

# 18NLW9400

## Extended Low Frequency Neo Transducer

### Key Features

- 98 dB SPL 1W / 1m average sensitivity
- 100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
- 2400 Watt program power handling
- Fiberglass reinforced straight ribbed cone
- Double Silicon Spider (DSS) for increased excursion control and linearity
- High grade neodymium magnet assembly
- Recommended for subwoofer usage in compact vented or bandpass enclosures
- Weather protected cone and plates for outdoor usage



### General Description

The 18NLW9400 is a 18" (460 mm) extended low frequency loudspeaker, designed for use as a low bass or subwoofer component, in vented or bandpass configuration. The loudspeaker design provides clean and undistorted LF reproduction at a very high SPL and enables the transducer to withstand high power levels without damage. For optimum results we recommend amplifiers able to deliver 2400 Watt program power.

The high grade neodymium magnet assembly is able to resist to the most demanding environmental operative conditions.

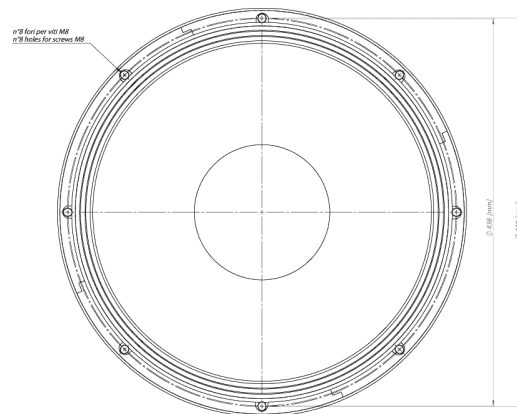
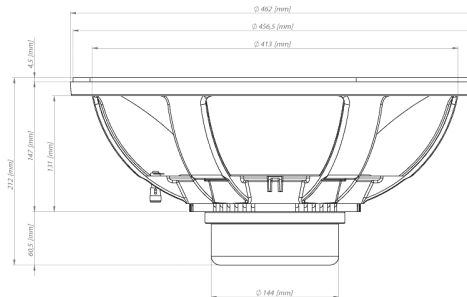
18NLW9400 features include a large displacement suspension system which, in conjunction with a fiberglass reinforced, straight ribbed cone and the Eighteen Sound proprietary Double Silicon Spider (DSS) technology, allows an ultra-linear piston action and provides full mechanical control across the entire working range.

The 100mm (4 in) copper round wire state-of-the-art voice coil, based on Interleaved Sandwich Voice coil (ISV) technology, provides high levels of thermal stability and durability. The ISV technology achieves a balanced linear motor unit exerting an exceptionally high force factor. This is realised through a high strength fiberglass former with half the coil wound half on the outside and half on the inside and bonded together using unique high-temperature resin adhesives.

18NLW9400 is able to perform properly under inclement weather conditions: the exclusive cone treatment improves pulp strength and gives water repellent properties to both sides of the cone. In addition, the special treatment applied to top and back plates of the magnetic structure is far more resistant to the corrosive effects of salts and oxidation.

022188N940 8ohm  
022184N940 4ohm

R-KIT 027188N940 8ohm  
R-KIT 027184N940 4ohm



NEODYMIUM LF-MB-MF TRANSDUCERS

# 18NLW9400

Extended Low Frequency Neo Transducer

## GENERAL SPECIFICATIONS

NOMINAL DIAMETER	460mm (18 in)
RATED IMPEDANCE	8 ohm
AES POWER (1)	1200W
PROGRAM POWER (2)	2400W
PEAK POWER (3)	7000W
SENSITIVITY (4)	98 dB
FREQUENCY RANGE (5)	30 - 2500 Hz
POWER COMPRESSION @ -10 DB (6)	0,7 dB
POWER COMPRESSION @ -3 DB	1,5 dB
POWER COMPRESSION @ FULL POWER	2,2 dB
MAX RECOMM. FREQUENCY	500 Hz
RECOMM. ENCLOSURE VOLUME	110 ÷ 350 lt. (3.9 ÷ 12.36 cuft)
MINIMUM IMPEDANCE	6,1 ohm at 25°C
MAX PEAK TO PEAK EXCURSION	50 mm (2 in)
VOICE COIL DIAMETER	100 mm (4 in)
VOICE COIL HEIGHT	24 mm (0.94 in)
VOICE COIL WINDING MATERIAL	Copper round wire
SUSPENSION	Triple roll, Treated Polycotton
CONE	Straight ribbed, Fiberglass reinforced cellulose

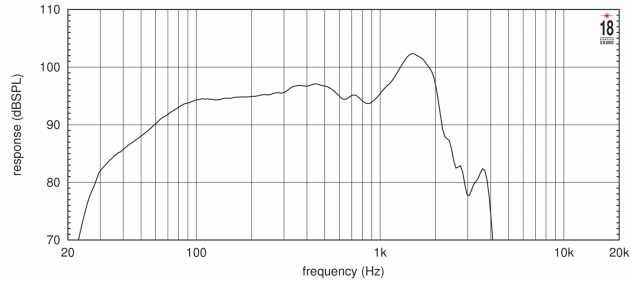
## THIELE SMALL PARAMETERS (7)

Fs	33 Hz
Re	5 ohm
Sd	0,1225 sq.mt. (189,88 sq.in.)
Qms	6,10
Qes	0,28
Qts	0,26
Vas	268 lt. (9.47 cuft)
Mms	180 gr. (0.40 lb)
BL	26 Tm
Linear Mathematical Xmax (8)	±9,5 mm (±0,37 in)
Le (1kHz)	1,90 mH
Ref. Efficiency 1W@1m (half space)	97,4 dB

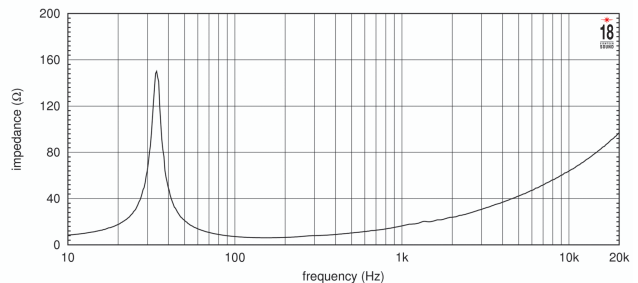
## MOUNTING INFORMATION

Overall diameter	462 mm (18,19 in)
Mounting holes diameter	8 x 8,5 mm (0,33 in)
Bolt circle diameter	438-440 mm (17,24-17,32 in)
Front mount baffle cutout diameter	416 mm (16,38 in)
Rear mount baffle cutout diameter	422 mm (16,61 in)
Total depth	223,5 mm (8,8 in)
Flange and gasket thickness	26 mm (1,02 in)
Net weight	8,7 kg (19.2 lb)
Shipping weight	9,9 kg (21.8 lb)
Packaging dimensions	482 x 482 x 257 mm (19 x 19 x 10,1 in)

**FREQUENCY RESPONSE CURVE OF 18NLW9400 MADE ON 180 LIT. ENCLOSURE TUNED AT 35HZ 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 180lit enclosure tuned 35Hz using a 40-400Hz band limited pink noise test signal 50% duty cycle applied continuously 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 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.

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

