

# 12W500

## Low Frequency Transducer

### Key Features

- 99,5 dB SPL 1W / 1m average sensitivity
- 65 mm (2,5 in) Interleaved Sandwich Voice coil (ISV)
- 350 W AES power handling
- Excellent transient response
- Improved heat dissipation via unique basket design
- Ideal for compact two way systems



### General Description

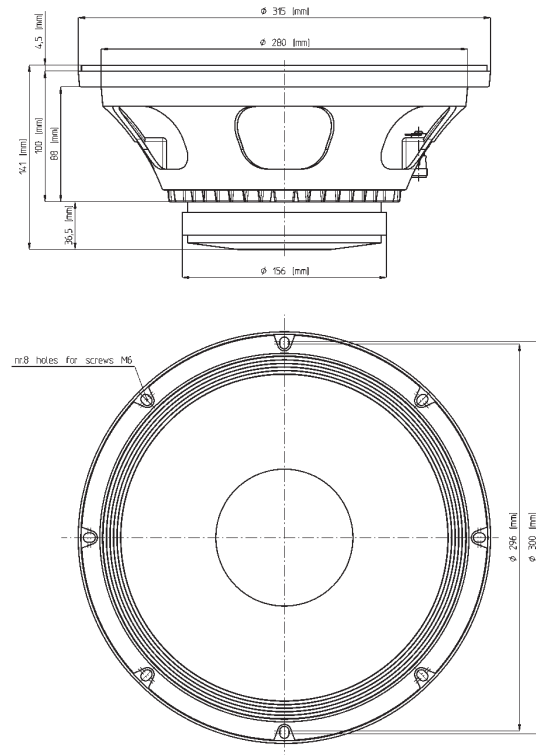
The 12W500 is a 500W program low frequency driver designed to satisfy the need for a 12" loudspeaker which combines excellent linearity with good sensitivity and power handling characteristics. It is primarily intended for compact bass reflex applications in enclosures as small as 50 lt, typically for two-way systems in combination with 1" compression driver.

The high quality paper cone has a smooth, curvilinear profile design that eliminates bell-mode resonances within the intended frequency range. This is carried by a specially treated, dampened double half-roll linen suspension which has been designed to control excursion maintaining the piston action linearity.

The 12W500 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.

Voice coil cooling is 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.

0221284310 8 Ohm  
0221244310 4 Ohm



FERRITE LF-MB-MF TRANSDUCERS

# 12W500

Low Frequency Transducer

## GENERAL SPECIFICATIONS

NOMINAL DIAMETER	300 mm (12 in)
RATED IMPEDANCE	8 Ohm
AES POWER (1)	350 W
PROGRAM POWER (2)	500 W
PEAK POWER (3)	1000 W
SENSITIVITY (4)	99,5 dB
FREQUENCY RANGE (5)	50 ÷ 6000 Hz
POWER COMPRESSION @-10DB (6)	0,7 dB
POWER COMPRESSION @-3DB	2,5 dB
POWER COMPRESSION @FULL POWER	4,1 dB
MAX RECOMM. FREQUENCY	2500 Hz
RECOMM. ENCLOSURE VOLUME	50 ÷ 100 lt. (1,77 ÷ 3,53 cuft)
MINIMUM IMPEDANCE	6,4 Ohm at 25°C
MAX PEAK TO PEAK EXCURSION	22 mm (0,87 in)
VOICE COIL DIAMETER	64 mm (2,5 in)
VOICE COIL WINDING MATERIAL	aluminum
SUSPENSION	M-roll, Polycotton
CONE	Curvilinear, Paper

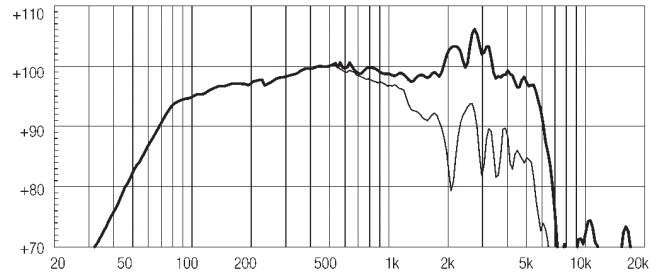
## THIELE SMALL PARAMETERS (7)

Fs	46 Hz
Re	5,2 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	6,02
Qes	0,38
Qts	0,36
Vas	123 lt. (4,34 cuft)
Mms	36,5 gr. (0,08 lb)
BL	12,1 Tm
Linear Mathematical Xmax (8)	± 4 mm (±0,16 in)
Le (1kHz)	1,12 mH
Ref. Efficiency 1W@1m (half space)	97,2 dB

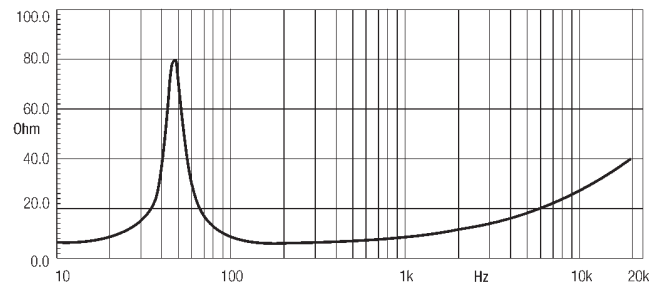
## MOUNTING INFORMATION

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	141 mm (5,55 in)
Flange and gasket thickness	16,5 mm (0,65 in)
Net weight	4,5 kg (9,93 lb)
Shipping weight	5,3 kg (11,7 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

**FREQUENCY RESPONSE CURVE OF 12W500 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) Program power rating is measured in 50 lit enclosure tuned 60Hz using a 55 - 2500Hz 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 350 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.