

INTEGRATING DUCT CLEANING INTO YOUR BUSINESS

Fifty per cent of all illnesses are either caused or aggravated by polluted indoor air; one in six people suffer from allergies because of fungi and bacteria in duct systems; the average six-room house collects 40 pounds of dust each year; and indoor air has been found to be up to 70 times more polluted than outdoor air. These statistics seem to suggest that the inspection and cleaning of HVAC systems is a vital component to the overall health of a home.

"HVAC systems are continually circulating the air in a building with the return air and makeup air ducts drawing dust and dirt into the system," Gary Lapstra of Ontario Duct Cleaning noted. "Although filters are supposed to trap much of this contamination, the reality is that a lot of the dust and dirt will get through and contaminate fans, motors, air conditioning coils, heat exchangers and the ductwork. The result is a decrease in efficiency and airflow as well as an increase in dust levels and the potential for growth of moulds, fungi and other pollutants in the system. Proper cleaning of the HVAC system will remove virtually all of the dust and other pollutants."

There are those who would disagree with that statement. Canada Mortgage and Housing Corporation (CMHC) states that: Duct cleaning will not usually change the

quality of the air you breathe, significantly affect airflows or heating costs, reduce the presence of house moulds and allergens, or reduce energy costs. According to CMHC, it is difficult to find objective and independent research that substantiates such claims. Researchers at CMHC have observed little or no discernible differences in the concentrations of house airborne particles or in duct airflows following duct cleaning.

"We have no trouble with the fact that good duct cleaning will leave ducts clean," said Don Fugler, senior researcher, Policy and Research Division, CMHC. "But they [ducts] don't contribute to bad air quality, they are just a conduit."

Despite this, indoor air quality (IAQ) has grown as a significant concern in the HVAC industry. As a result, the scope and standards for HVAC system cleaning have seen extensive development. "While we started out focusing on duct cleaning many years ago, the National Air Duct Cleaners Association (NADCA) now emphasizes the need to clean the entire HVAC system and all air-side surfaces within the system," said John Schulte, executive director of NADCA.

There is no Canadian standard for duct cleaning, but the NADCA criteria are often used by Canadian duct cleaners who belong to the organization (see sidebar on p. 34). At its 2008 meeting, NADCA adopted a new tag-

Tools Of the Trade

"Air duct cleaning contractors face the challenge of cleaning many different types of ductwork," said Peter Hagen of Vac Systems International. "Unfortunately, there is not one magic cleaning tool that can clean every type and size of duct. There are four main levels of duct cleaning used to achieve source removal of the accumulated dirt and debris." In ascending order of effectiveness, the four levels are:



Air Washing - A pressurized air source is combined with a hose with a remote nozzle.



Air Whips - The combination of air washing (pressurized air) with some agitation from the whip(s).



Brushing - Both manual and powered systems of brushing make physical contact with more of the interior surface of the duct.



Contact Vacuuming - Makes physical contact with more of the interior surface of the duct.

line as part of an effort to adapt to change in the market: *NADCA – the HVAC inspection, maintenance and restoration association*. The organization said it will enhance standards “to delineate requirements for residential, commercial, institutional and industrial HVAC maintenance and restoration projects,” and will develop comprehensive training to prepare industry professionals to provide such services, as well as a Certified Ventilation Inspector (CVI) credential.

Peter Haugen, president of Vac Systems International, empathizes with HVAC contractors who are looking for ways to expand their businesses. He believes that there is no one more qualified to perform air ducting cleaning services. “It makes sense to consider a service that has long-term potential, that complements existing services and that offers good profitability,” he said. “The indoor air quality market in general and air duct cleaning in particular is just such a service.”

CMHC’s website asserts that duct cleaners affiliated with heating or air conditioning firms may be able to provide a more thorough system tune-up. Haugen agrees. “Air duct cleaning is a natural partner or extension of HVAC system installation and servicing,” he said. “It offers many benefits to the HVAC contractor, including: excellent gross margins, significant add-on revenues with existing customers, identifying potential HVAC retrofit customers and generating new equipment and service sales, helping to sell other IAQ-related products, and generating revenues during slow times of the year.”

Bell’s Oil Burner Service in Coldwater, ON decided to offer duct cleaning services several years ago as an adjunct to its mechanical service division. Charlene Graham, who heads up the duct cleaning department, said there were many reasons for this addition to the business.

“There was an increased customer awareness, inquiries regarding the process and subsequent referrals to another local company,” she said. “Pros for the contractor include: added value to an existing loyal, trusting

customer base; strong potential for referrals and repeat business; and increased opportunity while on site to offer other products and services.

“Create initial awareness with the existing customer database through chosen media – newsletter, flyer or a

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new announcement,” Graham advised. “Network with other contractors and organizations who will only refer known reputable fellow businesspeople; court the media by submitting unsolicited articles regarding current public concern issues such as fire hazards, allergy season, furnace efficiency and heating costs; and develop an advertising plan through the Yellow Pages, local opportunities and sponsorships.”

Getting into the business also requires a significant investment in equipment. Ontario Duct Cleaning, for instance, uses different equipment for the cleaning of residential versus commercial HVAC systems. “For residential applications, the most effective way to clean ducts is to use a truck-powered vacuum system,” explained Lapstra. “Many duct cleaning companies also use camera-equipped robots or cameras to inspect the ductwork upon completion. In commercial or industrial applications large portable HEPA vacuums are commonly used because of hose length restrictions. However, the same basic cleaning procedures are followed.”

Doing the right job is sometimes challenging, said Lapstra. “In order to properly clean ducts, access to the main duct line is crucial to allow the connection of the large suction hose,” he said. “In those instances where the base-

ment has been finished, there may not be enough of the main duct line exposed because most of it is covered by drywall. In order to undertake duct cleaning in these situations, an access hole must be cut into the drywall ceiling. Frequently, the homeowner does not want this done and the cleaning cannot be completed.

“Multiple furnace homes sometimes have HVAC units located in upstairs closets or attics, as well as in the basement,” he continued. “These upstairs units frequently require the use of portable vacuums since the truck hoses will not reach to the upper floors. In these cases, although the basement systems can be completed, another appointment must be scheduled to bring in the portable systems.”

Terry Donohue from Power Vac Professional Duct Cleaning, a national duct cleaning company headquartered in Winnipeg, MB, agrees that access to the main duct line is often a challenge to the proper cleaning of a system. “Many times the ductwork is hidden behind a solid ceiling, which puts a premium on the application of remote-controlled robotic devices that can travel long distances inside the ductwork while brushing or blowing the particulate toward the collection device,” he said.

“Most commercial duct cleaning must be completed during the evenings or on weekends and holidays which increases the cost of labour to perform the service,” he continued. “Many large commercial projects require a detailed plan to schedule the work in a logical manner to avoid cross contamination of previously cleaned parts of the system. The other typical trade problems are the tight quarters that must be navigated with bulky equipment and the infringement on the duct system from other building systems preventing the ideal access points from being accessed.”

There is a wide choice of cleaning tools available to today’s duct cleaning contractor (see sidebar on p.32). “Most contractors will need several different cleaning tools to achieve the cleaning results and productivity they desire,” said Haugen. “Air duct cleaning represents a tremendous business opportunity as part of the growing indoor air quality field. Since the early 90s the duct cleaning business growth rate has exceeded 50 per cent. Industry analysts are predicting this will continue for some time.”

HPAG

Standard Practice Coming

ASHRAE Standard 180P, Standard Practice for Inspection and Maintenance of HVAC Systems, will be published by the end of 2008. “The 180P standard will be a big plus for the industry because it mandates inspection of HVAC systems, including a comprehensive listing of components,” explained Schulte. “The standard also provides guidance in establishing inspection schedules for various components. It calls for inspections using specified schedules and provides guidance for operators to adjust the schedule as is appropriate for the system in question. The result is an optimized maintenance schedule for a given HVAC system.”

NADCA also publishes the standard Assessment, Cleaning & Restoration of HVAC Systems (ACR 2006) and has been doing so since 1992. The voluntary standard has been adopted around the world in 31 countries, including Canada. “This document is the basis for many commercial cleaning specifications today,” said Haugen. “These specifications spell out what is required on what project.”

ACR 2006 provides recommended inspection frequencies for HVAC systems, addresses considerations for mould and biological contaminants, and the cleaning of fibreglass insulation, duct liner and duct board.

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