GREASE VIPER By TRION

Commercial Kitchen Air Cleaner

ETL LISTED US
Intertek

UL Standards 867 and 710
Intertek File #3185932

Features & Benefits

Kitchen Emission Problems? Look No Further...

The TRION® Grease Viper series is designed to treat grease, smoke, and odor emissions from exhaust ducts on commercial cooking applications (as well as oil mist and smoke from industrial applications). The Grease Viper can be configured with multiple stages of filtration for both particulate and odor control and is typically furnished as a complete pollution control unit with: automatic water-wash components for electrostatic precipitator filters; odor control section; exhaust fan; system rails; factory pre-piped fire suppression nozzles; and necessary controls. Standalone restaurants, mixed-use and high rise buildings, casinos, hotels, hospitals, corporate cafeterias, and government buildings are just a sampling of the installations using TRION pollution control systems to alleviate the environmental impact of commercial kitchen exhaust emissions.

Features

- Designed in accordance with UL-710 and NFPA 96 design criteria
- Street level exhaust versus extended length of grease-rated duct to roof
- High collection efficiency (≥ 95% at 0.3 microns)
- Electrostatic cells with spiked ionizers and ceramic insulators
- Long life, cleanable electrostatic filters versus throw-away, grease laden media filters
- Integral auto-wash components to minimize manual service requirements
- Modular design for indoor and outdoor installations
- Control initiation and interface flexibility
- 16 cabinet sizes and other modular configurations available, which are easily viewable and supported via REVIT BIMs
- Accessories including detergent tanks, controls, and Ansul® fire suppression also supported with REVIT BIMs

Options

- High-capacity odor control panels
- Fan package (UL-762 rated for kitchen exhaust)
- Fire suppression coverage with Ansul nozzles
- Mounting rail base

Peace of Mind

Your worries are over! TRION Grease Viper systems address the stringent requirements of federal, state, and local environmental codes and eliminate the expensive installation of fully-welded ductwork to rooftops. Our agency listed designs allow for side-wall discharge in compliance with NFPA 96 criteria - minimizing both ductwork and the associated inspection and cleaning costs.

Solution Based on Experience

Since 1947, TRION has been developing solutions to demanding indoor air quality problems in residences, commercial buildings, and manufacturing facilities. We have been the sole supplier of electrostatic precipitators to the U.S. Navy since 1951, and the elements of those critical-duty products have been shared with our commercial and industrial designs to ensure optimum performance.

Restaurant owners/operators, building owners, tenants, facility managers, architects, and engineers place their trust in TRION air cleaning products for long-term performance and service. They know that TRION has a proven track record of providing engineered designs to meet the specific demands of challenging applications.

Kitchen Exhaust Installations

- Apple (Cupertino, CA)
- Bain Capital (Boston)
- Bellagio (Las Vegas)
- Caesar's Palace (Las Vegas)
- Constitution Center (Washington)
- Costco (New York City)
- Facebook (New York City)
- Mandalay Bay (Las Vegas)
- Mayo Clinic (Phoenix)
- McCormick & Schmick's (Seattle)
- Miyana Polanco (Mexico City)
- Museum of Art (Philadelphia)
- NBC Universal (New York City)
- P.F. Chang's (Pasadena, CA)
- Palm Restaurant (Boston)
- Red Lobster HQ (Orlando, FL)
- Red Rock Hotel & Casino (Las Vegas)
- Venetian (Las Vegas)
- Westin Hotel (Minneapolis)
- World Trade Center – Tower 2 (New York City)
- World Trade Center (Dubai, U.A.E.)
- Wynn & Encore (Las Vegas)

Have Confidence in Your Kitchen

About the Technology

Cleaning the Air

When you need one system for cleaning kitchen grease and smoke, oil mist, and contaminants, TRION has a kitchen exhaust solution just for you in the Grease Viper. Atmospheric contaminants may be either liquids or solids in forms of oil, water, grease, smoke, fumes, or dusts, including gaseous and vaporous odors. The Grease Viper readily adapts to the various air collection methods utilized to recover contaminants for collection.

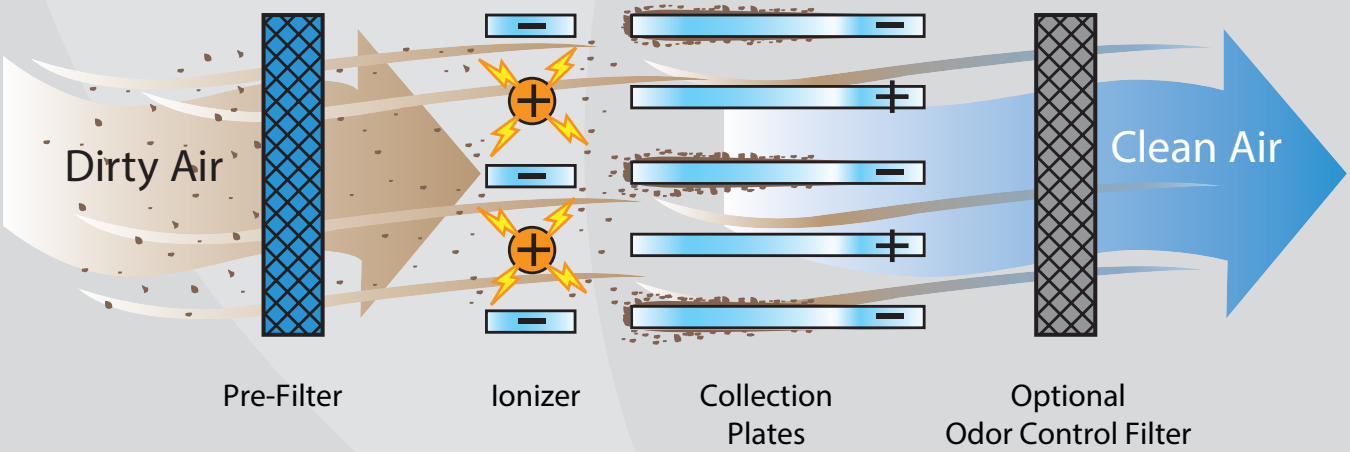
Principals of Operation

The TRION electronic air cleaner is technically known as an Electrostatic Precipitator (ESP). In this type of equipment, all airborne particles, even of microscopic size, are electrically charged (positively) as they pass through a high voltage ionizer. These charged particles are then attracted to and adhere to a series of parallel collecting plates, which form the negative elements of an electrostatic field. The ionizer consists of charged stainless steel spiked blades spaced between grounded electrodes. The collecting section consists of parallel plates arranged so that each alternate plate is charged while the intermediate plates are electrically grounded.

Periodically, depending on the type and concentration of contamination in the air, the contaminant is washed from the plates by the integrally constructed water wash system. Three major functional components comprise the air cleaner:

(1) Ionizing-collecting cells to ionize and collect airborne particulate matter
(2) Power supply(ies) to provide high voltage direct current to the ionizing-collecting cells
(3) Control operated wash system to automatically wash away the collected contaminant.

Normally, systems are designed for collection efficiencies in the range of 90% to 95% or better DOP (0.3 microns). Collecting a contaminant at these efficiencies, especially when there are high concentrations, can result in large accumulations in a relatively short period. The Grease Viper auto wash system ensures efficient operation without daily or manual cleaning. However, maintenance should encompass two areas: the operation of the equipment for efficient collection and the systematic removal of the collected contaminant.

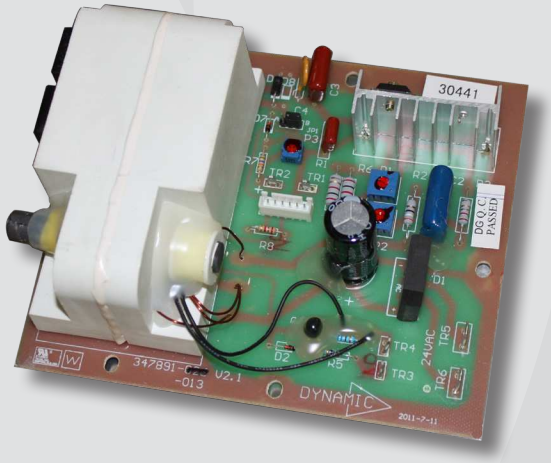


Electrostatic Precipitator Cells

The stainless steel spiked ionizer blades are stronger and more reliable than ionizing wires used in less durable designs. The aluminum construction of the ionizing-collecting cells allow for longer life and ease of maintenance. The lightweight and rustproof ESP section(s) can be easily removed from the cabinet as required. The self-glazing ceramic insulators are protected from the contaminated airstream, delivering increased life of the system by limiting contaminant build up, which can cause electrical shorts and damage power supplies over time. High voltage electrical connections between cells are automatically made through spring-loaded plunger connections, solving the issue of having to replace exposed spring contact designs that are easily damaged or lost during maintenance.

Power Packed with Efficiency

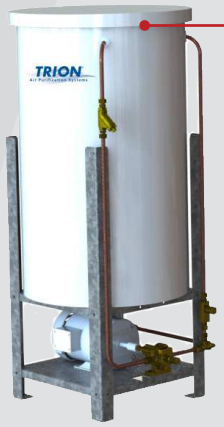
The power supply(ies) convert the 24 volt input, 60 Hz, single phase AC supply to the high voltage DC required to power the ionizing-collecting cells. Potential of 11.5 KVDC is required for the ionizer section and 5.7 KVDC for the collector section of the cells.



Wash System

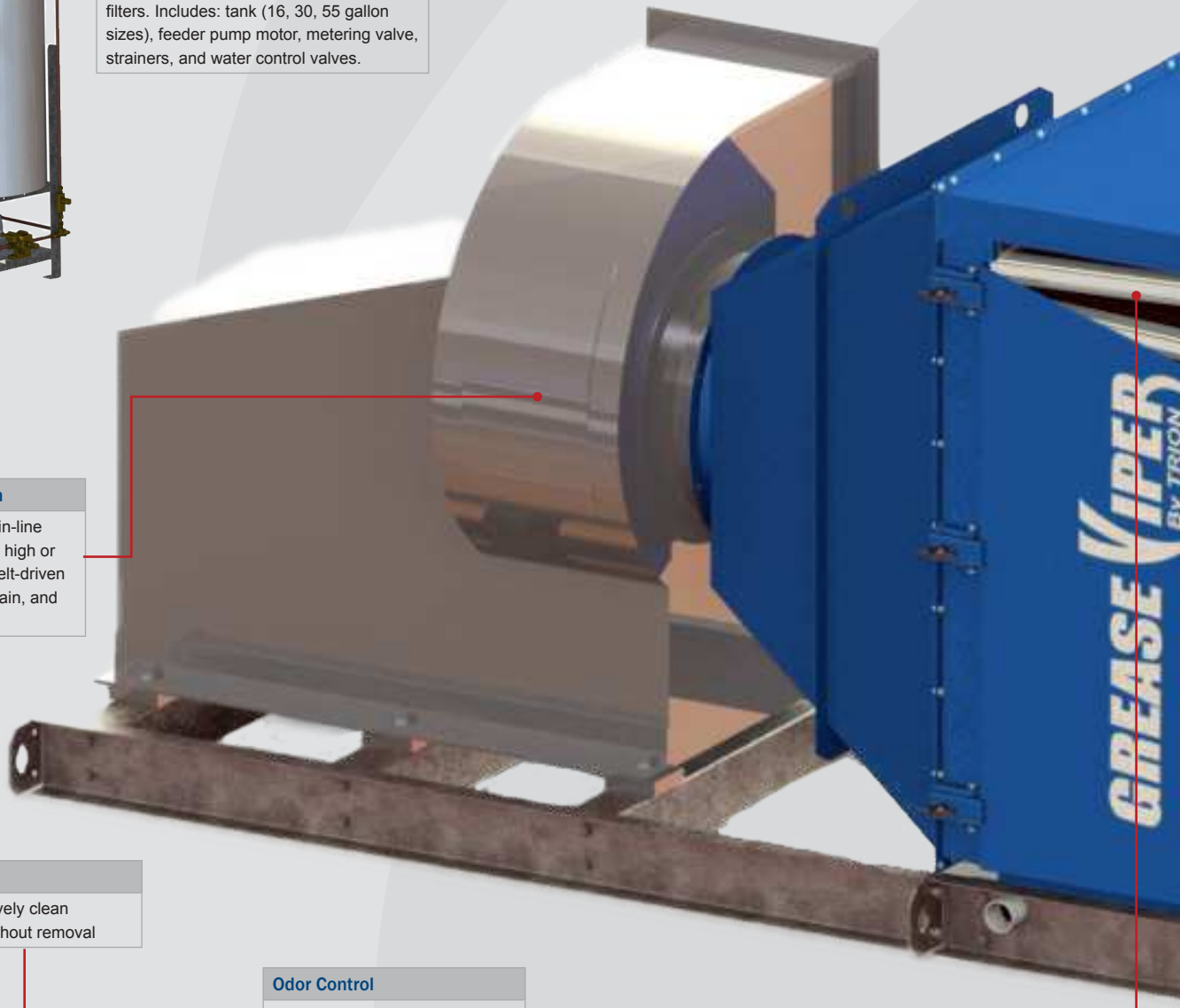
The integral wash system consists of a series of spray nozzles soldered into fixed water wash manifolds. The manifolds are located in the front and top of each cell tier. Metal mesh after filters, located downstream of the cells in the last ESP section, prevent re-entrainment of contaminants and wetting of the odor control panels during the wash cycle. A detergent delivery system is also incorporated into the wash system. The amount of detergent used for washing is readily adjustable, and that amount is dependent upon the type and amount of collected contaminant.

Typical System Layout



Detergent Tank

TRION-approved concentrated detergents used for in-place cleaning of electrostatic filters. Includes: tank (16, 30, 55 gallon sizes), feeder pump motor, metering valve, strainers, and water control valves.

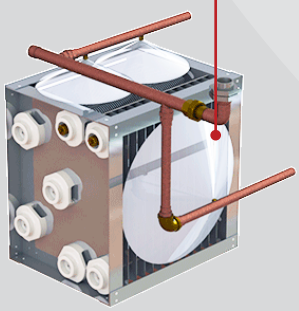


Fan Package Option

Backward inclined or in-line design; UL-762 rated; high or premium efficiency; belt-driven with weather hood, drain, and vibration isolators

Auto Wash

Spray nozzles effectively clean electrostatic filters without removal



Odor Control

Activated carbon or blended carbon/potassium permanganate pellets for gaseous odor adsorption in refillable panels

Ionizing-Collecting Cell

Heavy-duty multi-stage collection cell, designed to maintain high efficiency under heavy loads

Spiked Ionizer Blades

Revolutionary technology made of stainless steel blades, not tungsten wires. Reliable, unbreakable blades eliminate costly maintenance, replacement and downtime.

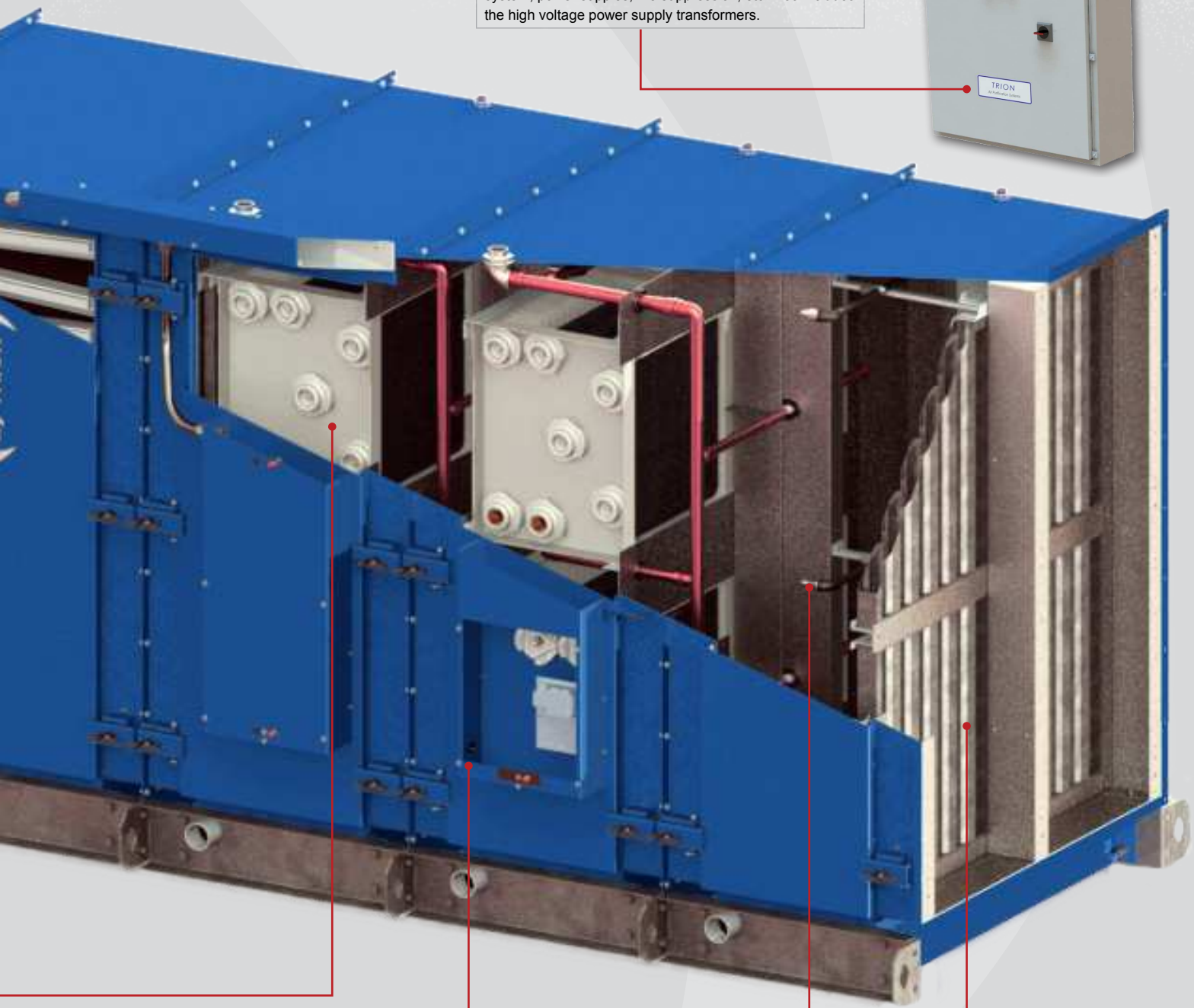
High-Voltage Stand-Off Insulators

Molded of self-glazing ceramic, insulates electrical current; helps to prevent and virtually eliminate arcing; prolongs power supply life span; and aids in maintaining high efficiency. Prevents tracking, retards contaminant build-up, and provides easy cleaning.

Typical System Layout

Control Panel

Remote wall-mounted NEMA 1 cabinet, housing a PLC (programmable logic controller) to control fan, wash system, power supples, fire suppression, etc. Also includes the high voltage power supply transformers.



Electrostatic Precipitator

Access door with integral solid state high voltage power supplies, high voltage cell contacts, and high voltage wiring. ESPs in single, double, or triple pass configurations are available.

Fire Suppression Option

Includes factory pre-piped Ansul nozzles and fusible links/brackets

Grease Filter/Inlet Plenum

Grease filters (impingers) for capture of oversized particulate, agglomerated mist, and kitchen grease

Our Grease Viper comes with a one-year limited warranty.

T-Series Electronic Air Cleaner

Learn more about other TRION commercial products by contacting your local TRION representative or by visiting us on the web at www.trioniaq.com.

Mini M.E. Mist Collector

GREASE VIPER By TRION

Indoor Air Quality Since 1947

ISO 9001:2015 Certified

Industry Membership:

ASHRAE

T-VIPER-0518

Proudly Designed, Engineered, and Manufactured in the USA.*

**Manufactured with domestic and foreign components.*

To help serve you better, please contact us at:

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