

The RFV2™ (Reduced Face Velocity) fume hood offers excellent containment performance and energy efficiency at lower face velocities than conventional fume hoods. This fume hood has been tested to both standard and modified ASHRAE procedures at face velocities as low as 50 fpm. The RFV2™ hood design provides the fume hood operator with a secure and reliable operating environment while providing considerable capital and operating cost savings.



RFV2™

HIGH EFFICIENCY FUME HOOD

Downwardly Vected Upper By-Pass - Prevents contaminated air build up behind the open sash. Supplementary mechanical fans not required.

Full Viewing Sash - Provides a clear and unobstructed side to side view of fume hood interior, with a 34" high viewing area.

Self-Lowering Sash System - Sash latch temporarily secures the sash in the full open position for setup and tear down operations. When the latch is freed, the sash automatically returns to the operational position.

Sash Safety - Sash stops are located at 18" working height to shield the operator and helps reduce energy consumption.

Chain Drive Sash - Chain and sprocket mechanism that delivers the easiest and most reliable sash operation available with an exceptionally long life span.

Exhaust System - Suitable for use in either Variable Volume or Constant Volume applications.

Chemical Resistant Liner - Standard fiberglass reinforced polyester liner has excellent strength and chemical resistance; additional liner materials are also available.

Stainless Steel Exhaust Collar - Wide rectangular exhaust duct connection improves airflow distribution across the hood width.

Gasketed Access Panels - Provides convenient access and prevents fumes from escaping the hood.

Removable Panels - Side panels are easily removed to access interior electrical or plumbing fixtures.

Electrical and Plumbing - Two UL/CSA approved duplex receptacles provided for 120 volt service. UL/CSA approved fluorescent light fixture and switch provided. Front post is pre-punched to accept four fixtures per side. Factory pre-plumbing is an available option.

Combination Sash - Top hung frameless combination sash operates smoothly while offering increased visibility with its reduced frame profile.

Approvals - Meets UL1805 classification requirements.



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ISO 9001:2008 REGISTERED

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QUALITY BY DESIGN



Downflow Rear Baffle - Baffle is biased to the bottom, drawing fumes downward away from the user. Exhaust air exits the fume hood at work surface level preventing lighter-than-air fumes from rising up into the face of the user while effectively capturing and removing heavier-than-air fumes as well. Baffle actuators and controls not required.

Arrows show how contoured sash handle incorporates airflow passageways to further reduce fumes from behind the sash entering the user's breathing zone.



Performance Sash Handle - Incorporates an airfoil design and provides improved airflow along the lower edge of the sash to prevent turbulence from resulting in a hazardous release. Powder coated stainless steel handle incorporates an airfoil design and provides improved airflow along the lower edge of the sash to prevent turbulence from resulting in a hazardous release.



Flush Sill Airfoil - Airfoil is moved rearward to allow air to flow into the critical low pressure zone between the user's stomach and the hood chamber preventing fumes from building up in that area. Airfoil is flush with work surface providing unobstructed access to the fume hood interior.

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RFV²TM

HIGH EFFICIENCY FUME HOOD

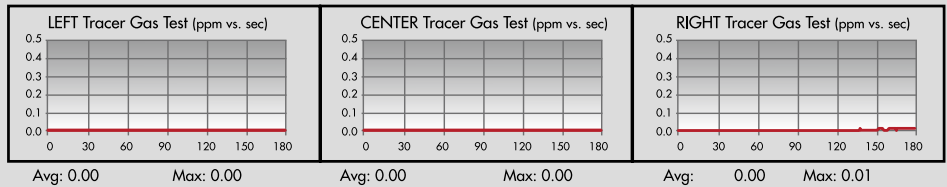
In addition to Mott's extensive in-house testing program, for the RFV²TM fume hood we also engaged the respected test firm of Safelab Corporation to evaluate the performance. Even below 50 fpm face velocity, containment was excellent.

ASHRAE 110 Test Results Summary

Vertical STATIC TRACER GAS CONTAINMENT TEST RESULTS

Control Level: 0.00 ppm

Perimeter Scan PASS (0.01 ppm)



Vertical FACE VELOCITY TEST RESULTS

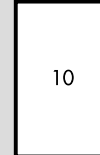
Opg. Height (in.)
18
Opg. Width (in.)
62.625

Hood Average (fpm):

47

Minimum Velocity: 35
Maximum Velocity: 56
Max. Dev. from Avg. (%): 25%
Turbulence (% of Avg.): 9%
Profile Var. (% of Avg.): 14%

LXD



| | | | | | | | |
|---|----|----|----|----|----|----|---|
| A | 54 | 48 | 46 | 50 | 50 | 54 | |
| | 54 | 52 | 50 | 49 | 50 | 56 | |
| B | | | | | | | |
| C | 41 | 40 | 43 | 38 | 38 | 35 | |
| | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | | |
|------------------------------------|-----------|-----------|-------|
| Sash Opening | 18 | 28 | |
| Nominal Face Velocity (fpm) | 50 | | |
| Actual Face Velocity (fpm) | 47 | 51 | |
| Low-Volume Smoke | A | A | |
| High-Volume Smoke | B | B | |
| Static Tracer Gas (ppm) | Left | 0.001 | 0.008 |
| | Center | 0.001 | 0.004 |
| | Right | 0.004 | 0.006 |

Energy Savings Calculations

Total Exhaust CFM and Static Pressure at 18" Sash Opening

| Hood Width | Standard Fume Hood | | 50 fpm | SP | RFV ² TM CFM Savings at 50 fpm vs. 100 fpm | Total Average Annual Dollar Savings at 50 fpm vs. 100 fpm* |
|------------|--------------------|------|--------|------|------------------------------------------------------------------|------------------------------------------------------------|
| | 100 fpm | SP | | | | |
| 48" | 508 | 0.1 | 254 | 0.03 | 254 | \$1,778.00 |
| 60" | 667 | 0.08 | 334 | 0.05 | 334 | \$2,334.50 |
| 72" | 825 | 0.11 | 413 | 0.05 | 413 | \$2,887.50 |
| 96" | 1142 | 0.11 | 571 | 0.06 | 571 | \$3,997.00 |

Total Exhaust CFM and Static Pressure at 28" Sash Opening

| Hood Width | Standard Fume Hood | | 50 fpm | SP | RFV ² TM CFM Savings at 50 fpm vs. 100 fpm | Total Average Annual Dollar Savings at 50 fpm vs. 100 fpm* |
|------------|--------------------|------|--------|------|------------------------------------------------------------------|------------------------------------------------------------|
| | 100 fpm | SP | | | | |
| 48" | 789 | 0.2 | 395 | 0.05 | 395 | \$2,761.50 |
| 60" | 1035 | 0.2 | 518 | 0.05 | 518 | \$3,622.50 |
| 72" | 1280 | 0.25 | 640 | 0.08 | 640 | \$4,480.00 |
| 96" | 1772 | 0.25 | 886 | 0.15 | 886 | \$6,202.00 |

* Calculations are based on an estimated energy cost of \$7.00 per cubic feet per minute, with the fume hood operating 24 hours a day, 5 days per week (6240 hours per year) and are based on a standard size 72" wide bench hood.

Further energy savings can be realized by fitting the RFV²TM fume hood with Variable Air Volume controls. Average annual dollars per CFM can vary from \$5.00 to \$12.00, depending on the geographic location.