



PN: D0170004FP130AKR

DWG #:DB21-025 Rev0.5

SPECIFICATION

PRODUCT: Loudspeaker

STETRON PART NUMBER: D0170004FP130AKR

DESCRIPTION: Φ 168 x93 mm / 4 ohms/RoHS

RFQ: QB20130

STETRON APPROVALS	PREPARED BY	CHECKED BY	APPROVED BY
SIGNATURE	<i>RS</i>	<i>CS</i>	<i>CS</i>
DATE	10-Sept-2024	10-Sept-24	10-Sept-24

CUSTOMER APPROVAL	SIGNATURE	DATE

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REVISION HISTORY

Rev Level	Date	Description	Page #	Changed By
0.0	08-July-2021	Original	All Pages	RS
0.1	01-Dec-2021	Add gasket to speaker	Pg. 6	RS
0.2	09-July-2024	Updated speaker terminals	Pg. 6	RS
0.3	21-Aug-2024	Added packaging and remove preliminary spec. stamp	All pgs.	RS
0.4	05-Sept-2024	Updated speaker terminals	Pg. 6	CS
0.5	10-Sept-2024	Updated speaker terminals	Pg. 6	RS

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1. Scope

This document contains the required electrical, acoustic, mechanical and reliability information for a loudspeaker.

2. Environmental Requirements

This loudspeaker including all components, solder joints and glue must be RoHS compliant and meet the customer’s known requirements for banned or restricted substances.

3. Environmental test conditions

	Standard Conditions	Preferred Conditions
Temperature	15 to 35°C	20 ± 2°C
Humidity	25 to 75%	63 to 67%
Air Pressure	86 to 106kPa	86 to 106kPa

Note: Conditions for Acoustic tests only

4. Electrical Requirements

4.1 Rated Impedance

4Ω ±20% (@150Hz/1Vrms)

4.2 Rated Power

50 W (RMS)

4.3 Max Power

80 W (RMS)

4.4 Polarity

When a positive DC current is applied to the positive terminal of the speaker the diaphragm shall move forward.

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5. Acoustical Requirements

5.1 Sound Pressure Level

87 ± 3 dB (on IEC 268-5 Baffle in anechoic chamber @ 1W/1m avg. @ 100, 120, 150 and 200 Hz)

5.2 Resonant Frequency (F₀)

55 ± 20% Hz @ 1Vrms constant voltage - free air

5.3 Frequency Range

F₀ to 2kHz (SPL -10dB) @ 1W/1m

5.4 Buzz and Rattle

No audible buzzing shall occur at ≥0.3m distance when 50 W power (14.1Vrms) sine wave from F₀ to 500 Hz is applied to the speaker. Sweep time is 3Sec.

*See Test circuit (Fig 1), Frequency Response (Fig 2), and Impedance (Fig 3) below.

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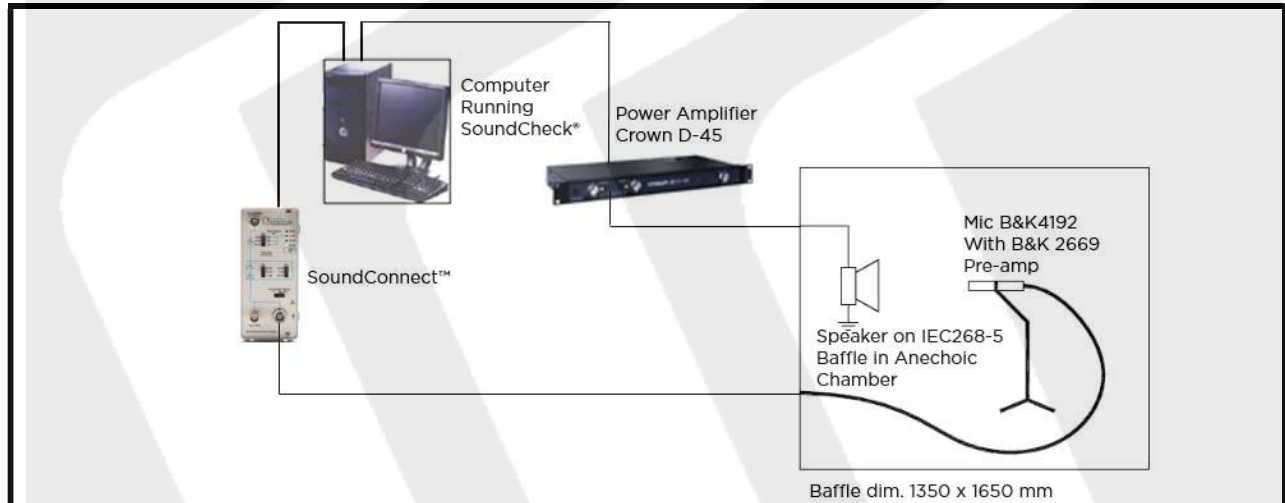


Fig 1. Test set up in Anechoic Chamber

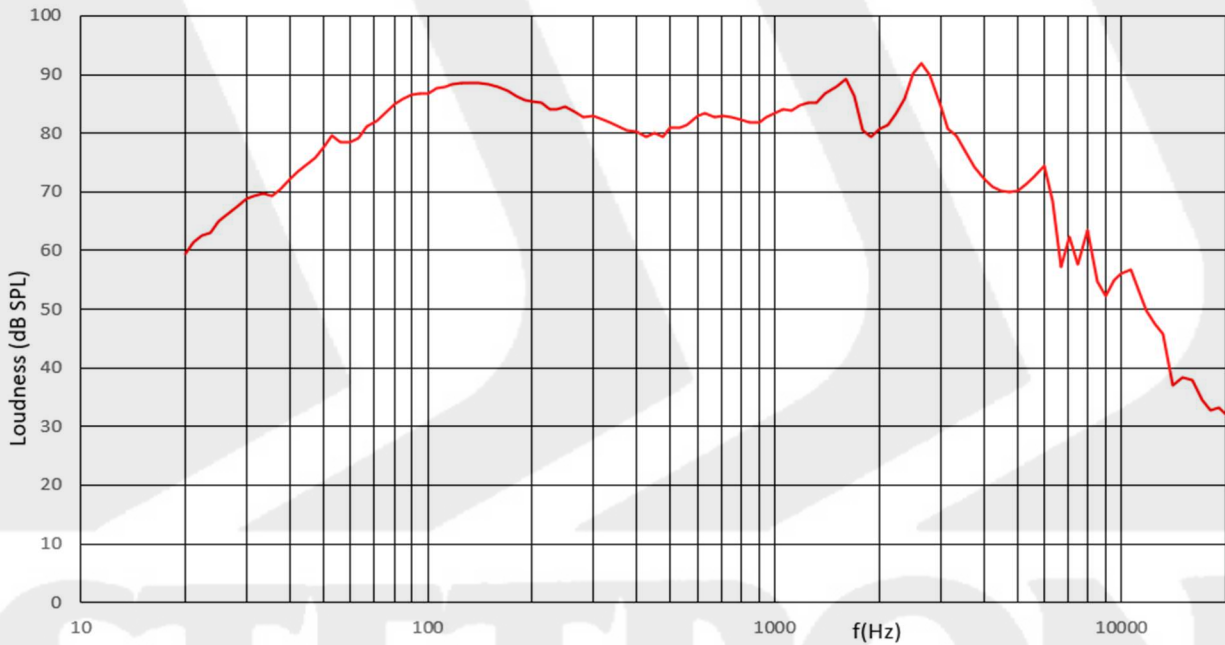


Fig 2. Typical Frequency Response @ 1W/1m

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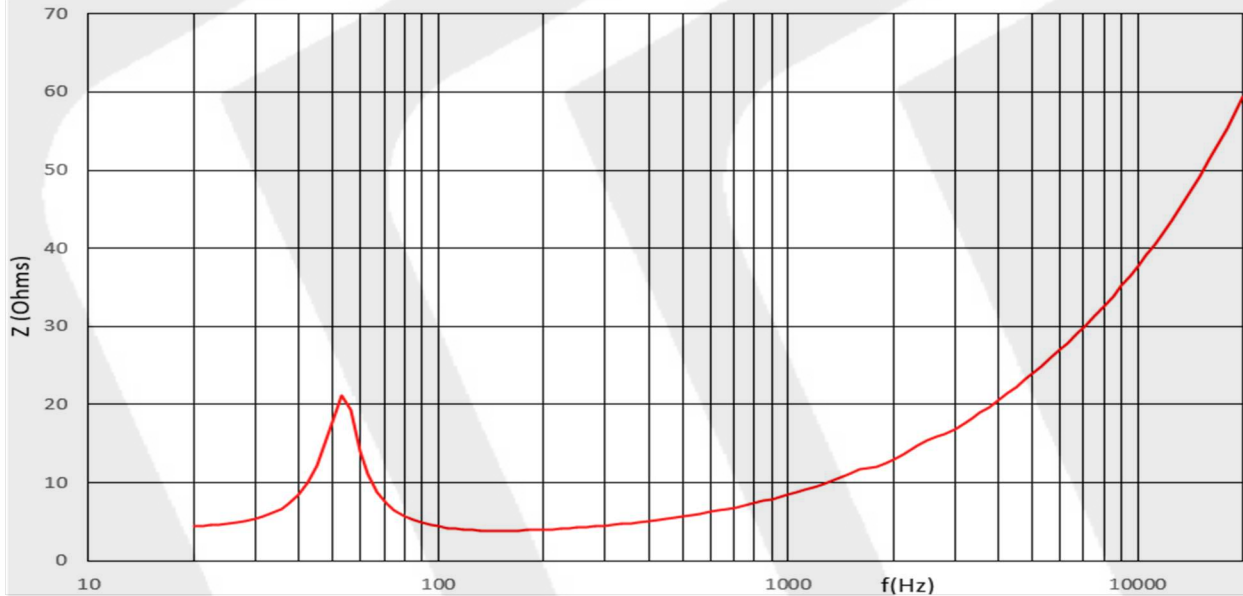


Fig. Typical Free air impedance with 1Vrms

6. Reliability

6.1 High Temperature

Speakers are exposed in the high temperature chamber at $+70 \pm 2^\circ\text{C}$, R.H $25\% \pm 5\%$ for 16 hrs.

6.2 Low Temperature

Speakers are exposed in the low temperature chamber at $-25 \pm 2^\circ\text{C}$ (humidity random) for 16 hrs.

6.3 Humidity

Speakers are exposed to $+25 \pm 2^\circ\text{C}$, R.H $95\% \pm 5\%$ for 16 hrs.

*Note: After any of tests 6.1 to 6.3 leave speakers for 1 hr at room temperature.

Speakers must pass pure sound listening and appearance tests.

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**6.4 Rated Power**

Speakers are exposed continuously to 50W pink noise (with 50 Hz low cut filter) for 8 hrs.

6.5 Max Power

Speakers are exposed to 80W pink noise (with 2kHz low cut filter) for 1 minute, rested for two minutes. This shall be repeated for 10 cycles.

*Note: after test items 6.4 and 6.5, leave speakers at room temperature for 1 hour. Speakers must pass pure sound listening, appearance test and the SPL should not deviate by more than $\pm 3\text{dB}$.

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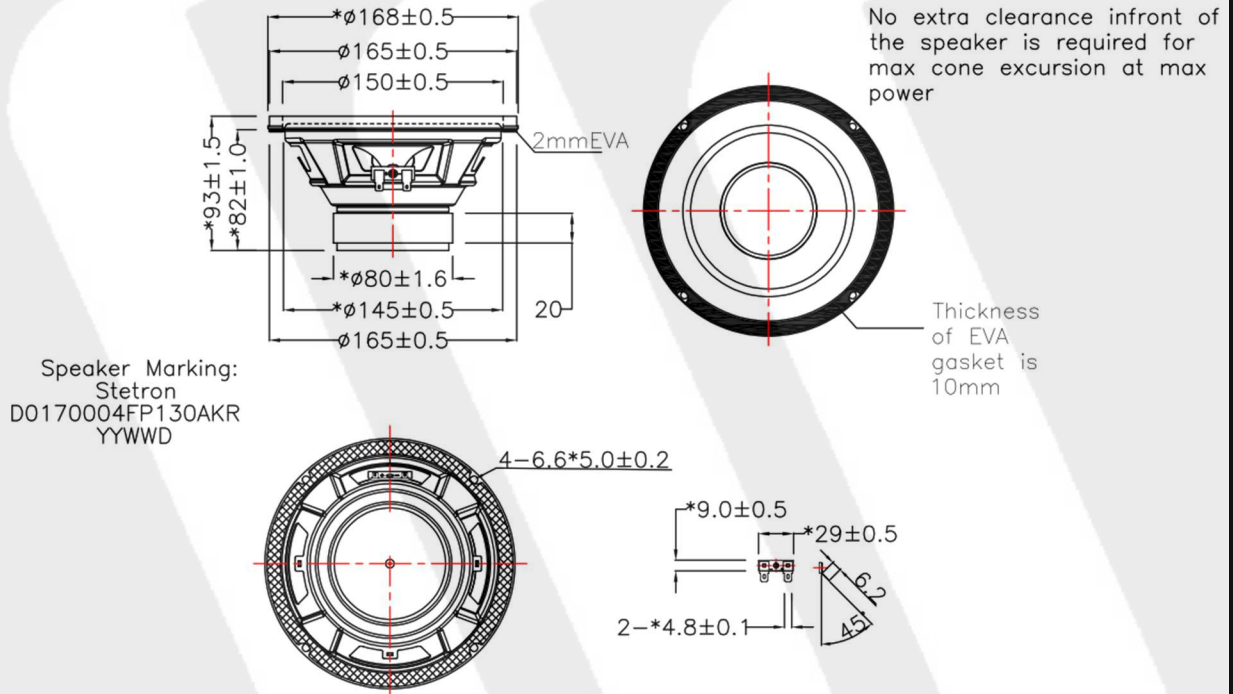
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7. Mechanical Layout and Dimensions



Speaker Marking:
Stetron
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YYWW

Unspecified Tolerance: ±0.5mm

All dimensions in mm



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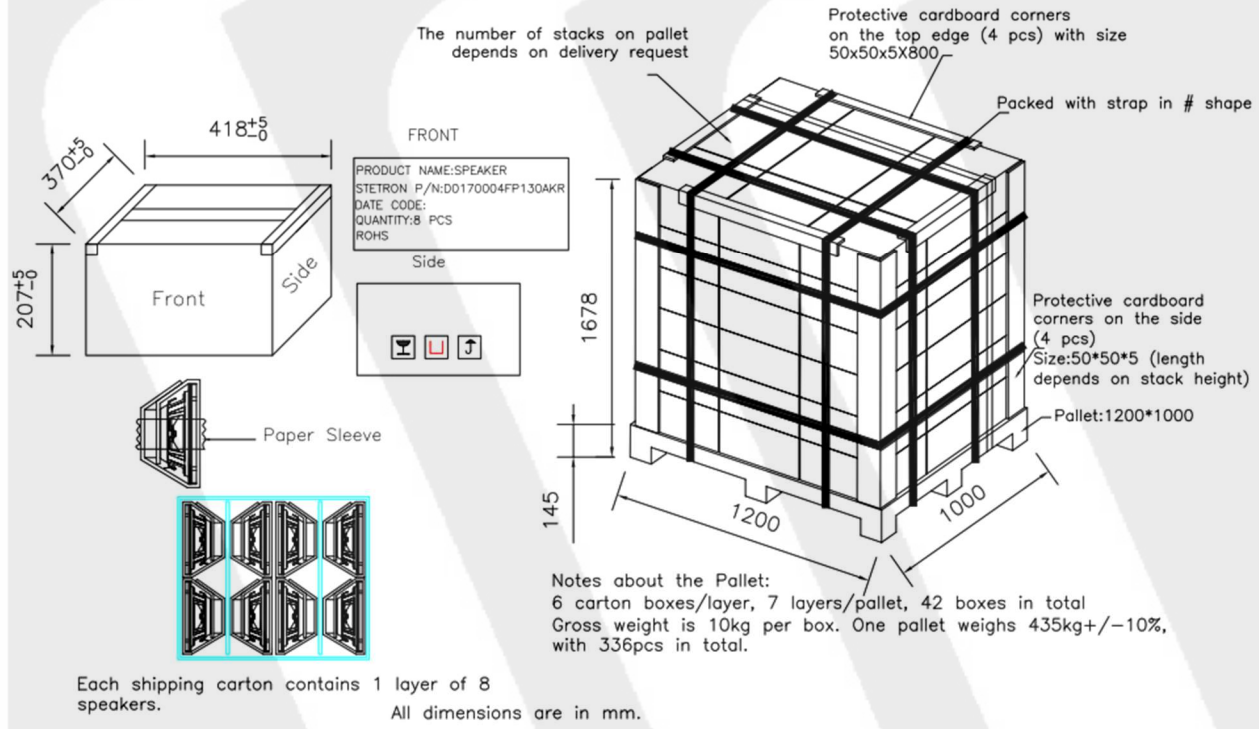
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8. Packaging



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