

**AIR BOSS®**  **DC SERIES**



*Downflow Dust Collection Systems*



**TRION®**  
air purification systems



## THE POWER IN DUST CONTROL

Exposure to dust has been associated with a variety of adverse health conditions, product quality issues and increased equipment and plant maintenance costs. In addition, government regulators mandate that poor air quality must be remediated. Choosing the right dust collection system provides both environmental and economic benefits by improving the air in the workplace, product quality and reducing energy costs.



## MODULAR DESIGN FOR SPECIALIZED NEEDS

Air Boss® Vertical Cartridge Dust Collectors offer a broad spectrum of cost-effective solutions for the most difficult dust, smoke and fume collection applications. Their modular design allows for an infinite range of sizes for the largest dust collection tasks.

Air Boss (DC) series includes a full range of units — from the DC-2 which collects dust at a single workstation to a DC-128 which controls contaminants in large manufacturing facilities.

Air Boss helps meet and exceed NIOSH and OSHA codes for recirculation of plant air, providing 99% efficiency on submicron particles (.5) with low energy and operating costs.



## APPLICATIONS BY CONTAMINANT

Smoke	Food Mixes	Carbon	Powders
Fumes	Composites	Ceramics	Rubber
Wood	Plastics	Cotton	Toner
Fiberglass	Marble	Dry Chemicals	Cement

## FROM A LEADER IN CLEAN AIR TECHNOLOGY

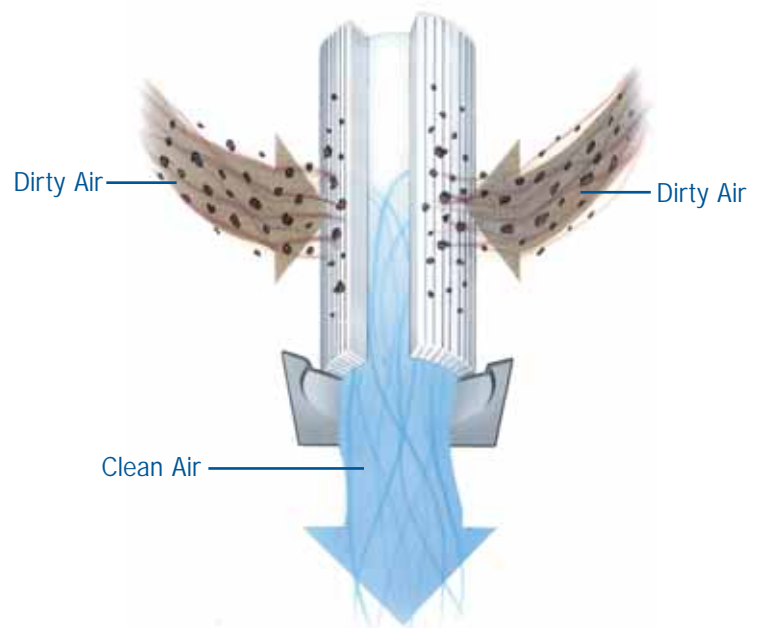
Trion, a leading global manufacturer and marketer of indoor air quality products, designed the world's first air cleaner for the U.S. Navy nuclear submarine fleet in 1947. Since then, Trion has continued to provide advanced and specialized air cleaning systems for a wide range of applications in the commercial and industrial markets.

### AIR BOSS SYSTEMS CAN HELP YOU:

- Protect employee health
- Boost employee morale
- Comply with government regulations
- Increase product quality
- Enhance company image
- Improve productivity
- Reduce maintenance costs

### CARTRIDGE AIR CLEANING

Contaminated air is drawn through high-efficiency cartridge filters, where the particulate is collected on the outside of the media. Filtered air is pulled through the system and exhausted. Standard units feature Venturi reverse pulse cleaning systems to enhance filter life.



### APPLICATIONS BY PROCESS

Grinding	Blasting	Pharmaceutical	Laser
Sanding	Soldering	Deburring	Plasma Cutting
Foundry	Powder Coating	Polishing	Mixing
Welding	Metallizing	Material Handling	Milling



## AIR BOSS ADVANTAGES

**High-Performance Cartridges.** With a 99% efficiency rating for submicron (.5) particulate, extra-large circular filters are vertically oriented for uniform dust loading and efficient cleaning.

**Efficiency.** Many competitors' products operate with a high level of re-entrainment, which means that energy and filter life are wasted by repeatedly collecting the same dust. Air Boss patented downflow/vertical design ensures consistent filtration and efficient dust handling from capture to disposal.

**Size Availability.** Air Boss is designed with a full range of capacities for a vast array of applications. From the DC-2 with (2) cartridges to DC-128 with (128) cartridges, every Air Boss has the media capacity and optimal filtering velocity for every type of contaminant and process.

**Powerful Cleaning.** The patented venturi-assisted design optimizes reverse jet pulse cleaning and increases filter life. With four available methods to initiate the cleaning cycle, every Air Boss collector is equipped with the control system that best fits the application.

**Improved Fan Operation.** Venturi and innovative cylindrical fan housing increases performance, reduces noise, simplifies maintenance and eliminates the need for a discharge damper.

**Easy Maintenance.** Outstanding design features combine to promote long filter life. Easy access allows each filter to be changed in several minutes.



**Space Economy.** The downflow/vertical design has a smaller footprint than comparable units with horizontal filters.

**Rock-Solid Construction.** Air Boss is built for durability and reliability with 11-gauge steel fabrication and welded seams/joints. Air Boss units are designed and tested for Seismic Zone 4.

## DUST COLLECTION EFFICIENCY:

**Problem.** The #1 challenge to dust collection efficiency is re-entrainment – dust collected is stirred up and has to be filtered all over again. The goal is to dislodge the dust and allow it to settle in a hopper below and not be redeposited on the filters.

## HOW DOWNFLOW/VERTICAL SYSTEMS OPERATE

Contaminated air enters the collector above the filter cartridges. Specially designed components in the cabinet uniformly distribute the contaminated air across the top of the filters. The contaminated air flows downward without the detrimental velocity spikes that are common with competitive designs. Dust is conveyed to the settling area below the filters by both air movement and gravity. The extremely small particulate is collected on the filter media, allowing clean air to return to the workplace. Once particulate collection is sufficient to reduce airflow, the patented reverse jet pulse cleaning system is initiated to propel the collected dust off the filters and into the settling area.

### DOWNFLOW

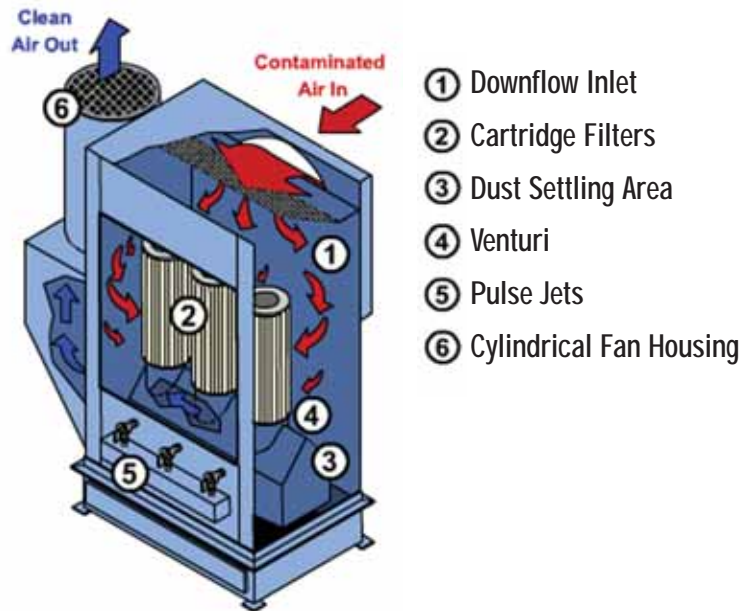
Air Boss' downflow/vertical design has zero velocity at the base of each filter stack, allowing dust to settle uninhibited below the cartridges, thereby eliminating re-entrainment.

### CARTRIDGE FILTERS

The standard 100% cellulose cartridge media is high in resin content for mechanical resilience and has pleat-lock construction. Standard cartridges are rated for temperatures up to 160° F – high temperature cartridges are available.

### DUST SETTLING

The Air Boss design allows larger dust contaminants to have a clear path to the settling area and finer dust to be collected by the filters.



### VENTURI

Venturi Reverse Pulse Cleaning is the quick release of pressure through a blowtube into a venturi enductor tube into a cartridge filter. A higher volume of air is induced via this principle. The resulting burst of compressed air is more equally dispersed across the filter resulting in greater cleaning effectiveness compared to standard reverse pulse cleaning.

### PULSE JETS

Pulse jet performance and economy are maximized by optimizing the orifice size and position. There are four methods of initiating jet pulse cleaning to best fit the end user's needs.

### CYLINDRICAL FAN HOUSING

The motor, fan and full-length venturi are packaged into a tubular centrifugal fan arrangement for greater performance, quieter operation and simplified maintenance.

**Solution.** With Air Boss' patented downflow/vertical airflow technology, re-entrainment and its effects have been minimized for maximum efficiency and filter life. Carefully managed inlet velocity ensures that the air only flows downward, never up or sideways. This prevents air movement below the cartridges, where the dust has settled, and facilitates effective cleaning, both when the collector is operating and when it is shut down.



## FEATURES

- Cartridges arranged in vertical orientation
- Patented downflow/vertical airflow
- Small, solid-welded tube sheet below vertical cartridge
- Solid welded construction separating clean air and dirty air plenums
- Reverse jet pulse design
- Pulse valve silencers
- Programmable Smart Boss pulse control with digital pressure differential sensor

## BENEFITS

- Structural integrity of filter is maintained
- Ensures consistent air-to-cloth ratio for each filter
- Ensures uniform loading of filters while minimizing abrasion
- Process air assists cleaning action during online pulsing
- No-flow area below filters acts as settling chamber for dusts
- Eliminates 90° filter rotation and 22% to 25% filter area loss inherent with horizontal filters
- Gasket seals enhanced as filters load and cartridge becomes heavier
- Eliminates potential for metal distortion and possible leakage
- Reduces potential for leakage
- Venturi-assisted to optimize cleaning effectiveness
- Reduces overall system dBA
- Standard vs. competitor's option
- Allows for on and offline initiation of cleaning cycle
- 15 digital display functions
- Saves compressed air and increases filter life

## OPTIONS

- Side Inlet
- Explosion Vent Door/Latches
- Centrifugal Partial Width Fan
- Fan Silencer

## BENEFITS

- Acts as dropout box for sparks
- Reduces overhead ductwork clearance
- Latches designed to release, eliminating replacement of expensive membrane panels
- Eliminates need for volume outlet damper
- Reduces sound levels to comply with OSHA and EPA standards

# Specifications

Trion Model	Filters	Sq. Ft. Media	Hoppers	Standard Height	Standard Width	Standard Depth	Unit Weight lbs.
DC-2	2	508	1	130 1/8"	32"	44 3/4"	1,025
DC-4M	4	1,016	1	130 1/8"	63 3/4"	33"	1,598
DC-4	4	1,016	1	155 1/8"	32"	44 3/4"	1,160
DC-6M	6	1,524	1	160 5/16"	83 3/4"	38 1/4"	2,205
DC-6	6	1,524	1	171 1/4"	80"	24"	1,888
DC-8	8	2,032	1	158 1/8"	63 3/4"	33"	1,790
DC-12	12	3,048	1	171 1/4"	83 3/4"	33 1/4"	2,465
DC-18	18	4,572	1	171 1/4"	88 3/4"	48 1/4"	3,395
DC-24	24	6,096	1	191"	105 25/32"	48 1/4"	4,050
DC-32	32	8,128	1	189 1/4"	105 25/32"	64 1/4"	5,025
DC-40	40	10,160	1	203 1/8"	80 1/4"	90 1/4"	4,880
DC-48	48	12,192	2	187 1/2"	106 1/4"	74 1/4"	5,575
DC-56	56	14,224	2	187 1/2"	122 1/4"	74 1/4"	6,245
DC-64	64	16,256	2	192 1/2"	138 1/4"	74 1/4"	6,980
DC-72	72	18,288	2	199 5/16"	154 1/4"	74 1/4"	7,657
DC-80	80	20,320	2	206 1/4"	170 1/4"	74 1/4"	8,450
DC-88	88	22,352	3	199 5/16"	186 1/4"	74 1/4"	9,495
DC-96	96	24,384	3	199 5/16"	202 1/4"	74 1/4"	10,236
DC-112	112	28,448	4	187 1/2"	244 1/2"	80 1/4"	12,490
DC-128	128	32,512	4	192 1/2"	276 1/2"	80 1/4"	13,960

- Notes: 1) Models DC-2 thru DC-32 dimensions & weights include standard top mount blowers & top inlets.  
 2) Models DC-40 thru DC-128 dimensions & weights do not include ground mount/remote blowers.  
 3) All dimensions & weights include hopper/leg sets for a 55-gallon drum base.

[www.trioninc.com](http://www.trioninc.com)



Headquartered in Sanford, North Carolina

Leading Technology for Cleaner Exhaust Air Since 1947

**TRION**<sup>®</sup>  
Air Purification Systems