18W2000

Key Features

99 dB SPL 1W / 1m average sensitivity

100 mm (4 in) Interleaved Sandwich ISV copper voice coil

1200 W AES power handling

Double Silicon Spider (DSS) for improved excursion control and linearity

Improved heat dissipation via unique basket design and multi-cell air diffractor

Weather protected cone and plates for outdoor usage

Suitable for high SPL subwoofer designs

General Description

The 18W2000 is a low frequency woofer which sets a benchmark in 18" (460 mm) high output transducers. Showing 20% higher power handling and 10% lower weight, it represents a significative development of the acclaimed 18W1000 model.

The 18W2000 can be used as a low bass or subwoofer component in either a reflex, bandpass or horn loaded configuration. 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), enable the 18W2000 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 diameter copper wire voice coil employs the Interleaved Sandwich Voice coil (ISV) technology, in which a high strength fiberglas 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.
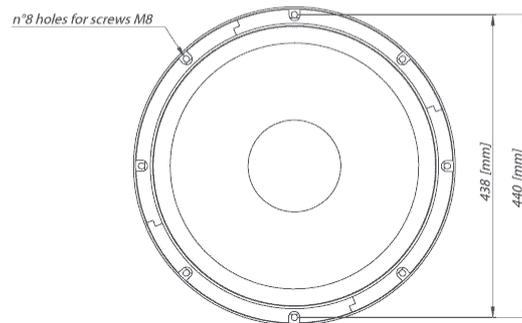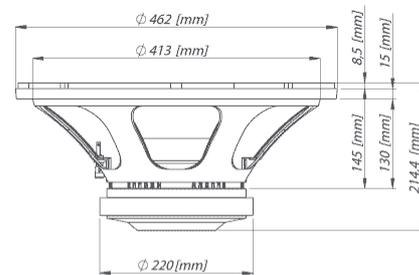
Maximum flux concentration and force factor in the gap is assured by the unique shape and design of the top and back plates, which have been researched and designed using our in-house magnetic flux FEA CAD resource.

18W2000 uses the voice coil ventilation technology developed for our flagship 9000 neodymium transducer series. A special low density multi-cell material air diffractor has been placed into the backplate acting as a cooling system, increasing power handling capability and lowering the power compression figure. As a final result Eighteen Sound engineers obtained almost 1 dB reduction in full power power compression value if compared to 18LW1400, and an increased program power handling value of 2400 Watt.

18W2000 is able to perform in adverse weather conditions or in areas of high humidity. This key feature has been achieved using an exclusive water repellent cone treatment and magnetic plate coating which resists against environmental corrosion.

0221882000 8 Ohm   0271882000 R-Kit 8 Ohm

Ø 462 [mm]
Ø 413 [mm]
8,5 [mm]
15 [mm]
145 [mm]
130 [mm]
214,4 [mm]
Ø 220 [mm]

n°8 holes for screws M8

438 [mm]
440 [mm]

FERRITE LF - MB - MF TRANSDUCERS

GENERAL SPECIFICATIONS

|	
NOMINAL DIAMETER	460 mm (18 in)
RATED IMPEDANCE	8 Ohm
AES POWER (1)	1200 W
PROGRAM POWER (2)	2400 W
PEAK POWER (3)	7000 W
SENSITIVITY (4)	99 dB
FREQUENCY RANGE (5)	37 - 3000 Hz
POWER COMPRESSION @-10DB (6)	0,5 dB
POWER COMPRESSION @-3DB	1,5 dB
POWER COMPRESSION @FULL POWER	2,2 dB
MAX RECOMM. FREQUENCY	500 Hz
RECOMM. ENCLOSURE VOLUME	120 ÷ 300 lt. (4,24 ÷ 10,60 cuft)
MINIMUM IMPEDANCE	7,3 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	37 Hz
Re	5,8 Ohm
Sd	0,1134 sq.mt. (175,7 sq.in.)
Qms	7,29
Qes	0,26
Qts	0,25
Vas	230 lt. (8,12 cuft)
Mms	143 gr. (0,32 lb)
BL	27,1 Tm
Linear Mathematical Xmax (8)	± 7 mm (±0,28 in)
Le (1kHz)	1,90 mH
Ref. Efficiency 1W@1m (half space)	98,6 dB

MOUNTING INFORMATIONS

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	11,5 kg (26,35 lb)
Shipping weight	13 kg (28,66 lb)
CardBoard Packaging dimensions	482 x 482 x 257 mm (19 x 19 x 10,1 in)

FREQUENCY RESPONSE CURVE OF 18W2000 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
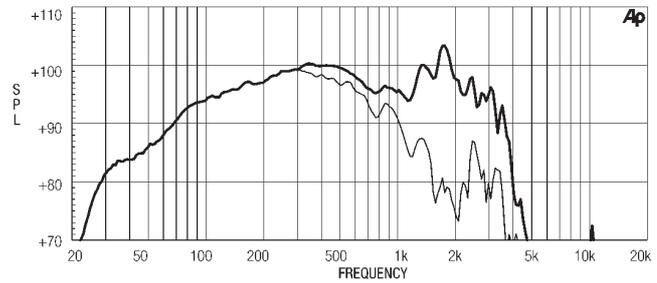
FREE AIR IMPEDANCE MAGNITUDE CURVE
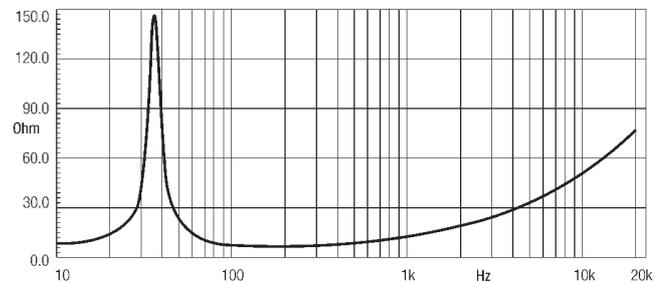
NOTES

(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 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.