



# Kitchen Air Cleaning Electrostatic Technology



UL867 and  
compliant to  
NFPA96, NFPA90A  
and NFPA90B



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**CADEXAIR**  
EXPERTISE & INNOVATION

# Kitchen Air Cleaning Electrostatic Technology

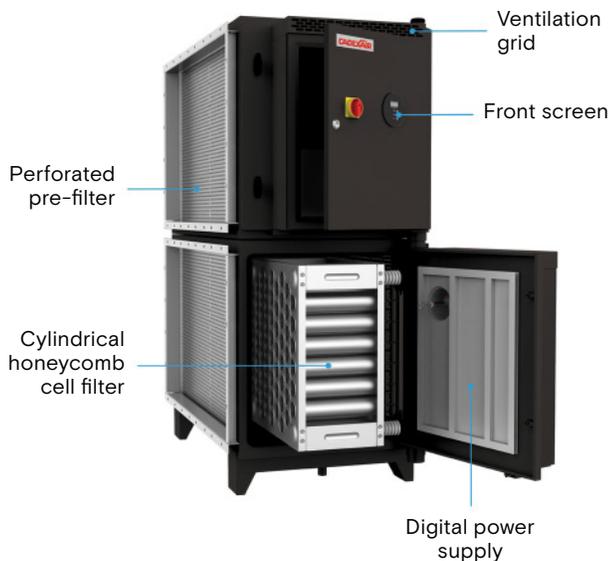
To effectively eliminate the grease particles that are suspended in the cooking air of the commercial kitchens, Cadexair has found the perfect solution of advanced ecological filtration, the electrostatic technology or ESP.



This approved technology is the result of many years of experience, innovation, and research in industrial kitchen ventilation engineering. Combined with its maintenance and cleaning department of this systems, Cadexair has found a way to filter more than 95% of the particles of 1 um (micron) and more of the air that is directed out of the kitchens handling the most demanding cooking in the country.

With its KAC units equipped with a high voltage digital power supply and a fire protection system, Cadexair can respond to the universal market demand for a robust and efficient solution with reusable filters. With this easy to maintain and highly automated solution, users can have the peace of mind because they respond at the highest air quality standards of the world's most severe municipalities.

## Operational Principle



As the air passes through the combined ionizer/collector cell, the grease particles in the air stream are negatively charged with a flood of electrons that are produced during the charging process. The negatively ionized particles are attracted by the grounded collectors in the diffusion process. Therefore, they settle out of the air flow and stick to the sides of the cylinders that are in the cylindrical honeycomb cell filter.

There is practically no mechanical force acting between the filtering cell and the air movement, resulting in a very low static pressure drop across the filters. Because of that, there is no need for a high-pressure fan such as a traditional secondary filter unit. The electrical energy of the KAC unit is applied only to the grease particles, making it very energy efficient.

### Cylindrical Honeycomb Cell Filter

The filter cell is made of a parallel arrangement of cylindrical honeycomb collectors with ionizing needles inside. This guarantees the uniformity of the electrostatic intensity generated inside the filtering cells. This type of filter has the highest level of filtration efficiency on the market.

## The digital power supply

A perfect combination of high power and power conversion efficiency.

This is a complete solution with safety features, such as soft start, constant output current, arcing, and automatic repositioning, as well as extensive protection against repeated arcing, HV open circuit, short circuit, overload, overheating, etc. All this ensures an optimal filtration efficiency of more than 95%, despite the fluctuations in system variables, type of food cooked, volume of air extracted, instability of the electrical network, cleanliness of the filtering cells, etc.

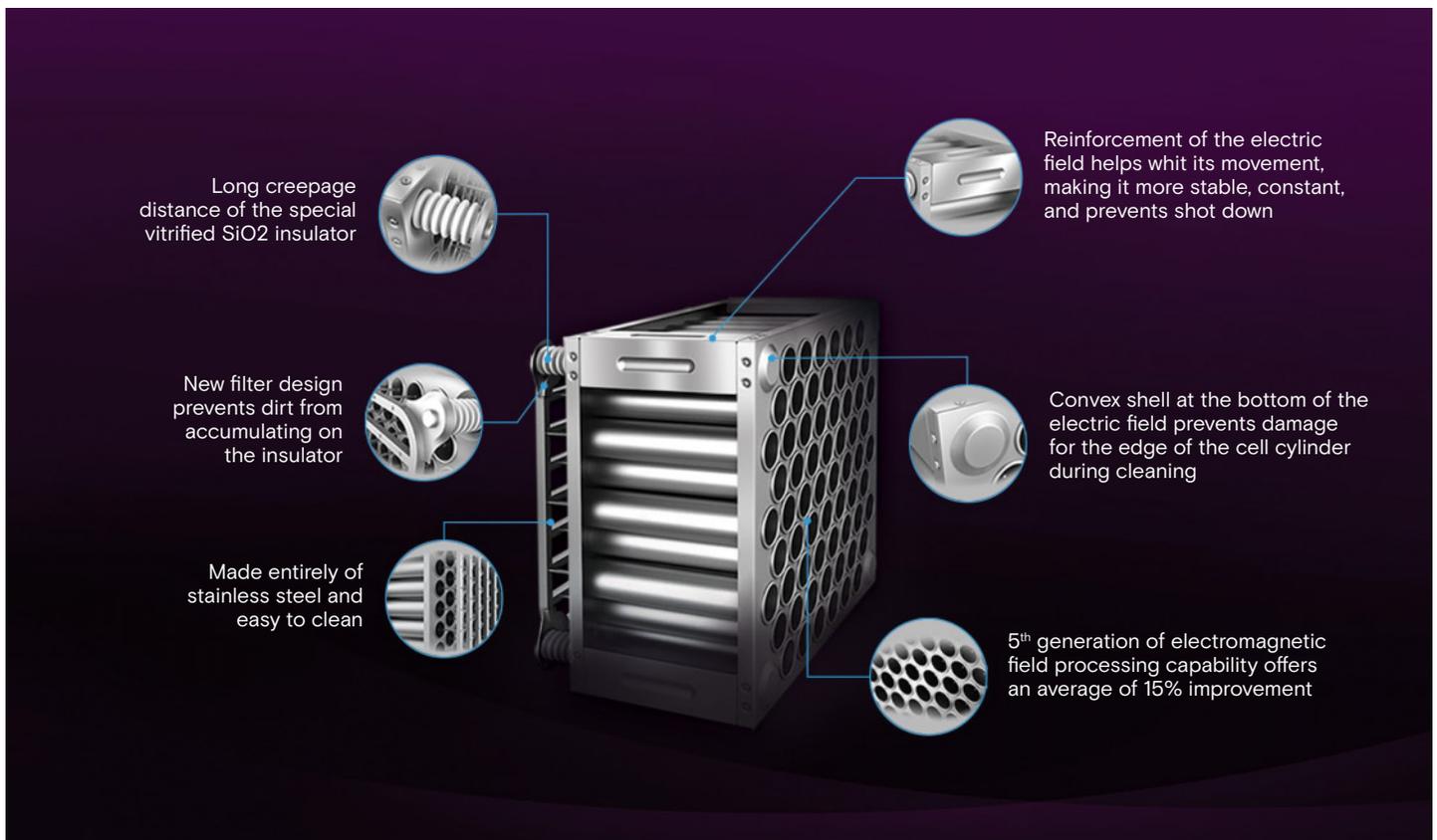
The cleanliness of the filtering cells is automatically examined and the optimal electrical currents are defined in real time to adapt to the constantly changing conditions

to avoid a total breakdown of the product when the filtering cells become dirty and thus reduce the frequency of cleaning. The operating status of the filter is accessible on the front of the units and on the Cadexair CC-200 control box, a powerful bridge based on the instantaneous data sampling and remote communication capabilities of the digital power supply.

## Perforated pre-filter

To remove large particles and grease droplets and help ensure uniform air distribution through the filter cells. Creates a uniform charge in each collector to maximize efficiency for the longest possible time to reduce cleaning and maintenance costs.

## The Electrostatic Filter

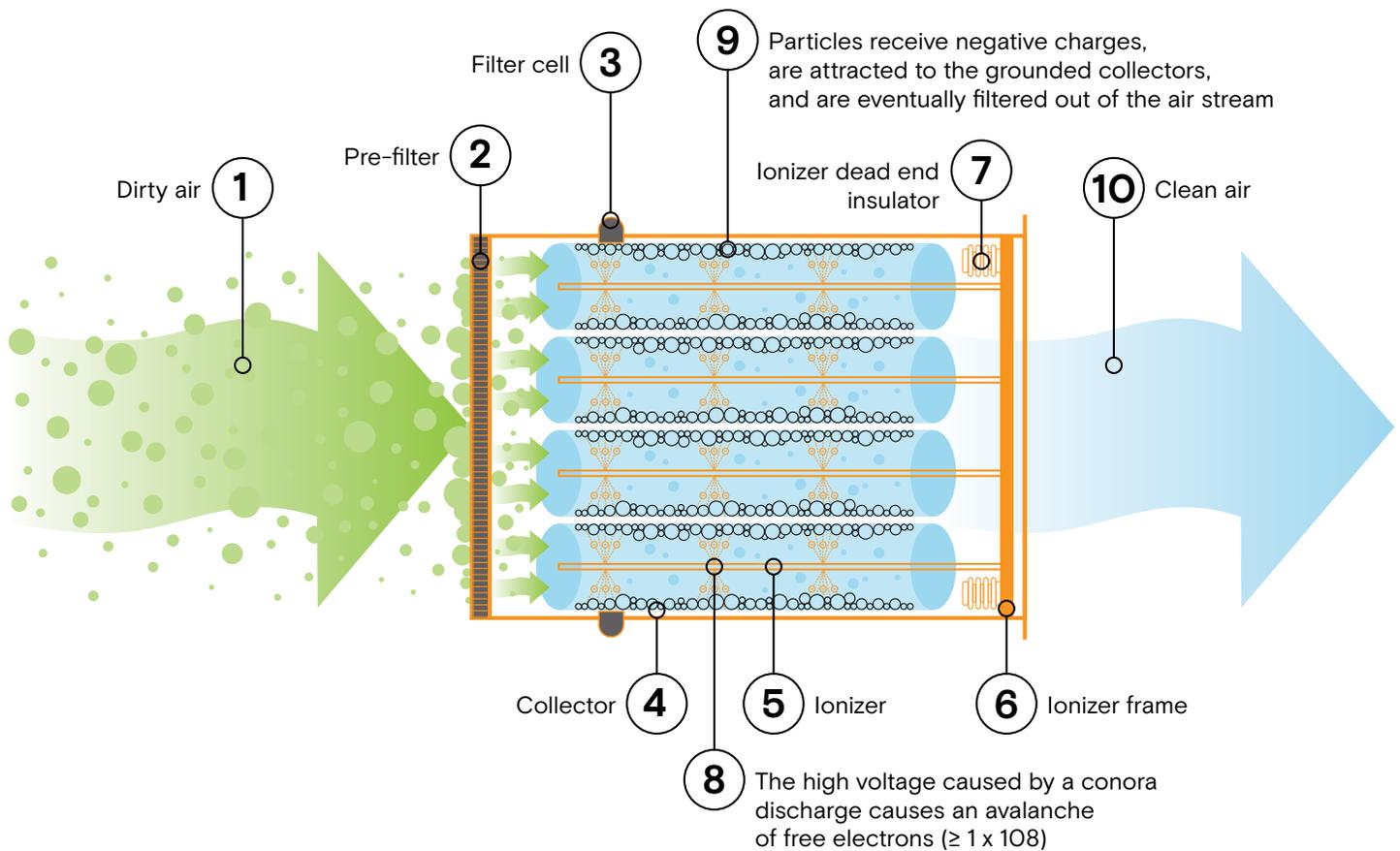
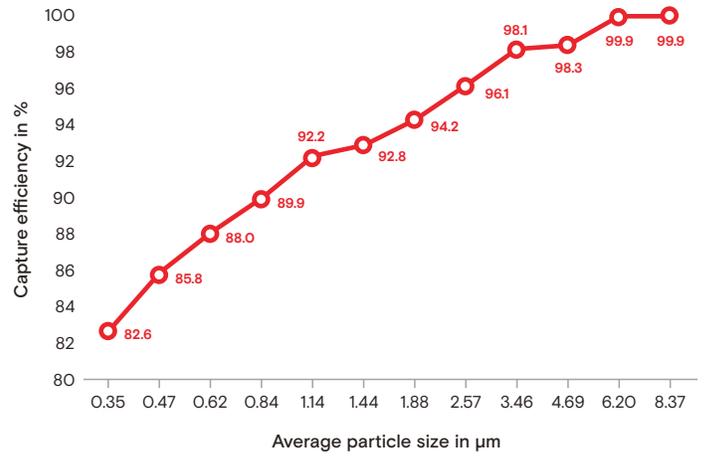


Made entirely of stainless steel, the electrostatic filter is not only very robust, but also fully washable. The inside is made with a honeycomb structure for maximum efficiency and durability.

The filter design prevents dirt from accumulating on the insulator. The convex shell at the bottom of the electric field protects the edge of the cylinder cell during cleaning.

With this technology, you have the best particle capture efficiency on the market.

**Capture efficiency vs particle size according to ASHRAE 52.2 standards (double pass unit)**

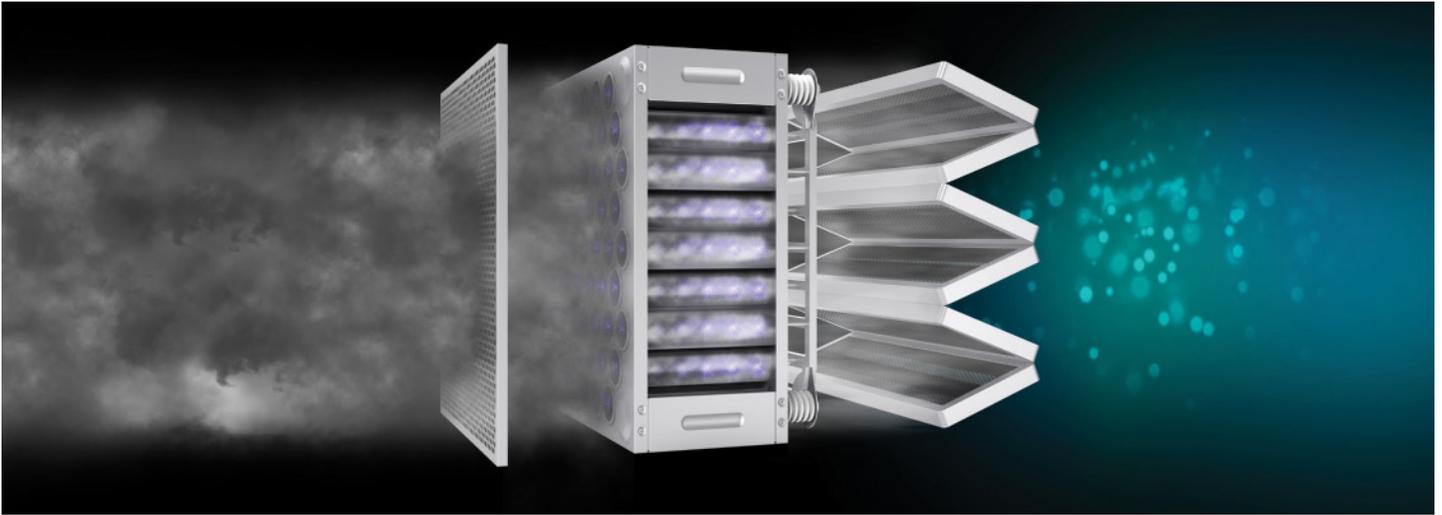


## Models

Series	Model	Dimensions D x H x L* (po)	Weight (lbs/kg)	Power (W)
<b>Simple Pass Unit</b>				
KAC-1-2000	1000 to 2000CFM	34 x 35 x 29	220 / 100	677
KAC-1-4000	2000 to 4000CFM	57 x 35 x 29	309 / 140	730
KAC-1-4000(S)	2000 to 4000 CFM (Stack)	34 x 64.25 x 29	441 / 200	1354
KAC-1-6000	4000 to 6000 CFM	80 x 35 x 29	430 / 195	809
KAC-1-6000(S)	4000 to 6000 CFM (Stack)	34 x 93 x 5 x 29	661 / 300	2031
KAC-1-8000	6000 to 8000 CFM	57 x 64.25 x 29	542 / 246	1460
KAC-1-14000	8000 to 14000 CFM	80 x 64.25 x 29	778 / 353	1618
KAC-1-14000(S)	8000 to 14000 CFM(Stack)	57 x 93.5 x 29	928 / 421	2190
KAC-1-20000	14000 to 2000 CFM	80 x 93.5 x 29	1153 / 523	2427
<b>Double Pass Unit</b>				
KAC-2-2000	1000 to 2000CFM	34 x 35 x 57.75	441 / 200	1354
KAC-2-4000	2000 to 4000CFM	57 x 35 x 57.75	617 / 280	1460
KAC-2-4000(S)	2000 to 4000 CFM (Stack)	34 x 64.25 x 57.75	882 / 400	2708
KAC-2-6000	4000 to 6000 CFM	80 x 35 x 57.75	860 / 390	1618
KAC-2-6000(S)	4000 to 6000 CFM (Stack)	34 x 93 x 5 x 57.75	1322 / 600	4062
KAC-2-8000	6000 to 8000 CFM	57 x 64.25 x 57.75	1084 / 492	2920
KAC-2-14000	8000 to 14000 CFM	80 x 64.25 x 57.75	1556 / 706	3236
KAC-2-14000(S)	8000 to 14000 CFM(Stack)	57 x 93.5 x 57.75	1856 / 842	4380
KAC-2-20000	14000 to 2000 CFM	80 x 93.5 x 57.75	2305 / 1046	4854
<b>Triple Pass Unit</b>				
KAC-3-2000	1000 to 2000CFM	34 x 35 x 86.75	660 / 300	2031
KAC-3-4000	2000 to 4000CFM	57 x 35 x 86.75	927 / 420	2190
KAC-3-4000(S)	2000 to 4000 CFM (Stack)	34 x 64.25 x 86.75	1323 / 600	4062
KAC-3-6000	4000 to 6000 CFM	80 x 35 x 86.75	1290 / 585	2427
KAC-3-6000(S)	4000 to 6000 CFM (Stack)	34 x 93 x 5 x 86.75	1983 / 900	6093
KAC-3-8000	6000 to 8000 CFM	57 x 64.25 x 86.75	1626 / 738	4380
KAC-3-14000	8000 to 14000 CFM	80 x 64.25 x 86.75	2334 / 1059	4854
KAC-3-14000(S)	8000 to 14000 CFM(Stack)	57 x 93.5 x 86.75	2784 / 1263	6570
KAC-3-20000	14000 to 2000 CFM	80 x 93.5 x 86.75	3459 / 1569	7281

\* Allow a 24-inch clearance to open the doors to remove/replace washable electrostatic filters.

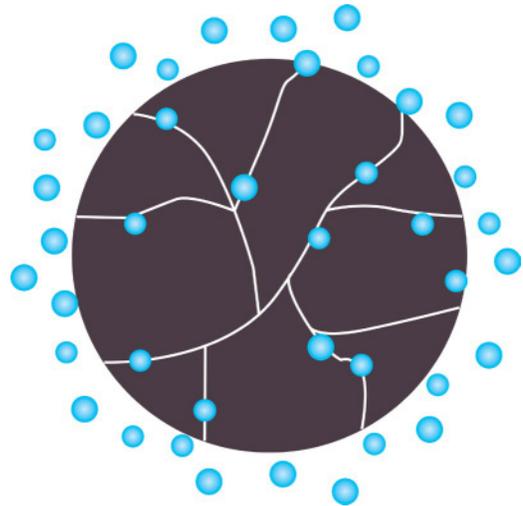
## Carbon Activated Option



### Odour Elimination

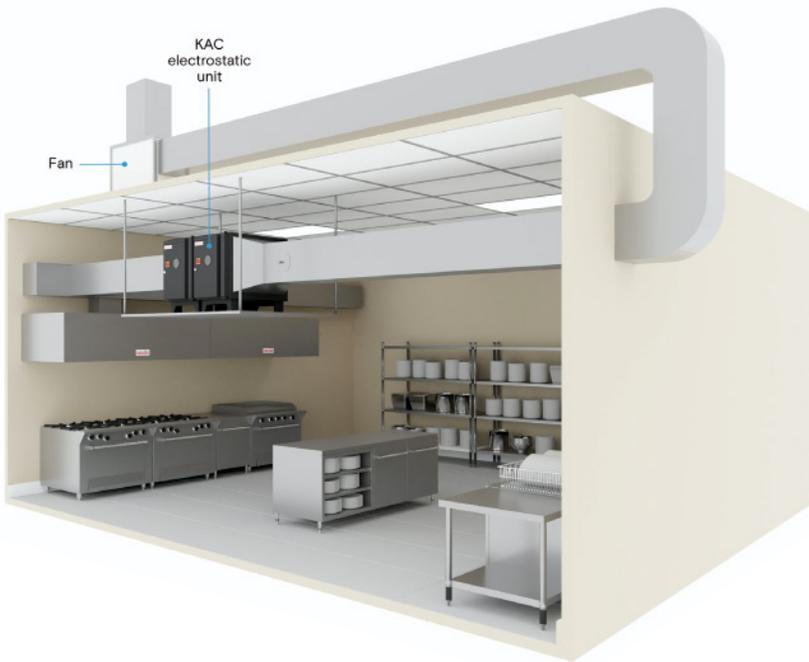
When installed downstream of the Cadexair electrostatic unit, the carbon filter absorbs the odours. It uses high quality carbon granules as absorption material and a perforated grid holding cylindrical honeycomb structure compartments as a support cassette, allowing high adsorption capacities and decent aerodynamic performance. The V-shaped carbon panel allows a larger reception area and facilitates the installation and maintenance.

The carbon filter can be used for a general adsorption of the malodorous exhaust gases.



Series	Model	Length in inches (mm)	Weight in lbs (kg)
KAC-X-2000	1000 to 2000CFM	20.75 (528)	104 (47)
KAC-X-4000	2000 to 4000CFM	20.75 (528)	207 (94)
KAC-X-4000(S)	2000 to 4000 CFM (Stack)	20.75 (528)	207 (94)
KAC-X-6000	4000 to 6000 CFM	20.75 (528)	311 (141)
KAC-X-6000(S)	4000 to 6000 CFM (Stack)	20.75 (528)	311 (141)
KAC-X-8000	6000 to 8000 CFM	20.75 (528)	414 (188)
KAC-X-14000	8000 to 14000 CFM	20.75 (528)	725 (329)
KAC-X-14000(S)	8000 to 14000 CFM(Stack)	20.75 (528)	725 (329)
KAC-X-20000	14000 to 2000 CFM	20.75 (528)	1039 (470)

# Exemples of Installation Types



**Indoor installation  
with roof exit**



**Outdoor installation  
with roof exit**



**Indoor installation  
with wall exit**

## Our Achievements



Alya restaurant



Ristorante Donato



Bacaro Pizzeria



Ma poule mouillée restaurant



UL867 and  
compliant to  
NFPA96, NFPA90A  
and NFPA90B



### Head office

3020B, Route Marie Victorin  
Varenes, QC,  
Canada J3X 0J5

### Contact us

Design, pricing and sales  
[sales@cadexair.com](mailto:sales@cadexair.com)

Technical support and cleaning  
[info@cadexair.com](mailto:info@cadexair.com)

450-652-0668  
1-800-461-0668

[cadexair.com](http://cadexair.com)

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