CHEMICAL FUME HOODS

PERFORMANCE STANDARD

Chemical Fume Hoods Used for Chemical or Radiological Use

- Constant volume chemical fume hoods provide an intake face velocity about 100 linear feet per minute (fpm) across an imaginary vertical plane when the hood’s sash opening is about 2/3 open.
- Variable air volume (VAV) chemical fume hoods provide an intake face velocity of approximately 100 linear fpm across an imaginary vertical plane regardless of the hood’s sash opening.

High-Performance (Low-Flow) Chemical Fume Hoods for Chemical or Radiological Use

- High-performance chemical fume hoods, also known as low-flow chemical fume hoods, operate with a lower intake face velocity. The UofR utilizes the National Institutes of Health (NIH) requirement that these hoods operate at a minimum of 80 linear fpm.

Intake Face Velocity Checks

- Environmental Health & Safety’s Laboratory Safety Unit performs acceptance testing of all newly installed chemical fume hoods to ensure they have the correct intake face velocities. A sticker is placed on the fume hood to indicate maximum height of the sash.
- Two different stickers are used based on the type of fume hood. Both the constant discharge and the VAV fume hoods utilize a green sticker and high-performance (low-flow) hoods utilize an orange sticker.
- All chemical fume hoods are to be checked annually.

Height of Opening

- The height of the sash opening is measured from the hood deck for those hoods having airfoils.
- During use, the bottom of the sash should be placed even with the arrow on the Air Flow Sticker or lower.

Contacts

- Chemical fume hoods (used for chemicals) are checked by EHS Laboratory Safety Unit (extension x5-3241). The date of the test and the result is placed on a sticker (sample shown to the left).
- Chemical fume hoods (used for radioisotope as well as chemicals) are checked annually by Environmental Health & Safety’s Radiation Safety Unit (extension x5-3781). The date of the test and the result is placed on a sticker similar to the one shown to the left.
- If there is a problem with a fume hood, please contact Facilities at ext. 3-4567 IMMEDIATELY.
Photos of hoods showing proper sash openings for use:

Standard fume hoods, each with a single vertical sash. Sashes opened at maximum recommended height for adequate protection (bottom of sash should not exceed arrow on the sticker).
Fume hood with both vertical and horizontal sash opening.

Top photo shows sticker identifying current face velocity check by EH&S.

These hoods can be used where the sash is raised to the sash stop provided the horizontal sash sliders cover the opening.

Middle photo shows possible sash lowered and the horizontal sash sliders cover the opening on the left and the right side, allowing an opening in the middle. The sash can be used in this position for relatively low hazard chemicals.

Bottom photo shows recommended sash opening for both low and high hazard chemicals. Sash in this position provides better splash protection for user!
Examples of air flow monitors on chemical fume hoods: