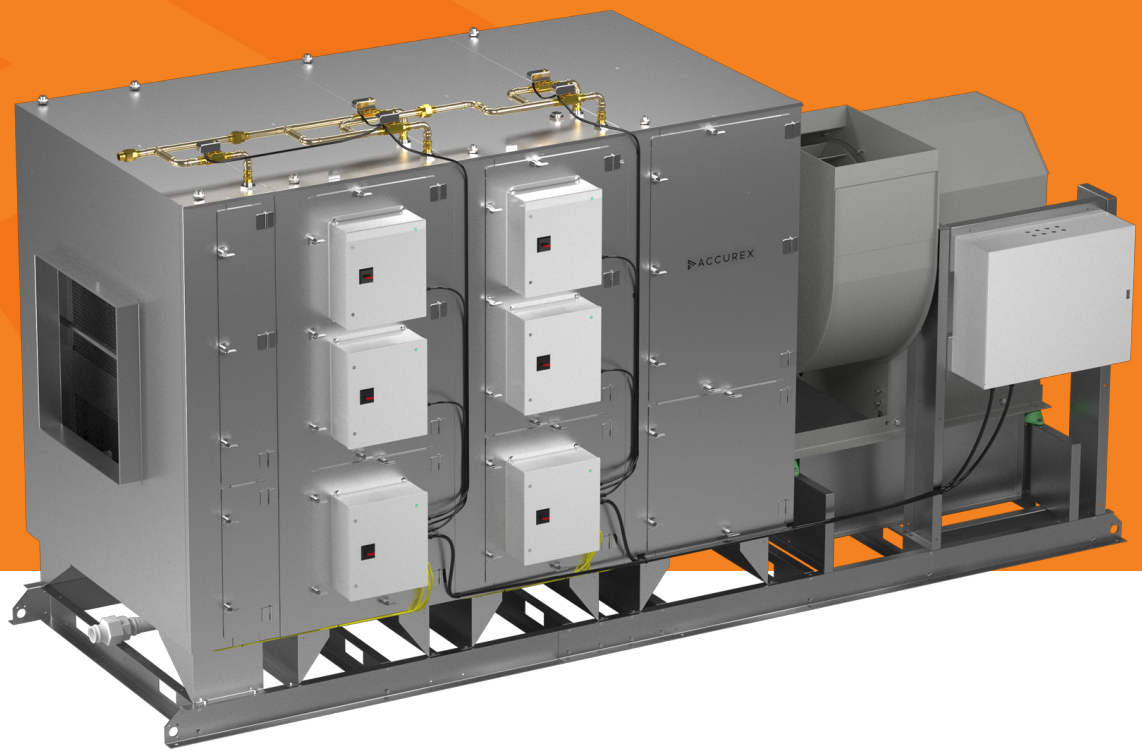
ACCUREX

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 multiuse 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 705 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.

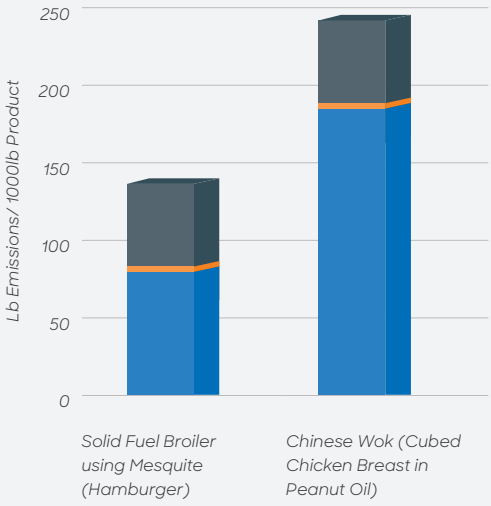
FINE GREASE PARTICULATE

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 Emmissions 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™

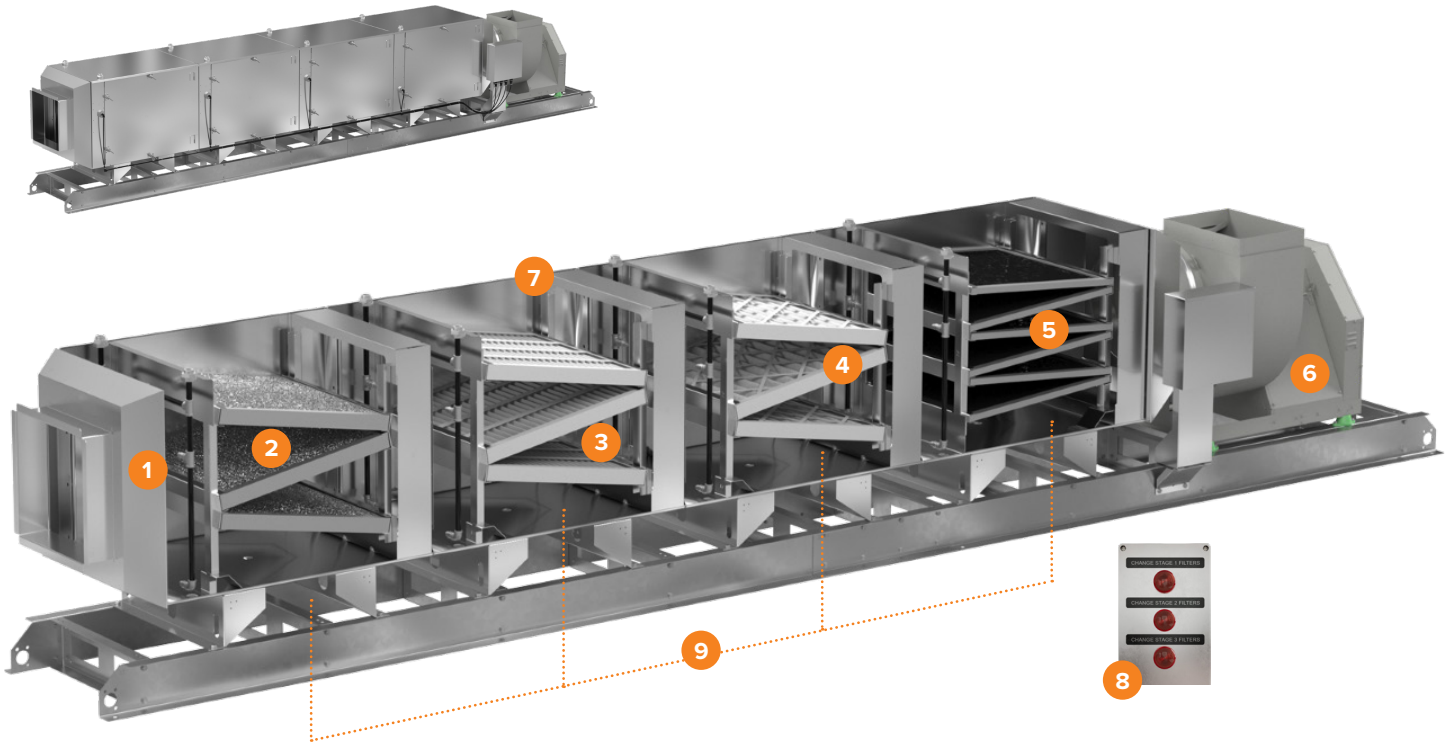
69% efficient
at 8 microns

Grease Grabber™

100% efficient
at 8 microns

GREASE TRAPPER FILTERED

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



INDUSTRY LEADING CLEARANCES

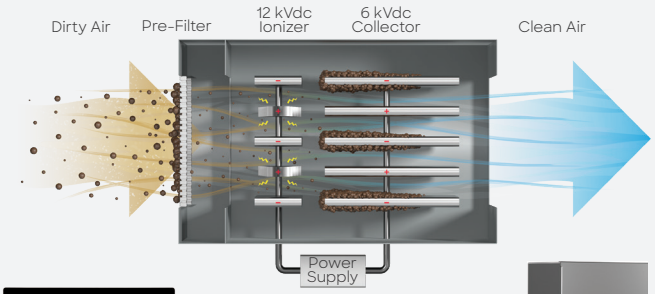
The unique construction features and UL 8782 listing of the Grease Trapper ™ allow for the smallest clearance to combustibles in the industry. It can be mounted just 12 inches away from combustibles on the top of the unit and 6 inches on the sides and bottom to easily fit into tight mechanical rooms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

1. Factory inlet transition fabricated for ease of installation
2. Metal mesh filters catch the large grease particles and are easily washable with a hose or in a dishwasher
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 705 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. If unit is selected with controls, filter status will be shown by a keypad fault or via BMS integration instead of the remote filter status indicator panel.

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.

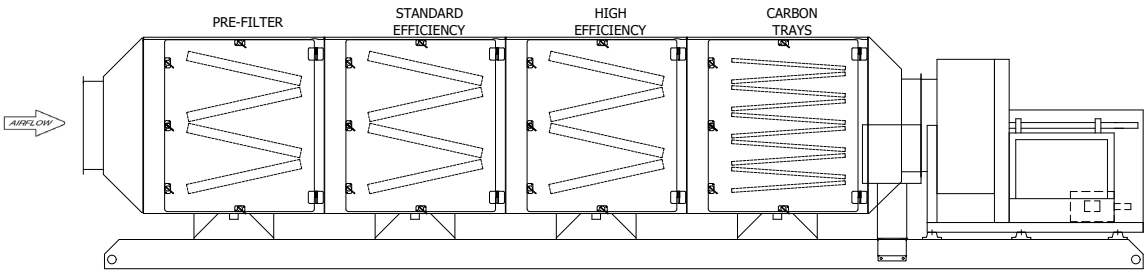


1. Factory inlet transition for ease of installation
2. Toolless access by means of 270 deg turning latches on doors
3. Unit mounted power pack supplies the electrostatic precipitator cells with the necessary voltage for operation
4. Modular stainless steel construction
5. Plug-and-play cables – prewired from the factory or up to 150 ft premade 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. Prepiped 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 705 utility set fan with motor and drive mounted outside of the airstream per NFPA 96
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

POLLUTION CONTROL UNITS

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™	**MINIMUM HOOD FILTER RECOMMENDATION**	Grease-X-Tractor™
Low	**SMOKE REMOVAL**	High
· 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**	· 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
· 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 705 high efficiency inline	**OPTIONAL ADDITIONS**	· 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 705 high efficiency inline fan

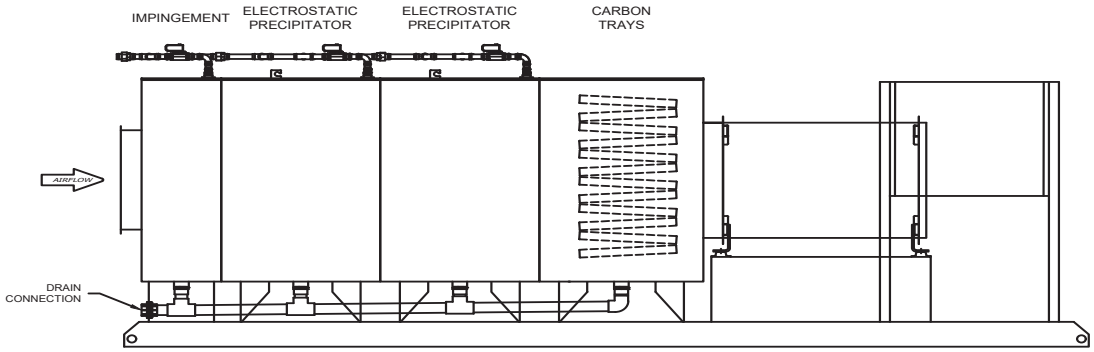
DIMENSIONS



GREASE TRAPPER

Housing	Maximum CFM	Height (Inches)	Fan Type	*Maximum Unit Width (Inches)	Overall Length (Inches)	Unit Weight (Pounds)
30	3,000	38	Utility Set	40	228	1,232
			Inline	51	228	
45	4,500	48	Utility Set	42	233	1,566
			Inline	54	233	
60	6,000	62	Utility Set	45	246	1,953
			Inline	59	246	
90	9,000	54	Utility Set	61	248	2,451
			Inline	72	248	
120	12,000	63	Utility Set	63	250	2,903
			Inline	75	250	
180	18,000	84	Utility Set	65	261	4,432
			Inline	78	265	
270	27,000	84	Utility Set	81	253	5,795
			Inline	85	259	

** Maximum width includes fan, power pack, motor clearance, and unit width. Unit access clearance is not accounted for. Dimensions are subject to change pending the final fan selection. Consult unit submittal for exact dimensions. Consult factory for final selection.*



GREASE TRAPPER ESP

Housing	Maximum CFM	Height (Inches)	Fan Type	*Maximum Unit Width (Inches)	Overall Length (Inches)	Unit Weight (Pounds)
15	1,500	47	Utility Set	37	174	1,410
			Inline	52		
30	3,000	47	Utility Set	54	185	1,710
			Inline	59		
45	4,500	47	Utility Set	73	186	2,120
			Inline	73		
60	6,000	65	Utility Set	51	190	2,765
			Inline	59		
90	9,000	65	Utility Set	73	194	3,315
			Inline	77		
135	13,500	93	Utility Set	73	194	5,000
			Inline	80		

** Maximum width includes fan, power pack, motor clearance, and unit width. Unit access clearance is not accounted for. Dimensions are subject to change pending the final fan selection. Consult unit submittal for exact dimensions. Consult factory for final selection.*

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 705.[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 705, 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 705 -STANDARD FOR POWER ROOF VENTILATORS FOR RESTAURANT EXHAUST

UL 705 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-705 listing.

[1] INTERNATIONAL MECHANICAL CODE (IMC 2021)

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