom size units larger than the WSO 25-3 are also available.

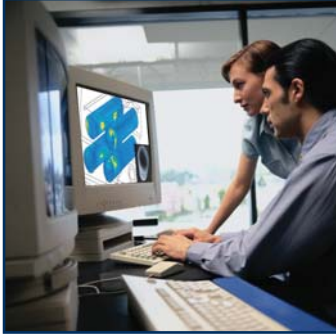
\*\* Minihelic and Magnehelic are registered trademarks of Dwyer Instruments, Inc.

Patents pending worldwide.

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# Cleaner Air Worldwide

## Better Technology



- 550 engineers worldwide
- More than 500 patents
- Broad range of innovative collectors and filters
- 100's of media formulations

## Experience & Service



- Technical expertise and support
- Ready-to-ship filters and parts within 24 hours
- 1,000,000+ dust, fume, & mist collectors installed

## Global Support



- Facilities in 35 countries
- 37 manufacturing plants and 11 distribution centers
- Sales offices worldwide



# Donaldson®

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