

15TLW3000

Extended Low Frequency Tetracoil Transducer

KeyFeatures

- 95,5 dB 1W/1m sensitivity
- 3000W program power handling
- 100mm (4in) ISV Tetracoil technology for maximum power handling
- 45 mm (1,77 in) peak to peak excursion
- Symmetric flux density and inductance behaviour
- Straight ribbed, water repellent composite cone
- Suitable for vented, horn loaded and bandpass subwoofer designs

Description

The 15TLW3000 is an 15 inch diameter high performance subwoofer, specifically designed for high SPL subwoofer applications in either a reflex, bandpass or horn loaded configuration. For optimum results we recommend the usage of power amplifiers able to deliver 3600W program power without clipping

The 15TLW3000 uses Eighteen Sound proprietary Tetracoil technology, where two different, axially separated magnetic gaps and two inside-outside 4" diameter voice coils are wound on the same former and suspended evenly in the two magnetic gaps.

The Tetracoil design key advantages are:

1) a symmetric flux density versus displacement behavior, that minimizes the even distortion products;

2) a very symmetric and flat inductance curve;

3) the equivalent voice coil diameter of a 4" Tetracoil speaker is greater than 6". Consequently heat dissipation occurs over a larger surface area, driving AES power handling up to 1500 W.

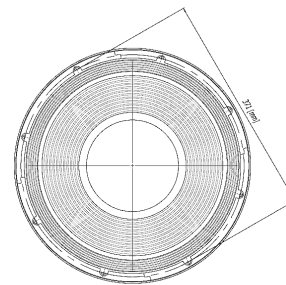
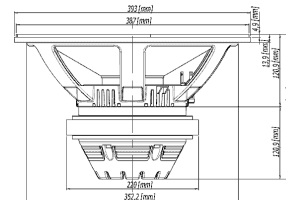
15TLW3000 design features include a large displacement suspension system which, in conjunction with a fiberglass reinforced, straight ribbed cone allows an ultra-linear piston action and provides full mechanical control across the entire working range.

In order to furtherly increase power handling and reduce power compression figure, a low density material air diffractor is placed into the backplate venting hole acting as a cooling system, increasing power handling capability and lowering the power compression figure.

15TLW3000 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 membrane. In addition, magnetic structure metal plates coating is far more resistant than standard zinc coating to the corrosive effects of salts and oxidization.

Models

Model	Code	Info
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General Specifications

Nominal Diameter	380 mm (15 in)
Rated Impedance	8 Ω
AES Power	1500 W
Program Power	3000 W
Peak Power	6000
Sensitivity	95,5 dB
Frequency Range	50 ÷ 2000 Hz
Power Compression @-10dB	0,5
Power Compression @-3dB	1,7
Power Compression @Full Power	3,0
Max Recomm. Frequency	1500 Hz
Recomm. Enclosure Volume	60 ÷ 150 lt. (2,12 ÷ 5,30 cu.ft)
Minimum Impedance	7 Ω at 25°
Max Peak To Peak Excursion	45 mm (1,77 in)
Voice Coil Diameter	100 mm (3.94 in)
Voice Coil winding material	Aluminum
Suspension	Triple roll, Polycotton
Cone	Straight ribbed composite, Water repellent

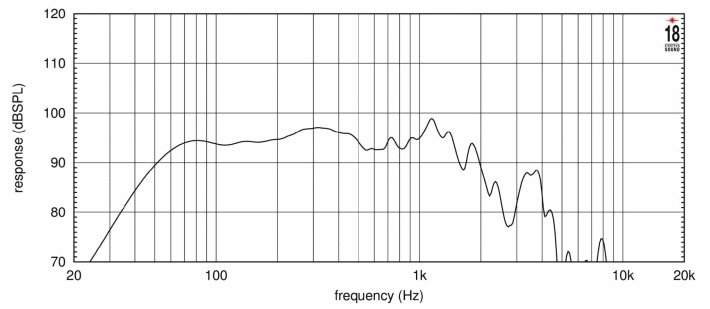
Thiele Small Parameters

Fs	42 Hz
Re	6,0 Ω
Sd	0,0881 sq.m (136.56 sq.in)
Qms	10,50
Qes	0,46
Qts	0,44
Vas	140 lt. (4,95 cu.ft)
Mms	157 gr. (0,35 lb)
BL	23,4 Tm
Linear Mathematical Xmax	±9 mm (±0.35 in)
Le (1kHz)	1,78 mH
Ref. Efficiency 1W@1m (half space)	1,5 %

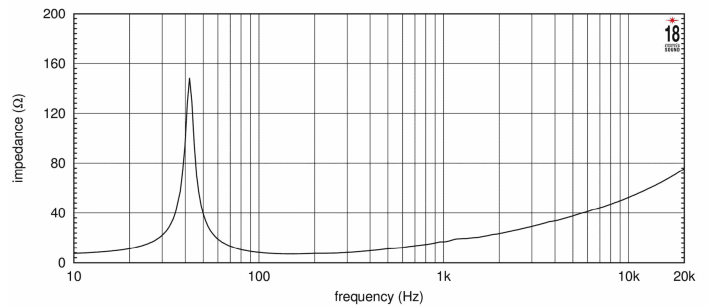
Mounting information

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 (14.61 in)
Front mount baffle cutout ø	354 mm (13,94 in)
Rear mount baffle cutout ø	360 mm (14,17 in)
Total depth	245 mm (9,65 in)
Flange and gasket thickness	12,5 mm (0,49 in)
Net weight	12,5 kg (27,56 lb)
Packaging Dimensions	400x400x260 mm (15,75x15,75x10,24 in)

FREQUENCY RESPONSE MADE IN 125 LT. ENCLOSURE TUNED AT 44 Hz IN FREE FIELD (4m) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER.



FREE AIR IMPEDANCE CURVE



Notes

- (1) AES power is determined according to AES2-2012 standard.
- (2) Program power rating is measured in 125 lit. enclosure tuned at 44Hz using a 50-500 Hz band limited pink noise test signal applied for 2 hours and with 50% duty cycle.
- (3) The peak power rating represent the maximum permitted instantaneous peak power level over a maximum period of 10 ms which will be withstood by the loudspeaker without damage.
- (4) Power compression represents the loss of sensitivity for the specified power, measured from 80 to 800Hz after a 5 min pink noise preconditioning test at the specified power.
- (5) Thiele - Small parameters are measured after the test specimen has been conditioned by 1 hour 20 Hz sine and represent the expected long term parameters after a short period of use.
- (6) Linear Mat. Xmax is calculated as; $(Hvc-Hg)/2 + Hg/4$ where Hvc is the coil depth and Hg is gap depth.