

12LW800

Ferrite LF-MB-MF Transducers Extended Low Frequency Transducer

KeyFeatures

96 dB SPL 1W / 1m average sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
500 W AES power handling
Double Silicon Spider (DSS) for improved control and linearity
Improved heat dissipation via unique basket design
Weather protected cone and plates for outdoor usage Ideal for compact reflex subwo

Description

The 12LW800 is a low frequency loudspeaker which sets a new industry standard in 12" (300mm) Ø high performance transducers, achieving a remarkable 42Hz downwards extension with 96dB average sensitivity, handling peak power levels of 4000W with remarkably low distortion and excellent transient response.

The 12LW800 is intended as the low bass or sub-woofer component, either in highly compact reflex, bandpass or horn loaded configurations, to provide clean, linear frequency reproduction at high power levels, or as part of a compact high power fullrange system. In its reflex configuration it can be used in extremely compact enclosures (40 - 70lt) making it ideally suited to portable applications such as road shows and bass musical instruments, for "wedge" stage monitors, etc.

The high excursion capabilities of the double-action roll surround and suspension system, in conjunction with the Eighteen Sound Double Silicon Spider (DSS), has enabled the 12LW800 to achieve very high levels of linear travel for a 12" unit.

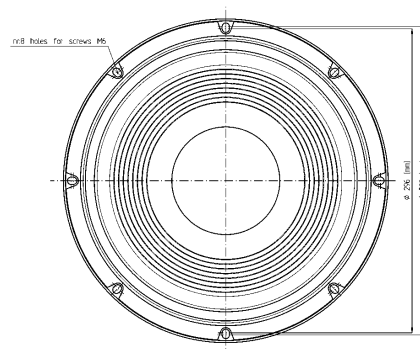
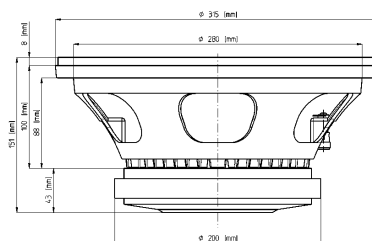
The carbon fibre reinforced curvilinear ribbed cone, with its custom design surround, assures smooth response and exceptional strength with maximum reliability under high mechanical stress.

The 75mm Ø state-of-the-art voice coil is similar to that fitted to our 18LW1400 top-of-the-range model. It employs our Interleaved Sandwich Voice coil (ISV) in which a high strength fiberglass former carries windings on both the outer and inner surfaces to achieve a mass balanced coil and providing a uniform motive drive. This, in conjunction with the use of unique high temperature resin adhesives, results in an extremely linear motor assembly with reduced tendency to break-up under high drive conditions.

Excellent heat dissipation is achieved by the incorporation of air channels between the basket and top plate.

Maximum flux concentration and force factor in the gap is assured by the unique shape and design of the face and back plates, these having been researched and designed using our in-house Magnetic Flux FEA CAD resource.

With the increasing use of high power audio systems at outdoor events or in a marine environment, the ability to perform properly under inclement weather conditions is another part of the Eighteen Sound philosophy. This is achieved by means of an exclusive cone treatment improving pulp strength and giving water repellent properties to the cone. In addition, special treatment of both the face and back plates results in a product which is far more resistant to the corrosive effects of salts and oxidation than any other treatment in use.



Models

12LW800

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General Specifications

| | |
|-------------------------------|---------------------------------|
| Nominal Diameter | 300 mm (12 in) |
| Rated Impedance | 8 Ohm |
| AES Power | 500 W |
| Program Power | 800 W |
| Peak Power | 4000 W |
| Sensitivity | 96 dB |
| Frequency Range | 46 ÷ 4200 Hz |
| Power Compression @-10dB | 0,9 dB |
| Power Compression @-3dB | 2,6 dB |
| Power Compression @Full Power | 4 dB |
| Max Recomm. Frequency | 1300 Hz |
| Recomm. Enclosure Volume | 40 ÷ 100 lt. (1,41 ÷ 3,53 cuft) |
| Max Peak To Peak Excursion | 34 mm (1,34 in) |
| Voice Coil Diameter | 75 mm (2,95 in) |
| Voice Coil Winding Material | copper |
| Suspension | Single roll, rubber |
| Cone | Curvilinear ribbed, Paper |

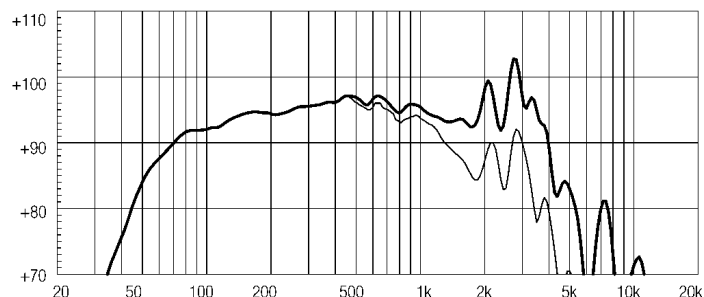
Thiele Small Parameters

| | |
|------------------------------------|------------------------------|
| Fs | 52 Hz |
| Re | 5,6 Ohm |
| Sd | 0,0531 sq.mt. (82,31 sq.in.) |
| Qms | 7,6 |
| Qes | 0,3 |
| Qts | 0,29 |
| Vas | 48 lt. (1,70 cuft) |
| Mms | 76,5 gr. (0,17 lb) |
| BL | 21,3 Tm |
| Linear Mathematical Xmax | ± 6,5 mm (± 0,26 in) |
| Le (1kHz) | 1,72 mH |
| Ref. Efficiency 1W@1m (half space) | 95,5 dB |

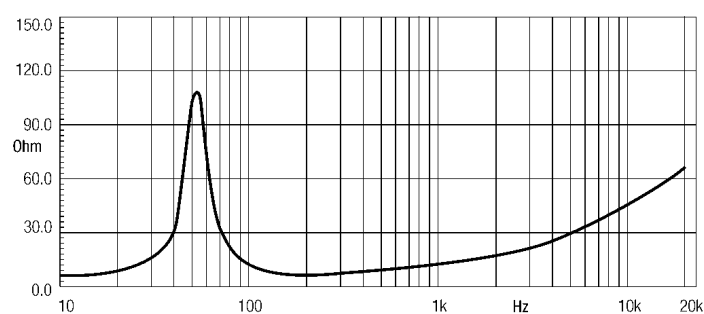
Mounting information

| | |
|--------------------------------|--|
| Overall diameter | 315 mm (12,4 in) |
| N. of mounting holes and bolt | 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 |
| Total depth | 151 mm (5,94 in) |
| Flange and gasket thickness | 20 mm (0,79 in) |
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| Net weight | 8,1 kg (17,88 lb) |
| Shipping weight | 8,9 kg (19,65 lb) |
| CardBoard Packaging dimensions | 332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in) |

FREQUENCY RESPONSE CURVE OF 12LW800 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) AES power rating is measured in 50 lit enclosure tuned 60Hz using a 40 - 400Hz band
- (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 500 W AES power and represent the expected long term parameters after a short period of use.
- (8) Linear Math. Xmax is calculated as $(H_{vc}-H_g)/2 + H_g/4$ where Hvc is the coil depth and Hg is the gap depth.