

18ND930

Low Frequency Neodymium Transducer

Key Features

- 99 dB SPL 1W / 1m average sensitivity
- 75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
- 500 W continuous pink noise power handling
- Neodymium magnet assembly
- Twin Spider (T/S) for improved linearity control
- Double Demodulating Rings (DDR) for lower distortion
- Humidity resistant cone
- Ideal for very compact high loading enclosures



General Description

The 18ND930 is a low frequency loudspeaker which meets demand for high linearity and high efficiency. It can be used as a low bass or subwoofer component in either reflex or bandpass configuration, thanks to its very high BL factor for a 3" voice coil transducer. The 18ND930 is suitable for fixed or touring loudspeaker systems due to its light weight. The clean, linear low frequency reproduction also make it suitable for bass musical instrument applications.

The neodymium magnet assembly, developed by Eighteen Sound engineers, assures high flux concentration, low power compression and excellent heat exchange because the external magnet configuration is considerably more efficient than traditional under-pole magnet topology. This results in high levels of force factor and power handling with an optimum power to weight ratio.

The direct contact between the large heat sink and specially designed basket, together with the magnetic structure, represents a fundamental improvement in thermal connection and heat dissipation. This increases the power handling capabilities and lowers the power compression.

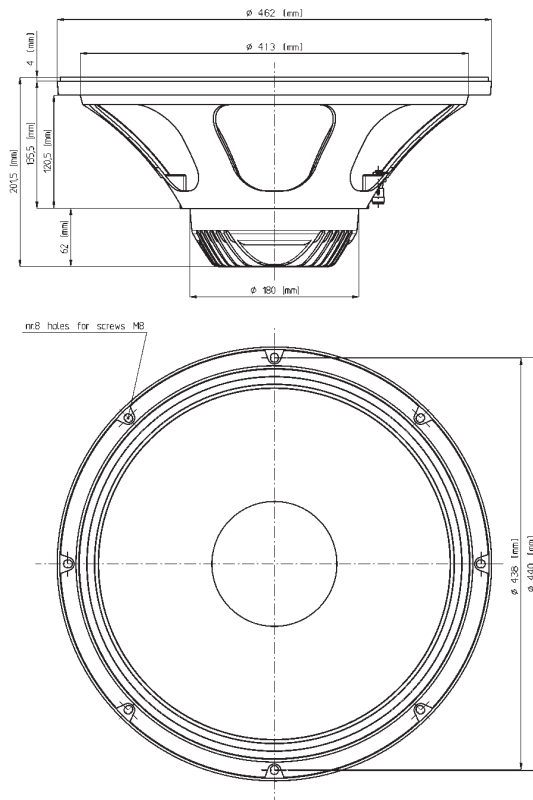
The curvilinear paper cone is created from a special high strength wood pulp to achieve the best possible linearity within its intended frequency range and to control bell-mode resonance around the cone circumference. The cone is carried by a double half-roll suspension built in a linen-like material, which is more resistant to aging and fatigue than traditional cotton based materials used in conventional surrounds.

The 75mm edge-wound state-of-the-art voice coil assembly is wound on a strong fibreglas former to improve force transmission and power handling.

The already low distortion and sound quality are further improved using Double Demodulating Rings (DDR) that flatten impedance and phase through constant power transfer.

A proprietary humidity-block cone treatment makes the transducer suitable for outdoor use in adverse weather conditions. In addition, a special coating applied to both the top and back plates makes the 18ND930 far more resistant to the corrosive effects of salts and oxidation.

022188N220 8 Ohm



NEODYMIUM LF-MB-MF TRANSDUCERS

18ND930

Low Frequency Neodymium Transducer

GENERAL SPECIFICATIONS

NOMINAL DIAMETER	460mm (18 in)
RATED IMPEDANCE	8 ohms
CONTINUOUS PINK NOISE (1)	500W
CONTINUOUS POWER (2)	400W
PROGRAM POWER (3)	800W
PEAK POWER (4)	1600W
SENSITIVITY (5)	99 dB
FREQUENCY RANGE (6)	35 - 3800 Hz
POWER COMPRESSION @-10DB (7)	(40 W) 0,6 dB
POWER COMPRESSION @-3DB	(200 W) 1,9 dB
POWER COMPRESSION @FULL POWER	(400 W) 2,8 dB
MAX RECOMM. FREQUENCY	500 Hz
RECOMM. ENCLOSURE VOLUME	90 ÷ 200 lt. (3,18 - 7,06 cu ft)
MINIMUM IMPEDANCE	6,7 ohms 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
POLARITY	positive voltage on red terminal gives forward cone motion

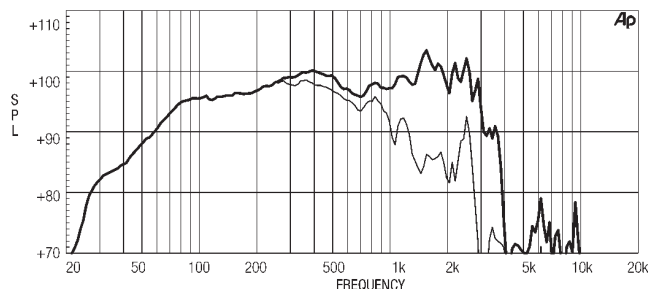
THIELE SMALL PARAMETERS (8)

Fs	33 Hz
Re	5,5 ohms
Sd	0,1133 sq.mt. (175,7 sq.in.)
Qms	7,65
Qes	0,29
Qts	0,28
Vas	316 lt. (11,16 cuft)
Mms	133 gr. (0,29 lb)
BL	22 Tm
Linear Mathematical Xmax (9)	±7,5 mm (±0,3 in)
Le (1kHz)	1,7 mH
Ref. Efficiency 1W@1m (half space)	97,8 dB

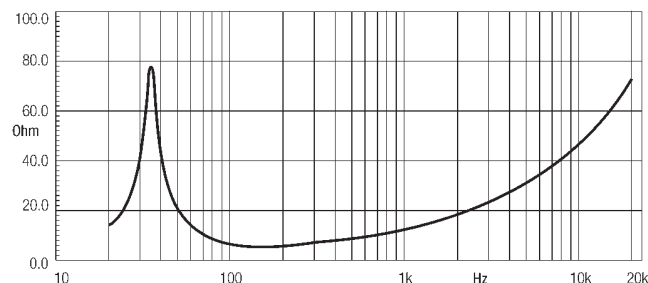
MOUNTING INFORMATION

Overall diameter	462 mm (18,19 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	201,5 mm (7,93 in)
Flange and gasket thickness	19 mm (0,75 in)
Net weight	5,9 kg (13,02 lb)
Shipping weight	7,3 kg (16,1 lb)
CardBoard Packaging dimensions	482x482x257 mm (18,98x18,98x10,12 in)

FREQUENCY RESPONSE CURVE OF 18ND930 MADE ON 180 LIT. ENCLOSURE TUNED AT 35 HZ 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 standard
- (2) Continuous power rating is measured in 180 lit enclosure tuned 35Hz using a 40 -400Hz band limited pink noise test signal applied continuously for 2 hours.
- (3) Program power rating is measured as for 2 above but 50% duty cycle.
- (4) 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.
- (5) 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 2,83 V sine wave test signal swept between 100Hz and 500Hz with the test specimen mounted in the same enclosure as given for 2 above.
- (6) 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.
- (7) 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.
- (8) 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.
- (9) Linear Mat. Xmax is calculated as: $(Hvc-Hg)/2 \cdot \#43; Hg/4$ where Hvc is the coil depth and Hgis the gap depth.

Eighteen Sound engages in research and product improvement. New materials and design refinements can be introduced into existing products without notice.

