Clearing the Air

Indoor Air Quality (IAQ) is a constantly changing interaction of complex factors. Causes of polluted air include airborne dust in an office or fumes in a manufacturing plant. Polluted air can affect an entire building or be limited to an area as small as an individual workstation.

The average adult breathes more than 3,000 gallons of air every day and spends 90% of his or her day indoors. As a result, some airborne contaminants are unavoidable and must be efficiently removed.

Trust Trion

Trion designed the world’s first air cleaner for the U.S. Navy nuclear submarine U.S.S. Nautilus in 1951. Since then, Trion has continued to provide advanced and specialized air cleaning systems for a wide range of applications in the commercial, industrial and residential markets.

Building owners, facility managers, architects and the HVAC industry turn to Trion for air cleaning technology. They know that Trion air cleaners are manufactured for long-term performance and are customized for each and every commercial and industrial application.

Our goal is to provide an air cleaner that delivers low air resistance, high efficiency, cost-effective operation and most important — clean air.

Our Air Purification Systems Help To:

- Protect Employee Health
- Comply with Government Regulations
- Improve Productivity
- Reduce Operating Costs
- Conserve Energy Through Recirculation
- Reclaim Processing Fluids
- Our Cleanable Reusable Filters Help to Reduce Your Carbon Footprint
The Heart of Every Trion Air Cleaner

Trion offers multiple filter technologies to meet your specific needs. You can trust Trion to provide the best filter technology, which is the heart of every air cleaning system.

Electrostatic Air Cleaning

Air is drawn into the unit and passes through a pre-filter to capture large particles. The airborne particles then pass through an electrostatic field and receive an ionized charge. The charged particles move into a collector section where each alternate plate is charged with the same polarity as the particles, which drives the particles of similar charge to the second set of grounded plates to attract and collect the particles.

Media Air Cleaning

Either directly-mounted to machines or free-standing, Trion media air cleaners draw pollutants from the air through a first stage pre-filter to capture large particulate. The pre-filter extends the life of the primary media filter, which uses a combination of technologies including straining, impaction, interception, and diffusion to strip sub-micron particles from the air. After-filters may also be incorporated to eliminate or reduce odors.

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 or reverse pulse compressed air cleaning systems.
Clean Air is Good Business

Clean air is a critical element in today’s challenging and aggressive business environment. Both customers and employees demand clean indoor air. It is generally agreed that poor indoor air can adversely affect employee health and productivity; the cost has been estimated to be in the tens of billions of dollars per year.

Yet many commercial buildings have significant pollution sources such as off-gassing of formaldehyde in carpets; biological agents such as fungi, mold and pollen; volatile organic compounds (VOCs) from photocopiers; secondhand tobacco smoke and kitchen exhaust.

Air cleaners are an important part of an effective HVAC system supplying and recirculating air inside a building. Trion air cleaners remove airborne particles and help treat odors that can be offensive to employees and customers.

The Smoke Eliminators

Environmental tobacco smoke from cigarettes, cigars and pipes is a complex mixture of more than 4,000 compounds, many of which are cancer-causing and strong irritants. Trion’s family of smoke eliminators are some of the most effective smoke removers on the market today. Various mounting configurations are available to meet your needs.

Specify a Trion Smoke Eliminator:
Kitchen Exhaust Solutions

Many municipalities, cities and towns have stringent clean air regulations to prevent the direct venting of grills, fryers, broilers, and wood-burning ovens to the outside air. Trion’s kitchen exhaust systems effectively remove up to 99% of grease and smoke using electrostatic, mechanical and/or odor absorption air purification sections.

Specify a Trion Kitchen Exhaust System:

Air Boss® KES

Air Boss® ATS

Model 75

Found in:

- Restaurants
- Office Buildings
- Hotels
- Shopping Centers
- Casinos
- Convention Centers
- Stadiums and Areas
Industrial Air Cleaners You Can Trust

OSHA, NIOSH, EPA and regional Air Quality Management Districts are developing and enforcing stricter regulations for indoor air quality. Exhausting heated or cooled air outside to improve indoor air quality doesn’t make smart financial or environmental sense. Clean and recirculate your indoor air with cost-efficient, high-quality air cleaners from Trion.

Trion air cleaners excel in environments where pollutants are generated. Trion has a wide variety of air cleaners that collect airborne pollutants generated by industrial manufacturing processes — welding smoke and fumes, grinding dust, oil and coolant mist, powders, smoke and more. Air filtration is recognized by OSHA as an acceptable method of controlling indoor air quality. Make a Trion system part of your industrial process.

Industrial Particulate Loading Guide

A general guide to industrial particulate concentrations is as follows:

**Light**
Dirty city air, designated smoking areas (2.0-25 mg/m$^3$)

**Medium**
Industrial process exhaust, factory indoor air, commercial kitchen exhaust (25-100 mg/m$^3$)

**Heavy**
Metal machining oil mists, grinding dusts, heat treating operations, heavy welding, powders (100 mg/m$^3$ and above)

*Particulate considerations such as conductivity, tackiness, and operation cycles need to be taken into consideration when determining equipment selections.*
Application Spotlights

Welding Fumes
Welding, laser and plasma cutting, as well as other metal fusing and cutting operations, generate heavy concentrations of harmful smoke and fumes that can enter directly into the workers’ breathing zone. Secondary operations such as grinding and sanding generate metal dust and fumes that are harmful when they become airborne. Trion’s self-cleaning cartridge collectors are ideally suited for these types of operations.

Metalworking Fluids
Metalworking fluids are a known hazard in the workplace that have been directly linked to causing allergies, asthma and other respiratory illnesses. In fact, new and tougher government standards have been proposed to lower the exposure limits by as much as 10 times. Trion systems will not only help to bring you into compliance with the new standards for metalworking fluids, but also effectively remove other associated contaminants such as smoke and dust.

Dust Collection
Operations such as material handling, crushing, mixing, blending, bagging and packaging create heavy concentrations of airborne dust. The collected contaminants can be easily removed from cartridge filters using reverse pulse cleaning systems. The self-cleaning features reduce maintenance and extend filter life.

Plasticizers
The emission of excess oils in various plasticizer operations creates oil mist, smoke and volatile organic compounds (VOCs) as a by-product. The hazardous nature of these contaminants has led to strict government regulations on exhausting directly to the atmosphere. Because of the submicron particle size and tacky nature of the contaminants, Trion’s self-cleaning electrostatic precipitators are ideal for plasticizer applications. Trion systems are also available with optional gas/odor modules to help remove the VOCs.

Specify a Trion Industrial Air Cleaner:
To learn more about Trion® products, contact your local Trion® representative or you can visit us on the web at www.TRIONINC.com