

the **Air Duct
Cleaning**
Professorial

innoRobot

*Real Time Inspection & Cleaning
at Anywhere & Anytime*



Introduction

It is a well-known fact, that either mechanical ventilation system or air-conditioning (heating / cooling) ventilation system are installed in buildings in order to ventilate the room.

All these ventilation systems are designed to supply or extract a certain amount of air to the rooms.

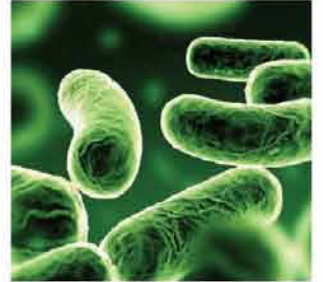
In some application, even complete with a series of filters (such as Pre-filter, Main-filter, Carbon-filter and HEPA-filter etc.) fitted to the system, it can not be ensured that contaminants

will come into the system from bypassing the filter holding frame, the leakage of ductwork or during the new installation of air duct equipment. Contaminants shall be accumulated throughout the maintenance shortage years, and can after several years build to a substantial amount.



Introduction

This accumulated dust is humid & odorous and creates a basis for bacteria and fungi. These might, within time, free themselves from the duct and be transported into contact with the occupants.



What's the problem?

The further consequence is that the air duct pressure loss is increasing due to the accumulation of dirty as obstacle, it affects the system performance on the delivery of air, as a result, the control of the air flow capacity, air velocity, pressure, air temperature and humidity shall no longer work as designed.



How about the exhaustion system?

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When on FIRE!

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Your best partner!

Innoclean thoroughly understand how important the duct cleaning is! With our experience and sincerity on this in-dustry 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 dura-ble and easy to service and maintain and is the best choice in the market, on helping your ventilation system and your health.

What's innoclean concept?

As a good listener, we are willing to hear what you are worrying? As the professorial & leader company in the mar-ket, we are going to tell you what is your best solution.

Our InnoClean concept consists of:-

- A. Preliminary inspection on site environment*
- B. Plans for ductwork inspection*
- C. Plans for cleaning with the appropriate procedures, equipment & schedule*
- D. Advanced inspection on the ductwork*
- E. Proving*

When necessary, the ductwork shall divide into serval zones (namely from Z1, Z2, Z3 and goes on) and the order/ schedule of ductwork cleaning shall upon the client's advice.

Since the ductwork of each cleaning zones may with different shape and dimension, so an appropriate equipment shall be selected to suit the real condition onsite.

What's innoclean concept?

The actual cleaning plan shall upon the ductwork inspection, and in a way that is the best for the given system and the future maintenance works. It might be relevant to perform a disinfection/ coating/ air purification equipment installation of the system after cleaning works.

A. Preliminary inspection on site environment

- Collecting general data on the site environment by the site-walk, drawings and clients

B. Plans for ductwork inspection

- To work out the appropriate method & location of dust-sample collection. Examination on the dust composition shall be optionally provided.

- The inspection serves to identify exactly where and to what extent problems exist.

C. Plans for cleaning with the appropriate procedures, equipment & schedule

- Ductworks shall divide into single/ several zones (namely from Z1, Z2, Z3 and goes on)

- Because of difference in shape and dimension of each ductwork zone, the appropriate equipment shall be selected to suit the real condition onsite.

- The actual cleaning plan shall in a way that is the best for the given system and the future maintenance works. It might be relevant to perform a dis-infection/ coating/ IAQ equipment installation of the system after the cleaning works.

D. Advanced inspection on the ductwork

- Innoclean shall perform the internal quality assurance procedure after the cleaning works.

E. Proving

- We shall carry out the final inspection together with the clients as the final examination.

The in-spection procedures & location shall exactly the same as the first inspection was made.

In this way it is possible to obtain data for the before & after comparison.

Brushing Mechanism:

Brush head provided (DN 200 , DN 400 and DN 600) ; Fitting for Rotation direction (Forward & Backward) ; Material (Plastic)



LED Illumination:

Forward direction ; Lighting ON / OFF

Back Camera:

LED illumination integrated ; Lighting ON / OFF ; 360 degree rotation ; Color type camera

Lifting Mechanism:

Vertical motion (upward & downward) ; Integrated adapter for brush head connection



Belt Drive Motorized Mechanism:

4 directions movement ; Integrated Belt-tension

Brushing Mechanism:

Optional Brush head (DN 200 , DN 400 and DN 600) on requested ; Fitting for Rotation direction (Clockwise & Anti-clockwise) ; Material (Plastic)



Front Camera:

LED illumination integrated ; Lighting ON / OFF ; 360 degree rotation ; Color type camera

Dust Sampler:

Optional dust sampler on requested





Specification

| | |
|--|---|
| <i>Brand Name</i> | <i>innoclean (Australia)</i> |
| <i>Manufacturing</i> | <i>OEM in China</i> |
| <i>Model</i> | <i>innoclean IC-R001</i> |
| <i>Power source required</i> | <i>220V / 110V (Single pharse) to control station</i> |
| <i>Robot speed</i> | <i>Approx. 0 – 15 m/min</i> |
| <i>Overall dimension (L x W x H, mm)</i> | <i>440 x 330 x 220</i> |
| <i>Overall weight , kg</i> | <i>Approx. 18</i> |
| <i>Robot casing</i> | <i>Fulyl metal casing; Anti-corrosion coating</i> |
| <i>Type of Camera/ video output</i> | <i>Colour / S-video</i> |
| <i>1st Camera / 2nd Camera</i> | <i>Front view only / 360o view, 360 degree rotation</i> |
| <i>Available Brush Head Sized</i> | <i>DN 200 / DN400 / DN600</i> |

Control Panel

| | |
|------------------|---|
| <i>Monitor</i> | <i>Yes / Color / 7 " LCD</i> |
| <i>Provision</i> | <i>a) Video output port to Portable Multimedia Player (PMP) for video recording and photo capturing</i> |
| | <i>b) Front or Back camera selection button</i> |
| | <i>c) Control button for back camera motion (360 degree)</i> |
| | <i>d) 4 ways direction control button</i> |
| | <i>e) Rotatry Speed Control Switch</i> |
| | <i>f) Brushing mechanism ON / OFF control button</i> |
| | <i>g) Lifting mechanism Up / Down control button</i> |