Laboratory Exhaust/Fume hood Test Procedure

Fume hoods are the most important engineering control devices in research and development laboratories. Proper selection, installation, commissioning, test, maintenance, and recommissioning is key to ensure safe operation. Implementing a laboratory exhaust management program within which all stakeholders, including designers, contractors, maintenance, EHS, and users stay connected, informed, and educated is essential for creating a safe, compliant, dependable, and efficient research environment. A basic annual fume hood routine test program shall include the following elements:

1. Fume hood face velocity measurement at design/operating sash height
2. For VAV (Variable Air Volume) hods, face velocity measurement is repeated at 50% design/operating sash height.
3. Any anomalies/deviation from institutional established/standard-base metrics are reported and investigated.
4. Room pressurization and cross draft evaluation
5. Reporting any factors impacting *hood containment, including unauthorized modifications, alterations, overloading, etc.*
6. Fume hood monitor calibration and alarm set points verification.
    a. Flow alarm
    b. Sash position alarm
    c. Minimum flow alarm
    d. Other control devices such as zone presence and light sensors
7. Pass/fail labeling procedure for fume hoods (red, green, blue).
8. Tag out, work order, and follow up for failed fume hoods.
9. Follow up and communication for malfunctioning fume hoods.
10. Re-evaluation upon completion of the repairs

At minimum, for newly installed hoods, performing the ASHRAE 110 test is critical for evaluating hood containment, VAV response, re-entrainment, and room environment impact on hood performance.