

# 12ND830

## High Output Midbass Neo Transducer

### Key Features

- 99 dB SPL 1W / 1m average sensitivity
- 75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
- 450 W AES power handling
- Neodymium magnet assembly
- Ideal for compact reflex enclosures and two-way systems



### General Description

The 12ND830 is a 300mm (12 in) neodymium Mid-bass transducer, and differs from the 12ND930 in the wire conception, offering a lighter speaker with a lower force factor.

The 12ND830 finds its ideal application in compact reflex enclosures where a considerable amount of low frequencies and low distortion are required. Its optimum low weight makes it suitable for fixed installations or portable professional loudspeaker systems.

The neodymium magnet assembly developed by Eighteen Sound engineers assures a high flux concentration, low power compression and excellent heat exchange since the external magnet configuration is considerably more efficient than traditional under-pole magnet topology.

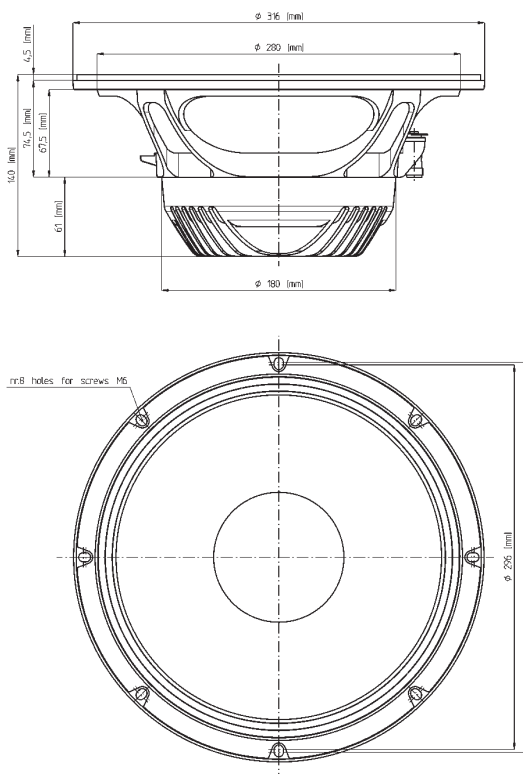
The direct contact between the large heat sink and the specially designed basket, together with the magnetic structure, represents a fundamental improvement in thermal connection and heat dissipation. The result is increased power handling capabilities and lower power compression.

The deep profile curvilinear cone, made from a special high strength wood pulp, has been designed to achieve the best possible linearity within its frequency range. The cone surround, made from linen material is highly resistant to aging and fatigue. The in-house developed cone treatment is fully water repellent and also gives a significant degree of rigidity to the cone.

The 75 mm Interleaved Sandwich Voice coil (ISV) assembly is wound on a strong fibreglas former which improves force transmission and thermal power handling.

A special coating applied to both the top and back plates makes the 12ND830 far more resistant to the corrosive effects of salts and oxidization.

022128N210 8 Ohm  
022124N210 4 Ohm



NEODYMIUM LF-MB-MF TRANSDUCERS

# 12ND830

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## NEODYMIUM LF-MB-MF TRANSDUCERS

### GENERAL SPECIFICATIONS

NOMINAL DIAMETER	300mm (12 in)
RATED IMPEDANCE	8 Ohm
AES POWER	450W
PROGRAM POWER (1)	700W
PEAK POWER (2)	1500W
SENSITIVITY (3)	99dB
FREQUENCY RANGE (4)	53 ÷ 5000 Hz
POWER COMPRESSION @-10DB (5)	0,6 dB
POWER COMPRESSION @-3DB	2,0 dB
POWER COMPRESSION @FULL POWER	3,1 dB
MAX RECOMM. FREQUENCY	2000 Hz
RECOMM. ENCLOSURE VOLUME	40 ÷ 100 lt. (1,41 ÷ 3,53 cuft)
MINIMUM IMPEDANCE	7,0 Ohm at 25°C
MAX PEAK TO PEAK EXCURSION	30 mm (1,18 in)
VOICE COIL DIAMETER	75 mm (2,95 in)
VOICE COIL WINDING MATERIAL	aluminum
SUSPENSION	M-Roll, Polycotton
CONE	Curvilinear, Paper

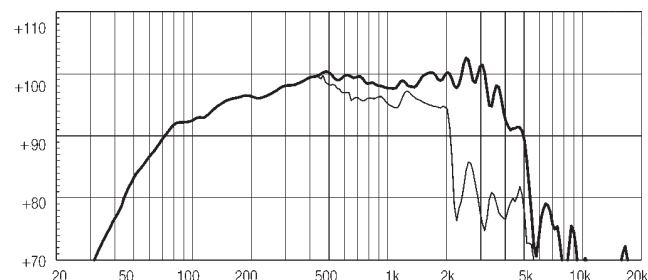
### THIELE SMALL PARAMETERS (6)

Fs	55 Hz
Re	5,7 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	5,15
Qes	0,296
Qts	0,28
Vas	72 lt. (2,54cuft)
Mms	46 gr. (0,10 lb)
BL	17,6 Tm
Linear Mathematical Xmax (7)	± 6,5 mm (± 0,26 in)
Le (1kHz)	1,5 mH
Ref. Efficiency 1W@1m (half space)	98,3 dB

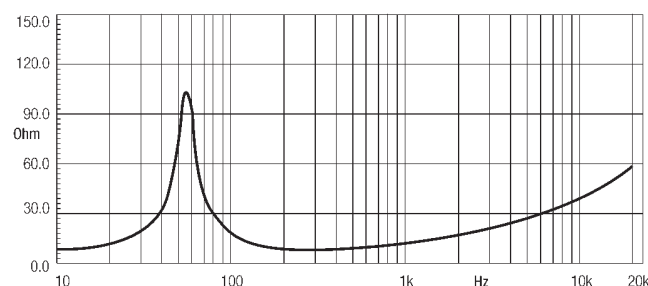
### MOUNTING INFORMATION

Overall diameter	315 mm (12,4 in)
N. of mounting holes	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 (11,1 in)
Total depth	140 mm (5,52 in)
Flange and gasket thickness	11,5 mm (0,45 in)
Net weight	4 kg (8,83 lb)
Shipping weight	4,8 kg (10,6 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm(13,07 x 13,07 x 7,24 in)

**FREQUENCY RESPONSE CURVE OF 12ND830 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) Program power rating is measured in 50 lit enclosure tuned at 60Hz using a 40-400Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
- (2) 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.
- (3) 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.
- (4) 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.
- (5) 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.
- (6) Thiele - Small parameters are measured after the test specimen has been conditioned by 450 W AES power and represent the expected long term parameters after a short period of use.
- (7) 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.