15NLW9400

Extended Low Frequency Neo Transducer

Key Features

97 dB SPL 1W / 1m average sensitivity

100 mm (4 in) Interleaved Sandwich Voice coil (ISV)

1000W AES power handling

External neodymium magnet assembly

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

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

Improved dissipation via integrated heatsink

Ideal for high SPL subwoofer applications

General Description

The 15NLW9400 is an extended low frequency loudspeaker which sets a new industry standard in 15" (380mm) neodymium 4" voice coil high performance transducers. It has been designed for use as a low bass or sub-woofer component in either a more compact reflex, bandpass or horn loaded configuration. It provides clean, linear, undistorted low frequency reproduction at very high power levels. In its reflex configuration, it can be used in extremely compact enclosures, (65 - 150 lt).

The low weight neo magnet assembly assures high flux concentration, low power compression and excellent heat exchange, resulting in high levels of force factor and power handling with an optimum power to weight ratio. The integrated heatsink has been studied using F.E.A. simulators and the necessary heat transfer to the dissipative structure has been improved, increasing power handling and lowering the power compression figures.

The high excursion capabilities of the surround and suspension system, in conjunction with the Double Silicon Spider (DSS), enable the 15NLW9400 to achieve high levels of linear travel and maintain full control of the moving mass.

The already low distortion and sound quality of this loudspeaker has been further improved by the Double Demodulation Rings (DDR), designed to dramatically reduce the intermodulation and harmonic distortion whilst improving the transient response. The design provides clean, undistorted LF reproduction even at very high SPL without damages.

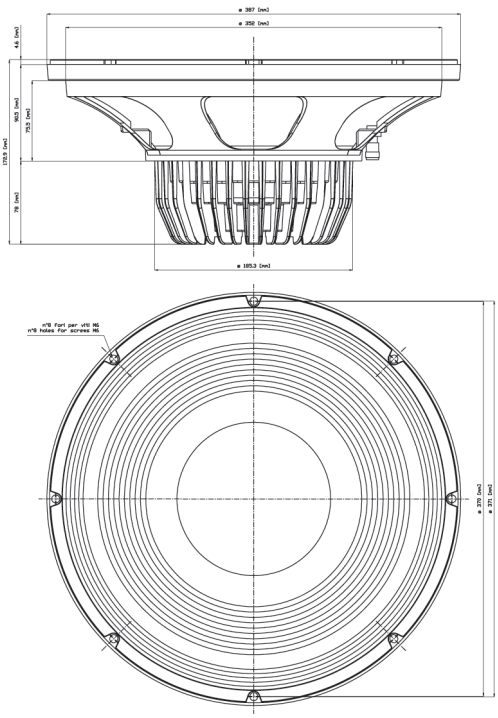
The 15NLW9400 features a dedicated carbon fibre reinforced straight ribbed cone, with a specific pulp formulation containing damping fibres. The membrane is treated in-house with a proprietary resin mix in order to increase the cone bend performances, up to 6 times better if compared with traditional celluloses pulp, twice than glass fibre added pulps. The results is a very linear piston action across the entire working range minimizing the breaking modes.

The suspension system provides symmetric large signal behaviour throughout the whole working range, providing low harmonic distortion at different excitation levels.

The state-of-the-art 100mm (4in) 4-layers Interleaved Sandwich Voice coil (ISV) provides high levels of thermal stability and durability. The weight of the windings are evenly distributed, providing a uniform motive drive. This, in conjunction with the use of state-of-the-art high temperature resin adhesives, results in an extremely linear motor assembly.

The 15NLW9400 ability to perform properly under inclement weather conditions has been achieved using a special coating applied to both the top and back plates.

022158N180 8 Ohm **027158N180 Recone-kit 8 Ohm**



NEODYMIUM LF-MB-MF TRANSDUCERS

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15NLW9400

Extended Low Frequency Neo Transducer

GENERAL SPECIFICATIONS

NOMINAL DIAMETER	380mm (15 in)
RATED IMPEDANCE	8 ohms
AES POWER (1)	1000W
PROGRAM POWER (2)	1400W
PEAK POWER (3)	7000W
SENSITIVITY (4)	97dB
FREQUENCY RANGE (5)	40 - 4000 Hz
POWER COMPRESSION @ -10 DB (6)	0,6 dB
POWER COMPRESSION @ -3 DB	2 dB
POWER COMPRESSION @ 0 DB	2,9 dB
MAX RECOMM. FREQUENCY	1000 Hz
RECOMM. ENCLOSURE VOLUME	65 ÷ 150 lt. (2,30 ÷ 5,30 cuft)
MINIMUM IMPEDANCE	7,2 ohms at 25°C
MAX PEAK TO PEAK EXCURSION	40 mm (1,57 in)
VOICE COIL DIAMETER	100 mm (4 in)
VOICE COIL WINDING MATERIAL	aluminum
SUSPENSION	Triple roll, Polycotton
CONE	Straight ribbed, Paper

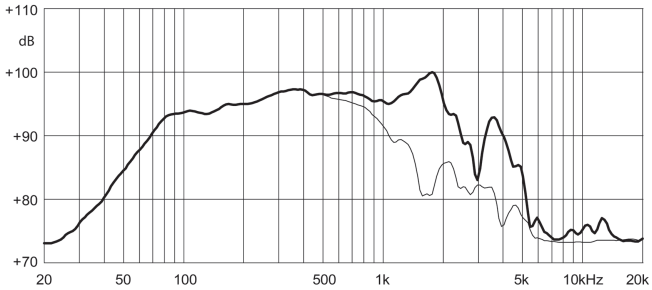
THIELE SMALL PARAMETERS (7)

Fs	42 Hz
Re	5,2 ohms
Sd	0,09 sq.mt. (139,5 sq.in.)
Qms	10,4
Qes	0,29
Qts	0,28
Vas	118 lt. (4,2 cuft)
Mms	131 gr. (0,29 lb)
BL	25 Tm
Linear Mathematical Xmax (8)	±9,5 mm (±0,37 in)
Le (1kHz)	1,1 mH
Ref. Efficiency 1W@1m (half space)	96,9 dB

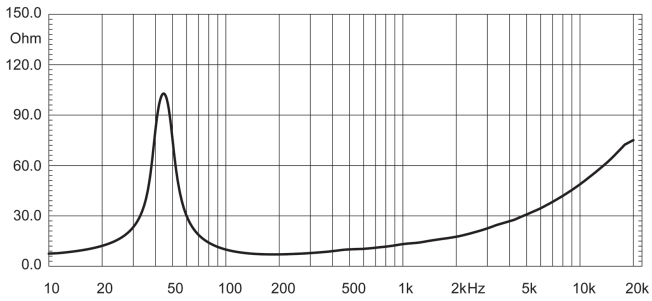
MOUNTING INFORMATIONS

Overall diameter	387 mm (15,24 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	370-371 mm (14,55-14,6 in)
Front mount baffle cutout diameter	353 mm (13,90 in)
Rear mount baffle cutout diameter	357 mm (14,06 in)
Total depth	174 mm (6,85 in)
Flange and gasket thickness	19,5 mm (0,76 in)
Net weight	6,8 kg (15 lb)
Shipping weight	7,6 kg (16,78 lb)
CardBoard Packaging dimensions	405x405x214 mm (15,94x15.94x8,43 in)

FREQUENCY RESPONSE CURVE OF 15NLW9400 MADE ON 125 LIT. ENCLOSURE TUNED AT 50HZ 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 125 lt enclosure tuned at 50Hz 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 1000W 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.