

18W1000

High Output Low Frequency Transducer

Key Features

- 99 dB SPL 1W / 1m average sensitivity
- 100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
- 1000 W AES power handling
- Double Silicon Spider (DSS) for improved excursion control and linearity
- Weather protected cone and plates for outdoor usage
- Improved heat dissipation via unique basket design
- Suitable for high SPL subwoofer designs



General Description

The 18W1000 is a low frequency woofer which sets a benchmark in 18" (460 mm) high output transducers. It represents a further development of the Eighteen Sound 18LW1250 but has a lighter mass and increased sensitivity.

The 18W1000 can be used as a low bass or sub-woofer component, in either a reflex, bandpass or horn loaded configuration, in high power fixed or touring loudspeaker systems. It provides clean, linear, undistorted low frequency reproduction at very high power levels.

The high excursion capabilities of the surround and suspension system, in conjunction with the Double Silicon Spider (DSS), enables the 18W1000 to achieve high levels of linear travel while maintaining full control of the moving mass.

The high quality curvilinear cone assures smooth response and exceptional strength with maximum reliability under high mechanical stress.

The 100mm copper wire voice coil employs the Interleaved Sandwich Voice coil (ISV) technology, in which a high strength fibreglas former carries windings on both the outer and inner surfaces to achieve a balanced coil with a uniform distribution of mass and motive energy. This results in an extremely linear motor assembly.

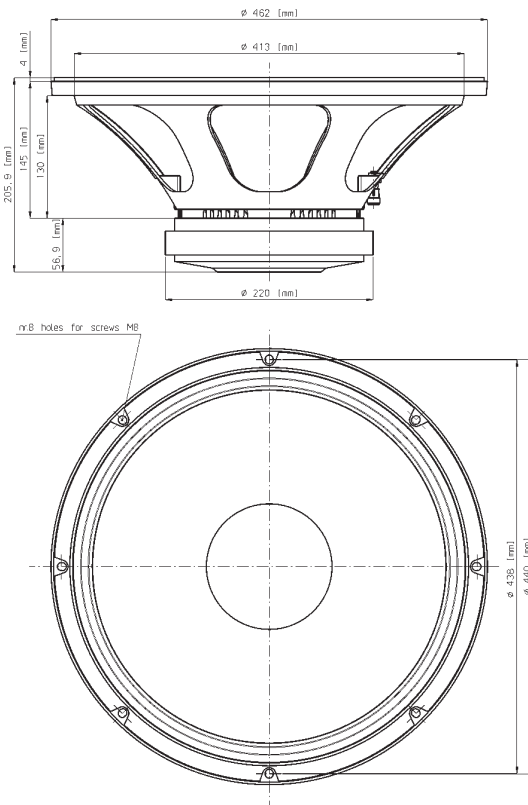
Excellent heat dissipation has been achieved by incorporating air channels between the basket and magnetic top plate.

Maximum flux concentration and force factor in the gap is 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 increasing use of audio systems at outdoor events, the ability of the 18W1000 to perform in adverse weather conditions or in areas of high humidity is a key feature. This has been achieved using an exclusive cone treatment and magnetic plate processes which resist corrosion and render the cone water repellent.

0221884150

0271884150 R-KIT 8 Ohm



FERRITE LF-MB-MF TRANSDUCERS

18W1000

High Output Low Frequency Transducer

GENERAL SPECIFICATIONS

| | |
|-------------------------------|----------------------------------|
| NOMINAL DIAMETER | 460 mm (18 in) |
| RATED IMPEDANCE | 8 Ohm |
| AES POWER (1) | 1000 W |
| PROGRAM POWER (2) | 1400 W |
| PEAK POWER (3) | 7000 W |
| SENSITIVITY (4) | 99 dB |
| FREQUENCY RANGE (5) | 37 - 4700 Hz |
| POWER COMPRESSION @-10DB (6) | 0,6 dB |
| POWER COMPRESSION @-3DB | 2,1 dB |
| POWER COMPRESSION @FULL POWER | 3,1 dB |
| MAX RECOMM. FREQUENCY | 500 Hz |
| RECOMM. ENCLOSURE VOLUME | 120 ÷ 250 lt. (4,24 ÷ 8,83 cuft) |
| MINIMUM IMPEDANCE | 7,4 Ohm at 25°C |
| MAX PEAK TO PEAK EXCURSION | 36 mm (1,42 in) |
| VOICE COIL DIAMETER | 100 mm (4 in) |
| VOICE COIL WINDING MATERIAL | copper |
| SUSPENSION | M-roll, Polycotton |
| CONE | Curvilinear, Paper |

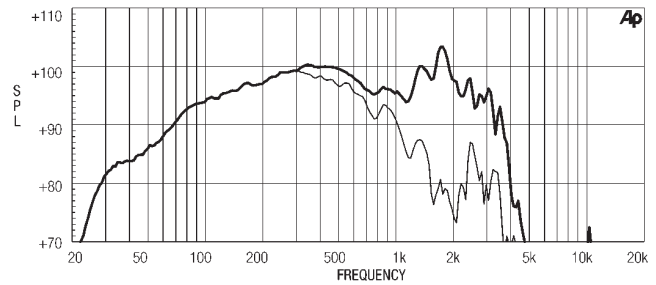
THIELE SMALL PARAMETERS (7)

| | |
|------------------------------------|------------------------------|
| Fs | 35 Hz |
| Re | 5,8 Ohm |
| Sd | 0,1134 sq.mt. (175,7 sq.in.) |
| Qms | 7,1 |
| Qes | 0,24 |
| Qts | 0,23 |
| Vas | 268 lt. (9,47 cuft) |
| Mms | 139 gr. (0,31 lb) |
| BL | 27,6 Tm |
| Linear Mathematical Xmax (8) | ± 7 mm (±0,28 in) |
| Le (1kHz) | 2,45 mH |
| Ref. Efficiency 1W@1m (half space) | 98,9 dB |

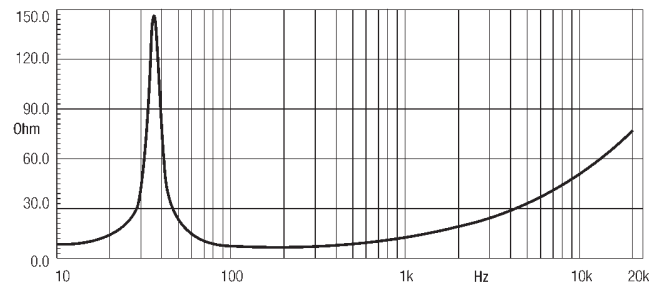
MOUNTING INFORMATION

| | |
|--------------------------------|--|
| 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 | 205,9 mm (8,1 in) |
| Flange and gasket thickness | 19 mm (0,75 in) |
| Net weight | 12,9 kg (28,48 lb) |
| Shipping weight | 14,6 kg (32,23 lb) |
| CardBoard Packaging dimensions | 482 x 482 x 257 mm (19 x 19 x 10,1 in) |

FREQUENCY RESPONSE CURVE OF 18W1000 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) AES power is determined according to AES2-1984 (r2003) standard
- (2) Program power rating is measured in 180 lit enclosure tuned 35Hz 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 1000 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.