15W1301

Low Frequency Ferrite Transducer

Key Features

99 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
800 W continuous pink noise power handling
Weather protected cone and plates for outdoor usage
Twin Spider (TS) for improved linearity
Double Demodulating Rings (DDR) for lower distortion
Improved heat dissipation via unique basket design

General Description

The 15W1301 is a low frequency loudspeaker which sets a new industry standard in 15" (380 mm) high output transducers. The 15W1301 is an ideal bass reflex driver but it is also very suitable for bandpass enclosures. It has been designed for use as the low frequency component in high power fixed loudspeaker systems, cinema bass channels, bass instrument cabinets, etc., where extended bass response is required.

The 15W1301 is fitted with a lightweight, shallow profile, carbon fiber reinforced, straight ribbed cone carried by a triple roll, polycotton suspension and special twin spider assembly. The result is a tightly controlled piston assembly with exceptional linearity, featuring a higher free-air resonant frequency, thanks to a lower moving mass. These characteristics, coupled with the high continuous power handling capability and high sensitivity, produce a driver which is the perfect choice for reflex systems.

The state-of-the-art voice coil employs our own Interleaved Sandwich Voice coil (ISV) technology in which a high strength fiberglas former carries windings on both the outer and inner surfaces to achieve a balanced coil with a uniform distribution of mass and motive energy. This results in an extremely linear motor assembly.

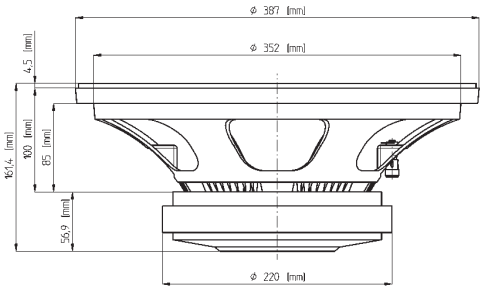
The excellent performance capabilities of this loudspeaker have been further enhanced using Double Demodulating Rings (DDR) designed to dramatically reduce the intermodulation and harmonic distortion and improve the transient response.

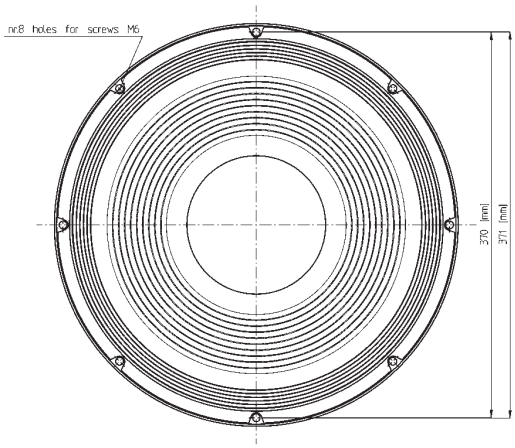
Heat dissipation has been achieved by incorporating air channels between the basket and the magnetic top plate. Further ventilation is provided using air vents in the back plate that direct air into the lower part of the voice coil gap.

The magnetic structure has been optimized using our in-house FEA CAD resource to maximize the flux density within the voice coil gap.

An exclusive cone treatment process designed to improve the paper pulp strength and provide water repellent properties is applied to both sides of the cone. This, in conjunction with the special anti-corrosion treatment given to both the top and back plates, enables the 15W1301 to be used outdoors and in marine environments.

0221584150 8 Ohm





FERRITE LF-MB-MF TRANSDUCERS

info@eighteensound.com
www.eighteensound.com

15W1301

Low Frequency Ferrite Transducer

GENERAL SPECIFICATIONS

NOMINAL DIAMETER	380 mm (15 in)
RATED IMPEDANCE	8 Ohm
CONTINUOUS PINK NOISE (1)	800 W
CONTINUOUS POWER (2)	600 W
PROGRAM POWER (3)	1200 W
PEAK POWER (4)	3000 W
SENSITIVITY (5)	99 dB
FREQUENCY RANGE (6)	39 ÷ 2800 Hz
POWER COMPRESSION @-10DB (7)	0,7 dB
POWER COMPRESSION @-3DB	2,5 dB
POWER COMPRESSION @FULL POWER	3,5 dB
MAX RECOMM. FREQUENCY	1200 Hz
RECOMM. ENCLOSURE VOLUME	70 ÷ 300 lt. (2,47 ÷ 10,6 cuft)
MINIMUM IMPEDANCE	6,7 Ohm at 25°C
MAX PEAK TO PEAK EXCURSION	39 mm (1,53 in)
VOICE COIL DIAMETER	100 mm (3,95 in)
VOICE COIL WINDING MATERIAL	aluminum
POLARITY	positive voltage on red terminal gives forward cone motion

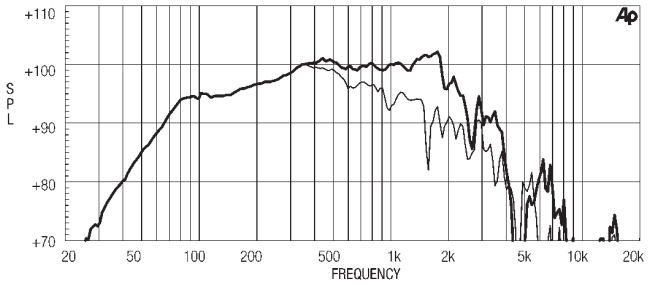
THIELE SMALL PARAMETERS (8)

Fs	48 Hz
Re	5,5 Ohm
Sd	0,090 sq.mt. (139,5 sq.in.)
Qms	8,5
Qes	0,37
Qts	0,32
Vas	123 lt. (4,34 cuft)
Mms	99 gr. (0,22 lb)
BL	22,3 Tm
Linear Mathematical Xmax (9)	± 6 mm (±0,24 in)
Le (1kHz)	1,55 mH
Ref. Efficiency 1W@1m (half space)	97,4 dB

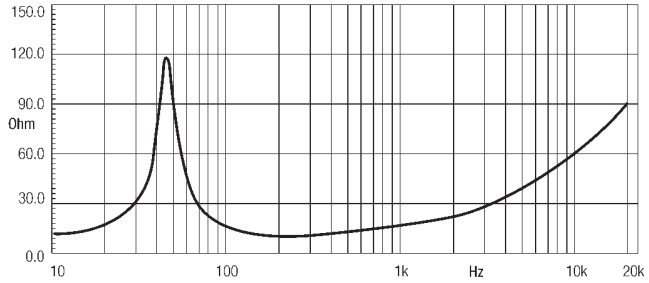
MOUNTING INFORMATIONS

Overall diameter	387 mm (15,23 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	370 - 371 mm (14,55 - 14,6 in)
Front mount baffle cutout ø	353 mm (13,90 in)
Rear mount baffle cutout ø	357 mm (14,06 in)
Total depth	161,4 mm (6,35 in)
Flange and gasket thickness	19,5 mm (0,76 in)
Net weight	12,3 kg (27,15 lb)
Shipping weight	13,4 kg (29,58 lb)
CardBoard Packaging dimensions	405 x 405 x 214 mm (15,94 x 15,94 x 8,43 in)

FREQUENCY RESPONSE CURVE OF 15W1301 MADE ON 125 LIT. ENCLOSURE TUNED 50HZIN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER. THE THIN LINE REPRESENTS 45 DEG. OFF AXIS FREQUENCY RESPONSE



FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

(1) AES standard

(2) Continuous power rating is measured in 125 lit enclosure tuned 50Hz using a 40 - 400Hz band limited pink noise test signal applied continuously for 2 hours.

(3) Program power rating is measured as for 2 above but 50% duty cycle.

(4) The peak power rating is based on a 6dB crest factor above the continuous power rating and represents the maximum permitted instantaneous peak power level over a maximum period of 10ms which will be withstood by the loudspeaker without damage.

(5) 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 2 above.

(6) 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.

(7) Power compression represents the loss of sensitivity for the specified power, measured from 50-500 Hz, after a 5 min pink noise preconditioning test at the specified power.

(8) Thiele - Small parameters are measured after the test specimen has been conditioned by 1000 W AES power and represent the expected long term parameters after a short period of use.

(9) Linear Mat. Xmax is calculated as; (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hgis the gap depth.