10W650

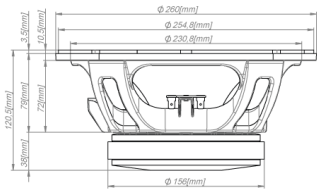
Low Frequency Ceramic Transducer

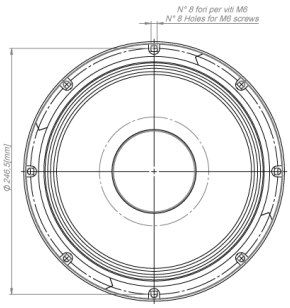
KeyFeatures

96 dB SPL 1W @ 1m average sensitivity
700W program power handling
65mm (2.4 in) Edgewound Aluminum Voice Coil
Single Demodulating Ring (SDR) for lower distortion and
Maximum sound clarity
Weather protected cone and coated plates
Ideal for compact two-way and multiway systems

Description

18 Sound's 10W650 ceramic low frequency transducer is a 10-inch woofer that combines excellent linearity with high power handling capabilities (700 W) and reduced power compression. The 65mm (2.5 in) state-of-the-art voice coil assembly incorporates a fine edge-wound aluminum wire together with a strong fiberglas former to get the necessary force factor, mass lightness and high power handling. The voice coil is cooled using airways between the chassis back plate and the magnet face plate, which allow heated air from the voice coil and gap to be channeled away and dissipated by the chassis basket. This technology is another product of 3D CAD resource application by our engineers. The magnetic structure has also been optimized using our in-house FEA CAD resource which has maximized the flux density in the voice coil gap.
A distortion reduction system has been implemented using a demodulating ring for flux modulation cancellation related to voice coil excursion.
The cone is treated against extremely aggressive environment conditions and is carried by a double half-roll suspension composed of a material which is more resistant to aging and fatigue than traditional materials, providing the correct damping and excursion control.





Models

Model	Code	Info
10W650 8 0HM	0221086500	
10W650 16 0HM	0221066500	

General Specifications

Nominal Diameter	260 mm (10 in)
Rated Impedance	8 Ohm
AES Power	200 W
Program Power	400 W
Sensitivity	95,5 dB
Frequency Range	
Max Recomm. Frequency	2000 Hz
Recomm. Enclosure Volume	10 ÷ 40 lt. (0.35÷1.41 cuft)
Minimum Impedance	
Max Peak To Peak Excursion	25 mm (0,98 in)
Voice Coil Diameter	65 mm (2,5 in)
Voice Coil winding material	Edgewound Aluminum
Suspension	M-roll, Polycotton
Cone	Curvilinear, Treated paper

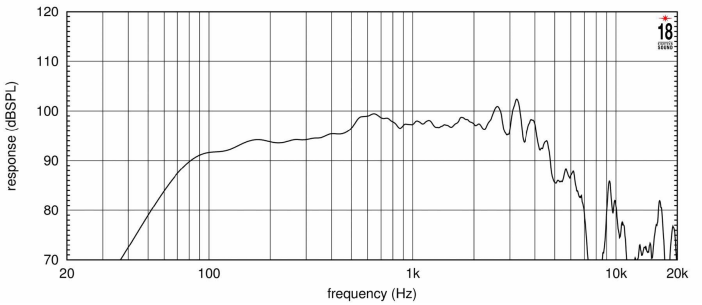
Thiele Small Parameters

Fs	63 Hz
Re	5,1 Ohm
Sd	0,034 sq.mt (52,70 sq.in.)
Qms	5,80
Qes	0,44
Qts	0,41
Vas	28 lt (1 cuft)
Mms	37 gr (0,08 lb)
BL	13 Tm
Linear Mathematical Xmax	± 5,5 mm (± 0,22 in)
Le (1kHz)	0,50 mH
Ref. Efficiency 1W@1m (half space)	1,6 %

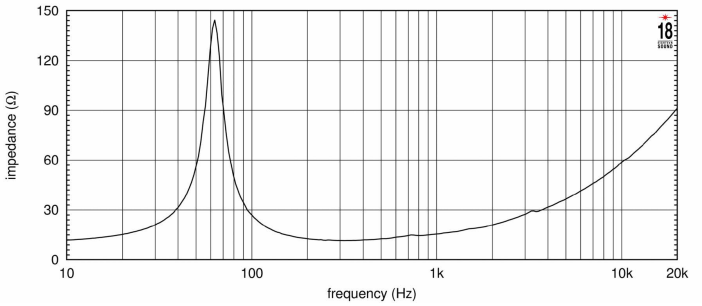
Mounting information

Overall diameter	260 mm (10,24 in)
N. of mounting holes and bolt	8
Mounting holes diameter	7 mm (0,28 in)
Bolt circle diameter	244 mm (9,61 in)
Front mount baffle cutout ø	232 mm (9,13 in)
Rear mount baffle cutout ø	232 mm (9,13 in)
Total depth	121 mm (4,76 in)
Flange and gasket thickness	10 mm (0,39 in)
Net weight	4,3 kg (9,48 lb)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE MADE IN 30 LT. ENCLOSURE TUNED AT 55 Hz IN FREE FIELD (4π) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER.



FREE AIR IMPEDANCE MAGNITUDE CURVE

Notes

(1) AES power is determined according to AES2-1984 standard.
(2) Program power rating is measured in 30 lit. enclosure tuned at 55 Hz using a 60-600 Hz band limited pink noise test signal applied for 2 hours and with 50% duty cycle.
(3) Sensitivity represents the averaged value of acoustic output as measured on the forward central axis of cone, at distance 1m from the baffle panel, when connected to 2.83V sine wave test signal swept between 100 Hz and 500 Hz with the test specimen mounted in the same enclosure as given for 2 above.
(4) Thiele - Small parameters are measured after the test specimen has been conditioned by 1 hour 20 Hz sine and represent the expected long term parameters after a short period of use.
(5) Linear Mathematical Xmax is calculated as; (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is gap depth.