



Presented by: Kwan Tai Engineering

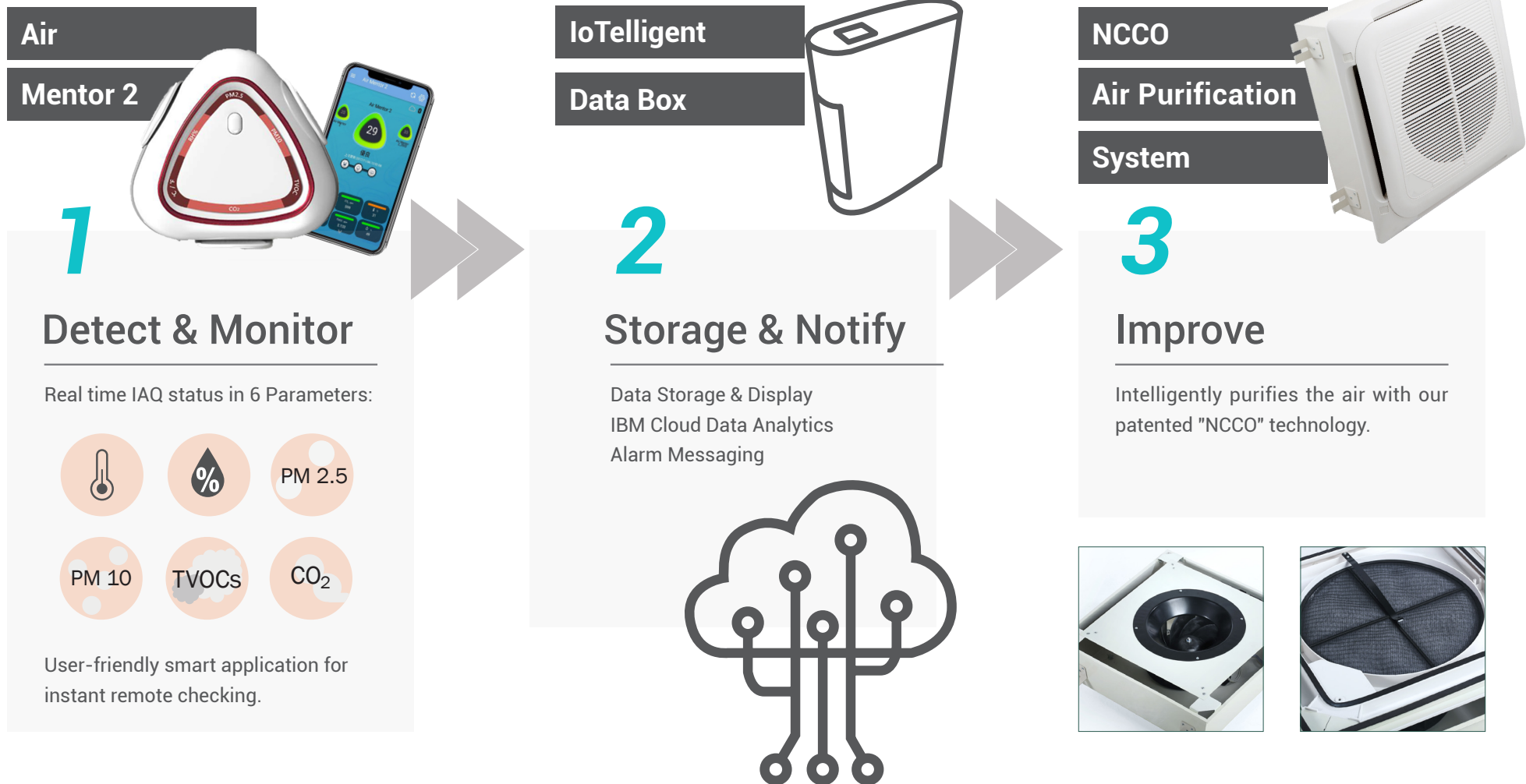


Smart Air Purification System

Powered by NCCO technology



HOW THE SYSTEM WORKS ?



"Now you can see the
Indoor Air Pollution with our smart Air
Purification System"

Attaining the IAQ standards of :



環境保護署
Environmental Protection Department

Tackle indoor air problem indicated
by Hong Kong EPD IAQ Requirements



Effectively treat the required pollutants
in LEED accreditation



HKGBC
BEAM Plus
綠建環評

Add credits for BEAM Plus accreditation



Effectively treat the required pollutants
in WELL accreditation

AIR MENTOR 2 INDOOR AIR QUALITY DETECTOR



Detects and displays real-time air quality with the Air Mentor Link App.

Measures Indoor Air Quality with 6 parameters: temperature, humidity, PM 2.5, PM 10, TVOC, CO2.

Air Mentor 2 can also be connected with the IoTelligent Data Box for further solution integration, such as data analysis, alarming function, direct control with multiple electrical appliances with digital I/O modules.

Features



Wireless Connection

Through smart phone App, user can easily setup Air Mentor 2 Wi-Fi connection, to know your air quality anytime, anywhere.



Standard Air Quality Light Index

Air quality index color is designed to match international air quality display standard, to show IAQ (Indoor Air Quality) status in a simplicity design.



Warning

Air Mentor 2 will alert user with air quality pollution status, the app will also receive alert notification.



Wall Mount Holder

Our wall hanger naturally mingles into interior design, to help air quality detection, to make your air quality visible to your family.



Complete Indoor Air Quality Monitoring

To detect majority indoor air quality pollutant sources. After power on, it remains continuous monitoring mode.



Remote Checking

Air quality checking at different locations becomes possible as smartphone can connect with multiple Air Mentor 2.



Air Quality History Data Analysis

Air quality measurement will automatically upload to Air Cloud, through App, you may check history data, analysis and improvement suggestion.



System Integration

Wired or wireless integration with HVAC system is achievable with our design assistant.

Specifications



Model	8099-AP
Input	DC 5V/1A Micro USB
Dimension	106 x 115 x 44.5mm
Communication	Wireless LAN 802.11 b / g / n 2.4GHz Bluetooth 4.X LE
Weight	205g
Apps Compatibility	iOS 9, Android 5.0 or above
Operating Temp	5~40
IAQ Breathing LED	Green, Yellow, Orange, Red, Purple
PM2.5	Range: 0~1000µg/m³
CO2 (NDIR)	Range: 400~10,000 ppm
PM10	Range: 0~1000µg/m³
Temperature	Range: -20°C ~80°C
TVOC	8099-AP
Humidity	Range: 0~100%

IOTELLIGENT DATA BOX



Redirect Air Mentor's air quality data to IBM Cloud Analytics

Direct control with multiple electrical appliances with digital I/O modules

Integrated SMS/email gateway for sending alarm messages

Real Time Measurements

Type	Benchmark	Values
CO2	< 1000 PPM	664 PPM
PM2.5	< 30 µg/m ³	26 µg/m ³
PM10	< 180 µg/m ³	34 µg/m ³
Temp	20 - 25.5°C	24.79°C
RH%	40 - 70 %	57 %
TVOCs	< 261 PPB	393 ppb
IAQ Index	< 50	71

Console with real-time measurement display

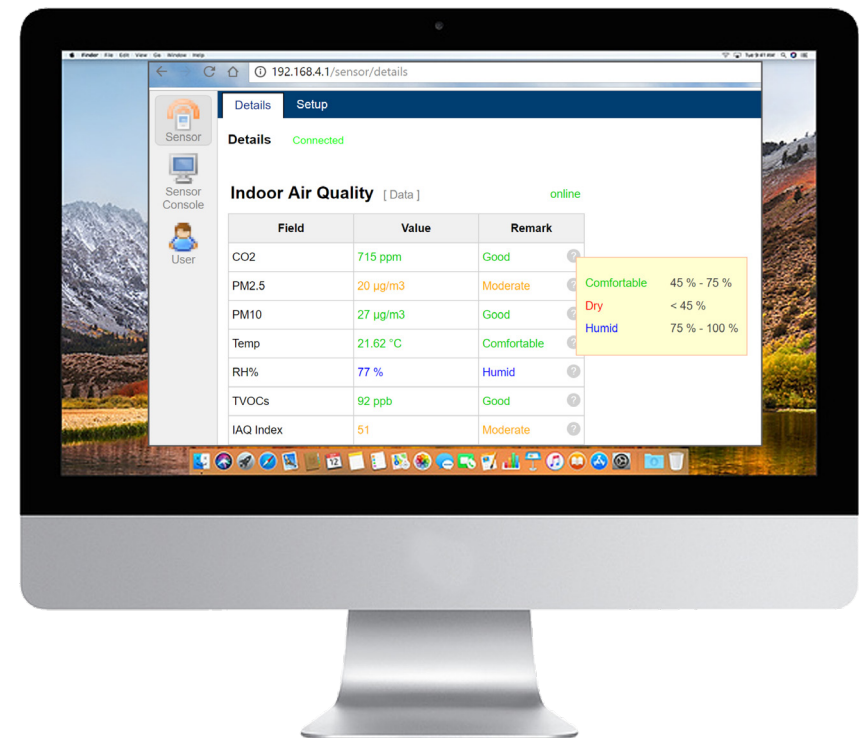
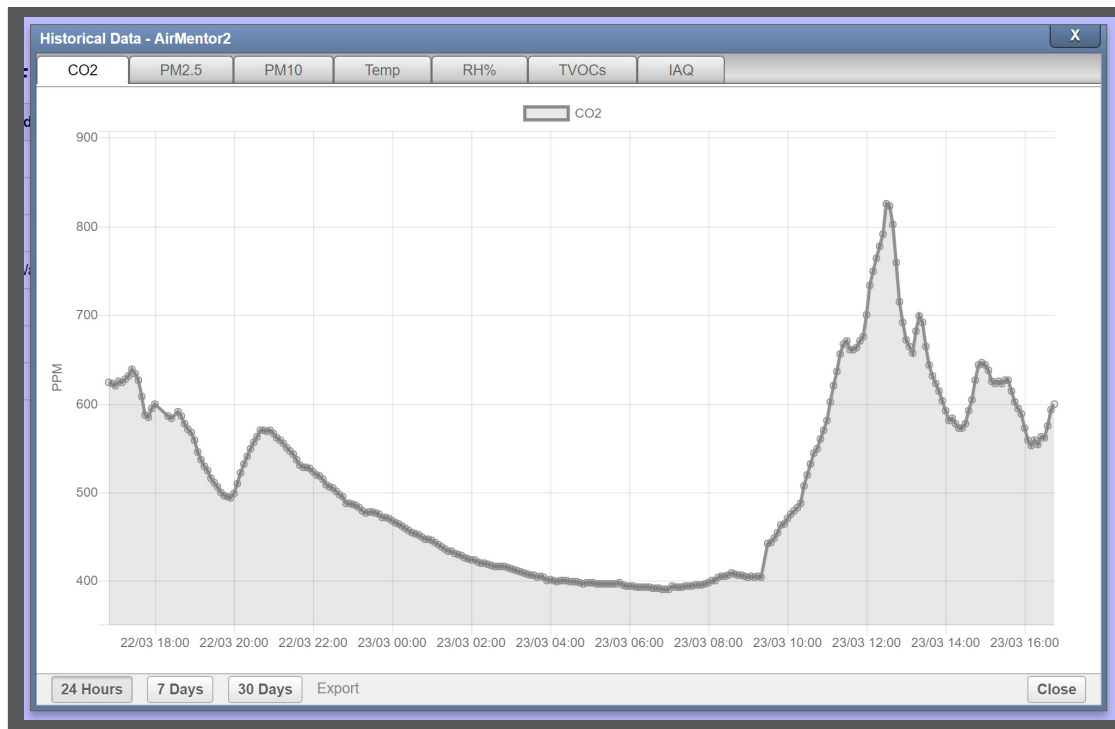


Table of Real-time Measurement & Indoor Air Quality Standard Reference



Graphs of Six Parameters under different period of time

[Alert] Real-time Data from Air Mentor 2 Inbox x

SENSOR <sensor@infst.com>
to me

[Alert] TVOCs : 330 ppb

Personalised Alarming Message Box
under unhealthy conditions

Real Time Alert

← SENSOR

7月30日星期一 • 17:46

CO2 High: 799 ppm

CO2 High: 807 ppm

7月30日 17:50

傳送短訊

短訊

NCCO AIR PURIFIERS

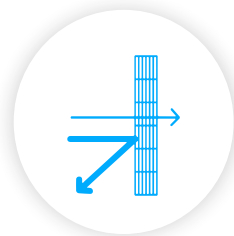
(powered by NCCO technology)

Ceiling-Type/ Duct-Type/ Customised Systems



"By linking with the IoTelligent Data Box, the purifier will automatically remove the detected pollutants in the air"

NCCO 3-Stage Air Cleansing



Hospital Grade Filter

A combination of filters to physically clean the air, trapping solid pollutants from larger hair and dust to smaller particulates and bacteria.

ELIMINATE



PM2.5



Dust



MicroBugs



Bacteria



Pollens



Mold

Nano-Confined Catalytic Oxidation

Patented technology invented by HKUST*



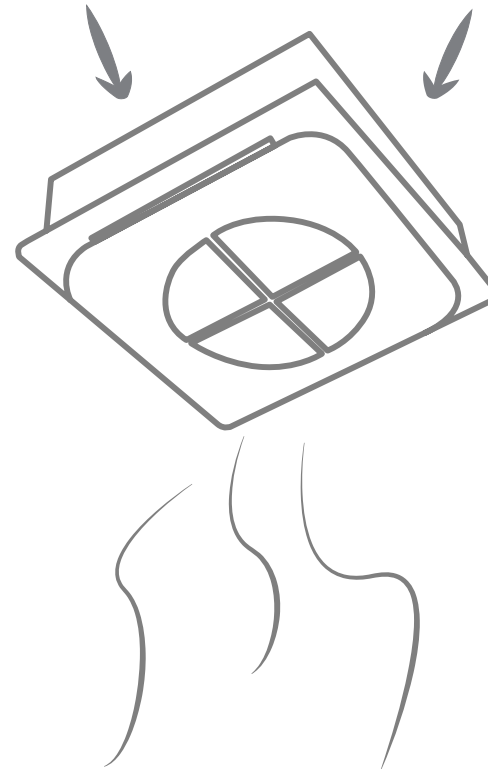
Active Oxygen Generator

Activates oxygen in the air into more reactive species, thereby increasing efficiency of air cleansing in the next stages.



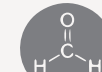
Nano-Technology Reactor

Serves as a medium for chemical reactions to occur at maximum rate, decomposing the gaseous pollutants back into harmless air.

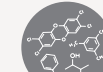


Clean Air

DECOMPOSE



Formaldehyde



VOCs



Odour



Viruses



NOx



Ozone

Achievement:

Pollutants	% Reduction
Ammonia	98.9%
TVOC	99.9%
Formaldehyde	98.8%
Airborne bacteria count	95.8%
Respirable suspended particulates	97.6%

Data collected from a room of about 100 sq ft (approx 18 cub md) and having operated NCCO model EC400 for 60 minutes
[Tested by independent certified testing laboratory]

*Developed by the Entrepreneurship Centre of the Hong Kong University of Science of Technology

ADVANTAGES

No Secondary Pollution

Other absorption based purifiers such as activated carbon releases pollutants back into the air after saturated.

But NCCO works different. Gaseous pollutants are decomposed effectively in NCCO operation, broken down into harmless molecules.

True Protection

Other emission-based purifiers such as ion and ozone could threaten your health with release of high level of oxidant.

In contrast, NCCO decomposes the excess active oxygen after oxidation, not letting it threaten your health.

STANDARD MODELS



EC400

Ceiling Type

Air Treatment Unit

Operation Mode	Silent / Auto
Power Supply	Domestic Socket 13A / 220-240V
Power Consumption	60 / 80 (W)
Air Flow Volume	180 / 290 (cfm)
Body Dimension	580 x 580 x 212 (mm)

Cover Dimension	625 x 625 x 50 (mm)
Applicable Area	40 – 100 sq.m.
Treatment System	1. AOG 2. Pre-Filter 3. Static Filter 4. HEPA Filter 5. NCCO Reactor



RA-801

Industrial Air Purification System

Operation Mode	Low / Medium / High
Power Supply	Domestic Socket 13A / 220-240V
Power Consumption	45 / 65 / 75 (W)
Air Flow Volume	110 / 200 / 300 (cmh)

Body Dimension	637 x 284 x 261 (mm)
Applicable Area	20 – 60 sq.m.
Treatment System	1. AOG 2. HEPA Filter 3. NCCO Reactor

CUSTOMISED SOLUTION

To integrate into your existing system

NCCO AHU Systems

Remove a section
of the air duct



Replace by
NCCO Cabinet Unit



New air duct with
NCCO air purification system



Case Study : HSBC Asia-Pacific Data Centre

Issue: The centre is located near Tseung Kwan O Landfills, fresh air driven into the centre is full of foul smell.



How we tackle:

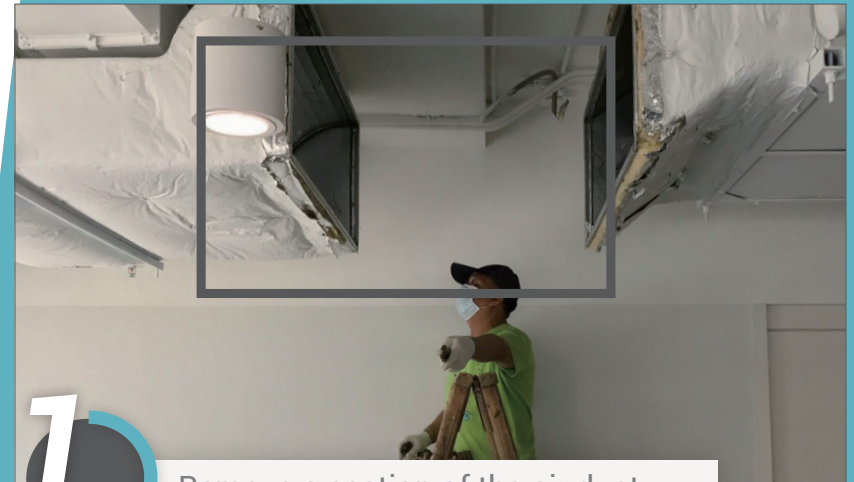
To be more effective in odour elimination, the NCCO system was installed in fresh air inlet instead of employing close circulation purifications



Case Study :Dah Chong Hong Building (in Kowloon Bay)

Issue: Suffered large amount of TVOC from vehicles painting released into fresh air inlet duct.

How we tackle: The NCCO system is integrated into client's existing air inlet duct system.



1

Remove a section of the air duct



3

New air duct with NCCO air purification system



2

Replace by NCCO Cabinet Unit



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