

## **Straight Talk: A close look at Rotobrush (and Ductmaster, Rotovac, etc.)**

If you think about HVAC system cleaning and what you are trying to accomplish and examine how the Rotobrush system operates and its results you will see some short comings.

The goal of most air duct cleaning contractors is to remove the accumulated dirt, debris and other contaminants found in the HVAC system. This is called source removal. The HVAC system includes the supply ductwork and plenum, return ductwork and plenum, grilles/registers, and the furnace or air handler - basically everything in the air stream.

The primary short coming of the Rotobrush system is its inability to put the ductwork under proper negative pressure. Putting the ductwork under proper negative pressure is important so the dirt, debris and other contaminants that are dislodged via brushing does not escape through the cracks and seams of the ductwork into the home or buildings. In parts of the country with high humidity, proper negative pressure is especially important to prevent any microbial (mold, mildew, etc) contamination in the HVAC system from escaping into the home or building space.

If you look at traditional HVAC system cleaning equipment, they consist of a vacuum collection system, air compressor, and cleaning tools (brushes/air washing/whips, HEPA vacuums, etc). The vacuum collection system is connected to the ductwork or plenum and puts all or a portion (with zoning) of the ductwork under negative pressure. Then using the cleaning and agitation tools the dirt, debris and other contaminants are dislodged from the inside of the ductwork. The light particles are sucked out via suction from the vacuum collector and any heavy particles fall too the bottom of the ductwork. Then you would push any remaining particles toward the vacuum collector with air washing tools. The suction or negative pressure from the vacuum collection system keeps the dirt, debris and other contaminants from escaping through those cracks and seams in the ductwork throughout the cleaning process.

The Rotobrush system does not create enough negative pressure in the ductwork. The Rotobrush vacuum is located in the center of the brush. As the brush spins and dislodges the dirt and debris it is throwing that dirt debris and other contaminants forward, backward, right and left. The suction of the vacuum will pick up the dirt that is close to it but is not strong enough to pick up all the dirt that has been thrown forward, backwards, right and left. That "thrown" dirt can escape into the home or building space through the cracks and seams of the ductwork and/or it can continue to lie in the bottom and corners of ductwork waiting to be removed. In round ductwork the loosen dirt and debris falls or is funneled to the bottom of the duct where the vacuum pick up is but there is still dirt and debris in front and behind the brush head/vacuum pick up. In square and rectangular ductwork the dirt and debris is not funneled to where the vacuum pick-up is so the Rotobrush will pick up even less of the dirt and debris. The larger the duct the more dirt and debris is left behind.

Another shortcoming of the Rotobrush system is that it doesn't include any cleaning tools or the capability to clean a furnace/air handler or coil sections in an HVAC system. Remember, the goal of most air duct cleaning contractors is to remove the accumulated dirt, debris and other contaminants found in the entire HVAC system. If you clean just the ductwork and then turn the HVAC system back on, the dirt in the furnace/air handler/coil sections will soon be spread into the supply ductwork contaminating what you have just cleaned. Rotobrush offers other products for dryer vent cleaning, insulation handling and inspecting but nothing for cleaning the heart of the HVAC system (furnace/airhandler/coil section).

The inability to provide adequate negative pressure to prevent dirt/debris/other contaminants from escaping through the cracks and seams into the home or building space, the inability to pick-up the dirt/debris/other contaminants from the corners of square and rectangular ductwork, and the inability to clean the entire HVAC system are the primary shortcomings of the Rotobrush system and others like it. Before investing your hard earned money into air duct cleaning equipment/tools be sure you have a good understand of its capability and any shortcomings. If you have any questions on Rotobrush or any other type of air duct cleaning equipment please call Peter Haugen, Vac Systems International at 800-597-3955 or 952-808-1619.