OSEH Standard of Care: Ventilation Engineering Controls

Equipment Category Types
Biological Safety Cabinet (BSC)
Chemical Fume Hood (FH)
Vertical Laminar Flow Polypropylene (VLFP) Fume Hood – “Hybrid Hood”
Local Exhaust Ventilation (LEV)
Laminar Flow Cabinet (LFC)

Equipment Category Explanation
BSC – Class II unit providing personnel and product protection. The majority of applications involve containment of biological hazards while providing sterile field for vulnerable experimental materials.

FH – Exhausted fume hoods providing personnel protection only.

VLFP Hood – Metal-free exhausted fume hood for personnel protection with a purified air curtain for product protection.

LEV – A variety of configurations for local exhaust or capture of point source emissions, providing personnel protection and/or smoke, odor, dust or heat control. Includes snorkels, canopies, paint booths, gas cabinets, dirty animal bedding dump stations, etc.

LFC – Typically a non-exhausted, HEPA-filtered cabinet, either inflow or outflow, for either product protection or personnel protection - but never both at the same time. Must be designated and posted for either/or purpose. Vast majority are configured for outflow clean bench “sterile field” work, either clinical preparations or research requiring “zero air.” Minority are configured for inflow point source capture of nuisance dust from bulk operations such as animal cage dumping (Class I BSCs are included in this category).

Explanation of Provided Services per Category
BSC – Annual certification with aerosol challenge filter testing, filter repair/replacement, balancing, maintenance and decontamination as necessary. BSC certification is specific to a fixed location where the general room ventilation is fixed. Mobile units loose certification once they are moved from the room they were certified in and cannot be used with hazardous materials. Mobile units relegated specifically to non-hazardous use will receive reduced service for control velocities only but not aerosol challenge filter testing.

FH – Annual certification of face velocity and inspect for full functionality on safety features. Mechanical maintenance is provided by Plant Operations Maintenance. Faulty hoods are tagged out of service by OSEH. OSEH issues a work request to Plant Operations for repair and is notified once repairs are completed to recertify the system for use.

VLFP Hood – Annual certification of face and down-flow velocities with balancing as necessary. The user must provide OSEH with a manual that details certification specifications and methods. Maintenance and filter replacement is the user’s responsibility.

LEV – Cyclic certification of capture velocities as determined by an industrial hygiene assessment of risk. Maintenance is provided by Plant Operations Maintenance or in some instance the user.
LFC – Annual certification of face velocity and inspection of full functionality on safety features.

- Maintenance and filter replacements are the user’s responsibility.
- Outflow Units – Users of LFC’s used in clinical settings can request an increased service level which is rebilled for time and materials. The increased service includes aerosol challenge filter testing, and filter repair/replacement as necessary to ensure sterile field for QA/QC reporting.
- Inflow Units – Inflow LFC’s do not provide complete personnel protection and are not represented to perform at the same level of containment as Class II BSC’s; therefore no cyclic testing of the HEPA filter with aerosol challenge is recommended.

Data Acquisition
All inspections, certifications, and report generation are conducted with the use of Pendragon PDA software and Microsoft Access.

Reporting
BSC – A BSC certification sticker¹ is placed on the unit indicating the date of the certification. If requested a one page report can be printed from the database for clinical units needing detailed documentation for audit. An email report detailing equipment problems, filter change requirements, and maintenance repair not performed by OSEH is sent to the listed user of the device.

- Mobile units relegated specifically to non-hazardous use will receive a notification sticker² indicating “Caution – this hood is Not Designed for hazardous materials operations” to exclude use of biohazardous or chemically hazardous materials.

FH – A Fume Hood certification sticker³ is placed on the unit indicating the date of the certification. Failing fume hoods are posted out of service. An email report is sent to Plant Work Control to start work orders on failing hoods.

VLFP – A Fume Hood certification sticker³ is placed on the unit indicating the date of the certification. Failing fume hoods are posted out of service. An email report detailing VLFP Equipment problems, filter change requirements, and maintenance repair not performed by Plant is sent to the equipment user.

LEV – An LEV Hood certification sticker⁴ is placed on the unit indicating the date of the certification. An email report is sent to Plant Work Control to start work orders on failing hood exhaust systems. An email report detailing LEV Equipment problems, filter change requirements, and maintenance repair not performed by Plant is sent to the equipment user.

LFC – An LEV Hood certification sticker⁴ is placed on the unit indicating the date of the certification. If requested a one page report can be printed from the database for clinical units needing detailed documentation. An email report detailing equipment problems, filter change requirements, and maintenance repair not performed by OSEH is sent to the equipment user.

- As outflow units are relegated specifically to non-hazardous use, they will receive a notification sticker² indicating “Caution – this hood is Not Designed for hazardous materials operations” to exclude use of biohazardous or chemically hazardous materials.
(1) BSC Certification Sticker

(2) Non-Hazardous Use Caution Sticker

CAUTION
THIS HOOD IS
NOT DESIGNED
FOR HAZARDOUS
MATERIALS OPERATIONS
Contact OSEH for Details
Local Exhaust Ventilation
OSEH
Occupational Safety &
Environmental Health
763-6973
Building__________Room____
Hood Type/Number____________
__________________________
Surveyor Date

(3) Fume Hood Certification Sticker

(4) LEV Certification Sticker

OSEH
Occupational Safety &
Environmental Health
763-6973
LABORATORY EXHAUST HOOD
PERFORMANCE CERTIFICATION
Room ______ Hood No. _______
Average Face Velocity
of ________ fpm
At a sash height/opening
of ________ in.
Surveyor Date