



COSMOS[®]
Air Distribution Products

Powered By **Technology**
Driven By **Innovation**

Air Distribution Products

IAQ Diffuser



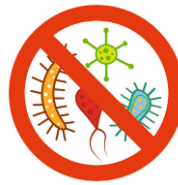
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SYAMANTAK INDUSTRIES PVT LTD.

A Wide Range of High Quality Air Distribution Products.

Certified for Excellence,
Trusted Worldwide !

IAQ Diffuser



for Restricting
Spread of Bacteria & Viruses

Over the past two years of Pandemic , we have learned that the virus is more likely to spread in situations where virus-carrying particles exhaled by an infected person can accumulate in the air and other people breathe in these particles . It is suggested that the effective ventilation control infection transmission & improves IAQ. COSMOS offers Fan powered "IAQ DIFFUSER" for reducing the risk of exposure to bacteria & viruses with improved indoor air quality.

Features

- Two Way Solution by combining UVC Air Sterilization & Enhanced Forced Ventilation.
- Improved room air movement allows higher room temperature setting thus lower power consumption.
- Our proprietary, patent-pending ultra-high reflectivity chamber features a fully shielded, all-metal design built to last for the life of the unit.
- The UV achieves up to a 99.9% single-pass kill rate in 10 minutes and is specifically engineered to provide continuous 24x7 ultraviolet protection against airborne bacteria, viruses, and mold—all while remaining safely concealed overhead.
- The COSMOS IAQ Diffuser unit includes a pre-filter to keep the UV chamber free of dust and hair, ensuring optimal efficiency.
- The long-lasting 11,000-hour bulb requires replacement only once every 1.25 years.
- Bottom panel access allows for quick and easy bulb and filter replacement.



The clean, subtle design allows for an integrated and seamless suspended installation in standard grid ceilings, making it ideal for occupied spaces. The self-contained UV light chamber is discreetly housed within the ceiling plenum.

COSMOS IAQ Diffuser are very innovative solution acting as a shield ensuring that the air entering the room is pure and safe. It's sterilizes the air from pathogens using UVC light & enhances air purification and room ventilation by forced ventilation using electronically commutated (EC) fans .

Diffuser works on the principle that it will intake the room air from the perforated face of the diffuser by EC fan & filtering the air at the discharge of the diffuser supplying through diffuser discharge . It will run continuously till achieve the 100% sterilization performance of viruses and bacteria which could spread through the ventilation system. They are a practical solution which can be installed in most existing buildings without other significant upgrades, and offer easy access for maintenance and filter replacement.

IAQ diffusers are designed to be used in air conditioning, ventilation and heating systems at a temperature differential up to 22°F (12°C). They can be mounted in false ceilings, on drywall, or suspended from the ceiling, from 8 feet to 12 feet high. COSMOS diffusers allow a flow variation with 100% air purification.

IAQ Diffuser allows us to also reach parts of the room which would normally lack proper ventilation, either because of the room configuration, the diffuser location, obstacles, or other factors. It will also allows us to improve thermal comfort by redirecting the air away from people feeling drafts, or towards sources of heat gain/loss like large windows.

Performance

Antimicrobial Performance Of Diffuser

Specimen	Plate Expose Time		
	15 Minutes		
	Total Plate Count	Yeast & Mould	S. aureus
Negative Control	No Growth Observed	No Growth Observed	No Growth Observed
Positive Control	Growth Observed	Growth Observed	Growth Observed
Sample	66 cfu / 15 minute	48 cfu / 15 minute	19 cfu / 15 minute
% Reduction	99.93 %	99.95 %	99.90 %

Performance

Indoor Air Quality Improvement - Results after 30 Minutes

ResultsAfter 30 minutes						
S. No	PARAMETERS	UNITS	PRE	POST	PERCENTAGE OF REDUCTION (%)	Protocol
1	Temperature	Deg. C	25	24.8	0.8 ↓	Electrochemical Sensor
2	Relative Humidity	%	56	54	3.57 ↓	Electrochemical Sensor
3	Particulate Matter (PM 2.5)	µg/m3	73.8	6	91.87 ↓	Electrochemical Sensor
4	Particulate Matter (PM10)	µg/m3	104.3	8.7	91.66 ↓	Electrochemical Sensor
5	Carbon Dioxide (as CO ₂)	ppm	1124	687	38.88 ↓	Electrochemical Sensor
6	Sulphur Dioxide (as SO ₂)	ppm	2.4	0.9	62.50 ↓	Electrochemical Sensor
7	Nitrogen Dioxide (as NO ₂)	ppm	3.8	1.4	63.16 ↓	IS:5182 (P2)
8	Oxygen (as O ₂)	%	19.7	20.8	-5.29 ↑	IS:5182 (P6)
9	Ammonia (as NH ₃)	µg/m3	21.65	17.01	21.43 ↓	Electrochemical Sensor
10	Carbon Monoxide (as CO)	ppm	1.9	1.4	26.32 ↓	Electrochemical Sensor
11	Total Volatile Organic Compounds	ppm	2.6	1.8	30.77 ↓	Electrochemical Sensor
12	Formaldehyde (as C ₆ H ₅ OH)	ppm	0.02	0.014	30.00 ↓	IS:5182 (R25)
13	Benzene (as C ₆ H ₆)	µg/m3	1.1	0.7	36.36 ↓	IS:5182 (R11)

Indoor Air Quality Improvement - Results after 60 Minutes

ResultsAfter 60 minutes						
S. No	PARAMETERS	UNITS	PRE	POST	PERCENTAGE OF REDUCTION (%)	Protocol
1	Temperature	Deg. C	25	24.8	0.8 ↓	Electrochemical Sensor
2	Relative Humidity	%	56	54	3.57 ↓	Electrochemical Sensor
3	Particulate Matter (PM 2.5)	µg/m3	73.8	4.2	94.31 ↓	Electrochemical Sensor
4	Particulate Matter (PM 10)	µg/m3	104.3	6.5	93.77 ↓	Electrochemical Sensor
5	Carbon Dioxide (as CO ₂)	ppm	1124	687	38.88 ↓	Electrochemical Sensor
6	Sulphur Dioxide (as SO ₂)	ppm	2.4	0.9	62.50 ↓	Electrochemical Sensor
7	Nitrogen Dioxide (as NO ₂)	ppm	3.8	1.4	63.16 ↓	IS:5182 (P2)
8	Oxygen (as O ₂)	%	19.7	20.8	-5.29 ↑	IS:5182 (P6)
9	Ammonia (as NH ₃)	µg/m3	21.65	17.01	21.43 ↓	Electrochemical Sensor
10	Carbon Monoxide (as CO)	ppm	1.9	1.4	26.32 ↓	Electrochemical Sensor
11	Total Volatile Organic Compounds	ppm	2.6	1.8	30.77 ↓	Electrochemical Sensor
12	Formaldehyde (as C ₆ H ₅ OH)	ppm	0.02	0.011	45.00 ↓	IS:5182 (R25)
13	Benzene (as C ₆ H ₆)	µg/m3	1.1	0.7	36.36 ↓	IS:5182 (R11)



Manufactured By
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