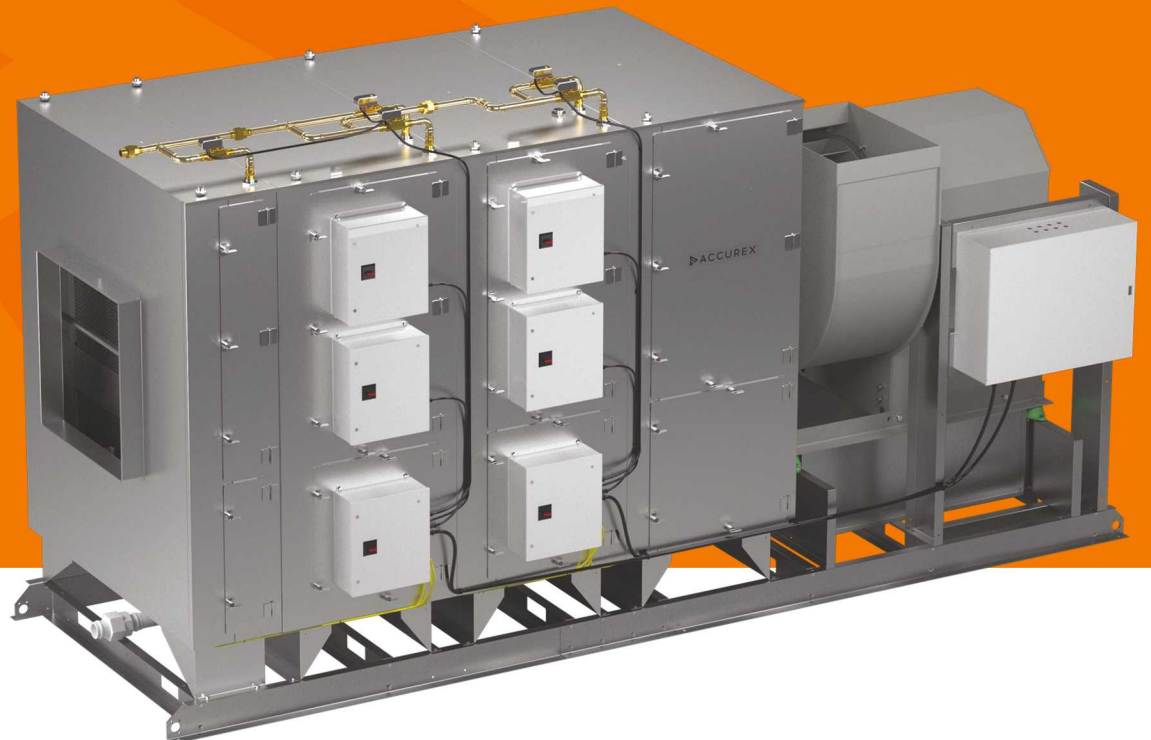


Pollution Control Units

Grease Trapper & Grease Trapper ESP



CLEAN KITCHENS: INSIDE AND OUT

With the increasing size of the urban landscape, the focus on clean air, and multi-use buildings, restaurant grease and odor control play an increasingly important role in commercial kitchen exhaust systems.

Pollution control units, utilizing multiple stages of filters or electrostatic precipitator cells, are specifically designed to eliminate both grease and smoke particles from your kitchen exhaust system, while carbon based odor control modules remove the remaining odor.

THE ACCUREX ADVANTAGE



Reduced Cooking Odors

ACTIVATED CARBON TRAYS REDUCE COOKING ODORS TO MAXIMIZE PERFORMANCE AND MINIMIZE MAINTENANCE.



Automatic Wash Down

THE AUTOMATED WASH DOWN SEQUENCE ALLOWS FOR THE GREASE BUILDUP ON THE ESP COLLECTOR PLATES TO BE REMOVED EASILY WITH THE TOUCH OF A BUTTON OR AN AUTOMATIC DAILY SCHEDULE. THIS ELIMINATES THE NEED TO CHANGE OUT COSTLY FILTERS AND LOWERS OVERALL MAINTENANCE REQUIREMENTS.



Quality Construction

TESTED TO TOLERATE THE RIGORS OF THE UL 8782, INCLUDING WITHSTANDING 2,000°F TEMPERATURE REQUIREMENTS, AND BUILT WITH A STAINLESS STEEL HOUSING AND EASY TURN LATCHES FOR SIMPLE ACCESS.



Easy Installation

INLET TRANSITION PROVIDED TO MATCH DUCTWORK AND MODULAR CONSTRUCTION ON A COMMON MOUNTING RAIL FOR EASIER INSTALLATION.



Code Compliant

UNIT IS LISTED TO UL 8782, A REQUIREMENT OF THE 2021 INTERNATIONAL MECHANICAL CODE. ALSO, THE UNIT IS FURNISHED WITH AN ACCUREX UL 762 LISTED INLINE OR UTILITY SET FAN WITH MOTOR AND DRIVE MOUNTED OUTSIDE OF THE AIRSTREAM COMPLYING WITH NFPA 96.

IMPORTANCE OF GREASE EXTRACTION

Grease is the by-product of commercial cooking processes that must be extracted from the effluent airstream via the kitchen ventilation system. Kitchen exhaust includes grease particulate in various sizes as well as grease vapors, smoke, and steam.



GREASE PARTICLE SIZE DISTRIBUTION

COARSE GREASE PARTICULATE

Larger, more visible effluent that is produced during the cooking process. Particle sizes range from 6.2 to 150 microns. Depending on filter efficiency, kitchen hood filters can typically capture this size.

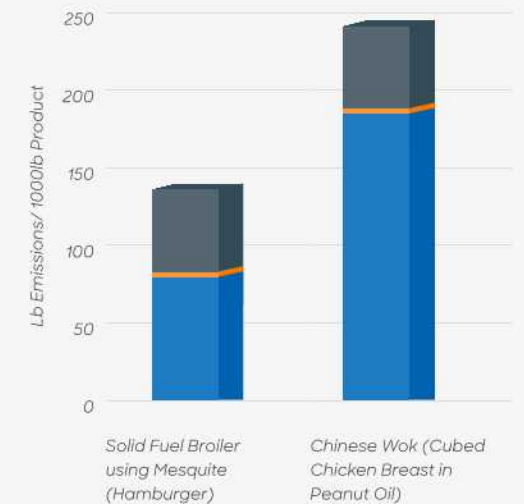
FINE GREASE PARTICULATE

Grease covered moisture and air mixture is produced by the long burning of cold or frozen food on a hot cooking surface. Particle sizes range from .55 to 6.2 microns. Kitchen hood filters can capture this size.

VAPOR + ULTRAFINE PARTICLES

Produced when a drop of grease or water comes in contact with a hot surface and immediately burns off. Particle sizes range from .03 to .55 microns (smoke). Mechanical kitchen hood filters can't capture particles of this size.

ASHRAE 1375 Comparison of Normalized Average Grease Mass Emissions in the Plume Worst Case Appliances



KITCHEN HOOD FILTERS FOR REDUCED MAINTENANCE

The use of advanced mechanical filters in the hood improves the pollution control unit's ability to remove residual grease with less frequent filter changes at the PCU.

Baffle Filter



28% efficient at 8 microns

Grease-X-Tractor™



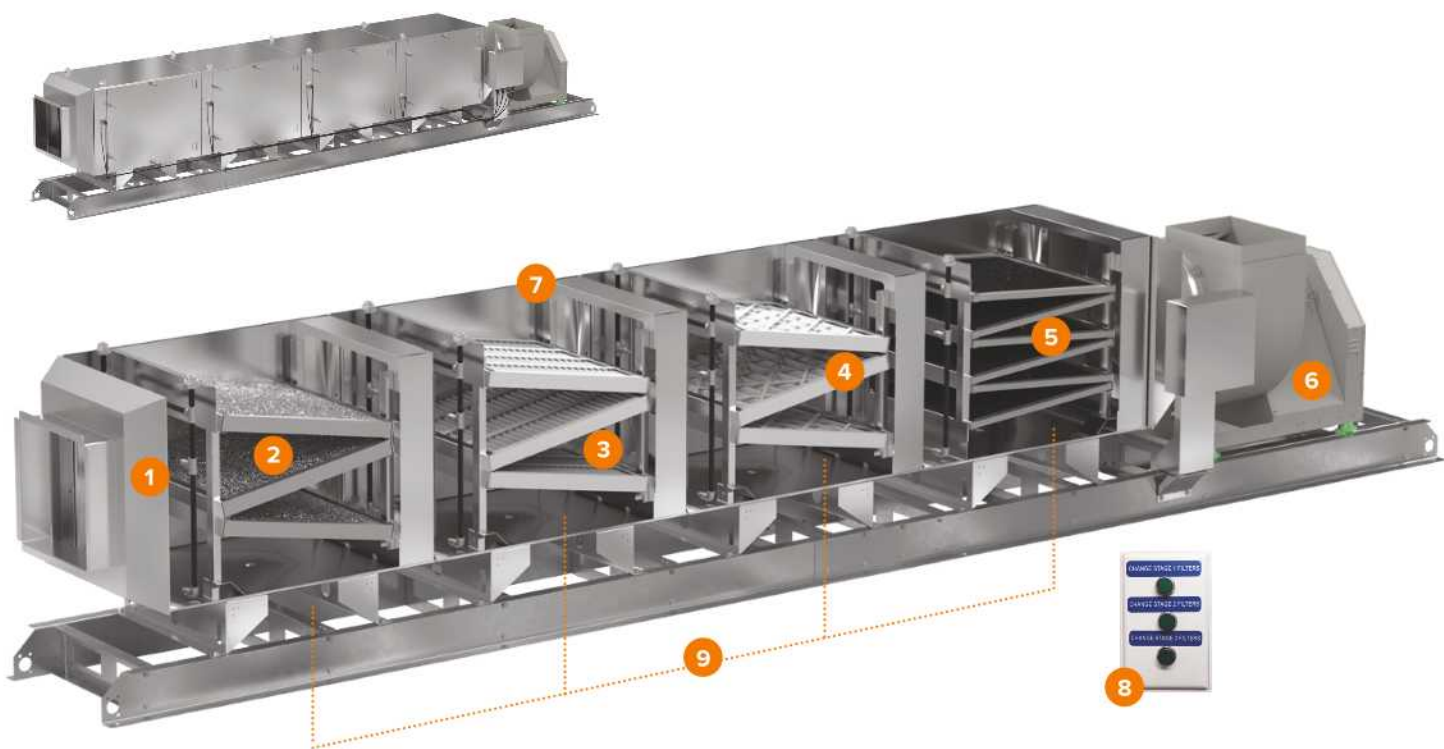
69% efficient at 8 microns

Grease Grabber™



100% efficient at 8 microns

The Grease Trapper pollution control unit uses a three stage mechanical filter arrangement to remove grease particles from the exhaust air at an economical initial cost. Independent pressure switches signal when any of the initial three filter stages need replacing, taking the guess work out of maintaining the equipment. The Grease Trapper incorporates carbon trays to remove odor molecules prior to discharging the air, reducing the impact of the kitchen exhaust to the surrounding area.



INDUSTRY LEADING CLEARANCES

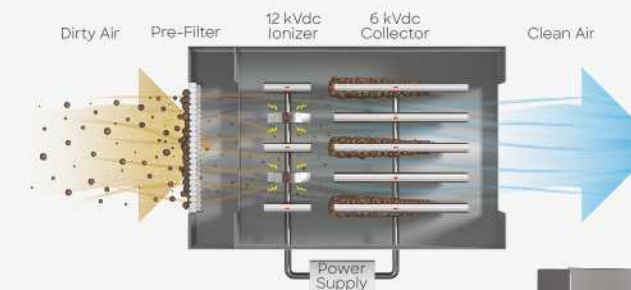
The unique construction features and UL 8782 listing of the Grease Trapper allow for the smallest clearance to combustibles in the industry. It can be mounted just 12 inches away from combustibles on the top of the unit and 6 inches on the sides and bottom to easily fit into tight mechanical rooms or ceiling spaces.

- 1 Factory inlet transition fabricated for ease of installation
- 2 Metal mesh filters are easily washable with a hose or a dishwasher and catch the large grease particles
- 3 MERV 8 pleated filters remove large particles from the incoming airstream to protect high efficiency filters and minimize maintenance
- 4 MERV 15 pleated final filter ensures a minimum overall particulate removal efficiency of 95%
- 5 1-inch carbon trays reduce cooking odors
- 6 Accurex UL 762 utility set fan with motor and drive mounted outside of the airstream per NFPA 96
- 7 Modular stainless steel construction
- 8 A pressure switch enclosure is provided to house all of the individual pressure switches for ease of maintenance and wiring on the unit. The pressure switches monitor each individual filter bank and a remote filter status indicator panel advises maintenance staff when each filter stage requires replacement
- 9 Each module is provided with a drain to allow any grease or washing solution to be removed from the unit

The Grease Trapper ESP pollution control unit uses electrostatic precipitator (ESP) modules and carbon trays to remove grease, smoke and odors from the exhaust airstream. The automated wash down sequence allows for the grease buildup on the impingement filters and ESP collector plates to be removed easily with the touch of a button or an automatic daily schedule, eliminating the need to change out costly filters. Routine manual maintenance should still be conducted to ensure efficiency of the PCU.

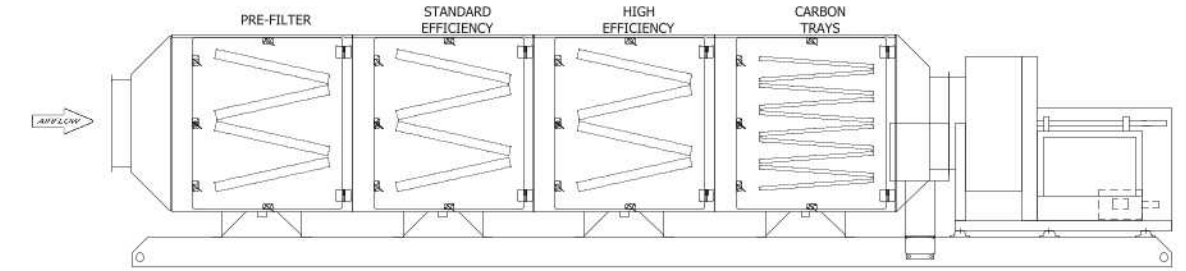
HOW IT WORKS

As air enters the ESP module it passes across a row of ionizer plates, which positively charge the particles in the airstream. Upon entering the collector portion of the cell, the positively charged particles are attracted to the negatively charged plates like a magnet, which captures and removes the contaminants from the airstream.



- 1 Factory inlet transition for ease of installation
- 2 Tool-less access by means of 270 deg turning latches on doors
- 3 Unit mounted power pack supply the electrostatic precipitator cells with the necessary voltage for operation
- 4 Modular stainless steel construction
- 5 Plug-and-play cables – pre-wired from the factory or up to 150 ft pre-made plug-and-play cables provided for an easy install
- 6 Keypad or touchscreen available for ESP control
- 7 Detergent control center and assembly – contains the detergent pump and 5 gallon bucket that houses the detergent for wash. It is also monitored to ensure you are washing with detergent
- 8 Detergent injection manifold – pre-engineered assembly for water, detergent injection and mixed wash to unit wash inlet
- 9 Drain outlet (2") part of manifolded system pre-assembled from the factory for only 1 drain connection to be done in the field
- 10 Inlet hot water connection from detergent manifold for automatic washdown system
- 11 Impingement filter evenly distributes airflow and stops large particles from entering the system. These filters are also washed unlike other precipitators on the market
- 12 Automatic wash down uses detergent from 5 gallon tank to clean the cells and impingement filter. Reduces the need for manual cleaning
- 13 Pre-piped UL 300 fire system
- 14 V-bank 2-inch carbon trays for reducing cooking odors
- 15 Integral mounting rails provide base for unit modules and exhaust fan
- 16 Accurex UL 762 utility set fan with motor and drive mounted outside of the airstream per NFPA96
- 17 Main control cabinet (shown as unit mounted – remote mounted also available) connects to the unit components via plug-and-play cables
- 18 Lightweight and durable ESP cells for ease of servicing the unit

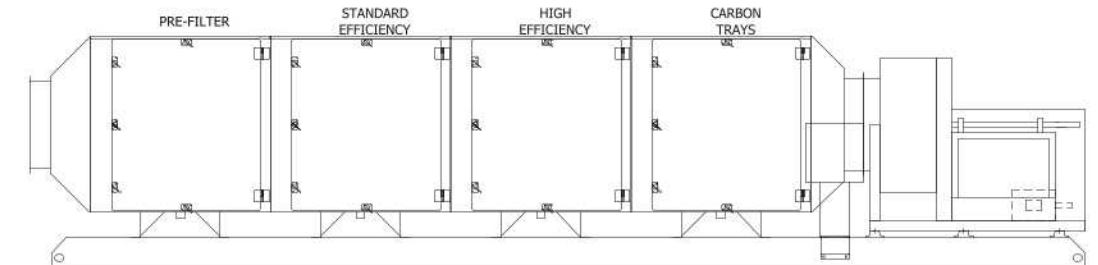
GREASE TRAPPER FILTERED		GREASE TRAPPER ESP ELECTROSTATIC PRECIPITATOR	
\$	FIRST COST	\$\$	
\$\$	ANNUAL OPERATING COST	\$	
No	SELF CLEANING	Automatic scheduled wash impingement filter and cells to be manual routine schedule	
Higher	STATIC PRESSURE	Lower	
Decreases with use	FILTRATION EFFICIENCY	Constant	
Requires mechanical installation coordination for the PCU itself (and fire suppression distributor)	INSTALLATION COORDINATION	Requires mechanical, plumbing, and electrical coordination (and fire suppression distributor)	
Grease-X-Tractor™ Grease Grabber™	MINIMUM HOOD FILTER RECOMMENDATION	Grease-X-Tractor™	
Low	SMOKE REMOVAL	High	
<ul style="list-style-type: none"> Multiple filter replacements required each year with frequency determined by the cooking type and amount (check local codes) Pressure wash interior of unit As needed carbon tray replacement 	MAINTENANCE	<ul style="list-style-type: none"> impingement filter and cells to be manual routine schedule Easy detergent change outs with use of 5 gallon bucket As needed carbon tray replacement 	
Yes	UL 8782 LISTED	Yes	
<ul style="list-style-type: none"> Unit can be shipped in multiple sections for field assembly if required Complete Ansul UL 300 fire system including installation (fire system prepiped as standard) NEMA-1 and NEMA-4 fire cabinets with internal heaters are available for indoor or outdoor mounting locations to protect fire system components and save installation time UL 762 high efficiency inline 	OPTIONAL ADDITIONS	<ul style="list-style-type: none"> Unit can be shipped in multiple sections for field assembly if required NEMA-1 and NEMA-4 fire cabinets with internal heaters are available for indoor or outdoor mounting locations to protect fire system components and save installation time Variable frequency drive (VFD) for system balancing or variable volume operation UL 762 high efficiency inline fan 	



GREASE TRAPPER

Housing	Maximum CFM	Height (Inches)	Fan Type	*Maximum Unit Width (Inches)	Overall Length (Inches)	Unit Weight (Pounds)
30	3,000	38.476	Utility Fan Set	32.472	211	1142
		38.476	Inline Fan	44.382	204	1196
45	4,500	47.429	Utility Fan Set	34.042	204	1250
		47.429	Inline Fan	47.632	210	1325
60	6,000	61.429	Utility Fan Set	37.446	232	1810
		61.429	Inline Fan	52.136	228	1850
90	9,000	52.201	Utility Fan Set	54.629	230	2100
		52.201	Inline Fan	65.195	220	2115
120	12,000	61.929	Utility Fan Set	55.784	236	2550
		61.929	Inline Fan	68.944	225	2665

* Maximum width includes fan, power pack, motor clearance, and unit width. Unit access clearance is not accounted for.



GREASE TRAPPER ESP

Housing	Maximum CFM	Height (Inches)	Fan Type	*Maximum Unit Width (Inches)	Overall Length (Inches)	Unit Weight (Pounds)
15	1,500	46.918	Utility Set	37.192	180	1839
			Inline			1859
30	3,000	47	Utility Set	53.692	187	2228
			Inline			2258
45	4,500	47	Utility Set	72.192	189	2609
			Inline			2767
60	6,000	66.793	Utility Set	50.692	191	3459
			Inline			3541
90	9,000	66.793	Utility Set	72.192	195	4243
			Inline			4277
135	13,500	92.793	Utility Set	72.192	222	5000
			Inline			4819

* Maximum width includes fan, power pack, motor clearance, and unit width. Unit access clearance is not accounted for.

STAY UP TO CODE ON POLLUTION CONTROL

INTERNATIONAL MECHANICAL CODE (IMC 2021) has guidelines for pollution control units, located in section 506.5.2, which, among others, states that:



1. Pollution-control units shall be listed and labeled in accordance with UL 8782.¹
(Note: IMC 2018 required UL 1978, while UL 710 was never recommended for pollution-control units.)
2. Fans serving pollution-control units shall be listed and labeled in accordance with UL 762.¹

PAST PCU STANDARDS

UL 710 - Standard for Exhaust Hoods

This standard, specific for commercial cooking equipments, is designed to test and ensure the proper operation of Type I commercial kitchen exhaust hoods. This standard is focused on the liquid tight construction of a hood, it's operation during typical cooking scenarios, and exhaust airflow rates. These evaluations, while useful for Type I hoods, are largely unfit to be applied to pollution control units.

UL 1978 - Standard for Grease Ducts

This standard, specific for factory-built grease ducts, is designed to test and ensure that grease ductwork can withstand the extreme conditions that occur during a grease fire. This test ensures stable construction during both a fire and extreme temperature situation, and was actually a previous requirement for pollution control units.

UL 8782 - POLLUTION CONTROL UNITS FOR COMMERCIAL COOKING

By specifying a pollution control unit with a UL 8782 listing, you can be assured your kitchen is operating with the safest unit in the industry that can withstand harsh operating conditions.

The New Outline for PCUs

With the increasing interest in pollution control units in kitchen exhaust systems, UL has developed a new outline specifically meant to address the unique requirements of these units. Other commercial kitchen exhaust standards (UL 710, UL 762, UL 1978) do not properly address pollution control units, which created confusion in determining proper PCU construction and testing requirements.

Designed to assist manufacturers and code officials, the UL 8782 outline specifically addresses test and construction standards for pollution control units within commercial kitchen spaces. This outline actually utilizes tests from other standards, adopting the extreme temperature testing from UL 1978, and various electrical requirements from UL 710. Furthermore, UL 8782 adds additional stipulations specific to PCUs, including modular construction and material requirements.

UL 762 - STANDARD FOR POWER ROOF VENTILATORS FOR RESTAURANT EXHAUST

UL 762 references the National Fire Protection Association (NFPA 96), a standard that covers installation requirements for power ventilators in restaurant exhaust applications. NFPA 96 defines the requirements for in-line exhaust fans in a commercial kitchen system as "In-line shall be of the type with the motor located outside the airstream and with belts and pulleys protected from the airstream by a greasetight housing."
- NFPA 96 8.1.3.1

It's crucial to confirm that when inline exhaust fans are used in conjunction with pollution control units that they continue to meet this requirement set forth by NFPA 96 and therefore uphold the UL-762 listing.

¹ INTERNATIONAL MECHANICAL CODE (IMC 2021)