

Donaldson®  
Torit®

**FILTRATION TECHNOLOGY**  
**PHARMACEUTICAL,**  
**NUTRACEUTICAL, &**  
**COSMETIC INDUSTRIES**



# CLEANER AIR WITH CONFIDENCE

Donaldson® Torit® delivers the confidence you need to process powders in the pharmaceutical, nutraceutical and cosmetic industries— including compounds and formulations with personnel and environmental exposure limits. With a complete line of advanced technology for product containment, air filtration, and dust collection, we are your most consistent source for a cleaner processing environment.

Donaldson Torit offers the technology and expertise to keep your production on track and your processes contained. At every stage of production — formulating, testing, blending, tableting, capsule filling, drying and packaging — Donaldson Torit provides the innovation you need for pharmaceutical, nutraceutical, and cosmetic processing environments.

## ENGINEERED FOR RELIABLE PERFORMANCE

The high performance Downflo® Oval (DFO) collectors offer strong benefits that distinguishes it from other collectors available in the market today:

### EASY TO USE

Quick-release handles provide easy cover removal and faster filter access

### COMPACT

Smaller footprints for applications that require maximum cleaning efficiency in even smaller spaces

### POWERFUL

DFO collectors provide 25 percent more filtration capacity than same-sized dust collectors

### COST EFFECTIVE

The proprietary ExtraLife™ Filter Cleaning System averages up to a 30 percent increase in pulse cleaning energy for unmatched cleaning ability

### INNOVATIVE

Unique oval-shaped Ultra-Web® cartridge filters provide the longest filter life and highest filtration efficiency—which lowers cost



# THE INDUSTRY STANDARD IN DUST COLLECTION

## ULTRA-WEB NANOFIBER FILTER MEDIA

Donaldson leverages almost 100 years of air filtration experience in the development of filtration media, providing tremendous value to our customers. Ultra-Web® media incorporates a durable layer of premium nanofiber designed to intercept the smallest dust particles at the surface of the media.

Independent laboratory testing determined that Ultra-Web media has a Minimum Efficiency Reporting Value (MERV) of 13 based on the ASHRAE 52.2-2007 test standard. Ultra-Web media rated MERV 13 provides high filtration efficiency without compromising pressure drop and filter life.



**Nanofiber Media**  
(600x)

Nanofiber surface loading technology is available in all Ultra-Web and Fibra-Web® cartridge filters.

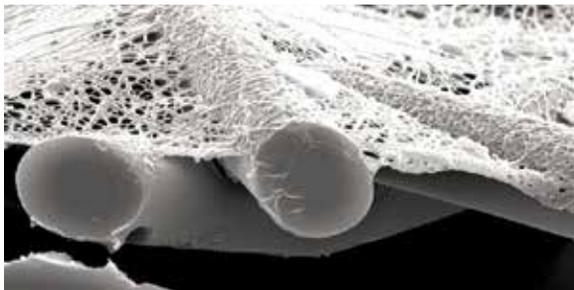


**Commodity Filter Media**  
(600x)

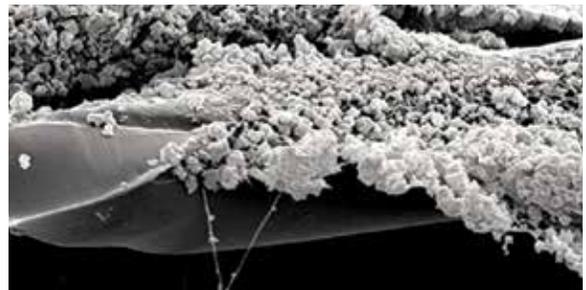
Conventional media has spaces of up to 60 µm between fibers, allowing dust to become deeply embedded.

## SYSTEM ENERGY EFFICIENCY, SAVINGS, AND NOISE CONTROL

Surface loading is a key characteristic of Donaldson's Ultra-Web media. This surface loading capability improves the effectiveness of pulse cleaning, which minimizes system pressure differential— thereby conserving compressed air usage and brake horsepower requirements of the system fan.



**Clean Ultra-Web Filter**



**Surface-Loaded Ultra-Web Filter**  
(substrate still clean)

Ultra-Web nanofiber media is loaded with ISO fine dust. Dust particles collect on the surface of the media and clean off easily while the substrate stays clean. A depth-loading filter would allow dust particles to penetrate deeply into the substrate where they build up and choke off the airflow.

# CLEANER AT EVERY STAGE

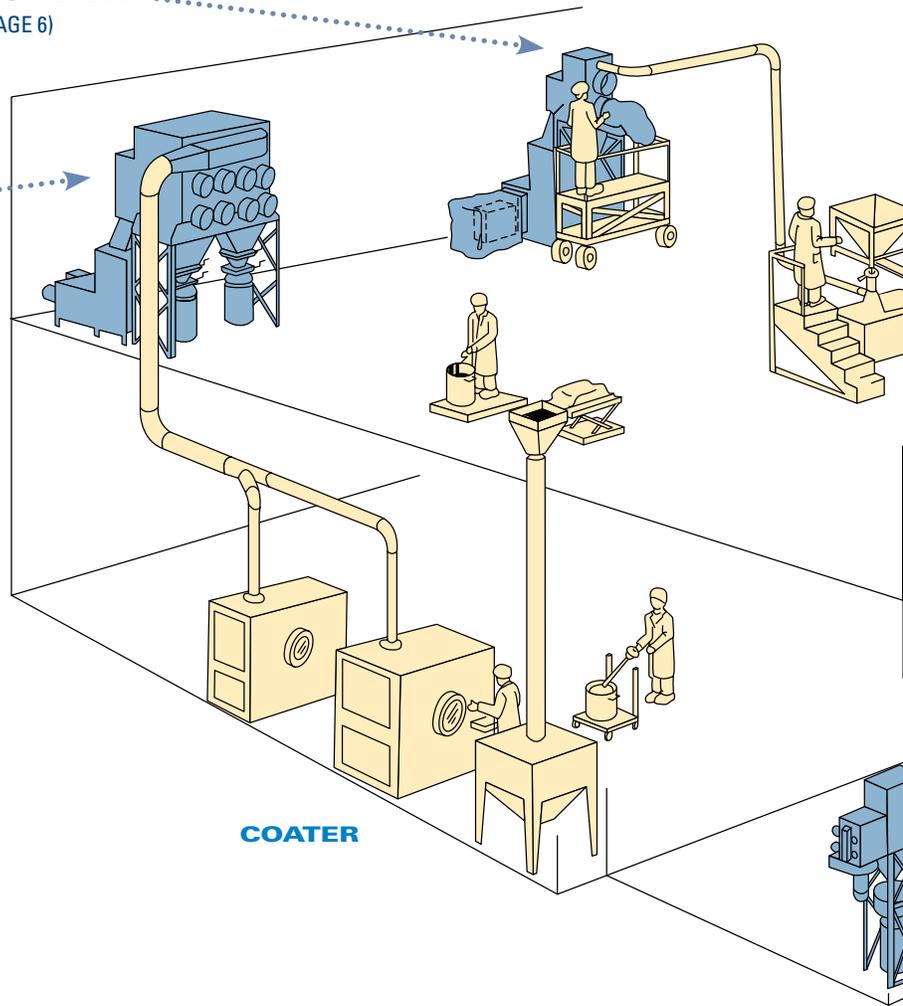
Advance your processing with high performance Downflo® technology installed at every stage of production. No matter what type of pharmaceutical, nutraceutical or cosmetic powders you process, Donaldson Torit is the name to trust for cleaner manufacturing.



**DOWNFLO® II  
DUST COLLECTOR**

**ENGINEERED  
TO ORDER**

(SEE PAGE 6)



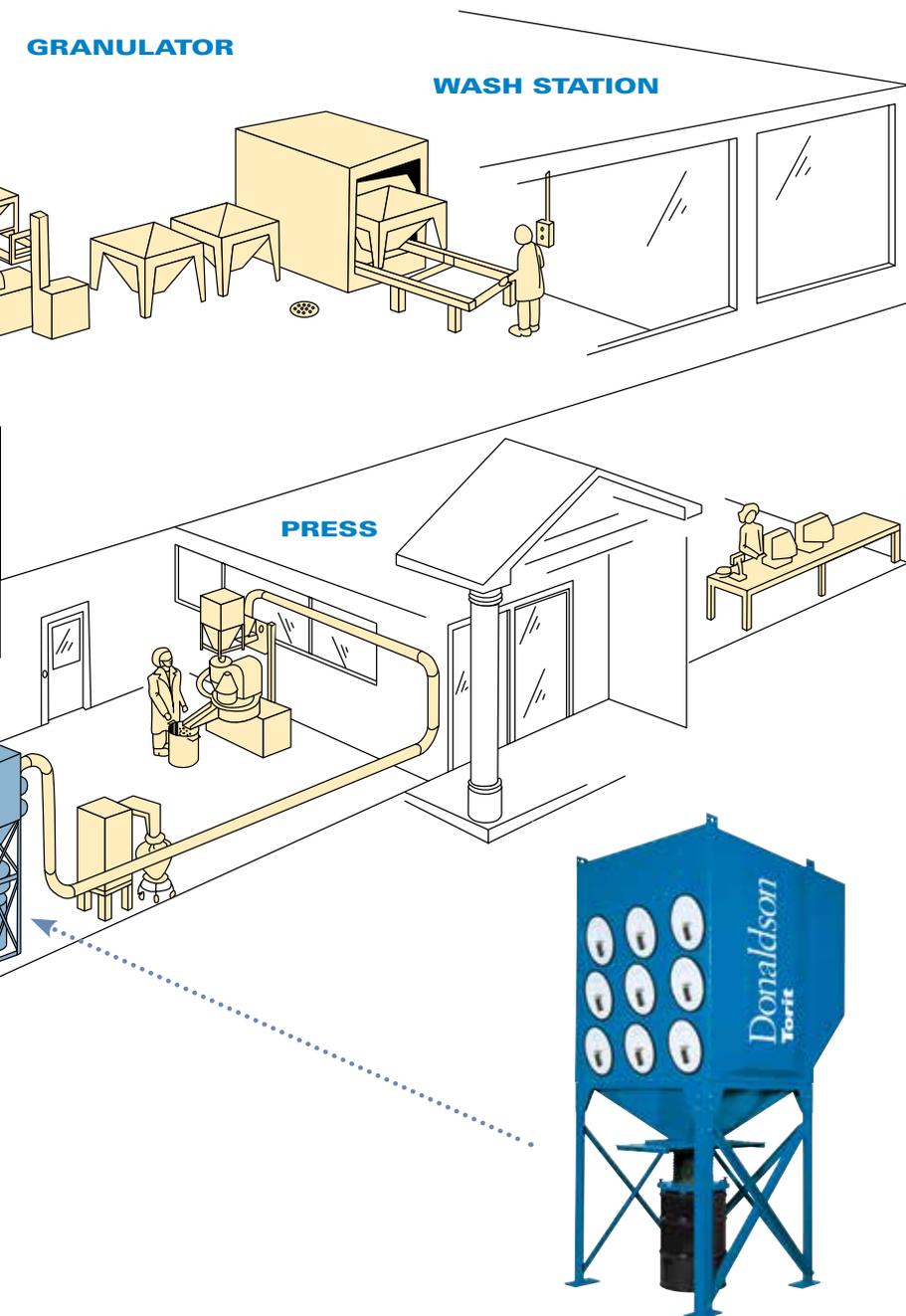
**COATER**



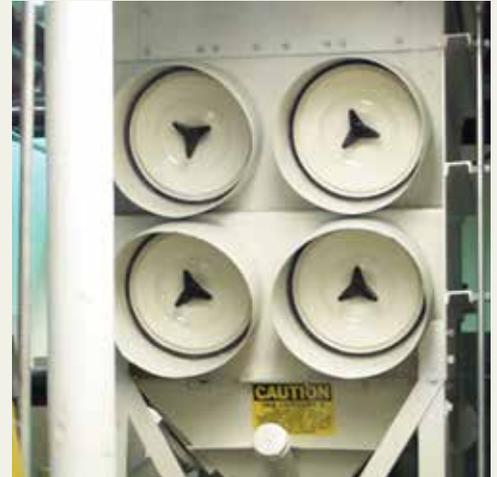
The Donaldson Torit Downflo® Oval (DFO) dust collector is ducted from the feed hopper and the vibratory bed on the packaging machine to capture the dust generated by the packing process.

# BETTER FILTRATION AT ALL TOXICITY LEVELS

There's a Donaldson Torit filtration system for almost every toxicity level — low, intermediate or potent. Choose Downflo® filtration technology to address increasing environmental exposure concerns for processes and compounds.



**DOWNFLO® OVAL  
DUST COLLECTOR**



The Downflo® filtration technology supports pan coaters and tablet press operations.



Donaldson's DFO® dust collectors support weighing, blending, mixing, and product transfer operations.

## CLEAN CHANGE BAG-IN/BAG-OUT FILTER ACCESS

The Donaldson Torit **Clean Change™ System**— a triple-sealed, Bag-In/Bag-Out (BIBO) system— delivers ease of use and the cleanest filter change option on the market today. The Clean Change System mounts external to the filter cover so that the clean change bag remains outside of the collector. To avoid cuts, tears, or holes in the bags, the triple-sealed BIBO design does not expose the bags to the inside of the dirty air plenum where abrasion is likely to occur. This results in a more reliable system that minimizes worker exposure to potent compounds.

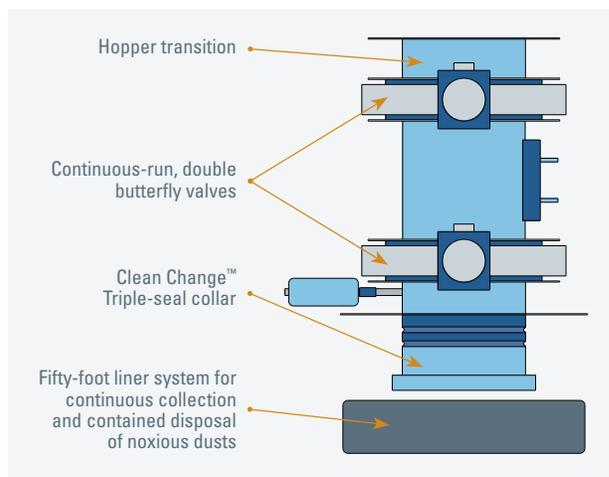
The Donaldson Torit triple-sealed, BIBO bag is made of rugged, proprietary materials to withstand tough handling operations. The triple-sealed BIBO procedure cycles fewer filters at a time and requires only one person to execute efficiently.



## CLEAN CHANGE™ HOPPER DISCHARGE

Donaldson Torit provides a continuous liner option for discharging compounds from Downflo® Collectors. This option effectively contains potent compound dust for continuous process production. With optional lengths, our system reduces exposure to potent compounds, protecting the health of workers as well as other processes from cross contamination.

The continuous liner system attaches directly to the hopper outlet reducing operator labor. This also provides the advantage of replacing follow-on packs without interrupting operations.



## CUSTOM OEM SOLUTIONS

Donaldson Torit custom engineers filtration systems that are more effective for your unique pharmaceutical processing application. With over 90 years of engineering expertise and partnerships with the industry's leading component manufacturers, Donaldson Torit provides the most advanced filtration systems engineered-to-order. Custom offerings include:

- Bin level indicators
- Variety of valves
- Custom sizes for lower ceilings
- Reinforced construction
- Customized electrical controls, panels and gauges
- Platforms
- Variety of cartridge filter media
- Suppression systems
- Wash down capabilities
- HEPA Filters

# WHY DUST COLLECTORS SHOULD BE PART OF YOUR STRATEGY DECISION

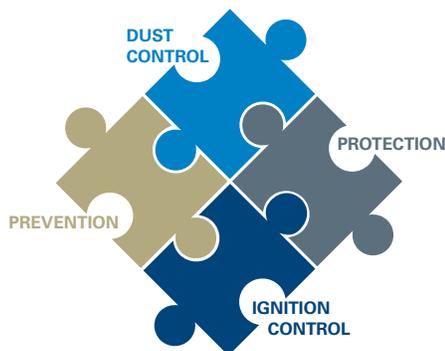
Many process requirements may make elimination of combustible dust, mist, or fume impractical. However, it may still be very possible to manage the dispersion of dust within your plant by using an appropriate and effective industrial ventilation system including dust collection. A well designed, maintained, and operated industrial ventilation system including good hoods, proper duct sizes, and properly selected collection equipment can provide effective dust control and can therefore help manage the presence of dispersed dust. This not only reduces housekeeping frequency and expense, but could also help you reduce the risk of dust explosions in your facility, particularly the destructive secondary explosions, by helping reduce the presence of dispersed fuel in your facility.

## UNDERSTANDING THE BASICS

Many manufacturing processes create very small particles of dust which may become airborne, where they settle on surfaces and in crevices throughout the plant. Eventually these particles not only create a housekeeping issue, but if the particles are combustible, they can represent a potentially explosive dust cloud if disturbed.

It is essential for plant leaders to understand the risks of combustible dust and ensure they manage combustible dusts in their facilities. Donaldson Torit can supply dust collectors to support your combustible dust control strategy by interfacing with you and your experts on fire and explosion protection equipment and solutions. Combustible dusts generally present both fire and explosion risks so it may help to consider the management of these risks separately (see side bar).

## COMPLIANCE STRATEGY COMPONENTS\*



\* Read Donaldson Torit's *Dust Collectors and Combustible Dust Strategies* brochure for more information.

## FIRE TRIANGLE

Fire management strategies traditionally focus on the control or elimination of one of the three key elements necessary for a fire — often represented by the “fire triangle.” Managing one or more of the elements in the triangle can decrease the fire risk.



## EXPLOSION PENTAGON

Explosion risk management strategies consider a slightly expanded set of elements often represented as an “explosion pentagon.” In addition to the key elements from the fire triangle — fuel, heat, and oxygen, the explosion pentagon includes two additional elements necessary for an explosion: “Dispersion of Dust” and “Confinement of Dust.” As with fire management strategies, the management or removal of one or more of the elements in the explosion pentagon can reduce the explosion risk. While many explosion management strategies focus on controlling the same elements in the fire triangle, explosion risk management strategies that focus on the dispersion of dust, or the containment of dust alone, may require a separate strategy to address any remaining fire risks.



To be compliant with OSHA regulations, you must meet other requirements and all applicable standards or codes.

Visit [www.osha.gov](http://www.osha.gov) to find OSHA regulations.

## 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**

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