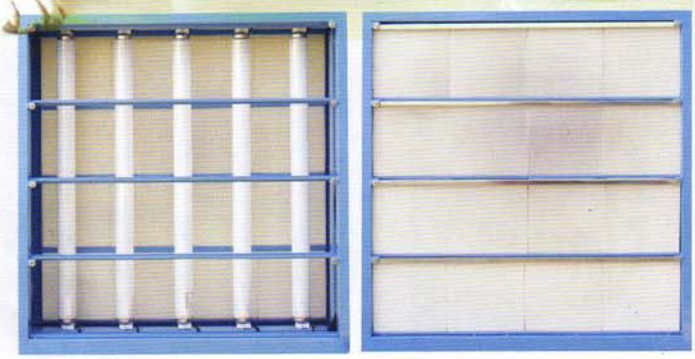
PHOTOTROPH

next generation air purification system

100% SATISFACTION GUARANTEE

STERILIZATION
DEODORIZATION
in ONE



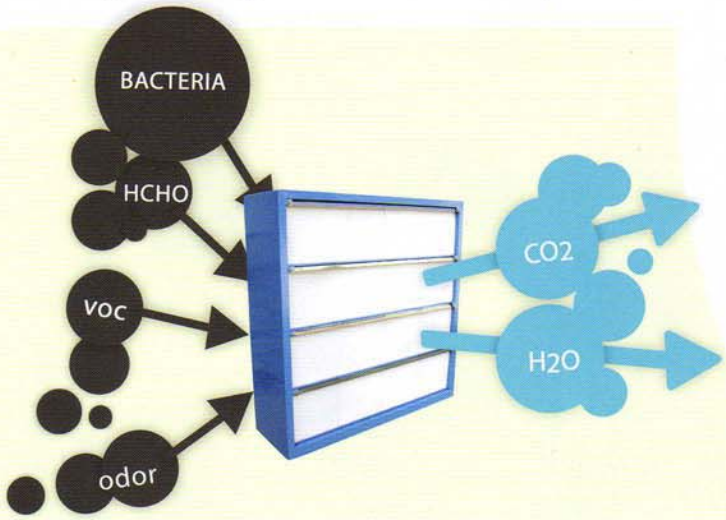
EFFECTIVELY REMOVES :

/AIRBORNE BACTERIA /MOLD
/VIRUS /TOXINS /ODOROUS GASES
/VOLATILE ORGANIC COMPOUNDS

INDOOR AIR QUALITY (IAQ) CAN AFFECT OUR COMFORT, HEALTH, AND WORK PERFORMANCE.

Phototroph** can provide protection against **airborne pathogens**, keep away the **VOC** and **odorous gases** and preventing the **outdoor polluted gases to get into the HVAC system.

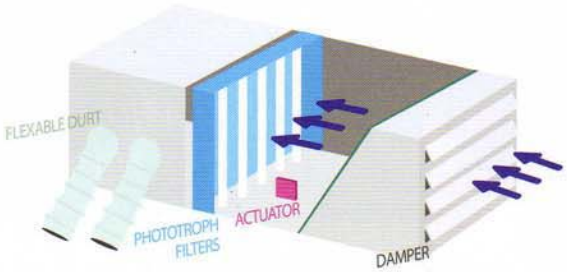
Phototroph improves IAQ !



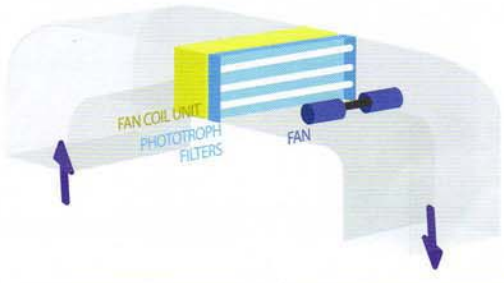
Phototroph air purification system with the latest photocatalytic oxidation (PCO) technology is used in the Heating, Ventilating, and Air Conditioning (HVAC) system.

AHU

VAV BOX



FAN COIL



MECHANISM OF PCO
remarkable purification capaci

When photocatalyst Titanium Dioxide (TiO2) illuminated by UV, the electron of the valence b of titanium dioxide becomes excited. The excite electron promoted to the conduction band of titanium dioxide.

The positive-hole of Titanium Dioxide breaks ap the water molecule to form hydrogen gas and hydroxyl radical. The negative-electron reacts w oxygen molecule to form super oxide anion. Th cycle continues when light is available.

Actinic Philips UVA

High UVA output
Stable UVA intensity with peak at 370nm

Three Dimensional Extruded Ceramic Filter

200 Cells per square inch

Titanium Dioxide has to be coated on a carrier before it can be used in the ventilation system. Choosing the right carrier for TiO2 is a critical task in developing a world's class Photocatalytic Oxidation (PCO) system. Many PCO systems are still using perforated metal sheet as their carrier but they all have very small contact area. Phototroph uses a three dimensional extruded ceramic filter as the carrier.

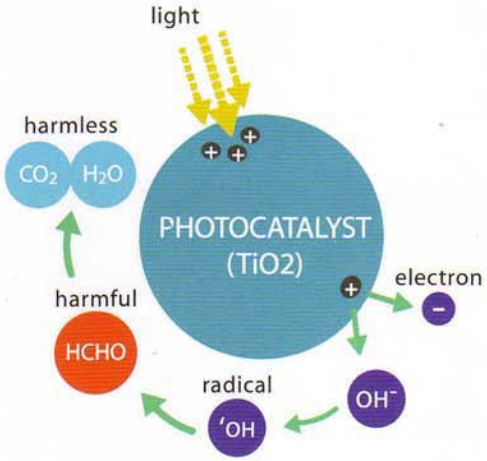
because of its 'checker-like' nature it can provide a **40times** *larger contact area than a flat surface carrier.*

Advance coating technology for TiO2 and ceramic filter binding

We use the progressive thermal dip-coating method to bind our TiO2 sol-gel and the ceramic filter. An anatase Titanium Dioxide layer forms evenly on the ceramic filter surface under a temperature of 500°C. This washable and maintenance friendly ceramic filter has excellent decomposition and sterilziation properties.

- High perforation
- High strength
- Large specific surface area
- Tailor mixed heat resistance material

"Both hydroxyl radical and super oxide anion can ***effectively disinfect and deodorize indoor air.***"



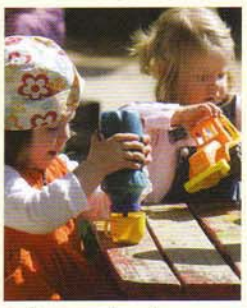
Improves indoor air quality

Breakdowns odorous gases

Decomposes pet smells

Kills bacteria, molds, viruses and germs

Controls kitchen smell exhausts



Reduces outbreak chance of hand, foot and mouth disease

PUVA100

PUVA60

	PUVA100	PUVA60
Norminal Size (LxHxW)	620mm x 610mm x 350mm	620mm x 310mm x 350mm
Norminal Surface Velocity	2.5 m/s	2.5 m/s
Norminal Flow Rate	3200m^3/h	1600m^3/h
Resistance	40 Pa (at 2.5m/s)	40 Pa (at 2.5m/s)
Power consumption	100w	60w
Sound Power Level	<30dB(A) at 1m	<30dB(A) at 1m
Power Supply	220V / 50Hz	220V / 50Hz
Number of UVA Tube	5	3
Ceramic Filter Pore Density	200 cells per square inch	200 cells per square inch
Ceramic Filter Porosity	>50%	>50%
Acetaldehyde Removal Rate according to JIS R1701 Part 2	360umol/m^2/hr	360umol/m^2/hr

PECF200

PACF156

	PECF200	PACF156
Norminal Size	595mm x 295mm x 22mm 595mm x 595mm x 22mm	595mm x 295mm x 22mm 595mm x 595mm x 22mm
Norminal Surface Velocity	2.5 m/s	2.5 m/s
Resistance	40 Pa (at 2.5m/s)	40 Pa (at 2.5m/s)
Ceramic Filter Pore Density	200 cells per square inch	
Pore Density		156 cells per square inch
Ceramic Filter Porosity	>50%	
Porosity		>50%
Acetaldehyde Removal Rate according to JIS R1701 Part 2	360umol/m^2/hr	
Options:		45mm (Thickness)

Tested by Japan accredited laboratory :

ilac-MRA IAJapan JNLA

Distributed by :

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