BC AiR

Engineering Beyond Convention

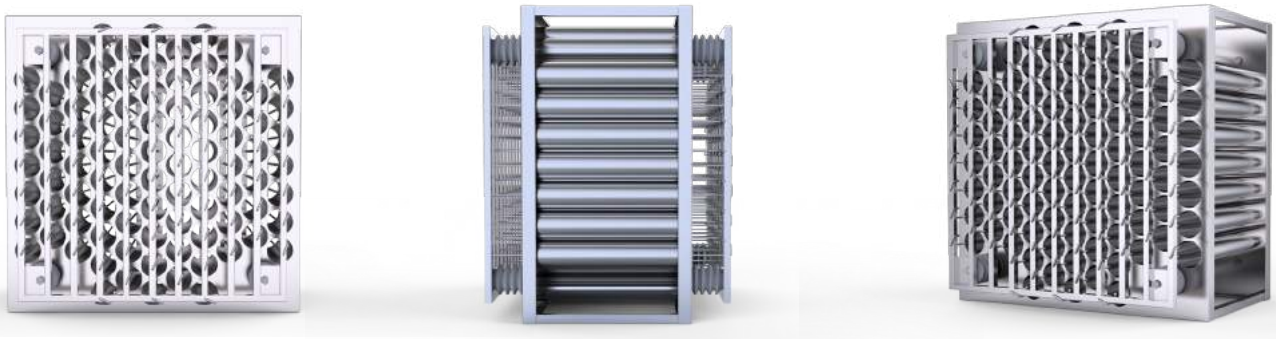
Cylindrical Honeycomb Electrostatic Air Cleaner

for greener smoke & grease discharge and filtration

Exhaust Discharge Overview

Exhaust Air Discharge contributes to outdoor air pollution, harms the environment, and causes public odour nuisance. Environmental laws worldwide serve to address such negative impacts to make our environment a better place for all to live in.

BC Air's Electrostatic Air Cleaners help businesses comply with environmental laws by filtering oil & grease, smoke, and odour from discharge fumes via the next-generation discharge filtration technology: **Cylindrical Honeycomb Electrostatic Filtration**.



Technological Superiority

The **Cylindrical Honeycomb Electrostatic Precipitator (ESP)** - which works based on electrohydrodynamics, particle charging, and particle capture - is essentially a one-stage unit and is unique in having the entire airflow passing through the ionising electrode region. The high-voltage ionising electrode operates at one voltage for the entire length of the tube, while the current varies along the length as the particles are captured from the air stream. No sneakage paths are allowed in the collecting region.

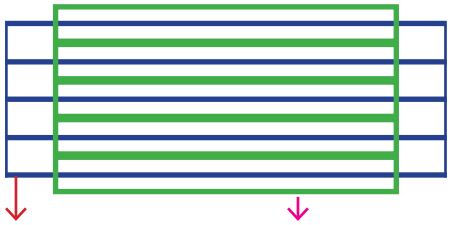
As the next-generation discharge filtration technology, the Cylindrical Honeycomb Electrostatic Filtration is superior to the conventional two-stage (wire-plate combination) electrostatic filtration technology by the following points:

- **Stronger Electric Field** / Higher Ionising Voltage (which better helps in the ionisation & entrapment of particulates with higher resistivities [e.g. wet, sticky particles], and mitigates Back Corona; aiding overall filtration efficiency)

- **Extended Ionisation Exposure Time** of all particulates across the electrostatic cell (as the ionising wire runs across the entire length of the cell; improving ionisation and entrapment efficacies). Rigidity of the ionising section also better safeguards equipment operation and performance as opposed to two-stage ESPs.

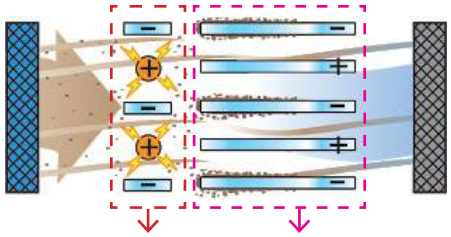
- Stainless Steel (or Galvanised Iron) electrostatic cell body offers **better durability & rigidity** (as compared to aluminium alloy for conventional two-stage electrostatic cell) and safeguards the lifespan and operation of the equipment

Cylindrical Honeycomb ESP



Ionising Section Collection Section

Conventional Two-Stage ESP



Ionising Section Collection Section

Appropriate Testing Standards

BC Air's Cylindrical Honeycomb ESP is tested to **ASHRAE 52.2-2017** (Method of Testing for General Ventilation Air-Cleaning Devices for Removal Efficiency), **ISO 16890:2-2016** (Air Filters for General Ventilation) and **GB 18483-2001** (Emission Standard of Cooking Fumes) and achieves up to **98.4%**, **97.3%** and **95.1%** filtration efficiencies respectively.

ASHRAE 52.2 uses a test aerosol consisting of potassium chloride (KCl) salt; ISO 16890-2:2016 test uses isopropanol vapour, while the GB 18483-2001 test uses volatile organic matter and its thermally decomposed products to better represent cooking fumes for evaluation purposes.

Extremely Low Fault Rate

Our patented High-Frequency-High-Voltage (HF-HV) Power Supply for the Cylindrical Honeycomb Electrostatic Cell comes with tremendous heat dissipation to safeguard its operational lifespan. Its fault rate is as low as **0.1%**.

Available Models

Model	4A-BC	8A-BC	12A-BC
Airflow	4,000-8,000 CMH	8,000-16,000 CMH	12,000-24,000 CMH
Dimensions	848 (L) 840 (D) 700 (H) mm	848 (L) 1435 (D) 700 (H) mm	848 (L) 2035 (D) 700 (H) mm
Static Loss	50 - 150 Pa [on commissioning]		
UVC & Carbon	Can be integrated on an ad-hoc basis		

UVC & Activated Carbon Filters can be added for better odour mitigation efficacy