



## **AIR POLLUTION CONTROL SYSTEM FOR FOOD PREMISES**

### **ELECTROSTATIC FILTER EAN-SERIES**

#### **INSTALLATION AND MAINTENANCE**

#### **CONTENT**

- A- Shipment
- B- System overview
- C- Specifications and dimensions
- D- Installation guidelines
- E- Suggested specification
- F- System test
- G- Service and maintenance
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#### **A. Shipment**

Check that the unit has not been damaged during the transport. Report any discrepancies to AOM. The filter has been tested before shipping and the airflow has been set up according to your instructions. Read the complete guide before starting the installation.

#### **B. System overview**

The stainless steel honeycomb filters inside the kitchen exhaust hood are a barrier against the flames getting through the ducting system. They are controlling the large particles generated during the cooking process but are ineffective in removing the finer grease particles, oil mist, cooking fumes, smoke and odour. These pollutants build-up in the duct, the fan on the roof or on the side walls of the building. They are highly flammable and frequently cause fires.

The EAN-Series, our high performance kitchen exhaust air cleaner provides effective containment for air pollutants and prevents possible fire hazards. It also reduces air duct cleaning maintenance while keeping the air free of irritating smoke and greasy odour. The treated air can then be re-circulated back into the kitchen exhaust hood or expelled out of the building at roof or street level.

Our air cleaners are design based on the principle of ESP "electrostatic precipitation". The ESP removes fine particles (95% efficiency for particles of 0.01 micron in accordance with ASHRAE Standard) by charging the particles first and subsequently precipitating them into collector cells. Using a double pass configuration (2 x EAN filters in series) the efficiency will reach 99%.

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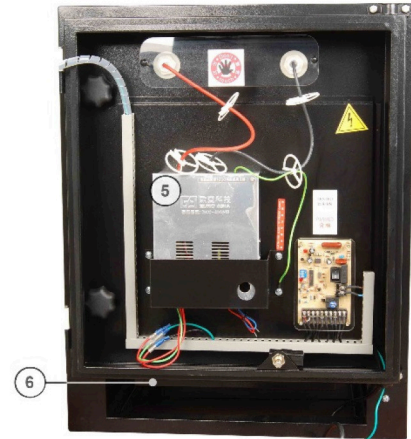
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## AIR POLLUTION CONTROL SYSTEM FOR FOOD PREMISES

### ELECTROSTATIC FILTERS- EAN- 200/300/400/600/600T/800T/1200T

#### SPECIFICATIONS AND DIMENSIONS

MODEL 600T	2 x '300's ON TOP OF EACH OTHER	2830 L/S
MODEL 800T	2 x '400's ON TOP OF EACH OTHER	3780 L/S
MODEL 1200T	2 x '600's ON TOP OF EACH OTHER	5660 L/S



1. PREFILTER- It stops large particles of grease and fumes entering the ionization section. Stainless steel mesh. Easy to clean.
2. HIGH VOLTAGE IONIZATION SECTION-13KV Tungsten ionizer wires are spring-mounted within an aluminium frame. The grease/fumes particles are receiving an electrical charge.
3. COLLECTION PLATES- This section is made of a series of equally spaced parallel plates attracting the charged particles. Then they slide down the plates and drop into a removable tray.
4. SPRING- They connect the power from the power supply to the unit.
5. POWER SUPPLY- It supplies the high voltage to the two stages of the electrostatic precipitation unit.
6. GREASE COLLECTION TRAY- The tray is removable for easy cleaning.
7. LOCK- Unlock it to access the electrostatic precipitation unit.
8. LIGHTS & ON/OFF SWITCH- When the green light is on means that the unit is working properly. When the red light is on, it indicates that the unit needs to be cleaned or serviced.
9. AMPEREMETER- It shows the unit consumption in milliamps.
10. CABINET- 16 gauge steel housing with powder coated paint.
11. VOLTMETER
12. HEAT EXCHANGER. Keep the electronics at the right temperature.

#### NOTES:

- FOR CHARCOAL & CHAR-GRILL COOKING, CONSULT OUR ENGINEER FOR CORRECT SIZING.
- WHEN ORDERING A UNIT FOR OUTDOOR INSTALLATION, PLEASE STATE IT IN YOUR PURCHASE FORM AND CONNECT THE POWER CORD TO A WEATHER-PROOF SWITCH.
- FOR AIR-VOLUME HIGHER THAN 5660L/s CONSULT OUR ENGINEER.

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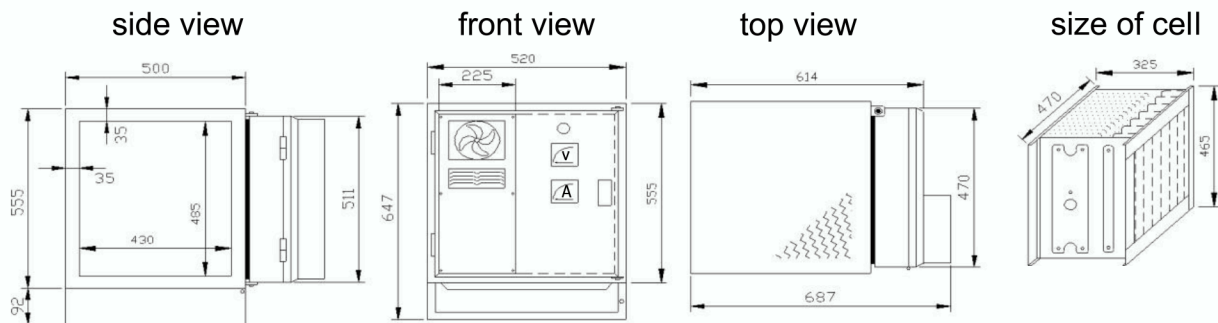
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# Specification

## EAN-200

### Model Specifications

Product	Electrostatic Precipitator
Model	EAN-200
Size (mm)	520 (W) x 687 (D) x 647 (H)



### General

Weight	58 kg
L/S (max.)	945
Exhaust outlet/inlet (mm)	430 (W) x 485 (H)
Size of collecting cell (mm)	325 (W) x 470 (D) x 465 (H)
Finish	powder coated (thickness: 1.0 mm) Steel
Material of ionizing collecting cell	Aluminum alloy (thickness: 1.0 mm)
Maintenance space required (mm)	770 (W) x 650 (D) x 650 (H)
Cleaning method	Manual
Pre-filter / collecting cell	1x / 1x
Electrical supply	AC 240V 50Hz
Electrical consumption	176 W
High Voltage Power Pack	High Voltage 14,000 V / Low Voltage 7000 V
Efficiency	95% for particle down to 0.01 micron
CE & TUV Certified	
Resistance (clean)	25 Pa

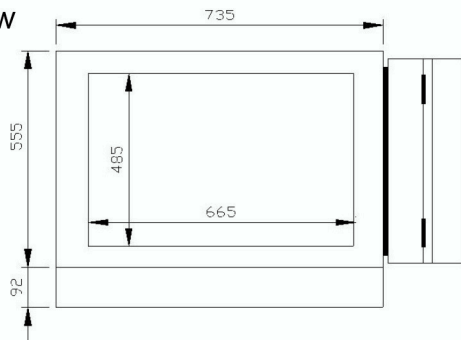
# Specification

## EAN-300

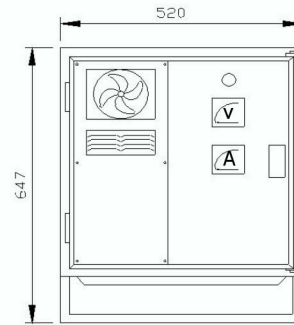
### Model Specifications

Product	Electrostatic Precipitator
Model	EAN-300
Size (mm)	520 (W) x 922 (D) x 647 (H)

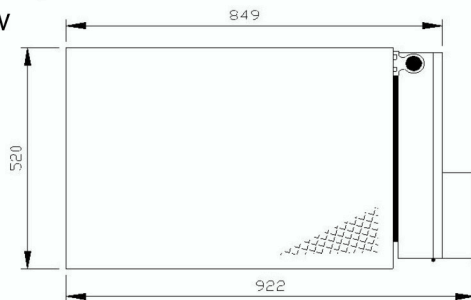
side view



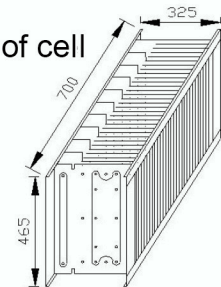
front view



top view



size of cell



### General

Weight	68 kg
L/S (max.)	1415
Exhaust outlet/inlet (mm)	665 (W) x 485(H)
Size of collecting cell (mm)	325(W) x 700 (D) x 465 (H)
Finish	powder coated (thickness: 1.0 mm) Steel
Material of ionizing collecting cell	Aluminum alloy (thickness: 1.0 mm)
Maintenance space required (mm)	770 (W) x 750 (D) x 650 (H)
Cleaning method	Manual
Pre-filter /collecting cell	1x / 1x
Electrical supply	AC 240V 50Hz
Electrical consumption	176 W
High Voltage Power Pack	High Voltage 14,000 V / Low Voltage 7000 V
Efficiency	95% for particle down to 0.01 micron
CE & TUV Certified	
Resistance (clean)	25 Pa

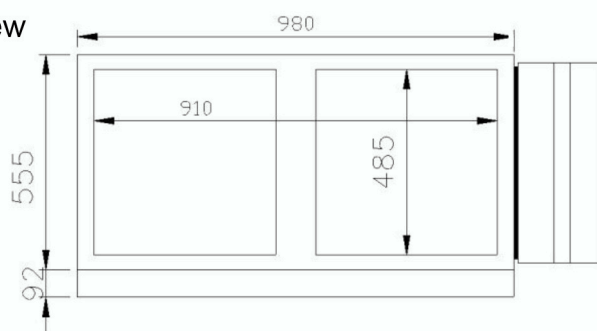
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## EAN-400

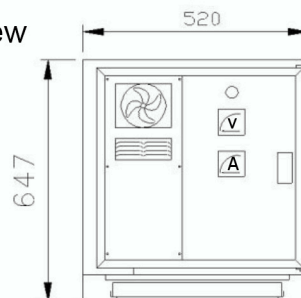
### Model Specifications

Product	Electrostatic Precipitator
Model	EAN-400
Size (mm)	520 (W) x 1167(D) x 647 (H)

side view



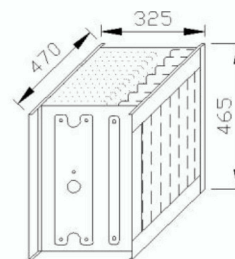
front view



top view



size of cell



### General

Weight	83 kg
L/S (max.)	1890
Exhaust outlet/inlet (mm)	910 (W) x 485(H)
Size of collecting cell (mm)	325 (W) x 470 (D) x 465 (H)
Finish	powder coated (thickness: 1.0 mm) Steel
Material of ionizing collecting cell	Aluminum alloy (thickness: 1.0 mm)
Maintenance space required (mm)	770 (W) x 650 (D) x 650 (H)
Cleaning method	Manual
Pre-filter /collecting cell	2x / 2x
Electrical supply	AC 240V 50Hz
Electrical consumption	176 W
High Voltage Power Pack	High Voltage 14,000 V / Low Voltage 7000 V
Efficiency	95% for particle down to 0.01 micron
CE & TUV Certified	
Resistance (clean)	25 Pa



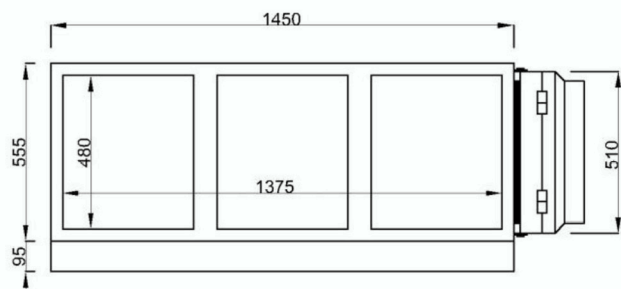
# Specification

## EAN-600

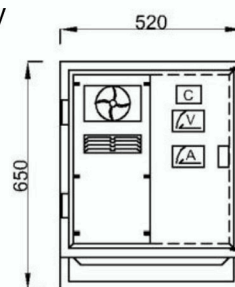
### Model Specifications

Product	Electrostatic Precipitator
Model	EAN-600
Size (mm)	1640 (L) x 520 (W) x 650 (H)

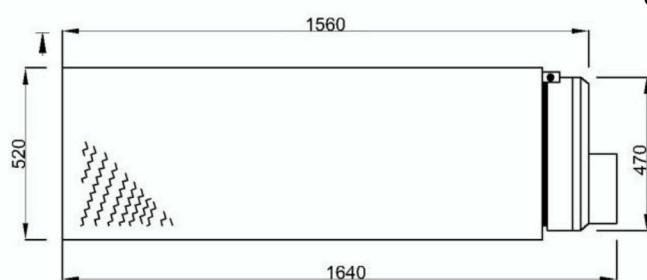
side view



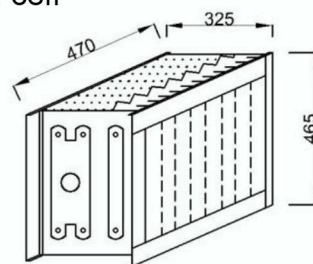
front view



top view



size of cell



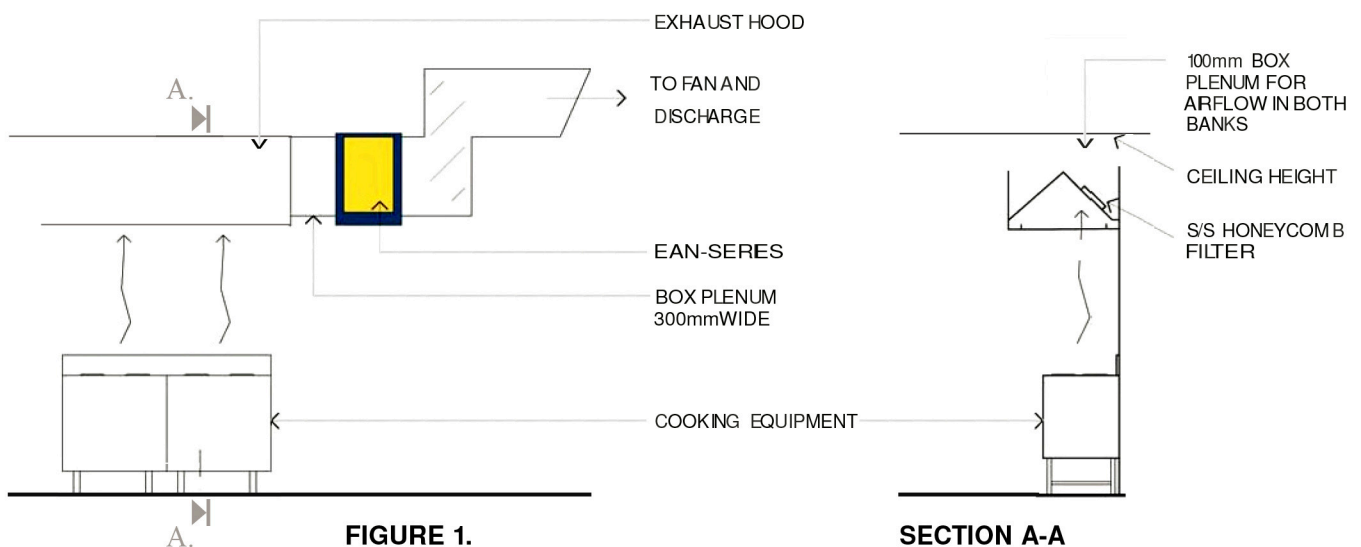
### General

Weight	115 kg
L/S (max.)	2830
Exhaust outlet/inlet (mm)	1375 (W) x 480 (H)
Size of collecting cell (mm)	470 (L) x 325 (W) x 465 (H)
Finish	powder coated (thickness: 1.0 mm) Steel
Material of ionizing collecting cell	Aluminum alloy (thickness: 1.0 mm)
Maintenance space required (mm)	770 (W) x 650 (D) x 650 (H)
Cleaning method	Manual
Pre-filter /collecting cell	3x / 3x
Electrical supply	AC 240V 50Hz
Electrical consumption	176 W
High Voltage Power Pack	High Voltage 14,000 V / Low Voltage 7000 V
Efficiency	95% for particle down to 0.01 micron
CE & TUV Certified	
Resistance (clean)	25 Pa

## AIR POLLUTION CONTROL SYSTEM FOR FOOD PREMISES

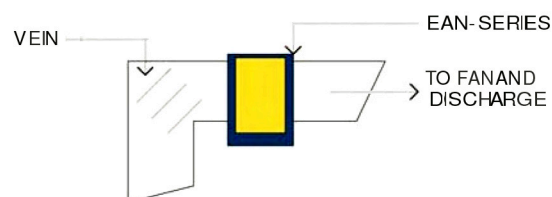
### D. Installation guidelines

1. Install the air cleaner as close as possible to the kitchen exhaust hood. This means that the exhaust duct after the unit does not need to be cleaned.
2. Install the air cleaner on either side of the kitchen hood with a minimum 300 mm wide box plenum. See figure 1. This is the best position to maintain and clean the unit.
3. The air cleaner should be installed in a position with easy access for cleaning purpose. See maintenance space requirements on specification sheets
4. If the air cleaner cannot be installed next to the exhaust hood, connect the unit with a straight duct of a minimum of one metre on the inlet and outlet side, or if using a bend make sure it is fitted with veins. See figure 2. This will balance the air within the cleaner cell.
5. The air cleaner can be set up for the airflow from right to left or left to right. When ordering the unit, specify the airflow direction.
6. The airflow volume and air velocity through the air cleaner should be below the rated volume/velocity.
7. The air cleaner should be installed in a horizontal position.
8. The air cleaner should be automatically powered when the exhaust fan is running.



**FIGURE 1.**

**SECTION A-A**



**FIGURE 2.**



## **AIR POLLUTION CONTROL SYSTEM FOR FOOD PREMISES**

### **E. Suggested specification**

Exhausted kitchen hood fumes & grease particles shall be treated by an AOM electrostatic filter EAN-Series. Efficiency of the filter shall be 95% for particles of 0.01 micron. If using a double pass configuration (2 x EAN-filters in series) the efficiency shall achieve 99%. The construction & installation of the filter shall meet all relevant Australian/NZ Standards. The filter should be maintained as per AOM specifications. The access of the filter for cleaning purpose shall be easy as per OSHA Standards. The filter power supply shall be interlocked with the exhaust fan switch. The maximum air volume and air velocity of the filter shall be implemented.

### **F. System test**

1. Plug lead to a 1Camp's power point.
2. Front panel switch is on.
3. The red light illuminates for a couple of seconds and then the green light illuminates. This indicates that the unit is working properly.
4. A buzzing noise may be heard. It occurs when the air cleaner cell is new.
5. The amperemeter indicates how many milliamperes the unit is drawing.
6. During normal operation some clicking noise may be heard. It means that a big particle is passing through the cell. The cell is breaking up the particle into small pieces.
7. When the red and green lights are both off, check the main power, the unit front cover switch and the circuit breaker on the PCB board.

### **G. Service and maintenance**

1. As soon as the red light illuminates, the unit cell needs to be cleaned.
2. Ring the accredited maintenance company that will clean the cell. Call AOM 1300 903 788 for the nearest AOM representative.
3. The maintenance company will ask you to purchase a spare kit for the swapping of the cell.
4. The pre-filter may need to be cleaned between the cell services. The technician will show you how to do it.
5. Every week check if the grease collection tray needs to be emptied.
6. When cleaning your cooking equipment, do not use a caustic chemical. The chemical could damage the aluminum ESP cell.

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## **AIR POLLUTION CONTROL SYSTEM FOR FOOD PREMISES**

### **H. Warranty**

Limited warranty for AOM EAN-Series equipment. This warranty is subject to the following conditions:

- a. To validate this warranty, the equipment should be installed and the end user should maintain the filter as per AOM specifications.
- b. A new air cleaner is warranted to be free from defects and /or workmanship for a period of one (1) year from the date of purchase.
- c. A spare part is warranted to be free from defects and/or workmanship for a period of ninety (90) days from the date of its installation.
- d. The warranty for new equipment and spare part covers the repair or replacement of the defective part and includes labour.
- e. To validate the warranty the end user should sign an agreement with an AOM accredited maintenance company and agree to purchase a spare cell for swapping purpose.
- f. Any claim must be presented to AOM. No warranty repairs will be granted without AOM written consent. If damage occurs during shipping, notify AOM at once so that a claim can be filed.
- g. The above limited warranty does not apply to damage resulting from accident, alteration, misuse or if the serial number is removed or defaced.