

18LW800

Extended Low Frequency Transducer

Key Features

- 99,5 dB SPL 1W / 1m average sensitivity
- 75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
- 500 W continuous pink noise power handling
- Weather protected cone and plates for outdoor usage
- Improved heat dissipation via unique basket design
- Ideal for reflex subwoofer usage



General Description

The 18LW800 is a low frequency loudspeaker which meets the demand for a transducer with high linear travel and high efficiency values.

It has been designed for use as a low bass or sub-woofer component in a reflex configuration, in high power fixed or touring loudspeaker systems. It provides clean, linear, undistorted low frequency reproduction at high power levels. In its reflex configuration, it is also suited to bass musical instrument applications, especially the 5- string fretless bass guitar.

The 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 as well as control bell-mode resonances around the cone circumference. This cone is carried by a double half-roll suspension formed of a linen-like material, which is more resistant to aging and fatigue than the traditional cotton-based materials of conventional surrounds.

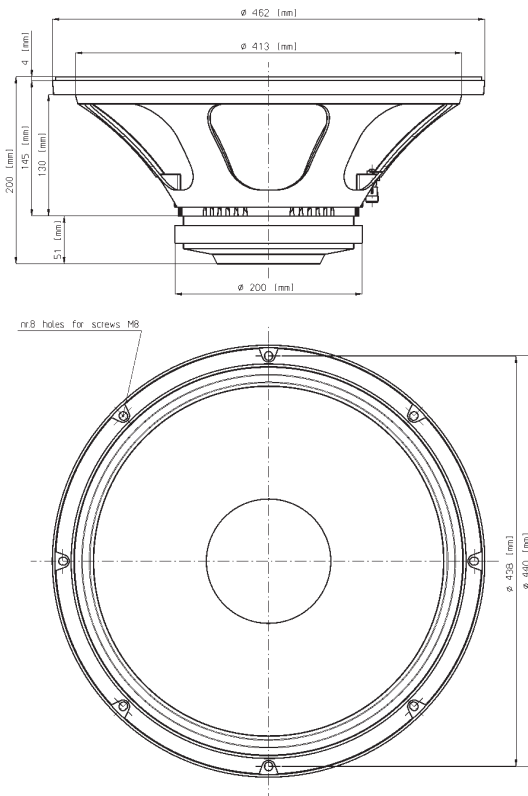
The state-of-the-art voice coil employs our own Interleaved Sandwich Voice coil (ISV) technology in which a high strength fiberglass former carries windings on both the outer and inner surfaces. This results in a balanced coil with a uniform distribution of mass and motive energy, providing an extremely linear motor assembly.

Excellent heat dissipation has been achieved by incorporating air channels between the basket and the magnetic top plate.

Maximum flux concentration and force factor in the gap are assured by the unique shape and design of the top and back plates, which have been researched and designed using our in-house magnetic flux FEA CAD resource.

Due to the increase in use of audio systems at outdoor events, the ability of the 18LW800 to perform in adverse weather conditions or in areas of high humidity is a great advantage. This has been achieved using exclusive cone and magnetic plate treatment processes, which resist corrosion and render the cone water repellent.

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FERRITE LF-MB-MF TRANSDUCERS

GENERAL SPECIFICATIONS

NOMINAL DIAMETER	460 mm (18 in)
RATED IMPEDANCE	8 Ohm
AES POWER	500 W
PROGRAM POWER	400 W
PEAK POWER (1)	1600 W
SENSITIVITY (2)	99,5 dB
FREQUENCY RANGE (3)	35 - 3300 Hz
POWER COMPRESSION @-10DB (4)	(40 W) 0,9 dB
POWER COMPRESSION @-3DB	(200 W) 2,1 dB
POWER COMPRESSION @FULL POWER	(400 W) 3,8 dB
MAX RECOMM. FREQUENCY	500 Hz
RECOMM. ENCLOSURE VOLUME	120 ÷ 200 lt. (4,24 ÷ 7,06 cuft)
MINIMUM IMPEDANCE	6 Ohm at 25°C
MAX PEAK TO PEAK EXCURSION	34 mm (1,34 in)
VOICE COIL DIAMETER	75 mm (2,95 in)
VOICE COIL WINDING MATERIAL	copper
SUSPENSION	
CONE	

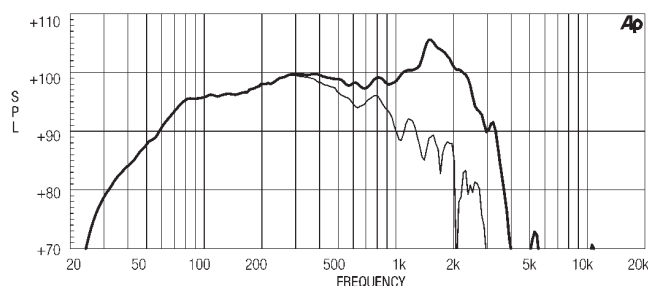
THIELE SMALL PARAMETERS (5)

Fs	29 Hz
Re	5 Ohm
Sd	0,1133 sq.mt. (175,7 sq.in.)
Qms	4,5
Qes	0,29
Qts	0,27
Vas	448 lt. (15,82 cuft)
Mms	123 gr. (0,27 lb)
BL	20 Tm
Linear Mathematical Xmax (6)	± 8 mm (±0,31 in)
Le (1kHz)	1,94 mH
Ref. Efficiency 1W@1m (half space)	97,7 dB

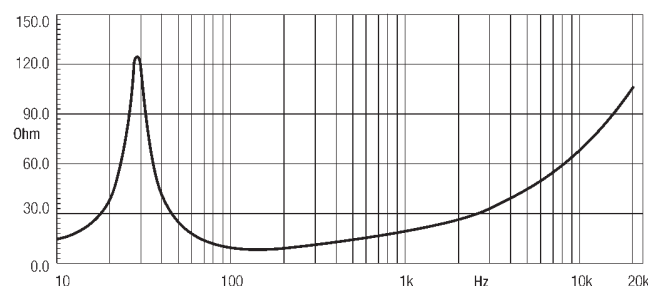
MOUNTING INFORMATION

Overall diameter	462 mm (18,18 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	438-440 mm (17,24-17,32 in)
Front mount baffle cutout Ø	416 mm (16,38 in)
Rear mount baffle cutout Ø	412 mm (16,22 in)
Total depth	200 mm (7,87 in)
Flange and gasket thickness	19 mm (0,75 in)
Net weight	9,1 kg (20,09 lb)
Shipping weight	10,5 kg (23,18 lb)
CardBoard Packaging dimensions	482 x 482 x 257 mm (18,98 x 18,98 x 10,12 in)

FREQUENCY RESPONSE CURVE OF 18LW800 MADE ON 180 LIT. ENCLOSURE TUNED 35HZ 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) The peak power rating is based on a 6dB crest factor above the continuous power rating and represents the maximum permitted instantaneous peak power level over a maximum period of 10ms which will be withstood by the loudspeaker without damage.
- (2) 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 2 above.
- (3) 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.
- (4) 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.
- (5) Thiele - Small parameters are measured after the test specimen has been conditioned by 500 W AES power and represent the expected long term parameters after a short period of use.
- (6) Linear Mat. Xmax is calculated as; $(H_{vc} - H_g)/2 + H_g/4$ where H_{vc} is the coil depth and H_g 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.