



soberton inc.

# SP DYNAMIC SPEAKER UNIT

Acoustic Product Specification

Product Number: SP-5728T



Release | Revision: B/2022

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## Dynamic Speaker Electroacoustic Characteristics

### Sound Pressure Level

90±3dB (0.1W/0.1M) @AVE 1.0, 1.2, 1.5, 2.0KHz (0dB SPL=20µPa)  
Measuring conditions: 0.1W (sine wave) 0.1M measured with baffle shown in Fig 2

### Frequency Response Curve

As shown in Fig 2

### Resonance Frequency

220±20% Hz @1V (without baffle)

### Input Power (Nominal and Maximum)

Rated Noise Power: 3.0W

Short Term Max Power: 5.0W

### Frequency Range

F0 ~ 20KHz resonant frequency down -10dB

### Audible Noise

Must be free audible noise 200 ~ 4KHz, Input level up to 4.0Vrms.

### Measuring Diagram

Shown in Fig 1

### DC Resistance:

7.4Ω ±15%

### AC Impedance

8Ω ±15%

### Distortion

Less Than 10% @1KHz 0.1W

### Dimension

Ø 57.0 x H25.0mm

## General Specifications

### Operating Temperature Range

-20°C~+70°C

### Storage Temperature Range

-30°C ~ +80°C

### Standard Test Conditions

Temperature 5°C~35°C

Relative Humidity 45%~85%(RH)

Air Pressure 860 mbar ~ 1060 mbar

### Front Clearance:

Keep clear of speaker front by 0.0mm for undisturbed sound reproduction:  
-30°C ~ +80°C



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## Reliability Tests

The sound pressure as specified will neither deviate more than  $\pm 3\text{dB}$  from the initial value, nor have any significant damage after any of following testing.

### High Temperature Test

High Temperature  $+70\pm 3^\circ\text{C}$

Duration 16 hours

### Low Temperature Test

Low Temperature  $-30\pm 3^\circ\text{C}$

Duration 16 hours

### Humidity Test

Temperature  $+40\pm 2^\circ\text{C}$

Relative Humidity 90%~95%

Duration 16 hours

### Heat Shock Test

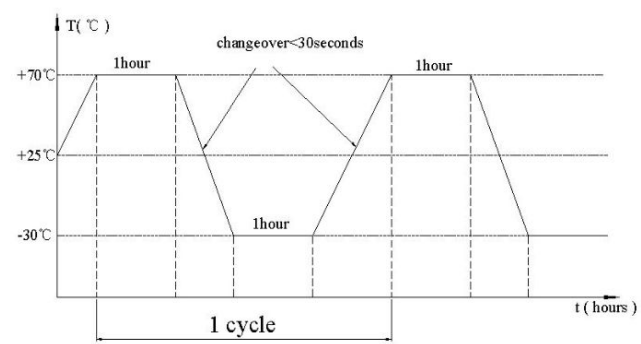
High Temperature  $+70^\circ\text{C}$

Low Temperature  $-30^\circ\text{C}$

Changeover Time  $< 30$  seconds

Duration 1 hour

Cycle 5



### Temperature Cycle Test

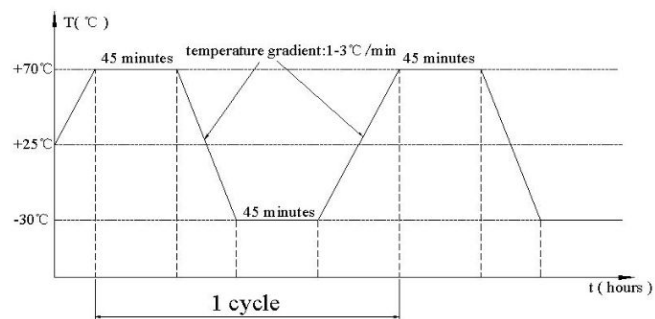
High Temperature  $+70^\circ\text{C}$

Low Temperature  $-30^\circ\text{C}$

Duration 45 minutes

Temperature gradient  $1 \sim 3^\circ\text{C} / \text{minutes}$

Cycle 5



### Drop Test

Height : 1.5m

Cycle: 10 cycles (onto the concrete board)

### Load Test

White noise (EIA filter) for 48 hours @3.0W input power



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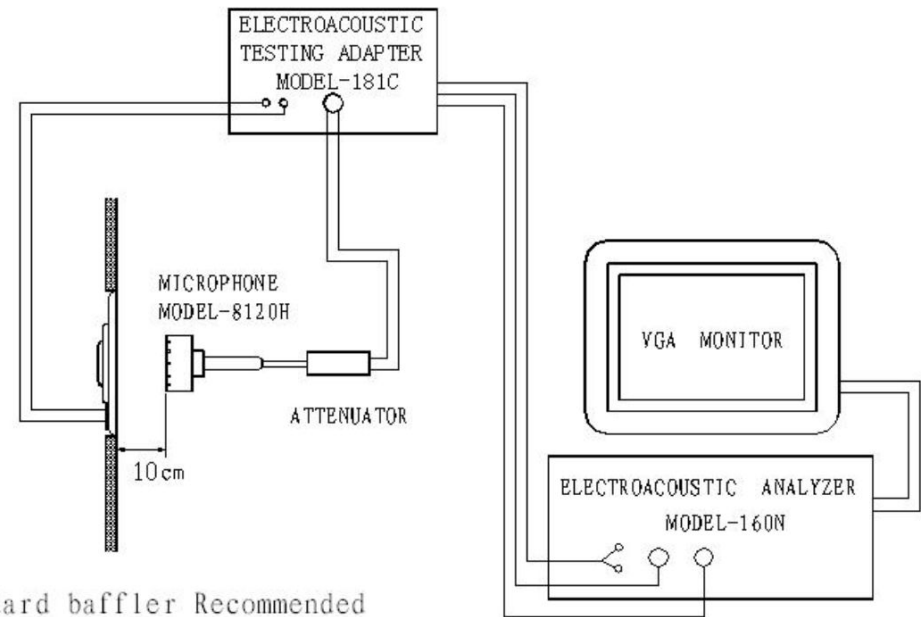
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## Measuring Method (Speaker Mode) (Fig. 1)



Standard baffle Recommended  
In IEC 268 where 491mm (W) × 600mm (H)

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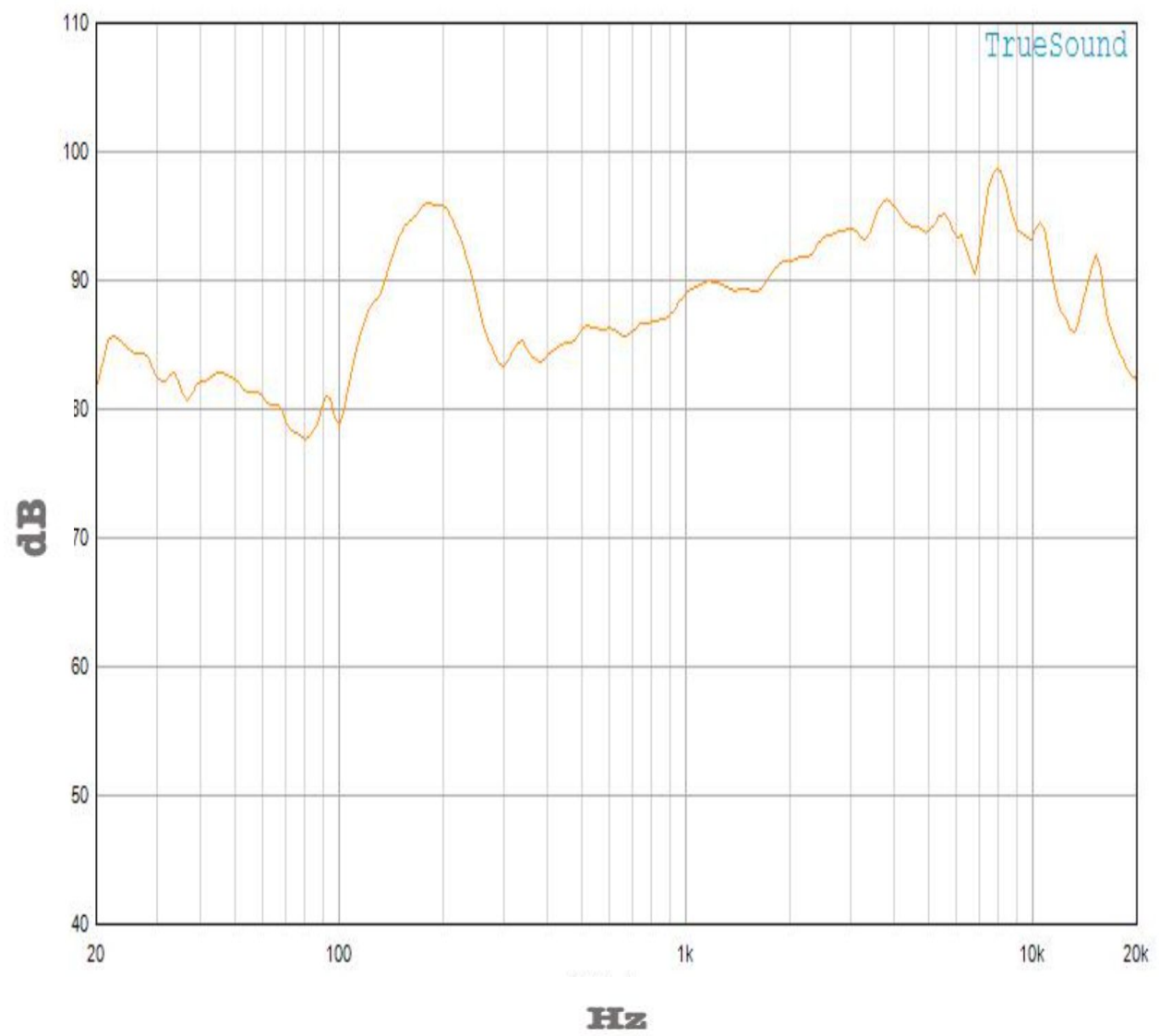
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## Frequency Response Curve (Fig. 2)

0.1W / 0.1M





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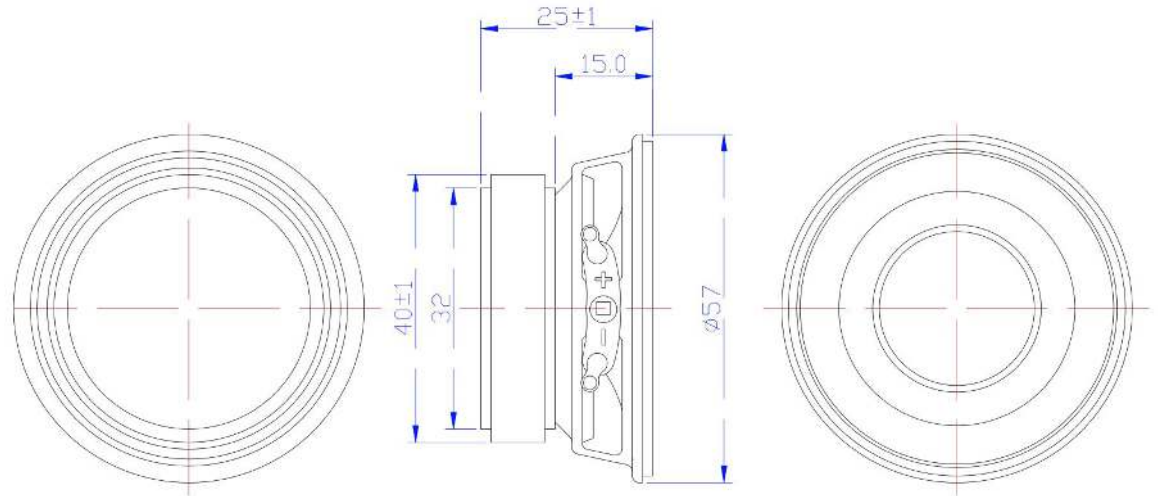
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## Dimensions

Tolerance:  $\pm 0.5$  (unit: mm)



No.	Part Name	Material
1	Frame	MF0057-02
2	Yoke	SPCC Plated
3	Pole Piece	SPCC
4	Magnet	Ferrite Plated
5	Cap	Paper
6	Diaphragm	PU + Paper
7	Coil	Copper Wire (DS-UP)
8	Gasket	Non-Woven dustproof
9	Screen	Poron SR-S-70P



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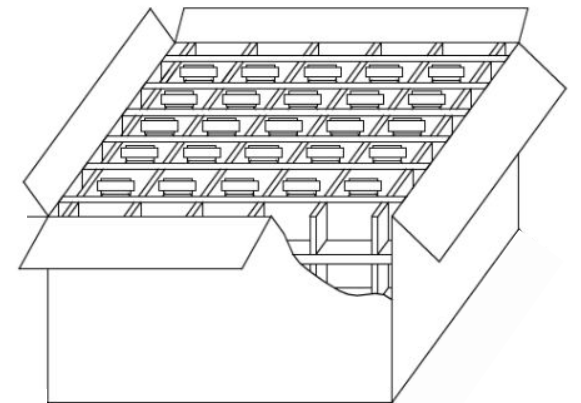
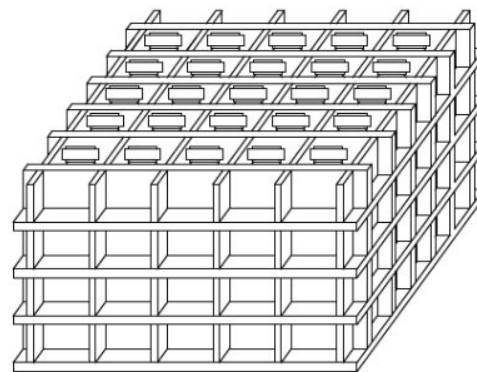
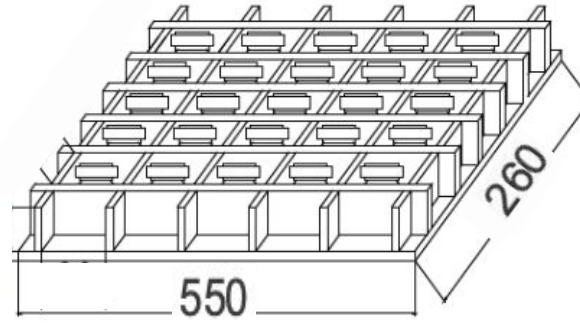
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## Packing



### Packing Order:

**Per Tray: 100 pcs**

**Tray Size: 550 x 260 x H70mm**

**Per Carton: 400 pcs**