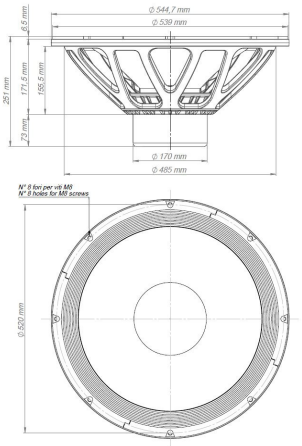
21NLW5300 8Ω

LF drivers - 21.0 Inches



- 98,5 dB SPL 1W / 1m average sensitivity
- 135 mm (5.3 in) Interleaved Sandwich Voice coil (ISV)
- 3600W program power handling
- Single Demodulating Ring (SDR) for lower distortion
- Double silicon spider (DSS)
- Composite reinforced curvilinear ribbed cone
- Recommended for subwoofer usage in compact vented enclosures

The 21NLW5300 is an ultra low frequency 21 inch neodymium high performance transducer. The transducer has been optimized for direct radiation and bandpass subwoofer cabinet designs. For optimum results recommended amplifier should be able to deliver 3600 Watt program power without clipping. At the heart of the updated design stays the improved double silicon spider based on DSS technology, letting the 21NLW5300 being able to control the moving mass with high linearity, showing an exceptional stability of mechanical parameter values in the long term. The transducer design features include a high performance large displacement suspension system for improved cone control at very high level of SPL matching. Eighteen Sound engineers have obtained the best possible results with today's available materials in terms of clean and undistorted LF reproduction at a ultra high SPL, with the lowest possible power compression figure. The state-of-the-art 5,3" diameter ISV copper voice coil is an inside-outside split winding, four layers design, enabling the 21NLW5300 to handle up to 3600W program power. Bl force factor, as well as all other electro-dynamic parameters, are linear within the working range. The high excursion design (±15,3mm linear Xmax) makes the The 21NLW5300 capable of amazing SPL in direct radiation enclosures and its motor has been developed after intense FEA and fluidodynamics simulation and testing, focusing on dissipating the heat generated by the powerful 5.3" coil. Special attention was given to the optimization of air flow into the gap without introducing audible noise. A special low density material air diffractor placed into the backplate acts as a cooling system, increasing the power handling capability and lowering the power compression figure. The low distortion and sound quality are further improved by an aluminum demodulating ring (SDR technology) that flatten impedance and phase with a constant power transfer. The carbon fiber reinforced 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.

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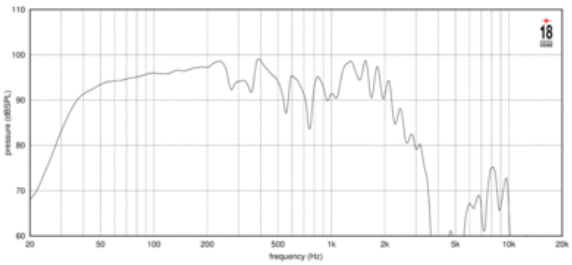

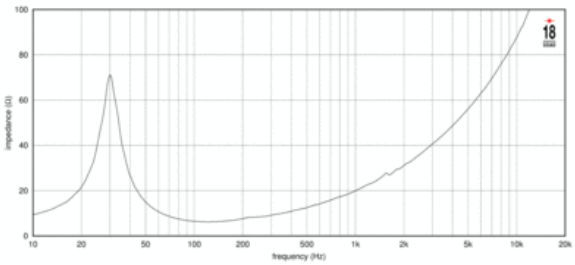

SPECIFICATIONS

Nominal Diameter	533 mm (in)
Nominal Impedance	8 Ω
Minimum Impedance	6.2 Ω
Nominal Power Handling[1]	1800 W
Continuous Power Handling[2]	3600 W
Sensitivity[3]	98.5 dB
Frequency Range	30 - 500 Hz
Voice Coil Diameter	135 mm (5.3 in)
Winding Material	aluminum
Winding Depth	36.5 mm (1.44 in)
Magnetic Gap Depth	12.0 mm (0.47 in)

DESIGN

Surround Shape	Triple roll
Cone Shape	Curvilinear
Magnet Material	Neo
Spider	Double Silicon Spider
Woofer Cone Treatment	Weather protected
Recommended Enclosure	250.0 dm^3 (8.83 ft^3)
Recommended Tuning	33 Hz

PARAMETERS[4]

Resonance Frequency	31 Hz
Re	5.2 Ω
Qes	0.34
Qms	4.7
Qts	0.32
Vas	325.0 dm^3 (11.48 ft^3)
Sd	1662.0 cm^2 (257.61 in^2)
η_0	2.6 %
Xmax	15.3 mm
Xvar	13.2 mm
Mms	327.0 g
Bl	31.0 Txm
Le	2.6 mH
EBP	91 Hz

MOUNTING AND SHIPPING INFO

Overall Diameter	545 mm (21.46 in)
Bolt Circle Diameter	520 mm (20.47 in)
Baffle Cutout Diameter	492.0 mm (19.37 in)
Depth	251 mm (9.88 in)
Flange and Gasket Thickness	22 mm (0.89 in)
Net Weight	14.0 kg (30.86 lb)
Shipping Weight	15.5 kg (34.17 lb)
Shipping Box	570x570x290 mm (22.44x22.44x11.42 in)

1. 2 hours test made with continuous pink noise signal within the range Fs-10Fs. Power calculated on rated minimum impedance. Loudspeaker in free air.
2. Power on Continuous Program is defined as 3 dB greater than the Nominal rating.
3. Applied RMS Voltage is set to 2.83 V for 8 ohms Nominal Impedance.
4. Thiele-Small parameters are measured after a high level 20 Hz sine wave preconditioning test.