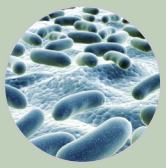
RydAiR®

RHP SERIES

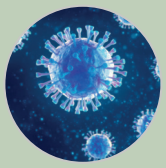
HYBRID AIR & SURFACE PURIFICATION

With PCO & Bi-POLAR TECHNOLOGIES

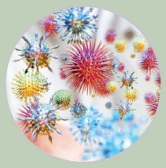
ELIMINATE AIR AND SURFACE-BOUND VIRUS AND BACTERIA



SANITIZE
Eliminate surface-bound germs



STERILIZE
Eliminate airborne germs



REVITALIZE
Freshen indoor air

PURIFY
Eliminate airborne allergens

THE TECHNOLOGIES...

RydAiR's RHP units employ dual Technologies: Photo Catalytic Oxidization (PCO) and Bi-Polar Ionisation (BPI) for effective air and surface purification.

Photo Catalytic Oxidization (PCO) or sometimes referred to by others as Radiant Catalytic Ionisation (RCI), Dry Hydrogen peroxide (DHP) and Natural Catalytic Conversion (NCC).

It was originally developed in the 1990s by scientists at the National Aeronautic and Space Administration (NASA) in the United States to treat air in an enclosed environment in the spacecrafts.

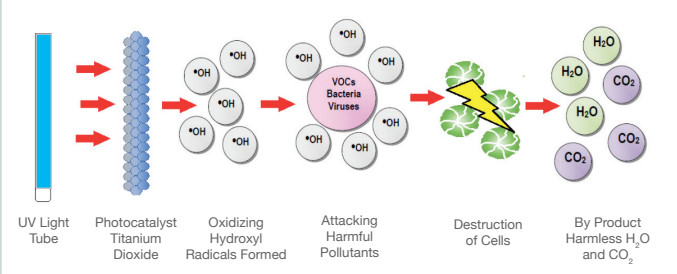
HOW IT WORKS:

PCO Technology

The special UV lamp reacts with photocatalyst impregnated with rare materials in the RHP units and converts moisture/ water vapour (H^2O) and oxygen O^2 in the untreated air and breaks them up into hydroperoxides (H^2O^2) and Hydroxyls which are highly reactive.

These hydroxyl radicals are small and agile and gets pushed into the environment where they attack bigger organic pollutant molecules like fungi, mould, odour causing bacteria, molds, VOCs and viruses, even the ones in hard to reach places, breaking apart their chemical bonds and turning them into harmless substances such as carbon dioxide and water.

It is proven to reduce up to 99% of surface microorganisms and dramatically reduce airborne contaminants and allergens in the air and allergens in the air.



PCO technology has since been validated in numerous case studies, proving the technology dramatically reduces concentrations of airborne aerosol contaminants, neutralizing viruses and bacteria, and wiping out infectious germs and viruses including the likes of methicillin resistant staphylococcus aureus (MRSA), Escherichia coli, Norwalk virus, SARS (which is a corona virus), Listeria monocytogenes, Streptococcus spp., Pseudonomas aeruginosa, Bacillus spp, Candida albicans and S.chartarum.

BPI Technology

The Needlepoint Bipolar Ionization (BPI) process releases large amounts of negative and positive ions. These ions are forced out through the building HVAC system and travel into spaces throughout the building. These ions attach to, and deactivate harmful substances like bacteria, mould, allergens, viruses and volatile organic compounds, odours, VOCs including formaldehyde.

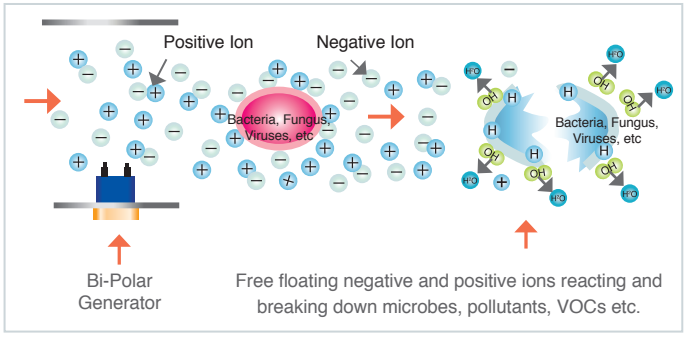
BPI has been used in Europe since the 1970s and was used originally to control pathogens in food manufacturing and storage.

Bacteria, Odours, Virus and Pathogen Removal - The ions produces a chemical reaction on the cell membrane surface that inactivate the pathogen. It can reduce up to 95% of microbes in minutes. It is an Active Process that provides continuous disinfection.

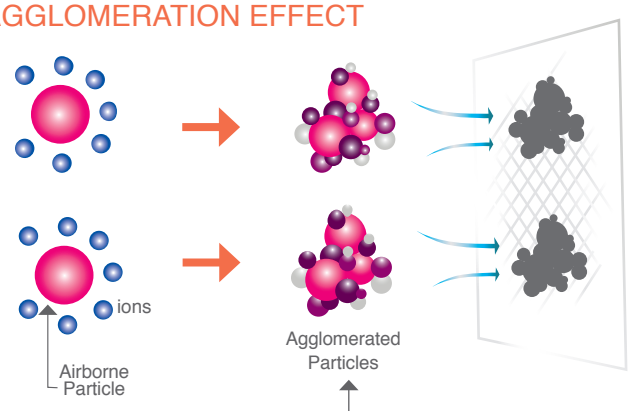
Bi-Polar ionisation has already been proven as effective against various influenza strains as well as norovirus, SARs and other corona virus like H1N1 and Covid 19.

VOCs Removal - The free floating ions breaks down ammonia molecules NH3 and other VOCs, converting them into water and nitrogen, harmless common gasses that are prevalent in our atmosphere.

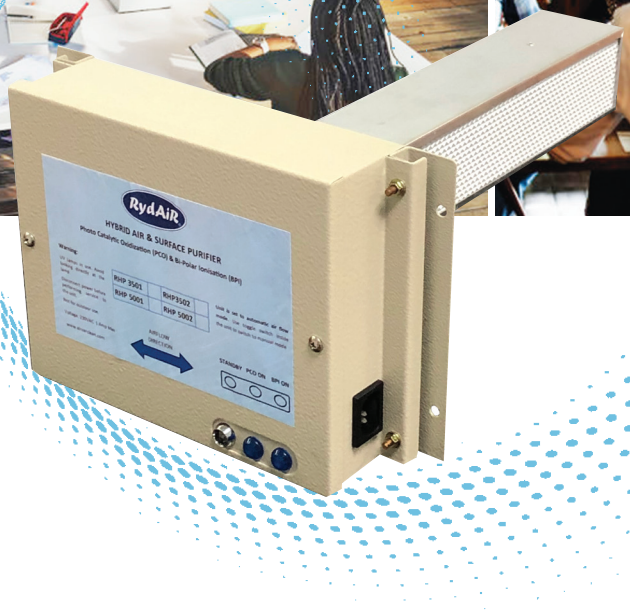
Airborne Particle Removal - The ions also attach to expelled droplets and dust particles that can transport viruses, enlarging them in a process called agglomeration, making them drop out of breathing area and also which them easier to be caught in the filters.



AIRBORNE PARTICLE AGGLOMERATION EFFECT



The ions attach to the particle, the particle grows larger by attracting nearby particles of the opposite polarity, thereby increasing the filtration effectiveness, or falls to the ground and out of breathing zone.



RHP unit

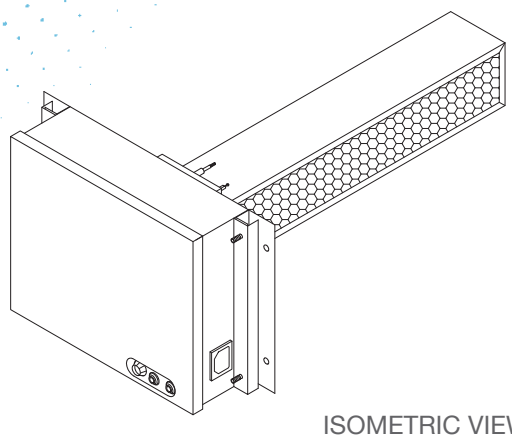
The RydAiR **RHP** unit is supplied as a one-piece factory assembled unit incorporating Plasma Generating Module with bipolar brushes producing positive and negative ions to handle varying airflow volumes. The Bi-Polar generating Module are solid state type, epoxy coated. It is coupled with Photo Catalytic Media and special UV lamp to produce hydroxyls.

The **RHP** Units can be installed in air conditioning ductwork speedily.

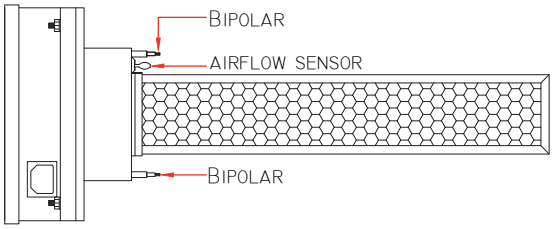
The installer makes a cut on the duct and secures the unit's mounting brackets to the duct with self-tapping screws. The Unit should be installed as near to the discharge grill as possible.

Simply plug the socket to the AC power supply. All models have a built in Airflow Switch that will turn the unit on when airflow is detected. It saves the need for additional costs of installing an interlocking power system with the fan.

An Auto / Manual switch allows the user to bypass the airflow switch if so desired.



ISOMETRIC VIEW



SIDE VIEW

APPLICATIONS

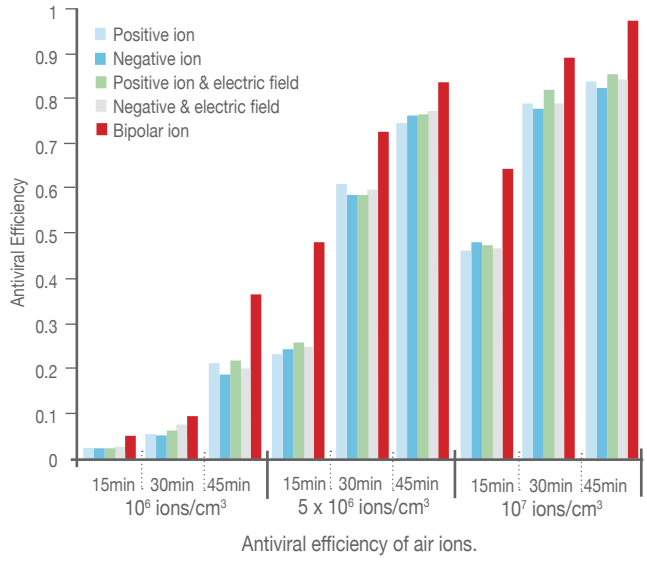
Supply Air Ducts of: Homes, Classrooms, Clinics, Hospitals, Nursing Homes, Child Care Centres, Banking Halls, Public Lobbies, Gymnasiums, Food and Beverage outlets, Food Storage Areas, Showrooms and many other premises.

Model	Type	Power	Weight	Inserted Length	Min Capacity	Max Capacity
RHP 3501	Ozone Free	230VAC 0.2A	2.45kg	290mm	2500CMH	4000CMH
RHP 5001	Ozone Free	230VAC 0.2A	2.5kg	390mm	3500CMH	6000CMH

Bi-Polar Test Results

Test conducted by Journal of Aerosol Science 107 (2017) 31-40 on **"Application of corona discharge-generated ions for filtration of aerosolized virus & inactivation of filtered virus" showed :**

When the ionizer was operated in a bipolar mode, the number concentrations of positive and negative ions were 6.6×10^6; $3.4\times10^6/cm^3$, respectively, and the antiviral efficiency were 64.3%, 89.1%, and 97.4% with exposure times of 15 min, 30 min, and 45 min, respectively.



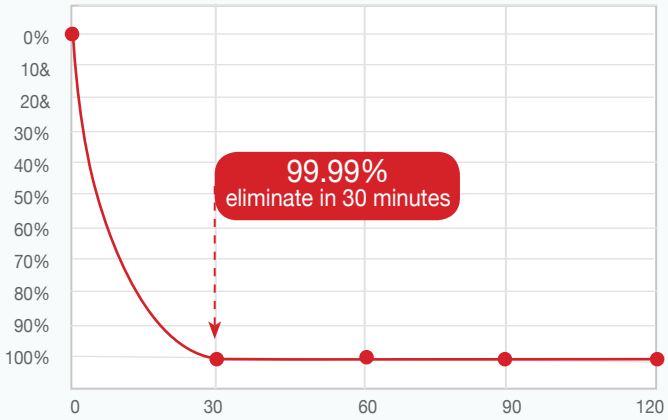
Antiviral efficiency of air ions.

[3]*Journal of Aerosol Science 107 (2017) 31-49*

PCO with Bi-Polar Ionisation

Eliminates surface bound S.ALbus, Staphpylococcus, E.Coli and H1N1 with efficiency rates up to 99.99% within 30 minutes.

The Aggressive deployment of these multiple technologies can drastically reduce the levels of bacteria, viruses and other hazardous substances in the air and on surfaces including H1N1 virus, Kiebsiella Pneumonia, Escherichia coli, Staphylococus albus, staphyloccus aures, coronaviruses etc.



AVC Industrial Sales Private Limited
S-385, Greater Kailash Part-1, New Delhi, Delhi - 110048, India
Tel: 011-29234324 | +91 8950260042
E-mail: enquiry@airverclean.in | puneet@airverclean.in
Website: www.airverclean.in

A Subsidiary of:
Airverclean Pte Ltd
61 Kaki Bukit Ave 1, #03-20 Singapore 417943
Website: www.airverclean.com