



Your Clean Air, Product and Heat Recovery Solutions Partner

# Bionomic ECharge™

## Electrostatic Collector

### Features a Highly Efficient Design for Maximum Process or Indoor Air Pollution Control

The economical Bionomic ECharge™ Electrostatic Collector is able to achieve extremely high removal efficiency on small micron and submicron particulate to easily meet PM 2.5 environmental regulations. Opacity problems associated with smoke-type submicron particles, droplets, and aerosols are easily solved along with odor issues caused by these particles.

In many cases, the highly efficient ECharge Collector allows the cleaned air to be recirculated back into the building—conserving heat energy and reducing utility costs. As an added benefit, the ECharge can be used to collect valuable dusts or liquids, resulting in additional cost savings.

For services requiring removal of solids or liquids that adhere to collector plate surfaces, an automatic wash down spray assembly permits in place cleaning of the collected material making it extremely versatile for use in a wide range of applications.

Units are also equipped with long life solid state power supplies for reliable operation.

### Offers a Number of Important Features and Benefits

#### Low Operating Costs:

Extremely energy efficient, ECharge operates at a power saving 100 watts or less of electricity per 1000 cfm of gas flow at a low 120/220 volts. Pressure drop is a stingy 0.5 inch w.c. or less per stage.

#### Economical Design and Footprint to Meet Your Exact Application and Efficiency Requirements:

Multiple charging and collection cell modules can be stacked in stages for collection efficiencies of over 99.9% in a compact footprint. Modular design makes installation and maintenance easy.

#### Choice of Construction Materials:

Standard units are available in carbon steel with aluminum plates and all 304 or 316 stainless steel. Custom material options are also available to meet more corrosive requirements.

#### Environmental Control Agency Approved:

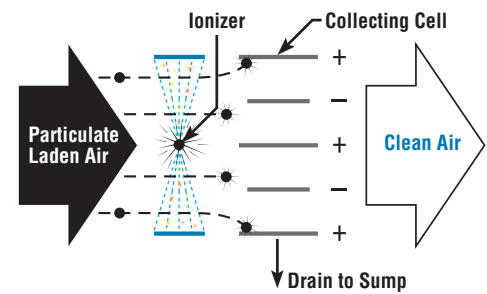
Meets MACT and BACT standards for particular emission control requirements. Helps comply with OSHA for indoor air quality needs.



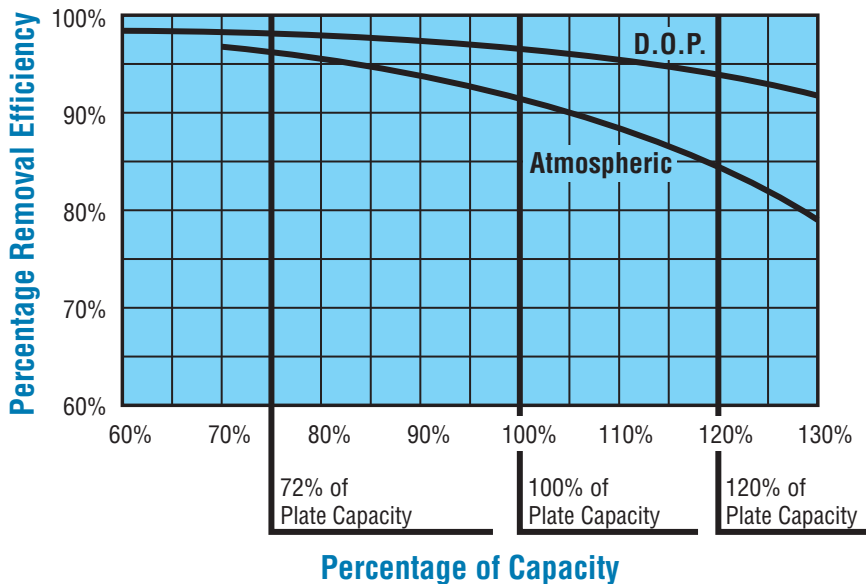
## ECharge Principal of Operation:

As contaminated exhaust enters the unit, it passes through an ionizing section where each particle is given a negative charge. The negatively charged particles then flow into a collecting cell which contains a series of parallel metal plates that are alternately charged on a positive and negative basis. As the exhaust passes between the plates, the negatively charged particles are repelled by the negatively charged plates and are attracted towards, and held by, the positively charged collection plates. The cleaned exhaust then passes to atmosphere or back into the facility.

## How It Works



## Efficiency Ratio ASHRAE 52-76 Tested Method



If increased particle removal efficiency is desired, additional stages can be added.



## Wide Variety of Applications:

The ECharge™ Electrostatic Collector has found wide acceptance in applications involving emission problems caused by many processes that typically generate high opacity with relatively light weight loadings of particulate and aerosols down to .01 micron in size. These processes include:

- Textile Finishing
- Welding Operations
- Plastic Extrusion
- Smoke Ovens
- Nano Particle Production
- Plasticizer Coating
- Rubber Curing
- Heat Set Printing
- Potato Chip Frying
- Coffee Roasting
- Fast Food Broiling
- Polishing of Scrubber or Dry Collector Emissions

## Many Sizes to Accommodate an Extensive Range of Gas Volumes:

Standard capacities from 800 through 16,000 acfm are available to meet most small to medium size needs. Non-standard custom sizes to handle higher gas volumes can be supplied.

