

FIELD REPORT



TRIO PLUS MAXIMIZES UVGI EXPOSURE AND PCO EXCITATION FOR MAXIMUM EFFECTIVENESS

There are two significant design challenges associated with integrating UVGI and PCO into air purifiers. Field Controls has developed a unique solution to maximize both treatment technologies while retaining the effectiveness of the HEPA filters.

UVGI EXPOSURE

To maximize UVGI effectiveness, all the air must be exposed to the UVC light, and the higher the UV energy exposure (higher wattage and/or longer exposure time) the greater its effectiveness.

UVGI CHALLENGE

UVC light degrades many materials including plastics and most modern filters like carbon and HEPA filters.

PCO (PHOTOCATALYTIC OXIDATION) EXCITATION

The PCO process occurs when the PCO's Titanium Dioxide is exposed to UVC or UVA light. To maximize the PCO effectiveness, the air must pass through the PCO that is excited by the UV light.

PCO CHALLENGE

Ensure all air passes through the excited PCO, and is exposed to UV light, which reduces VOC's odors, airborne germs, and viruses.

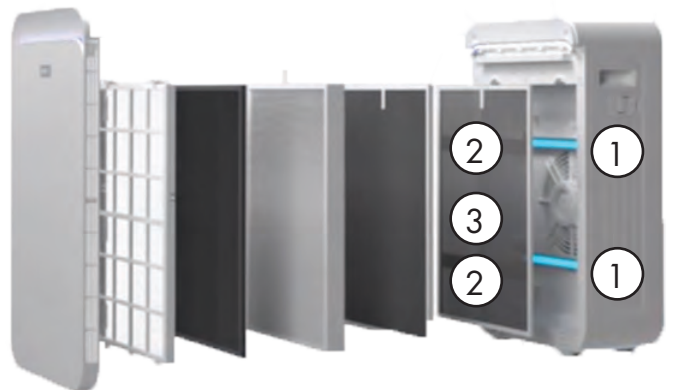
DESIGN CHALLENGE:

Maximizing air exposure to UVC light and PCO, while protecting the efficacy of the filters.

TRIO PLUS - UNIQUE SOLUTION

The TRIO Plus contains two powerful 10W UVC lamps for germicidal protection and a full inlet PCO mesh for VOC reduction. To solve these challenges, our engineers integrated three unique designed features.

- 1. UVC REFLECTOR SHIELDS** - Placed behind the UVC lamps, maximizes the amount of light projected into airflow and PCO excitement.
- 2. TWO UV GUARDS** - Aligned with the lamps, protects the filters from direct UVC light degradation.
- 3. HONEYCOMB PCO MESH** - Maximizes TiO_2 surface area exposure while protecting the filters beyond the UV guards



With these unique design features, all air is exposed to the UVC lamps and is processed through the PCO, our patented PRO-Cell technology. This is not the case for most of the other UVGI and PCO air purifiers on the market, which shield the UV light, minimizing UVGI and PCO effectiveness. The TRIO Plus is designed to maximize UVGI and PCO, while protecting the efficacy of the filters to effectively treat indoor air contaminants.