

Is
your
office
indoor
environment
healthy ?

OFFICE

Indoor Air Quality



CO2 Limit < 800
ppm

We ignore to
monitor quality of air
which we breathe
every 10 seconds

We all know!

If CO2 level in office
is >800 ppm,
occupiers feel tired,
it reduces concentration, they
possibly take frequent breaks
to get 'fresh air' !

All this leads to
low productivity &
compromise health of
our most valuable
asset 'people'.

Similarly
if PM2.5 particulate count is
high and if any air borne
microbe is present in the air,
there is high risk we may
infect our colleagues by
breathing contaminated air !

Reference is made to:

NEA Advisory

<https://www.nea.gov.sg/our-services/public-cleanliness/environmental-cleaning-guidelines/advisories/advisory-on-co2-monitoring-to-assess-ventilation-adequacy>

Joint Advisory to F&B

https://www.enterprisesg.gov.sg/-/media/esg/files/media-centre/media-releases/2022/july/mr03822_advisory_safe-management-measures-for-fb-establishments_caa25jul22_for-publication.pdf



June 2022

ADVISORY ON CO₂ MONITORING TO ASSESS VENTILATION ADEQUACY

1. Introduction

- 1.1 This Advisory Note guides premises managers on how carbon dioxide (CO₂) monitoring can be used as a proxy for ventilation adequacy, so that premises managers can take timely mitigating measures when ventilation is poor (when CO₂ levels are above 800ppm). Measures to improve ventilation in indoor spaces can be found in the [Guidance Note on Improving Ventilation and Indoor Air Quality in Buildings amid the COVID-19 Situation](#).

2. Prioritisation of premises for CO₂ monitoring and ventilation improvements

- 2.1 As Singapore transitions to COVID-19 endemicity, premises managers should take active steps to ensure good ventilation, especially in enclosed, air-conditioned indoor environments. Good ventilation reduces the amount of virus aerosols and other indoor air pollutants that could be present. This will help mitigate the risk of aerosol-based transmission to protect the health of occupants, workers and general public in these premises. Measures to improve ventilation will also enhance our resilience against new COVID-19 variants of concern and future airborne infectious disease threats.
- 2.2 Ensuring good ventilation is critical in premises with higher risk of aerosol transmission, due to risk factors such as mask-off or bioaerosol-generating activities, prolonged time duration spent by occupants within the space, and/or the presence of vulnerable populations. A list of such higher risk premises is shown below. Managers of such premises should proactively ensure that these premises are always well-ventilated.

Step
1

How do we monitor CO2 levels ?

Install

Hygiene Controller

Helps FM Team
Monitor + Control
Indoor Air Quality

Typically in meeting rooms,
CO2 level can rise
to **>1200** ppm within 30 mins.
*NEA recommended limit **<800** ppm



If CO2 > 800 ppm,
it means you are breathing the same air
again & again, almost 360 times in one hour!





Ideally,
just monitoring should be sufficient.

However, there may be instances when the parameters may rise beyond the acceptable limits.

For such situations we provide connected systems that help you control these pollutants to desired levels.

Step

2

If,
CO2 levels
are found
>800ppm

Install

IAQ Connected Systems

These CO2 Modulators are designed to work with Hygiene Controller to auto correct the parameter to desired levels protecting you 24x7.



Our CO2 Modulators help purify the air and maintain desirable indoor CO2 levels in the occupied space.

Our Air Scrubbers (HEPA+UVC) helps to filter and kill the air borne contagious microbes (bacteria & virus) that we breathe out. In absence of such units, there is risk of cross infection among our colleagues.



Our solutions are simple!

Step 1. Install Hygiene Controller and start monitoring.

Step 2. Audit after 2-4 weeks and if any parameter is out of range. Install connected system (Co2 Modulator, AA Scrubber, ECU) as required basis to correct the parameters.

Good News!

#1 Tenants own these assets and can relocate them when they move.

#2 These are standalone units and tenants do not need to integrate with building owner's ACMV control systems. So tenant can own and operate these units independently.

Hygiene Controller

Helps to Monitor + Control
IAQ parameters 24x7

Most other products only monitor and does not assist in controlling the parameters



Parameters include

- ✓ CO2
- ✓ PM2.5
- ✓ TVOC
- ✓ Temperature
- ✓ Humidity

7 days trend is available
for easy reference



Air quality changes every few minutes!
so measuring IAQ once in a year is futile.
Recommended to have online IAQ monitoring.

‘people’, ..

our most valued asset, work long hours in our offices, and if the air quality in office is poor, it results in low performance and also compromising their health.

It is time HR and Safety officers ensure that indoor air quality be measured and reported as one of the KPI.

We provide complete IAQ Eco System



Hygiene Controller

connects to:

- ✓ ECU (Environment Control Unit)
 - ✓ CO2 Modulators
 - ✓ ActiveAir Scrubbers / Purifiers
HEPA+UVC+ Anions
 - ✓ Dehumidifiers
 - ✓ Fresh Air Fans with HEPA & UVC
 - ✓ UVC lights / Sterilisers
 - ✓ Motion Sensors
 - ✓ Cameras
 - ✓ Occupancy sensors
- more...



[in.Control]

One IOT platform for smart and sustainable facility

Think Sustainability !

Think Net Zero building targets

Our AI driven controller
checks the status
every 60 seconds and
triggers Air Scrubbers &
CO2 modulators only when
it is needed.

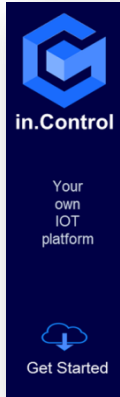
This helps

- ✓ Save energy,
- ✓ Extend filter life
- ✓ Recycle air responsibly.



Take your
1st step
towards
Sustainable
IAQ Solutions

A step towards
Sustainability,
Net Zero buildings.
Helping facilities achieve
SLE/ ULEB targets



Monitor & Control
Set alerts & be Proactive



More Details on
www.singaporelabs.sg



If you are facing any issues in regards to IAQ (indoor air quality) or air conditioning, call our consultants. They would have probably solved a similar problem in the past!

Our team would be happy to share their experience.

Contact

Consultant

+65 9634 8123
Mahesh.M@STbuildingsolutions.sg



ST Building Solutions Pte Ltd
24 Penjuru Road #05-01, Singapore 609128