



**Donaldson**  
FILTRATION SOLUTIONS

**DFE**

**DOWNFLO® EVOLUTION**

**DUST COLLECTORS**



AVAILABLE WITH



**iCue™**

CONNECTED FILTRATION SERVICES



# DOWNFLO® EVOLUTION

## DUST COLLECTORS

### EVOLUTIONARY DESIGN

### THE ORIGINATORS OF THE CARTRIDGE COLLECTOR

The breakthrough performance of the Downflo® Evolution (DFE) family of cartridge dust collectors is the result of our relentless drive to improve our products and exceed customer expectations.

Donaldson Torit® DCE put decades of industry experience to work to produce a new, best-in-class dust collector capable of reducing equipment size and number of required filters by up to 40% compared to a typical cartridge collector.

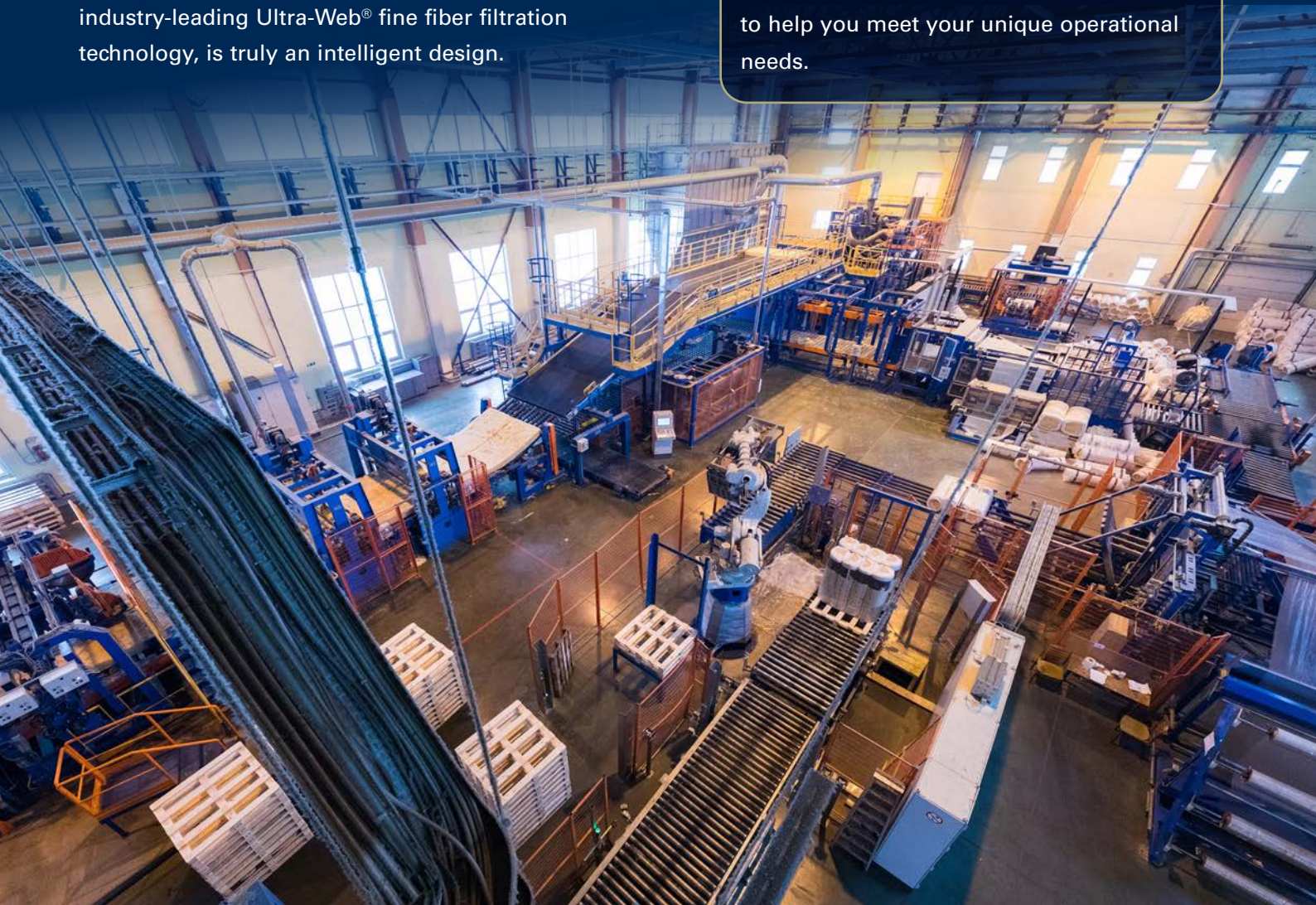
A smaller collector helps lower the initial purchase price, reduces filter replacement costs, and opens up valuable manufacturing floor space.

This state-of-the-art collector, coupled with our industry-leading Ultra-Web® fine fiber filtration technology, is truly an intelligent design.

### QUALITY & EXPERTISE YOU CAN RELY ON

For over 100 years, Donaldson has helped solve some of the world's most complex filtration challenges. We pride ourselves in producing efficient, high quality and reliable products that will help support modern day manufacturing processes.

You can always rely on our advanced technology, extensive portfolio of filtration products, and unrivaled customer support to help you meet your unique operational needs.







## 1. LONGER FILTER LIFE

### REVOLUTIONARY AIRFLOW MANAGEMENT

Directs incoming air to an intelligent dropout zone for **reduced filter loading**.

## 2. ENERGY SAVINGS

### SUPERIOR CLEANING PERFORMANCE

MaxPulse™ Cleaning System delivers **27% more cleaning energy** to filtration media compared to typical pulse-jet cleaning systems.

## 3. HIGHER FILTRATION PERFORMANCE

### INDUSTRY-LEADING FILTRATION DESIGN

Positions **more filtration media** in beneficial locations and ensures **easy, leak-free installation**.

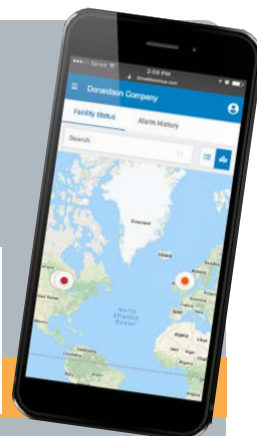
# RESULT

**A SMALLER CARTRIDGE COLLECTOR WITH FEWER FILTERS AND LOWEST COST OF OWNERSHIP**

## THE SMART CHOICE FOR OPTIMIZING DUST AND FUME COLLECTION IN YOUR FACILITIES

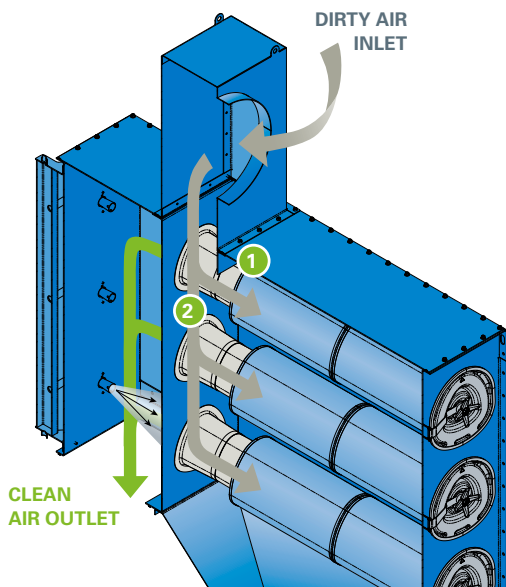
This collector comes equipped with Donaldson's iCue™ Connected Filtration Service\* gateway. Designed to remotely monitor dust and fume collectors to virtually eliminate manual check readings, the operational insights provided by iCue™ will help you reduce unplanned downtime, support efficient maintenance and operation, and automatically capture compliance data.

Discover iCue™ Connected Filtration Service on : [donaldson.com/icue-collector-monitoring](https://donaldson.com/icue-collector-monitoring)



\*Subscription-based service, activation required.

# FEATURES AND BENEFITS



## ENGINEERED AIRFLOW MANAGEMENT

The DFE's game-changing dust collection performance is achieved through a combination of design features that result in significant customer benefits.

## INTELLIGENT DROPOUT ZONE

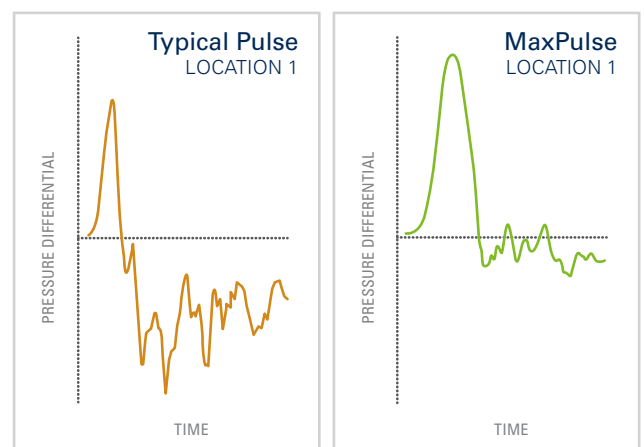
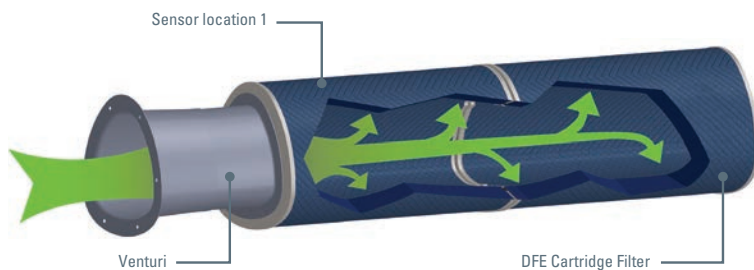
- 1 Metal venturis
- 2 Dropout zone ensures
  - Pre-separation of heavy dust particles
  - Lower pressure loss than baffle design used by competitors
  - Minimal filter element abrasion

## MAXPULSE™ CLEANING SYSTEM

### SUPERIOR CLEANING PERFORMANCE

The cleaning action starts with the release of compressed air from the diaphragm valve through a unique, double-diverging pulse nozzle. The nozzle precisely controls the initial pulse expansion to minimize energy losses associated with uncontrolled compressed air expansion. Donaldson's proprietary, pulse-shaping design distributes the cleaning energy evenly to match the unique shape of the filter.

After exiting the pulse nozzle, the cleaning air flows through smooth, easy transitions into the filter interior ensuring the compressed air expands naturally without abrupt, energy-wasting restrictions, sharp edges, or volume changes. More effective filtration media results in increased airflow capacities through Donaldson Torit® dust collection equipment.



### PROVEN IN PULSE TEST BENCH ANALYSIS

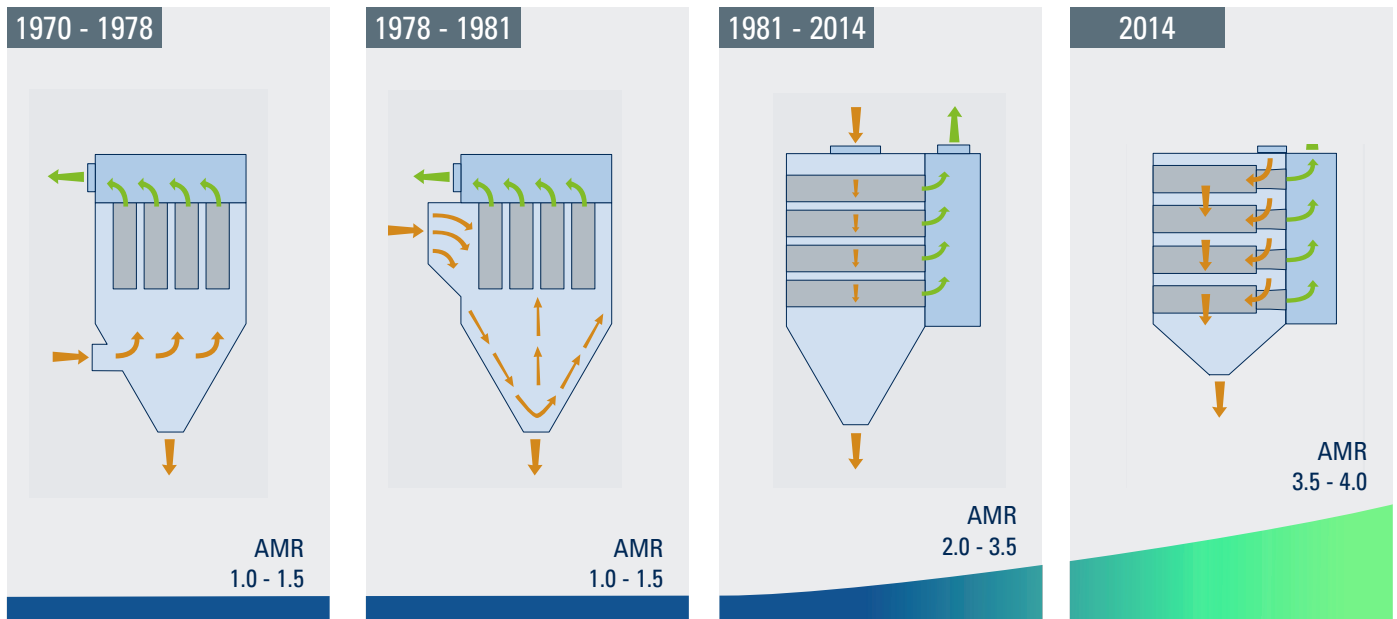
Significantly higher pulse pressures are recorded and sustained at critical locations along the filtration media profile. More uniform cleaning results in more effective filtration media over the life of the filter.

# THE CONTINUING EVOLUTION OF CARTRIDGE COLLECTION

Donaldson has been at the forefront of cartridge collection for over 40 years, and has developed game-changing solutions others can only attempt to imitate. Now, the game is changing again! With the DFE's airflow design, MaxPulse™ cleaning system, trigonal filter shape, and industry-leading Ultra-Web® filtration media, customers benefit from a smaller collector containing fewer filters.

## AIR-TO-MEDIA (AMR)

### RATIO EVOLUTION



\*The graphic above shows an example of the Air-to-Media ratios for a typical weld fume application.

**THE DFE FEATURES HIGHER AMRs, A SMALLER FOOTPRINT, FEWER FILTERS, SUPERIOR PERFORMANCE, AND A LOWER TOTAL COST OF OWNERSHIP!**



**UP TO 40% FEWER FILTERS & SMALLER FOOTPRINT**

	TRADITIONAL CARTRIDGE 3-24	DOWNFLO EVOLUTION 3-18
Application	Automatic Shot Blast	
Airflow*	17839 m <sup>3</sup> /h	
Filter Count	24	18
Hopper Outlets	2	1
Footprint	5.2 m <sup>2</sup>	4,6 m <sup>2</sup>
Height	3.734 m	4.470 m
Compressed Air	20.87 (Nm <sup>3</sup> /h)	16.05 (Nm <sup>3</sup> /h)

\*subject to specific application

# UNIQUE FILTER DESIGN

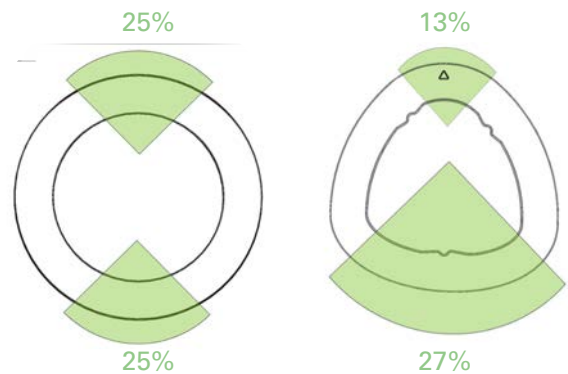
## SHAPE MATTERS

The trigonal design helps DFE achieve the same dust collection capacity as other dust collectors while featuring less cartridges. This helps reduce your operational expenses by having more manufacturing floor space and less filters to maintain.

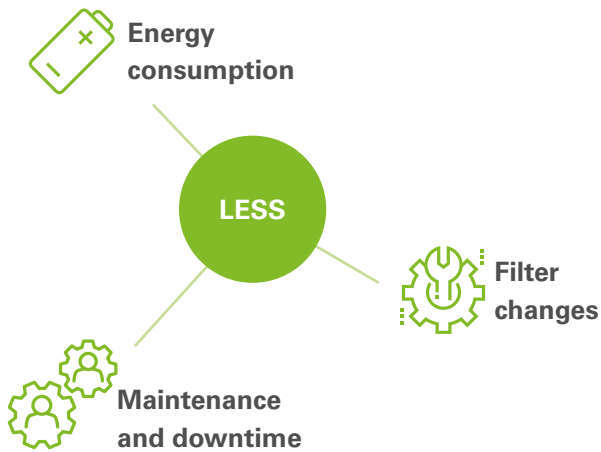


## THE UNIQUE AND ADVANCED DESIGN

of our trigonal cartridges is the technology that warrants the DFE's superior performance and customer benefits.



Efficient pulse cleaning helps increase the lifespan of a cartridge, helping you to lower your operational costs due to:



## POSITIONING MORE FILTER MEDIA

at the bottom of the cartridge, the trigonal shape allows for more dust to be accumulated on the bottom of the filter and is helped by gravity to achieve superior pulse cleaning performance.

## QUICK FILTER CHANGEOUT

The interior of the metal filter element endcaps features a specific profile that engages with the collection equipment's support yoke. The asymmetrical yoke design ensures proper filter installation, seal, and cleaning alignment.



**1** Loosen cover with 4-lobe knob. Knob has center lug enabling power tool operation.

**2** Open hinged filter access cover.

**3** Filter supported by asymmetrical suspension yoke ensures proper installation for worry-free operation.

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



# SELECT THE PERFECT MEDIA FOR CARTRIDGE FILTERS



## What is the operating temperature?

< 80°C

Is there a need for high efficiency?

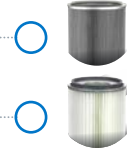
YES

Is the dust agglomerative?

YES

Does the application create static charge?

YES



Ultra-Web® on Spunbond Anti-Static

NO



Ultra-Web® on Spunbond

NO

Does the application create static charge?

YES

Is there moisture present?

YES



Ultra-Web® on Spunbond Anti-Static

NO



Ultra-Web® Anti-Static Flame Retardant

NO

NO

Is there moisture present?

YES



Ultra-Web® on Spunbond

NO



Ultra-Web® (Flame Retardant)

Is the dust agglomerative?

YES

Does the application create static charge?

YES



Polyester Anti-Static

NO



Standard Polyester

NO

Does the application create static charge?

YES



Polyester Anti-Static

NO

Is there moisture present?

YES



Standard Polyester

NO



Cellulex® (Flame Retardant)

MAYBE



Blended 80/20 and 90/10 Flame Retardant

≤ 135°C

Does the application create static charge?

YES



Torit-Tex® Anti-Static

NO

Is there a need for moisture or chemical resistance?

YES



Torit-Tex®

NO



Thermo-Web®

≤ 170°C



Kevlar®/Nomex®

# TECHNICAL SPECIFICATIONS

Full product range and detailed technical specifications are available on: [donaldson.com/dfc](http://donaldson.com/dfc)

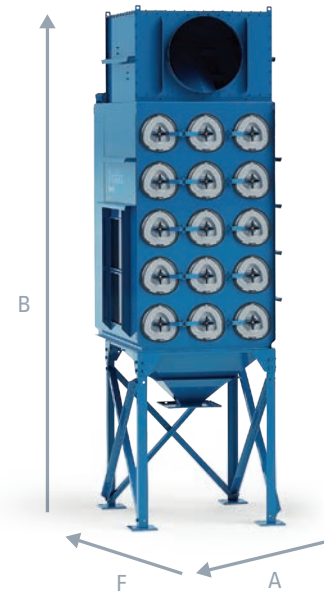
## KEY FEATURES & BENEFITS

- Smaller collector with up to 40% fewer filters & smaller footprint.
- Less energy consumption, maintenance, and downtime.
- MaxPulse™ filter cleaning system that delivers 27% more cleaning energy to filtration media.
- Enhanced downward airflow design and trigonal filter shape delivering higher filtration performance and longer filter life.

Model	No. of cartridges	Dimensions in mm**			Weight in kg **
		Width	Height	Depth	
		A	B	F	
2-4	4	1225	2166 - 3266	1894	597 - 743
3-6	6	1225	2674 - 3774	1894	909
2-8	8	1225	2716 - 3816	2567	804 - 978
2-12	12	1727	2716 - 3816	2567	1271
3-12	12	1225	3224 - 4324	2567	1032 - 1237
4-16	16	1225	3732 - 4832	2567	1169 - 1392
3-18	18	1727	3224 - 4324	2567	1272 - 1550
5-20	20	1225	4248 - 5348	2567	1652
3-24	24	2241	3224 - 4324	2567	1639 - 1996
4-24	24	1727	3732 - 4832	2567	1537 - 1828
5-30	30	1727	4248 - 5348	2567	2104
4-32	32	2241	3732 - 4832	2567	1948 - 2296
3-36	36	3257	3224 - 4324	2567	2224 - 2753
5-40	40	2241	4248 - 5348	2567	2783
3-48	48	4273	3224 - 4324	2567	3737
4-48	48	3257	3732 - 4832	2567	2658 - 3230
3-60	60	5289	3224 - 4324	2567	4459
5-60	60	3257	4248 - 5348	2567	3705
4-64	64	4273	3732 - 4832	2567	3549 - 4330
3-72	72	6305	3224 - 4324	2567	4299 - 5203
4-80	80	5289	3732 - 4832	2567	5194
5-80	80	4273	4248 - 5348	2567	4945

\* Dimensions depend on the options chosen.

\*\* Weights include filter cartridges and are for collectors prior to first use, i.e. with no dust collected. Excludes shipped loose items like fan set, fan box, legs, and dust disposal system.



## UNIT OPTIONS

- Execution for outdoor installation
- Different sizes and formats of dust bins; hook-on dustbin; Hook-on dustbin; 85 L drum & 200 L drum
- Sound absorption
- Sprinkler heads
- Compressed air – oil/water separator and accessories
- Bag-in / Bag-out option to minimize cross contamination
- Full range of fan sets and ducting
- Full range of service platforms
- Lime feeder for the absorption of oily substances
- Full range of inlets
- Reinforced version for handling explosive dust
- ATEX compliance and certification
- EAC certificate TR CU

## COMBUSTIBLE DUST MANAGEMENT

Is your plant effectively managing the risks associated with combustible dust in its processes?

One of the key steps in mitigating your explosion risk is selecting the right dust collection configuration.

We provide specific product offerings for fire and explosion protection to be integrated in your DFE dust collector.

Contact us to discuss a mitigation solution that fits your needs and learn more at [Donaldson.com/combustible-dust](http://Donaldson.com/combustible-dust)



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 Shop for filters the easier way at [shop.donaldson.com](http://shop.donaldson.com)  
 Contact us on [iaf-europe@donaldson.com](mailto:iaf-europe@donaldson.com)

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