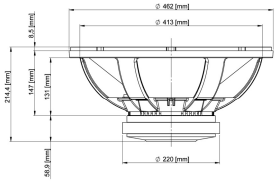
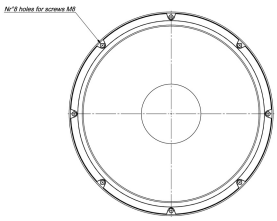
18LW2400 8Ω

LF drivers - 18.0 Inches





- 98 dB SPL 1W / 1m average sensitivity
- 100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
- 2400 W program power handling
- Fiberglass reinforced cone
- Double Silicon Spider (DSS) for superior excursion control and linearity
- Double Demodulating Rings (DDR) for lower distortion
- Improved heat dissipation via multi-cell air diffractor and multiple backplate vents
- Weather protected cone and plates for outdoor usage
- Ideal for high SPL subwoofer designs

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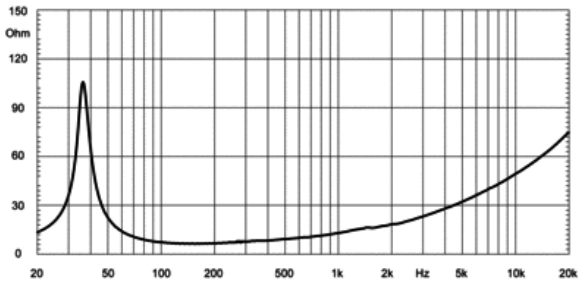
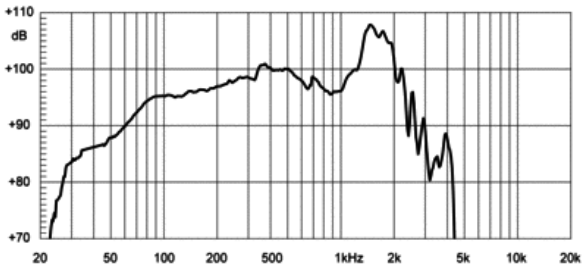
The 18LW2400 is an 18 inch extended low frequency loudspeaker designed for high SPL subwoofer applications in either a reflex, bandpass or horn loaded configuration. Compared to our industry standard 18LW1400, the 18LW2400 provides higher maximum SPL, increased program power handling and lower power compression. For optimum results we recommend amplifiers able to deliver 2400 Watt program power without clipping. Transducer design 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 100 mm (4 in) inside-outside copper voice coil based on Interleaved Sandwich Voice coil (ISV) technology provides high levels of thermal stability and durability. In order to furtherly increase power handling and reduce power compression figure, 18LW2400 uses the same voice coil ventilation technology developed for our flagship 9000 neodymium transducer series. A special low density material air diffractor has been placed into the backplate acting as a cooling system, increasing power handling capability and lowering the power compression figure. As a final result Eighteen Sound engineers obtained almost 1 dB reduction in full power power compression value if compared to 18LW1400, and an increased program power handling value of 2400 Watt. The low distortion and unmatched sound quality of the 18LW2400 has been significantly improved by Double Demodulating Rings (DDR) embedded in the pole piece of the magnetic structure. These have been designed to reduce the intermodulation and harmonic distortion while improving the transient response. 10% reduction in weight have been obtained optimizing the magnetic structure through advanced FEA CAD simulation tools. 18LW2400 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 oxidization.





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SPECIFICATIONS

Nominal Diameter	460 mm (in)
Nominal Impedance	8 Ω
Minimum Impedance	6.3 Ω
Nominal Power Handling[1]	1200 W
Continuous Power Handling[2]	2400 W
Sensitivity[3]	98.0 dB
Frequency Range	31 - 2500 Hz
Voice Coil Diameter	100 mm (4.0 in)
Winding Material	copper

DESIGN

Surround Shape	Triple roll
Cone Shape	Straight
Magnet Material	Ferrite
Woofer Cone Treatment	Weather protected
Recommended Enclosure	220.0 dm^3 (7.77 ft^3)
Recommended Tuning	37 Hz

PARAMETERS[4]

Resonance Frequency	35 Hz
Re	5.0 Ω
Qes	0.32
Qms	7.2
Qts	0.31
Vas	230.0 dm^3 (ft^3)
Sd	1225.0 cm^2 (189.88 in^2)
Xmax	9.5 mm
Mms	192.0 g
Bl	25.6 Txm
Le	1.35 mH
EBP	109 Hz

MOUNTING AND SHIPPING INFO

Overall Diameter	462 mm (18.19 in)
Bolt Circle Diameter	438 mm (17.24 in)
Baffle Cutout Diameter	416.0 mm (16.38 in)
Depth	214 mm (8.43 in)
Flange and Gasket Thickness	24 mm (0.94 in)
Net Weight	12.75 kg (28.11 lb)
Shipping Weight	13.8 kg (30.42 lb)
Shipping Box	482 x 482 x 257 mm (18.98x18.98x10.12 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.

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