

# Pollution Control Unit



## Frequently Asked Questions

With the increasing size of the urban landscape and multi-use buildings, the focus on restaurant grease and odor control plays an increasingly important role in commercial kitchen exhaust systems. No one wants their apartment or office space smelling like the restaurant below or their windows covered in grease from the neighbors kitchen exhaust. As a cost effective solution to these problems pollution control units (PCU's) have become increasingly popular in the past few years.

Being new to the commercial kitchen marketplace there are relatively few codes that specifically address the use and installation of the PCU's or listing standards specifically addressing the filtered PCU's. This can lead to confusion amongst code official's, engineers, end users, insurance professionals and fire system installers on how to use these units and what is required to ensure the safety of the occupants in these areas.

### **Q: When is a Pollution Control Unit (PCU) necessary?**

**A:** A PCU works best in applications where the restaurant would like to remove more of the grease, and odor from the exhaust airstream. A good example would be if they are on the ground floor of a multi-story building and must discharge the exhaust out the sidewall or have neighbors that do not want the odors or grease present. A PCU will help to eliminate the need for a long, cost prohibitive duct run to the roof and prevent grease build up on windows, sidewalks or adjacent buildings.

### **Q: Are PCU's required by code?**

**A:** There is nothing currently in the International Mechanical Code (IMC) or NFPA 96 requiring the use of PCU's. Local codes are starting to be passed in certain areas of the country that require the use of PCU's, however, the majority of PCU's are customer requested, not necessarily code mandated.

### **Q: What types of PCU's are commonly used in restaurants?**

**A:** Two types of PCU's are commonly available, filtered and electrostatic precipitator (ESP) models. The Grease Trapper and Triple Play filtered PCU models have 3 sets of mechanical filters and an odor removal section. The Power Play model contains an electrostatic precipitator and an odor removal section to remove the grease and odors.

### **Q: When should a filtered unit be used?**

**A:** The filtered units offer a lower upfront cost than the ESP units but typically are twice the cost to operate and maintain annually due to the filters needing to be replaced. The annual maintenance costs can vary based on cooking load, hood filters and the type of food being cooked.

### **Q: When should an Electrostatic Precipitator (ESP) unit be used?**

**A:** The Power Play units contain an ESP section to help remove grease and will have an integral wash down system for daily washing and maintenance. These units will have a higher initial cost due to the ESP cell and wash down system but have lower annual operating and maintenance costs. When long term costs are important, an ESP unit is the best option.

### **Q: What types of filters are used in the Grease Trapper units?**

**A:** The filtered units will use 3 sets of filters. A metal mesh filter to remove the larger particles of grease, a MERV 8 filter bank with a 78% efficiency and a MERV 15 filter bank with a 95% efficiency. A carbon filter section is used to remove odors from the airstream.

### **Q: What type of filters should be used at the hood?**

**A:** The more grease that can be removed at the hood the lower the operating cost of the PCU, as it prevents grease build-up in the PCU. Accurex recommends using Grease X-Tractor™ filters in the hood which will be approximately 70% efficient.

### **Q: Can the PCU's be used with multiple hoods?**

**A:** Yes, multiple hoods can be tied to the PCU like any other exhaust fan.

### **Q: Does the PCU require a fire suppression system?**

**A:** Yes, a fire suppression system is required and typically must be tied into the kitchen hood fire system, so both will go off at the same time.

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**Q: Why are there three different types of safety listings on PCU's?**

**A:** There are three different safety listings that can be found on PCU's in the industry from either ETL or UL. ETL and UL are the two listing agencies typically used for certifying all of the products within a kitchen exhaust system and are both widely accepted within the industry.

When filtered PCU units were first developed for use in kitchens, neither ETL nor UL had a specific listing for filtered PCU's. Because there was a need to ensure the safety of these units, ETL developed a listing based on the UL 710 Standard that is used to certify hoods and hood accessories. The Triple Play is ETL Listed to UL 710 Standards.

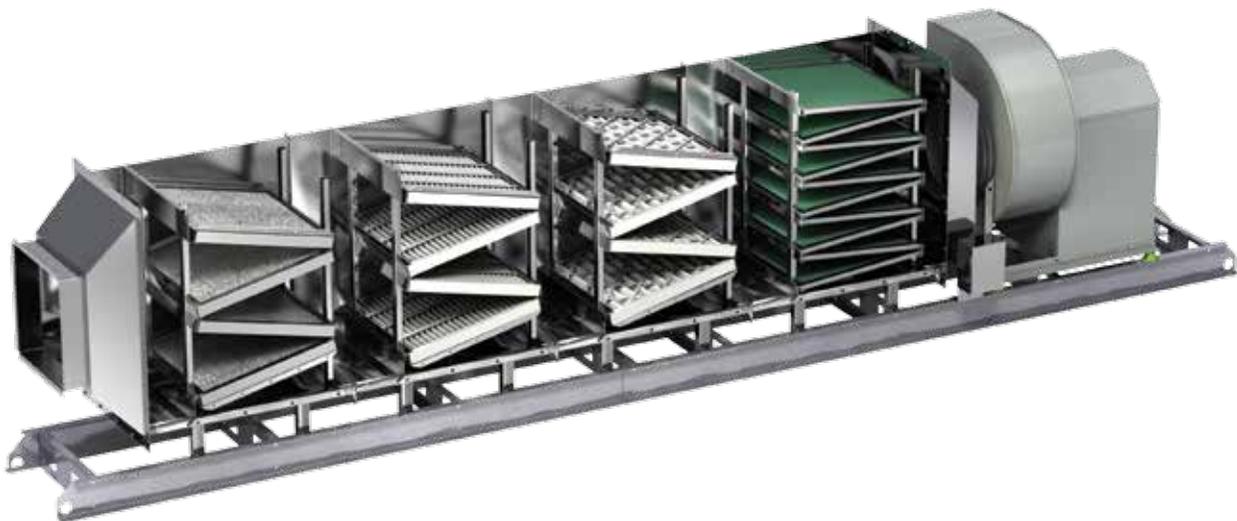
As these units became more common in the industry, their function in the overall exhaust system was reviewed. It was determined that these units were closer to exhaust ducts than a hood or hood accessory so a different listing may be more applicable. UL 1978 is the standard that covers factory built grease duct used in the kitchen exhaust systems. The Grease Trapper model is UL 1978 Listed to grease duct standards.

The ESP models contain an electrostatic cell to remove grease instead of mechanical filters like the filtered PCU units. These units will be ETL Listed to UL 867 Standards which is applicable to electrostatic air cleaners.

**Q: Can a PCU unit serve kitchens hoods located on different floors of a building?**

**A:** The International Mechanical Code (IMC) 506.3.5 requires a separate grease duct system to be provided for each Type I hood unless all four of the conditions below are met-

1. All interconnected hoods are located within the same story.
2. All interconnected hoods are located within the same room or in adjoining rooms.
3. Interconnecting ducts do not penetrate assemblies required to be fire-resistance rated.
4. The grease duct system does not serve solid-fuel-fired appliances.



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