

SPECIFICATION

FOR APPRONAL

Customer : _____

Product Name : Dynamic Speaker _____

Model Name : VS4055R50F550P1LWP _____

Drawing No. : VS20241104017 _____

Signature of Voise

Approved by	Checkde by	Issued by	Date

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1. Revision

Rev.No.	Date	Page	Description of Revision
1.0	2013/7/23		Preliminary
1.1	2019/9/20		Change Waterproof

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2. Scope

This document contains required environmental, electrical, acoustic, mechanical, package and reliability test requirement

3. General Characteristics

- 2.1 Out-Diameter : 40 mm
- 2.2 Height : 5.5 mm
- 2.3 Weight : 10.5 g
- 2.4 Operating Temperature : -20~+60°C without loss of function
- 2.5 Store Temperature : -30~+70°C without loss of function

4. Electrical and Acoustic Characteristics.

Test condition : 15 ~ 35 °C Temp., 25% ~ 75% RH, 86~106 kPa Refer to IEC60268-1

No	Items	Specification
1	Impedance	50 Ω ± 15% (1Vrms at 2KHz)
2	Sound Pressure Level	90 dB ± 3dB (0.1m/0.1w at 0.8, 1.0, 1.2, 1.5kHz Average)
3	Resonance Frequency(fo)	550 Hz ± 20% at 1V
4	Frequency Range	fo ~10KHz
5	Input Power	Rated 1 W / Max 1.5 W for one minute
6	Distortion	Less than 10% at 1kHz 1.0W
7	Buzz and Rattle	Should not be audible buzzes, rattles when the 7.07V sine wave signal swept at frequency range.
8	Polarity	When a positive DC current is applied to the voice coil terminal marked (+), the diaphragm shall move to forward.
9	Water proof	IP67

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5. Reliability Test

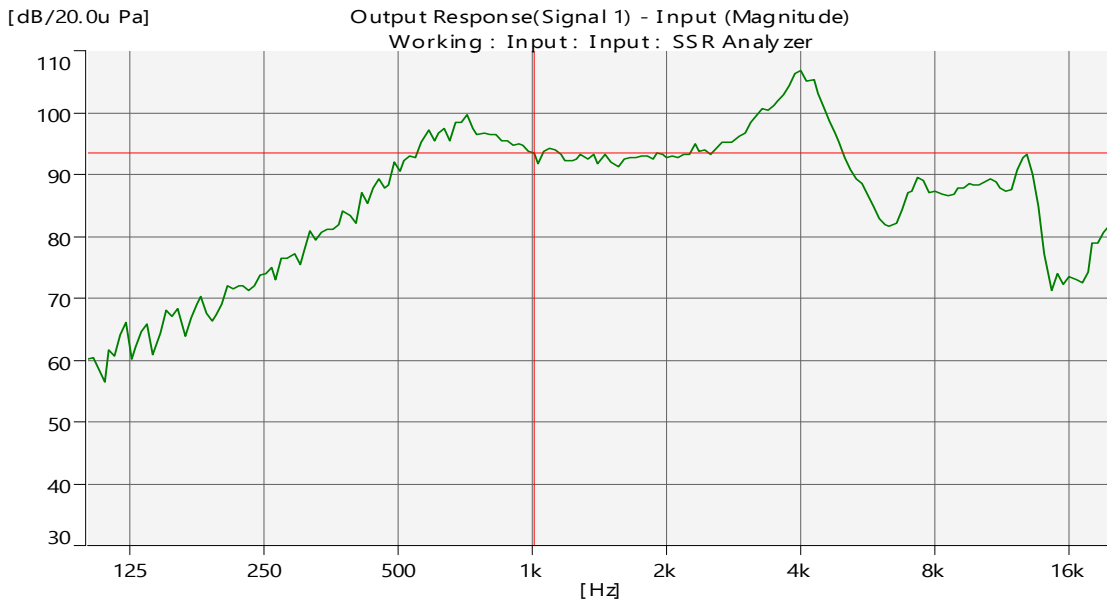
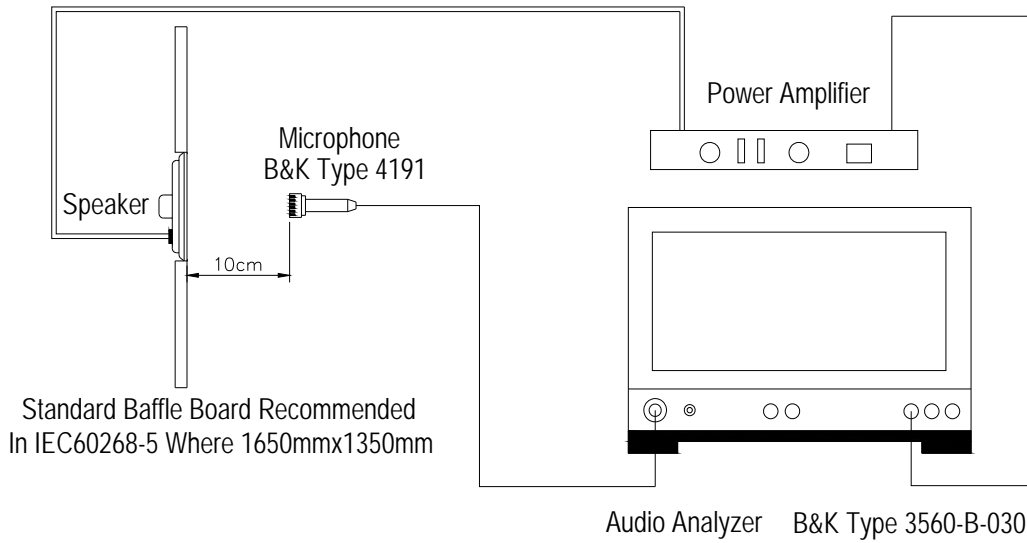
After test(1~7item), the speaker S.P.L . difference shall be within $\pm 3\text{dB}$, and the appearance not exist any change to be harmful to normal operation

No	Items	Specification
1	High Temp.Test	Keep 100 hours at $+60\pm 3\text{ }^\circ\text{C}$,and leave 3 houres in normal temperature and then check.
2	Low Temp.Test	Keep 100 hours at $-30\pm 3\text{ }^\circ\text{C}$,and leave 3 houres in normal temperature and then check.
3	Humidity Test	Keep 100 hours at $-30\pm 3\text{ }^\circ\text{C}$,relative humidity 85 to 90% and leave 4 houres in normal temperature and then check.
4	Thermal Shock Test	Each temperature cycle shall consist of 2 hours at $+25\pm 3\text{ }^\circ\text{C}$ followed by 2hours at $+60\pm 3\text{ }^\circ\text{C}$,and followed by 2hours at $-30\pm 3\text{ }^\circ\text{C}$ with a 20 to 40 minutes transition time between each 2 temperature extremes. The test duration is for 10 cycle.
5	Vibration Test	Being applied vibration of amplitude of 1.5mm with 10-55-10Hz band of vibration frequency,X.Y.Z.3 direction.2 hours each, total 6 hours.
6	Drop Test	Free drop fram 1.0 meter height to a board 20mm thick hard wood board. and be nothing mechanical damage. tatol 6 times.
7	Load test	Loading white noise with input rate power for 100 hours, then placed in natural condition for 1 hour and then check.
8	Insulation test	When they are measured with DC 100V the insulation resistance between v.c. terminal and frame must be more than $1\text{ M}\Omega$

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6. Measurement Method & Frequency Response curve

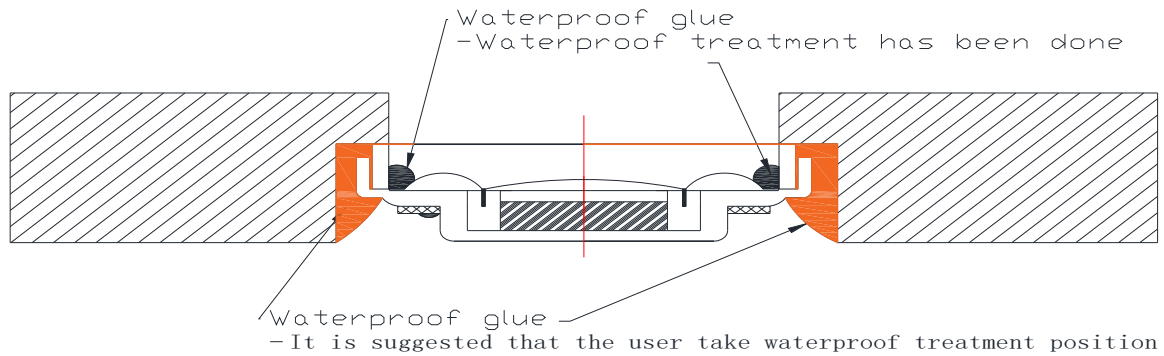
Standard test condition of speaker



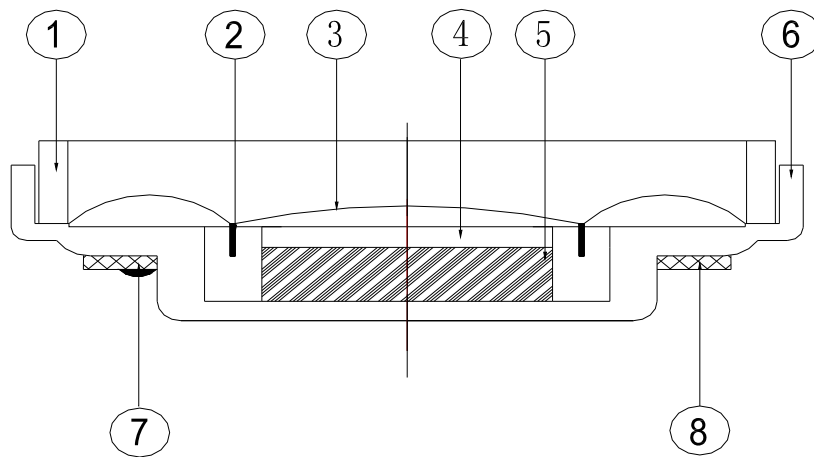
Brüel & Kjær

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7. Suggestions on waterproof treatment



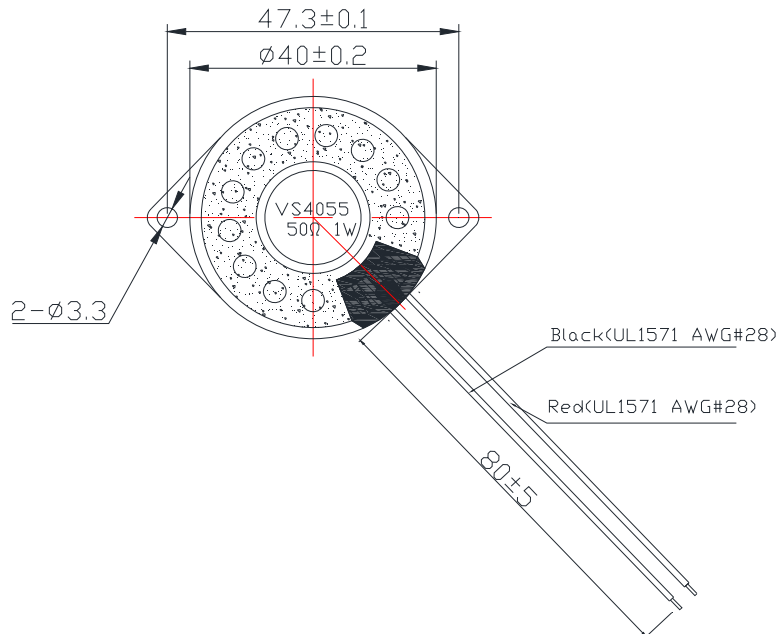
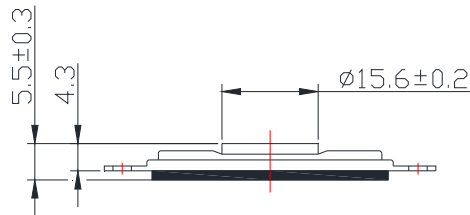
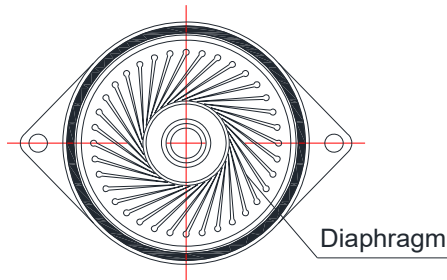
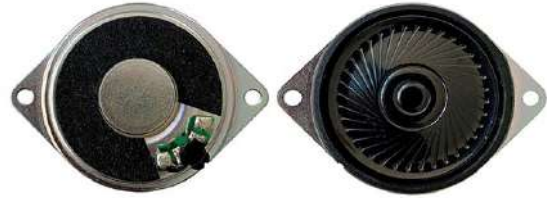
8. Mechanical layout



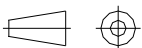
No.	Part Name	Q'ty	Material	Remarks
8	Screen	1	Unwoven fabric	
7	PCB	1	FR-4	
6	Frame	1	SPCC	
5	Magnet	1	Nd-Fe-B	
4	Plate	1	SPCC	
3	Diaphragm	1	PET	
2	Voice coil	1	Kraft Paper+Copper	
1	Gasket	1	Plastic	

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9. Dimensions



FIRST ANGLE PROJECTION

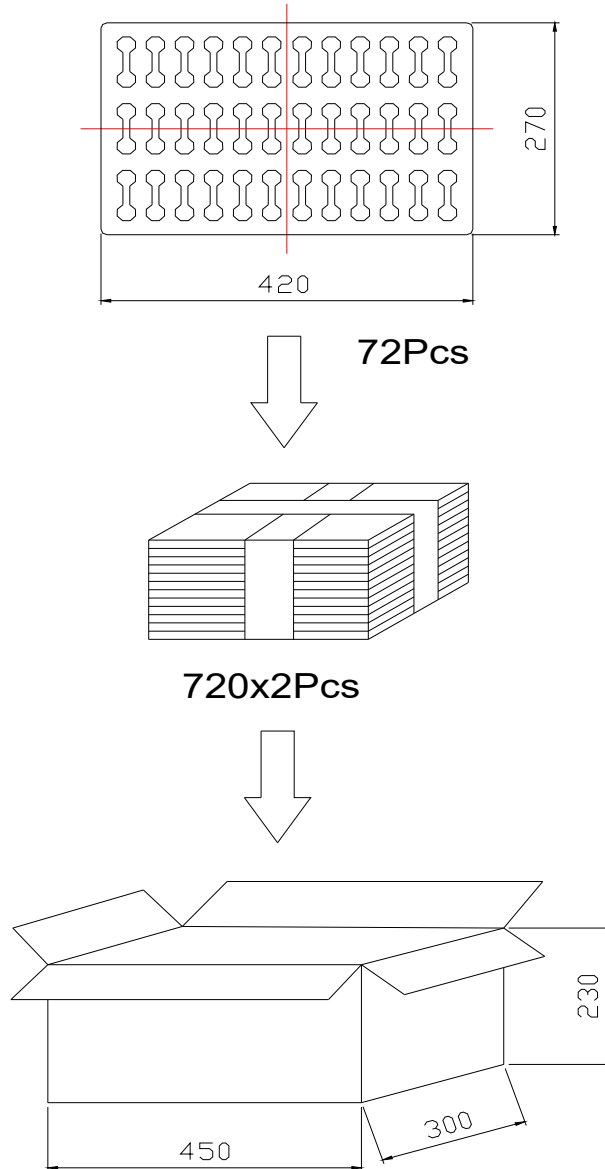


UNIT : mm

Tolerance : ±0.2

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10. Packing



72 pcs per tray
20 trays for unit, 2 units per carton
Total:1440 pcs per box
Size:45×30×23cm