

AHAM PORTABLE ELECTRIC ROOM AIR CLEANER CERTIFICATION PROGRAM NOTICE OF MAXIMUM CERTIFIED RATING (A-7)

Elfi Elektrofilter AB Verkstadsgatan 3 441 57 Alingsås Sweden	Date: November 6, 2017
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Enclosed is a copy of a room air cleaner certification testing report for the following units. These values are to be used should your company choose to certify the following models in the AHAM Portable Electric Room Air Cleaner Certification Program.

Test Report No.	Brand	Model Number	Serial No./ID No.
103222910CRT-002A	Wood's	ELFI 310	1709281020-004
103222910CRT-002A	Wood's	ELFI 310	1709281020-005
103222910CRT-002A	Wood's	ELFI 310	1709281020-006

The tests indicate that the certified values must not exceed the following:

		Maximum Allowable Certified Rating				
Voltage	Frequency (Hz)	CADR			Room Size	
		Smoke	Dust	Pollen	ft ²	m ²
120	60	132	145	161	205	19


ENERGY STAR Information (If applicable)

Does this model meet the ENERGY STAR requirements? Yes No NA

Serial No./ID No.	Total Energy Consumption (Watts)	Dust CADR/Watt	Total Measured Standby Power
1709281020-004	18.7	7.6	0.5
1709281020-005	20.1	7.3	0.5
1709281020-006	19.4	7.5	0.5

In accordance with the terms of the AHAM Portable Electric Air Cleaner Certification Program Procedural Guide, model data must be submitted to the Program Laboratory on Form A-1 to become certified and to be included in any future Directory / Listing.

Reference should be made to the License Agreement and the Procedural Guide describing operation of the Program for additional explanation of procedures to be followed in this action.



Program Administrator



Program Manager



October 26, 2017

Patrik Tedsjö
Elfi Elektrofilter AB
Verkstadsgatan 3
441 57 Alingsås
Sweden

Dear Mr. Tedsjö:

We appreciate the opportunity to be of service to you. Please find enclosed one copy of Intertek Report No. 103222910CRT-002A covering AHAM AC-1 and EPA Energy Star program, tests performed on your behalf.

Model(s) Tested:

ELFI 310

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 me.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Podoliak", is written over a light blue horizontal line.

Mike Podoliak
Technician 1
Energy Efficiency Group

Test Report

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G103222910

Date: October 26, 2017

REPORT NO. 103222910CRT-002A

RENDERED TO:

**Elfi Elektrofilter AB
Verkstadsgatan 3
441 57 Alingsås
Sweden**

Report Scope: This testing is for AHAM AC-1 and EPA Energy Star program for Room Air Cleaners.

Limitation Statement: The test data and results contained in this report are provided for client information and evaluation.

Authorization: The tests were authorized by signed Quote No. Qu-00818587 dated September 5, 2017.

Standards Used: ANSI/AHAM AC-1-2015 entitled, "Association of Home Appliance Manufacturers Method for Measuring Performance of Portable Household Electric Room Air Cleaners" and IEC 62301 Ed. 2 entitled, "Household Electrical Appliances – Measurement of Standby Power"

Sample Description: Three prototype units of model ELFI 310 were supplied by the client and received on September 28, 2017.

Date of Tests: October 24-25, 2017

An independent organization testing for safety, performance, and certification.

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to copy or distribute this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

Test Method:

Tests were performed in accordance with ANSI/AHAM AC-1-2015 entitled "Association of Home Appliance Manufacturers Method for Measuring Performance of Portable Household Electric Room Air Cleaners". This standard method has defined limits of measurability. The practical limits of measurability are: Dust 10 to 400 CADR, Tobacco smoke 10 to 450 CADR and Pollen 25 to 450 CADR. The statistical validity of test results outside of the stated practical limits is questionable and unevaluated. Clean Air Delivery Rates (CADR's) were determined using Tobacco Smoke, AC Fine Test Dust, and Paper Mulberry Pollen.

Additional requirements for energy taken from IEC 62301 Ed. 2 entitled, "Household Electrical Appliances – Measurement of Standby Power".

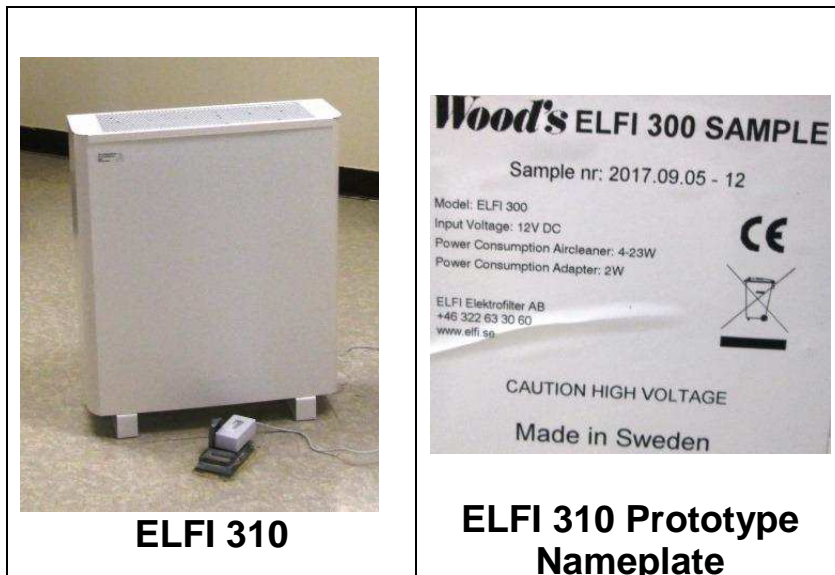
Monitored particle size ranges for the three particulates were as follows:
Smoke - 0.10-1.0 microns; Dust - 0.5-3 microns; Pollen - 5-11 microns.

Test Equipment List:

Equipment Used	Model Number	Intertek Control #	Cal. Due Date	Date Cal. Performed
Laser Aerosol Spectrometer	3340	D708	10/12/18	10/12/17
Aerodynamic Particle Sizer	3321	A-261	10/10/18	10/10/17
Fluidized Bed Aerosol Generator	3400	--		
Temperature/Humidity Sensor	HMW30YB	T680	10/04/18	10/04/17
Power Analyzer	WT210	G065	10/04/18	10/04/17

Device Under Test Description

The devices tested for this report were Model Number ELFI 310 Air Cleaners. The following device settings were used during testing: Highest Speed.



ELFI 310

ELFI 310 Prototype Nameplate

Results of Performance Tests:

Model/Configuration	Test Particulate	Natural Decay Rate	CADR (FT³/Min)	CADR STDEV.	Power (Watts)
ELFI 310, Unit 1 CRT1709281020-004, Highest Speed, 120 Volts, 60 Hertz	Smoke	0.00235	131.1	0.6	19.2
	Dust	0.00886	143.2	0.5	18.7
	Pollen	0.10091	166.7	6.5	19.2
ELFI 310, Unit 2, CRT1709281020-005, Highest Speed, 120 Volts, 60 Hertz	Smoke	0.00239	132.1	1.1	19.9
	Dust	0.00714	146.9	0.4	20.1
	Pollen	0.11802	155.4	5.5	20.0
ELFI 310, Unit 3, CRT1709281020-006, Highest Speed, 120 Volts, 60 Hertz	Smoke	0.00230	132.2	0.9	19.8
	Dust	0.00703	145.4	0.4	19.4
	Pollen	0.10703	161.3	8.0	19.5

Conclusion:

The results reported are within the limits of measurability of the ANSI/AHAM AC-1-2015 "Association of Home Appliance Manufacturers Method for Measuring Performance of Portable Household Electric Room Air Cleaners" Test Method.

Energy Star CADR Testing:

Test Sample Information

Manufacturer/ Organization Name	Model Number	Serial Number	Nameplate Voltage	Nameplate Frequency Hz	Nameplate Watts
Elfi	ELFI 310	NA	100-240	50-60	4-23

Test Criteria

Test Voltage	Test Frequency	Ambient Test Temperature °F	Ambient Humidity %RH
120v +/- 1	60Hz +/- 1Hz	70°F +/- 5°F	40% +/- 5%

Test Results

Test Sample	Test Voltage	Test Frequency	Ambient Test Temperature °F	Ambient Humidity %RH	Dust CADR	Watts	Dust CADR/Watt
Unit 1	120.1	60	69	40	143.2	18.7	7.6
Unit 2	120.1	60	69	39	146.9	20.1	7.3
Unit 3	120.1	60	69	38	145.4	19.4	7.5

Conclusion:

Qualifying air cleaners must have a minimum 50 CADR (Dust) and CADR/watts must be ≥ 2 (Dust). These results illustrate that this sample does meet the Energy Star Program performance requirements.

Standby Power Testing:**Test Criteria – IEC 62301**

Test Voltage	Test Frequency	Total Harmonic Distortion of the Electricity Supply System	Ambient Test Temperature °F
115v +/- 1%	60Hz +/- 1%	≤ 2%	73.4°F +/- 9°F

Test Results

Test Sample	Test Voltage	Test Frequency	Total Harmonic Distortion of the Electricity Supply System	Ambient Test Temperature °F	Standby Power Watts
Unit 1	115.1	60	0.20%	69.4	0.5
Unit 2	115.1	60	0.20%	69.3	0.5
Unit 3	115.1	60	0.18%	69.9	0.5

Conclusion:

Minimum Standby Power Requirement is < 2 Watts. The results illustrated in the Standby Power Data shows that this unit meets the criteria.

Report Reviewed By:



Michael Hudon
Team Lead
Energy Efficiency Group

Report Completed By:



Mike Podoliak
Technician 1
Energy Efficiency