Importance of Air Purifiers

For Hotels

STREAMER

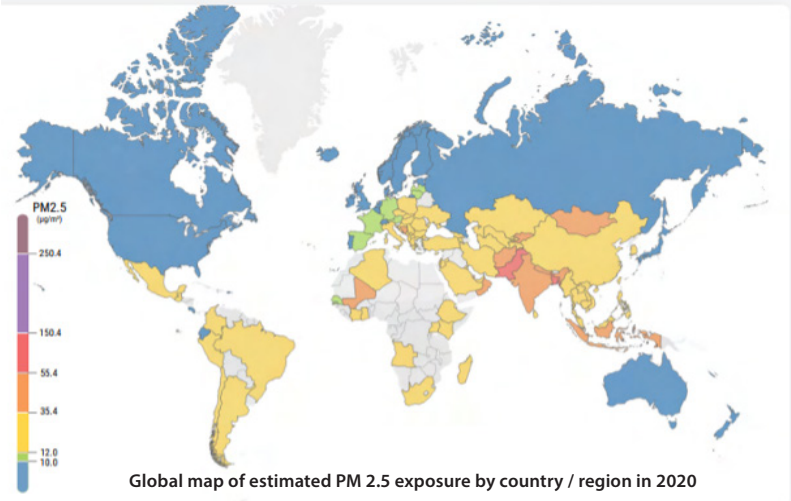
According to the World Health Organization (WHO) air pollution from both outdoor and indoor sources represents the single largest environmental risk to health globally, and causes 7 million deaths a year worldwide.

According to the 2020 World Air Quality Report, countries in the Middle East and Africa suffer from high exposure to PM2.5, with Oman, Qatar, Bahrain, UAE, Egypt and Saudi Arabia ranking among the highest.

Several studies have found a significant relationship between air pollution and the severity of COVID-19 infection.

PM 2.5

refers to particle matters that are considered the most dangerous pollutants for humans, because they are small enough to penetrate the respiratory system and from there the entire body.



Global map of estimated PM 2.5 exposure by country / region in 2020

2020 World Air Quality Index

US AQI Level		PM2.5 ($\mu g/m^3$)	Health Recommendation (for 24hr expsure)
Good	0-50	0-12.0	Air quality is satisfactory and poses little or no risk.
Moderate	51-100	12.1-35.4	Sensitive individuals should avoid outdoor activity as they may experience respiratory symptoms.
Unhealthy for Sensitive Groups	101-150	35.5-55.4	General public and sensitive individuals in particular are at risk to experience irritation and respiratory problems.
Unhealthy	151-200	55.5-150.4	Increased likelihood of adverse effects and aggravation to the heart and lung among general public.
Very Unhealthy	201-300	150.5-250.4	General public will be noticeably affected. Sensitive groups should restrict outdoor activities.
Hazardous	301+	350.5+	General public is at high risk to experience strong irritations and adverse health effects. Everyone should avoid outdoor activities.

What is a HEPA filter and why use a portable HEPA air cleaner?

"Research shows that the particle size of SARS-CoV-2 is around 0.1 micrometer (µm). However, the virus generally does not travel through the air by itself. These viral particles are human-generated, so the virus is trapped in respiratory droplets and droplet nuclei (dried respiratory droplets) that are larger than an individual virus. Most of the respiratory droplets and particles exhaled during talking, singing, breathing, and coughing are less than 5 µm in size. By definition, a High Efficiency Particulate Air (HEPA) filter is at least 99.97% efficient at capturing particles 0.3 µm in size. This 0.3 µm particle approximates the most penetrating particle size (MPPS) through the filter. HEPA filters are even more efficient at capturing particles larger and smaller than the MPPS. Thus, HEPA filters are no less than 99.97% efficient at capturing human-generated viral particles associated with SARS-CoV-2".

(1) Ventilation in Building, CDC (Centers for Disease Control and Prevention)
Ventilation in Buildings | CDC

The pandemic has boosted the awareness about the importance of indoor environments and has triggered changes in our travel decisions. Air quality has become a major area of concern for travelers and there has been an increased demand for the hotel industry to provide options for rooms with better filtration and purification.

Hotel rooms are thoroughly cleaned, sanitized and disinfected in between guests stays, but how do you ensure the air is clean and healthy?

How air pollutants affect guests and staff in a hotel

- Altered guest experience
- Increased risk of spread of communicative disease (e.g. COVID19)
- Less occupancy
- Lower staff productivity

Why do you need air purifiers in your hotel?

Improved guest experience

Clean air is essential for the guests' wellbeing and health, as it positively impacts their breathing and the quality of their sleep. Guests feel more energized and sleep better, which contributes to better relaxation and overall experience. Air pollutants could cause discomfort such as nausea, drowsiness and fatigue and even exacerbate respiratory issues.

Emphasize your commitment to the health and safety of your guests

by reducing the risk of airborne virus transmission in your hotel environment. COVID-19 particles can live in the air for up to three hours. Airborne infection is 15-20 times more likely to occur indoors than outdoors.

Gain a competitve edge

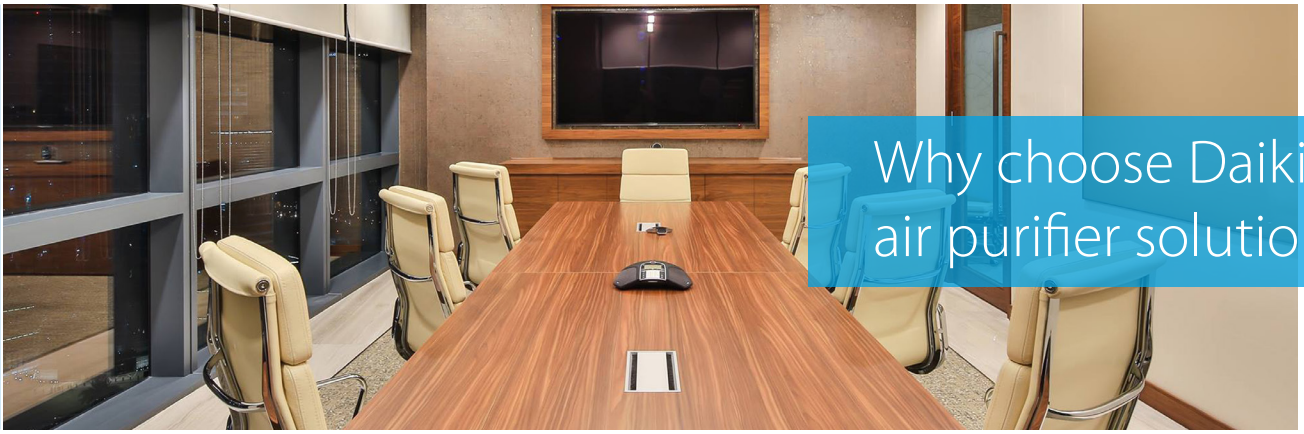
by implementing air purification systems. An increasing number of hotel guests are concerned about the detrimental impact of air on their health. Investing in air purification systems can reassure guests and eventually lead to more bookings.

Increase your hotel reputation

by communicating the benefits of clean air. Guests want to be reassured that the air they breathe is clean and healthy and does not represent a risk for their health.

Improve your staff productivity

by investing in air purification system that positively impact their concentration and productivity.



Why choose Daikin's air purifier solutions?

As a global leader in the HVAC-R industry, we rely on more than 90 years of experience and expertise to deliver the highest quality solutions and services.

Because our care for the planet is absolute, our air purifiers are designed with the latest technology to consume less energy and reduce their environmental impact. Our commitment to quality also means providing the best service experience for our customers. From on-site support and installations to troubleshooting and maintenance, our experts are here to help you achieve the perfect climate.

The Daikin Difference

Clean and healthy air

Minimizes asthma and allergy symptoms by removing airborne allergens such as mold, mites, and pollen as well as adjuvant substances, viruses, and bacteria.

Deodorization

The causes of bad odors are decomposed and removed by Streamer and filter technologies.

Powerful suction

Our unique air intake design enables a greater volume of air to be cleaned for faster air purification.

Convenience

Various functions such as a monitor displaying current air conditions make operation simple and easy.

Recommended Products

MC55 Series

Institut Pasteur de Lille evaluated the effectiveness of Daikin's air purifiers against respiratory viruses.

According to tests performed in the laboratories of the Institut Pasteur de Lille, Daikin's air purifiers eliminate more than 99.98% the human coronavirus HCoV-229E in 2.5 minutes*. This virus is of the same family as SARS-CoV-2, the coronavirus behind the COVID-19 pandemic. The units have also been evaluated as 99.93% effective against the H1N1 virus in 2.5 minutes*. H1N1 is the virus causing common flu.

This means Daikin's air purifiers are an additional measure in the fight against respiratory diseases. The effectiveness of our compact plug-and-play purifier is achieved through a combination of the high performance electrostatic HEPA filter, which traps the virus, followed by an intense exposure to Daikin's patented Flash Streamer technology, which eliminates the virus, can strongly contribute to reducing the risk of respiratory virus transmission.

MC55 Series

Powerful suction
Takes in air over a wide area from 3 directions.

2

Effective capturing of pollutants
Efficiently catches dust and pollutants with an electrostatic HEPA filter.

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3

Decomposition
Uses Daikin's streamer technology to decompose, by oxidation, harmful substances caught on the filter

Recommended Products

DAFU 1000

Daikin's air filtration unit is equipped with 3-stage filtration including 99.99% efficient HEPA filter. It is a portable, with nominal 1000 CFM, air filtration unit designed to serve small to medium-sized facilities like health care facilities to quickly and inexpensively convert standard patient rooms to negative pressure isolation rooms. It also helps any conditioned space as a recirculating device that provides equivalent outdoor air changes (ACH) to eliminate air borne infections.

The Air Filtration unit can be operated in any of the below modes:
1. 100 % Exhaust
2. 100% Recirculating

This powerful unit is equipped with an EC Fan with variable speed control and can deliver airflow from 300 CFM to 1000 CFM. The EC Fan ensures lower sound levels and high efficiency.

Technical Specifications

MC55 Series

› Pure air thanks to air purification technologies
› Catches fine particles of dust
› Powerful suction and whisper quiet
› New stylish and compact design

Single Unit					MC55 Series
Application					Floor standing type
Applicable room area				m^2	41(1) | 82(2)
Dimensions	Unit	Height x Width x Depth		mm	500 x 270 x 270
Weight	Unit			kg	6.8
Plug shape					UK type (three pin) for MC55VB & EU type (two pin) for MC55W
Casing	Colour				White
Fan	Type				Multi Blade Fan (Sirocco fan)
	Air flow rate	Air purifying operation	Quiet/Low/ Standard/Turbo	m^3/h	66 / 120 / 192 / 330
Sound pressure level	Air purifying operation		Quiet/Low/ Standard/Turbo	dBA	19 / 29 / 39 / 53
Air purifying operation	Power input		Quiet/Low/ Standard/Turbo	kW	0.008 / 0.010 / 0.015 / 0.037
Deodorizing method					Flash streamer + Deodorizing catalyst
Dust collecting method					Electrostatic HEPA filter
Air filter	Type				Polyethylene terephthalate net
Sign	Item				Dust Sign: 3 stages / Odour: 3 stages / Anti-pollen mode / Child proof lock lamp / PM2.5 sensor lamp: 6 stages / Airflow rate: Quiet/Low/Standard/Turbo / AUTO FAN mode / Econo mode / ON/OFF lamp / Streamer lamp
Power supply	Phase/Frequency/Voltage			Hz/V	Single Phase 50Hz 220-240 / 60Hz 220-230
Type					Air Purifier
Optional Accessories	Replacement filter		Dust Collection		KAFP080B4 (1 sheet) (Purchase of new filters is needed after about 10 years)
			Deodorising		-
			Humidifying		-

1) Coverage area according to JEM1467 [2013]
2) Coverage area according to NRCC-54013 [2011]

The applicable room area is appropriate for operating the unit of maximum fan speed. Applicable room area indicates the space where a certain amount of dust particles can be remover in 30 minutes. (JEM 1467) | Operating sound levels are the average of values measured at 1m away from the front, left, right and top of the unit. (These are equal to the values in an anechoic chamber) | Electrostatic HEPA filter is attached in the unit. | Other function: Active plasmation function. Auto-restart function.

About the dust collection and deodorizing capacity of an air purifier:
- Not all harmful substances in cigarette smoke (carbon monoxide, etc.) can be removed.
- Not all odour components that emanate continuously (from building materials and pets, etc.) can be removed.

The Daikin air purifier is not a medical device and is not meant to be used as a substitute to any medical or pharmaceutical treatment.

Technical Specifications

DAFU 1000

Model			DAFU 1000
Casing			Prepainted Steel RAL 9002
Capacity - Nominal Air Flow		CFM	1000
Fan			EC Fan
Speed Control			Variable
Air Flow Range	Turbo	CFM	1000
	Boost		650
	Quiet		480
Motor Power		kW	0.5
Sound Pressure	Turbo/Boost/Quiet	dB(A)	54/50/43
Air Filter Type			MERV8 Filter
			Carbon Filter (Optional)
			H14 HEPA Filter
UV Lamp			254nm
Unit Dimension		HxWxD (mm)	1315 x 622 x 562
Unit Weight		kg	90

Notes:
Sound Power levels measured in accordance to BS EN ISO 3747:2010
Sound pressure calculated (parallelepiped measurement surface) at a distance of 1.5m

Quick Selection Guide

Recommended Air Change Rate based on application

Step 1: Select the air change rate based on application.

Application	Recommended ACR
Classroom	2-4
Offices	2-8
Restaurant	4-8
Movie Theater	5-8
Gym	4-6
Hospital	5-8
Laboratory	Up to 15
Hotel*	4-8

*Lobby area, conference rooms, restaurants, gym/ fitness area

Step 2: Select the number of units required based on air change rate and cleanable room area.

Air Change Rate	Air Changes Every. .	Nominal Cleanable Room Volume	Nominal Cleanable Room Area
	mins	m^3	m^2
2	30	850	283
4	15	425	142
6	10	283	94
8	7.5	212	71
10	6	170	57
12	5	142	47

Notes:
1. Based on nominal airflow 1000 CFM
2. Room height considered 3 meters

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