Low Volume

Fume Hood

*Mott's low flow hood design is based upon **Safety** first, **Economy** and then **Simplicity**.*

The design concept is simple. A standard bypass fume hood is fitted with a restricted bypass panel, a combination horizontal/vertical sash with lock down mechanism and a vision panel.

SAFETY
- The worker is protected by the vertical panel and the vision panel.
- Airflow is maintained within the ANSI and OSHA recommendations of 80 and 100 feet per minute face velocity.
- UL 1805 Classified

ECONOMY
- Air (energy) consumption can be reduced by approximately 75%.
- No patented or proprietary design to pay for or maintain.
- Can be used with standard 32-5/8" deep hoods so you do not have to build deeper lab modules to maintain minimum aisle requirements.

SIMPLICITY
- No additional motors or mechanical parts to adjust or maintain.
- Can be retrofitted to existing hoods.

Worker is protected by vertical sash panel and top vision panel for maximum safety.

Sash lock down with key ensures that sash is not raised by unauthorized personnel.

mott MANUFACTURING

ISO 9001:2000 REGISTERED

QUALITY BY DESIGN

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Example Energy Saving Calculation:

Conventional Hood @ 100 fpm with sash wide open	1280 cfm x $5.00 = $6,400.00
Mott Low Volume Hood @ 80 fpm	264 cfm x $5.00 = $1,320.00
Difference	$5,080.00
Annual Energy Savings Percentage	79%

Above calculations based on a standard 6' bench hood.

ANSI / AIHA Z9.5 – 1992 5.7 Face Velocities: "Each hood shall maintain an average face velocity of 80 to 120 fpm"

Contact Mott Manufacturing for more detailed information including ASHRAE 110 test results.

Comments:
Lower face velocities may not have enough inertial energy to carry away particulate matter or heavy fumes which cause dangerous situations in a dynamic* operating situation. Some organizations operate hoods at less than recommendations, however they have an extremely active safety plan with well-trained operators and safety officers. Careful analysis of laboratory layout is also required to ensure that disruptive cross drafts are not present. Future modifications to the laboratory layout would require careful consideration to ensure that such low face velocities are still able to provide adequate protection .

Certain currently available fume hoods have been tested to pass ASHRAE 110 with face velocities as low as 40 feet per minute within a static** environment. However for such fume hoods to function within a dynamic* environment would require a mechanical control system with instantaneous response (milliseconds) to changes in airflow characteristics. Control systems that take several seconds to respond to changes in airflow may provide energy savings, but not the requisite safety.

Users should be aware of the physical restrictions that the special combination sash imposes. Active use of this hood with the sash raised will provide an unsafe condition, therefore a low velocity alarm is recommended.

*Dynamic: Meaning actual use, not in a manufacturers test facility. This would include processes being conducted within the hood, people walking in front of hoods, doors or windows being opened, etc.

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