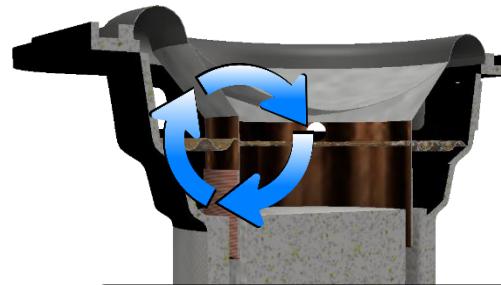




PUI Audio's eXtreme Series speakers are purpose-built for superior performance using Klippel-optimized motor designs. Forced-air vented voice coils combine with a high-grade neodymium motor for extreme power handling, extremely flat frequency response, and a surprising amount of bass when used with tuned-port or passive radiator assisted enclosures.



Air is forced into the magnetic loop on both sides of the voice coil for improved heat dissipation

Features:

- Poly-coated paper cone for warm natural sound and improved ruggedness
- Large voice coil diameter for high power handling
- Convenient mounting frame for easy integration
- Venting in the magnetic motor creates forced-air cooling limiting power compression
- Two-layer copper-clad aluminum wire for great transient response
- Water and dustproof to IP65
- Low Qts design for use in ultra-small enclosures without inhibiting performance

Specifications

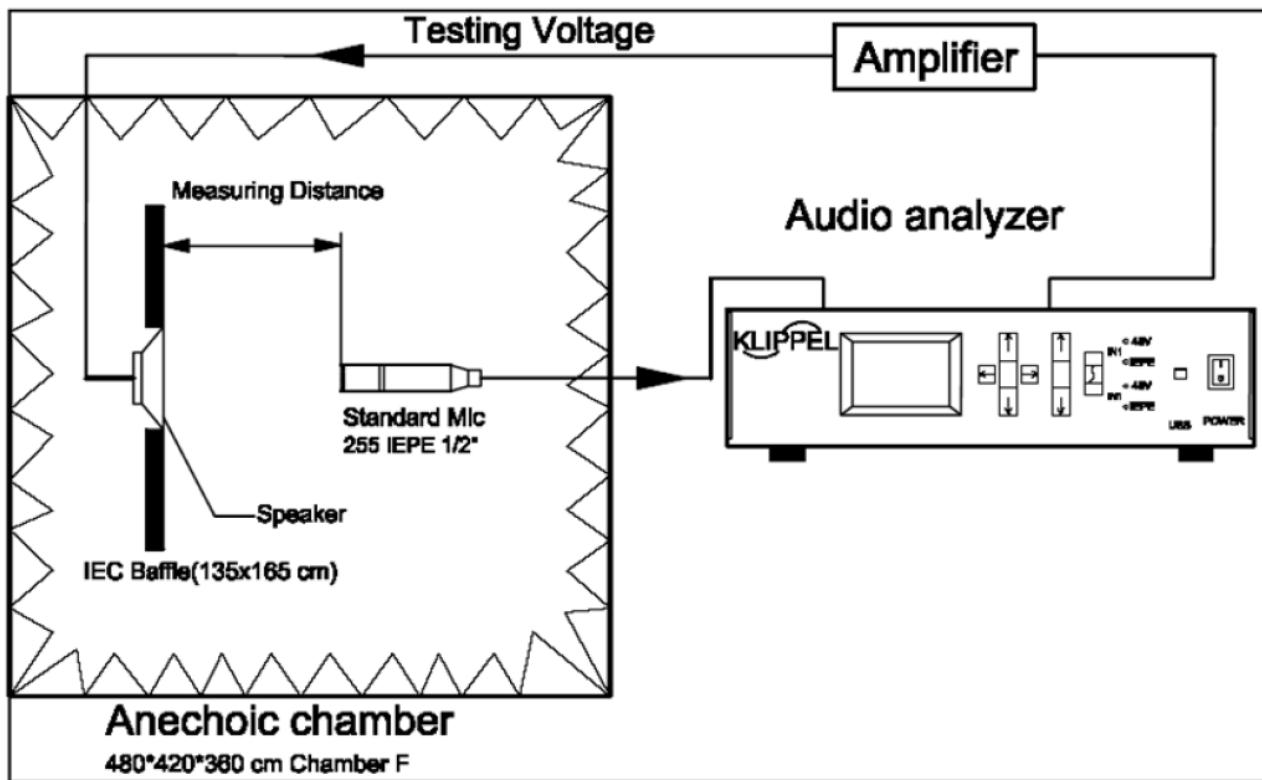
Parameters	Values	Units
Rated Input Power	10	Watts
Max Input Power	15	Watts
Impedance	4 ± 15%	Ohms
SPL @ 1W/0.5m (Average 0.8, 1.0, 1.2, 1.5 kHz)	84 ± 3	dB
Resonant Frequency	140 ± 20%	Hz
Frequency Range (-10 dB)	F _o ~ 20,000+	Hz
Frame Material	Stamped Steel	-
Magnet Material	NdFeB	-
Weight	92	Grams
Ingress Protection Rating	IP65	-
Recommended Sealed Enclosure Volume Range (Q _{tc} ≤ 0.707)*	0.09 ~ 0.50	Liters
Recommended Vented Enclosure Volume*	0.50	Liters
Vent Size and Tuning Frequency	20mm dia. x 300mm L, 80 Hz	-

*Recommended enclosure volumes do not include volume displaced by speaker or vent

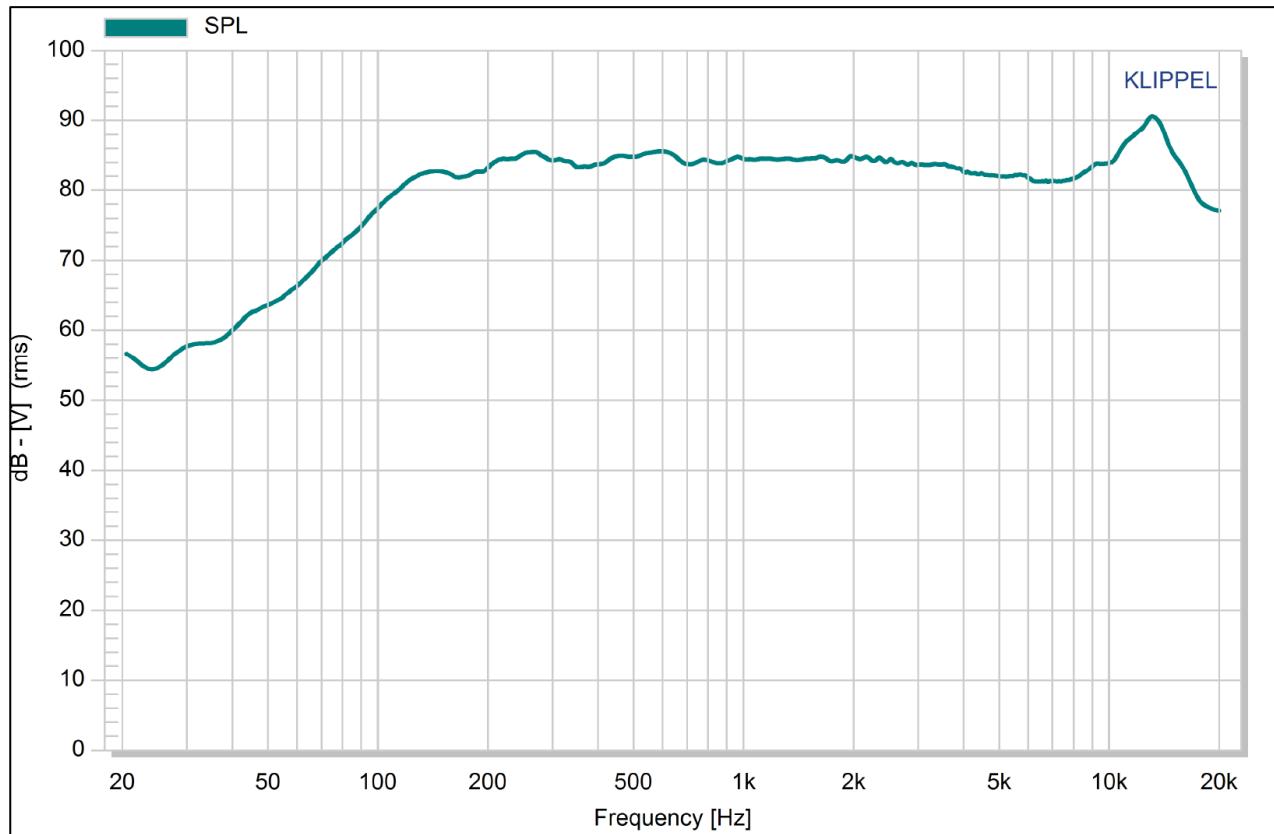
Speaker Specifications (continued)

Acceptable Soldering Methods	Hand Solder	-
Buzz, Rattle, etc.	Should not be audible with 6.32V sine wave from 90 Hz to 20 kHz	-
Environmental Compliances	RoHS 2015/863/EU, REACH 197	-
Polarity	Cone shall move forward when a positive voltage is applied to the positive terminal	-
Operating Temperature	-25 ~ +60	°C
Storage Temperature	-25 ~ +60	°C

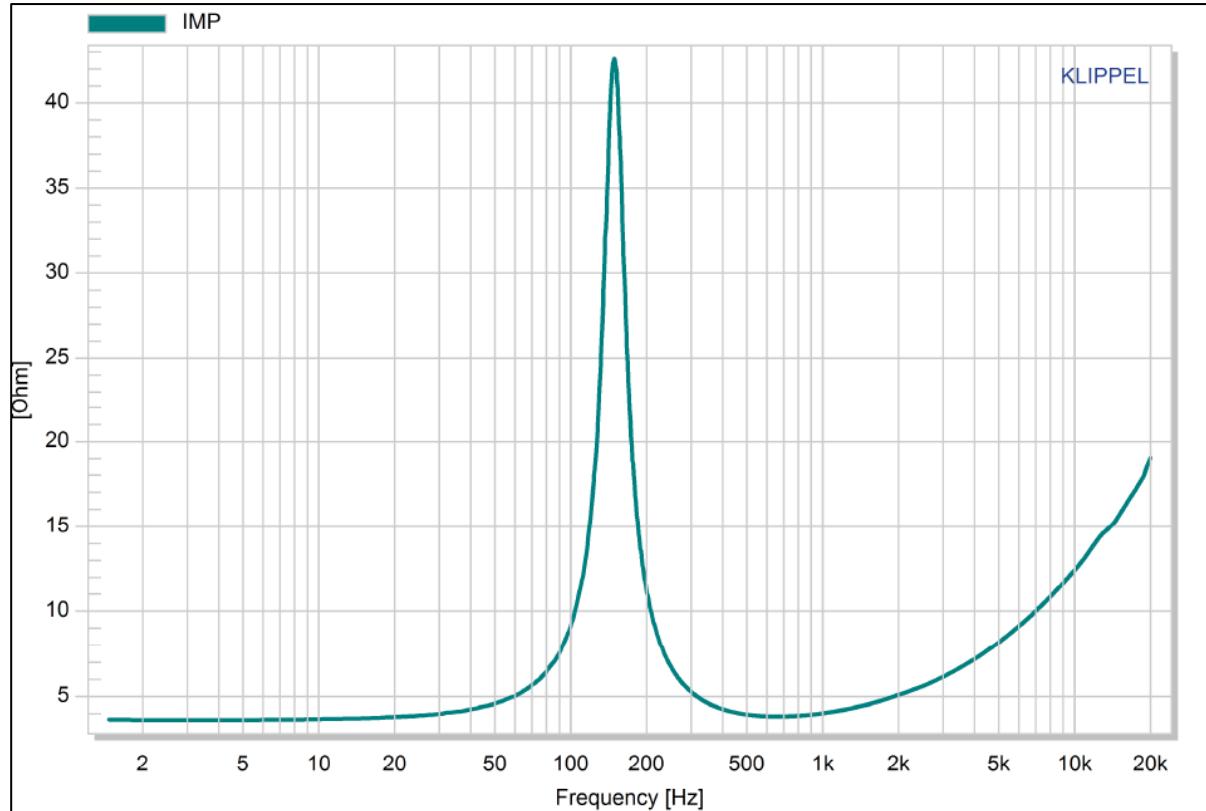
Measurement Method (1W input power with microphone spaced at 50cm)



Typical Frequency Response (Tested at 1W/50cm)



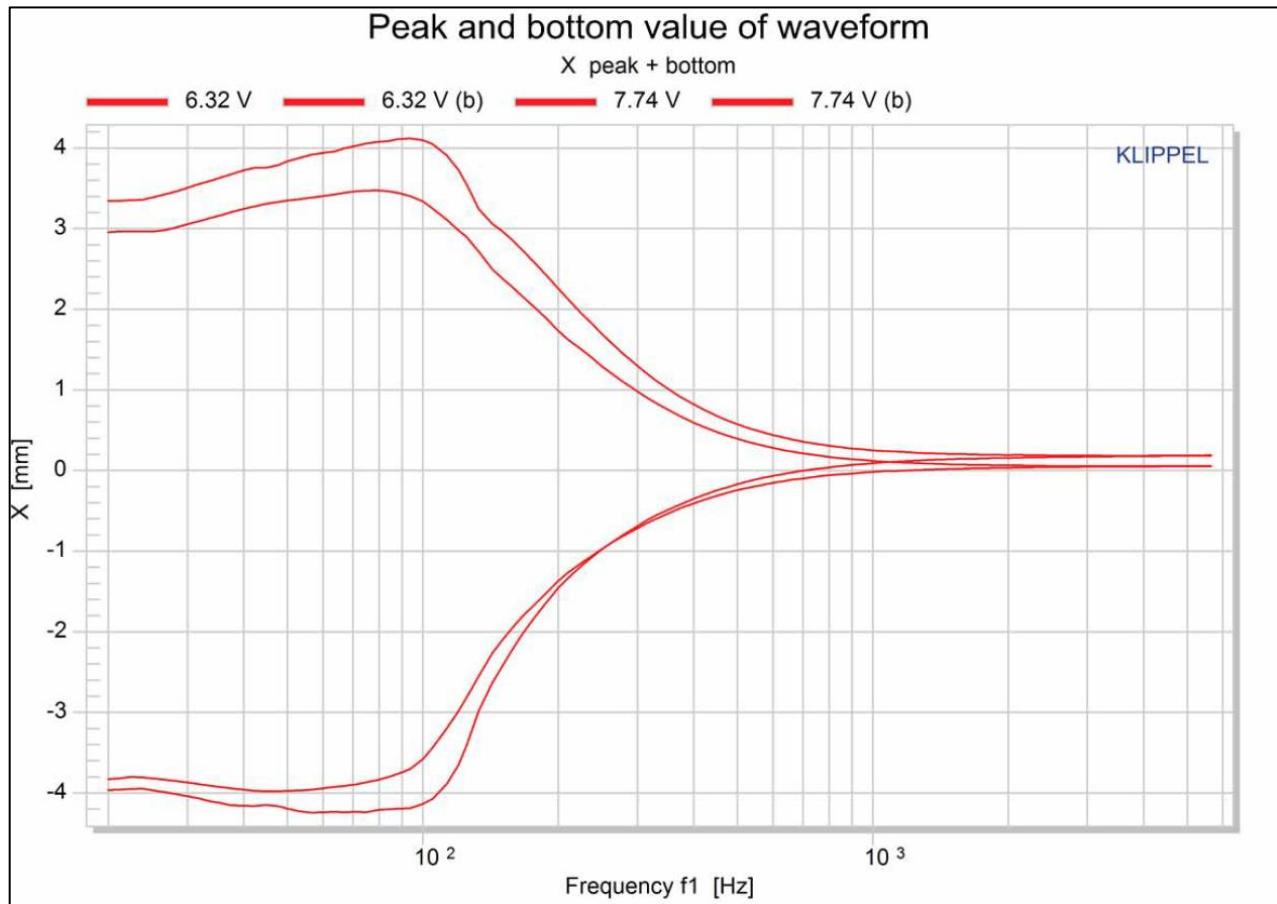
Typical Impedance Response



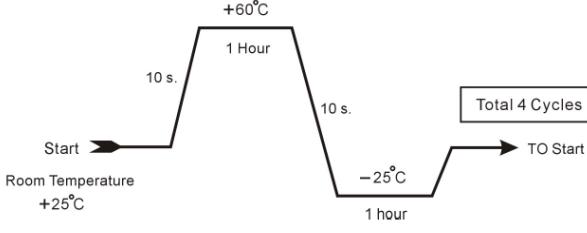
Typical Thiele-Small Parameters (based on Golden Sample, up to 20% variance is normal)

Specification	Value	Description
Re	3.62 Ohms	DC resistance
Le	0.142 mH	Inductance @ 10 kHz
Fs	145 Hz	Resonant Frequency
Mms	2.26 grams	Moving Mass
Bl	3.72 N/A	Magnet Force Factor
Qms	6.719	Mechanical Q-factor
Qes	0.582	Electrical Q-factor
Qts	0.536	Total Q-factor
Vas	0.108 liters	Equivalent Air Volume of Suspension
Xmax	4.5 mm	One-Way Voice Coil Travel @ 15W Input

Klippel Tested Excursion

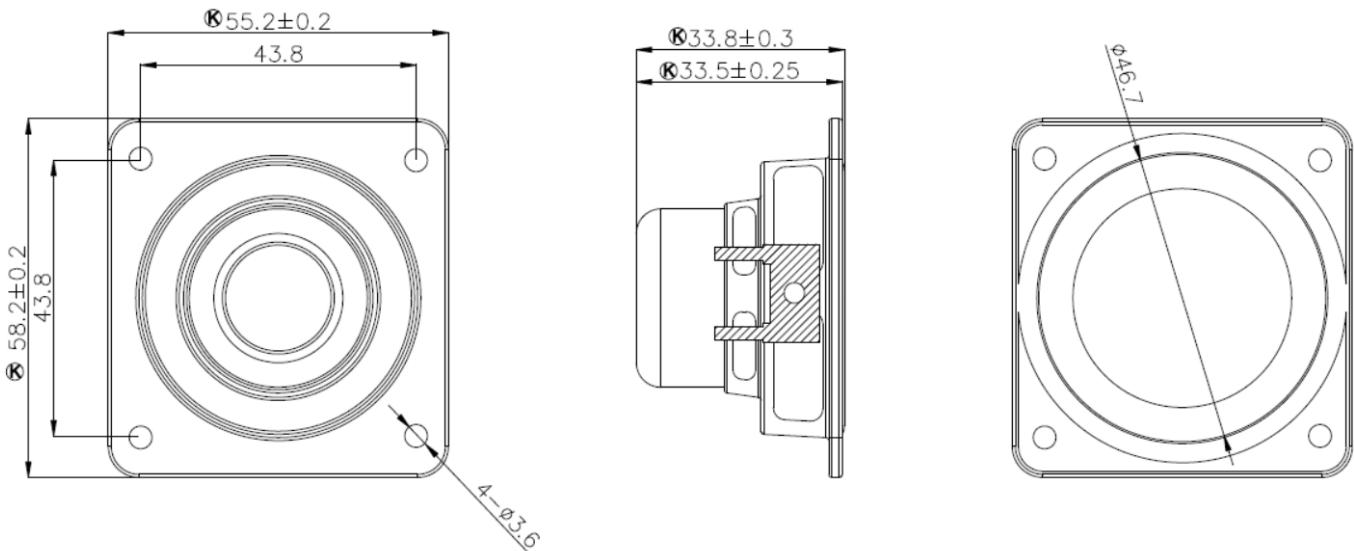


Reliability Testing

Type of Test	Test Specifications
High Temperature Test	96 hours at $+60^{\circ}\text{C} \pm 2^{\circ}\text{C}$ followed by three hours in normal room temperature
Low Temperature Test	96 hours at $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ followed by three hours in normal room temperature
Humidity Test	96 hours at $+40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ with relative humidity between 90% and 95% followed by 6 hours in normal room temperature
Temperature Cycle Testing	 <p>The graph illustrates a temperature cycle testing protocol. It starts at Room Temperature ($+25^{\circ}\text{C}$). The cycle consists of a 1-hour rise to $+60^{\circ}\text{C}$ followed by a 1-hour fall to -25°C. The transition between these extremes is 10 seconds. The cycle is labeled 'Total 4 Cycles' and ends with 'TO Start'.</p>
Vibration Test	Frequency 30 ± 15 Hz, Amplitude 1.5 mm for 3 Hours. After test, SPL shall not deviate by ± 3 dB from pre-test measurement
Drop Test	75 cm free falling on concrete floor, 10 times.
Load Test	Speaker should not fail after applying 20 Hz \sim 20 kHz pink noise with HPF rated power input (RMS), 96 hours.

After each test, SPL shall not deviate by more than ± 3 dB from pre-test measurement.

Dimensions (Left, larger terminal is positive and is indicated by + on the terminal board)



Note: Recommended speaker baffle opening is 53.5mm. Always test-fit prior to closing mechanical design.
 Please maintain at least 6mm distance between top of frame and next surface.

Specifications Revisions

Revision	Description	Date
A	Released from Engineering	6/14/2019
B	Updates to max power, SPL, frame dimensions	7/10/2023

Note:

1. Unless otherwise specified:
 - A. All dimensions are in millimeters.
 - B. Default tolerances are ± 0.5 mm and angles are $\pm 3^\circ$.
2. Specifications subject to change or withdrawal without notice.

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