

# The Air Duct Cleaning Opportunity

By Peter Haugen  
For the NEWS

Many HVAC Contractors are looking for ways to expand and grow your business. It makes sense to consider a service that have good long term potential, a service that compliments your existing services, a service that is not difficult to enter and a service that offers good profitability. The indoor air quality market in general and air duct cleaning in particular is just such a service.

The concern and need for good indoor air quality will probably never go away so the market for air duct cleaning should remain strong for a long time. Air duct cleaning is a natural partner or extension of HVAC system installation and servicing. Air duct cleaning offers many benefits to the HVAC Contractor including:

- Excellent gross margins (40% to 60%)
- Significant add-on revenues with existing customers.
- Identifying potential

HVAC retrofit customers and generate new equipment and service sales.

- Help sell other IAQ related products
- Generate revenues during slow times of the year.

## Qualifications

There is probably no one more qualified than the HVAC Contractor to perform air duct cleaning services. They already have extensive knowledge of the HVAC system and have the skill set to clean all of the components in the HVAC system. There is not a better or easier time to clean HVAC system they when you are changing out a furnace or air handler.

If the HVAC Contractor has been subbing this service out to someone else the will have better control over scheduling, quality control and profitability if they do the work themselves. HVAC Contractors already have the

business and marketing systems in place so adding another service is relatively easy.

## Questions

Here are three commonly asked questions when considering adding air duct cleaning services.

### 1. What is Air Duct Cleaning?

Air duct cleaning is more than cleaning air ducts. A more appropriate term to use would be "HVAC system cleaning." The HVAC system includes everything in the air stream like all of the registers, grilles and diffusers, the supply ductwork and the return ductwork. In residential systems it also includes the furnace or air handler. In commercial systems it would also include turning vanes, reheat coils, vav boxes, dampers etc.

Some surfaces, like the inside of the furnace or air handler, you clean via contact

## Article Reprint

This article originally appeared in the October 2, 2006 issue of the Air Conditioning, Heating, Refrigeration NEWS magazine.

## The Air Duct Cleaning Opportunity

vacuuming. Others, like ductwork, you put under negative pressure with a vacuum collection unit and then dislodge the accumulated dirt and debris with your air washing and power brushing tools.

This dirt and debris is collected (via the negative pressure or suction from the vacuum collection unit) and blown (via air washing tools) to the vacuum collection unit. Coils can be cleaned via air washing, contact vacuuming or with coil cleaning solutions and water.

If microbial contamination is a concern the HVAC system can be cleaned and then sanitized. In some HVAC systems there is fiberglass insulation. In many of these systems this insulation is deteriorated over time and must either be replaced or repaired. The ultimate goal is to remove all of the accumulated dirt, debris and other contamination found in the system. This is called source removal.

The National Air Duct Cleaners Association (NADCA) has developed a list of basic cleaning tasks for

residential air duct cleaning. This list includes the following activities:

- Visual inspection before and after cleaning.
- Remove, clean and replace supply registers and return grilles.
- Clean supply ductwork and plenum.
- Clean return ductwork and plenum.
- Install access openings as needed and reseal after cleaning.
- Clean blower motor and assembly.
- Clean air steam side of heat exchanger.
- Clean secondary heat exchanger.
- Clean evaporator coil and drain pan.
- Wash air cleaner.
- Replace air filter.

In addition many Contractors also offer:

- System sanitizing.
- Dryer vent cleaning.
- Installation of UV lights

NADCA has also published a document called ACR 2006 – Assessment, Cleaning and restoration of HVAC Systems. This document is the basis for many commercial cleaning specifications today. These commercial specifications spell out what is required on that project. Typically you need to clean anything

in the air stream of the HVAC system.

There are three main types/levels of cleaning used to clean ductwork that contractors use to achieve source removal of the accumulated dirt and debris:

The first level is air washing only. Air washing is the use of high-pressure air that comes from your air compressor through an air hose to an air nozzle. This air nozzle delivers the streams of high-pressure air, which dislodges the accumulated dirt and debris. The suction from the vacuum collection system and the high-pressure air from the air nozzle move the dirt and debris that has been dislodged from the ductwork into the vacuum collection system.

The next level of cleaning is achieved by using air whips. Air whips is a combination of air washing (high pressure air) with some agitation from the whips. This is a higher level of cleaning because; in addition to air washing the whips make contact with some of the interior ductwork. Again, the suction from the vacuum collection system and the high-pressure air from the air

## The Air Duct Cleaning Opportunity

nozzle move the dirt and debris that has been dislodged from the ductwork into the vacuum collection system.

The highest level of cleaning is achieved by power brushing and air washing because it does the best job of removing the accumulated dirt and debris in the ductwork. The brushing does the best job of dislodging the accumulated dirt and debris because it is making physical contact with more of the interior ductwork than the other methods. Air washing after brushing is necessary to help move any remaining dirt and debris out of the ductwork to the vacuum collection system.

An example of different levels of cleaning quality is washing your car. There are car washes that use high pressure water with soap and other use just high pressure water. Both clean your car but which method gets it cleaner? Brushing gets your car cleaner because it makes physical contact with most of your car. Likewise, brushing cleans ductwork better because it makes physical contact with most of the ductwork.

Like brushing with air washing, contact vacuuming achieves very good cleaning results. Contact vacuuming is done with a HEPA filtered portable vacuum and is the primary method when cleaning air handlers, rooftops units and furnaces. When this method is used for cleaning ductwork many access openings are required.

### **2. What Equipment is needed?**

Lets start with a basic explanation of the different types of vacuum collection systems that are available.

- The large truck mounted units offer lots of suction so you typically do not have to zone off the HVAC system. These units sit outside and a large 50' to 100' long suction hose is brought into the home or building and connected to the ductwork. You are limited to cleaning residential and one or two story commercial buildings with the truck mounted units. These units are also the most expensive and require the most maintenance.
- Trailer mounted and

portable gas vacuum collection systems are less expensive than truck mounted units, but like them, they sit outside and you bring in the large 50' to 100' long suction hose to connect to the ductwork. Depending on the system you may or may not have to zone off the HVAC system to achieve the suction you need to effectively clean. You are limited to cleaning residential and one or two story commercial buildings.

- Portable electric vacuum collection systems offer the most flexibility in that you can clean virtually any type (residential, apartments, condos, light commercial and commercial) of building with them. You bring these collectors into the building and position them where you can be the most productive. You zone off (divide up) the HVAC system to achieve the suction you need to clean. These units operate on 110 or 220 volt, 50 or 60 Hz., and have HEPA filtration.

The level of cleaning and the level of service the Contractor decides to offer will determine

what type of specific equipment you will need.

In generic terms a typical equipment package to inspect, clean and decontaminate HVAC systems will include:

- Vacuum collection system – puts ductwork under negative pressure (suction).
- Agitation tools – used to dislodge accumulated dirt, debris and contaminants. This includes power brushing systems,

air whip systems and air washing tools

- Air compressor that provides high-pressure air for air washing tools and air whips.
- HEPA filtered wet/dry vacuum used to contact vacuum surfaces
- Duct accessing tools and service panels used to cut access openings, isolation, and closing access

**The Air Duct  
Cleaning  
Opportunity**

**Vac System International**

1800 E. Cliff Road, #11  
Burnsville, MN 55337 USA  
Phone: 800-597-3955 or  
952-432-3955,  
Fax: 952-432-1584  
Email: [info@vacsysint.com](mailto:info@vacsysint.com)  
Web: [www.vacsysint.com](http://www.vacsysint.com)