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- Daycare Centres
- Hospital & Clean Rooms
- Smoking Environment
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PROPOSAL : AIR DUCT & HVAC CLEANING

COMPREHENSIVE AIR DUCT & HVAC CLEANING UTILIZING ROBOTIC TECHNOLOGY

PROPOSAL

1.0 INTRODUCTION

We at **Soma Medical** are pleased to propose our Air Duct Cleaning utilizing robotic technology.

Soma Medical, being a specialist contractor in the field of Indoor Air Quality (IAQ), building remediation and (IAQA) engineering solution; has the knowledge, skills and expertise in undertaking the “Project”. As the service provider, we shall provide all necessary resources and equipment to execute the Air Duct & HVAC Cleaning services required by our clients. We shall execute air duct assessment, analysis, inspection and record the data, thus providing a comprehensive report with accordance to standards by National Air Duct Cleaners Association (www.nadca.com), HVCA Guide to Good Practice TR19: ‘Cleanliness of Ventilation Systems’/British Standard EN15780 ‘Ventilation for Buildings – Ductwork – Cleanliness of ventilation systems’* and/or other international standards.

According to the U.S. Department of Energy, 25 to 40 percent of the energy used for heating or cooling is wasted. Contaminants in the heating and cooling system cause it to work harder and shorten the life of your system. Although filters are used, the heating and cooling system still gets dirty through normal use. When an HVAC system is clean, it doesn’t have to work as hard to maintain the temperature you desire. As a result, less energy is used, leading to improved cost-effectiveness.

Indoor air quality is one concern that building managers and building inhabitants have when they decide to investigate HVAC system. Through normal occupation in a building, we generate a great deal of contaminants and air pollutants, such as dander, dust, and chemicals. These contaminants are pulled into the HVAC system and re-circulated 5 to 7 times per day, on average. Over time, this re-circulation causes a build-up of contaminants in the ductwork.

Fortunately we have the solution for these issues. Our Project division is governed by a group of training consultants, engineers, industrial hygienist, scientist of public, environmental & occupational health, and risk assessment expert. Our personnel are competent and have gone thru various courses. **Through our subsidiary company IAQ Diagnostics we are certified by NADCA (National Air Duct Cleaners Association).**

This proposal aimed to offer professional services for Air Duct Cleaning and mitigation measures and treatment/ solution for pollutants not only for the office environment but also in different types of workstation/ occupants’ areas.

The benefit of this program will be as below (but not limited to):

- Undertaking regular HVAC hygiene inspections in compliance with

AIRAH HVAC Hygiene best practice guidelines.

- Ensuring workers' health, safety and comfort, which directly associated with operational costs/, company image;
- “CSR” - Another corporate social responsibility
- ☐Energy Saving
- Increase the work efficiency, productivity and reduce the absenteeism of employees;
- Preventive measure to increase the public confidence during epidemical outbreak;
- HVAC system hygiene levels can directly influence indoor air quality and occupants health

2.0 SCOPE OF WORK

The scope of work is to identify and remove all indoor air pollutants within the mechanical air ventilation system utilizing robotic technology.

The objective of the Air Ventilation Duct Cleaning is:

- I. To conduct pre visual and robotic inspection of the air duct system utilizing a robotic inspection vehicle;
- II. To use powerful High Efficiency Particle Air (HEPA)-filtered collection units that are attached to the air duct system, creating a negative pressure that draws debris to the collection unit;
- III. To utilize mechanical agitation and brushing tools work with compressed air-driven whips and tools to dislodge debris on the interior surface of all main and branch supply, return air ductwork and flexible ducts;
- IV. To mount/fit access doors in the air ventilation ductwork;
- V. To conduct post visual and robotic inspection of the mechanical air ventilation system utilizing a robotic inspection system;
- VI. To provide professional pre & post remediation report with still images and pre & post video of the robotic duct cleaning exercise.

3.0 EQUIPMENT

The following table summarize that our equipment/product meets this following standards:

- HVCA Guide to Good Practice TR19: ‘Cleanliness of Ventilation Systems’;
- British Standard EN 15780: ‘Ventilation for Buildings – Ductwork – Cleanliness of ventilation systems’;
- National Air Duct Cleaners Association – ACR 2013 Standards;

NO	Equipment Name	Equipment Usage	Standards
1	Duct Truck Inspector	To record video of pre & post remediation	HVCA Guide to Good Practice TR19: ‘Cleanliness of Ventilation Systems’ British Standard EN 15780 NADCA – ACR 2006 Standards
2	LIFA AIR – Special Cleaner 25	To apply agitation and mechanical brush to clean the internal duct system	HVCA Guide to Good Practice TR19: ‘Cleanliness of Ventilation Systems’ British Standard EN 15780 NADCA – ACR 2006 Standards
3	LIFA AIR AC3500 Extractor & Filter box, complete with G3 Pre-filter and F6/F7 final filtration	To collect dust & debris from the duct system	HVCA Guide to Good Practice TR19: ‘Cleanliness of Ventilation Systems’ British Standard EN 15780 NADCA – ACR 2006 Standards
4	LIFA AIR Tornado Compressed Air duct cleaner	To clean internal duct system utilizing compressed air technology	HVCA Guide to Good Practice TR19: ‘Cleanliness of Ventilation Systems’ British Standard EN 15780

AIR DUCT CLEANLINESS INSPECTION SCHEDULE

Building Classification	Air Handling Unit	Supply Ductwork	Return Ductwork/Exhaust
Industrial	1 year	1 Year	1 Year
Light Commercial	1 year	2 Years	2 Years
Commercial	1 year	2 Years	2 Years
Healthcare	1 year	1 Year	2 Years
Marine	1 year	1 Year	1 Year
Offshore Plant	1 year	1 Year	1 Year

Source: National Air Duct Cleaners Association (www.nadca.com)

6.0 WRITTEN REPORT

Upon completion of duct cleaning, Soma Medical will prepare a written report summarizing our method, measurement and findings. The report will include the full result of monitoring and recommendation for corrective action where the potential pollutant exists for adverse effects on the general Indoor Environment space of the building.

7.0 RESPONSIBILITY

7.1 CLIENT is responsible to:

- Appoint personnel who will assist IAQ in navigating the duct cleaning exercise
- Provide onsite workspace for IAQ team members at work area.

7.2 IAQ is responsible to:

- Inform the management in writing or other means of communication tools in case of any changes in resources or date of duct cleaning exercise.
- Keep the information or findings of the project confidential and not disclose to any party without prior approval from the management.

8.0 DELIVERABLES

Upon completion of the project, **Soma Medical** will:

- Deliver a job completion report of Duct Cleaning; thirty (30) days from the duct cleaning job completion;
- Recommend any rectification and preventative measures with regards to the Air Duct & Mechanical issues.