

AirClean Systems

Report of In-House ASHRAE 110 Performance Tests Conducted on Laboratory Fume Hood

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Prepared By:



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TEST RESULTS

Table I: Final Laboratory Fume Hood Performance Test Results

Hood ID	Test Date	Cycle #	Total Area sq. ft.	Face Vel. Avg. fpm	Exhaust Flow cfm ₁	Tracer Gas Left Avg. ppm ₂	Tracer Gas Center Avg. ppm ₂	Tracer Gas Right Avg. ppm ₂	Cross Draft Horiz. Avg fpm	Cross Draft Vert. Avg. fpm	Smoke Low Rating	Smoke High Rating	Hood Rating
AirMax AC4030TE	9/27/07	1	6.9	114	787	< 0.01	< 0.01	< 0.01	4	13	Low Pass (Poor)	Pass (Fair)	Pass

Table I Notes:

- 1 Exhaust flow (cfm) = measured average face velocity (fpm) x face opening area (sq.ft).
- 2 5-minute avg. tracer gas concentration in mannequin's breathing zone.
- 3 N/A – not applicable, test not conducted.

Datasheet - Hood And System Information

Report printed on 10/5/07

Company Name: AirClean Systems

Building Name: ECT Main Office

Laboratory: Suite C

Hood Information: ID: AirSafe-1

Hood Type: Bench-top

Size: 48 ft

Manufacturer: AirClean Systems

Model: AirMax AC4030TE

Serial Number: N/A

Sash Type: Vertical

of Sashes: 1

Baffle: Fixed

of Slots: 3

Internal Depth: 24 inches

Downflow Width: 0 inches

Downflow Height: 0 inches

Construction: Polypropylene

Services: N/A

Comments:

System Information: ID: (No System)

Exhaust Configuration:

Exhaust Type: VAV

VAV Control Type:

VAV Control Manufacturer: Tek-Air

Flow Monitor: No

Flow Monitor Type: N/A

Alarm: No

Damper: No

Duct Diameter:

Duct Material:

Filtration:

Filtration Type:

Datasheet - Laboratory Hood Summary Performance Report

Report printed on 10/5/07

Company Name: AirClean Systems

Building Name: ECT Main Office

Laboratory: Suite C

Hood: AirSafe-1

Technician(s): Ehren Wiechert

Date: 9/27/07

Hood Inspection:

Satisfactory

Satisfactory

Hood Integrity:	Yes	Sash Operation:	Yes
Liner Integrity:	Yes	Light Operation:	Yes
Airfoil Operation:	Yes	Monitor Operation:	Yes
Bypass Operation:	Yes	Alarm Operation:	Yes

Rating: **Pass**

Reason:

Test Comments:

Recommendations:

Datasheet - Laboratory Hood Performance Test Results

Report printed on 10/5/07

Company Name: AirClean Systems

Building Name: ECT Main Office

Laboratory: Suite C

Hood: AirSafe-1

Date: 9/27/07

Cycle Index: 1

Conditions:

Cycle Rating: **Pass**

Sash Opening: Full Open

Opening Dimensions:	<u>Height</u>	<u>Width</u>	<u>Major Area</u>	<u>Additional Area</u>	<u>Total Area</u>
	25.5 inches	37.5 inches	6.6 ft ²	0.26 ft ²	6.9 ft ²

Baffle Opening: Top Slot - 1", Middle Slot - 1", Bottom Slot - 2"

Apparatus In Hood: No Clear for Tests.

Monitor Reading - As Found:

As Left:

Diff. Pressure Occupied:

Un-Occupied:

Test Comments:

Smoke Visibility Test Results:

Low Volume Rating: Low Pass (Poor)

High Volume Rating: Pass (Fair)

Comments: Lazy and reverse flow along worksurface. Reverse flow within six inches of opening. Turbulent vortex in top of hood.

Cross-Draft Test Results:

Collection Method: DAQ

Positions:	Left	Center	Right								Max Avg
Horiz.: Max:	14	18	20								
Avg:	3	4	2								
Vertical Max:	27	27	29								
Avg:	13	13	12								
Perpend.: Max:											
Avg:											

Hood Face-Velocity Test Results:

Collection Method: DAQ

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9	Col 10	Col 11	Col 12	
Row 1	124	113	112	122									
Row 2	120	106	96	111									Avg: 114 fpm
Row 3	135	113	108	112									Max: 135 fpm
Row 4													Min: 96 fpm
Row 5													
Row 6													
Row 7													
Row 8													

Tracer Gas Test Results:

Collection Method: DAQ

Position:	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	
Tested:	Left	Center	Right		
Average:	0.00	0.00	0.00		ppm
Minimum:	0.00	0.00	0.00		ppm
Maximum:	0.00	0.00	0.00		ppm