

18TLW3000

Extended LF Ferrite Transducer

KeyFeatures

- 3600 W program power handling
- 100 mm (4 in) Tetracoil dual voice coil, equivalent to a single coil diameter larger than 152 mm (> 6 in)
- Ultra linear suspension behavior for excellent sound clarity
- Symmetric flux density and inductance behaviour
- Low noise forced air cooling design
- Water repellent cone and epoxy coated plates for outdoor use
- Suitable for vented, horn loaded and bandpass subwoofer design

Description

The 18TLW3000 is an 18 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.

18TLW3000 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 1800 W.

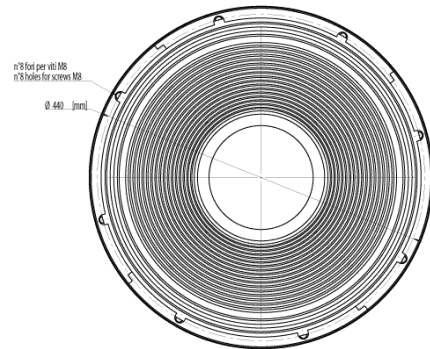
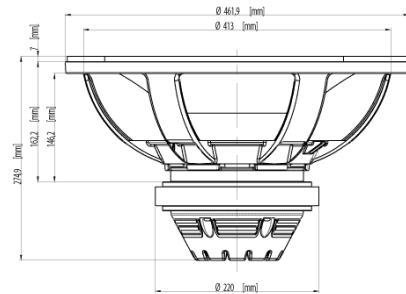
18TLW3000 design features include a large displacement suspension system which, in conjunction with a fiberglass reinforced, straight ribbed cone allows an ultra-linear piston action and provides full mechanical control across the entire working range.

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.

18TLW3000 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 oxidation.

Models

Model	Code	Information
0221883000	0221883000	8 Ohm
0221843000	0221843000	4 Ohm



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General Specifications

Nominal Diameter	460 mm (18 in)
Rated Impedance	8 Ohm
AES Power	1800 W
Program Power	3600 W
Peak Power	10000 W
Sensitivity	95 dB
Frequency Range	30 - 2000 Hz
Power Compression @-10dB	0,6 dB
Power Compression @-3dB	2,0 dB
Power Compression @Full Power	3,4 dB
Max Recomm. Frequency	300 Hz
Recomm. Enclosure Volume	100 ÷ 350 lt. (3,53 ÷ 12,36 cuft)
Minimum Impedance	5,7 Ohm at 25°C

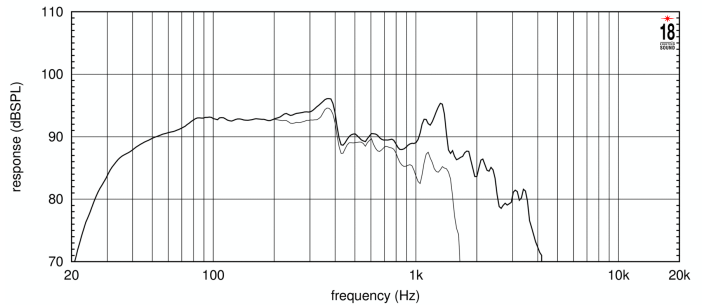
Max Peak To Peak Excursion	45 mm (1.77 in)
Voice Coil Diameter	100 mm (4 in)
Voice Coil Equiv. Diameter	> 152 mm (> 6 in)
Voice Coil Winding Material	copper
Suspension	Triple roll, Polycotton
Cone	Curvilinear fiberglass loaded cellulose

Thiele Small Parameters

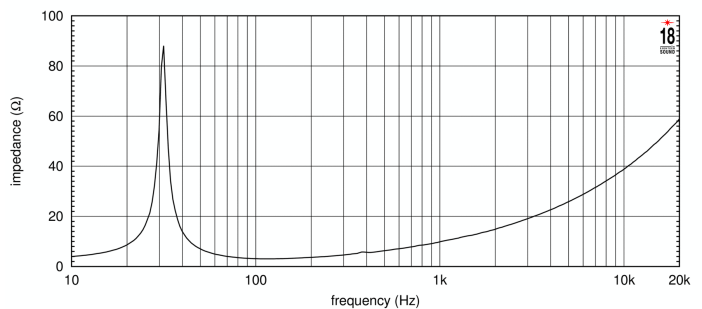
Fs	33 Hz
Re	4,6 Ohm
Sd	0,1225 sq. mt. (189,88 sq. in.)
Qms	13,00
Qes	0,42
Qts	0,41
Vas	185 lt. (6.53 cuft)
Mms	266 gr. (0,59 lb)
BL	24,5 Tm
Linear Mathematical Xmax	± 12 mm (± 0,47 in)
Le (1kHz)	1,80 mH
Ref. Efficiency 1W@1m (half space)	94,0 dB

Mounting information

Overall diameter	462 mm (18,18 in)
N. of mounting holes and bolt	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	438-440 mm (17,24-17,32 in)
Front mount baffle cutout Ø	425 mm (16,73 in)
Rear mount baffle cutout Ø	414 mm (16,30 in)
Total depth	275 mm (10,83 in)
Flange and gasket thickness	24 mm (0,94 in)
Net weight	13,2 kg (29,10 lb)
Shipping weight	14 kg (30,86 lb)
CardBoard Packaging dimensions	482 x 482 x 257 mm (19 x 19 x 10,1 in)



FREQUENCY RESPONSE MADE IN 180 LT. ENCLOSURE TUNED AT 35 HZ IN FREE FIELD (4p) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER, THE THIN LINE REPRESENTS 45° OFF AXIS FREQUENCY RESPONSE



FREE AIR IMPEDANCE MAGNITUDE CURVE

Notes

- 1) AES power is determined according to AES2-1984 (r2003) standard
- 2) Program power rating is measured in 180 lit enclosure tuned 35Hz 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) 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.
- 8) Linear Math. Xmax is calculated as $(Hvc-Hg)/2 + Hg/4$ where Hvc is the coil depth and Hg is the gap depth.