

# 15W700

## Key Features

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

## General Description

The 15W700 low frequency transducer meets the specific market demand for a loudspeaker which combines good linearity and efficiency with high power handling capabilities, containing a 75 mm  $\varnothing$  aluminum voice coil.

Although primarily intended for use in tuned reflex enclosures, the versatile characteristics of the 15W700 render it suitable for a wide variety of enclosure types, particularly as a subwoofer or as a LF driver in 2 or 3-way systems. When used in a 2-way system, we recommend a 1.4" or 2" exit compression driver in order to obtain the best sound quality.

The deep profile curvilinear paper cone has been made using a special high strength wood pulp and 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, double half-roll suspension formed of a linen-like material which is more resistant to aging and fatigue than the traditional cotton-based materials used in conventional surrounds.

The 75 mm  $\varnothing$  aluminum 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.

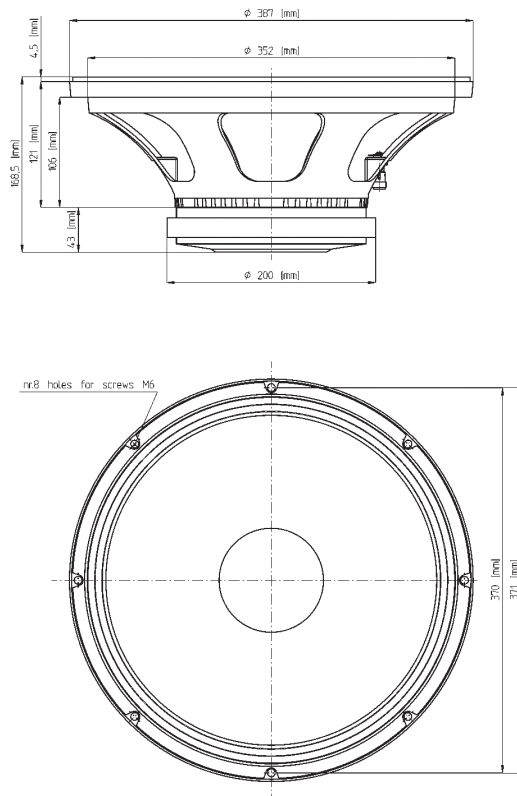
The magnetic structure has been optimized using our in-house FEA CAD resource that has maximized the flux density in the voice coil gap. Excellent heat dissipation has also been achieved by incorporating air channels between the basket and the magnetic top plate.

Due to the increase in use of audio systems at outdoor events, the ability of the 15W700 to perform in adverse weather conditions or in areas of high humidity is a great advantage. This has been achieved using exclusive treatments which enable the cone and the magnetic plate to resist corrosion and render the cone water repellent at the same time.

## Low Frequency Transducer



0221584210 8 Ohm  
0221544210 4 Ohm



FERRITE LF-MB-MF TRANSDUCERS

# 15W700

Low Frequency Transducer

## GENERAL SPECIFICATIONS

NOMINAL DIAMETER	380 mm (15 in)
RATED IMPEDANCE	8 Ohm
AES POWER (1)	450 W
PROGRAM POWER (2)	700 W
PEAK POWER (3)	1500 W
SENSITIVITY (4)	99 dB
FREQUENCY RANGE (5)	38 ÷ 5000 Hz
POWER COMPRESSION @-10DB (6)	0,7 dB
POWER COMPRESSION @-3DB	2,3 dB
POWER COMPRESSION @FULL POWER	3,4 dB
MAX RECOMM. FREQUENCY	2000 Hz
RECOMM. ENCLOSURE VOLUME	80 ÷ 140 lt. (2,82 ÷ 4,95 cuft)
MINIMUM IMPEDANCE	6,8 Ohm at 25°C
MAX PEAK TO PEAK EXCURSION	35 mm (1,38 in)
VOICE COIL DIAMETER	75 mm (3 in)
VOICE COIL WINDING MATERIAL	aluminum
SUSPENSION	M-roll, Polycotton
CONE	Curvilinear, Paper

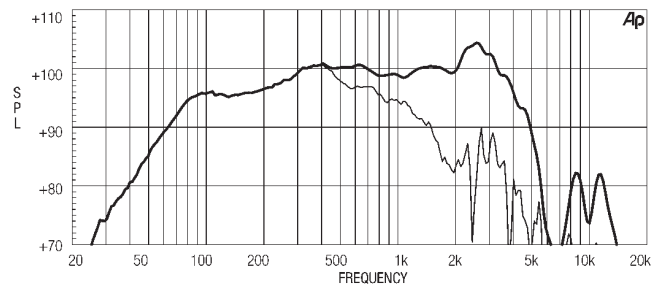
## THIELE SMALL PARAMETERS (7)

Fs	38 Hz
Re	5,7 Ohm
Sd	0,085 sq.mt. (131,75 sq.in.)
Qms	3,8
Qes	0,33
Qts	0,3
Vas	217 lt. (7,67 cuft)
Mms	80 gr. (0,18 lb)
BL	18,4 Tm
Linear Mathematical Xmax (8)	± 6,5 mm (± 0,26 in)
Le (1kHz)	1,57 mH
Ref. Efficiency 1W@1m (half space)	97,8 dB

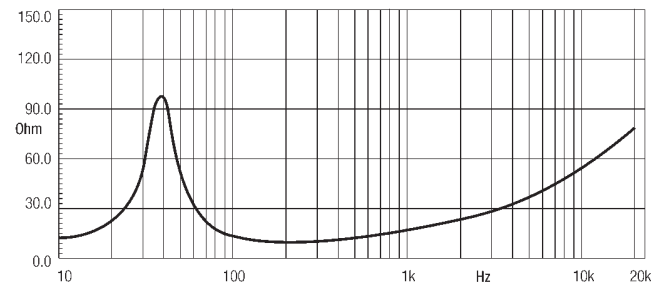
## MOUNTING INFORMATION

Overall diameter	387 mm (15,23 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	370 - 371 mm (14,55 - 14,6 in)
Front mount baffle cutout ø	353 mm (13,90 in)
Rear mount baffle cutout ø	357 mm (14,06 in)
Total depth	168,5 mm (6,63 in)
Flange and gasket thickness	19,5 mm (0,76 in)
Net weight	8,6 kg (18,98 lb)
Shipping weight	9,7 kg (21,41 lb)
CardBoard Packaging dimensions	405 x 405 x 214 mm (15,94 x 15,94 x 8,43 in)

**FREQUENCY RESPONSE CURVE OF 15W700 MADE ON 125 LIT. ENCLOSURE TUNED 50HZ 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) Program power rating is measured in 125 lit enclosure tuned 50Hz 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.