# Noiseblocker NB-eLoop

Serial Number 4250051906462

Lab ID NB12000218

Certification ID FN25218

Test Result Report ID: 25FN218A

Certificate Issue Date: Sep 18, 2025

Scheme: PHI

Airflow Rating

Static Pressure Rating

Aristeidis Bitziopoulos, Certification Body General Manager

## SECTION A: Noise Testing Equipment

| | |
|---|---|
| Test Environment | Hemi-Anechoic Chamber with 6 dB(A) noise floor |
| Conditions | 25(±2) degrees Celsius, 40-50% humidity |
| Sound Analyzer | Bruel & Kjaer 2270-S G4 & 2250-L G4 |
| Microphone | Bruel & Kjaer Type 4955-A |
| Mic Calibrator | Bruel & Kjaer Type 4231 |
| Data Logger | Picoscope TC-08 |
| Testing Methodology | Cybenetics Phi Fan Performance Standard |

## SECTION B: Fan Testing Instrument Technical Specifications

| | |
|---|---|
| Manufacturer | Long Win Science & Technology Corporation |
| Model Number | LW-9266 |
| Air Flow Rate | 2.4 – 250 CFM |
| Accuracy of Air Flow Rate | < 3.5% INFS |
| Repeatability error | < 2% |
| Static pressure | 0-20mmAq (100mmAq with the high static pressure throttle device) |
| Overall Dimensions | 0.7 (W) x 2.2 (L) x 1.6 (H) m |
| Power Source | 220VAC, 5A, Single Phase, 50/60Hz |
| Based on Standards | ISO 5801-2007, AMCA 210-0, ASHRAE 51-2007, IEC 61591-2005, GB/T 1236-200 |

## SECTION C: PHI Performance Levels

| | | |
|---|---|---|
| Pressure at 25 dB(A) | P (mmAq) | 0.90 |
| Airflow at 25 dB(A) | Q (CFM) | 42.77 |

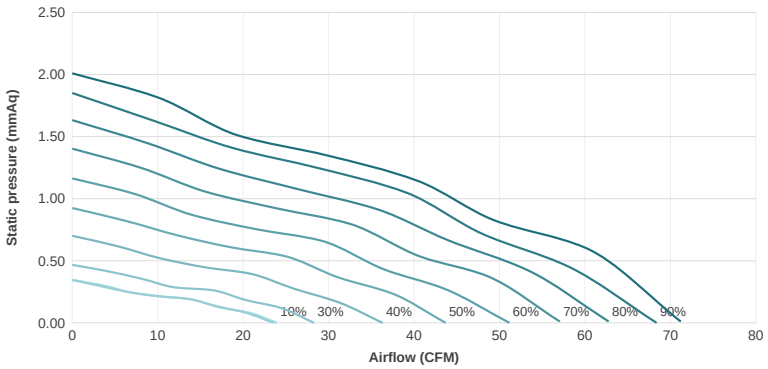
## SECTION D: Information about DUT

| | |
|---|---|
| Product Identification Details | |
| Brand | Noiseblocker |
| Model | NB-eLoop |
| Serial Number | 4250051906462 |
| Product Specifications | |
| Manufacturer-Provided Information | |
| Bearing | Fluid Dynamic |
| Connector | PWM |
| Cable length (mm) | 40 |
| Daisy-chain | None |
| RGB Connector | None |
| RGB Daisy-chain | None |
| Cybenetics Measurements | |
| Max Speed (RPM) | 2230 |
| Max Airflow (CFM) | 71.22 |
| Max Static Pressure (mmAq) | 2.01 |
| Max Fan Noise Level (dBA) | 37.80 |
| Fan Max Current (A) | 0.21 |
| Fan Weight (gr) | 133 |
| Dimensions (W x H x D) | 120mm x 120mm x 25mm |
| Cybenetics Testing Information | |
| Lab ID | NB12000218 |
| Date of receipt | Aug 10, 2025 |
| Testing Date | Sep 18, 2025 |
| Report Issued Date | Sep 18, 2025 |
| Engineer Name | Georgios Theodoros Sarimpalas |

## SECTION E: Long Win LW-9266 - Pressure and Airflow

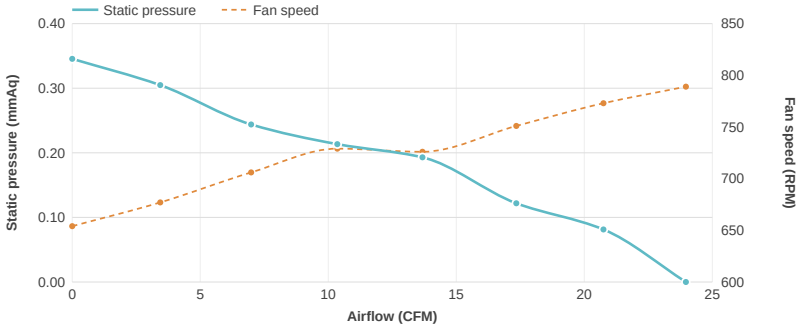
### PQ Chart - All Speeds

Static pressure against airflow, one curve per speed step




### PQ Chart 10%

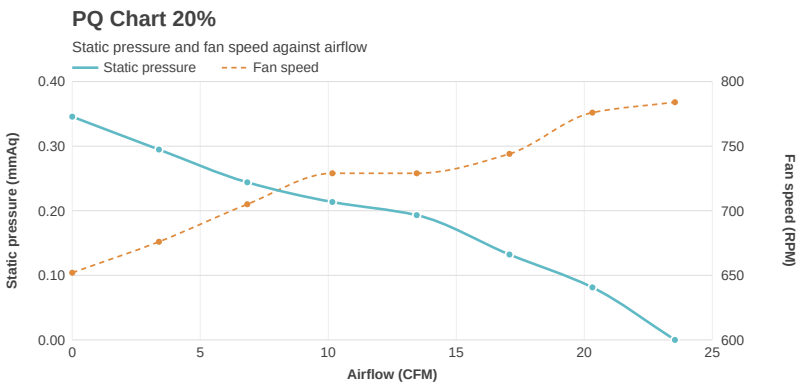
Static pressure and fan speed against airflow




| Speed Setting | Max Airflow (CFM) | Max Static Pressure (mmAq) | Fan Speed (RPM) | Max Power (W) |
|---|---|---|---|---|
| 10% | 23.97 | 0.35 | 654 - 789 | 0.35 |
| 20% | 23.54 | 0.35 | 652 - 784 | 0.35 |
| 30% | 28.31 | 0.47 | 767 - 940 | 0.44 |
| 40% | 36.32 | 0.70 | 942 - 1188 | 0.64 |
| 50% | 43.69 | 0.92 | 1096 - 1421 | 0.88 |
| 60% | 51.16 | 1.16 | 1229 - 1657 | 1.15 |
| 70% | 57.06 | 1.40 | 1347 - 1837 | 1.46 |
| 80% | 62.78 | 1.63 | 1453 - 2010 | 1.82 |
| 90% | 68.38 | 1.85 | 1550 - 2181 | 2.23 |
| 100% | 71.22 | 2.01 | 1615 - 2256 | 2.57 |

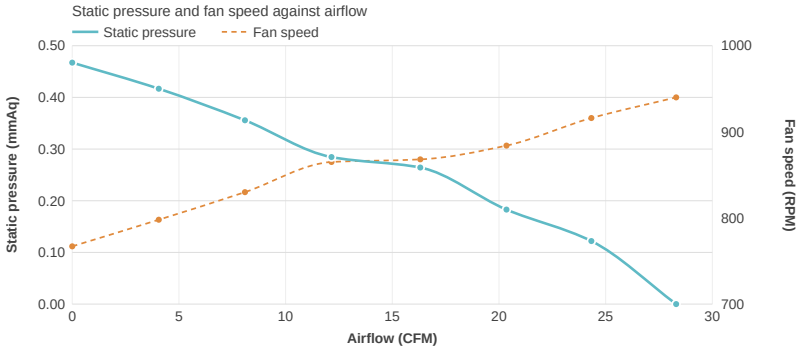
| Airflow (CFM) | Static Pressure (mmAq) | Fan Speed (RPM) | Current (A) | Power (W) |
|---|---|---|---|---|
| 0.00 | 0.35 | 654 | 0.029 | 0.35 |
| 3.44 | 0.30 | 677 | 0.028 | 0.34 |
| 6.99 | 0.24 | 706 | 0.028 | 0.34 |
| 10.35 | 0.21 | 729 | 0.027 | 0.32 |
| 13.68 | 0.19 | 726 | 0.028 | 0.34 |
| 17.35 | 0.12 | 751 | 0.027 | 0.32 |
| 20.75 | 0.08 | 773 | 0.027 | 0.32 |
| 23.97 | -0.01 | 789 | 0.027 | 0.32 |

## PQ Chart 20%



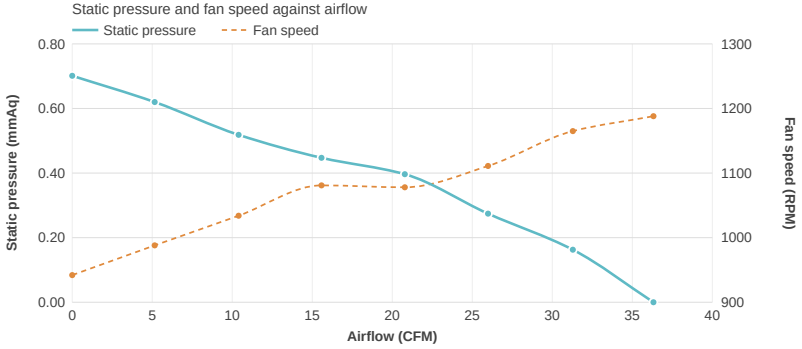

| Airflow (CFM) | Static Pressure (mmAq) | Fan Speed (RPM) | Current (A) | Power (W) |
|---|---|---|---|---|
| 0.00 | 0.35 | 652 | 0.029 | 0.35 |
| 3.39 | 0.29 | 676 | 0.029 | 0.35 |
| 6.84 | 0.24 | 705 | 0.028 | 0.34 |
| 10.16 | 0.21 | 729 | 0.028 | 0.34 |
| 13.46 | 0.19 | 729 | 0.028 | 0.34 |
| 17.08 | 0.13 | 744 | 0.028 | 0.34 |
| 20.32 | 0.08 | 776 | 0.027 | 0.32 |
| 23.54 | 0.00 | 784 | 0.027 | 0.32 |

## PQ Chart 30%



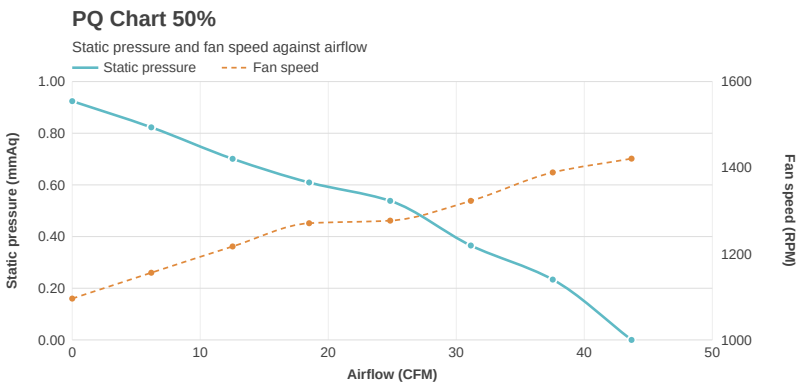

| Airflow (CFM) | Static Pressure (mmAq) | Fan Speed (RPM) | Current (A) | Power (W) |
|---|---|---|---|---|
| 0.00 | 0.47 | 767 | 0.037 | 0.44 |
| 4.06 | 0.42 | 798 | 0.036 | 0.43 |
| 8.09 | 0.36 | 830 | 0.035 | 0.42 |
| 12.15 | 0.28 | 865 | 0.035 | 0.42 |
| 16.31 | 0.26 | 868 | 0.035 | 0.42 |
| 20.35 | 0.18 | 884 | 0.034 | 0.41 |
| 24.33 | 0.12 | 916 | 0.034 | 0.41 |
| 28.31 | 0.00 | 940 | 0.033 | 0.40 |

## PQ Chart 40%



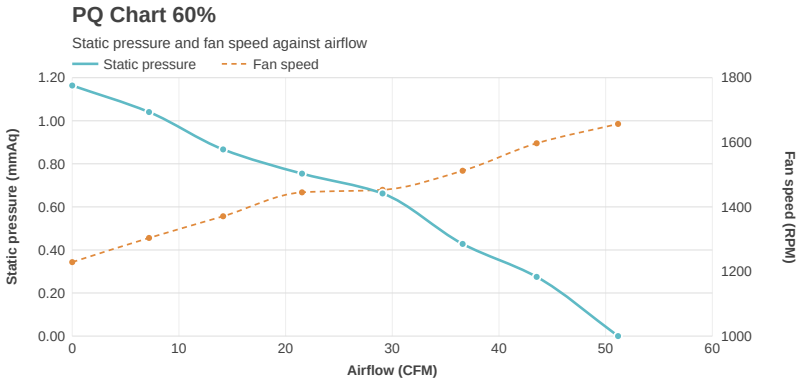

| Airflow (CFM) | Static Pressure (mmAq) | Fan Speed (RPM) | Current (A) | Power (W) |
|---|---|---|---|---|
| 0.00 | 0.70 | 942 | 0.053 | 0.64 |
| 5.15 | 0.62 | 988 | 0.051 | 0.61 |
| 10.40 | 0.52 | 1034 | 0.050 | 0.60 |
| 15.57 | 0.45 | 1081 | 0.049 | 0.59 |
| 20.78 | 0.40 | 1078 | 0.049 | 0.59 |
| 25.99 | 0.27 | 1111 | 0.049 | 0.59 |
| 31.28 | 0.16 | 1165 | 0.048 | 0.58 |
| 36.32 | 0.00 | 1188 | 0.047 | 0.56 |

## PQ Chart 50%



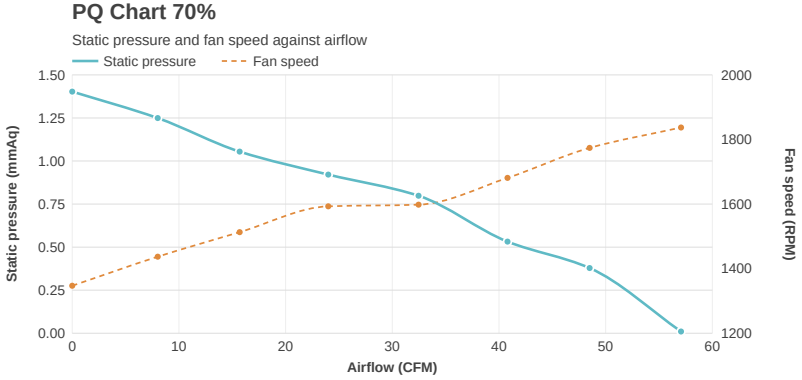

| Airflow (CFM) | Static Pressure (mmAq) | Fan Speed (RPM) | Current (A) | Power (W) |
|---|---|---|---|---|
| 0.00 | 0.92 | 1096 | 0.073 | 0.88 |
| 6.18 | 0.82 | 1156 | 0.071 | 0.85 |
| 12.53 | 0.70 | 1217 | 0.069 | 0.83 |
| 18.50 | 0.61 | 1271 | 0.068 | 0.82 |
| 24.84 | 0.54 | 1277 | 0.068 | 0.82 |
| 31.13 | 0.37 | 1323 | 0.066 | 0.79 |
| 37.54 | 0.23 | 1389 | 0.064 | 0.77 |
| 43.69 | 0.00 | 1421 | 0.064 | 0.77 |

## PQ Chart 60%



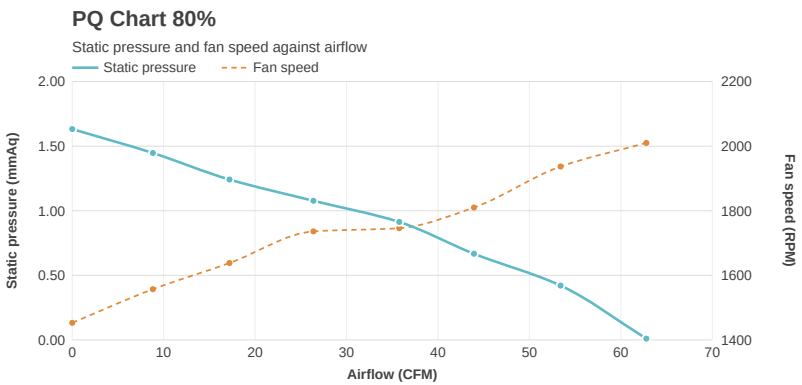

| Airflow (CFM) | Static Pressure (mmAq) | Fan Speed (RPM) | Current (A) | Power (W) |
|---|---|---|---|---|
| 0.00 | 1.16 | 1229 | 0.096 | 1.15 |
| 7.20 | 1.04 | 1304 | 0.093 | 1.12 |
| 14.14 | 0.87 | 1371 | 0.091 | 1.09 |
| 21.53 | 0.75 | 1445 | 0.089 | 1.07 |
| 29.09 | 0.66 | 1453 | 0.088 | 1.06 |
| 36.59 | 0.43 | 1512 | 0.086 | 1.03 |
| 43.53 | 0.28 | 1597 | 0.083 | 1.00 |
| 51.16 | -0.01 | 1657 | 0.081 | 0.97 |

## PQ Chart 70%



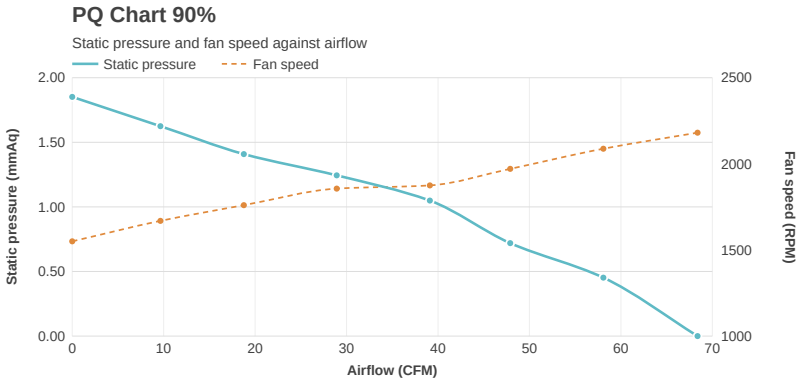

| Airflow (CFM) | Static Pressure (mmAq) | Fan Speed (RPM) | Current (A) | Power (W) |
|---|---|---|---|---|
| 0.00 | 1.40 | 1347 | 0.122 | 1.46 |
| 8.01 | 1.25 | 1437 | 0.118 | 1.42 |
| 15.70 | 1.05 | 1513 | 0.116 | 1.39 |
| 24.00 | 0.92 | 1593 | 0.113 | 1.36 |
| 32.46 | 0.80 | 1598 | 0.113 | 1.36 |
| 40.80 | 0.53 | 1681 | 0.110 | 1.32 |
| 48.50 | 0.38 | 1774 | 0.106 | 1.27 |
| 57.06 | 0.01 | 1837 | 0.104 | 1.25 |

## PQ Chart 80%



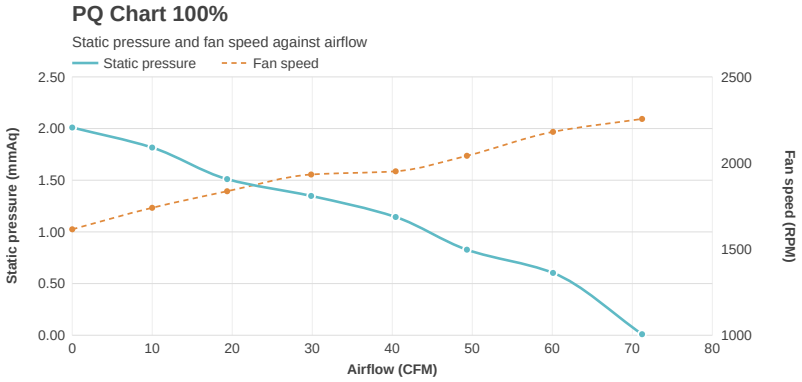

| Airflow (CFM) | Static Pressure (mmAq) | Fan Speed (RPM) | Current (A) | Power (W) |
|---|---|---|---|---|
| 0.00 | 1.63 | 1453 | 0.152 | 1.82 |
| 8.81 | 1.45 | 1557 | 0.148 | 1.78 |
| 17.19 | 1.24 | 1638 | 0.145 | 1.74 |
| 26.37 | 1.08 | 1736 | 0.141 | 1.69 |
| 35.76 | 0.91 | 1746 | 0.140 | 1.68 |
| 43.93 | 0.67 | 1810 | 0.138 | 1.66 |
| 53.41 | 0.42 | 1937 | 0.132 | 1.58 |
| 62.78 | 0.01 | 2010 | 0.129 | 1.55 |

## PQ Chart 90%




| Airflow (CFM) | Static Pressure (mmAq) | Fan Speed (RPM) | Current (A) | Power (W) |
|---|---|---|---|---|
| 0.00 | 1.85 | 1550 | 0.186 | 2.23 |
| 9.65 | 1.63 | 1669 | 0.181 | 2.17 |
| 18.76 | 1.41 | 1760 | 0.177 | 2.12 |
| 28.93 | 1.24 | 1856 | 0.173 | 2.08 |
| 39.11 | 1.05 | 1875 | 0.172 | 2.06 |
| 47.90 | 0.72 | 1971 | 0.168 | 2.02 |
| 58.09 | 0.45 | 2088 | 0.162 | 1.94 |
| 68.38 | 0.00 | 2181 | 0.158 | 1.90 |

## PQ Chart 100%



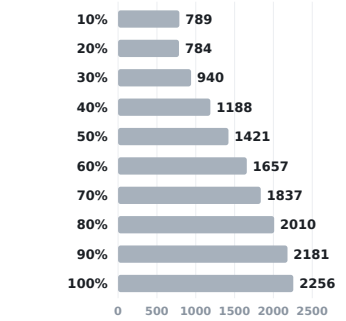

| Airflow (CFM) | Static Pressure (mmAq) | Fan Speed (RPM) | Current (A) | Power (W) |
|---|---|---|---|---|
| 0.00 | 2.01 | 1615 | 0.214 | 2.57 |
| 9.99 | 1.82 | 1740 | 0.208 | 2.50 |
| 19.36 | 1.51 | 1836 | 0.203 | 2.44 |
| 29.86 | 1.35 | 1933 | 0.199 | 2.39 |
| 40.42 | 1.14 | 1952 | 0.198 | 2.38 |
| 49.33 | 0.83 | 2042 | 0.194 | 2.33 |
| 60.09 | 0.60 | 2181 | 0.187 | 2.24 |
| 71.22 | 0.01 | 2256 | 0.183 | 2.20 |

## SECTION F: General Performance

RPM

### Fan Speed

Noiseblocker NB-eLoop

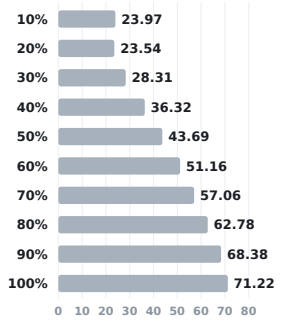



RPM · cybenetics.com

CFM Higher is better

### Airflow

Noiseblocker NB-eLoop

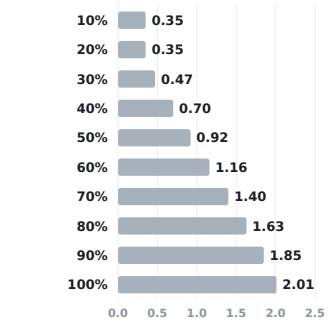



CFM · cybenetics.com

mmAq Higher is better

### Static Pressure

Noiseblocker NB-eLoop

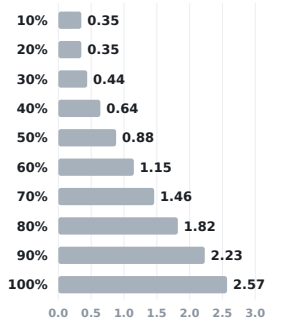



mmAq · cybenetics.com

W Lower is better

### Power Consumption

Noiseblocker NB-eLoop



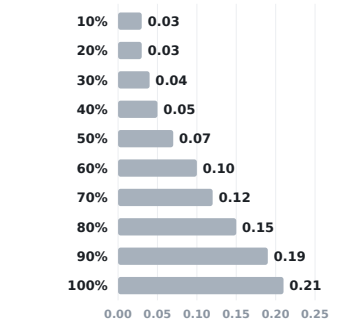

W · cybenetics.com

Cybenetics

A Lower is better

## Current

Noiseblocker NB-eLoop



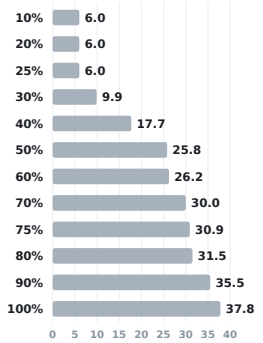

A · cybenetics.com

Cybenetics

dB(A) Lower is better

## Noise Output

Noiseblocker NB-eLoop



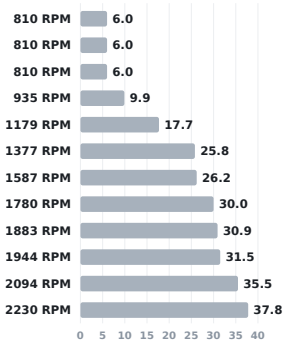

dB(A) · cybenetics.com

Cybenetics

dB(A) Lower is better

## Noise at Each Fan Speed

Noiseblocker NB-eLoop



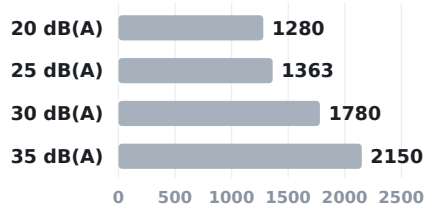

dB(A) · cybenetics.com

Cybenetics

RPM

## Fan Speed at Fixed Noise Levels

Noiseblocker NB-eLoop




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# SECTION G: Uncertainty

**Fan Performance Uncertainty Estimation**

### General Statement

Measurement uncertainty associated with the reported results was evaluated and estimated in accordance with JCGM 100:2008 (Guide to the Expression of Uncertainty in Measurement — GUM) and ISO/IEC 17025:2017, Clauses 7.6 and 7.2.

The uncertainty budget accounts for all significant identified contributors arising from the measurement process, instrumentation, test conditions, and operator interaction.

The reported expanded uncertainty U is obtained by multiplying the combined standard uncertainty uc by a coverage factor k = 2, corresponding to a confidence level of approximately 95 %, assuming a normal probability distribution.

Unless otherwise stated, the reported uncertainty applies only to the specific measurements performed and does not include long-term drift, aging effects, or future environmental changes.

### Expanded Measurement Uncertainty by Measurement Type

| Measurement | Expanded Uncertainty U (k=2, norm) |
|---|---|
| Fan Air Flow | ±1.23176 % of reading (k=2) — e.g. ±3.69 CFM at 25 CFM, ±4.29 at 92 CFM, ±7.15 at 250 CFM |
| Fan Static Pressure | ±0.6727 Pa |

Air flow uncertainty is relative to the reading: $U(Q) = 2 \cdot \sqrt{[(1.8200)^2 + (0.0123176 \cdot Q)^2]}$ CFM, valid over the declared measuring range 2.4 – 250 CFM.

The reported static pressure uncertainty applies over the 0 – 20 mmAq (0 – 196.1 Pa) measuring range of the Long Win LW-9266 apparatus. The apparatus can be extended to 100 mmAq (981 Pa) with the high static pressure throttle device; the uncertainty of that extended range has not been separately verified and the value stated above does not apply to it.

## Noiseblocker NB-eLoop



Front




Rear

Cybenetics bietet freiwillige Zertifizierungsprogramme für Netzteile – ETA für Effizienz, LAMBDA für Lautstärke und SAFE für Sicherheit und korrekten Betrieb – sowie für Kühlprodukte mit DELTA für die Schalldämmung von Gehäusen und PHI für Luftstrom und statischen Druck von Lüftern

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