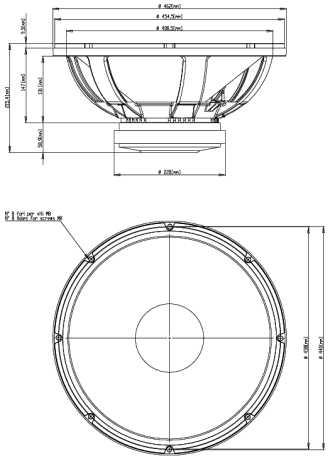
18LW1400 8Ω

LF drivers - 18.0 Inches



- 98 dB SPL 1W / 1m average sensitivity
- 100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
- 1000W AES power handling
- Carbon fiber reinforced straight ribbed cone
- Double Silicon Spider (DSS) for improved excursion control and linearity
- Double Demodulating Rings (DDR) for lower distortion
- Improved heat dissipation via unique basket design and multiple backplate vents
- Weather protected cone and plates for outdoor usage
- Ideal for high SPL subwoofer designs

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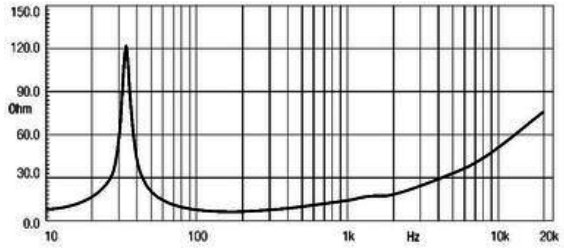
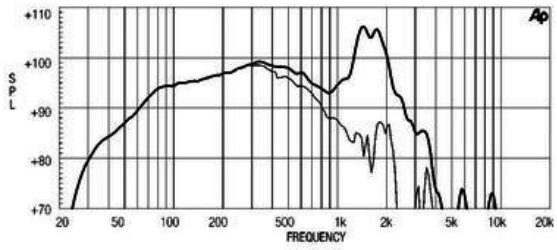
The 18LW1400 is an extended low frequency loudspeaker which sets an industry standard in 18" (460 mm) high performance transducers. It has been designed for use as a low bass or sub-woofer component, in either a reflex, bandpass or horn loaded configuration, in high power auditorium or arena loudspeaker systems. The transducer provides clean, undistorted low frequency reproduction at very high sound pressure levels and is able to withstand high power levels without damage. 18LW1400 design features include a large displacement suspension system which, in conjunction with a carbon fiber reinforced, straight ribbed cone and the Double Silicon Spider (DSS), assure an ultra-linear piston action and provide full control across the entire working range. A 100mm copper voice coil based on Interleaved Sandwich Voice coil (ISV) technology increases this control, providing high levels of thermal stability and durability. ISV technology is based on a high strength fiberglas former with half the coil wound on the outside and half on the inside and bonded together using unique high temperature resin adhesives. Hence, a balanced linear motor unit, exerting an exceptionally high force factor is achieved. The low distortion and unmatched sound quality of the 18LW1400 has been significantly improved by the Double Demodulating Rings (DDR) embedded in the pole piece of the magnetic structure. These have been designed to dramatically reduce the intermodulation and harmonic distortion while improving the transient response. Excellent heat dissipation has been achieved from the special basket design which incorporates air channels between the basket and the magnetic top plate. In addition, 8 air vents incorporated into the back plate are aligned with the voice coil to force air into the lower part of the gap. Maximum flux density in the gap is assured by the top and back plate design, resulting in a high BL factor. 18LW1400 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	6.4 Ω
Nominal Power Handling[1]	1000 W
Continuous Power Handling[2]	1400 W
Sensitivity[3]	98.0 dB
Frequency Range	28 - 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	33 Hz

PARAMETERS[4]

Resonance Frequency	31 Hz
Re	5.0 Ω
Qes	0.31
Qms	7.2
Qts	0.29
Vas	297.0 dm^3 (10.49 ft^3)
Sd	1225.0 cm^2 (189.88 in^2)
Xmax	9.0 mm
Mms	190.0 g
Bl	24.7 Txm
Le	2.3 mH
EBP	100 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	215 mm (8.46 in)
Flange and Gasket Thickness	26 mm (1.02 in)
Net Weight	13.3 kg (29.32 lb)
Shipping Weight	14.9 kg (32.85 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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