

REVIVEAIRE LLC

LETTER REPORT

SCOPE OF WORK

In-Duct Ozone Testing of the In-duct Air Cleaner Model: Airoshield

REPORT NUMBER

105952224CRT-001

ISSUE DATE

November 14, 2024

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LETTER REPORT

November 14, 2024

Intertek Report No. 105952224CRT-001

Intertek Project No. G105952224

Andy Lee
Reviveaire LLC
217 Market Street
Kenilworth, NJ 07033
USA

Phone: 908-987-7089
Email: andy@reviveaire.com

Subject: In-Duct Ozone Testing of the In-duct Air Cleaner Model: Airesshield


Dear Andy Lee,


This letter report represents the results of our evaluation of the above referenced product(s) to the requirements contained in the following standards:

CSA C22.2 No. 187:20, Electrostatic air cleaners, Section 7.5

Samples provided by Reviveaire LLC were sent to Blue Heaven Technologies LLC. Blue Heaven Technologies LLC employees conducted their protocol for testing to Section 7.5 of CSA C22.2 No. 187:20, Electrostatic air cleaners. The reports from Blue Heaven Technologies LLC have been appended to this letter report.

Issuance of this letter report completes the testing covered by Intertek Project No. G105952224. If there are any questions regarding the results contained in this report, or any of the other services offered by Intertek, please do not hesitate to contact your dedicated Intertek Project Manager.


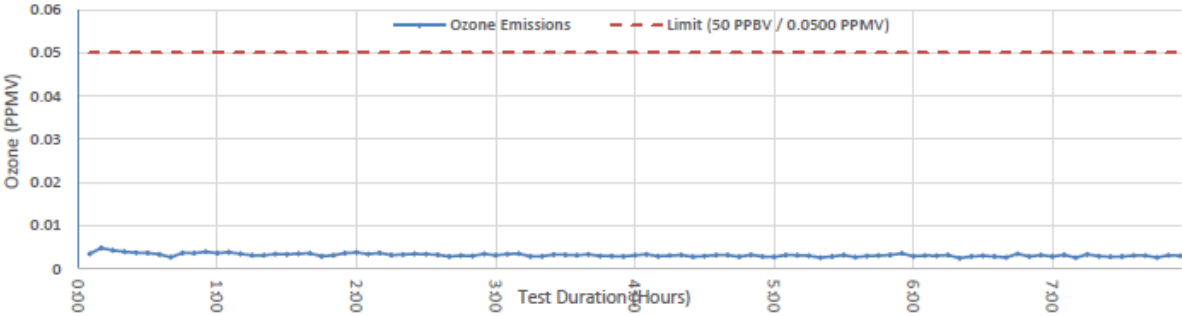
Completed by:	Lydia Choi
Title:	Engineer
Signature:	
Date	11/14/2024

Approved by:	Alex Ussery
Title:	Reviewer
Signature:	
Date	11/19/2024

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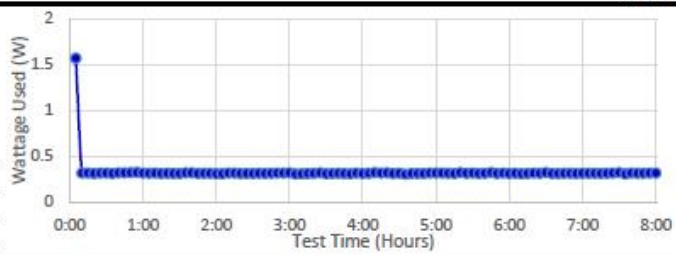

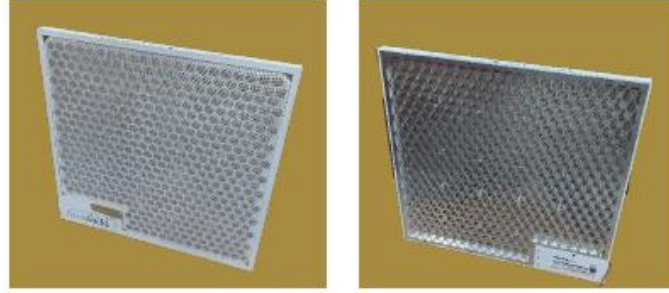

LETTER REPORT

 <p>2820 S. English Station Road - Louisville, KY 40299 Phone: (502) 357-0132</p>		TEST NO. 24-715-1A	
		Test Report - Ozone Emissions - Low Flow Rate CSA Group - C22.2 No.187-20 - Section 7.5 Electrostatic In Duct Type Air Cleaners for Residential Use	
		page 1 of 2	
Test Unit Description	Customer: Intertek	NOTES: Unit is a 24" x 24" x 1" electrostatic Filter.	
	Manufacturer: Reviveaire LLC	Run in Start: 11/7/2024 16:30	Run in End: 11/7/2024 17:00
	Model No.: HE60-50TA		
	Bulb Number: N/A		
	Serial Number: UPC 850057835090		
The unit tested at flow rate of 375 CFM. The unit was mounted inside the 24" X 24" test duct.			
8-Hour Ozone Emissions Test Results	Test Date: 11/7/2024	Start Time: 17:25	End Time: 1:25
	Average 8-Hr Background Concentration:	0.0008 PPM	Maximum Allowed PASS / FAIL
	Average 8-Hr Downstream Concentration:	0.0040 PPM	
	Average 8 Hour Time Weighted Average (TWA) Ozone Concentration:	0.003 PPM	0.050 PPM PASS
	Maximum Ozone Reading over 8-Hour Testing:	0.005 PPM	0.050 PPM PASS
8-Hour Ozone Concentration			
			
Test Equipment Information		Model	Serial Number
	Upstream Ozone Analyzer:	2B Technologies Model: 205	2331DB
	Downstream Ozone Analyzer:	2B Technologies Model: 205	2332DB
	Temperature:	EE21FT2B51HC01/E01-T83	123501000187
	Humidity:	EE21FT2B51HC01/E01-T83	123501000187
	Data Recorder:	Yokogawa DX 1012-1-4-2	S5G508901
	Watt Transducer:	Ohio Semitronics, Inc. AGH-002E	20100694
Test Conditions	The unit was tested in a complete ASHRAE 52.2 Test Duct. Flow Rate was maintained at 375 CFM over the 8-hour test period. Test unit installed entirely inside the 24" X 24" test duct and sealed to be leak-free. All unit emissions were contained inside the test duct. Unit were operated on maximum output settings.		
	Average Test Flow Rate: 375 CFM		
	Average Test Temperature: 73.89 Deg F		Average Test Rel. Humidity: 50.99 %
Requester Information	Test Requestor: Lydia Choi	Phone: N/A	
	Company Name: Intertek	Email: lydia.choi@intertek.com	
	Company Address: 3933 US Route 11 Cortland, NY 13045	Date Requested: 9/13/2024	
Test Operator Information	Test Performed by: C Rees CAFS	Reviewed by: T Shoulders	Completion Date: 11/11/2024

CSA Group C22.2 No.187-20 - Section 7.6 - UVC In Duct Type Air Purifiers for Residential Use

Table 1: Test data for the low-speed test (375 CFM)


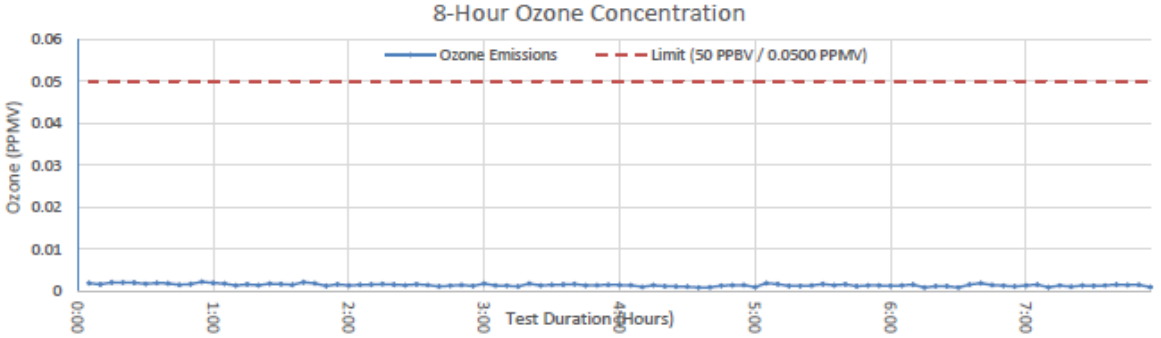
LETTER REPORT

 <p>Blue Heaven Technologies</p> <p>2820 S. English Station Road - Louisville, KY 40299 Phone: (502) 357-0132</p>	<p>TEST NO. 24-715-1A</p> <p>Test Report - Ozone Emissions - Low Flow Rate</p> <p>CSA Group - C22.2 No.187-20 - Section 7.5 Electrostatic In Duct Type Air Cleaners for Residential Use</p> <p style="text-align: right;">page 2 of 2</p>																		
<p>Device Energy Usage</p>	<p>Average Input Wattage 0.328 W</p> <p>Input Voltage 115 VAC</p> <p>Unit was tested in a 24" x 24" duct on the highest setting.</p>																		
																			
<p>Photos</p>	<p>Unit Under Test Model: HE60-50TA S/N: UPC 850057835090</p>   																		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #2c5e8c; color: white;"> <th>POWER BOX MODEL #</th> <th colspan="3">INPUT</th> <th colspan="2">OUTPUT</th> </tr> <tr style="background-color: #2c5e8c; color: white;"> <th></th> <th>VOLTAGE, VAC</th> <th>FREQ., Hz</th> <th>POWER WATTS</th> <th>VOLTAGE, kV</th> <th>AMPERE, μA</th> </tr> </thead> <tbody> <tr> <td>HE60-50TA</td> <td>120/240</td> <td>50/60</td> <td>12</td> <td>6</td> <td>500</td> </tr> </tbody> </table>	POWER BOX MODEL #	INPUT			OUTPUT			VOLTAGE, VAC	FREQ., Hz	POWER WATTS	VOLTAGE, kV	AMPERE, μ A	HE60-50TA	120/240	50/60	12	6	500
POWER BOX MODEL #	INPUT			OUTPUT															
	VOLTAGE, VAC	FREQ., Hz	POWER WATTS	VOLTAGE, kV	AMPERE, μ A														
HE60-50TA	120/240	50/60	12	6	500														
<p>Requester Information</p>	<p>Test Requestor: Lydia Choi</p> <p>Company Name: Intertek</p> <p>Company Address: 3933 US Route 11 Cortland, NY 13045</p>																		
<p>Test Operator Information</p>	<p>Phone: N/A</p> <p>Email: lydia.choi@intertek.com</p> <p>Date Requested: 9/13/2024</p> <p>Test Performed by: C Rees CAFS</p> <p>Reviewed by: T Shoukri</p> <p>Completion Date: 11/11/2024</p>																		

CSA Group C22.2 No. 187-20 - Section 7.6 - UVC In Duct Type Air Purifiers for Residential Use

Table 2: Average wattage for low-speed test and UUT illustrations


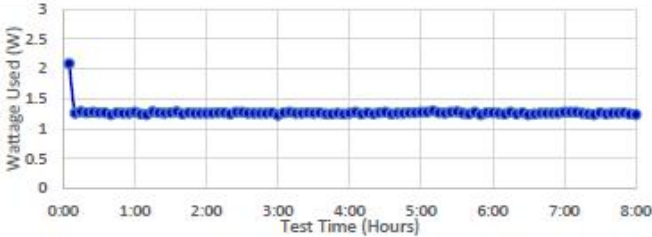
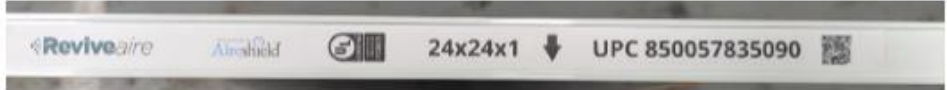
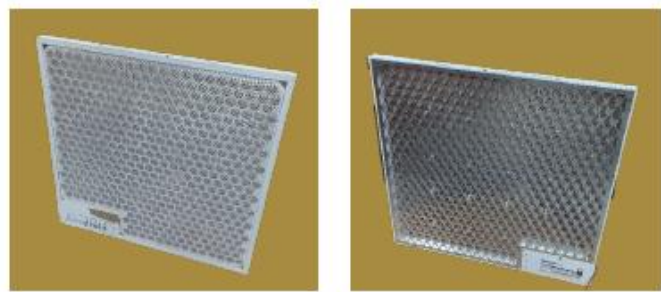

LETTER REPORT

 <p>2820 S. English Station Road - Louisville, KY 40299 Phone: (502) 357-0132</p>		<p style="text-align: right;">TEST NO. 24-715-1B</p> <h3 style="text-align: center;">Test Report - Ozone Emissions - High Flow Rate</h3> <p style="text-align: center;">CSA Group - C22.2 No.187-20 - Section 7.5 Electrostatic In Duct Type Air Cleaners for Residential Use</p> <p style="text-align: right;">page 1 of 2</p>	
Test Unit Description	Customer: Intertek Manufacturer: Reviveaire LLC Model No.: HE60-50TA Bulb Number: N/A Serial Number: UPC 850057835090	NOTES: Unit is a 24" x 24" x 1" electrostatic Filter. Run in Start: 11/7/2024 16:30 Run in End: 11/7/2024 17:00	
	The unit tested at flow rate of 2000 CFM. The unit was mounted inside the 24" X 24" test duct.		
8-Hour Ozone Emissions Test Results	Test Date: 11/12/2024 Start Time: 17:00 End Time: 1:00		
	Average 8-Hr Background Concentration: 0.0029 PPM Average 8-Hr Downstream Concentration: 0.0044 PPM	Maximum Allowed	PASS / FAIL
	Average 8 Hour Time Weighted Average (TWA) Ozone Concentration: 0.001 PPM	0.050 PPM	PASS
	Maximum Ozone Reading over 8-Hour Testing: 0.002 PPM	0.050 PPM	PASS
8-Hour Ozone Concentration			
			
Test Equipment Information	Model Serial Number Range		
	Upstream Ozone Analyzer: 2B Technologies Model: 205 2331DB 0.0000 - 0.1500 PPMV		
	Downstream Ozone Analyzer: 2B Technologies Model: 205 2332DB 0.0000 - 0.1500 PPMV		
	Temperature: EE21FT2B51HC01/E01-T83 123501000187 -40 - 140 Degrees F		
	Humidity: EE21FT2B51HC01/E01-T83 123501000187 0 - 100 %		
	Data Recorder: Yokogawa DX 1012-1-4-2 S5G508901 10 Channel Recorder		
	Watt Transducer: Ohio Semitronics, Inc. AGH-002E 20100694 0-1000 Watts		
Test Conditions	The unit was tested in a complete ASHRAE 52.2 Test Duct. Flow Rate was maintained at 2000 CFM over the 8-hour test period. Test unit installed entirely inside the 24" X 24" test duct and sealed to be leak-free. All unit emissions were contained inside the test duct. Unit were operated on maximum output settings.		
	Average Test Flow Rate: 2,002.98 CFM		
	Average Test Temperature: 72.55 Deg F Average Test Rel. Humidity: 50.05 %		
Requester Information	Test Requestor: Lydia Choi Company Name: Intertek Company Address: 3933 US Route 11 Cortland, NY 13045	Phone: N/A Email: lydia.choi@intertek.com Date Requested: 9/13/2024	
	Test Operator Information	Test Performed by: C Rees CAFS Reviewed by: T Shoulders	Completion Date: 11/13/2024

CSA Group C22.2 No.187-20 - Section 7.6 - UVC In Duct Type Air Purifiers for Residential Use

Table 3: Test data for the high-speed test (2000 CFM)

LETTER REPORT

 2820 S. English Station Road - Louisville, KY 40299 Phone: (502) 357-0132	TEST NO. 24-715-1B Test Report - Ozone Emissions - High Flow Rate CSA Group - C22.2 No.187-20 - Section 7.5 Electrostatic In Duct Type Air Cleaners for Residential Use																	
Device Energy Usage	Average Input Wattage 1.273 W Input Voltage 115 VAC Unit was tested in a 24" x 24" duct on the highest setting. <div style="text-align: right;">  </div>																	
Photos	Unit Under Test Model: HE60-50TA S/N: UPC 850057835090 <div style="text-align: center;">    </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th rowspan="2">POWER BOX MODEL #</th> <th colspan="3">INPUT</th> <th colspan="2">OUTPUT</th> </tr> <tr> <th>VOLTAGE, VAC</th> <th>FREQ., Hz</th> <th>POWER WATTS</th> <th>VOLTAGE, kV</th> <th>AMPERE, μA</th> </tr> </thead> <tbody> <tr> <td>HE60-50TA</td> <td>120/240</td> <td>50/60</td> <td>12</td> <td>6</td> <td>500</td> </tr> </tbody> </table>	POWER BOX MODEL #	INPUT			OUTPUT		VOLTAGE, VAC	FREQ., Hz	POWER WATTS	VOLTAGE, kV	AMPERE, μA	HE60-50TA	120/240	50/60	12	6	500
POWER BOX MODEL #	INPUT			OUTPUT														
	VOLTAGE, VAC	FREQ., Hz	POWER WATTS	VOLTAGE, kV	AMPERE, μA													
HE60-50TA	120/240	50/60	12	6	500													
Requester Information	Test Requestor: <u>Lydia Choi</u> Phone: <u>N/A</u> Company Name: <u>Intertek</u> Email: <u>lydia.choi@intertek.com</u> Company Address: <u>3933 US Route 11 Cortland, NY 13045</u> Date Requested: <u>9/13/2024</u>																	
Test Operator Information	Test Performed by: <u>C Rees CAFS</u> Reviewed by: <u>T Shoulders</u> Completion Date: <u>11/13/2024</u>																	

CSA Group C22.2 No. 187-20 - Section 7.6 - UVC In Duct Type Air Purifiers for Residential Use

Table 4: Average wattage for high-speed test and UUT illustrations