

18NLW9601

Extended LF Neodymium Driver

KeyFeatures

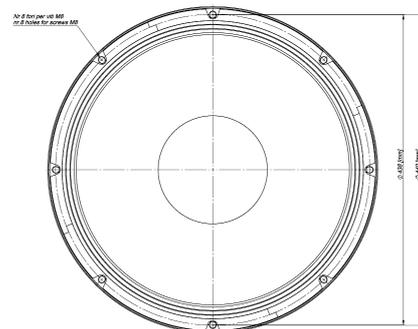
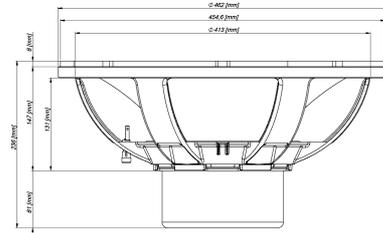
- 96 dB SPL 1W / 1m average sensitivity
- 135 mm (5.3 in) split winding four layers ISV aluminum voice coil
- 3600 W program power handling
- Carbon fiber reinforced cellulose cone
- Double Silicon Spider (DSS) for improved excursion control
- Aluminum demodulating ring (SDR) for lower distortion
- High force neodymium magnet assembly
- Weather protected cone and plates for outdoor usage
- Suitable for reflex, bandpass or horn loaded high SPL subwoofer systems

Description

The 18NLW9601 is an extended low frequency 18 inch neodymium high performance transducer. It is the evolution of the industry standard 18NLW9600. The loudspeaker has been designed for use as a subwoofer component, in either a reflex, bandpass or horn loaded high SPL demanding applications. For optimum results recommended amplifier should be able to deliver 3600 Watt program power. At the heart of the transducer stands a double silicon spider based on DSS technology let the 18NLW9601 being able to control the moving mass with high linearity, showing an exceptional stability of mechanical parameter values in the long term. The state-of-the-art 5,3" diameter ISV copper clad aluminum wire CCAW voice coil shows a inside-outside split winding, four layers design, enabling the 18NLW9601 to handle up to 3600W program power. BI force factor, as well as all other electro-dynamic parameters, are linear within the working range. This, together with the exceptional high excursion behavior - 70mm before damage, ± 14 mm linear Xmax - makes the 18NLW9601 an extremely low distortion, highly dynamic transducer. The already low distortion and sound quality have been further improved by the aluminum demodulating ring (SDR technology), that flatten impedance and phase versus frequency. The 18NLW9601 has been developed after intense FEA and fluidodynamics simulation and testing, focusing on dissipating the heat generated by the powerful voice coil. Special attention was given to the optimization of air flow into the gap without introducing audible noise. A low-density foam diffractor placed into the vent hole acts as a cooling system, increasing the power handling capability and lowering the power compression figure. The carbon fiber reinforced, straight ribbed cone shows a proprietary resin treatment for extra pulp strength and water repellent properties. A special coating applied to both the top and back plates makes the transducer far more resistant to the corrosive effects of salts and oxidation.

Models

Model	Code	Information
022188N010	022188N010	8 Ohm
022184N010	022184N010	4 Ohm



Extended LF Neodymium Driver

General Specifications

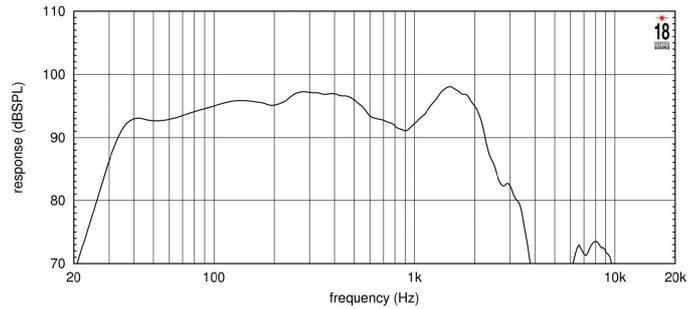
Nominal Diameter	462mm (18 in)
Rated Impedance	8 Ohm
AES Power	1800W
Program Power	3600W
Peak Power	10000W
Sensitivity	96 dB
Frequency Range	30 - 2300 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	1,3 dB
Power Compression @Full Power	2,2 dB
Max Recomm. Frequency	150 Hz
Recomm. Enclosure Volume	110 ÷ 350 Lt. (3,89 ÷ 12,36 cuft)
Minimum Impedance	6,1 Ohm at 25°C
Max Peak To Peak Excursion	70 mm (2,75 in)
Voice Coil Diameter	135 mm (5,3 in)
Voice Coil Winding material	Aluminum
Suspension	Triple Roll, Heavy Polycotton
Cone	Straight ribbed carbon fiber loaded cellulose

Thiele Small Parameters

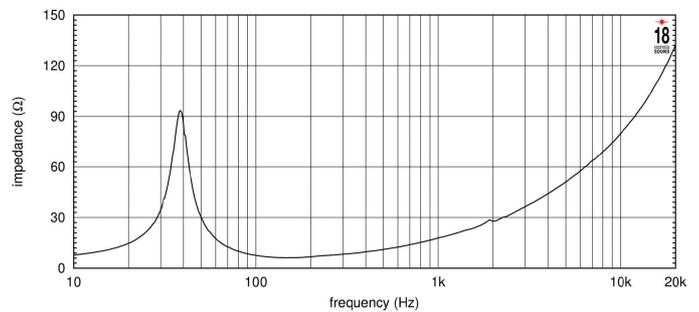
Fs	39 Hz
Re	4,7 Ohm
Sd	0,113 sq.mt. (175.15 sq.in.)
Qms	5,70
Qes	0,30
Qts	0,28
Vas	120 Lt. (5,79 cuft)
Mms	255 gr. (0,6 lb)
BL	31 Tm
Linear Mathematical Xmax	±14 mm (±0,55 in)
Le (1kHz)	2,19 mH
Ref. Efficiency 1W@1m (half space)	95,6 dB

Mounting information

Overall diameter	462 mm (18,18 in)
N. of mounting holes and bolt	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	440mm (17,32 in)
Front mount baffle cutout Ø	416 mm (16,38 in)
Rear mount baffle cutout Ø	422 mm (16,61 in)
Total depth	236 mm (9,29 in)
Flange and gasket thickness	26 mm (1,02 in)
Net weight	12,8 kg (27,6 lb)
Shipping weight	14,3 kg (31,50 lb)
CardBoard packaging dimensions	482x482x257 mm (19x19x10,1 in)



FREQUENCY RESPONSE CURVE OF 18NLW9601 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) Power = V^2/Z_{min} . 12dB crest factor, 50% duty cycle, 12dB/8ve 40Hz - 400Hz in 180L/35Hz enclosure, 2 Hours.
- 2) Program power rating is measured in 180 lit enclosure tuned 35Hz 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 3V sine wave test signal swept between 100Hz and 500Hz with the test specimen mounted in the same enclosure as given for 2 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) Linear Math. Xmax is calculated as $(H_{vc} \cdot H_g) / 2 + H_g / 4$ where Hvc is the coil depth and Hg is the gap depth.