STREIVOR™ AIR SYSTEMS

Self-Cleaning Water Wash and Ultraviolet Light Technology Hoods

Standard Features:

- Plumbing Control Station
- Backflow Prevention System
- Water Hammer Arrestor
- 3-Gallon Stainless Steel Detergent Tank
- Collection Trough Pitched to Waste Drain
- PLC Controls
- Programmable Wash & Purge Cycles
- Programmable Detergent Pump
- Grease Extractor and Fan Status Monitoring
- Optional: Fogging System

Striving for Excellence

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UL LISTED

Self-Cleaning Water Wash & UV Light Technology Hoods

Self-Cleaning Hood

Eliminate Manual Hood & Extractor Cleaning

Self-Cleaning Hoods reduce or eliminate the cost and inconvenience of cleaning the hood's exhaust plenum and grease extractors.

Reduce Duct Cleaning

Self-Cleaning Hoods reduce duct cleaning and maintenance intervals, saving additional time and money.

Automatic & Customizable Cleaning Cycles

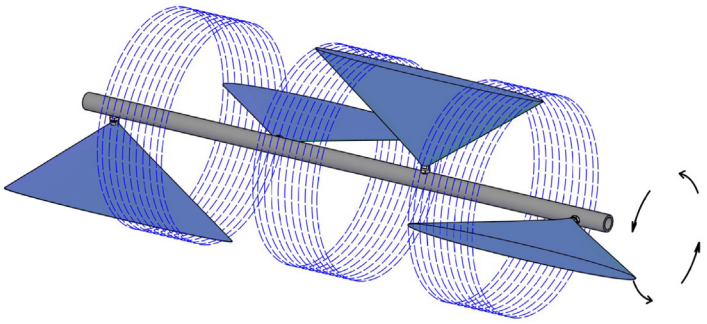
Self-Cleaning Hoods provide an Automatic Customizable cleaning solution for Type I Commercial Kitchen Hood Exhaust Plenums and Filters.

Before and After Images of Automatic Self-Cleaning Wash and Sterilization Cycles

Innovative Design Patent Pending

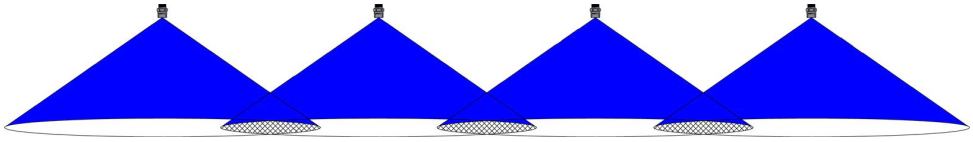
360° Rotating Nozzle Manifold

Pressurized hot water and detergent is delivered through nozzles that are installed on a 360° Rotating Manifold. The nozzles are strategically positioned and equally spaced along the length of the manifold.



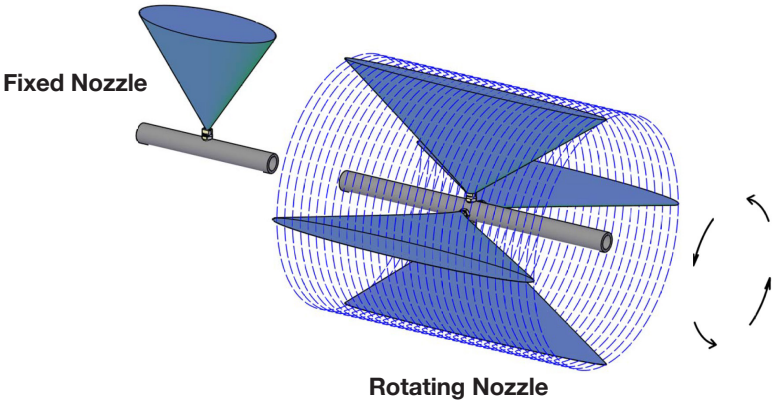
Overlapping Spray Pattern

The pressurized water nozzles are engineered to provide an overlapping spray pattern that ensures 100% coverage and cleaning of the hood's exhaust plenum.



Reduced Water, Energy & Detergent Usage

The 360° rotating nozzles wash an area up to eight times greater than a fixed nozzle, thus significantly decreasing the number of nozzles, water, energy and detergent required to completely wash the hood exhaust plenum and grease extractors.



Self-Draining

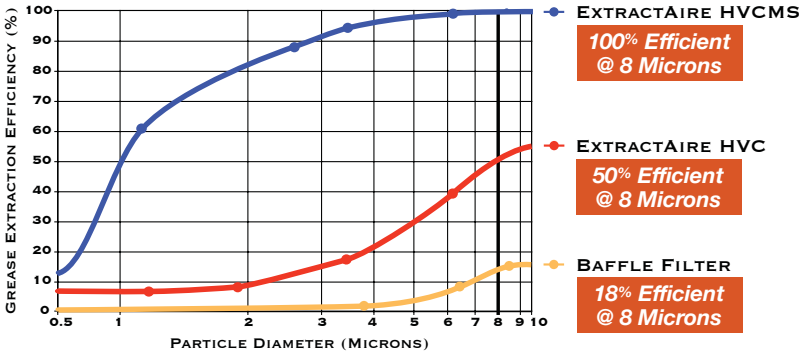
Grease and other contaminants washed from the hood's exhaust plenum and extractors drain into a stainless-steel pitched trough. The pitched trough channels all of the water, detergent, grease and contaminants to a 1 1/2" NPT drain fitting at the end of the hood.

Self-Cleaning Water Wash & UV Light Technology Hoods

Superior Grease Extraction

ExtractAire High Velocity Cartridge Non-Loading Extractors (HVCE)

All Self-Cleaning Hoods include Streivor's (patented) ExtractAire HVCE Extractors. ExtractAire HVCE are non-loading extractors that have been third party tested to remove in excess of 50% of the grease particulates 8 microns and larger created during a commercial cooking process. ExtractAire HVCE whip the grease particulates out of the air stream and into a pitched grease trough where the grease accumulates and then drains out of the hood. Grease particulates are not collected or stored within the cartridge, preventing clogging, cleaning and/or fire issues.



Testing was performed by the Department of Mechanical Engineering University of Minnesota, to the ASHRAE Standard 52.2-2007. Oleic Liquid particles were used instead of KCl Solid Particles in accordance with the ASTM Standard F2519-05 since grease filters were being characterized.

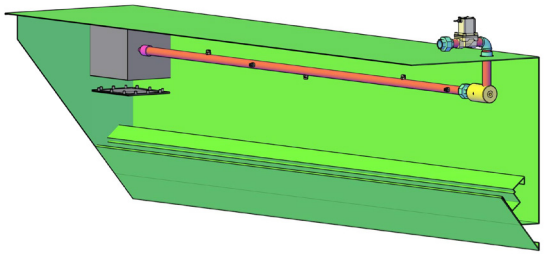
Extractor Positioning Switches

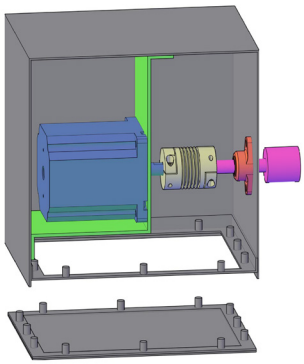
Streivor's Self-Cleaning Hoods include Extractor Positioning Switches for each Grease Extractor. The Extractor Positioning Switches ensure that all of the Grease Extractors are in the correct position in the hood exhaust plenum before and during a wash/purge cycle. This prevents water from spraying outside of the hood exhaust plenum and onto the floor or cooking appliances if the extractors are not in position for any reason. The Extractor positioning switches can be accessed from below the hood for service or replacement.

Autonomous Hood Control

Programmable Manifold Motor

Self-Cleaning Hoods include a Motor that rotates the nozzle manifold. The Motor Speed can be programmed to rotate faster or slower to meet the individual cleaning demands of each hood.



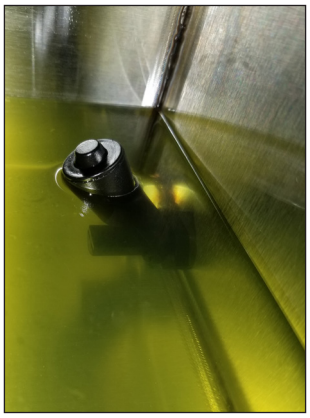


Listed Manifold Motor Enclosure

The Hood Manifold Motor is enclosed in a Listed stainless-steel enclosure, that protects the motor from heat, water and grease. The Listed enclosure also allows access to the motor for inspection, service or replacement from under the hood.

Programmable Detergent Pump

Self-Cleaning Hoods include a programmable Detergent Pump. The Detergent Pump can be programmed to adjust the amount of detergent used during the Hood's Wash Cycle. Thus, the operator can program the pump to supply the most optimum amount of detergent for cleaning and cost purposes based on the specific demand for each hood.



Low Detergent Float Switch

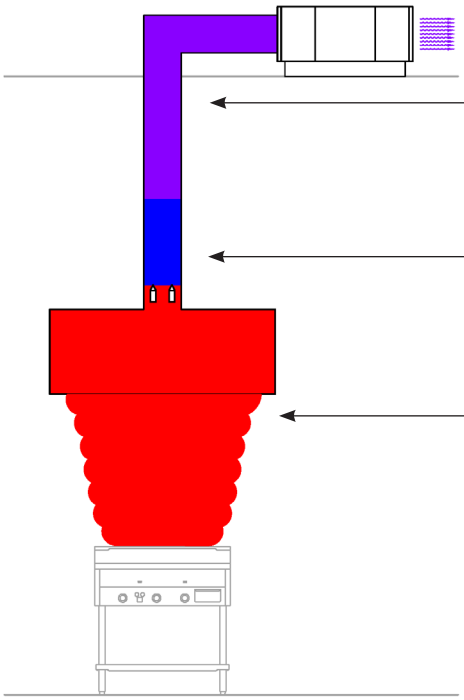
A float switch in the detergent tank will automatically alarm on the HMI touch screen when the detergent level is low.

Self-Cleaning Water Wash & UV Light Technology Hoods

Fogging Systems

High Temperature Exhaust Plumes

Ventilating commercial kitchens that employ heavy-duty and extra heavy-duty cooking appliances creates several building, fire and safety challenges.



Fogging Reduces Exhaust Plume Temperatures

As the high temperature plume passes through the hood exhaust collar, the misting nozzles spray a water fog into the plume that reduces the plume temperature.

Pressurized Misting Nozzles

Streivor's Fogging Systems employ pressurized water through misting nozzles that are installed in the exhaust collar(s) of the hood.

High Temperature Plume

High temperature plumes and/or the sparks and creosol that are generated when using solid fuel cooking appliances create havoc on the ventilation fans and secondary pollution control devices, often melting and/or deteriorating the components of the rooftop equipment. High temperatures can lead to failure of gaskets, filters, motors or even worse result in fires in the ducts and/or rooftop equipment.

Customizable Fogging

The amount of fogging is customizable and can be increased or decreased to meet the exhaust plume's volume and temperature and/or requirements of the rooftop equipment.

Added Fire Protection

Fogging systems provide added safety and fire protection when used over extra heavy-duty solid fuel cooking appliances by cooling and arresting embers and/or sparks that pass through the hood grease extractors and are entrained in the exhaust plume.

Stand-Alone System or Add-On

Fogging can be engineered as a stand-alone system or added to any Streivor Self-Cleaning Hood.

Plumbing Control Station

Includes All Plumbing Components

The Self-Cleaning Hood Plumbing Control Station includes all of the plumbing components required to receive the building's hot water supply, to regulate pressure and volume, to store and inject detergent, and to deliver fluids on demand to up to six Hoods' Rotating Manifold Nozzles.

Hood or Wall Mounted

The Plumbing Control Station is preferably installed in a Hood Utility Cabinet on the side of the hood but can also be remotely located on a wall.

Stainless Steel Cabinet

The Plumbing Control Station is housed in a stainless-steel cabinet.

Collection Trough and Drain

The Plumbing Control Station cabinet includes a collection trough to collect any possible water spillage from the backflow preventer. The collection trough is pitched to a drain and is to be connected to the building waste water system.

Self-Cleaning Water Wash & UV Light Technology Hoods

Ultraviolet Light Technology Hoods

Self-Cleaning Hoods and Ducts

UVC Lamps
Are installed with a minimum of 10 cm of spacing between the lamps

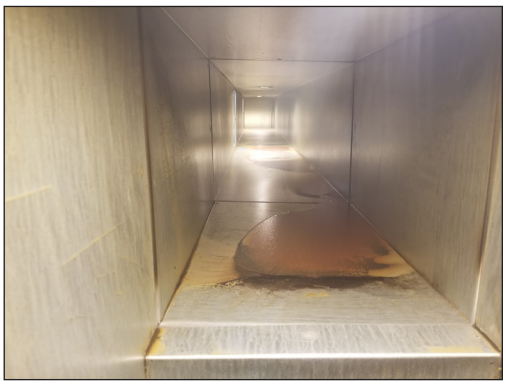
10 cm Minimum Spacing
Provides ample spacing for efficient photo-dissociation to occur

Photodissociation
Oxygen Atoms turn in Ozone molecules with contacted by UVC light.

Ozonolysis
Eliminates and/or reduces grease deposits in the hood and duct.

Streivor's Ultraviolet Light Technology Hoods provide a self-cleaning solution for Type I Commercial Kitchen Hoods and exhaust ducts. Ultraviolet light has long been known for its air, water, and surface sterilization qualities in healthcare, agriculture, printing, and HVAC applications. When safely introduced into Commercial Kitchen Ventilation (CKV) systems, type UVC ultraviolet light has specific characteristics which ultimately result in a reduction of cooking odors and chemical breakdown of grease compounds into substances which are easier to clean.

Streivor's Ultraviolet Light Technology Hoods include stainless steel UVC Lamp fixtures installed against the back and/or top of the interior of the hood exhaust plenum. The UVC Lamps are designed to turn on automatically whenever the hood is exhausting. The UVC light reacts with the exhaust air through a chemical process called photodissociation in which oxygen molecules are broken down into oxygen atoms by photons. The oxygen atoms and remaining oxygen molecules combine to form ozone molecules which chemically react with organic compounds in the grease laden vapor of the exhaust air to form easy-to-clean byproducts, namely water vapor and carbon dioxide. This chemical reaction, known as Ozonolysis, significantly reduces buildup of grease deposits in both the hood exhaust plenum and grease exhaust duct. This process results in reduced cleaning and maintenance costs as well as improved safety for the kitchen staff by decreasing the likelihood of grease fires in the exhaust duct.



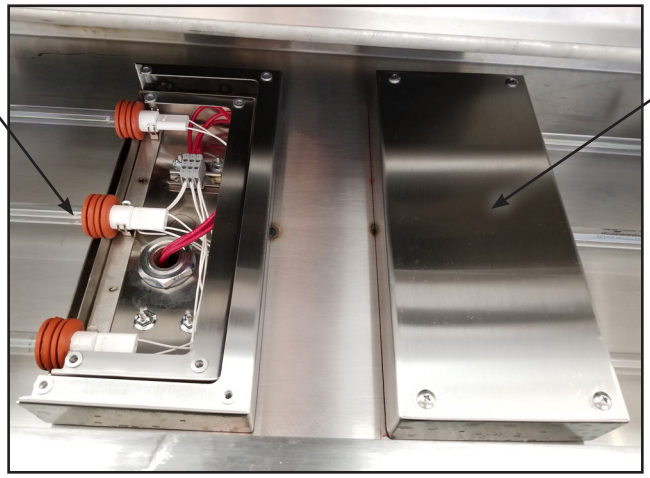
30 Days of Cooking Without UV Light

30 Days of Cooking With UV Light

Enhances Fire Suppression

Self-Cleaning hoods automatically start a flow of pressurized water to the Rotating Manifold inside of the hood's exhaust plenum when the hood's fire suppression system is activated, thus adding additional fluids that suppress the fire and cool the hood and duct systems.

Simplified Maintenance and Safety Switches



Extractor Positioning Switches

Since direct exposure to UVC light is hazardous to both skin and eyes without the proper protective equipment, Streivor has taken additional measures to ensure personal safety when operating cooking appliances below Ultraviolet Light Technology Hoods. The hoods are designed with stainless steel Grease Extractors which prevent UVC light from escaping the hood exhaust plenum. Extractor Positioning Switches are installed above each Grease Extractor to ensure all Grease Extractors are in the correct position before allowing the UV Lamps to turn on.

Pressure Switch

The Ozone produced by the UV Lamps is harmful to breathe and can cause respiratory irritation, shortness of breath, and even permanent lung damage. Streivor's Ultraviolet Light Technology Hoods include a UL Listed adjustable pressure switch which proves that the grease exhaust fan is on prior to allowing the UV lamps to turn on. This keeps Ozone from accumulating and leaking out of the hood exhaust plenum in the event that the grease exhaust fan turns off when the UV lamps are still on. The pressure switch can be accessed from below the hood and is adjusted by a Streivor technician during the commissioning process.

State of the Art DemandAire Controller

Demand Control Ventilation

The DemandAire controller monitors temperatures within the hood and makes real time fan motor adjustments to match the exhaust ventilation demands of the cooking appliances providing maximum energy efficiency.

Programmable Logic Controller

The DemandAire Control Panel (DCP) is housed in a stainless-steel Type I Enclosure. The DCP includes all of the electrical devices required to receive incoming building power. The DCP will be programmed to automatically send out power and/or control signals to open and close valve(s), start and stop the detergent pump, start and stop the Rotating Manifold, and control or communicate with other devices such as the Human Machine Interface (HMI). The DCP contains components such as: a Programmable Logic Controller (PLC), Power Supply, Relays, and Terminal Blocks.

Hood or Wall Mounted

The DCP is preferably installed on the side of the hood in a Hood Utility Cabinet. However, the DCP can also be remotely located on a wall or ceiling.

24/7/365 Cycle

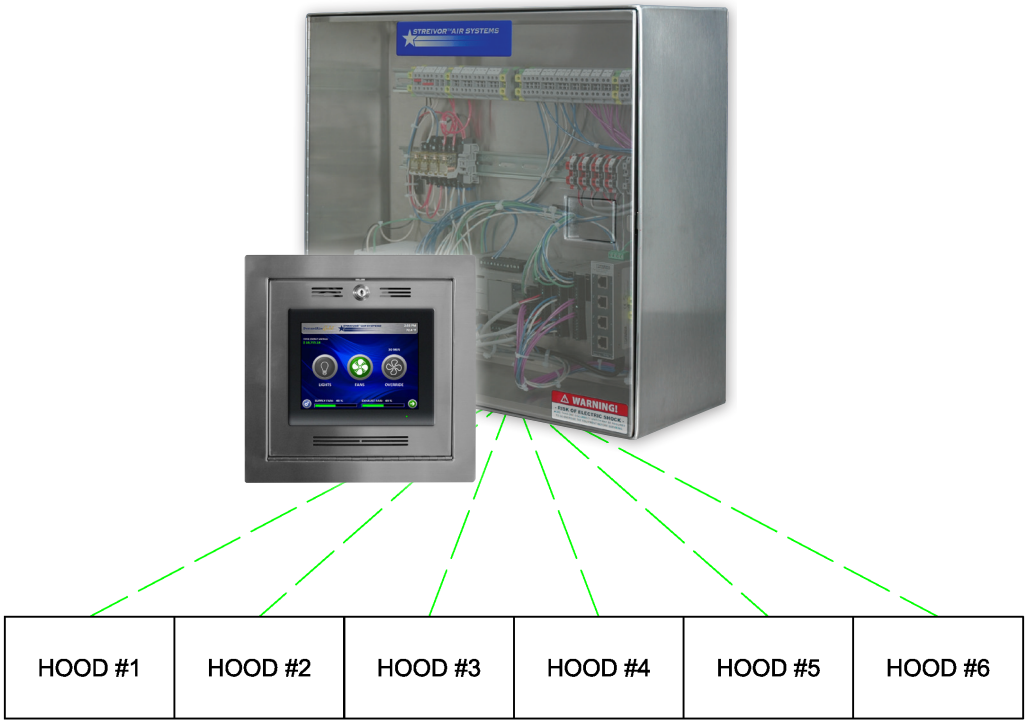
The hood controls can be programmed to automatically wash in sequence, day or night, 24/7/365 or can be manually activated at the Human Machine Interface (HMI) touch screen.

Human Machine Interface

Important settings such as scheduled wash cycle start times, frequency of wash cycles, duration of wash and sterilize cycles, detergent flow rates, and more can be viewed and/or adjusted for each individual hood from the HMI.

Operational and safety alarms such as missed or cancelled wash cycles, grease extractors not in position, low detergent flow rate, etc. are displayed on the HMI in real time and provide information on how to resolve each alarm.

Streivor's Auto Wash Controls are capable of integrating up to six hoods into one control.



Demand Specific Wash/Purge System Cycles

System Cycles

Self-Cleaning Hoods have two distinct System Cycles: Wash and Purge. System Cycles are 100% customizable and offer 24/7/365 start/stop programming.

Wash Cycle

The Wash Cycle provides a fluid mixture of hot pressurized water and detergent to the Rotating Manifold Nozzles. The linear spray patterns of the nozzles create rotating waves that scrub away the grease particulates in the grease Extractors and Hood Exhaust Plenum area. The Wash Cycle time duration, time of day, and day of week scheduling is 100% programmable. The number of days per week the Wash Cycle is active and the duration of time that the Wash Cycle runs will be set to meet the specific demands of the cooking appliances and the cooking processes below each hood.

Purge Cycle

The Purge Cycle provides hot water to the Rotating Manifold and rotates the manifold approximately three revolutions. For each hood, the Purge Cycle should be activated every day that the Wash Cycle is not activated. The Purge Cycle ensures that all stagnant water is removed from the Rotating Manifold and other system pipe fittings. The Purge Cycle also removes any grease particulates that may have accumulated on the nozzle orifices.

Each Hood Washes Independently

Auto Wash Controls operate each Self-Cleaning Hood and each System Cycle independently. The Controller automatically opens and closes Inlet Valves located on top of the hoods in sequence to allow fluid to flow from Plumbing Control Station to the Hood's Rotating Manifold.

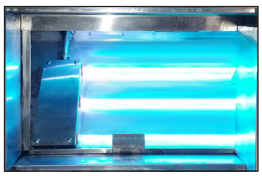
STREIVOR™ AIR SYSTEMS

The ULTIMATE In Kitchen Ventilation Systems

SmartAire Hoods
The Ultimate in Energy Efficient Hood Design
US Patent No. 8,857,424

Self-Cleaning Hood System
The Ultimate in Rotating Manifold Water Wash and Fogging Systems
Patent Pending

ExtractAire
The Ultimate in Adjustable High Velocity Cartridge Filters
US Patent No. 6,394,083



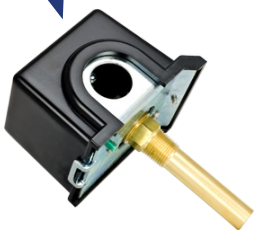
Hoods with Ultraviolet Light Technology
The Ultimate in UV Hoods

DemandAire
The Ultimate in Demand Control Ventilation Systems

BalanceAire
The Ultimate in Hood Balancing Dampers
US Patent No. D634,419

Utility Cabinet Systems
The Ultimate in Modular Utility Cabinets

Enclosures
The Ultimate in Enclosures for the Protection of Hood and Duct Monitoring Equipment



Monitors
The Ultimate in Hood and Duct Monitoring Controls

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