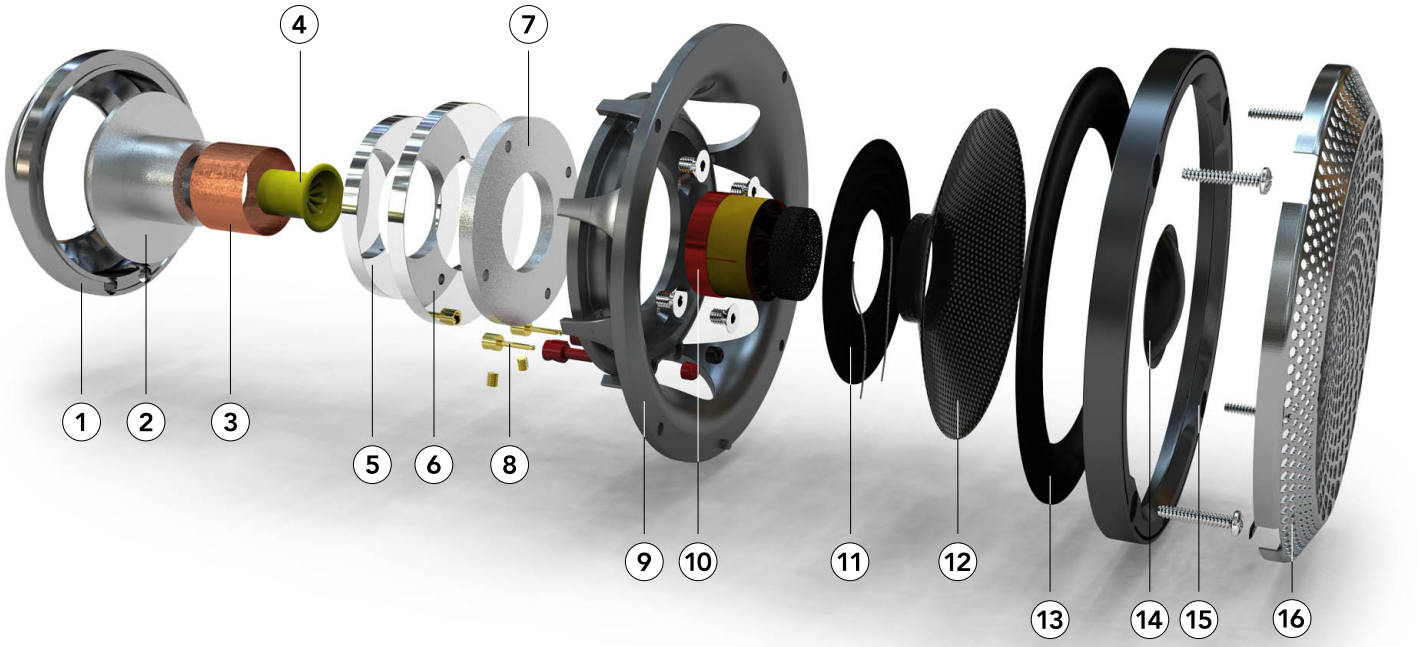
ESB AUDIO

9.4M

4”/100 MM HIGH-END MIDRANGE



1 Aluminum finishing cup

2 Pole yoke designed with the help of magnetic flux analysis software. It helped to achieve perfect and homogeneous saturation of the magnetic gap for the benefit of the voice coil stroke, this reduces distortion and increases dynamics.

3 Pure copper ring placed in the air gap helps reducing the inductance of the voice coil so that it offers minimal resistance in high frequency reproduction. This means better high-frequency response, enabling the speaker to reproduce high-frequency sounds more accurately. Reducing inductance contributes to better handling of rapid transitions of audio signals. This can improve the speaker's ability to more accurately reproduce transient sound pulses.

4 TCA to control the flow of air moved by the cone creates aperiodic damping resistance and implies that the release of energy accumulated in the movement of the speaker occurs in a controlled and fast manner, without creating persistent oscillations. This contributes to a more precise and faithful response to the audio source and to the accuracy and overall quality of experiene.

5 Secondary of twin coupled neodymium magnet.

6 Main of twin coupled neodymium magnet. This pair of neodymium high-temperature resistant magnets are one of the powerful motor magnet structure for this size of car audio midrange. They are made from a high-grade neodymium and allows the size and bulk of the magnetic motor to be greatly reduced.

7 Pole plate CNC machined from a solid piece of ultra-low-carbon steel.

8 The built-in terminals accept large gauge cables and are thick gold-plated to prevent any loss of the power generated by the amp.

9 Die cast-aluminum and powder-coated basket offers very low resistance to the passage of air, and its shape (verified by FEM analysis) reduces vibration and resonance.

10 Wide, lightweight Nomex voice coil with aluminum winding contributes significantly to the wide bandwidth extension.

11 Large balanced Conex™ spider damper device ensures linear excursion in both directions, reducing distortion.

12 The cone is made of high modulus carbon molded under vacuum and autoclave, a technology rarely used in speakers because of its cost, but brings enormous benefits in terms of naturalness of reproduction and high transient dynamics.

13 The NBL rubber edge has a shape designed to ensure very smooth movement at very low excursion, becoming increasingly controlled as the excursion increases and approaches the limit. This, too, helps to make this speaker extremely dynamic and capable of handling large powers.

14 The laminated aluminum dust cup helps extend this midrange's frequency response upward, and its shape and size help equalize and linearize the frequency response.

15 CNC-machined aluminum ring secures the rubber suspension on the edge, ensuring perfect fastening and centering, avoiding glue alone.

16 CNC-machined aluminum grille.

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GENERAL DATA

Overall dimension: 112 × 49 mm
Nominal power handling (AES)*: 120 W
Transient power*: 240 W
Sensitivity 1W/1m: 87.6 dB SPL
Frequency response: 85 - 20.000 Hz

*Nominal and transient power
@ High Pass 200Hz – 12db/Oct

ELECTRICAL DATA

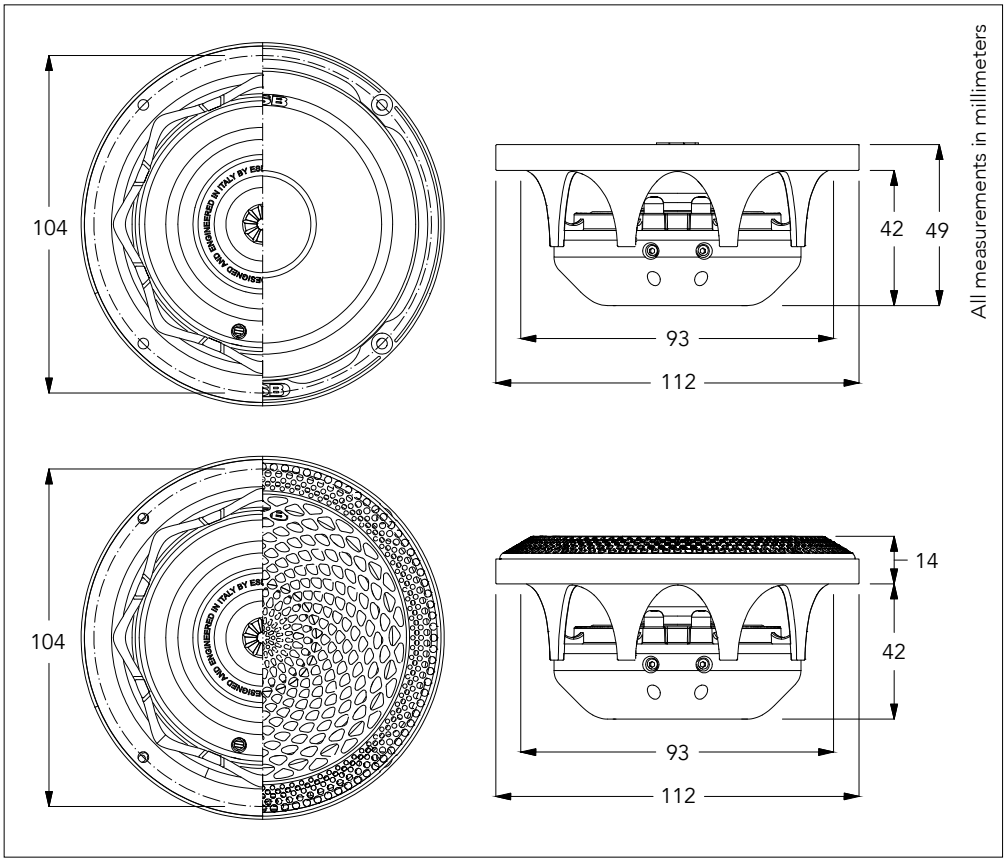
Nominal impedance: 4Ω
DC Resistance: 4.1Ω
Voice coil inductance (Lbm): 14.7 µH

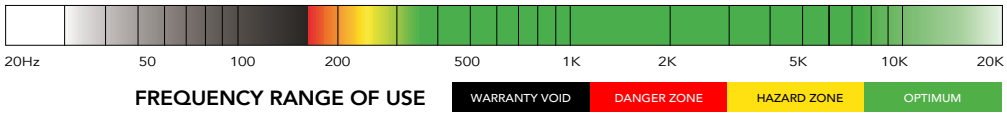
VC AND MAGNET PARAMETERS

Voice coil diameter: 25.5 mm
Voice coil height: 5.6 mm
Magnetic gap height (HE): 4 mm
Max linear excursion (Xmax): 2.8 mm
VC former material: Nomex 410™
Number of layers: 2
Magnet system: Neodymium N52-H
Efficiency (η_0): 0.359 %
BL product (BxL): 4.117 Na

T&S PARAMETERS

Suspension compliance (Cms): 306 N/m
Mechanical Q factor (Qms): 3.645
Electrical Q factor (Qes): 0.931
Total Q factor (Qts): 0.741
Moving mass (Mms): 4.5 g
Eq. compliance air load (Vas): 1.4 Lt
Resonance frequency (Fs): 135 Hz
Effective piston area (Sd): 5.67 cm²





FREQUENCY RANGE OF USE

WARRANTY VOID | DANGER ZONE | HAZARD ZONE | OPTIMUM

FREQUENCY RESPONSE vs IMPEDANCE