

Best Practice – Using a Fan Flow Box on a Vent-a-Hood

Date: Revised May 2020

Subject: How to use the fan flow box on a kitchen vent-a-hood

Problem or Question:

We are having difficulty getting the fan flow box to obtain a reading when testing the exhaust rate on a kitchen vent-a-hood. Any suggestions of how we can accurately obtain readings?

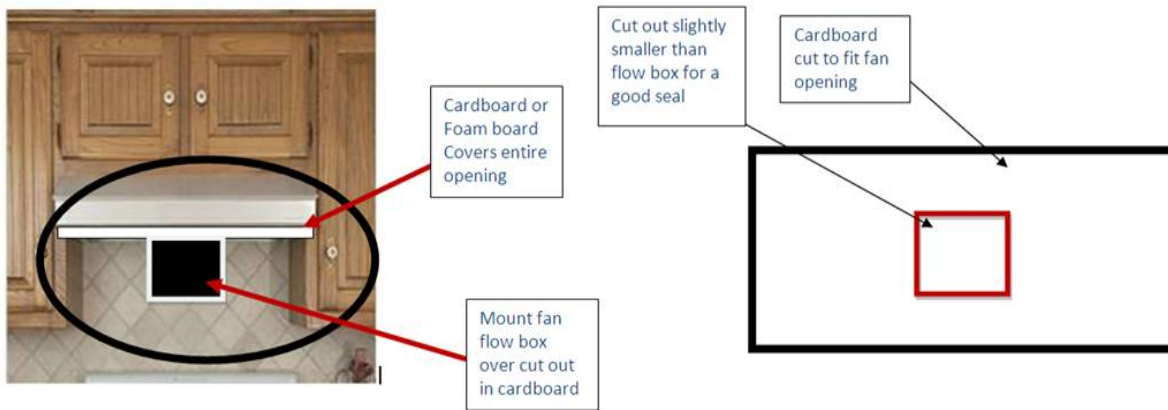
Discussion:

Assessors/Inspectors should consider the following when obtaining exhaust rates for Vent-A-Hoods:

- Determine if the exhaust hood is recirculating or vented.
 - Recirculating hood exhaust rates do not need to be measured/recorded as they do not exhaust to the exterior and are not to be utilized in the ASHRAE calculation local exhaust credit.
 - Vented hood exhaust rate will need to be measured and recorded to obtain the local exhaust credit within the ASHRAE calculation. Assessors/Inspectors should inspect venting to ensure the exhaust hood is properly vented to the exterior.
- Exhaust Fan Flow Meters can only effectively measure exhaust rates between 10 to 124 CFMs
- Often these units are covered in grease. Wiping the edge clean prior to covering the exhaust hood opening with foam board/cardboard/duct mask will help to ensure a good seal and prevent a messy situation.
- Exhaust hood filters can drastically affect the vent hood exhaust rate.
 - Educate the client on the importance of a clean filter. To demonstrate, take an exhaust reading with the dirty filter and then another without the filter.
 - Replacement filters may be installed for ones that are beyond cleaning and could be a low cost alternative to ASHRAE compliance. Average cost = ~\$16
- Vent hood requirements are outlined in SWS 6.6005.2.
- Flex duct is NOT acceptable vent ducting for vent hoods.

Over the years, Department staff have observed several methods that can be utilized to obtain kitchen vent-a-hood exhaust readings which are detailed below:

- One of the least cumbersome and most accurate methods Department staff has observed when obtaining kitchen exhaust hood readings is to seal off the entire unit with a piece of cardboard or foam board. Cut a piece of the desired material the size of the entire vent-a-hood opening and then cut out a section slightly smaller than the flow box at the fan location to place the fan flow box over to obtain the reading. Most agencies utilizing this method carry several pieces of the material to accommodate different size exhaust hoods/configurations, in their vehicle. See diagram below for detailed instructions:



- A second method commonly observed to obtain kitchen exhaust hood readings is to seal off the entire unit with duct mask leaving a portion slightly smaller than the flow box uncovered at the fan location to place the fan flow box over to obtain the reading.

Recommendation Summary:

Kitchen exhaust hood readings are required in ASHRAE calculations. Utilizing one of the methods listed above will allow the exhaust fan flow meter to obtain the exhaust rates of kitchen vent-a-hoods. The key to achieving results with an exhaust fan flow meter is to get a good seal around the exhaust fan prior to taking a reading.