



BLASTONE
SUPERIOR PERFORMANCE

INDUSTRIAL VENTILATION GUIDE

INDUSTRIAL VENTILATION SOLUTIONS
FOR ALL WORKSITES





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What is industrial ventilation?

Industrial ventilation refers to a range of solutions to ensure clean air supply by removing contaminants and enabling fresh air to flow into the area.

There are many different solutions that facilitate different approaches to ventilation. At the very simplest, ventilation can include openings to allow movement of trapped air.

Generally speaking, industrial ventilation systems will incorporate two key functions: one to remove contaminants from the work area, and another to circulate fresh air back into the area. An exhaust system can remove contaminated air from a localised or broader area, filtering the particles and releasing the cleaned air elsewhere. The air supply system includes an air inlet and can also include filtration, heating, and cooling equipment to regulate humidity, temperature, and quality of the air supply.

What factors govern how much ventilation do I need?

It is necessary to consider the context of the enclosure when determining the calculation of the necessary ventilation. There are several factors that can affect this.

These include:

- Type of activity
- Level of contamination
- Temperature
- Number of workers
- Layout of the work area

What are the benefits of ventilation?

Implementing proper ventilation may seem like a large investment, but it carries significant efficiency, productivity and safety benefits for your facility and its operations.

Protect employee safety

Over time, exposure to dust can lead to serious health problems even when appropriate personal protective equipment is used. Industrial ventilation systems are the only reliable way to ensure that employees are protected from airborne hazards.

Older equipment can also cause increased noise pollution which is an important reason to keep your systems in good working order.

Prolong equipment life

Even simple dust build-up can cause serious, sometimes irreparable damage to equipment. Dust can harm sensors and circuit boards and may also build up enough to absorb lubrication and jam mechanical parts. Dust also collects on surfaces, which can contaminate machinery leading to increased downtime.

In many instances, a high dust concentration in the air also creates a risk of explosion. While preventative equipment maintenance can address some of these concerns, the best way to ensure that dust doesn't damage your expensive equipment is to remove as much dust from the air as possible.

Save time and money

Modern industrial ventilation systems do require an upfront investment, but they pay for themselves over time. Keeping an older system in place means accepting lesser air quality and dealing with the potential problems listed above. Modern systems run more efficiently and are less prone to break down than older models. If you're dealing with substandard ventilation equipment, it is recommended to contact a supplier such as BlastOne who is able to recommend equipment upgrades and advise ways to improve the performance of your system.

What are the different types of ventilation?

There are three main types of industrial ventilation:

Natural Ventilation

Natural Ventilation is the most basic form of ventilation, it includes; openings in the ceiling, windows, doors and natural ventilation through the floor. This covers anything that allows the circulation of ambient air, getting rid of any harmful air coming from machinery and bringing in clean air to the space.

While this is adequate and suitable for many working environments, it is unsuitable as the only means of ventilation in an industrial workplace.

Diluting General Ventilation

A Diluting System is a stand-alone general filtration system, developed to reduce and control the background concentration of fumes in a work area.

Used in conjunction with Natural and Exhaust Ventilation, Diluting Ventilation can be useful in industrial workplaces such as welding workshops, garages, and other places with a high level of fumes released into the air.

Exhaust Ventilation

The most efficient ventilation system to prevent a build-up of contaminants in the air, Exhaust Ventilation is a must in many work environments to prevent employees inhaling polluting substances.

There are a few factors that require specialist input to ensure the following do not occur:

- Inadequate airflow
- Incorrect positioning of equipment
- Inadequate and irregular servicing ensuring the equipment is working optimally

Note: The exact combination of equipment required to achieve proper dust collection and filtration depends upon the facility size and layout, as well as on the types of contaminants.

Even if you recognise the importance of air quality, it can be difficult to determine the most effective and affordable dust management solution for your situation.

Please contact BlastOne today to discuss your ventilation requirements.



BlastOne can offer custom ventilation and filtration systems to suit a variety of applications.

Contact BlastOne today to discuss how we can assist with improving the working conditions of your site.



DRY FILTER WALL SYSTEM

Dry Filter Wall Systems are the successful solution to ventilating designated work areas.

Designed to provide directional airflow through any workshop, they contain fumes and capture any airborne particles.

Features and Benefits:

- Designed and manufactured to meet the current Spray Booth Standards – AS4114
- Used to make a dedicated work area
- Compact design providing better airflow
- 0.03" thick galvanised sheet metal work area
- Modular design, simple screw-together construction
- Multiple configurations are available for a custom solution for your needs.



WATER WASH FILTER WALL SYSTEM

The Water Wash Booth system remains the complete solution to airborne particle filtration.

The water wash filter system consists of a full height water curtain which continually captures the airborne particles and sends them through second-stage water turbulence.

Features and Benefits:

- Designed and manufactured to meet the current Spray Booth Standards – AS4114
- Used to make a dedicated work area
- Compact design providing better airflow
- Modular design, simple screw-together construction
- Multiple configurations are available for a custom solution for your needs.



VENTILATION FANS

BLUE WIZARD

The economic, compact and portable design of the Blue Wizard extraction systems make this unit ideal for site use. Used in applications such as ventilating dust from abrasive blasting applications.



Features and Benefits:

- Modular, portable 500 mm diameter fan
- Used for ventilating non-hazardous work areas
- Set-up as a stand-alone or ducted unit
- Use a dust sock filter bag accessory for control of visible, non-toxic, nuisance dust
- Provides visibility & safety in the working industrial operation, as well as maintaining good working environment
- Accessories include portable 20" flexible ducting, dust socks to capture nuisance dusts, duct clamps, joiners for flexible ducts

Available as:

- Single phase electric fan 6,000 cfm nominal air flow
- Air powered fan 10,000 cfm nominal air flow
- Three phase electric fan 10,000 cfm nominal air flow
- Explosion proof (EXE) rated fan available – approved to Class 1, Zone 1
- ATEX rated ventilation & EX rated air driven

These air driven ventilation fans are suitable for operating in dangerous environments, offshore industry, shipbuilders, oil and gas facilities, utilities and chemical processing plants



Dust Socks available

Use for short-term dust collection. Allows clean air to vent to atmosphere. Tapered necks for easy attachment to extraction fans.

DUST COLLECTORS FOR ULTRA FILTRATION



Dust Collectors are designed to ventilate your work area, withstand the weather of a job site, be easy to transport, easy to use and require low maintenance. Typically, these dust collectors are rented by contractors who are working in industrial facilities.

When dealing with lead paint or other hazardous materials, containment of the site and adequate dust collection is a must. These dust collectors use a high-powered diesel engine or electric motor and are built onto a trailer or a skid frame for more portability when in the yard or job site.

Features and Benefits:

- Power options include diesel or electric motors
- Industry-leading design
- Easy filtration access
- Long filter life thanks to smart internal spacing
- Smart reverse pulse
- High pressure fan to maintain suction even across long distances
- Sizes available from 6,000 cfm to 100,000 cfm



FIXED DUST COLLECTORS

When working in an industrial facility, a critical component is the dust collector. Keeping the air clear of nuisance dust is very important so that your operators can work safely and control the dust from floating through the entire plant.

Having good visibility by extracting dust while the facility is in operation, is not only a safety improvement, it leads to greater efficiency and quality of work.

Dust extractors are mandatory in dusty environments to maintain a great working environment.

Features and Benefits:

- Industry-leading design
- Easy filtration access
- Long filter life thanks to smart internal spacing
- Smart reverse pulse
- High pressure fan to maintain suction even across long distances





Industrial processes and construction activities can produce many different types of contaminants including various types of dusts, odours, and gases. Excessive exposure to these contaminants can be detrimental to; human health, the environment and the equipment working in and around the area.

Our filter boxes use a combination of fine particle and activated carbon filters, which form an effective strategy against the negative social, environmental, and financial impacts that can be caused by these contaminants.

Using a BlastOne Filter Box Solution will increase the quality of the work environment which:

- Protects human health by reducing exposure to dust, odours, and gases.
- Reduces environmental impact through the filtration of the air exhausted to atmosphere.
- Reduces equipment downtime and maintenance costs by improving the working conditions.
- Drives a higher standard of work through reduced risk of cross contamination between activities.

Typical activities where BlastOne Filter Box Solutions can be found are:

- Construction
- Soil Remediation
- Manufacturing Facilities
- Waste Processing Facilities
- Tunnels

Features and Benefits:

- Carbon and HEPA filter
- Ventilation Projects for removing dust , odours, and sub-micron material such as Lead, Silica and Asbestos





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