

REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 105443787

Date: May 30, 2023

REPORT NO. 105443787CRT-005

**SOUND POWER TESTING ON AN
AIR CLEANER
MODEL 7 SICKLEFLOW**

RENDERED TO:

**RAINBOW PURIFIERS, LLC
503 VINE ST.
WELLINGTON, MO 64097
USA**

INTRODUCTION

This report gives the results of a Sound Power Test conducted on an air cleaner. The test specimen was selected and supplied by the client and received at the acoustical lab on May 10, 2023. The unit appeared to be in good, new condition upon arrival.

AUTHORIZATION

Signed Intertek Quotation No. Qu-01330510-5

TEST METHOD – Sound Power Level

The laboratory method used in conducting this test is in accordance with ANSI/ASA S12.51-2012/ISO 3741:2010, “Nationally Adopted International Standard (NAIS Standard) Acoustics -- Determination of sound power levels of noise sources using sound pressure – Precision method for reverberation rooms. The reference sound source used for these tests was a calibrated Bruel & Kjaer Type 4204, which conforms to the above standard. The sample was also tested in accordance with AHAM AC-2 2006(R2016) “Method for Sound Testing of Portable Household Electric Room Air Cleaners”. The sones were calculated in accordance with AHAM AC-2.

The sample was operated for a minimum of 15 minutes prior to testing.

INSTRUMENTATION:

Equipment	Calibration Date	Due Date	S/N	Model	Brand	Asset
Microphone/Pre - DF	5/1/2023	5/1/2024	2381161	4942	Brüel and Kjær	E450
Microphone Calibrator	5/1/2023	5/3/2024	2130586	4231	Brüel and Kjær	A227
Pulse Analyzer	5/1/2023	5/3/2024	2574546	3560	Brüel and Kjær	E553
Power Analyzer	1/31/23	1/31/24	B042	WT110 (253401)	Yokogawa	B042
Thermohygrometer	9/12/2022	9/12/2023	36231027	971	Fluke	E552

Additional System Components:

Brüel & Kjaer Rotating Microphone Boom, Type 3923
Brüel & Kjaer Windscreen, Type UA0237

DESCRIPTION OF TEST SPECIMEN AND SET UP

The test specimen consisted of a Rainbow Purifiers, LLC 7 Sickleflow air cleaner. The test was conducted with the sample operating with no external static pressure operating on 120 volt, 60 hertz power.

PHOTOGRAPH OF TEST SAMPLE



RESULTS OF MEASUREMENTS – 7 SICKLEFLOW

Speed	1
Volts	120
Amps	0.180
Watts	10.8
1/3 Octave Band Center Frequency (Hz)	Sound Power, Lw (dB re: 10-12 W)
50	45.0*
63	44.1
80	43.4*
100	33.9*
125	34.0
160	33.2
200	46.5
250	37.2
315	34.6
400	39.0
500	37.4
630	39.2
800	38.2
1000	37.1
1250	34.6
1600	31.8
2000	28.6
2500	25.6
3150	22.4
4000	20.3
5000	18.6
6300	17.2*
8000	18.2*
10000	19.7*
dBA (Lw)	45.3
Sones	0.895

Note: Sones reported were the overall sound pressure level rating at 1 meter calculated in accordance with AHAM AC-2 2006 (R2016) "Method for Sound Testing of Portable Household Electric Room Air Cleaners"

*Sound pressure level has reached background level and actual levels are less than or equal to the values indicated.

CONCLUSION

The test method employed for this test has no pass-fail criteria; therefore, the evaluation of the test results is left to the discretion of the client.

Date of Test: May 25, 2023

Temperature: 72 °F Dry Bulb
55 °F Wet Bulb

Barometric Pressure: 29.02 in. Hg

Report Approved by:



Gerald Gray
Associate Engineer
Acoustical Testing

Report Reviewed By:



Brian Cyr
Engineer
Acoustical Testing

Attachments: None