BMR36S12-4B Datasheet

1. Overview

The BMR36S12-4B is a compact full-range Balanced Mode Radiator (BMR®) drive unit. It combines the benefits of Tectonic bending wave technology and pistonic modes of operation. A square form factor allows full use of the radiating area, maximizing audio performance within industrial design constrained products.

- Power Handling: 15 W
- 25.4 mm Voice Coil Diameter
- 50mm H x 61mm L x 30mm D
- Neodymium Motor Structure

*Product code and manufacture date is printed at the back of the return cup

Figure 1.1

2. Applications

- Conferencing Systems
- IoT devices
- Bluetooth Audio
- Smart Speakers and TVs
- Exercise Equipment
- Soundbars and monitors

3. Specifications

Transducer Performance		
Frequency Response (±6dB)	140 Hz ~ 20 kHz	
Speaker Sensitivity (1 Watt / 1 meter)	83.5	dB
Rated Maximum SPL (1 Meter)	95.5	dB
Speaker Nominal Impedance	4	Ω
Power Handling (IEC268-5)	15	W
Operating Temperature	-20 to +55	°C
Voice Coil Diameter	25.4	mm
Voice Coil Material	TIL	
Diaphragm Material	Doped Paper Composite	
Max Linear Excursion*	4 mm Peak to peak	
Max Mechanical Excursion	10 mm Peak to peak	

*From Klippel LSI

Parameter	Nominal	Unit
Fs	155	Hz
Sd	17.1	cm^2
Mms	2.2	g
Cms	0.54	mm/N
Rms	0.41	kg/s
Re	3.6	Ω
Bl	3.8	T*m
Le	0.07	mH
Qts	0.46	

Max Surround Frontal Movement 2.66 mm

3.1. On-Axis SPL and Impedance (Measured)

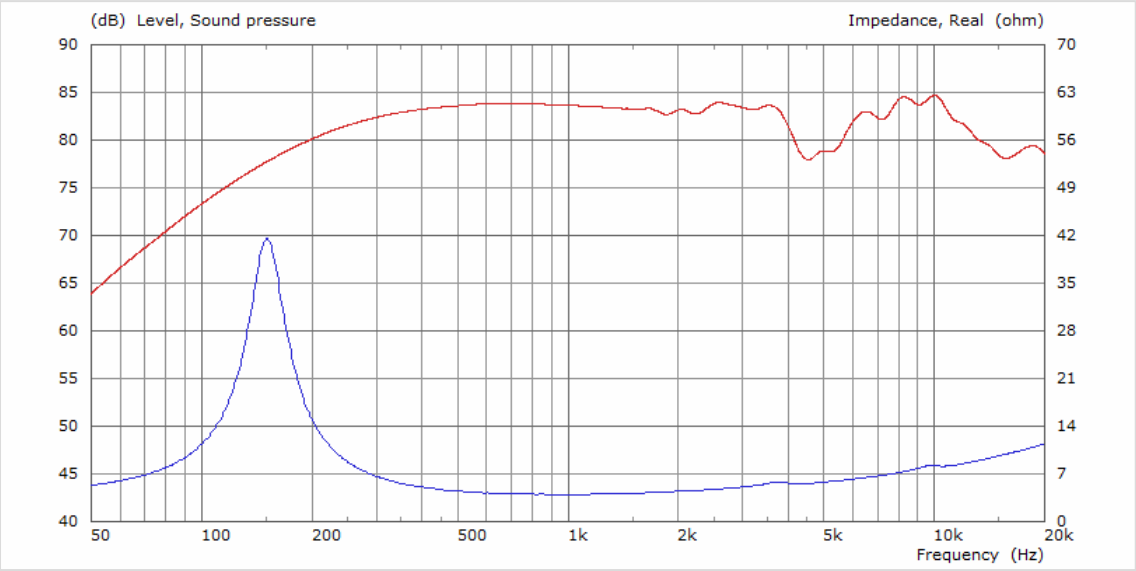


Figure 3.1.1 – Red: On-Axis SPL at 1W/1m (1/3-octave smoothed/spliced*/anechoic). Blue: Electrical Impedance

3.2. Sound Power Response (Measured over 0 – 90°)

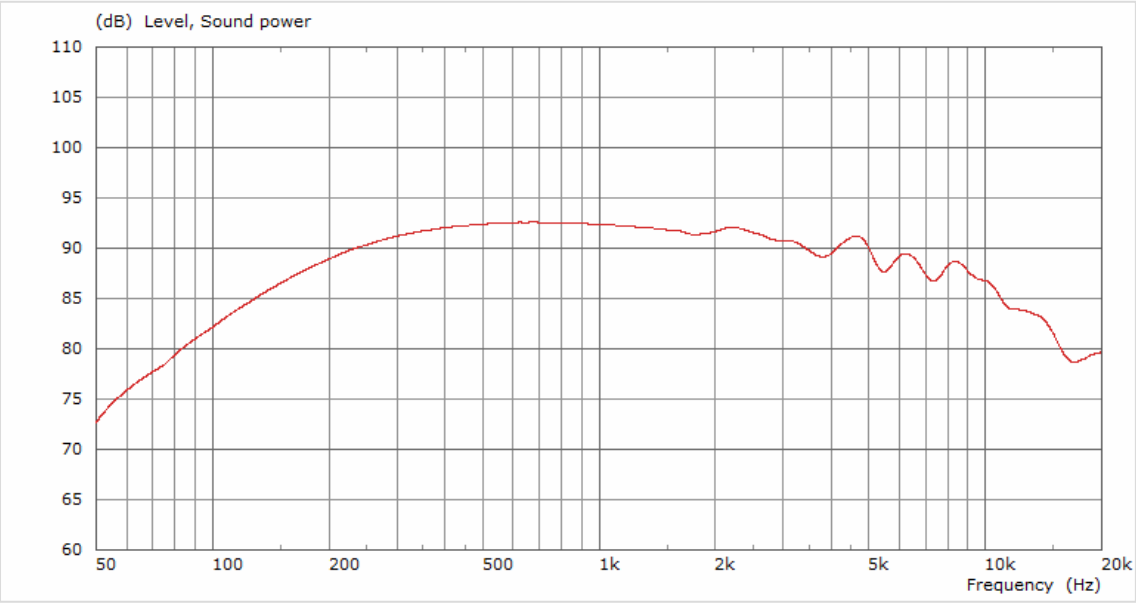


Figure 3.2.1 – Sound power calculated from SPL measurements, 1W/1m (1/3-octave smoothed/spliced*)

**Acoustic measurement data is shown above spliced frequency. Lower frequency performance is derived from diaphragm scan using Polytec PSV500 scanning vibrometer.*

3.3. Polar Response (Measured)

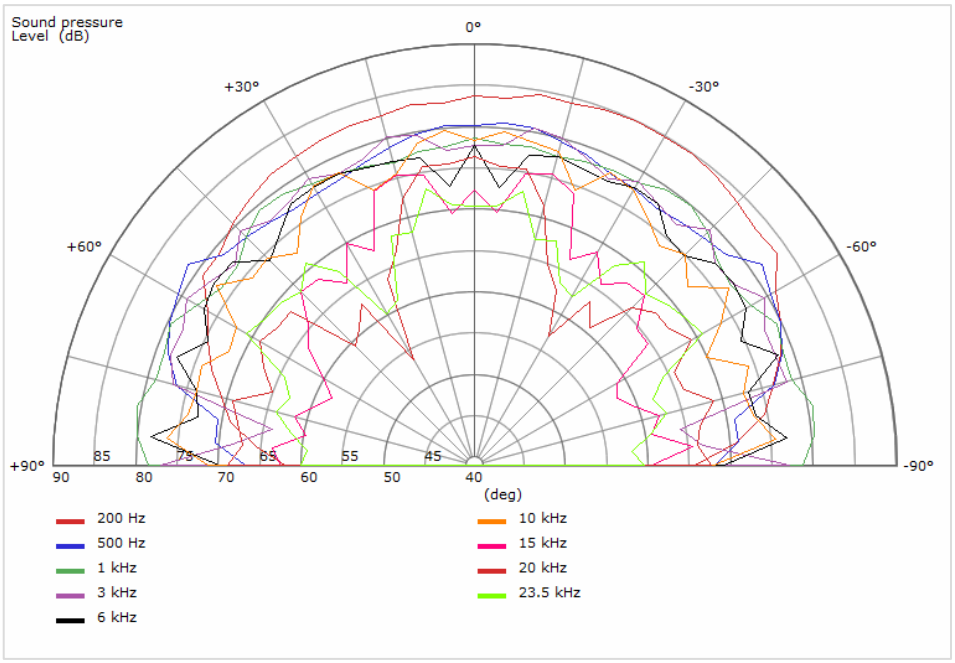
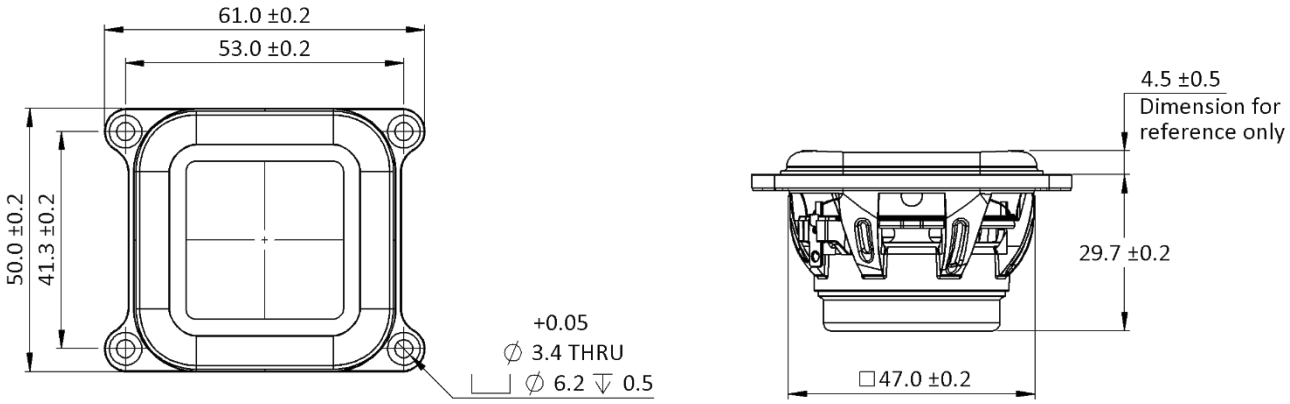


Figure 3.3.1 – Polar response, angle/ dB SPL, 1W/1m (1/3-octave smoothed / anechoic)

3.4. Product Dimensions



Note:

- **Volume Displacement: 30.9 cc**
- **All dimensions are in mm**

Figure 3.4.1 – External product dimensions

4. Appendix

4.1. Klippel LSI

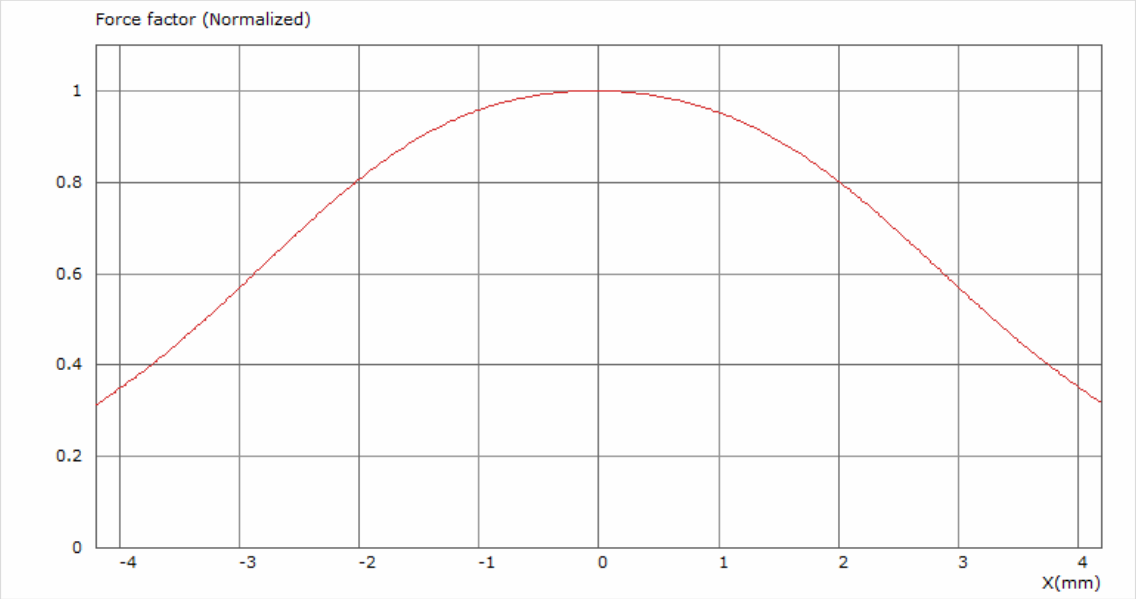


Figure 4.1.1 – Bl (x)

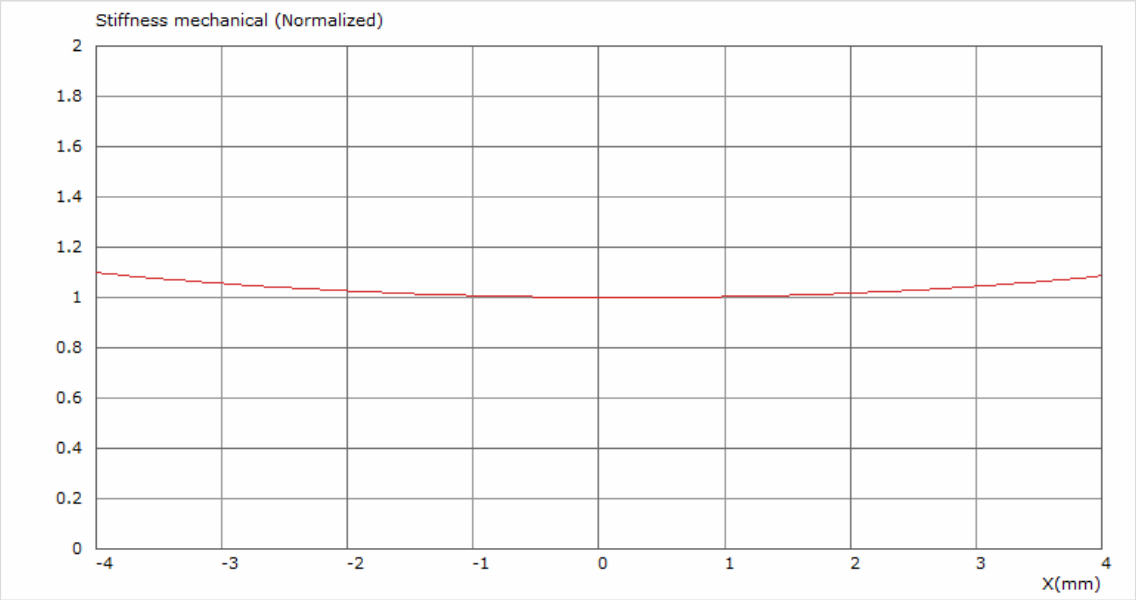


Figure 4.2.1 – Kms (x)