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Tad Active Air BPI™

Airborne infectious Virus, Bacteria & Fungus float in the air and infect individuals! This is how common cold spreads in offices, schools or any indoor space.

"Prevention is better than cure" Tad Aircon firmly believes in this philosophy.

Tad Aircon a patented technology company presents to you **Tad Active Air BPI™** an innovative safe ionization technology that will effectively disinfect indoor air and surfaces within a closed air-conditioned room.

Tad Active Air BPI™ with active bipolar ionization technology kills the virus, bacteria, and fungus from the air and transforms it into safe and healthy air to breathe. Independent third party test results on the below single-celled microbes have proven that Tad Active Air BPI™ can effectively kill these

As certified by NABL accredited testing lab Tad Active Air BPI kills 99%	FUNGUS	BACTERIA	
	Aspergillus niger	Pseudomonas aeruginosa	Salmonella typhi
			

*Microbial images shown above are for representation only

Independent studies have been conducted by Virology institutes of Japan, South Korea, and UK confirming bipolar ions effectively eliminates viruses & other airborne infectious microorganisms.

Tad Aircon is a pioneer bipolar ionization technology company that has tested our **Tad Active Air BPI™ ions on human cells and found no adverse effects,** when installed as recomended by us.

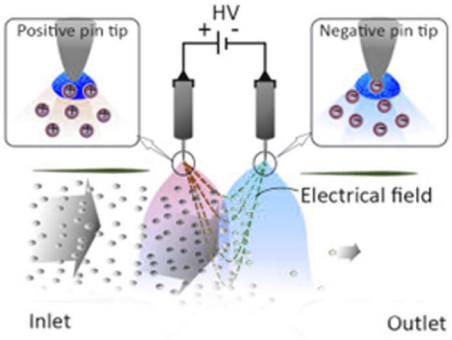
Unwanted indoor organic gases cause headaches, odour, skin & eyes irritation, and discomfort to occupants, Tad Active Air Bipolar **ions break down VOCs** (VOC: formaldehyde, benzene, toluene, xylene, ect) into neutral gases and moisture. In short, improves indoor air quality and creates a safe comfortable environment. It also **dissolves cigarette smoke and reduce its harmful effects.**
As certified by NABL accredited testing lab **Tad Active Air BPI™ effectively reduces VOCs.**

- Ionization **combine microparticles** in the air and help air filters to improve particle efficiency.
- Keeps air conditioner **cooling coil clean** by protecting it from microbial growth.
- **No harmful UV-light exposure risk** to operator, no harmful by-product such as ozone or titanium dioxide.
- **No regular maintenance required.**
- **Very low power consumption.** It is designed keeping in mind air-conditioned space.

Working Principle of Tad Active Air BPI™

Natural sunlight, cosmic rays, lightning, waterfall, and sea waves produce ions that will decontaminate the air by destroying microbes and VOC's. As a result, the air becomes clean, fresh, and safe to breathe. On mountains, near waterfalls, and seashores, a high concentration of ions(5,000 per Cm^3) are available. With years of research and development, we can **mimic this natural process safely indoors using Tad Active Air BPI™.**

Tad Active Air BPI™ with proprietary bipolar technology splits air molecules into ions by adding an electron (+ve ion) or by removing an electron (-ve ion) from it. An ion is an atom or a molecule that has a positive or a negative charge. This unstable state of the gas atom is called plasma. These ions will be active for around 50 sec before they touch a surface or a particle to get neutralized.



This device will produces billions of + & - ions per second utilising oxygen, bio-aerosol(moisture), and ammonia in the air.

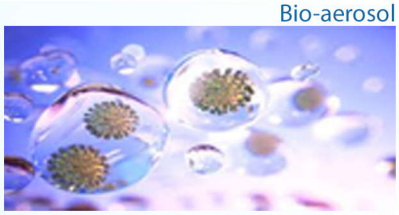
Oxygen O_2 → Ionization → $O^{2-} + O^{2-}$
Moisture H_2O → Ionization → $OH^- + H^+$
Ammonia NH_3 → Ionization → $3H^+ + N^{3-}$

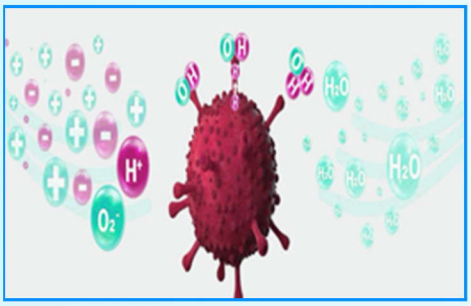
Air ionization is an active type air purification system, ions disperse in indoor air directly and clean it by actively hunting down pollutants and pathogens. The mechanical air filtration system is a passive type air purification system.

Kills Microorganisms:

In an indoor air-conditioned environment air exhaled by one person can infect others (Bio-aerosol transmission). During the current COVID-19 pandemic, the biggest challenge is to improve indoor air quality without changing the existing air conditioning system. As certified by NABL accredited testing lab Tad Active Air BPI™ kills 99% microbes.

Bio-aerosol





Bipolar ionization is a gas-phase purification technology that emits a combination of +ve and -ve ions such as O^{2-}, OH^-, H^+, N^{3-} these ions work to deactivate single-celled organisms such as, viruses, bacteria, and fungi in the air or on surfaces.

As illustrated in the image the OH^- hydroxyl radicle attaches to a protein on the microbial cell wall and reacts with it to extract hydrogen atoms thereby killing it.

Tad Active Air BPI™ to be installed as instructed in the installation manual and is safe on humans and animals.

Removes VOCs, that cause headaches, odour, irritation, and discomfort:

According to US EPA, indoor volatile organic compounds (VOCs) are emitted by air fresheners, perfumes, aerosol sprays, cleansers, disinfectants, pest controllers, paints, building materials, furnishings, office equipment such as copiers and printers. Also benzene is a known carcinogen produced by tobacco smoke, automobile emissions.

These unwanted indoor organic gases (VOCs) will cause odour, nausea, eye, nose, and throat irritation, fatigue, dizziness, headaches & discomfort to occupants.

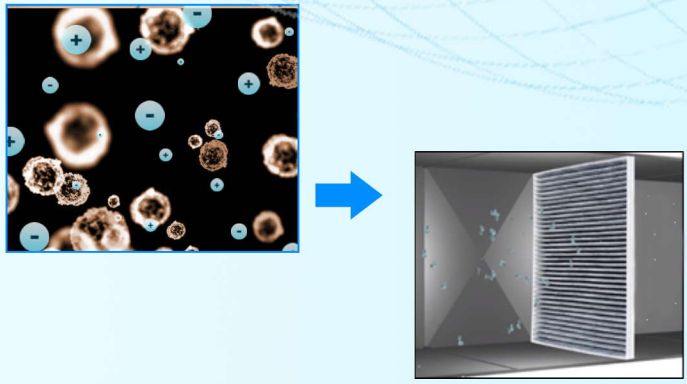
Below is the representation of VOC brokendown by ions to leave behind carbon dioxide & moisture.

Formaldehyde	CH_2O	→ Reacts with O^{2-},OH^-, H^+	→	$CO^2 + H^2O$
Benzene	C_6H_6	→ Reacts with O^{2-},OH^-, H^+	→	$CO^2 + H^2O$
Xylene	C_8H_{10}	→ Reacts with O^{2-},OH^-, H^+	→	$CO^2 + H^2O$
Toluene	C_7H_8	→ Reacts with O^{2-},OH^-, H^+	→	$CO^2 + H^2O$

As confirmed by NABL accredited testing lab Tad Active Air BPI™ breakdown VOCs & neutralize them to improves indoor air quality and creates a safe comfortable environment. These ions help to solve sick building syndrome, which is caused by unwanted microbes & VOCs.

Improves filter particle efficiency

Ions hunt dust microparticles in the air to charge them with +ve or -ve electrostatic. The charged particles attract each other and form dust clusters of a bigger size. These dust clusters get arrested by filters easily.



0.3 microns → Ions → 0.5 micron
0.5 microns → Ions → 1.0 micron
1.0 microns → Ions → 2.5 micron

Safe for exposure during operation and no ozone

Disinfection systems using UV-light pose a risk of accidental exposure to maintenance personal that could result in damage to the skin and eyes.

Tad Active Air BPI™ generates ions using a safe non-reactive carbon fiber electrode.

This new technology electrode has superseded old inferior technology consumable titanium dioxide electrode.

As a combined result of special material selection and electronic circuit design ions are generated safely without producing ozone. Studies have confirmed no harmful effect on the human respiratory system by breathing ionized air, rather ionized air has health benefits when used as recommended.

No Maintenance

The electrode used in Tad Active Air BPI™ is non-consumable, hence there is no maintenance requirement. however, can be inspected quarterly for ion count. In the case of UV-light based system, the expensive UV-lamps needs to be changed every 3years.

Technical Specifications:

Series Name	Tad Active Air BPI	Tad Active Air BPI
Model Number:	TBPI-3000SA	TBPI-1000SA
Input Voltage-Frequency:	AC 240V-50 HZ	AC 240V-50 HZ
Power Consumption:	5 W	4 W
Ion Type:	Bipolar: +ve and -ve ions	Bipolar: +ve and -ve ions
Total Ion Output:	>20 billion ions per sec	>10 billion ions per sec
Airflow Capacity:	3,000 CFM or 8TR	1,000 CFM or 2.5TR
Room Aera:	1,000ft² in Duct, 400ft² Non-ducted	500ft²in Duct, 200ft² Non-ducted
Temperature Range:	0°C to 60°C	0°C to 60°C
Humidity Range: RH	0-95%	0-95%
Unit Dimensions: L x W x H	200 x 150 x 75 mm	120 x 75 x 50 mm
Weight: kg	800g	300g
Enclosure IP:	IP54 ABS Plastic	IP54 ABS Plastic
Warranty:	12 months offsite	12 months offsite
Image:		

Made in India

R & D, Desing, Testing & Manufacturing in India.

Model: TBPI-1000SA is designed for installation on Split type and Casset air-conditioner return air path.

DISCLAIMER:
The use of this technology is not intended to take the place of reasonable precautions to prevent the transmission of pathogens. It is important to comply with all applicable public health laws and guidelines issued by the national and local governments and health authorities, including but not limited to social distancing, hand hygiene, cough etiquette, and the use of face masks.

*NABL=National Accreditation Board for Testing and Calibration Laboratories (India) * VOC = Volatile organic compounds

Where is it used?

In healthcare, office, hotels, schools, fitness centre, movie theatre, shopping malls, where we spend hours inside the building. Air conditioning of these spaces is required for the comfort of occupants, as well as to maintain the performance of equipment.
Pharma, dairy, food lindustry, cold storage, and many other industries are sensitive to microbes, VOCs and dust, for all these applications one step solution would be the Tad Active Air BPI™.

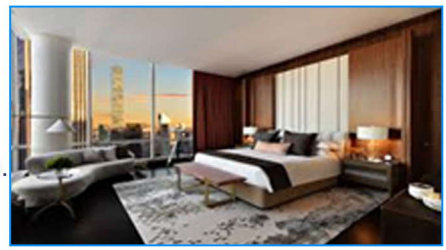
Healthcare

Tad Active air bipolar ionizer is effective in decontamination of air and surfaces as tested by NABL certified lab. It will help to maintain and improve hygienic conditions by killing microbes. Reduce odour produced by phenolic cleaner and disinfectant, thereby keeping hospital environment pleasant, clean, and fresh.
It is recommended to install it in patient waiting room and areas where transmission by air and surface is possible. The same is applicable for the pharmaceutical industry, Allopathic, Ayurvedic, Homeopathic medicine manufacturing and packing area.

Office

We spend 9-10 Hrs per day in an air-conditioned office space, air exhaled by one person can infect others. We have witnessed this by common cold transmission in the office. Cigarette smoke, perfumes & air fresheners release VOCs that cause headaches and allergies. Tad-Active Air Bipolar ionizer improves office indoor air quality by destroying microbes and VOCs.

Hotels & Restaurants



Hotel bedrooms and common area decontamination is a new challenge posed by COVID-19. Tad Active Air BPI™ decontaminates air & surfaces. Decontaminating a busy restaurant is a next-level challenge, as multiple occupants will use the same table one after the other, leaving a short gap for decontamination. Ionizer will help to decontaminate the air & surfaces.

Smoking Allowed:
In hotel rooms, restaurants, pubs, bar where indoor smoking is allowed our ionizer will breakdown harmful gases effectively and convert them into neutral gases and moisture.

Schools

Every parent has come across the common cold transmission in schools. As published by **US Air-conditioning Heating & Refrigeration Institute "ionization should be part of a comprehensive indoor air quality** program to make sure the breathing zone in school is cleaner and healthier for students".
Tad Active Air ionizer will effectively improve indoor quality in air-conditioned schools & Universities.

Pharma, Dairy, Food & Cold storage

Meeting hygienic indoor air quality is a mandatory requirement, our ionizer is designed to help these stringent hygienic standards related to microbial level, VOCs and dust particle concentration.

Fitness Centre

During the current pandemic, fitness centers are in a sensitive situation. Tad Active Air BPI™ will help to decontaminate the air and surfaces of air conditined gym.

Tad Active Air BPI™ is a unique solution that can decontaminate indoor air in any and almost every air-conditioned space, including but not limited to shopping centers, malls, supermarkets, movie theatres, worship places, marriage halls, or any airconditioned space.

Are you sure the air you breathe is safe?

For more info contact:
support@tadaircon.com