



Donaldson
FILTRATION SOLUTIONS

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 Donaldson's relentless drive to improve its products and exceed customer expectations. Donaldson 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 Donaldson's industry-leading Ultra-Web® nanofibre filtration technology, is truly an intelligent design.

Revolutionary Airflow Management

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

Breakthrough Filter Cleaning

MaxPulse Cleaning System delivers 27% more cleaning energy to filtration media

Industry-Leading Filtration Design

Positions more filtration media in beneficial locations and Ultra-Web MERV13 media as standard



Results

A smaller cartridge collector with fewer filters and the lowest cost of ownership



Bulk Handling



Pharmaceutical



Laser Cutting



Welding

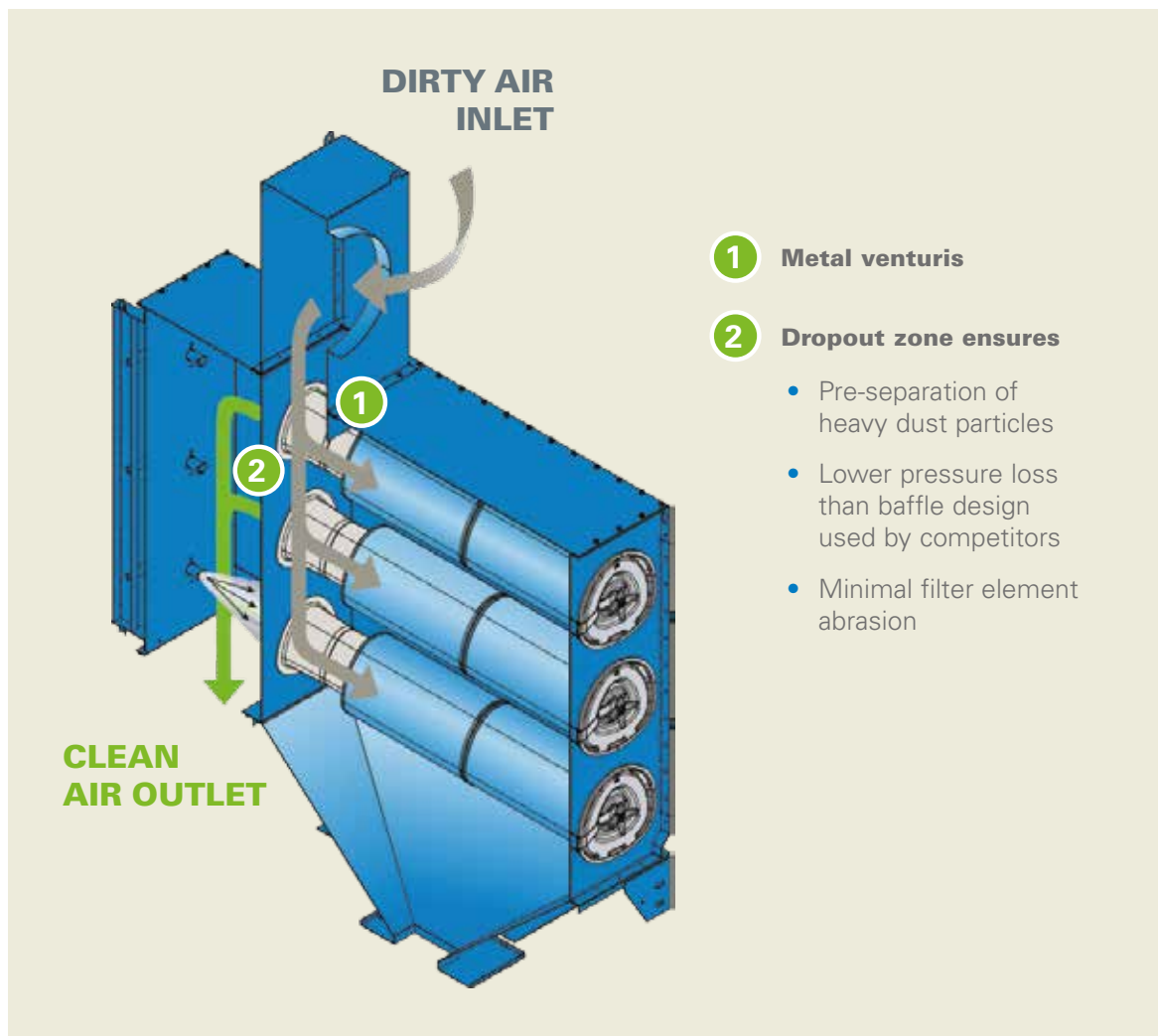


Engineered Airflow Management

Intelligent dropout zone

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

Downflo® Evolution INTELLIGENT DESIGN



Metal Manufacturing



Glass



Rubber and Plastics



Food Processing



Superior Cleaning Performance

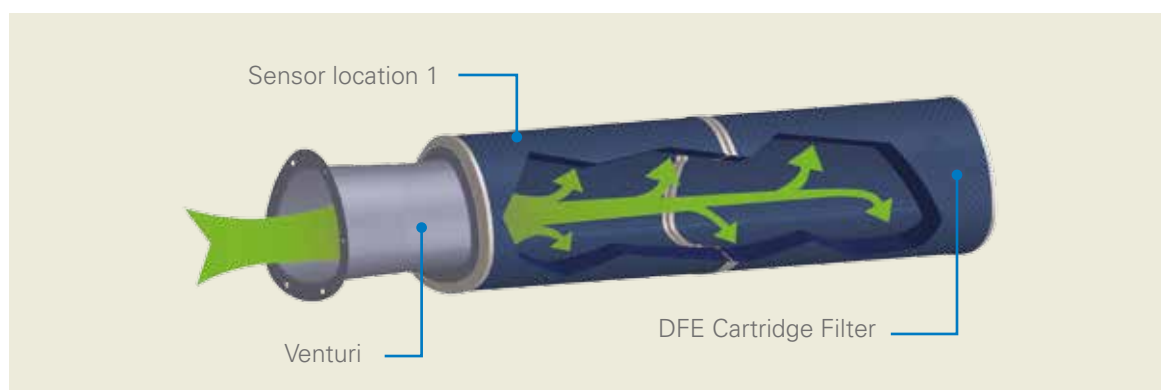
MaxPulse Cleaning Performance

The DFE provides breakthrough cleaning performance resulting in improved filtration capacity without sacrificing filter life or taxing compressed air consumption. Typical pulse-jet cleaned dust collectors deliver only a fraction of the compressed air energy to clean the filtration media. The DFE's proprietary, MaxPulse Cleaning System minimizes energy losses by focusing on the cleaning air's exact path and delivers uniform cleaning energy to all effective filtration media.

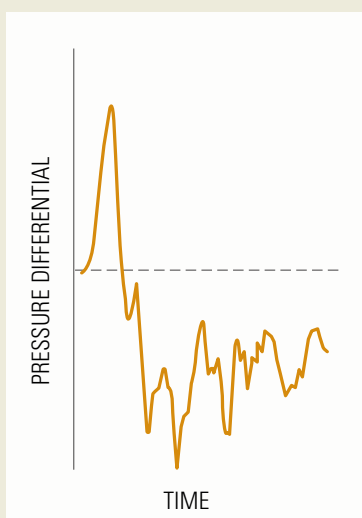
The cleaning action starts with the release of compressed air from the diaphragm valve through a unique, double-diverging pulse nozzle.

The nozzle precisely controls the initial pulse expansion to minimize energy losses associated with uncontrolled compressed air expansion. Donaldson Torit's proprietary, pulse-shaping design distributes the cleaning energy evenly to match the unique shape of the filter.

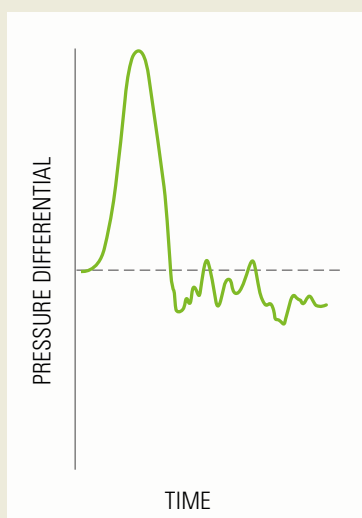
After exiting the pulse nozzle, the cleaning air flows through smooth, easy transitions into the filter interior ensuring the compressed air expands naturally without abrupt, energy-wasting restrictions, sharp edges, or volume changes. More effective filtration media results in increased airflow capacities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



Typical Pulse
Location 1



MaxPulse
Location 1



**27% higher
impulse cleaning
energy delivered**

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.

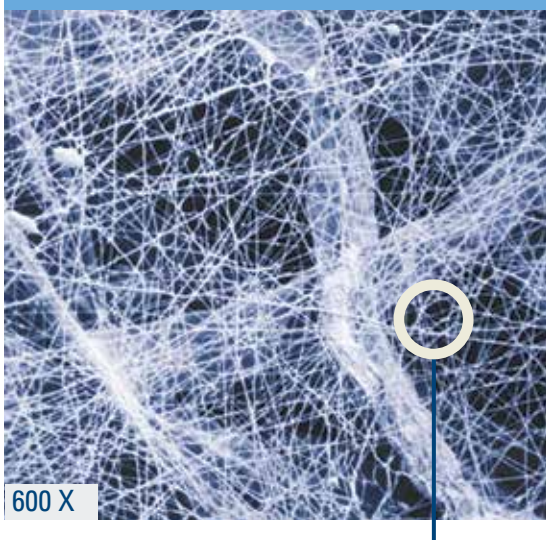
High Performance Filters

Cartridge Filter Technology

The DFE filter design is another indication of Donaldson's commitment to technical research and development. The distinguishing factor in our filters is Ultra-Web filtration technology. Ultra-Web nanofibre media uses a layer of fibres 0.2 to 0.3 microns in diameter to capture contaminants on

the surface of the media less than one micron in size. The resulting dust cake is easily cleaned off during the automated collector cleaning cycles providing cleaner air longer, with a minimum MERV* 13 efficiency rating based on ASHRAE 52.2 - 2007 test standards.

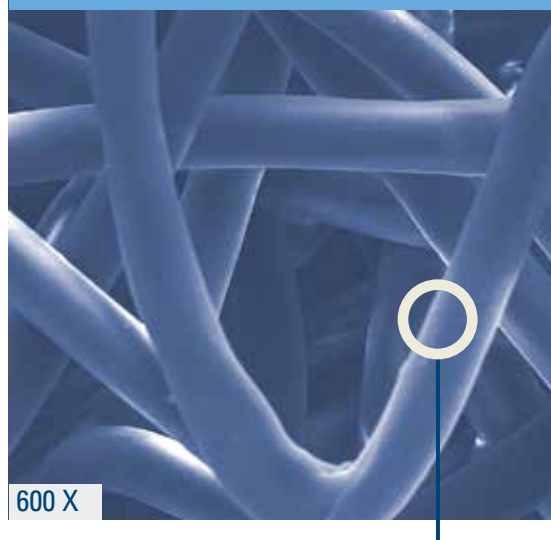
Nanofibre Media



10 Micron Particulate

Nanofibre surface loading technology is available in all Ultra-Web and Fibra-Web filter cartridges.

Commodity Filter Media



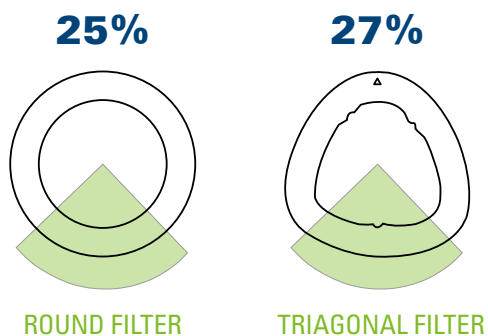
10 Micron Particulate

Conventional media has spaces of up to 60 μm between fibres, allowing dust to become deeply embedded.

Triagonal Filter Shape

The ultimate goal of any pulse-cleaned dust collector is to remove the contaminant from the airstream and get the contaminant into a containment vessel under the equipment's hopper.

The DFE's unique shape positions more filter media at the bottom of the cartridge element so pulse-cleaning energy directs the ejected dust toward its ultimate destination – the containment vessel!



DFE TRIAGONAL FILTER

The DFE triagonal filter features more filter media at the bottom of the cartridge element than any other cartridge on the market.

Quick Filter Changeout

Asymmetrical Yoke Design

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



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



Open hinged filter access cover.



Filter supported by asymmetrical suspension yoke ensure proper installation for worry-free operation.



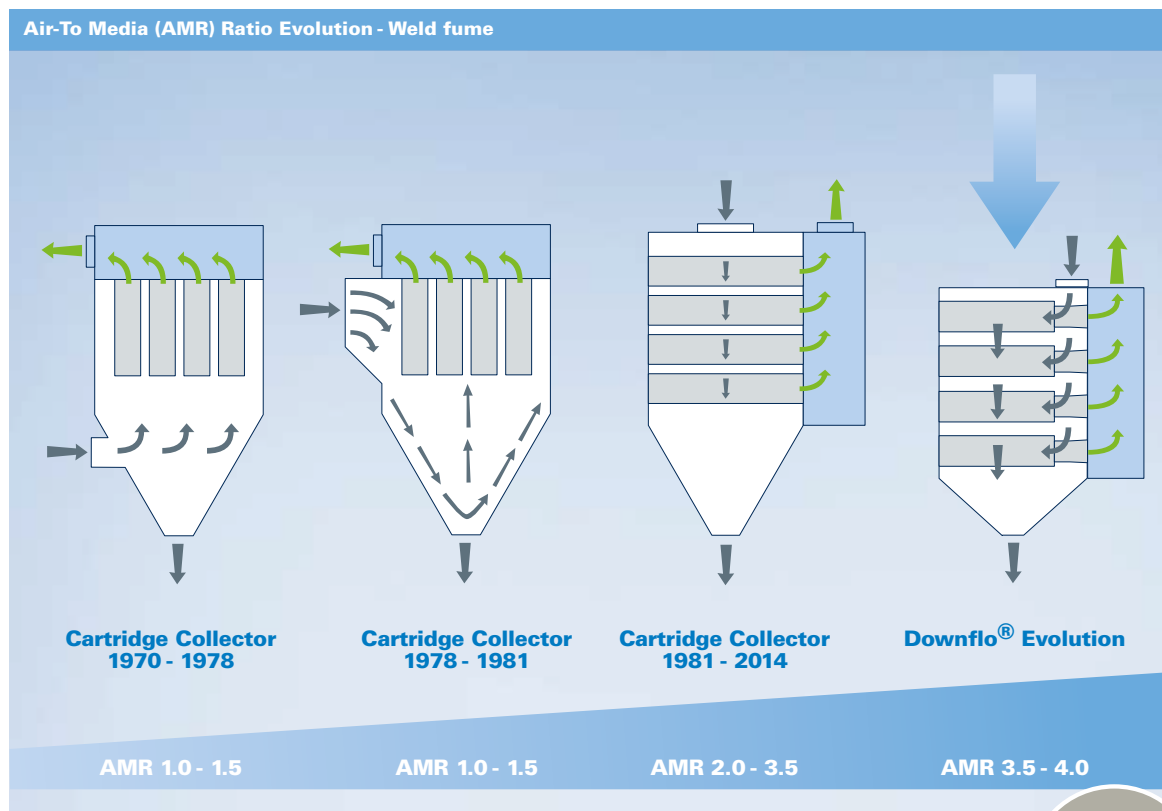
No special tools required

Continuing Evolution of Cartridge Collection

Fewer filters

Donaldson Torit 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, triangular filter shape, and industry-leading Ultra-Web filtration media, customers benefit from a smaller collector containing fewer filters.

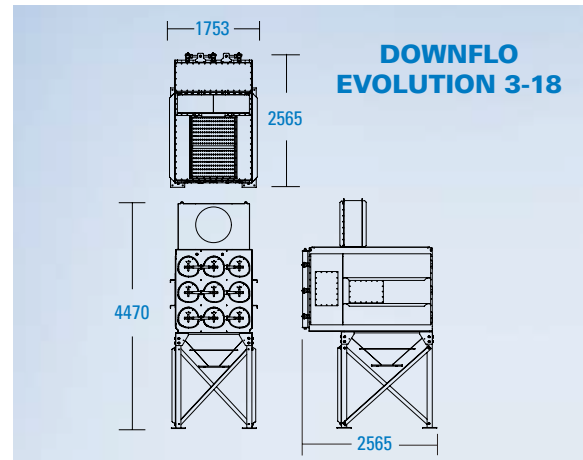
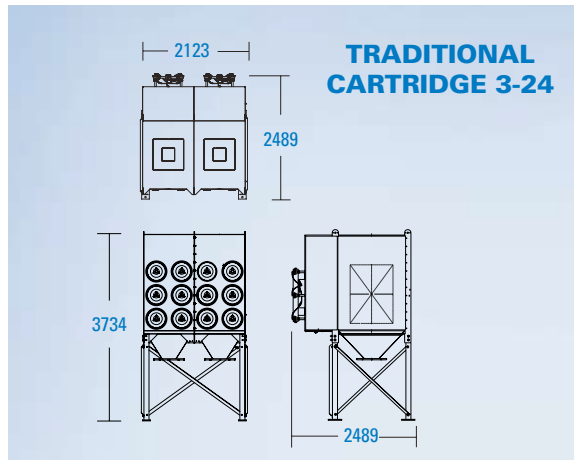


Air-to Media

The graphic above shows an example of the Air-to Media ratios for a typical weld fume application. The DFE features higher AMRs, smaller footprint, fewer filters, superior performance, and lowest cost of ownership!



Equipment Comparison



Automatic Shot Blast	Application	Automatic Shot Blast
17839	Airflow (m ³ /h)	17839
5.2	Footprint (m ²)	4.6
3734	Height (mm)	4470
2	Hopper Outlets	1
20.87	Compressed Air (Nm ³ /h)	16.05
24	Number of Cartridges	18



Donaldson
Torit® DCE®

Dust and Fume Removal · Oil Mist Separation



Donaldson
FILTRATION SOLUTIONS

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.

Total Filtration Service

A comprehensive range of services keeps your production at peak performance and at the lowest total cost of ownership.

Please contact us:

Donaldson Europe B.V.B.A.

Research Park Building No. 1303

Interleuvenlaan 1

B-3001 Leuven · Belgium

Phone +32(0)16 38 38 11 · Fax +32(0)16 40 00 77

IAF-europe@donaldson.com · www.DonaldsonToritDCE.com