12ND830

High Output MB Neodymium 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

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 fiberglass 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.

Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
<th>Information</th>
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<td>022128N210</td>
<td>022128N210</td>
<td>8 Ohm</td>
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<td>022124N210</td>
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<td>4 Ohm</td>
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General Specifications

Nominal Diameter 300mm (12 in)
Rated Impedance 8 Ohm
AES Power 450W
Program Power 700W
Peak Power 1500W
Sensitivity 99dB
Frequency Range 53 ÷ 5000 Hz
Power Compression @-10dB 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 (3 in)
Voice Coil Winding Material aluminum
Suspension M-Roll, Polycotton
Cone Curvilinear, Paper

Thiele Small Parameters

Fs 55 Hz
Re 5,7 Ohm
Sd 0,0531 sq.mt. (82,31 sq.in.)
Qms 5,15
Qms 0,296
Qts 0,28
Vas 72 lt. (2,54cuft)
Mms 46 gr. (0,10 lb)
BL 17,6 Tm
Linear Mathematical Xmax ± 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 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 (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)

Notes

1) AES power is determined according to AES2-1984 (2003) standard
2) 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.
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) All power compression is measured on the forward central axis of cone, at distance 1m from the baffle panel, When connected to a 2,43V 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 is a specified power, measured from 50-500 Hz, after a 5 min pink noise precondition test at the specified power.
7) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.