# LS INDUSTRIES

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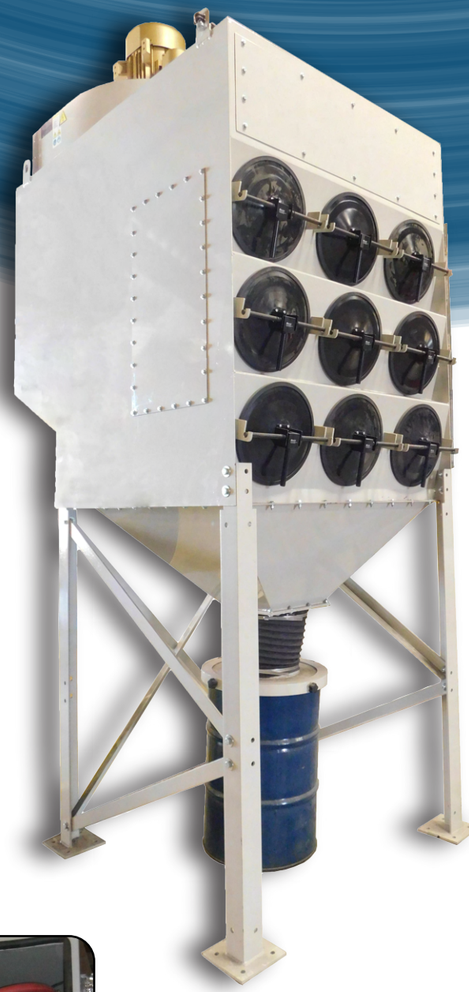
# DUST COLLECTION

**Cleaner air, Safer Workplace -
LS Dust Collection Systems Provides
a Breath of Fresh Productivity.**

LS INDUSTRIES
Clean Metals, Clean Solutions.

# Size Matters

Properly sizing Dust Collection Systems for metalworking processes is essential for an efficient and effective performance. While its crucial to ensure that a dust collection system provides adequate airflow to capture dust effectively, larger CFM is not always better. It's essential to balance airflow requirements with factors such as capture velocity, system design, energy consumption, and equipment selection to optimize the performance and efficiency of dust collection system. The filter media used is very efficient, approaching 97% on 0.8 micron and 100% on 2 micron particles.



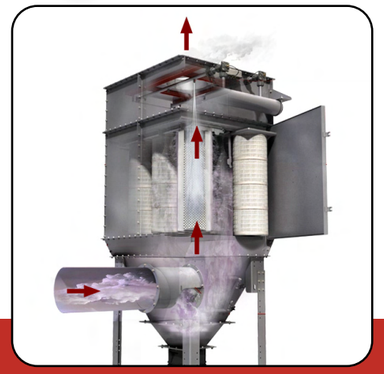
Prevent this from happening at your shop.

# Cons of too High CFM

- Excessive airflow that disturbs the work environment and wastes energy.
- Excessive pressure drop in the ductwork, which reduces airflow efficiency.
- Requires more energy,which can increase operational costs.
- Increased noise levels in workspace, which can affect worker comfort and productivity.
- Excessive airflow can stir up dust and particles, potentially reducing air quality and creating respiratory hazards.
- Change of ducting more frequently

Proper airflow design and management are essential to achieve optimal dust control to protecting work health, and safe work environment.

Filters play a crutial role by providing highg filtration effeciency, long service life and improves air quality.



Dust Collectors help maintain a clean and safe work environmant by capturing hazardous generated dust in the shop floor.

# Required Airflow (CFM) Formula

**Total Dust Generation * Collection Efficiency * Bulk Density * Collection Time**

(lbs / hour) (lbs / $ft^3$) (minutes)

## Breakdown:

**Required Airflow (CFM):** This is the volume of air that the dust collection system needs to move effectively capture the dust generated by your processes. CFM stands for Cubic feet per minute.

**Total Dust Generation (lbs / hour):**This is a total amount of dust generated by your processes per hour. You may need to measure or estimate this based on the specific operations in your facility.

**Collection Efficiency:** This is the percentage of dust that you want to capture with your dust collection system. It's typically less than 100% because no system can capture all of the dust. The efficiency depends on factors such as the type of dust, the design of the collection system, and operational conditions.

**Bulk Density (lbs / $ft^3$):** This is the weight of the dust per unit volume. It represents how dense the dust is and is typically measured in pounds per cubic foot. The bulk density can vary depending on the type of dust.

**Collection Time (minutes):** This is the duration for which the dust collection system will operate before needing to be emptied or cleaned. It's important to consider the collection time to ensure that the system can handle the continuous flow of dust generated by your process.

# Options

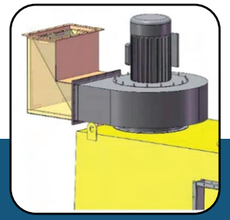
- **$Co^2$ fire suppresion**
  The CO2 fire suppression system automatically discharges when it detects an unacceptably high temperature inside the dust collector. It prevents the dust collector from catching on fire and possibly spreading the fire to other parts of the plant.
- **Outdoor package**
  The outdoor package protects the dust collector fan and controls from moisture. In extreme environments such as cold temperature (below 0°F or -18°C) additional protection may be required, such as low temperature grease in the fan motor and heaters to keep the solenoid valves from freezing.
- **Silencer**
  The silencer reduces the dBA of the dust collector to approximately 85 dBA at 3'. This is below the OSHA requirement of 90 dBA.
- **Service platform**
  The service platform allows workers to access all service points of the dust collector without the need for a ladder. Maintenance is easier and safer because the platform gives the worker space to stand and move around.
- **Rotary dust valve**
  The rotary dust valve automatically transfers dust from the hopper at the bottom of the dust collector to the dust collection system on a continuous basis. This keeps the dust collector operating at peak efficiency.

# More options

- **HMI control panel**
  HMI for the dust collector is integrated with the blaster control panel. It ensures that the dust collector is operating properly before it allows the blast cycle to start. The HMI also has a forced maintenance program for checking and replacing filters, checking blower motor, seals, etc.
- **Variable frequency drive (VFD)**
  The variable frequency drive allows the operator to adjust the airflow and velocity from the blaster to the dust collector for optimal dust collector and minimal shot pull out.
- **Air line dryer**
  Dry air is absolutely necessary for the proper operation of the dust collector pulsing system. The air line dryer assures that the air to dust collector is free of moisture, prolonging the life of both the cartridges and pulsing valves on the dust collector.
- **Spark trap**
  The in line spark trap captures and eliminates sparks in the air stream from the blaster to the dust collector to prevent a fire in the dust collector.
- **Deflagration panel**
  The deflagration panel allows for venting of pressure inside the dust collector before an explosion can occur.
- **After filter housing (HEPA)**
- **Hard ducting package (15')**
- **Factory installation assistance / start-up 3 days (RECOMMENDED!)**

Slide gate (16")

Exhaust gate



Silencer

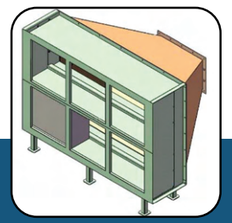
Service platform

Rotary Dust Valve

Air line dryer

Spark trap

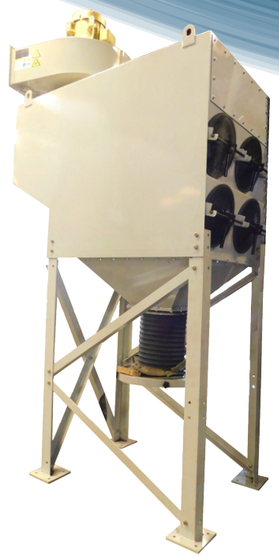
Deflagration panel



After filter housing (HEPA)

## Features:

- Easy maintenance
- Heavy duty cartridges



# Why LS Industries?

For 47+ years, LS Industries has designed and manufactures a diverse product line of custom surface treatments and metal cleaning equipment. In addition to the ability to develop custom equipment solutions, LS Industries also provides highly responsive service for your equipment. LS Industries has a global presence as a leader in the design and manufacture of cleaning and surface preparation equipment for structural steel, pipes, and parts washing applications. While our product line has grown to include a wide diversity of cleaning solutions, our depth of experience with high-performance requirements of metal finishing has established LS as the trusted name in the industry.

## SIZES:

Pre-Engineered Models

| MODEL # | DIMENSIONS (W X D X H) | NO. OF CARTRIDGES | FILTER AREA ($FT^2$) | BLOWER | APPROX. BLOWER (CFM) | APPROX. SHIPPING WEIGHT | DUCT SIZE | |
|---|---|---|---|---|---|---|---|---|
| DCC-1 | 36" x 22" x 98" | 1 | 428 | 2 hp | 480 | 550 lbs | 6" | 5 gallons |
| DCC-2 | 46" x 26" x 112" | 2 | 496 | 3 hp | 600 | 800 lbs | 8" | 10 gallons |
| DCC-3 | 30" x 56" x 124" | 3 | 744 | 5 hp | 800 | 1,050 lbs | 8" | 10 gallons |
| DCC-5 | 54" x 42" x 153" | 4 | 992 | 5 hp | 2,000 | 1,450 lbs | 8" | 55 gallons |
| DCC-10 | 56" x 42" x 153" | 4 | 992 | 10 hp | 4,000 | 1,600 lbs | 10" | 55 gallons |
| DCC-15 | 86" x 50" x 156" | 8 | 1,784 | 15 hp | 5,000 | 2,475 lbs | 16" | 55 gallons |
| DCC-20 | 86" x 50" x 156" | 8 | 1,784 | 20 hp | 6,000 | 2,600 lbs | 16" | 55 gallons |
| DCC-25 | 86" x 50" x 156" | 12 | 2,676 | 25 hp | 9,000 | 3,150 lbs | 16" | 55 gallons |
| DCC-30 | 86" x 68" x 186" | 18 | 4,014 | 30 hp | 10,000 | 4,200 lbs | 20" | 55 gallons |
| DCC-40 | 86" x 68" x 186" | 18 | 4,014 | 40 hp | 12,000 | 4,320 lbs | 20" | 55 gallons |
| DCC-50 | 86" x 80" x 142" | 24 | 5,352 | 50 hp | 15,000 | 5,500 lbs | 24" | 55 gallons |

***More sizes available***