

innoclean™



the **Air Duct
Cleaning**
Professorial



innoBrush

Everyone can do it

at Anywhere & Anytime

Indoor Air Quality

Indoor Air Quality (IAQ), as the name implies, simply refers to the quality of the air in an interior space. We normally justify whether an interior space with a good Indoor Air Quality (IAQ) by measurement results of the below parameters:-



Table 1: General IAQ Objectives for Office Buildings and Public Places

Parameter 參數	Unit	8-hour average	
		Excellent Class 優秀級	Good Class 良好級
Room Temperature 室溫	°C	20 to < 25.5	< 25.5
Relative Humidity 相對濕度	%	40 to < 70	< 70
Air movement 空氣流動	m/s	< 0.2	< 0.3
Carbon Dioxide (CO ₂) 二氧化碳	ppmv	< 800	< 1,000
Carbon Monoxide (CO) 一氧化碳	µg/m ³	< 2,000	< 10,000
	ppmv	< 1.7	< 8.7
Respirable Suspended 可吸入懸浮	µg/m ³	< 20 f	< 180
Nitrogen Dioxide (NO ₂) 二氧化氮	µg/m ³	< 40 g	< 150
	ppbv	< 21	< 80
Ozone (O ₃) 臭氧	µg/m ³	< 50	< 120
	ppbv	< 25	< 61
Formaldehyde (HCHO) 甲醛	µg/m ³	< 30	< 100
	ppbv	< 24	< 81
Total Volatile Organic Compounds (TVOC) 總揮發性有機化合物	µg/m ³	< 200	< 600
	ppbv	< 87	< 261
Radon (Rn) 氡	Bq/m ³	< 150	< 200
Airborne Bacteria 空氣中的細菌	cfu/m ³	< 500	< 1,000

Note: Please refer to the HKSAR government guideline for more information

Indoor Environmental Quality

However, the poor Indoor Air Quality (IAQ) is mainly caused by the poor Indoor Environmental Quality (IEQ). "Sick Building Syndrome" is a term many people use to convey a wide range of symptoms they believe can be attributed to the building itself. The occupants typically implicate the workplace/ live place environment because their symptoms are alleviated when they leave the building.



Types of Symptoms and Complaints

The effects of IAQ problems are often nonspecific symptoms rather than clearly defined illnesses. Symptoms commonly attributed to IAQ problems include:-

- Headache
- Shortness of breath
- Cough
- Eye, nose and throat irritation
- Dizziness
- Fatigue
- Sinus congestion
- sneezing
- Skin irritation
- Nausea



Problem

Indoor environmental contaminants can originate within the building or be drawn in from outdoors. If the outdoor contaminant concentrations are excessive, the IEQ problems can arise, even if the HVAC system is properly designed and well-maintained.

Indoor Environmental Quality

Generally, IEQ problems caused by

- ventilation system deficiencies
- performance drop of ventilation system
- overcrowding
- off-gassing from materials and dirt
- Mechanical equipment
- Tobacco smoke
- Microbiological
- Outside air pollutants



Maintaining a healthy and comfortable indoor environment in any building requires integrating many components of a complex system. For the old or operating building, a routine cleaning works on the air ductwork is particularly important.

The indoor environment in any building is a result of the interaction between the outdoor conditions, distribution of the ventilation ductwork, construction techniques, contaminant sources and building occupants.

Four Elements

In general, the following 4 elements are involved in the development of indoor air quality problems:-

Source:

The source(s) of contamination will continuously cause the discomfort & poor air quality within the mechanical systems of the building.

Occupants:

For building with occupants, it is important to understand the role that each of these occupants may play in order to prevent, investigate and resolve indoor air quality problems.

Central HVAC System:

A considerate & properly designed HVAC system provide a thermal comfort environment, to any spaces within the building. At the meantime, it also acts as the efficient path of spreading out the air contaminants within the building.

Pathways:

If one or more pollutant pathways connect the pollutant source to the occupants, then a driving force exists to move pollutants along the pathway(s).

The Solution

Innoclean thoroughly understand how important the duct cleaning is! With our experience and sincerity on this industry and to our client, Innoclean have developed their own Inspection & Cleaning (IC) Robot System by trial-and-error in the field & laboratory during past few years. Innoclean Inspection & Cleaning (IC) Robot System are durable and easy to service and maintain and is the best choice in the market, on helping your ventilation system and your health.

(a) Generator with hard-wired remote unit (Power ON/OFF and Rotation direction)



(c) Brush cable: 12m

(b) Brush head (Size: DN200 / DN 400 / DN 600)

Model	InnoBrush-B001	InnoBrush-B002
Brand Name	Innoclean (Australia)	
Manufacturing	OEM in China	
Electrical Connection	220V (Single phrase)	
Integrated Fuse (A)	3A	
Rotation speed (rpm)	0-2200	
Overall dimension (mm)	330 * 280 * 200 (L x W x H)	
Weight (kg)	15	
Power consumption (watt)	750	