

Mott offers an Automatic Sash Operator (ASO) system to help save energy and meet laboratory safety goals. The technology works in conjunction with Variable Air Volume (VAV) systems to maximize energy efficiency and laboratory safety. Surveys have shown that most operators leave the hoods fully open all the time; if the sashes are left wide open with VAV systems, no energy is saved. Efficiency and safety goals are the objectives of the ASO; a closed sash is safer than an open one.

# Automatic **SASH OPERATOR**

**Energy Savings** - When combined with VAV systems, large energy savings will result because the sash closes after the user leaves the work area, thus reducing exhaust flow and therefore also reducing energy consumption.

**Operating Modes** - Two modes of operation are available, automatic open/close and automatic close with manual open.

**Automatic Close** - The sash automatically closes when the user walks away from the fume hood after an adjustable delay; this offers safety to other lab personnel by keeping the hazards contained within the fume hood. The user does not have to worry or be responsible for closing the sash when leaving the work area.

**Automatic Open** - The sash automatically opens to the established working height providing safety to the operator. The delay before opening is adjustable to prevent passers-by from causing the sash to open.

**Variable Settings** - As needs change, the time delay before the sash closes is adjustable from 0-20 minutes for both open and close and the detection zone of the sensor is adjustable in both width and depth providing maximum versatility. When using multiple ASOs, four frequency settings can be used so other fume hoods in proximity will not interfere with each other.

**Hands Free Operation** - This system provides hands-free sash operation so users do not need to worry about cross contamination by touching the sash and will also have both hands free to transfer dangerous chemicals or equipment in and out of the hood. Beneficial for ADA applications.

**Easy Sash Adjustment** - Simple for operator to adjust sash height as tasks or needs change as the drive system will disengage for smooth manual operation.

**Product Compatibility** - The ASO is designed to be factory mounted on a Mott chain drive vertical rising sash fume hood.



 **new england lab**  
lab-tested furniture systems

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MANUFACTURING  
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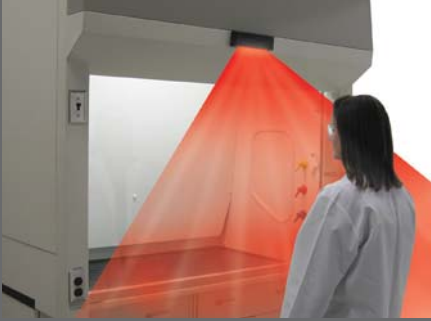
QUALITY BY DESIGN

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# Automatic SASH OPERATOR

*Enhances Safety, Conserves Energy and Saves You Money*

The ASO is a great solution designed to unlock the energy savings potential of a VAV fume hood while ensuring the safety of laboratory users.



**Overhead Presence Sensor** - Monitors the work area in front of the fume hood to detect the presence of the user. When the user stands in front of the fume hood the sensor will automatically open. Sash closes when the fume hood is left unattended after a set time delay. The closing time delay is adjustable on site.



**Safety Beam** - Offers obstruction sensing capabilities that disengage the sash drive once the presence of an object is detected during closing.



**Hands Free Operation** - This system provides hands-free sash operation so users do not need to worry about cross contamination from touching the sash and will also have both hands free to transfer dangerous chemicals or equipment in and out of the hood. Beneficial for ADA applications.

## Potential Airflow Savings

Minimum Potential Airflow Savings					
Hood Width	Volume @ 100 FPM With Sash Fully Open	Minimum Exhaust Volume With Sash Closed †	Annual Cost With Manual Sash	Annual Cost With Automatic Sash	Total Average Annual Dollar Savings ‡
48"	508 CFM	65 CFM	\$1,340	\$544	\$796
60"	667 CFM	85 CFM	\$1,757	\$711	\$1,046
72"	825 CFM	105 CFM	\$2,137	\$879	\$1,294
96"	1142 CFM	145 CFM	\$3,007	\$1,214	\$1,793

† Calculations are based on 250 workdays per year with sash left open 10 hours per day, with only 1 hour of actual usage per day. Based on an estimated energy cost of \$7.00 per cubic feet per minute per year.  
\* Based on Draft ANSI/AIHA Z9.5 2010 Edition

Maximum Potential Airflow Savings					
Hood Width	Volume @ 100 FPM With Sash Fully Open	Minimum Exhaust Volume With Sash Closed †	Annual Cost With Manual Sash	Annual Cost With Automatic Sash	Total Average Annual Dollar Savings ‡
48"	508 CFM	65 CFM	\$3,556	\$544	\$3,012
60"	667 CFM	85 CFM	\$4,669	\$711	\$3,958
72"	825 CFM	105 CFM	\$5,775	\$879	\$4,896
96"	1142 CFM	145 CFM	\$7,994	\$1,214	\$6,780

‡ Calculations are based on sash open 24 hours a day, 365 days per year. Actual usage 250 days, with only 1 hour of actual usage per day. Based on energy cost of \$7.00 per cubic feet per minute per year.  
\* Based on Draft ANSI/AIHA Z9.5 2010 Edition

## Codes and Standards

### National Fire Protection, May 2000

#### NFPA 45\* - for Laboratories Using Chemicals stating:

**6.8.3** "Laboratory hood sashes shall be kept closed whenever possible. When a fume hood is unattended, its sash shall remain fully closed"

**A.6.8.3** "Users should be instructed and periodically reminded not to open sashes rapidly and to allow hood sashes to be open only when needed and only as much as necessary."

#### ANSI/AIHA Z9.5-2003\*\*

**3.1.1.4 Automatic Sash Closers** - "The following conditions shall be met before using automatic sash closing devices: Automatic sash positioning systems shall have obstruction sensing capable of stopping travel during sash closing operations without breaking glassware, etc."

\* Copyright 2000 Edition NFPA 45, 1 Batterymarch Park, Quincy, MA 02269-9101, USA

\*\* Copyright 2003 Edition AIHA, 2700 Prosperity Ave., Suite 250, Fairfax, VA 22031



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