

15NCX750H

High output neodymium coaxial transducer

KeyFeatures

- 97 dB LF / 109 dB HF SPL 1W/1m average sensitivity
- Single magnet neodymium motor
- 800W LF - 240W HF maximum program power handling
- Smooth on/off axis 90° x 50° response
- 75 mm (3") Interleaved Sandwich LF Voice coil (ISV)
- Aluminum Demodulating Ring (SDR) for minimum LF distortion
- 60 mm (2.4") HF pure Titanium diaphragm
- Edge-wound Aluminum ribbon HF voice coil (EWAL)
- HF copper sleeve for reduced distortion and higher output
- Smooth on/off axis 70° x 50° response
- Suitable for compact enclosures and stage monitors

Description

The 15NCX750H is a 15" neodymium coaxial transducer designed for use in compact reflex enclosures and stage monitors as small as 40lt with a nominal dispersion of 90x40 degrees.

The curvilinear profile LF cone provides smooth response within its intended frequency range thanks to its high damping pulp composition. The 75mm (3in) LF copper voice coil employs Interleaved Sandwich Voice coil (ISV) technology, in which a high strength former carries windings on both the outer and inner surfaces. This results in a balanced coil with a uniform distribution of mass and motive energy and an extremely linear motor assembly. The low distortion and sound quality are further improved by an aluminum demodulating ring (SDR technology) that flatten LF impedance and phase with constant power transfer.

Equipped with a proprietary hybrid radial tangerine phase plug, the integrated HF compression driver has been designed to give a smooth, coherent wavefront at the horn entrance in all working frequency ranges with an high level of manufacturing consistency. The phase plug, with its short openings and high flare rate value, assures low distortion and remarkable improvements in mid-high frequency reproduction. A copper sleeve reduces inductance value above 10kHz, improving phase and impedance linearization.

The 2.4" diameter HF diaphragm assembly uses a high strength, high temperature treated Nomex voice coil former joined directly to the titanium diaphragm on its upper bend edge, assuring extended frequency energy transfer. This improves linearity and shows unparalleled reliability when compared with a straight former joint. A specific HF exit profile design has been chosen in order to maximize the cone's profile coupling.

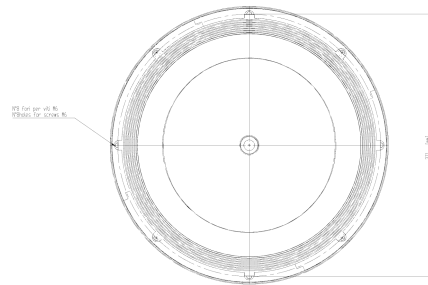
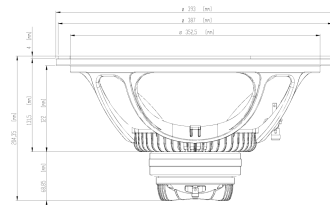
The high force neodymium single magnet structure makes the 15NCX750H a lightweight speaker for its performance class - only 5.1kg (11.25 lb).

The XO15NCX dedicated passive crossover filter is provided, making this neo coaxial speaker a ready-to-use transducer system.

Due to the widespread use of high power audio systems at outdoor events, the ability to perform in adverse weather conditions is an additional key feature of the 15NCX750H. This has been achieved using exclusive cone and magnet plate treatment processes which increase resistance against corrosion and make the cone water repellent.

Models

Model	Code	Info
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General Specifications

Nominal Diameter	380 mm (15 in)
Rated Impedance	8 Ohm
AES Power	400 W
Program Power	800 W
Peak Power	1600 W
Sensitivity	97 dB
Frequency Range	50 - 4700 Hz
Power Compression @-10dB	0.9 dB
Power Compression @-3dB	2.8 dB
Power Compression @Full Power	4.2 dB
Max Recomm. Frequency	1400 Hz
Recomm. Enclosure Volume	80 - 140 Lt. (2.83 - 4.95 cuft)
Minimum Impedance	6.3 Ohm at 25°C
Max Peak To Peak Excursion	27 mm (1.06 in)
Voice Coil Diameter	75 mm (2,95 in)
Voice Coil winding material	copper
Suspension	Triple roll, Polycotton
Cone	Curvilinear, Water repellent, High damping pulp

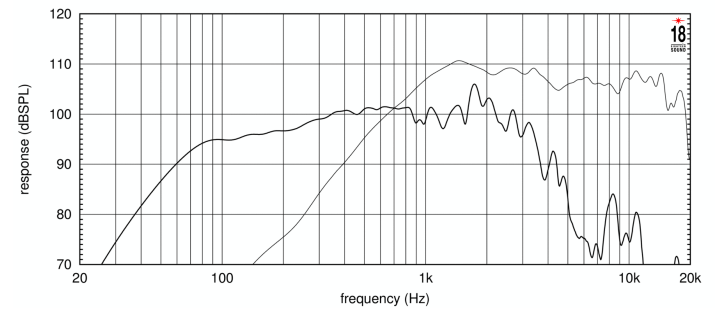
Thiele Small Parameters

Fs	49 Hz
Re	5,4 Ohm
Sd	0,0881 sq.mt. (136.56 sq.in.)
Qms	6.32
Qes	0,40
Qts	0,37
Vas	141 Lt. (4.98 cuft)
Mms	80.6 gr. (0.18 lb)
BL	18.5 Tm
Linear Mathematical Xmax	± 5.5 mm (±0,22 in)
Le (1kHz)	0.66 mH
Ref. Efficiency 1W@1m (half space)	4.1 %

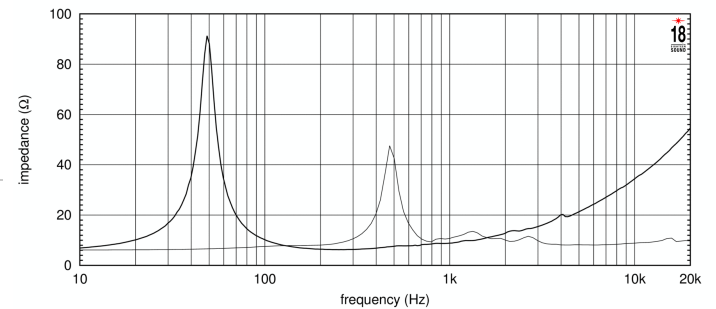
Mounting information

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	360 mm (14,17 in)
Rear mount baffle cutout ø	354 mm (13,94 in)
Total depth	185 mm (7,28 in)
Flange and gasket thickness	14 mm (0,55 in)
Net weight	5.3 kg (11.68 lb)
Shipping weight	6 kg (13,23 lb)
Packaging Dimensions	6 kg (13,23 lb)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE MADE IN 125 LT. ENCLOSURE TUNED AT 50 Hz IN FREE FIELD (4n) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER, THE THIN LINE REPRESENTS HIGH FREQUENCY RESPONSE FREE AIR IMPEDANCE MAGNITUDE CURVE



Notes

- 1) According to AES2-1984 (r2003) standard
- 2) Program power rating is measured in 125 lit. enclosure tuned at 50 Hz using a 50-500Hz band limited pink noise test signal applied for 2 hours and with 50% duty cycle. Power measured on minimum impedance.
- 3) The peak power rating represent 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 2 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 50-500 Hz, after a 5 min pink noise preconditioning test at the specified power.
- 7) Continuous Power is defined as a level that is 3 dB greater than the one measured with the new AES2-2012 standard, using continuous pink noise having 12 dB crest factor for 2 hours.
- 8) Program power rating is defined as 3 dB greater than continuous power rating.
- 9) Sensitivity represents the average value of acoustic output as measured on the speaker axis at a distance of 1 m, when connected to 2.83 V sine wave swept between 1000-4000 Hz
- 10) Minimum crossover frequency require at least 18 dB/oct slope high pass filter, preferred 24dB/oct slope high pass filter LR
- 11) Thiele - Small parameters are measured after the test specimen has been conditioned by 1hour 20 Hz sine and represent the expected long term parameters after a short period of use
- 12) Linear Math. Xmax is calculated as $(Hvc-Hg)/2 + Hg/4$ where Hvc is the coil depth and Hg is gap depth.