

15LW2400

Extended LF Ferrite Transducer

KeyFeatures

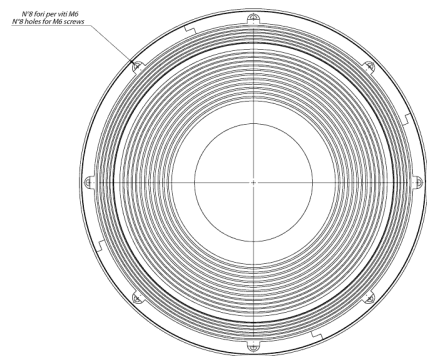
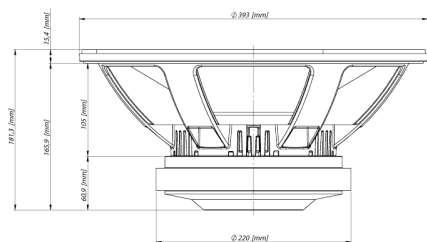
- 97 dB SPL 1W / 1m average sensitivity
- 100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
- 2400 W program power handling
- Weather protected fiberglass reinforced cellulose cone
- Double Silicon Spider (DSS) for improved excursion control and linearity
- Double Demodulating Rings (DDR) for lower distortion
- Unlimited life lead wire construction
- Improved heat dissipation via multi-cell air diffractor and multiple backplate vents
- Suitable for 60 to 130 liters low bass or subwoofer applications

Description

The 15LW2400 has been developed as an evolution of the 15LW1401 low frequency transducer, setting a new industry standard in 15" (380 mm) ferrite high performance transducers. The speaker has been designed for use as a low bass or sub-woofer component in a compact cabinet (60 - 130 lt) reflex configuration, providing clean, linear, undistorted low frequency reproduction at very high power levels. The high excursion capabilities of the Double Silicon Spider (DSS) enable the 15LW2400 to achieve high levels of linear travel and maintain full control of the moving mass. The fiberglass fiber reinforced, straight-sided ribbed cone assures smooth response with high internal damping. The 100 mm Ø copper voice coil employs the Interleaved Sandwich Voice coil (ISV) technology, in which a high strength fiberglass former carries windings on both the outer and inner surfaces to achieve a mass balanced coil. The weight of the windings are evenly distributed, providing a uniform motive drive. The already low distortion and sound quality of 15LW2400 has been further improved by the Double Demodulation Rings (DDR) designed to dramatically reduce the intermodulation and harmonic distortion whilst improving the transient response. Excellent heat dissipation has been achieved by incorporating air channels between the basket and the top plate of the magnet. Further ventilation is provided using air vents in the back plate that direct air into the lower part of the voice coil gap. In order to furtherly increase power handling and reduce power compression figure, 15LW2400 uses the same voice coil ventilation technology developed for our flagship 9000 neodymium transducer series. A low density material air diffractor is placed into the backplate acting as a cooling system, increasing power handling capability and lowering the power compression figure. As a final result the transducer shows 1 dB reduction in full power power compression value if compared to 15LW1401, and a program power handling value of 2400 Watt. 10% reduction in weight have been obtained optimizing the magnetic structure through advanced FEA CAD simulation tools. The 15LW2400 ability to perform properly under inclement weather conditions has been achieved using an exclusive cellulose treatment which gives water repellent properties to both sides of the cone. In addition, an epoxy coating is applied to metal plates in order to resist against the corrosive effects of salts and oxidization.

Models

| Model | Code | Info |
|------------|------------|-------|
| 0221582400 | 0221582400 | 8 Ohm |
| 0221542400 | 0221542400 | 4 Ohm |



General Specifications

| | |
|-------------------------------|--|
| Nominal Diameter | 380 mm (15 in) |
| Rated Impedance | 8 Ohm |
| AES Power | 1200 W |
| Program Power | 2400 W |
| Peak Power | 7000 W |
| Sensitivity | 97 dB |
| Frequency Range | 40 - 2200 Hz |
| Power Compression @-10dB | 0,7 dB |
| Power Compression @-3dB | 1,5 dB |
| Power Compression @Full Power | 2,2 dB |
| Max Recomm. Frequency | 500 Hz |
| Recomm. Enclosure Volume | 60 - 130 lt. (2.12 - 4.59 cuft) |
| Minimum Impedance | |
| Max Peak To Peak Excursion | 38 mm (1,53 in) |
| Voice Coil Diameter | 100 mm (4 in) |
| Voice Coil winding material | copper |
| Suspension | Triple roll, Polycotton |
| Cone | Straight ribbed, Fiberglass reinforced treated cellulose |

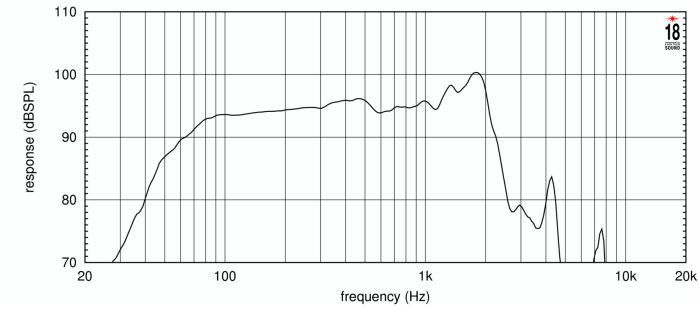
Thiele Small Parameters

| | |
|------------------------------------|-----------------------------|
| Fs | 40 Hz |
| Re | 5,3 Ohm |
| Sd | 0,090 sq.mt. (139,5 sq.in.) |
| Qms | 4,75 |
| Qes | 0,32 |
| Qts | 0,3 |
| Vas | 131 lt. (4.63 cuft) |
| Mms | 138 gr. (0,30 lb) |
| BL | 24 Tm |
| Linear Mathematical Xmax | ± 10 mm (±0,39 in) |
| Le (1kHz) | 1,25 mH |
| Ref. Efficiency 1W@1m (half space) | 96,4 dB |

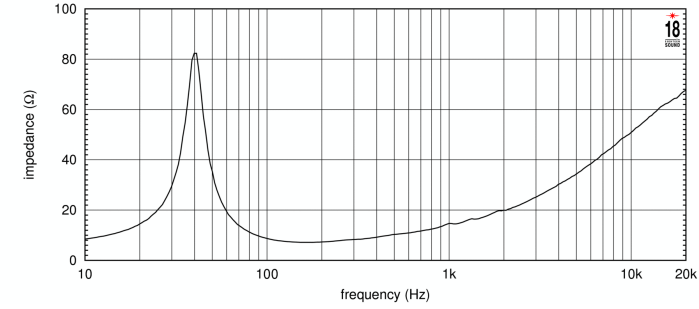
Mounting information

| | |
|-------------------------------|--|
| Overall diameter | 393 mm (15.47 in) |
| N. of mounting holes and bolt | 8 |
| Mounting holes diameter | 7,15 mm (0,28 in) |
| Bolt circle diameter | 371 mm (14.6 in) |
| Front mount baffle cutout ø | 354mm (13.93 in) |
| Rear mount baffle cutout ø | 360 mm (14.17 in) |
| Total depth | 181 mm (7.13 in) |
| Flange and gasket thickness | 12,5 mm (0,49 in) |
| Net weight | 11,2 kg (24.7 lb) |
| Shipping weight | 12,2 kg (26.9 lb) |
| Packaging Dimensions | 405 x 405 x 214 mm (15,94 x 15,94 x 8,43 in) |

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE MADE ON 125 LIT. ENCLOSURE TUNED 50HZ IN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER. FREE AIR IMPEDANCE MAGNITUDE CURVE



Notes

- 1) AES power is determined according to AES2-1984 (r2003) standard.
- 2) Program power rating is measured in 125 lit enclosure tuned 50Hz 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 2,83V sine wave test signal swept between 100Hz and 500Hz with the test specimen mounted in the same enclosure as given for (1) 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) Power compression represents the loss of sensitivity for the specified power, measured from 40-400 Hz, after a 5 min pink noise preconditioning test at the specified power.
- 7) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

