



June 3, 2015

Patrick Tedsjo  
ELFI Elektronfilter AB  
Box 356  
SE-441 Alingsas  
Sweden

Dear Mr Tedsjo:

We appreciate the opportunity to be of service to you. Please find enclosed one copy of Intertek Report No. 101834206CRT-001C covering the tests performed on your behalf.

Model(s) Tested:  
ELFI 900

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 "m Podoliak".

Mike Podoliak  
Technician 1  
Energy Efficiency Group



## Test Report

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G101834206

Date: June 3, 2015

REPORT NO. 101834206CRT-001C

RENDERED TO:

**ELFI Elektronfilter AB**  
**Box 356**  
**SE-441 Alingsas**  
**Sweden**

<u>Report Scope:</u>	Performance testing of a Portable Household Room Air Cleaner
<u>Limitation Statement:</u>	The test data and results contained in this report are provided for client information and evaluation.
<u>Authorization:</u>	The tests were authorized signed Intertek Quote No. 500530718 dated September 1, 2014.
<u>Standards Used:</u>	ANSI/AHAM AC-1-2006 entitled, " <u>Association of Home Appliance Manufacturers Method for Measuring Performance of Portable Household Electric Room Air Cleaners</u> " and IEC 62301 Ed. 2 entitled, " <u>Household Electrical Appliances – Measurement of Standby Power</u> "
<u>Sample Description:</u>	One unit, Model ELFI 900, was supplied by the client and received on May 1, 2015.
<u>Date of Tests:</u>	June 3, 2015

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

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**Test Method:**

Tests were performed in accordance with ANSI/AHAM AC-1-2006 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".

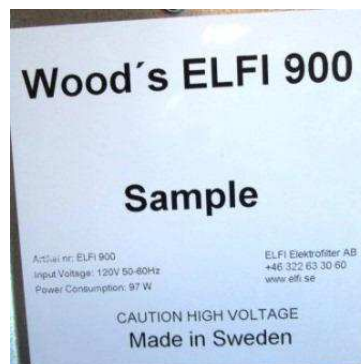
Monitored particle size ranges for the three particulates were as follows:  
Smoke - 0.10-1.0 microns; Dust - 0.5-3 microns; Pollen - 5-11 microns.

**Test Equipment List:**

Equipment Used	Model Number	Intertek Control #	Cal. Due Date	Date Cal. Performed
Airborne particle Spectrometer	HSLAS II	N1203	3/26/16	3/26/15
Aerodynamic Particle Sizer	3321	A-261	10/15/15	10/15/14
Fluidized Bed Aerosol Generator	340000	--		
Temperature/Humidity Sensor	HMW30YB	T680	11/11/15	11/11/14
Power Analyzer	WT210	G065	9/18/15	9/18/14

**Device Under Test Description**

The device tested for this report was Model Number ELFI 900 Air Cleaner. The following device settings were used during testing: Highest Speed. This device contains features which require ozone testing for Energy Star Certification.

**ELFI 900****ELFI 900 Nameplate**

**Results of Performance Tests:**

Model/Configuration	Test Particulate	Natural Decay Rate	CADR (FT <sup>3</sup> /Min)	CADR STDEV.	Power (Watts)
<b>ELFI 900, Unit 1, 1505011153-003, Highest Speed, 120 volts 60 Hertz</b>	<b>Smoke</b>	<b>0.00330</b>	<b>365.2</b>	<b>2.2</b>	<b>97.9</b>
	<b>Dust</b>	<b>0.01046</b>	<b>382.6</b>	<b>3.9</b>	<b>97.7</b>
	<b>Pollen</b>	<b>0.09647</b>	<b>368.5</b>	<b>24.6</b>	<b>97.9</b>

**Conclusion:**

The results reported are within the limits of measurability of the ANSI/AHAM AC-1-2006 "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 Elektrofilter AB	ELFI 900	NA	120	60	97

### Test Criteria

Test Voltage	Test Frequency	Ambient Test Temperature °F	Ambient Humidity %RH
120v +/- 1	50Hz +/- 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
1	119.7	60	69	40	382.6	97.7	3.69

### Conclusion:

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

**Stand By 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
1	115.1	60	0.20%	70.5	0.0

**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:



Lincoln G. Billings  
Technical Expert  
Energy Efficiency

Report Completed By:



Michael T. Podoliak  
Tech 1  
Energy Efficiency

Report Also  
Reviewed By:

Brian Bielawa  
Engineer  
Energy Efficiency