18NLW9601

Extended LF Neodymium Driver

Key Features

- 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 teh 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. Bl 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, ±14mm 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 diffuser 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 oxidization.

Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
<th>Information</th>
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<tbody>
<tr>
<td>022188N010</td>
<td>022188N010</td>
<td>8 Ohm</td>
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<tr>
<td>022184N010</td>
<td>022184N010</td>
<td>4 Ohm</td>
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</table>
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**: 300 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 lit. (5.79 cuft)
- **Mms**: 255 gr. (0.6 lb)
- **BL**: 31 Trm
- **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 (31.5 lb)
- **CardBoard packaging dimensions**: 482x482x257 mm (19x19x10.1 in)

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**Notes**

1) Power = V^2/Zmin. 12dB crest factor, 50% duty cycle, 1280Wave 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 1m distance 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 10dB below the rated sensitivity in half space environment.
6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.