



**Ace Lab Systems**  
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Ace ID# \_\_\_\_\_

**Test Report :** 9-170124-1

**Work Order #:** 117743

**Next Test Due**  
**Jan 2018**

<b>Institution:</b>	<u>Datarecovery.com</u>	<b>Service Representative:</b>	<u>Darryl Brooks</u>
<b>Department:</b>	<u>n/a</u>	<b>Date Tested:</b>	<u>24Jan17</u>
<b>Address:</b>	<u>110 North Research Dr</u>	<b>Instrument Manufacturer:</b>	<u>Envirco</u>
<b>City, State, ZIP:</b>	<u>Edwardsville, IL 62025</u>	<b>Model:</b>	<u>111-Z04-UL</u>
<b>Contact:</b>	<u>Michael <i>KA Tich</i></u>	<b>Serial #:</b>	<u>S09-120V-00790</u>
<b>Phone Number:</b>	<u>800-237-4200 ext 263</u>	<b>Location:</b>	_____

This unit meets the requirements of the following standards of specifications as of this date. Testing was performed in accordance with the criteria established by the National Sanitation Foundation, Standard Number 49 and/or Federal Standard 209E.

**Tests Conducted**

- Particle Count
- HEPA Filter Leak Test
- Velocity Profile and Volume
- Face Velocity
- Airflow Smoke Patterns
- Lighting Intensity
- Other \_\_\_\_\_
- Electrical Safety
- Decontamination
- Federal Standard 209E
- NSF No. 49
- Manufacturer Specifications

**Final Testing Results**

- Unit Certified
- Unit Not Certified

**Remarks:** Final Test Satisfactory

Mag Gauge Reading \_\_\_\_\_

n/a

+	+	+	+	+	85	82	76	85	80	84	81
+	+	+	+	+	90	76	81	95	96	78	77
+	+	+	+	+	75	78	86	78	82	84	91
+	+	+	+	+	+	+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+	+	+

Rear: n/a n/a  
 Center: n/a n/a  
 Front: n/a n/a

Sash Opening: n/a

+	+	+	+	+	+	+	+	+	+	+	+	E
+	+	+	+	+	+	+	+	+	+	+	+	x
+	+	+	+	+	+	+	+	+	+	+	+	h
+	+	+	+	+	+	+	+	+	+	+	+	a
+	+	+	+	+	+	+	+	+	+	+	+	s
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**Supply**

Average Downflow Velocity: 83 Feet Per Minute 55-65 Range

Average Exhaust Velocity: n/a Feet Per Minute n/a Range  
 Effective Filter Area: n/a Square Feet n/a Range  
 Exhaust Air Volume: n/a Cubic Feet Per Minute n/a Range

**Smoke Airflow Patterns**

This test insures that airflow is inward along the entire perimeter of the work access opening, that airflow within the work area is downward with no dead spots or refluxing, that outside air does not pass on or over the work surface, and there is no refluxing or escape of smoke from the biological safety cabinet

Inside Cabinet

Meets Specifications

Centerline of the work surface, 4 inches above the top of the work access opening.  Yes  No  N/A

One inch behind window, 6 inches above the top of the work access opening.  Yes  No  N/A

Outside Cabinet

Along the entire Perimeter of the work access opening, 1.5 in. from opening.  Yes  No  N/A

If Sliding Window Present

Inside Cabinet below the wiper gasket.  Yes  No  N/A

**Work Access Opening Airflow**

Area of Access Opening: n/a Square Feet  
 Calculated Velocity: n/a Feet Per Minute n/a Range  
 Measured Velocity: n/a Feet Per Minute

**HEPA Filter Leak Test**

No leaks above 0.01%  Leaks Found  Leaks Repaired  
 Acceptance:  Aerosol penetration shall not exceed 0.01%

**Lighting Intensity**

Visible Lighting Intensity: 23 Foot Candles at work Surface  
 U.V. Lighting Intensity: n/a uW/cm sq. at work surface

**Electrical Safety**

Pass  Fail

**Equipment Used**

	Make and Model	Serial #	Cal Date
Aerosol Photometer:	PH-4	1929	10/16
Air Velocity Meter:	TSI 9535A	1545007	12/16
Particle Counter:	n/a	n/a	n/a

*Darryl Brooks*  
 Field Service Engineer

# ISO 14644-1:1999(E)

Report for Area: S09-120-00790

Report Date: 1/24/2017

ACE ELECTRIC LAB SYSTEMS

1550 KINGSHIGHWAY

ST. LOUIS, MO 63110

USA

Test Start: 1/24/2017 3:40:09PM

Occupancy State: Operational

Clean Zone Area: 1.00 Sq. Meters

Test End: 1/24/2017 3:50:10PM

Target Class: 4

Minimum Number of Locations: 1

Counter: MetOne A2400

Serial Number: 000100515

Location Averages	0.3 µm	No. Samples	User
1	141.26	1	
2	105.94	1	
3	0.00	1	
4	141.26	1	
5	105.94	1	

Mean of Averages	98.88
Standard Deviation	58.03
Standard Error	25.95
95% UCL	153.38
ISO Class 4 Limit	1,020.00
Test Result	PASS

**Overall Test Result: PASSES for ISO Class 4**

# ISO 14644-1:1999(E)

Report for Area: S09-120-00790

Report Date: 1/24/2017

ACE ELECTRIC LAB SYSTEMS

1550 KINGSHIGHWAY

ST. LOUIS, MO 63110

USA

Test Start: 1/24/2017 2:55:09PM

Occupancy State: Operational

Clean Zone Area: 1.00 Sq. Meters

Test End: 1/24/2017 3:07:09PM

Target Class: 5

Minimum Number of Locations: 1

Counter: MetOne A2400

Serial Number: 000100515

Location Averages	0.5 µm	No. Samples	User
1	0.00	1	
2	0.00	1	
3	176.57	1	
4	0.00	1	
5	35.31	1	

Mean of Averages 42.38

Standard Deviation 76.56

Standard Error 34.24

95% UCL 114.28

ISO Class 5 Limit 3,520.00

Test Result PASS

**Overall Test Result: PASSES for ISO Class 5**