KRIRA TECH

Air Quality Monitoring System

INDOOR CLEAN AIR SOLUTIONS

Air Quality

The **Indoor Air Quality Index (AQI)** monitoring device works seamlessly with an Air Sterilizer Machine to create a healthier environment. The AQI device continuously measures the levels of pollutants, providing real-time feedback. When paired with the sterilizer, it significantly reduces harmful particles, illustrating a clear improvement in air quality. Together, they transform the air from contaminated to clean, promoting well-being and comfort indoors.

How It Works

The AQI monitoring device continuously measures air quality levels, providing real-time data on pollutants. When paired with an air sterilizer machine, it enhances indoor air quality significantly, ensuring a safer and healthier environment by actively reducing harmful substances while offering feedback on air quality improvements.

Before and After

Prior to using the AQI monitoring device alongside the air sterilizer, indoor air quality can be compromised, often displaying high levels of pollutants such as particulate matter (PM2.5), volatile organic compounds (VOCs), and allergens. This can lead to health issues such as respiratory problems and allergies. After implementing these devices, users typically observe a marked decrease in AQI levels. The monitoring device provides real-time updates, indicating improvements in air quality metrics. With the air sterilizer actively purifying the air, harmful contaminants are significantly reduced, resulting in clearer, healthier air. Users report feeling more energized and less affected by allergens, showcasing the effectiveness of this powerful combination in maintaining a clean indoor environment.

Air Quality

Monitoring and improvement overview

PERFORMANCE METRICS

Comparison of air quality before and after

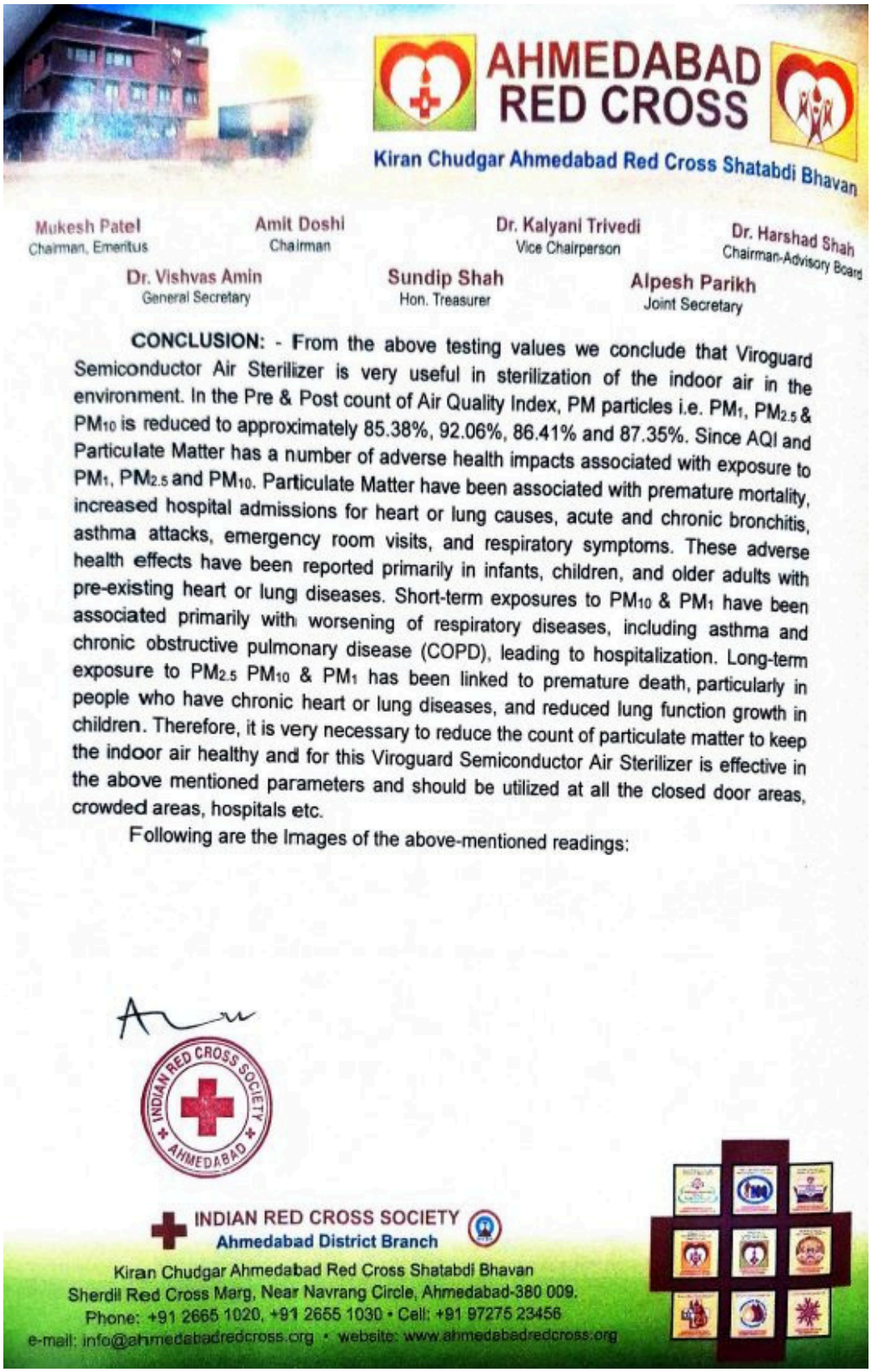
BEFORE	• High pollutants • Allergens present • Poor visibility
AFTER	• Reduced particles • No allergens • Enhanced clarity
IMPROVEMENT	• Lower AQI • Fresh air • Safe environment
CLEAN	• Advanced filtration • Continuous monitoring • Automatic adjustments

TECHNICAL OVERVIEW

Our AQI monitoring device works seamlessly with an Air Sterilizer Machine, ensuring optimal air quality through real-time monitoring and purification. The synergy between these devices significantly reduces pollutants and enhances breathable air for healthier indoor environments.

PERFORMANCE METRICS TESTED IN LABS

Comparison of air quality before and after



AHMEDABAD RED CROSS

Kiran Chudgar Ahmedabad Red Cross Shatabdi Bhavan

Mukesh Patel, Chairman, Emeritus
Amit Doshi, Chairman
Dr. Kalyani Trivedi, Vice Chairperson
Dr. Harshad Shah, Chairman-Advisory Board
Dr. Vishvas Amin, General Secretary
Sundip Shah, Hon. Treasurer
Alpesh Parikh, Joint Secretary

CONCLUSION: - From the above testing values we conclude that Viroguard Semiconductor Air Sterilizer is very useful in sterilization of the indoor air in the environment. In the Pre & Post count of Air Quality Index, PM particles i.e. PM_1, $PM_{2.5}$ & PM_{10} is reduced to approximately 85.38%, 92.06%, 86.41% and 87.35%. Since AQI and Particulate Matter has a number of adverse health impacts associated with exposure to PM_1, $PM_{2.5}$ and PM_{10}. Particulate Matter have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, and respiratory symptoms. These adverse health effects have been reported primarily in infants, children, and older adults with pre-existing heart or lung diseases. Short-term exposures to PM_{10} & PM_1 have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease (COPD), leading to hospitalization. Long-term exposure to $PM_{2.5}$ PM_{10} & PM_1 has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. Therefore, it is very necessary to reduce the count of particulate matter to keep the indoor air healthy and for this Viroguard Semiconductor Air Sterilizer is effective in the above mentioned parameters and should be utilized at all the closed door areas, crowded areas, hospitals etc.

Following are the Images of the above-mentioned readings:

INDIAN RED CROSS SOCIETY
Ahmedabad District Branch

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OBSERVATION TABLE WITH READINGS

DATE	TIME		ROOM (AREA)	AQI		SO_2 ($\mu g/m^3$)		NO_2 ($\mu g/m^3$)		CO (mg/m^3)		PM_1 ($\mu g/m^3$)		$PM_{2.5}$ ($\mu g/m^3$)		PM_{10} ($\mu g/m^3$)	
	PRE-TIME	POST TIME	IN SQ.FT.	PRE-COUNT	POST-COUNT	PRE-COUNT	POST-COUNT	PRE-COUNT	POST-COUNT	PRE-COUNT	POST-COUNT	PRE-COUNT	POST-COUNT	PRE-COUNT	POST-COUNT	PRE-COUNT	POST-COUNT
04-07-25	11:26AM	3:35PM	DONOR ROOM AREA- APPROX 800 SQ.FT	57	16	0.02	0.07	0.01	0.01	0.5	0.5	11	02	15	04	16	04
05-07-25	11:50AM	6:00PM	THALLASEMIA ROOM AREA- APPROX 850 SQ.FT	54	4	0.07	0.07	0.01	0.01	0.5	0.5	11	00	14	01	15	01
07-07-25	11:26AM	6:07PM	COMPONENT SEPERATION AREA- APPROX 900 SQ.FT.	29	0	0.02	0.0	0.01	0.01	0.5	0.5	05	00	07	00	07	00
08-07-25	12:35AM	6:15PM	ADMIN ROOM AREA- APPROX 950 SQ.FT.	67	8	0.02	0.03	0.01	0.01	0.5	0.5	17	01	20	02	23	02
09-07-25	12:30AM	6:30PM	TELLECALLER HUT ROOM AREA- APPROX 900 SQ.FT.	61	0	0.02	0.02	0.01	0.01	0.5	0.5	14	00	17	00	18	00
10-07-25	12:30AM	6:30PM	PATHOLOGY ROOM PALADI AREA- APPROX 1000 SQ.FT.	33	16	0.19	0.02	0.06	0.01	0.5	0.5	5	2	8	4	8	4

VISUAL REPRESENTATION

This section illustrates the significant air quality improvement achieved through the combined use of the AQI monitoring device and the Air Sterilizer Machine, demonstrating their effectiveness in creating a healthier indoor environment.

AQI Monitoring Overview

Understanding air quality improvement

Initial Assessment

Establish baseline AQI levels before device implementation.

Device Installation

Install AQI monitors and sterilizers in key locations.

Data Collection

Monitor AQI levels and air quality improvements post-installation.

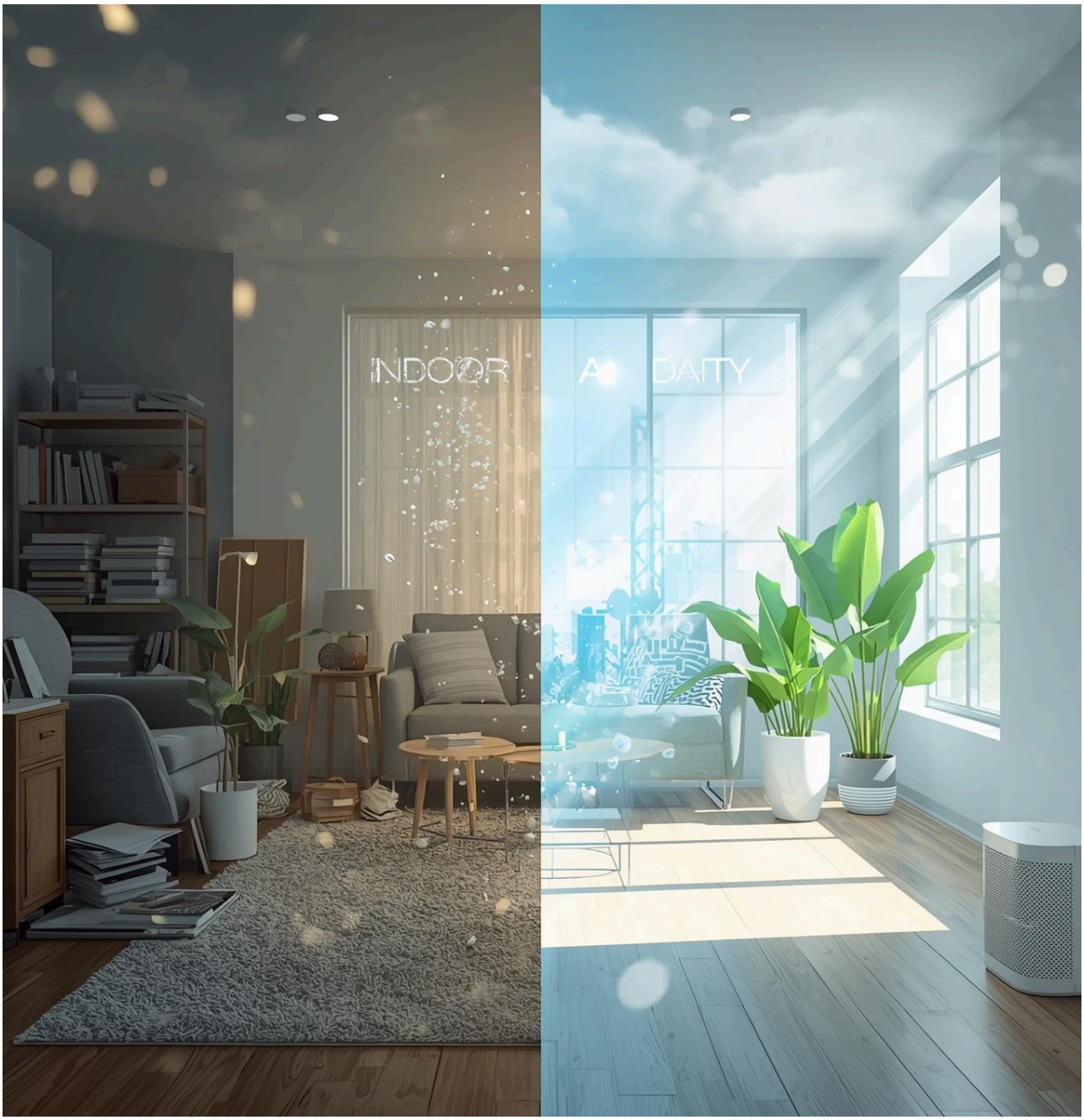
Review Results

Analyze data to assess effectiveness of both devices.

AIR QUALITY IMPACT

By using the AQI monitoring device alongside the air sterilizer, significant improvements in air quality were observed. The AQI levels dropped from unhealthy to safe, showcasing the effectiveness of combined technology in creating a healthier indoor environment.

How AQI Monitoring Enhances Air Quality



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