Laboratory fume hoods are safety devices where hazardous chemicals can be handled safely while the fumes and vapors they generate are exhausted out of the building through a specialized ventilation system. Regular, periodic testing of laboratory fume hoods is critical to maintaining effective operation and ensuring the health and safety of your research staff.

As one of only a select group of contractors possessing the National Environmental Balancing Bureau (NEBB) certification for Fume Hood Testing, Sander Mechanical has established a reputation of integrity in the evaluation and calibration of laboratory fume hoods. As a competent contractor, Sander’s technical team is qualified to complete fume hood performance testing in a manner that meets or exceeds the ANSI/ASHRAE 110 standard.

**Why Test Fume Hoods?**

- Provides a method of evaluating the fume hood’s ability to contain and exhaust fumes under a set of standard conditions.
- Serves as a means for comparative analysis of fume hoods.
- Helps provide criteria for new fume hood procurement.
- Offers a method to commission and verify performance of new fume hood installations.
- Manages risk and liability by regularly verifying and documenting that your fume hoods are operating according to established industry performance standards.
- Serves as a forensic tool to aid in identifying problems or deficiencies with an installed laboratory fume hood HVAC system.
Overview of Testing Program

- Perform all test procedures in accordance with the ANSI/ASHRAE 110 protocols and NEBB best practices.

- Perform face velocity measurement at sash design and full sash opening, including:
  - Multiple point readings to measure average face velocity;
  - Measurement of cross drafts;
  - Verification of VAV system operation and response; and
  - Calibration of airflow monitors.

- Perform small volume smoke visualization with Titanium Tetrachloride (TiCl₄) smoke sticks.

- Perform large volume smoke visualization with theatrical smoke machine.

- Perform tracer gas containment testing using Sulfur Hexafluoride (SF₆) to measure average escape in concentrations down to 0.01 PPM, including three static tests:
  - Positional testing done at sash design opening;
  - SME (sash movement effect) performed in the center position; and
  - Perimeter leakage test.

- Perform hood static stability test.

- Generate room sketch to keep track of room changes and environmental effects on hood.

- Review and evaluate all data collected to identify any system deficiencies.

- Document all findings and provide pass/fail sticker for hood(s) tested.

- Generate written report (with photographs) for the equipment maintenance record, including recommendations for remedying any identified performance issues.

Contact us today to take advantage of our expertise!

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