12NLW9300

Low Frequency Neo Transducer

Key Features

97 dB SPL 1W / 1m average sensitivity

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

800 W AES power handling

External neodymium magnet assembly

Double Demodulating Rings (DDR) for lower distortion and improved heat dissipation

Weather protected cone and plates for outdoor usage

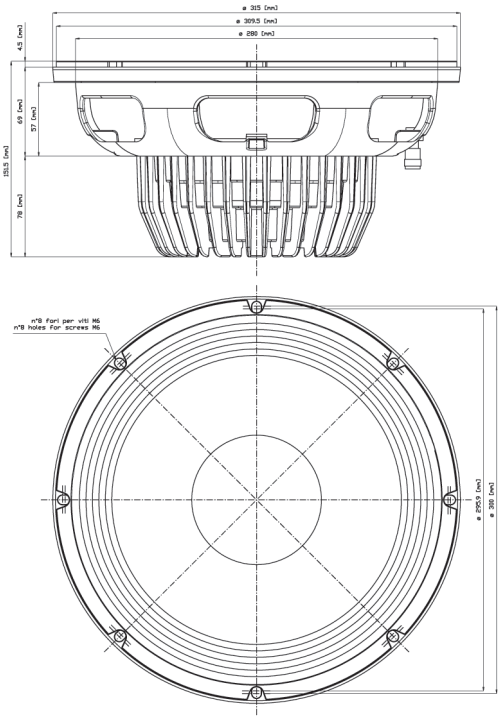
Improved dissipation via onboard aluminum heatsink and multi-cell air diffractor

Recommended for two way and multiway systems

General Description

The 12NLW9300 is a high performance low frequency neodymium loudspeaker. It is intended mainly as woofer for two way systems and works extremely well in compact vented enclosures (30 - 70 lit).
The neo magnet external assembly assures high flux concentration, low power compression and excellent heat exchange. The external magnet configuration is considerably more efficient than the traditional under-pole magnet topology. This allows to obtain high levels of force factor and power handling with a power to weight ratio at the upper level.
The aluminum heatsink has been studied according to F.E.A. simulators, improving the voice coil heat transfer. The direct contact between the heatsink the basket and the magnetic structure is a fundamental improvement in heat dissipation, increasing power handling capabilities and lowering power compression figure.
A special low density multi-cell material air diffractor has been also placed into the backplate venting hole, acting as a cooling system, furtherly increasing power handling capability and lowering the power compression figure.
A state-of-the-art Interleaved Sandwich Voice coil (ISV) provides high levels of thermal stability and durability. The ISV technology is based on a high strength fiberglass former with half the coil wound on the outside and half on the inside ensuring uniform thermal dissipation on both sides, bonded together using unique high-temperature resin adhesives achieving a balanced and solid linear motor unit.
The 12NLW9300 performances are further improved by the use of Double Demodulation Rings (DDR), designed to reduce dramatically the intermodulation and harmonic distortion whilst improving the transient response.
The 12NLW9300 design features a dedicated exclusive Carbon fibre reinforced straight ribbed cone; the pulp formulation contains special damping fibres and is further treated in-house with a proprietary resin compound in order to increase the cone bend performances 5 times more than traditional celluloses pulp and twice than glass fibre added pulps. The result is a very linear piston action across the entire working range minimizing the destroying breaking modes.
The coating of both the face and back plates is far more resistant to the corrosive effects of salts and oxidization than any other treatment normally in use.

022128N110 8Ohm **027128N110 R-Kit 8 ohm**



NEODYMIUM LF-MB-MF TRANSDUCERS

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12NLW9300

Low Frequency Neo Transducer

GENERAL SPECIFICATIONS

NOMINAL DIAMETER	300mm (12 in)
RATED IMPEDANCE	8 ohms
AES POWER	800W
PROGRAM POWER (1)	1200W
PEAK POWER (2)	2400W
SENSITIVITY (3)	97 dB
FREQUENCY RANGE (4)	45 - 3200 Hz
POWER COMPRESSION @ -10 DB (5)	0,8 dB
POWER COMPRESSION @ -3 DB	2,5 dB
POWER COMPRESSION @ FULL POWER	3,1 dB
MAX RECOMM. FREQUENCY	1500 Hz
RECOMM. ENCLOSURE VOLUME	30 ÷ 70 lt. (1,06 ÷ 2,47 cuft)
MINIMUM IMPEDANCE	6,2 ohms at 25°C
MAX PEAK TO PEAK EXCURSION	37 mm (1,46 in)
VOICE COIL DIAMETER	100 mm (3,94 in)
VOICE COIL WINDING MATERIAL	aluminum
SUSPENSION	Triple Roll, Polycotton
CONE	Straight ribbed, paper

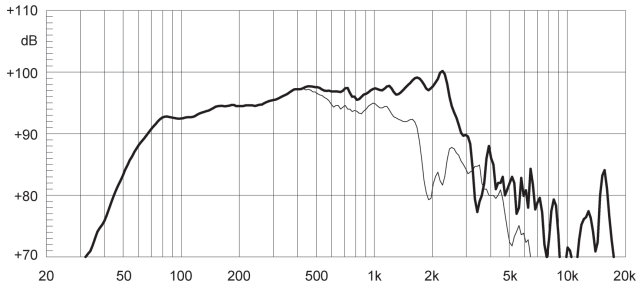
THIELE SMALL PARAMETERS (6)

Fs	40 Hz
Re	4,7 ohms
Sd	0,053 sq.mt. (82,15 sq.in.)
Qms	4,67
Qes	0,25
Qts	0,24
Vas	87 lt. (3,07 cuft)
Mms	72 gr. (0,16 lb)
BL	18 Tm
Linear Mathematical Xmax (7)	±8mm (±0,31 in)
Le (1kHz)	0,49 mH
Ref. Efficiency 1W@1m (half space)	95,4 dB

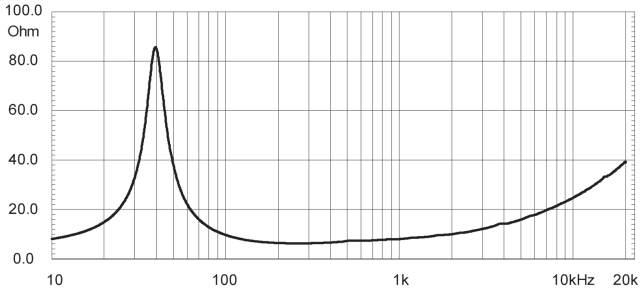
MOUNTING INFORMATIONS

Overall diameter	315 mm (12,40 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 diameter	282 mm (11,10 in)
Rear mount baffle cutout diameter	282 mm (11,10 in)
Total depth	153 mm (6,02 in)
Flange and gasket thickness	17 mm (0,67 in)
Net weight	6,2 kg (13,69 lb)
Shipping weight	7 kg (15,45 lb)
CardBoard Packaging dimensions	332x332x184 mm (13,07x13,07x7,24 in)

FREQUENCY RESPONSE CURVE OF 12NLW9300 MADE ON 50 LIT. ENCLOSURE TUNED AT 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 60-600Hz 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 1000Hz 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 60 up to 600 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 800W AES power and represent the expected long term parameters after a short period of use.

(7) Linear Mat. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hgis the gap depth.