

12W700

Low Frequency Transducer

Key Features

- 98 dB SPL 1W / 1m average sensitivity
- 75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
- 450 W AES power handling
- Excellent transient response
- Weather protected cone and plates for outdoor usage
- Improved heat dissipation via unique basket design
- Ideal for compact two way, multiway systems and subwoofer applications



General Description

The 12W700 meets the specific market requirement for a loudspeaker which combines the excellent linearity, good efficiency and high power handling of the 15W700 model but in a 12 inch (300mm) chassis for use in more compact systems. It is primarily intended for application in compact reflex and band-pass enclosures but can also be used for horn loaded configurations.

The ribbed curvilinear paper cone has been made from a special high strength woodpulp designed to achieve the best possible linearity within its intended frequency range and to control bell-mode resonances around the cone circumference. The cone is carried by an unusually deep profile, triple roll suspension made from a polycotton material which is more resistant to aging and fatigue than traditional cotton-based ones.

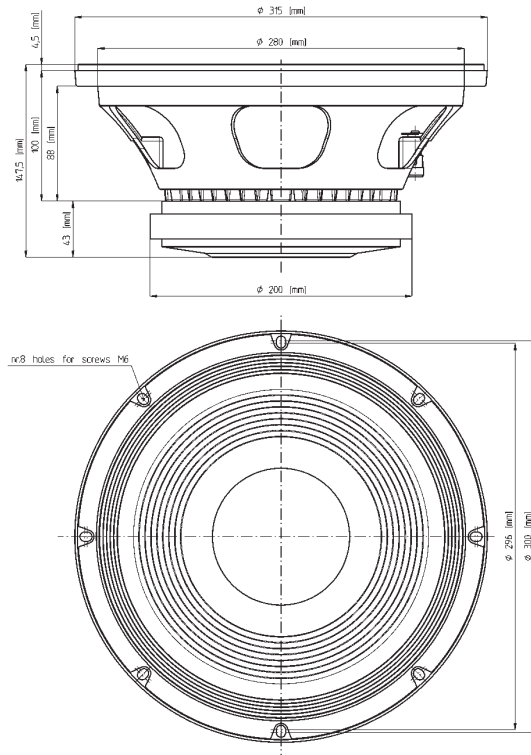
The 75 mm (3 inch) diameter voice coil employs the Interleaved Sandwich Voice coil (ISV) technology, in which a high strength fiberglass former carries windings on both the outer and inner surfaces to achieve a mass balanced coil. This results in an extremely linear motor assembly with a reduced tendency for eccentric behavior when driven hard.

The magnetic structure has been optimized using FEACAD resource to maximize the flux density in the voice coil gap.

Voice coil cooling has been achieved by incorporating airways between the chassis back plate and the top plate of the magnet, allowing heated air from the voice coil and gap to be channeled away and dissipated by the chassis basket.

Due to the increasing use of audio systems at outdoor events, the ability to perform in adverse weather conditions or in high-humidity areas is an essential feature of the 12W700. This has been achieved using an exclusive cone and magnet plate treatment process which increases resistance to corrosion and renders the cone water repellent.

0221284210 8 Ohm



FERRITE LF-MB-MF TRANSDUCERS

12W700

Low Frequency Transducer

GENERAL SPECIFICATIONS

NOMINAL DIAMETER	300 mm (12 in)
RATED IMPEDANCE	8 Ohm
AES POWER (1)	450 W
PROGRAM POWER (2)	700 W
PEAK POWER (3)	1500 W
SENSITIVITY (4)	98 dB
FREQUENCY RANGE (5)	55 ÷ 4200 Hz
POWER COMPRESSION @-10DB (6)	0,8 dB
POWER COMPRESSION @-3DB	2,3 dB
POWER COMPRESSION@FULL POWER	3,1 dB
MAX RECOMM. FREQUENCY	1700 Hz
RECOMM. ENCLOSURE VOLUME	40 ÷ 90 lt. (1,41 ÷ 3,18 cuft)
MINIMUM IMPEDANCE	7 Ohm at 25°C
MAX PEAK TO PEAK EXCURSION	34 mm (1,34 in)
VOICE COIL DIAMETER	75 mm (3 in)
VOICE COIL WINDING MATERIAL	aluminum
SUSPENSION	Triple Roll, Polycotton
CONE	Ribbed Curvilinear, Paper

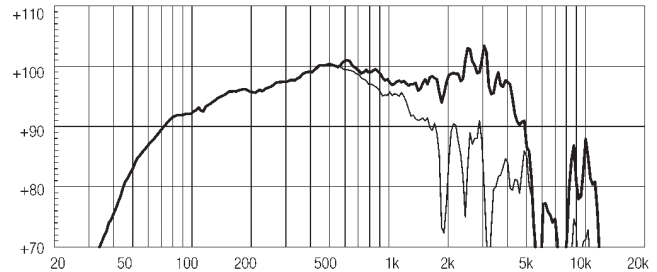
THIELE SMALL PARAMETERS (7)

Fs	58 Hz
Re	5,7 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	3,93
Qes	0,37
Qts	0,36
Vas	55 lt. (1,94 cuft)
Mms	51 gr. (0,11 lb)
BL	17,7 Tm
Linear Mathematical Xmax (8)	± 6,5 mm (± 0,26 in)
Le (1kHz)	1,48 mH
Ref. Efficiency 1W@1m (half space)	97,2 dB

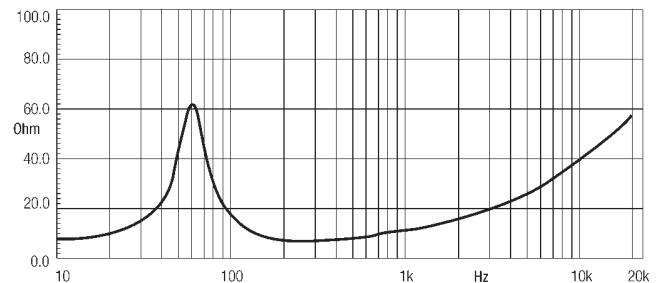
MOUNTING INFORMATION

Overall diameter	315 mm (12,4 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	296 - 300 mm (11,65 - 11,8 in)
Front mount baffle cutout ø	282 mm (11,1 in)
Rear mount baffle cutout ø	282 mm (11,1 in)
Total depth	147,5 mm (5,80 in)
Flange and gasket thickness	16,5 mm (0,65 in)
Net weight	8,2 kg (18,1 lb)
Shipping weight	9 kg (19,87 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE OF 12W700 MADE ON 50 LIT. ENCLOSURE TUNED 60HZ IN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER. THE THIN LINE REPRESENTS 45 DEG. OFF AXIS FREQUENCY RESPONSE



FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

- (1) AES power is determined according to AES2-1984 (r2003) standard
- (2) Continuous power rating is measured in 50 lit enclosure tuned 60Hz using a 40 - 400Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
- (3) The peak power rating represents the maximum permitted instantaneous peak power level over a maximum period of 10ms which will be withstood by the loudspeaker without damage.
- (4) 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 100Hz and 500Hz with the test specimen mounted in the same enclosure as given for (1) above.
- (5) Frequency range is given as the band of frequencies delineated by the lower and upper limits where the output level drops by 10 dB below the rated sensitivity in half space environment.
- (6) Power compression represents the loss of sensitivity for the specified power, measured from 50-500 Hz, after a 5 min pink noise preconditioning test at the specified power.
- (7) Thiele - Small parameters are measured after the test specimen has been conditioned by 450 W AES power and represent the expected long term parameters after a short period of use.
- (8) Linear Math. Xmax is calculated as $(Hvc-Hg)/2 + Hg/4$ where Hvc is the coil depth and Hg is the gap depth.

Eighteen Sound engages in research and product improvement. New materials and design refinements can be introduced into existing products without notice.