

We've continued our tradition of hood safety and energy conservation by creating the next generation Automatic Sash Operator (ASO2). Mott's ASO2 system helps 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. Experience has 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 ASO2; a closed sash is safer than an open one.

Automatic **SASH OPERATOR 2**

Energy Saving - When combined with VAV systems, significant energy savings will result because the sash closes after the user leaves the work area. This reduces exhaust flow and therefore reducing energy consumption.

Automatic Close - The sash automatically closes after an adjustable delay when the fume hood is left unattended. 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. The automatic close feature has a user adjustable delay from 30 seconds to 30 minutes in increments of 1 minute. When not driving, motor shaft is disengaged and manual operation of the sash is drag free. User can manually push the sash open at a faster rate than the system is driving and the overrunning clutch will allow such operation without drag.

Push-to-Open Button - The sash automatically opens to the established working height providing safety to the operator. A second press of the push-to-open button will cancel upward travel.

Obstruction Sensing Feature - The drive system is equipped with motor load sensing which will stop the sash travel due to an obstruction. If an obstruction is sensed during downward travel, the sash shall stop, an audible alarm will sound and the fault indicator on the touch screen will illuminate.

Auto Light Turn On / Off - When the hood is left unattended and the sash closes, the light will automatically turn off. When the user returns to the area and opens the sash, the light will automatically turn on.

Easy Sash Adjustment - It's 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 ASO2 is designed to be factory mounted on a Mott chain drive vertical rising sash fume hood.



mott
MANUFACTURING

ISO 9001:2008 REGISTERED

QUALITY BY DESIGN

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Automatic **SASH OPERATOR 2**

Enhances Safety, Conserves Energy and Saves You Money

The ASO2 is a great solution designed to unlock the energy savings potential of a VAV fume hood while ensuring the safety of laboratory users.

Touch Screen Control System - An easy to use touch screen LCD operates and displays all system functions:

- Push-to-open and push-to-close
- Off / automatic functions for lights
- One hour hold feature prevents sash from closing for extended experiment setup
- Sash closing delay setting
- Sash closing countdown timer
- Sash closing chime
- Red alert screen when an obstruction is detected with reset button

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 ASO2	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.

* ANSI Z9.5-2012 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 ASO2	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.

* ANSI Z9.5-2012 Edition

Codes and Standards

National Fire Protection Association, 2015 NFPA 45* Standard on Fire Protection for Laboratories Using Chemicals

7.8.3 Chemical Fume Hood Sash Closures

7.8.3.1 Chemical fume hood sashes shall be kept closed whenever possible.

7.8.3.2 Where a fume hood is unattended, its sash shall remain fully closed.

While the codes do not require automatic sash operators, it's use aids in complying with NFPA 45

ANSI/ASSE Z9.5, 2012**

3.1.1.5 Automatic Sash Closers

"All users shall be trained in good work practices, including the need to close the sash when not in use.

All users of VAV systems shall be trained in the proper uses of the sash, the energy consequences of improper use, and the need to close the sash when the operation does not require its use.

Automatic sash positioning systems shall have obstruction sensing capable of stopping travel during the sash closing operations without breaking glassware, etc."

* Copyright 2015 Edition NFPA 45

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