EIGHTEEN SOUND

PROFESSIONAL LOUDSPEAKERS

SPRING 2015 GENERAL CATALOGUE

Eighteen Sound is a leading designer and manufacturer of high quality professional audio loudspeakers, with the most advanced development and manufacturing technologies in the world, located in Reggio Emilia, Italy.

The Eighteen Sound R&D and Engineering Teams' unparalleled experience in professional transducer design is manifest in the exceptional products created at the home offices and manufacturing center.

Repeatability and fulfillment of Design in every Production unit, is our goal and our daily responsability. To achieve this mission, each Production Line is equipped with proprietary robotic equipment that precisely performs the most demanding tasks such as applying adhesives in exacting amounts and accurately moving and tempering parts and components, while highly skilled assembly technicians handle the essential human interface segments that define the perfect collaboration in assembly, that is the hallmark of Eighteen Sound products.

Quality Control is instituted at every stage of the manufacturing process, whether by automation and software, or close visual and tactile review. In the first stage of manufacturing, the raw materials are sourced only from providers with impeccable credential and documentation. Throughout the production process, each stage is equipped with automation and QC workstations to ensure accuracy, and validation of test criteria and design.

The fulfillment of our Customers' needs is fundamental in Eighteen Sound's philosophy. Eighteen Sound's Research & Development Department cooperates daily with top Pro Audio O.E.M. customers. The recognition of their needs, as well as an open-minded approach to the customer, helps us to identify even the most demanding professional audio market requirements. We believe that this philosophy allows Eighteen Sound's products to always satisfy the most rigorous and challenging expectations in audio reproduction.







TTC Tetracoil Double Voice Coil (TTC) technology is based on an innovative magnetic structure where two different inside-outside voice coils are wound on the same former and suspended evenly in the two magnetic gaps.
The key advantages are:
1) Ideal motor symmetry over large displacement providing flat inductance and minimal even-order distortion.
2) Excellent thermal dissipation and reduction of thermal distortion resulting from: (a) twice the voice coil surface area of a standard single voice coil of the same diameter and, (b) reduced power compression for up to 50% more output at high power.

ISV Interleaved Sandwich Voice coil (ISV) technology is based on a high strength fiberglass former where half of the coil is wound on the outside and the other half is wound on the inside. As a final result a balanced, linear motor unit is achieved. High force factor and improved heat dissipation are further advantages of the ISV technology.

EWAL Edge Wound Aluminum Voice coil (EWAL) technology identifies models where this specific kind of wire is used in the voice coil winding.

AIC Active Impedance Control (AIC) technology utilizes a secondary voice coil permanently fixed on the pole piece of the magnetic structure. The magnetic field generated by this secondary coil provides induction reduction for a flat impedance curve that increases sensitivity and extends high frequency bandwidth, while reducing harmonic and inter-modulation distortion.

DSS The Double Silicon Spider (DSS) technology was developed by Eighteen Sound in 1998 and consists of a double layer spider structure, glued by a special silicone based adhesive mix. The result is an ultra-linear piston action and full suspension control across the entire working range.

TSS The Triple Silicon Spider (TSS) technology is an evolution of the DSS technology. It consists of a triple layer spider structure, glued with a special silicone based adhesive mix. This suspension type is able to control the moving mass with high linearity, demonstrating an exceptional stability of mechanical parameter values in the long term.

SDR Single Demodulating Ring (SDR) technology identifies the usage of an aluminum ring placed into the magnetic structure for reducing intermodulation distortion, while improving the transient response.

DDR Double Demodulating Rings (DDR) identifies the presence of two aluminum rings embedded in the pole piece of the magnetic structure. These rings have been designed to dramatically reduce the intermodulation and harmonic distortion while improving the transient response of the transducer.

ACS Active Cooling System (ACS) technology is related to different ways of extracting heat from the transducer motor in order to minimize power compression and increase power handling.

TPM The True Piston Motion (TPM) technology is based on an exclusive titanium nitride coating process and the use of pure Beryllium membranes that dramatically improve stiffness with great benefits in transient and intermodulation distortion response. TPM is capable of doubling the diaphragm material stiffness without increasing the mass, showing a predictable, ideal frequency response decay and avoiding top-end spurious resonances.

3P The Proprietary Phase Plug (3P) technology identifies a combination of radial and tangerine slot geometric design. With its short openings and high flare rate value, 3P technology assures low distortion in the mid-high frequency range, providing a smooth coherent wavefront at the horn entrance.

ESS Elliptical Shape (ESS) technology is related to the geometric profile of the horn surface. ESS horns are able to control the directivity not only on the main vertical and horizontal planes as standard geometry horns, but also in the planes between, resulting in acoustic energy control and increased audio quality.

iD Eighteen Sound iD loudspeakers are optimized with very low impedance for maximum power transfer from a Class D type amplifier.

Ipal The Eighteen Sound iPAL loudspeakers are designed to couple perfectly with iPAL Differential Pressure Control technology from Powersoft S.p.A. The iPAL power amplification module features a zero latency pressure-sensor feedback applying real-time correction to maximize the select Eighteen Sound high efficiency transducers for unparalleled output at low frequencies.

REFER TO
www.eighteensound.com
FOR THE MOST UP-TO-DATE
PRODUCT INFORMATION

SPRING 2015
GENERAL CATALOGUE

LF TRANSDUCERS - NEODYMIUM

21iD

Extended LF Neodymium Transducer

Class D amplifier optimized for maximum power transfer
Conforms to Powersoft™ iPal® standards
95 dB SPL 1W / 1m average sensitivity
135mm (5.3") split winding, four layer ISV aluminum voice coil
3600 W program power handling
Triple Silicon Spider (TSS) for improved excursion control
Aluminum demodulating ring (SDR) for lower distortion

GENERAL SPECIFICATIONS

Nominal Diameter	533 mm (21 in)
Rated Impedance	2 Ohm
AES Power (1)	1800 W
Program Power (2)	3600 W
Peak Power	10000 W
Sensitivity (3)	94,2 dB
Frequency Range (4)	29 - 1600 Hz
Power Compression @-10dB	180W 0,7 dB
Power Compression @-3dB	900W 1,3 dB
Power Compression @Full Power	1800W 2,2 dB
Max Recomm. Frequency	150 Hz
Recomm. Enclosure Volume	120 - 250 lt. (4,24 - 8,83 cu.ft)
Minimum Impedance	2 Ohm
Max Peak To Peak Excursion	70 mm (2,76 in)

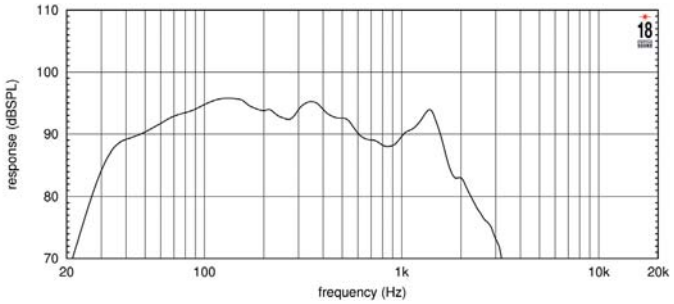
THIELE SMALL PARAMETERS (5)

Fs	36 Hz
Re	1,3 Ohm
Sd	0,166 sq.m (257,30 sq.in)
Qms	6,60
Qes	0,26
Qts	0,24
Vas	135 lt. (4,77 cu.ft)
Mms	504 gr. (1,11 lb)
BL	24,30 Tm
Linear Mathematical Xmax (6)	±14 mm (±0,55 in)
Le (1kHz)	1,08 mH
Ref. Efficiency 1W@1m (half space)	96,5 dB

MOUNTING INFORMATION

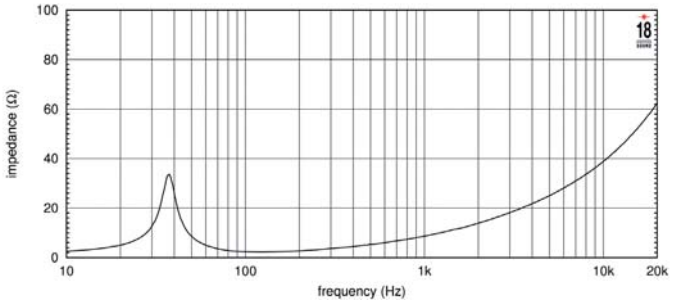
Overall diameter	545 mm (21,46 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	520 mm (20,47 in)
Front mount baffle cutout Ø	492 mm (19,37 in)
Rear mount baffle cutout Ø	490 mm (19,29 in)
Total depth	250 mm (9,84 in)
Flange and gasket thickness	18 mm (0,71 in)
Net weight	14 kg (30,86 lb)
Shipping weight	15,5 kg (34,17 lb)
CardBoard Packaging dimensions	570x570x290 mm (22,44x22,44x11,42 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE MADE IN 250 LT. ENCLOSURE TUNED AT 28 Hz IN FREE FIELD (4π) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER, THE THIN LINE REPRESENTS 45° OFF AXIS FREQUENCY RESPONSE

FREE AIR IMPEDANCE MAGNITUDE CURVE



FREQUENCY RESPONSE MEASURED WITH 1W INPUT ON RATED IMPEDANCE ON CENTRAL FORWARD AXIS IN A PLANE WAVE TUBE. THIN LINE REPRESENTS IMPEDANCE MEASURED IN SAME CONDITIONS.

NOTES

(1) AES standard.
(2) Program power rating is measured in 250 lit. enclosure tuned at 28 Hz using a 30-300 band limited pink noise test signal applied for 2 hours and with 50% duty cycle.
(3) The peak power rating is based on a 4,5 dB crest factor above the program power rating and represents the maximum permitted instantaneous peak power level over a maximum period of 10ms which will be withstood by the loudspeaker whituout 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 1,41V 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 30 to 300Hz 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.
(9) Linear Mat. Xmax is calculated as; (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is gap depth.

21NLW9601

Extended LF Neodymium Transducer

98 dB SPL 1W / 1m average sensitivity
135 mm (5.3 in) split winding four layers ISV copper coil
3600 W program power handling
Carbon fiber reinforced treated cellulose cone
Triple Silicon Spider (TSS) improves excursion control and linearity even in extreme loading and SPL conditions
Single Demodulating Ring (SDR) for lower distortion
Low noise cooling design for very low power compression
Suitable for bandpass and horn loaded subwoofer designs

GENERAL SPECIFICATIONS

Nominal Diameter	533mm (21 in)
Rated Impedance	8 Ohm
AES Power (1)	1800W
Program Power (2)	3600W
Peak Power	10000W
Sensitivity (3)	98 dB
Frequency Range (4)	25 - 2000 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	1,5 dB
Power Compression @Full Power	2,2 dB
Max Recomm. Frequency	100 Hz
Recomm. Enclosure Volume	120 - 250 lt. (4.24 - 8.83 cuft)
Minimum Impedance	7,9 Ohm at 25°C
Max Peak To Peak Excursion	70 mm (2,75 in)

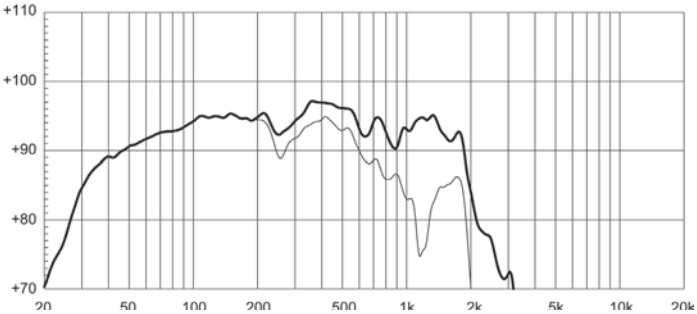
THIELE SMALL PARAMETERS (5)

Fs	37 Hz
Re	5,9 Ohm
Sd	0,1662 sq.mt. (257,6 sq.in.)
Qms	5,5
Qes	0,31
Qts	0,29
Vas	175 lt. (6.18 cuft)
Mms	408 gr. (0,90 lb)
BL	43 Tm
Linear Mathematical Xmax (6)	±14 mm (±0.55 in)
Le (1kHz)	3,10 mH
Ref. Efficiency 1W@1m (half space)	96,5 dB

MOUNTING INFORMATION

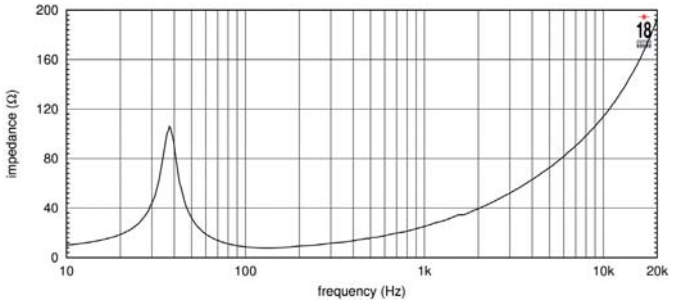
Overall diameter	545 mm (21,46 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	520 mm (20,47 in)
Front mount baffle cutout Ø	492 mm (19,37 in)
Rear mount baffle cutout Ø	490 mm (19,29 in)
Total depth	250 mm (9,8 in)
Flange and gasket thickness	18 mm (0,7 in)
Net weight	14 kg (30,9 lb)
Shipping weight	15,5 kg (34,2 lb)
CardBoard Packaging dimensions	570x570x290 mm (22,4x22,4x11,4 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 21NLW9601 MADE ON 250 LIT. ENCLOSURE TUNED AT 28HZ IN 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



FREE AIR IMPEDANCE MAGNITUDE CURVE.

NOTES

1) AES power is determined according to AES2-1984 (r2003) standard
2) Program power rating is measured in 250 lit. enclosure tuned at 28 Hz using a 30-300 band limited pink noise test signal applied for 2 hours and with 50% duty cycle
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 3V 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) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

21NLW9001

Extended LF Neodymium Transducer

97 dB SPL 1W / 1m average sensitivity
135 mm (5.3 in) split winding four layers ISV copper coil
3600 W program power handling
Carbon fiber reinforced cellulose cone
Double Silicon Spider (DSS) for improved excursion control
Aluminum demodulating ring (SDR) for lower distortion
Low noise forced ventilation design for low power compression
Weather protected cone and plates for outdoor usage
Suitable for vented and bandpass subwoofer systems

GENERAL SPECIFICATIONS

Nominal Diameter	533 mm (21 in)
Rated Impedance	8 Ohm
AES Power (1)	1800W
Program Power (2)	3600W
Peak Power	10000W
Sensitivity (3)	97 dB
Frequency Range (4)	25 - 1500 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	1,5 dB
Power Compression @Full Power	2,2 dB
Max Recomm. Frequency	150 Hz
Recomm. Enclosure Volume	120 - 500 lt (4,24 - 17,7 cuft)
Minimum Impedance	7,6 Ohm at 25°C
Max Peak To Peak Excursion	70 mm (2,75 in)

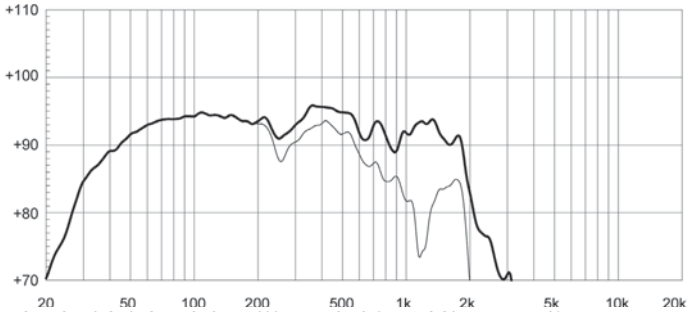
THIELE SMALL PARAMETERS (5)

Fs	32 Hz
Re	5,9 Ohm
Sd	0,1662 sq.mt. (257,6 sq.in.)
Qms	4,5
Qes	0,34
Qts	0,31
Vas	244 lt. (8,62 cuft)
Mms	390 gr. (0,86 lb)
BL	37 Tm
Linear Mathematical Xmax (6)	±14 mm (±0,55 in)
Le (1kHz)	3,1 mH
Ref. Efficiency 1W@1m (half space)	95,5 dB

MOUNTING INFORMATION

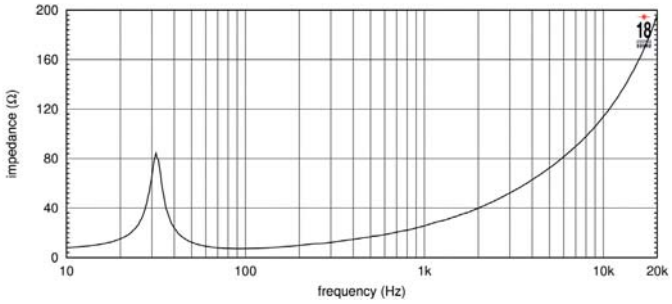
Overall diameter	545 mm (21,46 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	520 mm (20,47 in)
Front mount baffle cutout Ø	492 mm (19,37 in)
Rear mount baffle cutout Ø	490 mm (19,29 in)
Total depth	250 mm (9,8 in)
Flange and gasket thickness	18 mm (0,7 in)
Net weight	14 kg (30,9 lb)
Shipping weight	15,5 kg (34,2 lb)
CardBoard Packaging dimensions	570x570x290 mm (22,4x22,4x11,4 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 21NLW9001 MADE ON 250 LIT. ENCLOSURE TUNED AT 28HZ IN 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



FREE AIR IMPEDANCE MAGNITUDE CURVE

NOTES

1) AES power is determined according to AES2-1984 (r2003) standard
2) Program power rating is measured in 250 lit. enclosure tuned at 28 Hz using a 30-300 band limited pink noise test signal applied for 2 hours and with 50% duty cycle
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 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) Linear Math Xmax is calculated as: (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

21NLW4000

NEW

Extended LF Neo Transducer

95 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
3200 Watt program power handling
Composite reinforced straight ribbed cone
Optimized high grade neodymium magnet assembly
Recommended for subwoofer usage in compact vented or bandpass enclosures

GENERAL SPECIFICATIONS

Nominal Diameter	533mm (21 in)
Rated Impedance	8 Ohm
AES Power (1)	1600
Program Power (2)	3200 W
Peak Power	7200
Sensitivity (3)	95 dB
Frequency Range (4)	30-1000Hz
Power Compression @-10dB	TBD
Power Compression @-3dB	TBD
Power Compression @Full Power	TBD
Max Recomm. Frequency	200Hz
Recomm. Enclosure Volume	130-500 Hz (4.59 - 17.7 cuft)
Minimum Impedance	6,1 Ohm at 25°C
Max Peak To Peak Excursion	70 mm (2.76 in)

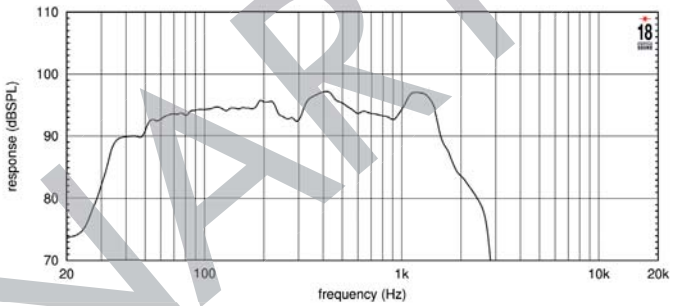
THIELE SMALL PARAMETERS (5)

Fs	30 Hz
Re	4,8 Ohm
Sd	0,166 sq. mt. (175.15 sq. in.)
Qms	9,35
Qes	0,37
Qts	0,35
Vas	290 lt. (10.24 cuft)
Mms	368gr. (0,80 lb)
BL	30,5Tm
Linear Mathematical Xmax (6)	± 14.5 mm (± 0,57 in)
Le (1kHz)	2,58 mH
Ref. Efficiency 1W@1m (half space)	95,4dB

MOUNTING INFORMATION

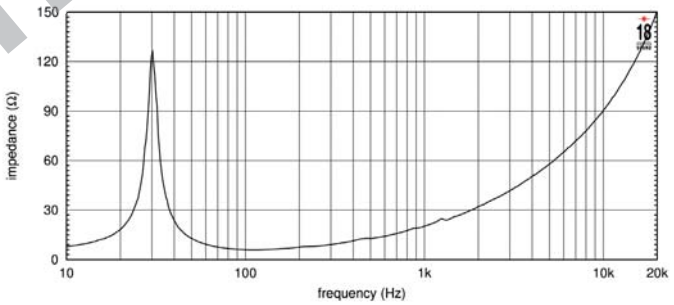
Overall diameter	545mm (21,46 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	520mm (20.47 in)
Front mount baffle cutout Ø	492 mm (19,37 in)
Rear mount baffle cutout Ø	490 mm (19,29 in)
Total depth	245 mm (9,64 in)
Flange and gasket thickness	18 mm (0,7 in)
Net weight	11,6 kg (25.5 lb)
Shipping weight	13,1 Kg (28,8 lb)
CardBoard Packaging dimensions	570x570x290 mm (22,4x22,4x11,4 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE MEASURED WITH 2.83V AT 1MT DISTANCE ON CENTRAL FORWARD AXIS FROM THE MOUTH OF XR1564 HORN. THIN LINE REPRESENTS IMPEDANCE MEASURED IN SAME CONDITIONS.

FREE AIR IMPEDANCE MAGNITUDE CURVE



FREQUENCY RESPONSE MEASURED WITH 1W INPUT ON RATED IMPEDANCE ON CENTRAL FORWARD AXIS IN A PLANE WAVE TUBE. THIN LINE REPRESENTS IMPEDANCE MEASURED IN SAME CONDITIONS.

NOTES

1) AES power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 250 lit. enclosure tuned at 28 Hz using a 30-300 band limited pink noise test signal applied for 2 hours and with 50% duty cycle.
(3) The peak power rating is based on a 4,5 dB crest factor above the program power rating and represents the maximum permitted instantaneous peak power level over a maximum period of 10ms which will be withstood by the loudspeaker whituout 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
(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 30 to 300Hz 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.
(9) Linear Mat. Xmax is calculated as; (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is gap depth.

18iD

NEW

Extended LF Neodymium Transducer

Class D amplifier optimized for maximum power transfer
Conforms to Powersoft™ iPal® standards
95 dB SPL 1W / 1m average sensitivity
135mm (5.3") split winding, four layer ISV aluminum voice coil
3600 W program power handling
Triple Silicon Spider (TSS) for improved excursion control
Aluminum demodulating ring (SDR) for lower distortion

GENERAL SPECIFICATIONS

Nominal Diameter	460mm (18 in)
Rated Impedance	2 Ohm
AES Power (1)	1800W
Program Power (2)	3600W
Peak Power	10000W
Sensitivity (3)	95 dB
Frequency Range (4)	30 - 2500 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	1,5 dB
Power Compression @Full Power	2,2 dB
Max Recomm. Frequency	200 Hz
Recomm. Enclosure Volume	110 - 350 lt. (3,89 - 12,36 cuft)
Minimum Impedance	2 Ohm at 25°C
Max Peak To Peak Excursion	70 mm (2,76 in)

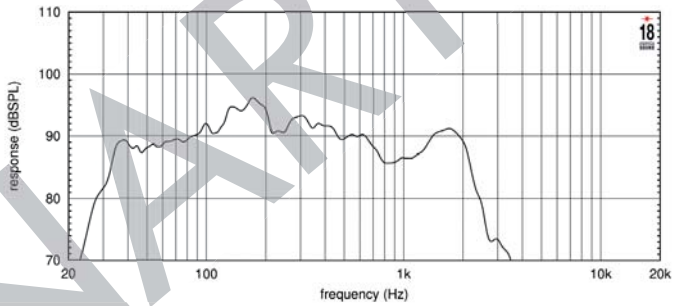
THIELE SMALL PARAMETERS (5)

Fs	39 Hz
Re	1,4 Ohm
Sd	0,113 sq.mt. (175.15 sq.in.)
Qms	6,00
Qes	0,26
Qts	0,25
Vas	69 lt. (5,79 cuft)
Mms	415 gr. (0,60 lb)
BL	24 Tm
Linear Mathematical Xmax (6)	±14 mm (±0,55 in)
Le (1kHz)	1,22 mH
Ref. Efficiency 1W@1m (half space)	94,2 dB

MOUNTING INFORMATION

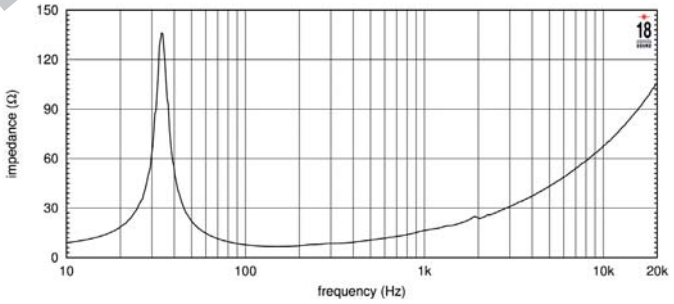
Overall diameter	462 mm (18,19 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	440mm (17,32 in)
Front mount baffle cutout ∅	416 mm (16,38 in)
Rear mount baffle cutout ∅	422 mm (16,61 in)
Total depth	236 mm (9,29 in)
Flange and gasket thickness	26 mm (1,02 in)
Net weight	12,5 kg (27,56 lb)
Shipping weight	14 kg (30,86 lb)
CardBoard Packaging dimensions	482 x 482 x 257 mm (18,98 x 18,98 x 10,12 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE MADE IN 180 LT. ENCLOSURE TUNED AT 35 Hz IN FREE FIELD (4n) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES2-1984 (r2003) standard
2) Program power rating is measured in 160 lit. enclosure tuned at 33 Hz using a 40-400 band limited pink noise test signal applied for 2 hours and with 50% duty cycle.
3) The peak power rating is based on a 4.5 dB crest factor above the program power rating and represents the maximum permitted instantaneous peak power level over a maximum period of 10ms, which can be withstood by the loudspeaker without damage.
4) Sensitivity represents the averaged value of acoustic output as measured on the forward central axis of the cone, at a distance of 1m from the baffle panel, when connected to a 1,41V 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 a half space environment.
6) Power compression represents the loss of sensitivity for the specified power, measured from 40 to 400Hz 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 a 1 hour 20 Hz sine, and represents the expected long term parameters after a short period of use.
9) Linear Math. Xmax is calculated as; (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gas depth.

18NLW9601

Extended LF Neodymium Driver

96 dB SPL 1W / 1m average sensitivity
135 mm (5.3 in) split winding four layers ISV aluminum voice coil
3600 W program power handling
Carbon fiber reinforced cellulose cone
Double Silicon Spider (DSS) for improved excursion control
Aluminum demodulating ring (SDR) for lower distortion
High force neodymium magnet assembly
Weather protected cone and plates for outdoor usage
Suitable for reflex, bandpass or horn loaded high SPL subwoofer systems

GENERAL SPECIFICATIONS

Nominal Diameter	462mm (18 in)
Rated Impedance	8 Ohm
AES Power (1)	1800W
Program Power (2)	3600W
Peak Power	10000W
Sensitivity (3)	96 dB
Frequency Range (4)	30 - 2300 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	1,3 dB
Power Compression @Full Power	2,2 dB
Max Recomm. Frequency	300 Hz
Recomm. Enclosure Volume	110 - 350 lt. (3,88 - 12,36 cuft)
Minimum Impedance	6,1 Ohm at 25°C
Max Peak To Peak Excursion	70 mm (2,75 in)
Voice coil diameter	135 mm (5,31 in)
Voice coil winding material	Aluminum
Suspension	Triple Roll, Heavy Polycotton
Cone	Straight ribbed carbon fiber loaded cellulose

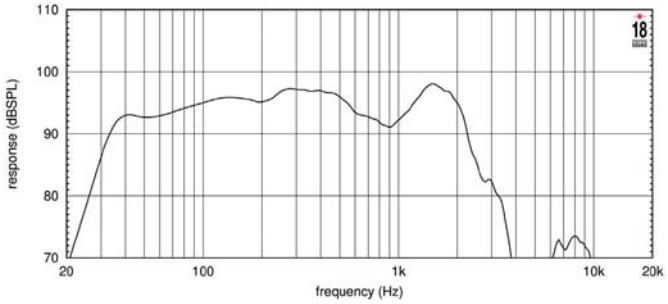
THIELE SMALL PARAMETERS (5)

Fs	39 Hz
Re	4,7 Ohm
Sd	0,113 sq.mt. (175.15 sq.in.)
Qms	5,70
Qes	0,28
Qts	0,28
Vas	120 lt. (5,79 cuft)
Mms	255 gr. (0,6 lb)
BL	31 Tm
Linear Mathematical Xmax (6)	±14 mm (±0,55 in)
Le (1kHz)	2,19 mH
Ref. Efficiency 1W@1m (half space)	95,6 dB

MOUNTING INFORMATION

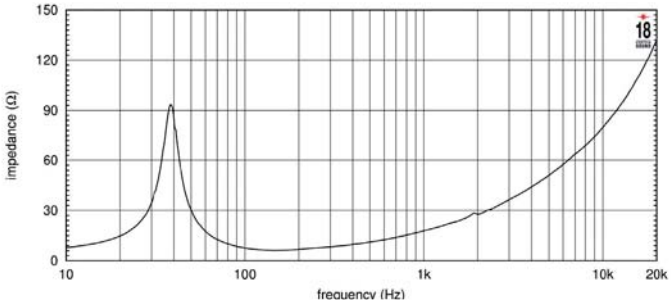
Overall diameter	462 mm (18,18 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	440mm (17,32 in)
Front mount baffle cutout Ø	416 mm (16,38 in)
Rear mount baffle cutout Ø	422 mm (16,61 in)
Total depth	236 mm (9,29 in)
Flange and gasket thickness	26 mm (1,02 in)
Net weight	12,8 kg (27,6 lb)
Shipping weight	14 kg (30,9 lb)
CardBoard packaging dimensions	482x482x257 mm (19x19x10,1 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE MADE IN 180 LT. ENCLOSURE TUNED AT 35 Hz IN FREE FIELD (4π) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) Power = V^2/Zmin. 12dB crest factor, 50% duty cycle, 12dB/8ve 40Hz - 400Hz in 180L/35Hz enclosure, 2 Hours.
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 3V 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) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

18NLW9000

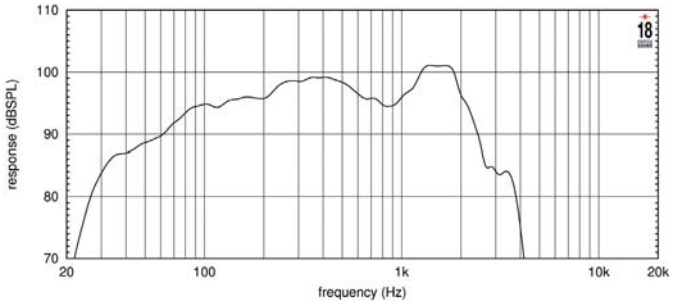
Extended LF Neodymium Transducer

97 dB SPL 1W / 1m average sensitivity
135 mm (5.3 in) ISV aluminum voice coil
3600 W program power handling
Carbon fiber reinforced cone
Double Silicon Spider (DSS) technology
Low noise forced ventilation design reduces power compression
High grade neodymium magnet assembly
Weather protected cone and plates for outdoor usage
Suitable for vented and bandpass high SPL subwoofer systems

GENERAL SPECIFICATIONS

Nominal Diameter	462 mm (18 in)
Rated Impedance	8 Ohm
AES Power (1)	1800W
Program Power (2)	3600W
Peak Power	10000W
Sensitivity (3)	97 dB
Frequency Range (4)	32 - 2500 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	1,2 dB
Power Compression @Full Power	2,2 dB
Max Recomm. Frequency	300 Hz
Recomm. Enclosure Volume	120 - 350 lt. (4.2 - 12.4 cuft)
Minimum Impedance	6,7 Ohm at 25°C
Max Peak To Peak Excursion	70 mm (2,75 in)

FREQUENCY RESPONSE CURVE

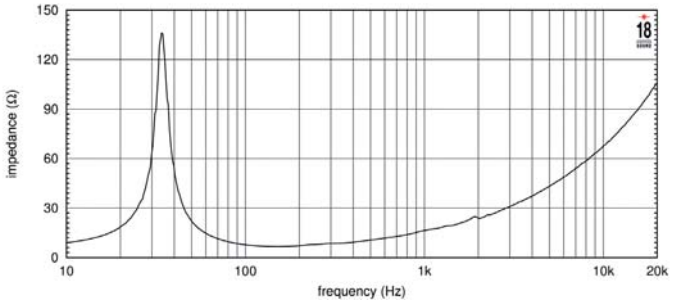


FREQUENCY RESPONSE CURVE OF 18NLW9000 MADE ON 180 LIT. ENCLOSURE TUNED AT 35HZ IN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER.

THIELE SMALL PARAMETERS (5)

Fs	34 Hz
Re	5,5 Ohm
Sd	0,1225 sq.mt. (190 sq.in.)
Qms	7
Qes	0,32
Qts	0,31
Vas	206 lt. (7.3 cuft)
Mms	218 gr. (0,48 lb)
BL	26.8 Tm
Linear Mathematical Xmax (6)	±14 mm (±0,55 in)
Le (1kHz)	1,90 mH
Ref. Efficiency 1W@1m (half space)	96,1 dB

FREE AIR IMPEDANCE MAGNITUDE CURVE



MOUNTING INFORMATION

Overall diameter	462 mm (18,18 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	440mm (17,32 in)
Front mount baffle cutout Ø	416 mm (16,38 in)
Rear mount baffle cutout Ø	422 mm (16,61 in)
Total depth	237,5 mm (9,3 in)
Flange and gasket thickness	26 mm (1,02 in)
Net weight	12,5 kg (27,6 lb)
Shipping weight	14 kg (30,9 lb)
CardBoard packaging dimensions	482x482x257 mm (19x19 x10,1 in)

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

18NLW4000

NEW

Extended LF Neo Transducer

95 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
3200 Watt program power handling
Composite reinforced straight ribbed cone
Optimized high grade neodymium magnet assembly
Recommended for subwoofer usage in compact vented or bandpass enclosures

GENERAL SPECIFICATIONS

Nominal Diameter	462mm
Rated Impedance	8 Ohm
AES Power (1)	1600 W
Program Power (2)	3200 W
Peak Power	7200 W
Sensitivity (3)	95 dB
Frequency Range (4)	30 - 1000 Hz
Power Compression @-10dB	TBD
Power Compression @-3dB	TBD
Power Compression @Full Power	TBD
Max Recomm. Frequency	250Hz
Recomm. Enclosure Volume	130 - 350 lt (4.59 - 12.37 cuft)
Minimum Impedance	6,1 Ohm at 25°C
Max Peak To Peak Excursion	70 mm (2.76 in)

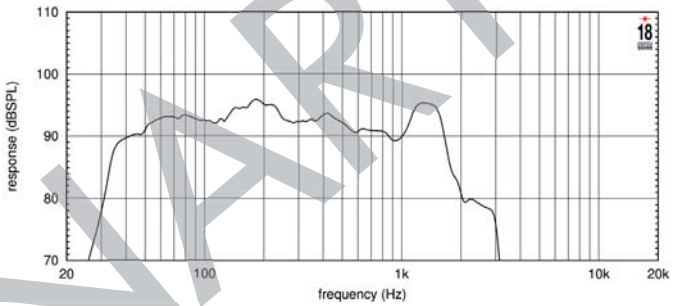
THIELE SMALL PARAMETERS (5)

Fs	34 Hz
Re	5,1 Ohm
Sd	0,113 sq.m (175,15 sq.in)
Qms	6,0
Qes	0,34
Qts	0,33
Vas	134 lt. (4.7 cu.ft)
Mms	290 gr. (0,64 lb)
BL	30,5 Tm
Linear Mathematical Xmax (6)	± 14.5 mm (± 0,57 in)
Le (1kHz)	2,87 mH
Ref. Efficiency 1W@1m (half space)	93.8 dB

MOUNTING INFORMATION

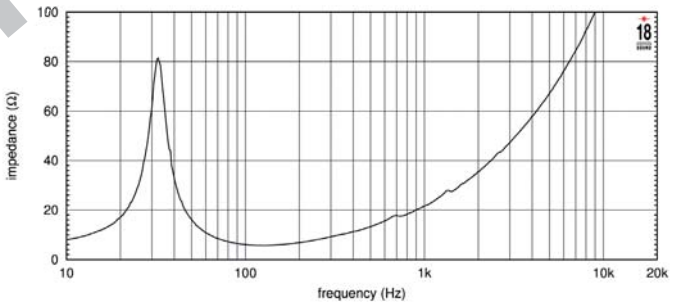
Overall diameter	462 mm (18,19 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	440 mm (17,32 in)
Front mount baffle cutout Ø	416 mm (16,38 in)
Rear mount baffle cutout Ø	422 mm (16,61 in)
Total depth	227 mm (8,93 in)
Flange and gasket thickness	26 mm (1,02 in)
Net weight	9,8 kg (21,6 lb)
Shipping weight	11,3 kg (24,9 lb)
CardBoard Packaging dimensions	482x482x257 mm (18,98x18,98x10,12 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 15NLW9300 MADE ON 125 LIT. ENCLOSURE TUNED AT 50HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 125 lt enclosure tuned at 50Hz using a 50-500Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 1000Hz with the test specimen mounted in the same enclosure as given for #2 above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 800 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

18NLW9400

Extended LF Neodymium Transducer

98 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
2400 Watt program power handling
Fiberglass reinforced straight ribbed cone
Double Silicon Spider (DSS) for increased excursion control and linearity
High grade neodymium magnet assembly
Recommended for subwoofer usage in compact vented or bandpass enclosures
Weather protected cone and plates for outdoor usage

GENERAL SPECIFICATIONS

Nominal Diameter	460mm (18 in)
Rated Impedance	8 Ohm
AES Power (1)	1200W
Program Power (2)	2400W
Peak Power	7000W
Sensitivity (3)	98 dB
Frequency Range (4)	30 - 2500 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	110 - 350 lt. (3.9 - 12.36 cuft)
Minimum Impedance	6,1 Ohm at 25°C
Max Peak To Peak Excursion	50 mm (2 in)

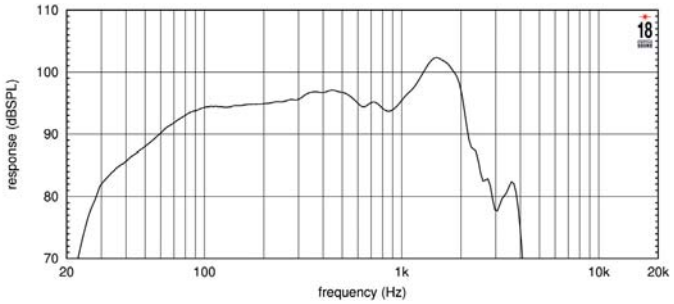
THIELE SMALL PARAMETERS (5)

Fs	33 Hz
Re	5 Ohm
Sd	0,1225 sq.mt. (189,88 sq.in.)
Qms	6,1
Qes	0,28
Qts	0,26
Vas	268 lt. (9.47 cuft)
Mms	180 gr. (0.40 lb)
BL	26 Tm
Linear Mathematical Xmax (6)	±9,5 mm (±0,37 in)
Le (1kHz)	1,90 mH
Ref. Efficiency 1W@1m (half space)	97,4 dB

MOUNTING INFORMATION

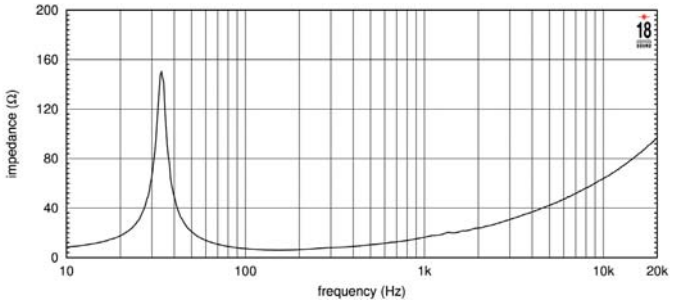
Overall diameter	462 mm (18,19 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	438-440 mm (17,24-17,32 in)
Front mount baffle cutout Ø	416 mm (16,38 in)
Rear mount baffle cutout Ø	422 mm (16,61 in)
Total depth	223,5 mm (8,8 in)
Flange and gasket thickness	26 mm (1,02 in)
Net weight	8,7 kg (19.2 lb)
Shipping weight	9,9 kg (21.8 lb)
CardBoard Packaging dimensions	482x482x257 mm (19x19x10,1 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 18NLW9400 MADE ON 180 LIT. ENCLOSURE TUNED AT 35HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 125 lt enclosure tuned at 50Hz using a 40-400Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 2,83 V sine wave test signal swept between 100Hz and 500Hz with the test specimen mounted in the same enclosure as given for #2 above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 500 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

15NLW9500

Extended Low Frequency Neo Transducer

96 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
1000 W AES power handling
Carbon fiber reinforced cone
Double Silicon Spider (DSS) for improved excursion control and linearity
Double Demodulating Rings (DDR) for lower distortion
Rubber surround suspension system
External neodymium magnet assembly
Improved dissipation via onboard aluminum heatsink
Ideal for low distortion direct radiation subwoofers

GENERAL SPECIFICATIONS

Nominal Diameter	380mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	1000W
Program Power (2)	1400W
Peak Power	7000W
Sensitivity (3)	96 dB
Frequency Range (4)	42 - 2000 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	1,5 dB
Power Compression @Full Power	2,6 dB
Max Recomm. Frequency	500 Hz
Recomm. Enclosure Volume	70 - 150 lt. (2,47 - 5,3 cuft)
Max Peak To Peak Excursion	39 mm (1,5 in)
Voice Coil Diameter	100 mm (4 in)

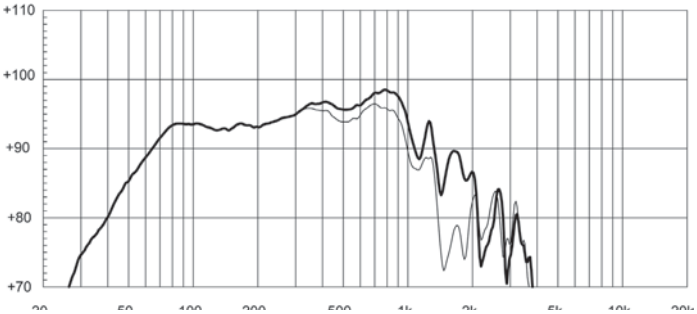
THIELE SMALL PARAMETERS (5)

Fs	35 Hz
Re	4,9 Ohm
Sd	0,091 sq.mt. (141,1 sq.in.)
Qms	6,7
Qes	0,34
Qts	0,32
Vas	163 lt. (5,8 cuft)
Mms	146 gr. (0,32 lb)
BL	21,6 Tm
Linear Mathematical Xmax (6)	±9 mm (±0,35 in)
Le (1kHz)	0,8 mH
Ref. Efficiency 1W@1m (half space)	95 dB

MOUNTING INFORMATION

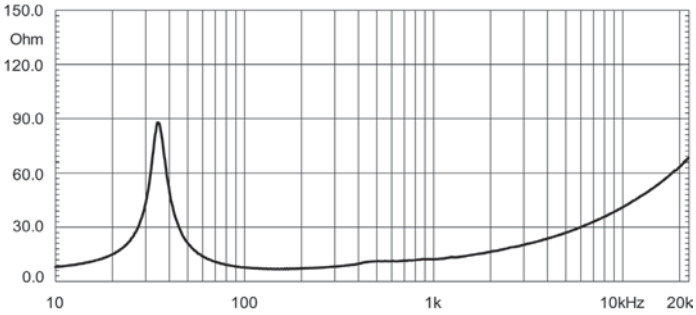
Overall diameter	387 mm (15,2 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,3 in)
Bolt circle diameter	370-371 mm (14,57-14,61 in)
Front mount baffle cutout Ø	353 mm (13,9 in)
Rear mount baffle cutout Ø	357 mm (14,1 in)
Total depth	177.4 mm (6.98 in)
Flange and gasket thickness	24 mm (0,95 in)
Flange and gasket thickness	24 mm (0,95 in)
Net weight	7 kg (15,5 lb)
Shipping weight	7,6 kg (16,8 lb)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 15NLW9500 MADE ON 180 LIT. ENCLOSURE TUNED AT 35HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 125 lt enclosure tuned at 50Hz using a 40-400Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 2,83 V sine wave test signal swept between 100Hz and 500Hz with the test specimen mounted in the same enclosure as given for #2 above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 450 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

15NLW9401

Extended LF Neodymium Transducer

97,5 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
1200W AES power handling
Fiberglass reinforced water repellent treated cone
Double Silicon Spider (DSS) for improved excursion control and linearity
High grade neodymium magnet assembly
Improved heat dissipation via multiple back-plate vents
Ideal for 60 to 130 lt subwoofer cabinets

GENERAL SPECIFICATIONS

Nominal Diameter	380mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	1200W
Program Power (2)	2400W
Peak Power	7000W
Sensitivity (3)	97,5 dB
Frequency Range (4)	37 - 2300 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	1,4 dB
Power Compression @Full Power	2,0 dB
Max Recomm. Frequency	500 Hz
Recomm. Enclosure Volume	60 - 130 lt. (2,12 - 4,59 cuft)
Minimum Impedance	7,2 Ohm at 25°C
Max Peak To Peak Excursion	38 mm (1,53 in)

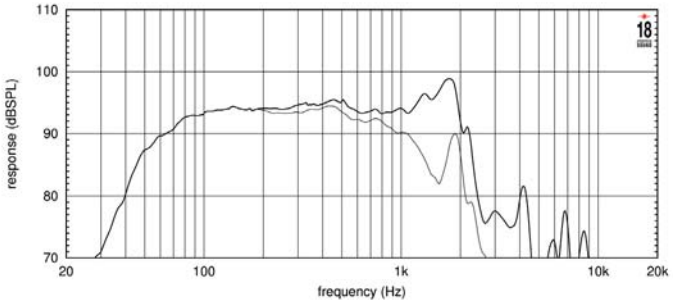
THIELE SMALL PARAMETERS (5)

Fs	39 Hz
Re	5,2 Ohm
Sd	0,09 sq.mt. (139,5 sq.in.)
Qms	4,13
Qes	0,28
Qts	0,26
Vas	134 lt (4,73 cuft)
Mms	140 gr (0,31 lb)
BL	25,4 Tm
Linear Mathematical Xmax (6)	±10 mm (±0,39 in)
Le (1kHz)	1,9 mH
Ref. Efficiency 1W@1m (half space)	96,7 dB

MOUNTING INFORMATION

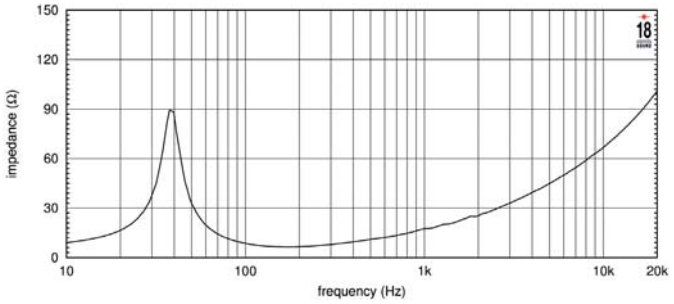
Overall diameter	393 mm (15,47 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	371 mm (14.6 in)
Front mount baffle cutout Ø	354 mm (13.93 in)
Rear mount baffle cutout Ø	360 mm (14.17 in)
Total depth	180 mm (7.13 in)
Flange and gasket thickness	12,5 mm (0.49 in)
Net weight	7,6 kg (16.78 lb)
Shipping weight	8,2 kg (18.96 lb)
CardBoard Packaging dimensions	405x405x214 mm (15,94x15.94x8,43 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 15NLW9401 MADE ON 125 LIT. ENCLOSURE TUNED AT 50HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 50 lit enclosure tuned at 60Hz using a 60-600Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 1000Hz with the test specimen mounted in the same enclosure as given for #2 above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 800W AES power 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 Hgis the gap depth.

15NLW9300

LF Neodymium Transducer

97 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich ISV copper clad voice coil
800W AES power handling
Carbon fiber reinforced cone
Double Demodulating Rings (DDR) for lower distortion
Improved dissipation via onboard aluminum heatsink and multi-cell air diffractor
External Neodymium magnet assembly
Weather protected cone and plates for outdoor usage
Recommended for line array andwedge monitor applications

GENERAL SPECIFICATIONS

Nominal Diameter	380mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	800W
Program Power (2)	1200W
Peak Power	2400W
Sensitivity (3)	97dB
Frequency Range (4)	50 - 3000 Hz
Power Compression @-10dB	0,6 dB
Power Compression @-3dB	2,1 dB
Power Compression @Full Power	3,0 dB
Max Recomm. Frequency	1200 Hz
Recomm. Enclosure Volume	65 - 150 lt. (2,30 - 5,30 cuft)
Minimum Impedance	8 Ohm at 25°C
Max Peak To Peak Excursion	37 mm (1,46 in)

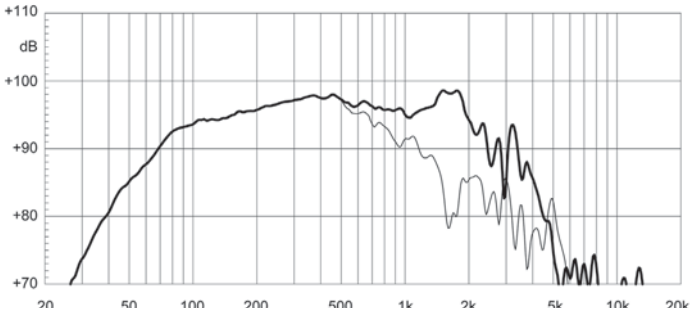
THIELE SMALL PARAMETERS (5)

Fs	39 Hz
Re	6 Ohm
Sd	0,09 sq.mt. (139,5 sq.in.)
Qms	6,7
Qes	0,274
Qts	0,26
Vas	170 lt. (6 cuft)
Mms	107 gr. (0,24 lb)
BL	24,4 Tm
Linear Mathematical Xmax (6)	±8 mm (±0,31 in)
Le (1kHz)	0,95 mH
Ref. Efficiency 1W@1m (half space)	98 dB

MOUNTING INFORMATION

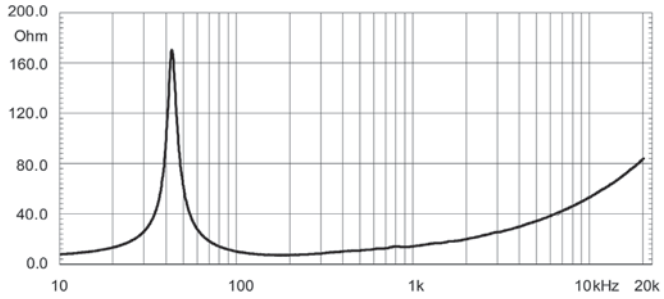
Overall diameter	387 mm (15,24 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	370-371 mm (14,55-14,6 in)
Front mount baffle cutout Ø	353 mm (13,9 in)
Rear mount baffle cutout Ø	357 mm (14,06 in)
Total depth	174 mm (6,85 in)
Flange and gasket thickness	19,5 mm (0,76 in)
Net weight	6,8 kg (15 lb)
Shipping weight	7,6 kg (16,78 lb)
CardBoard Packaging dimensions	405x405x214 mm (15,94x15.94x8,43 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 15NLW9300 MADE ON 125 LIT. ENCLOSURE TUNED AT 50HZ IN 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



FREE AIR IMPEDANCE MAGNITUDE CURVE

NOTES

(1) AES power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 50 lit enclosure tuned at 60Hz using a 40-400Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 500 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

15ND930

Extended LF Neodymium Transducer

98 dB SPL 1W / 1m average sensitivity
75 mm (3 in) edgewound voice coil
500W AES power handling
Neodymium magnet assembly
Double Demodulating Rings (DDR) for lower distortion
Humidity resistant cone
Ideal for two way systems and for high loading compact subwoofer applications
External neodymium magnet assembly
Weather protected cone and plates for outdoor usage
Recommended for multiway systems and studio monitoring applications

GENERAL SPECIFICATIONS

Nominal Diameter	380mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	500W
Program Power (2)	800W
Peak Power	1600W
Sensitivity (3)	98 dB
Frequency Range (4)	40 - 4100 Hz
Power Compression @-10dB	0,6 dB
Power Compression @-3dB	1,9 dB
Power Compression @Full Power	2,8 dB
Max Recomm. Frequency	1700 Hz
Recomm. Enclosure Volume	60 - 140 lt. (2,12 - 4,95 cuft)
Minimum Impedance	6,8 Ohm at 25°C
Max Peak To Peak Excursion	33 mm (1,3 in)

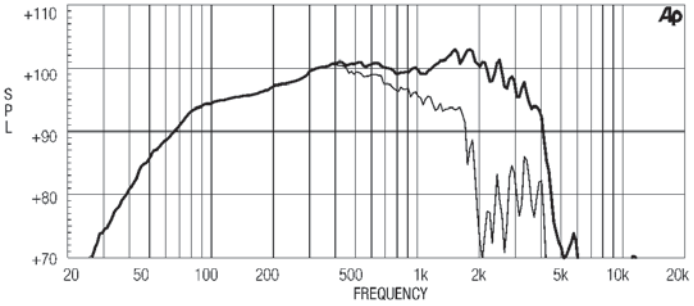
THIELE SMALL PARAMETERS (5)

Fs	36 Hz
Re	5,5 Ohm
Sd	0,085 sq.mt. (131,75 sq. in.)
Qms	5,3
Qes	0,23
Qts	0,22
Vas	206 lt. (7,28 cuft)
Mms	101 gr. (0,22 lb)
BL	23,8 Tm
Linear Mathematical Xmax (6)	± 7,5 mm (± 0,30 in)
Le (1kHz)	1,61 mH
Ref. Efficiency 1W@1m (half space)	98,2 dB

MOUNTING INFORMATION

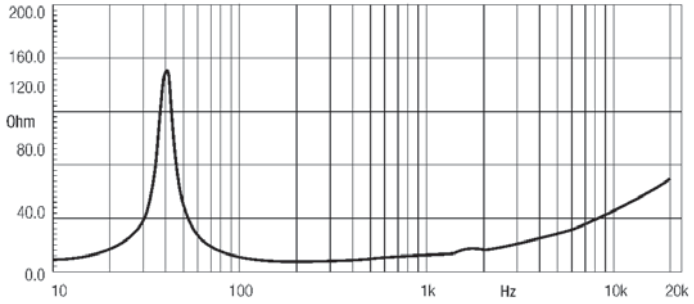
Overall diameter	387 mm (15,24 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	370-371 mm (14,55-14,6 in)
Front mount baffle cutout Ø	353 mm (13,9 in)
Rear mount baffle cutout Ø	357 mm (14,06 in)
Total depth	177 mm (7 in)
Flange and gasket thickness	11,5 mm (0,45 in)
Net weight	4,1 kg (9 lb)
Shipping weight	4,8 kg (10,5 lb)
CardBoard Packaging dimensions	405 x 405 x 214 mm (15,94 x 15,94 x 8,43 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 15ND930 MADE ON 125 LIT. ENCLOSURE TUNED 50HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 50 lit enclosure tuned at 60Hz using a 40-400Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 thesame enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 450 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

15ND830

LF Neodymium Transducer

98 dB SPL 1W / 1m average sensitivity
75 mm (3 in) edgewound voice coil (ISV)
450 W AES power handling
Neodymium magnet assembly
Weather protected cone for outdoor usage
Ideal for compact reflex subwoofer and reflex multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	380mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	450W
Program Power (2)	700W
Peak Power	1500W
Sensitivity (3)	98dB
Frequency Range (4)	38 - 5000 Hz
Power Compression @-10dB	0,5 dB
Power Compression @-3dB	2,0 dB
Power Compression @Full Power	3,0 dB
Max Recomm. Frequency	2000 Hz
Recomm. Enclosure Volume	80 - 140 lt. (2,83 - 4,95 cuft)
Minimum Impedance	6,7 Ohm at 25°C
Max Peak To Peak Excursion	33 mm (1,3 in)

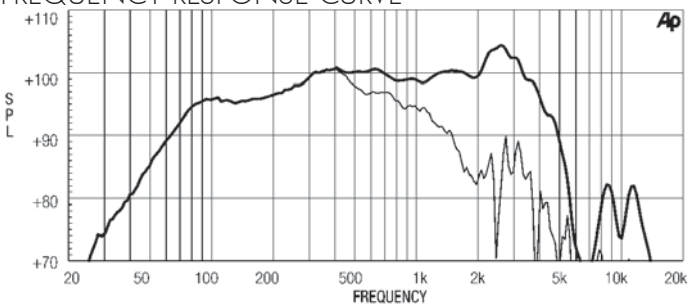
THIELE SMALL PARAMETERS (5)

Fs	39 Hz
Re	5,7 Ohm
Sd	0,085 sq.mt. (131,75 sq. in.)
Qms	3,9
Qes	0,35
Qts	0,32
Vas	213 lt. (7,5 cuft)
Mms	80 gr. (0,18 lb)
BL	18 Tm
Linear Mathematical Xmax (6)	± 6,5 mm (± 0,26 in)
Le (1kHz)	1,54 mH
Ref. Efficiency 1W@1m (half space)	97,5 dB

MOUNTING INFORMATION

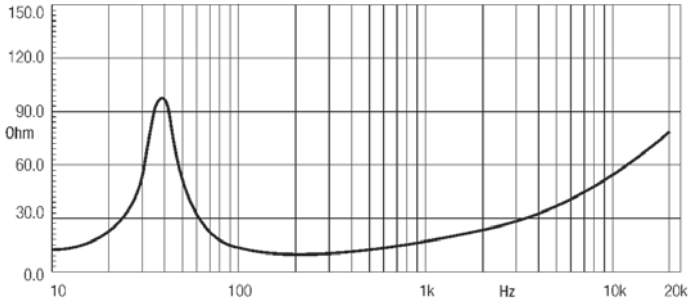
Overall diameter	387 mm (15,24 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	370-371 mm (14,55-14,6 in)
Front mount baffle cutout Ø	353 mm (13,9 in)
Rear mount baffle cutout Ø	357 mm (14,06 in)
Total depth	177 mm (7,01 in)
Flange and gasket thickness	11,5 mm (0,45 in)
Net weight	4,1 kg (8,05 lb)
Shipping weight	4,8 kg (10,6 lb)
CardBoard Packaging dimensions	405 x 405 x 214 mm (15,94 x 15,94 x 8,43 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 15ND830 MADE ON 125 LIT. ENCLOSURE TUNED 50HZ IN 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 power is determined according to AES2-1984 (r2003) standard
2) Program power rating is measured in 125 lt enclosure tuned at 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 2,83 V 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 50-500 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.

12NLW9300

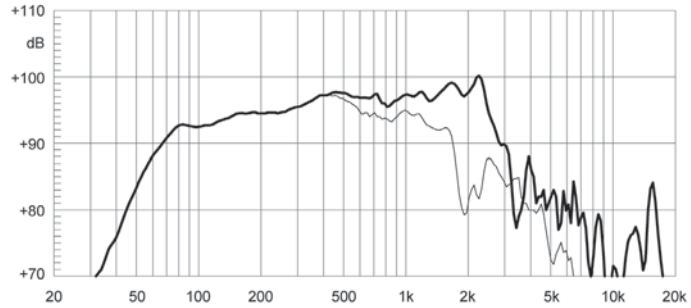
LF Neodymium Transducer

97 dB SPL 1W / 1m average sensitivity
100 mm (4in) Interleaved Sandwich ISV aluminum voice coil
800 W AES power handling
Carbon fiber reinforced cone
Double Demodulating Rings (DDR) for lower distortion
External neodymium magnet assembly
Weather protected cone and plates for outdoor usage
Improved dissipation via onboard aluminum heatsink and multi-cell air diffractor
Recommended for two way and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	300mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	800W
Program Power (2)	1200W
Peak Power	2400W
Sensitivity (3)	97dB
Frequency Range (4)	45 - 3200 Hz
Power Compression @-10dB	0,8 dB
Power Compression @-3dB	2,5 dB
Power Compression @Full Power	3,1 dB
Max Recomm. Frequency	1500 Hz
Recomm. Enclosure Volume	30 - 70 lt. (1,06 - 2,47 cuft)
Minimum Impedance	6,2 Ohm at 25°C
Max Peak To Peak Excursion	37 mm (1,46 in)

FREQUENCY RESPONSE CURVE

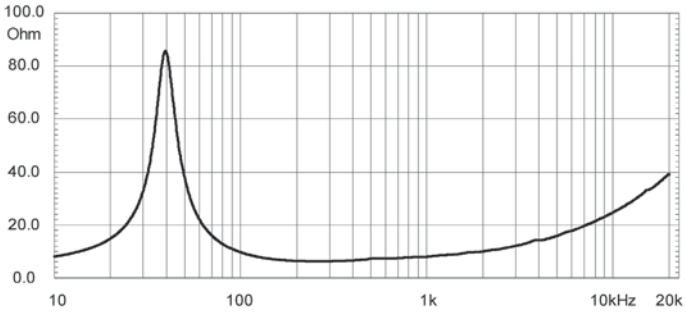


FREQUENCY RESPONSE CURVE OF 12NLW9300 MADE ON 50 LIT. ENCLOSURE TUNED AT 60HZ IN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER. THE THIN LINE REPRESENTS 45 DEG. OFF AXIS FREQUENCY RESPONSE

THIELE SMALL PARAMETERS (5)

Fs	40 Hz
Re	4,7 Ohm
Sd	0,053 sq.mt. (82,15 sq.in.)
Qms	4,67
Qes	0,25
Qts	0,24
Vas	87 lt. (3,07 cuft)
Mms	72 gr. (0,16 lb)
BL	18 Tm
Linear Mathematical Xmax (6)	±8mm (±0,31 in)
Le (1kHz)	0,49 mH
Ref. Efficiency 1W@1m (half space)	95,4 dB

FREE AIR IMPEDANCE MAGNITUDE CURVE



MOUNTING INFORMATION

Overall diameter	315 mm (12,4 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	296-300 mm (11,65-11,8 in)
Front mount baffle cutout Ø	282 mm (11,1 in)
Rear mount baffle cutout Ø	282 mm (11,1 in)
Total depth	153 mm (6,02 in)
Flange and gasket thickness	17 mm (0,67 in)
Net weight	6,2 kg (13,69 lb)
Shipping weight	7 kg (15,45 lb)
CardBoard Packaging dimensions	332 x 332 x 184mm (13,07 x 13,07 x 7,24 in)

NOTES

1) AES power is determined according to AES2-1984 (r2003) standard
2) Program power rating is measured in 50 lit enclosure tuned at 60Hz using a 60-600Hz 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 1000Hz 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 60 up to 600 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 800W AES power and represent the expected long term parameters after a short period of use.
8) Linear Mat. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hgis the gap depth.

12ND930

LF Neodymium Transducer

98 dB SPL 1W / 1m average sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
500 W AES power handling
External neodymium magnet assembly
Double Demodulating Rings (DDR) for lower distortion
Humidity resistant cone
Ideal for 2 way systems and compact high loading subwoofer applications

GENERAL SPECIFICATIONS

Nominal Diameter	300mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	500W
Program Power (2)	800W
Peak Power	1600W
Sensitivity (3)	98dB
Frequency Range (4)	46 - 4500 Hz
Power Compression @-10dB	0,9 dB
Power Compression @-3dB	2,2 dB
Power Compression @Full Power	3,1 dB
Max Recomm. Frequency	2000 Hz
Recomm. Enclosure Volume	30 - 100 lt. (1,06 - 3,53 cuft)
Minimum Impedance	6,4 Ohm at 25°C
Max Peak To Peak Excursion	30 mm (1,18 in)

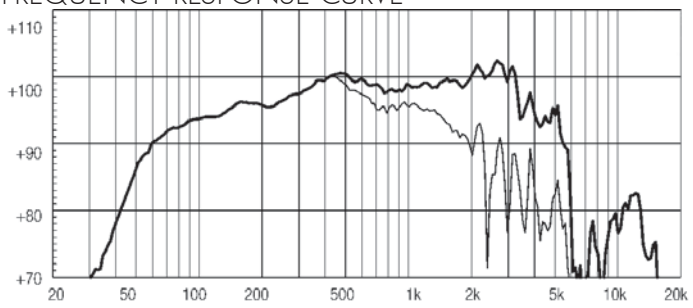
THIELE SMALL PARAMETERS (5)

Fs	50 Hz
Re	5,5 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	5,64
Qes	0,218
Qts	0,21
Vas	70 lt. (2,47cuft)
Mms	57 gr. (0,13 lb)
BL	21,2 Tm
Linear Mathematical Xmax (6)	± 6,5 mm (± 0,26 in)
Le (1kHz)	1,65 mH
Ref. Efficiency 1W@1m (half space)	98 dB

MOUNTING INFORMATION

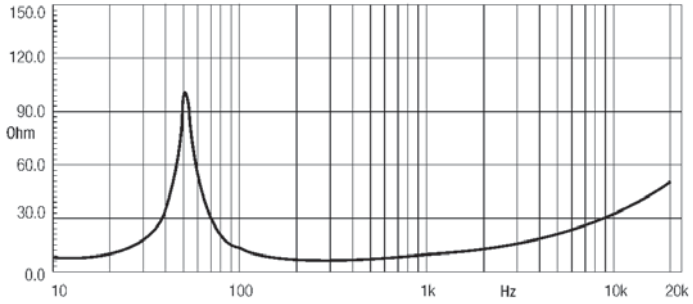
Overall diameter	315 mm (12,4 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	296-300 mm (11,65-11,8 in)
Front mount baffle cutout Ø	282 mm (11,1 in)
Rear mount baffle cutout Ø	282 mm (11,1 in)
Total depth	140 mm (5,52 in)
Flange and gasket thickness	11,5 mm (0,45 in)
Net weight	4 kg (8,83 lb)
Shipping weight	4,8 kg (10,6 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm(13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 12ND930 MADE ON 50 LIT. ENCLOSURE TUNED 60HZ IN 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 power is determined according to AES2-1984 (r2003) standard
2) Program power rating is measured in 50 lit enclosure tuned at 60Hz 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 50-500 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.

12ND830

High Output MB Neodymium Transducer

99 dB SPL 1W / 1m average sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
450 W AES power handling
Neodymium magnet assembly
Ideal for compact reflex enclosures and two-way systems

GENERAL SPECIFICATIONS

Nominal Diameter	300mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	450W
Program Power (2)	700W
Peak Power	1500W
Sensitivity (3)	99dB
Frequency Range (4)	53 - 5000 Hz
Power Compression @-10dB	0,6 dB
Power Compression @-3dB	2,0 dB
Power Compression @Full Power	3,1 dB
Max Recomm. Frequency	2000 Hz
Recomm. Enclosure Volume	40 - 100 lt. (1,41 - 3,53 cuft)
Minimum Impedance	7,0 Ohm at 25°C
Max Peak To Peak Excursion	30 mm (1,18 in)

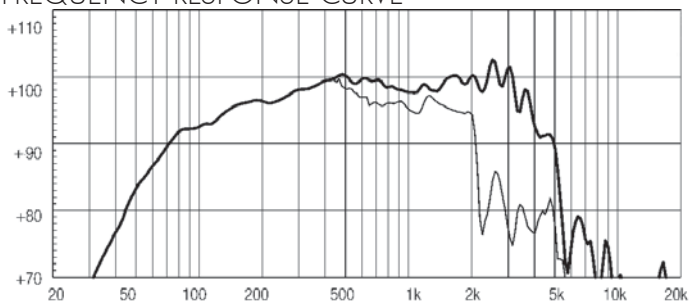
THIELE SMALL PARAMETERS (5)

Fs	55 Hz
Re	5,7 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	5,15
Qes	0,296
Qts	0,28
Vas	72 lt. (2,54cuft)
Mms	46 gr. (0,10 lb)
BL	17,6 Tm
Linear Mathematical Xmax (6)	± 6,5 mm (± 0,26 in)
Le (1kHz)	1,5 mH
Ref. Efficiency 1W@1m (half space)	98,3 dB

MOUNTING INFORMATION

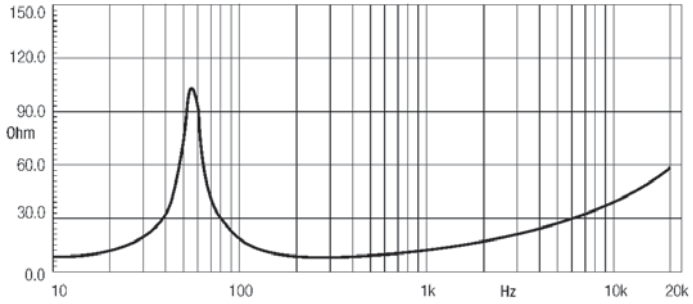
Overall diameter	315 mm (12,4 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	296-300 mm (11,65-11,8 in)
Front mount baffle cutout Ø	282 mm (11,1 in)
Rear mount baffle cutout Ø	282 mm (11,1 in)
Total depth	140 mm (5,52 in)
Flange and gasket thickness	11,5 mm (0,45 in)
Net weight	4 kg (8,83 lb)
Shipping weight	4,8 kg (10,6 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm(13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 12ND830 MADE ON 50 LIT. ENCLOSURE TUNED 60HZ IN 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 power is determined according to AES2-1984 (r2003) standard
2) Program power rating is measured in 50 lit enclosure tuned at 60Hz 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 thesame 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 50-500 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.

12ND610

Very High Output MB Neodymium Transducer

102 dB SPL 1W / 1m average sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
450 W AES power handling
Neodymium magnet assembly
Very shallow profile, 124 mm (4,9 in)
Water resistant cone
Suitable for midrange and mid-bass loaded applications

GENERAL SPECIFICATIONS

Nominal Diameter	300mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	450W
Program Power (2)	700W
Peak Power	1500W
Sensitivity (3)	102dB
Frequency Range (4)	80 - 5500 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	1,9 dB
Power Compression @Full Power	2,4 dB
Max Recomm. Frequency	2000 Hz
Recomm. Enclosure Volume	8 - 40 lt. (0,28 - 1,41 cuft)
Minimum Impedance	4,2 Ohm at 25°C
Max Peak To Peak Excursion	23 mm (0,91 in)

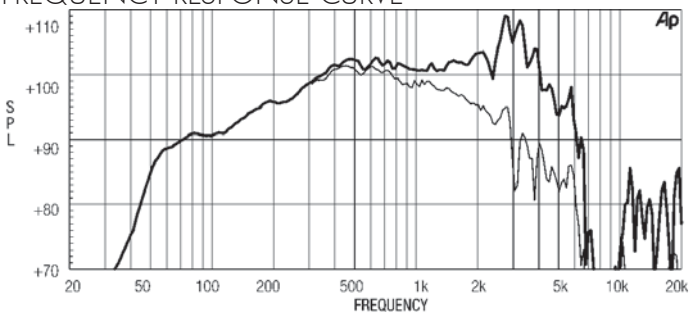
THIELE SMALL PARAMETERS (5)

Fs	46 Hz
Re	5,9 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	4,3
Qes	0,15
Qts	0,14
Vas	94,4 lt. (3,32 cuft)
Mms	49 gr. (0,11 lb)
BL	24 Tm
Linear Mathematical Xmax (6)	± 3,5 mm (± 0,14 in)
Le (1kHz)	1,17 mH
Ref. Efficiency 1W@1m (half space)	100 dB

MOUNTING INFORMATION

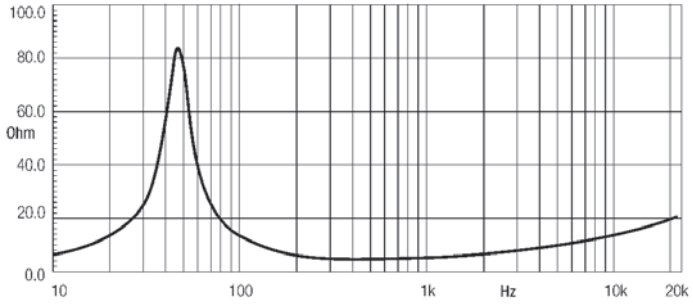
Overall diameter	315 mm (12,4 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	296-300 mm (11,65-11,8 in)
Front mount baffle cutout Ø	282 mm (11,1 in)
Rear mount baffle cutout Ø	282 mm (11,1 in)
Total depth	124 mm (4,88 in)
Flange and gasket thickness	11,5 mm (0,45 in)
Net weight	3,4 kg (7,51 lb)
Shipping weight	4,2 kg (9,27 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm(13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 12ND610 MADE ON 50 LIT. ENCLOSURE TUNED 60HZ IN 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 power is determined according to AES2-1984 (r2003) standard
2) Program power rating is measured in 50 lit enclosure tuned @ 60Hz, using 60 -2000Hz 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 500Hz and 2500Hz 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 50-500 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.

12NMB420

High Output MB Neodymium Transducer

100,5 dB SPL 1W / 1m average sensitivity
65 mm (2,5 in) Interleaved Sandwich Voice coil (ISV)
300 W AES power handling
Single Demodulating Ring (SDR) for lower distortion
Copper ring for lower intermodulation distortion
External neodymium magnet assembly
Weather protected cone and plates for outdoor usage
Specially designed for compact two way systems

GENERAL SPECIFICATIONS

Nominal Diameter	300mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	300 W
Program Power (2)	450 W
Peak Power	900 W
Sensitivity (3)	100,5 dB
Frequency Range (4)	55 - 6000 Hz
Power Compression @-10dB	0,9 dB
Power Compression @-3dB	2,2 dB
Power Compression @Full Power	2,9 dB
Max Recomm. Frequency	2000 Hz
Recomm. Enclosure Volume	50 - 100 lt. (1,77- 3,53 cuft)
Minimum Impedance	6,9 Ohm at 25°C
Max Peak To Peak Excursion	22 mm (0,87 in)

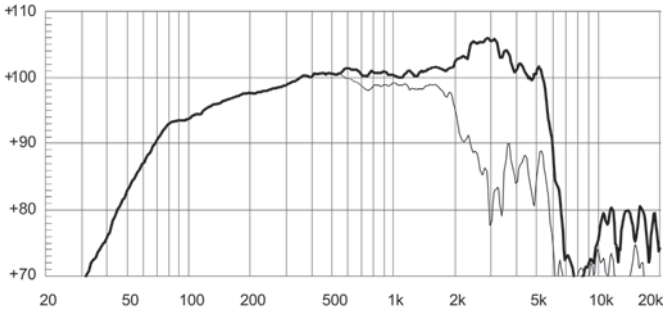
THIELE SMALL PARAMETERS (5)

Fs	53 Hz
Re	5,2 Ohm
Sd	0,053 sq.mt. (82,15 sq.in.)
Qms	3,6
Qes	0,3
Qts	0,28
Vas	105 lt. (3,71cuft)
Mms	33,5 gr. (73,95 lb)
BL	13,9 Tm
Linear Mathematical Xmax (6)	± 4 mm (±0,16 in)
Le (1kHz)	0,2 mH
Ref. Efficiency 1W@1m (half space)	99 dB

MOUNTING INFORMATION

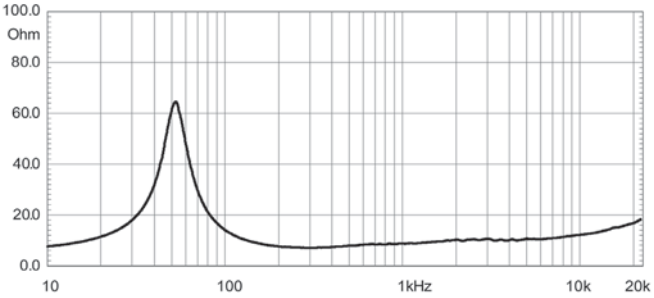
Overall diameter	315 mm (12,40 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	296-300 mm (11,65-11,8 in)
Front mount baffle cutout Ø	282 mm (11,10 in)
Rear mount baffle cutout Ø	282 mm (11,10 in)
Total depth	127 mm (5,00 in)
Flange and gasket thickness	11,5 mm (0,45 in)
Net weight	2.8 kg (6.2 lb)
Shipping weight	3.5 kg (7.7 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 12NMB420 MADE ON 18 LIT. ENCLOSURE TUNED 60HZ IN 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 power is determined according to AES2-1984 (r2003) standard
2) Program power rating is measured in 50 lit enclosure tuned at 60 Hz using a 70 - 3000Hz 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 500Hz and 2500Hz 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 100-1000 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.

10NDA610

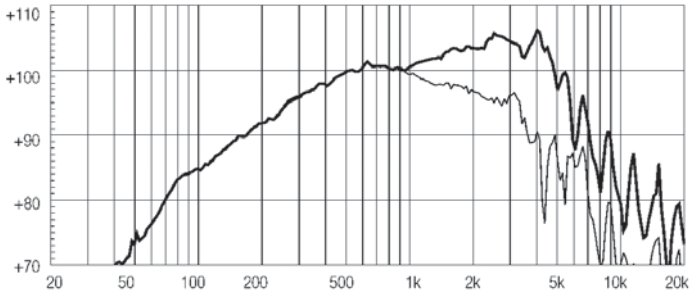
Very High Output Neodymium MF Transducer

103 dB SPL 1W / 1m average sensitivity (AIC on)
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
400 W AES power handling
Neodymium motor assembly
A.I.C. (Active Impedance Control) technology
Very shallow profile, 90 mm (3,5 in) total depth
Humidity resistant cone and plates
Suitable for high quality, very high SPL midrange frequency reproduction

GENERAL SPECIFICATIONS

Nominal Diameter	260mm (10 in)
Rated Impedance	8 Ohm
AES Power (1)	400W
Program Power (2)	600W
Peak Power	1200W
Sensitivity (3)	103dB
Frequency Range (4)	100 - 6100 Hz
Power Compression @-10dB	0,5 dB
Power Compression @-3dB	1,5 dB
Power Compression @Full Power	2,1 dB
Max Recomm. Frequency	4000 Hz
Recomm. Enclosure Volume	4 - 15 lt. (0,14 - 0,53 cuft)
Minimum Impedance	6,5 Ohm at 25°C
Max Peak To Peak Excursion	13 mm (0,51 in)

FREQUENCY RESPONSE CURVE

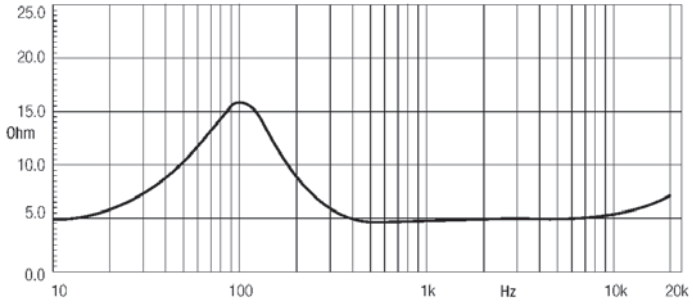


FREQUENCY RESPONSE CURVE OF 10NDA610 (AIC ON) MADE ON 30 LIT. CLOSED ENCLOSURE IN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER. THE THIN LINE REPRESENTS 45 DEG. OFF AXIS FREQUENCY RESPONSE.

THIELE SMALL PARAMETERS (5)

Fs	89 Hz
Re	5,5 Ohm
Sd	0,035 sq.mt. (54,25 sq.in.)
Qms	7,1
Qes	0,24
Qts	0,23
Vas	18 lt. (0,64 cuft)
Mms	30 gr. (0,07 lb)
BL	20,3 Tm
Linear Mathematical Xmax (6)	±2,5 mm (± 0,10 in)
Le (1kHz)	0,06 mH
Ref. Efficiency 1W@1m (half space)	98 dB

FREE AIR IMPEDANCE MAGNITUDE CURVE



FREE AIR IMPEDANCE MAGNITUDE CURVE - AIC ON

MOUNTING INFORMATION

Overall diameter	260 mm (10,24 in)
N. of mounting holes	4 on diam. 275 mm (4 on 10,83 in) 8 on diam. 244,5 mm (4 on 9,63 in)
Mounting holes diameter	7,15 mm (0,28 in)
Front mount baffle cutout Ø	232 mm (9,13 in)
Rear mount baffle cutout Ø	232 mm (9,13 in)
Total depth	96 mm (3,78 in)
Flange and gasket thickness	14,5 mm (0,57 in)
Net weight	3,5 kg (7,7 lb)
Shipping weight	3,9 kg (8,58 lb)
CardBoard Packaging dimensions	275 x 275 x 164 mm(10,83 x 10,83 x 6,46 in)
CardBoard Packaging dimensions	235 x 235 x 150 mm (9,25 x 9,25 x 5,91 in)

NOTES

1) AES power is determined according to AES2-1984 (r2003) standard
2) Program power rating is measured in a 30 lit closed enclosure, using 100-3000Hz 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 500Hz and 2500Hz 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 100-1000 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.

10NMBA520

High Output MB Neodymium Transducer

100,5 dB SPL 1W / 1m average sensitivity (AIC on)
65 mm (2,5 in) Interleaved Sandwich Voice coil (ISV)
300 Watt AES power handling
Neodymium motor assembly
AIC (Active Impedance Control) secondary voice coil for superior intelligibility, very low distortion and inductance linearization
Suitable for high quality two way compact systems
Suitable for line array applications and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	260mm (10 in)
Rated Impedance	8 Ohm
AES Power (1)	300W
Program Power (2)	600W
Peak Power	900W
Sensitivity (3)	100,5 dB
Frequency Range (4)	60 - 7000 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	2,5 dB
Power Compression @Full Power	3,9 dB
Max Recomm. Frequency	2000 Hz
Recomm. Enclosure Volume	10 - 40 lt. (0,90 - 1,41 cuft)
Minimum Impedance	6,3 Ohm at 25°C
Max Peak To Peak Excursion	24 mm (0,95 in)

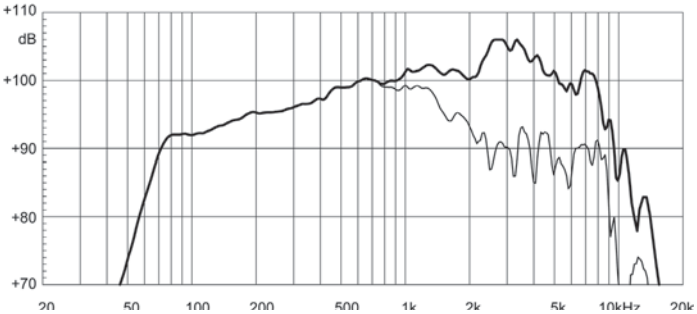
THIELE SMALL PARAMETERS (5)

Fs	60 Hz
Re	5 Ohm
Sd	0,035 sq.mt. (54,25 sq.in.)
Qms	4,2
Qes	0,24
Qts	0,23
Vas	42 lt. (1,48 cu ft)
Mms	28 gr. (0,06 lb)
BL	14,6 Tm
Linear Mathematical Xmax (6)	±4 mm (±0,16 in)
Le (1kHz)	0,01 mH (AIC on) - 0,38 mH (AIC off)
Ref. Efficiency 1W@1m (half space)	97,8 dB

MOUNTING INFORMATION

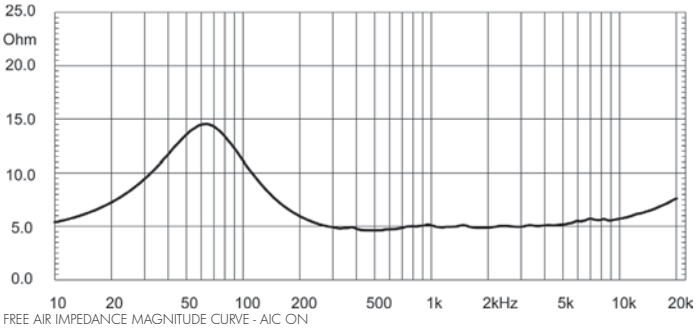
Overall diameter	260 mm (10,24 in)
N. of mounting holes	4 on diam. 275 mm (4 on 10,83 in) 8 on diam. 244,5 mm (4 on 9,63 in)
Mounting holes diameter	7,15 mm (0,28 in)
Front mount baffle cutout Ø	232 mm (9,13 in)
Rear mount baffle cutout Ø	232 mm (9,13 in)
Total depth	104 mm (4,09 in)
Flange and gasket thickness	14,5 mm (0,57 in)
Net weight	3 kg (6,67 lb)
Shipping weight	3,57 kg (7,88 lb)
CardBoard Packaging dimensions	275 x 275 x 164mm (10,83 x 10,83 x 6,46 in)
CardBoard Packaging dimensions	235 x 235 x 150 mm (9,25 x 9,25 x 5,91 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 10NMBA520 (AIC ON) MADE ON 30 LIT. ENCLOSURE TUNED AT 55 HZ IN 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



FREE AIR IMPEDANCE MAGNITUDE CURVE - AIC ON

NOTES

1) AES power is determined according to AES2-1984 (r2003) standard
2) Program power rating is measured in 30 lit enclosure tuned at 55 Hz using a 100-3000Hz 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 500Hz and 2500Hz 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 100-1000 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.

10NMB420

High Output MB Neodymium Transducer

99 dB SPL 1W / 1m average sensitivity
65 mm (2.5 in) Interleaved Sandwich Voice coil (ISV)
350 W AES power handling
External neodymium magnet assembly
Single Demodulating Ring (SDR) for lower distortion
Weather protected cone and plates for outdoor usage
Suitable for line arrays and compact two way systems

GENERAL SPECIFICATIONS

Nominal Diameter	260mm (10 in)
Rated Impedance	16 Ohm
AES Power (1)	350 W
Program Power (2)	500 W
Peak Power	1000 W
Sensitivity (3)	99 dB
Frequency Range (4)	65 - 5000 Hz
Power Compression @-10dB	0,8 dB
Power Compression @-3dB	2,2 dB
Power Compression @Full Power	2,9 dB
Max Recomm. Frequency	2000 Hz
Recomm. Enclosure Volume	10 - 40 lt. (0,35 - 1,41 cuft)
Minimum Impedance	11,9Ohm at 25°C
Max Peak To Peak Excursion	25 mm (1 in)

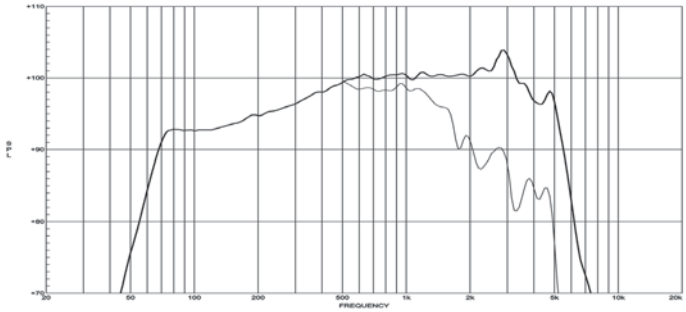
THIELE SMALL PARAMETERS (5)

Fs	65 Hz
Re	10,5 Ohm
Sd	0,0346 sq.mt. (53,6 sq.in.)
Qms	4,6
Qes	0,36
Qts	0,33
Vas	30 lt. (1,06 cu.ft.)
Mms	31,5 gr. (0,07 lb)
BL	19,5 Tm
Linear Mathematical Xmax (6)	± 4 mm (±0,16 in)
Le (1kHz)	0,4 mH
Ref. Efficiency 1W@1m (half space)	96 dB

MOUNTING INFORMATION

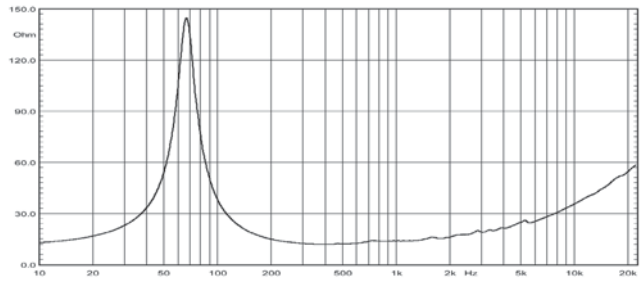
Overall diameter	260 mm (10,24 in)
N. of mounting holes	8
Mounting holes diameter	7 mm (0,27 in)
Bolt circle diameter	244 mm (9,6 in)
Front mount baffle cutout Ø	232 mm (9,1 in)
Rear mount baffle cutout Ø	232 mm (9,1 in)
Total depth	122 mm (4,8 in)
Flange and gasket thickness	11 mm (0,43 in)
Net weight	3 kg (6,6 lb)
Shipping weight	3,5 kg (7,7 lb)
CardBoard Packaging dimensions	275 x 275 x 164 mm (9,25 x 9,25 x 5,91 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 10NMB420 MADE ON 30LIT. ENCLOSURE TUNED @ 55HZ IN 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 power is determined according to AES2-1984 (r2003) standard
2) Program power rating is measured in 30 lit enclosure tuned at 55 Hz using a 70-2000Hz 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 4V 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 100-1000 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.

10NW650

LF Neodymium Transducer

96 dB SPL 1W / 1m average sensitivity
65 mm (2.5 in) aluminum edgewound voice coil
600 W program power handling
High excursion design for low frequency clarity and punch
Weather protected cone and coated plates for outdoor usage
Ultra lightweight design
Suitable for line array applications and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	260 mm (10 in)
Rated Impedance	8 Ohm
AES Power (1)	300 W
Program Power (2)	600 W
Peak Power	1200 W
Sensitivity (3)	96 dB
Frequency Range (4)	60 - 6000 Hz
Power Compression @-10dB	0,5 dB
Power Compression @-3dB	1,3 dB
Power Compression @Full Power	2,3 dB
Max Recomm. Frequency	1800 Hz
Recomm. Enclosure Volume	10 - 40 lt. (0,35 - 1,41 cuft)
Minimum Impedance	6,0 Ohm at 25°C
Max Peak To Peak Excursion	25 mm (0,98 in)

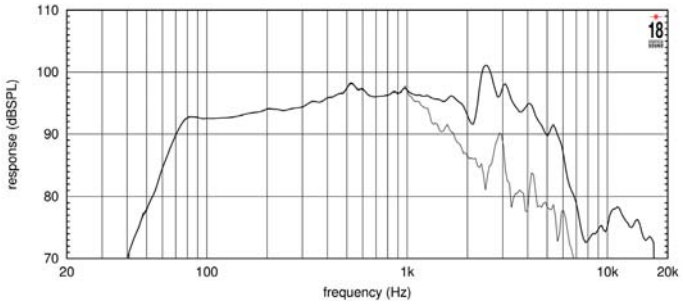
THIELE SMALL PARAMETERS (5)

Fs	51 Hz
Re	5,0 Ohm
Sd	0,0346 sq.mt. (53,6 sq.in.)
Qms	8
Qes	0,29
Qts	0,28
Vas	48 lt (1.70 cu.ft.)
Mms	34 g (0.07 lb)
BL	14 Tm
Linear Mathematical Xmax (6)	± 7 mm (±0.28 in)
Le (1kHz)	0,70 mH
Ref. Efficiency 1W@1m (half space)	95,2 dB

MOUNTING INFORMATION

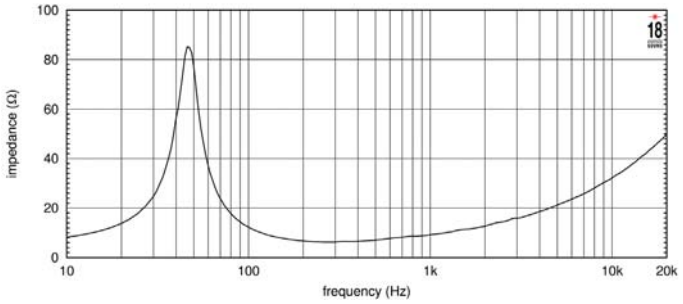
Overall diameter	260 mm (10.24 in)
N. of mounting holes	8
Mounting holes diameter	6,1 mm (0.24 in)
Bolt circle diameter	243,5 mm (9.59 in)
Front mount baffle cutout Ø	230 mm (9.06 in)
Rear mount baffle cutout Ø	231 mm (9.09 in)
Total depth	131,8 mm (5.19 in)
Flange and gasket thickness	9,8 mm (0.39 in)
Net weight	2,7 kg (5.95 lb)
Shipping weight	3,15 kg (6,95 lb)
CardBoard Packaging dimensions	275 x 275 x 170 mm (9.25 x 9.25 x 6.69 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 10NW650 MADE ON 25 LIT. ENCLOSURE TUNED @ 65HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 2 lit closed enclosure using a 150-3000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 200 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

8NW650

LF Neodymium Transducer

96 dB SPL 1W / 1m average sensitivity
65 mm (2.5 in) aluminum edgewound voice coil
600 W program power handling
High excursion design for low frequency clarity and punch
Weather protected cone and coated plates for outdoor usage
Ultra lightweight design
Suitable for line array applications and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	200mm (8 in)
Rated Impedance	8 Ohm
AES Power (1)	300 W
Program Power (2)	600 W
Peak Power	1200 W
Sensitivity (3)	96 dB
Frequency Range (4)	55 - 6300 Hz
Power Compression @-10dB	0,8 dB
Power Compression @-3dB	2,2 dB
Power Compression @Full Power	3,0 dB
Max Recomm. Frequency	2500 Hz
Recomm. Enclosure Volume	10 - 40 lt. (0.36 - 1.41 cuft)
Minimum Impedance	6,3 Ohm at 25°C
Max Peak To Peak Excursion	26 mm (1.02 in)

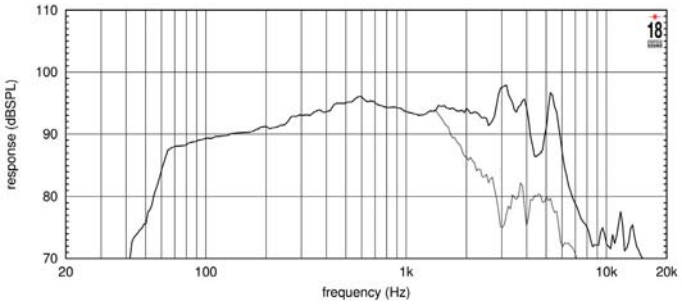
THIELE SMALL PARAMETERS (5)

Fs	63 Hz
Re	6,1 Ohm
Sd	0,0227 sq.mt. (35,19 sq.in.)
Qms	3,7
Qes	0,27
Qts	0,25
Vas	17,8 lt. (0.63 cuft)
Mms	26 gr. (0.06 lb)
BL	15,2 Tm
Linear Mathematical Xmax (6)	± 5.5 mm (±0,22 in)
Le (1kHz)	0,71 mH
Ref. Efficiency 1W@1m (half space)	94,0 dB

MOUNTING INFORMATION

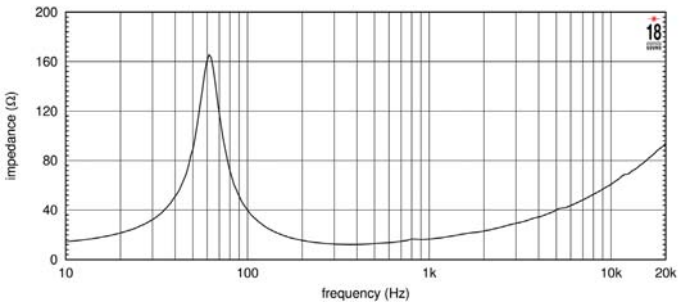
Overall diameter	210 mm (8,3 in)
N. of mounting holes	6
Mounting holes diameter	6 mm (0,23 in)
Bolt circle diameter	195-198 mm (7,68-7,8 in)
Front mount baffle cutout Ø	185 mm (7,28 in)
Rear mount baffle cutout Ø	185,5 mm (7,3 in)
Total depth	111,3 mm (4.38 in)
Flange and gasket thickness	8,8 mm (0,35 in)
Net weight	2,2 kg (4,85 lb)
Shipping weight	2,5 kg (5,51 lb)
CardBoard Packaging dimensions	235 x 235 x 150 mm (9,25 x 9,25 x 5,91 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 8NW650 MADE ON 25LIT. ENCLOSURE TUNED 65HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 2 lit closed enclosure using a 300 -3000Hz band limited pink noise test signalwith 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted inthe same enclosure as given for #2 above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 180 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

8NMB420

High Output MB Neodymium Transducer

95 dB SPL 1W / 1m average sensitivity
51mm (2 in) Interleaved Sandwich Voice coil (ISV)
280 W AES power handling
External neodymium magnet assembly
Single Demodulating Ring (SDR) for lower distortion
Weather protected cone and plates for outdoor usage
Suitable for line arrays and compact two way systems

GENERAL SPECIFICATIONS

Nominal Diameter	200mm (8 in)
Rated Impedance	8 Ohm
AES Power (1)	280 W
Program Power (2)	400 W
Peak Power	800 W
Sensitivity (3)	95 dB
Frequency Range (4)	60 - 5500 Hz
Power Compression @-10dB	0,8 dB
Power Compression @-3dB	1,7 dB
Power Compression @Full Power	2,2 dB
Max Recomm. Frequency	2500 Hz
Recomm. Enclosure Volume	10 - 40 lt. (0,35 - 1,41 cuft)
Minimum Impedance	5,9 Ohm at 25°C
Max Peak To Peak Excursion	19 mm (0,7 in)

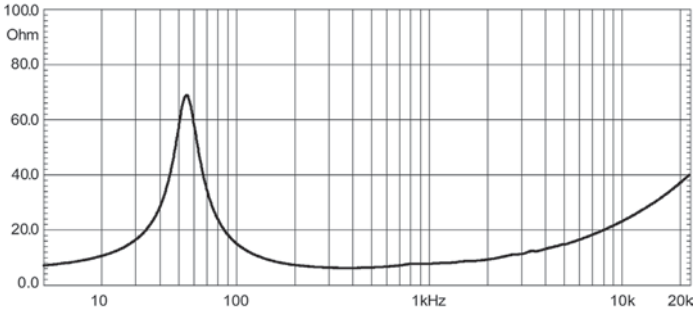
THIELE SMALL PARAMETERS (5)

Fs	61 Hz
Re	5 Ohm
Sd	0,022 sq.mt. (34,1 sq.in.)
Qms	4
Qes	0,31
Qts	0,28
Vas	33 lt. (1,2cuft)
Mms	14,9 gr. (0.033 lb)
BL	10 Tm
Linear Mathematical Xmax (6)	± 5,75 mm (±0,23 in)
Le (1kHz)	0,35 mH
Ref. Efficiency 1W@1m (half space)	95,6dB

MOUNTING INFORMATION

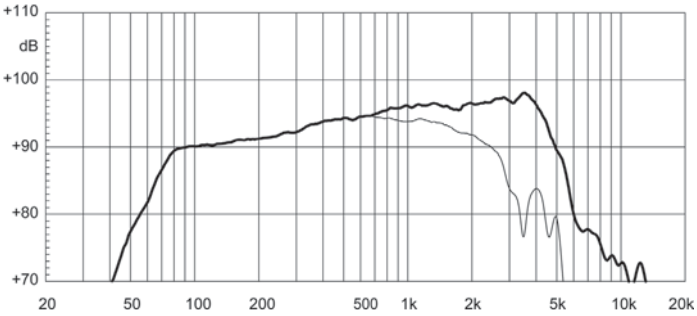
Overall diameter	210 mm (8,3 in)
N. of mounting holes	6
Mounting holes diameter	6 mm (0,23 in)
Bolt circle diameter	195-198 mm (7,68-7,8 in)
Front mount baffle cutout Ø	186 mm (7,3 in)
Rear mount baffle cutout Ø	184 mm (7,2 in)
Total depth	99 mm (3.9 in)
Flange and gasket thickness	14,5 mm (0,6 in)
Net weight	1,7 kg (3,7 lb)
Shipping weight	2,0 kg (4,4 lb)
CardBoard Packaging dimensions	235 x 235 x 150 mm (9,25 x 9,25 x 5,91 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 8NMB420 MADE ON 25LIT. ENCLOSURE TUNED 65HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 2 lit closed enclosure using a 300 -3000Hz band limited pink noise test signalwith 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted inthe same enclosure as given for #2 above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 180 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

6ND430

LF Neodymium Transducer

92,5 dB SPL 1W / 1m average sensitivity
45 mm (1,77 in) aluminum voice coil
200 W AES power handling
Neodymium motor assembly
Weather protected cone
Improved heat dissipation via unique basket design
Ideal for compact two way and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	152mm (6 in)
Rated Impedance	8 Ohm
AES Power (1)	200 W
Program Power (2)	260 W
Peak Power	500 W
Sensitivity (3)	92,5 dB
Frequency Range (4)	63 - 5500 Hz
Power Compression @-10dB	1,0 dB
Power Compression @-3dB	1,5 dB
Power Compression @Full Power	2,9 dB
Max Recomm. Frequency	3000 Hz
Recomm. Enclosure Volume	10 - 40 lt. (0,35 - 1,41 cuft)
Minimum Impedance	6,1 Ohm at 25°C
Max Peak To Peak Excursion	22 mm (0,87 in)

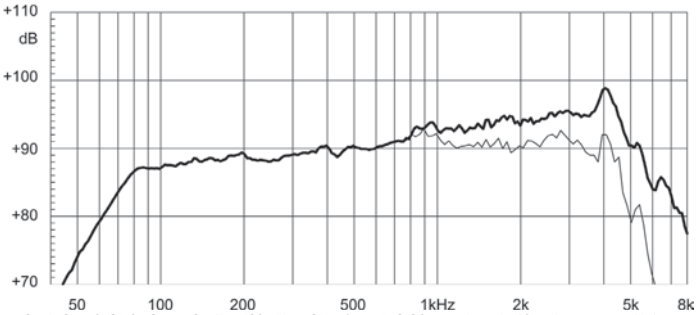
THIELE SMALL PARAMETERS (5)

Fs	61 Hz
Re	5.5 Ohm
Sd	0,0133 sq.mt. (20,6 sq.in.)
Qms	6.5
Qes	0.28
Qts	0.27
Vas	12.6 lt. (0,4 cuft)
Mms	13,3 gr. (0,03 lb)
BL	10.0 Tm
Linear Mathematical Xmax (6)	± 5 mm (±0,20 in)
Le (1kHz)	0.28 mH
Ref. Efficiency 1W@1m (half space)	92 dB

MOUNTING INFORMATION

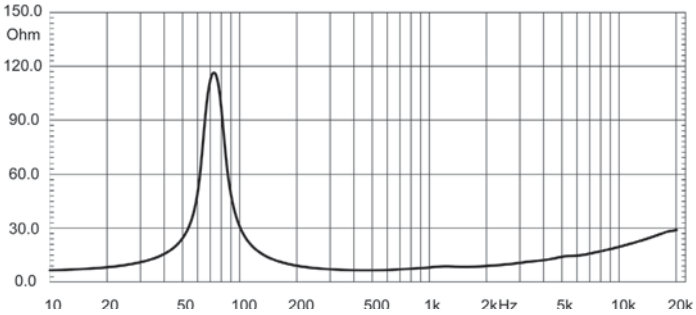
Overall diameter	162 mm (6,38 in)
N. of mounting holes	4
Mounting holes diameter	5,5 mm (0,22 in)
Bolt circle diameter	170 mm (6,69 in)
Front mount baffle cutout Ø	148 mm (5,38 in)
Rear mount baffle cutout Ø	148 mm (5,38 in)
Total depth	73 mm (2,87 in)
Flange and gasket thickness	9,5 mm (0,37 in)
Net weight	1,25 kg (2,76 lb)
Shipping weight	1,8 kg (3,97 lb)
CardBoard Packaging dimensions	170 x 170 x 80 mm (6,69 x 6,69 x 3,15 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 6ND430 MADE ON 18 LIT. ENCLOSURE TUNED AT 60HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 2 lit closed enclosure using a 300 -3000Hz band limited pink noise test signalwith 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted inthe same enclosure as given for #2 above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 180 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

6NMB420

High Output MB Neodymium Transducer

100 dB SPL 1W / 1m average sensitivity
44 mm (1 3/4 in) voice coil
200 W AES power handling
External neodymium magnet assembly
Single Demodulating Ring (SDR) for lower distortion
Weather protected cone and plates for outdoor usage
Improved heat dissipation via Active Cooling System
Specially designed for line arrays and compact two way systems

GENERAL SPECIFICATIONS

Nominal Diameter	152mm (6 in)
Rated Impedance	8 Ohm
AES Power (1)	200 W
Program Power (2)	260 W
Peak Power	500 W
Sensitivity (3)	100 dB
Frequency Range (4)	200 - 7000 Hz
Power Compression @-10dB	0,9 dB
Power Compression @-3dB	1,6 dB
Power Compression @Full Power	2,9 dB
Max Recomm. Frequency	3500 Hz
Recomm. Enclosure Volume	2 - 6 lt. (0,07 - 0,21 cuft)
Minimum Impedance	6,2 Ohm at 25°C
Max Peak To Peak Excursion	14 mm (0,55 in)

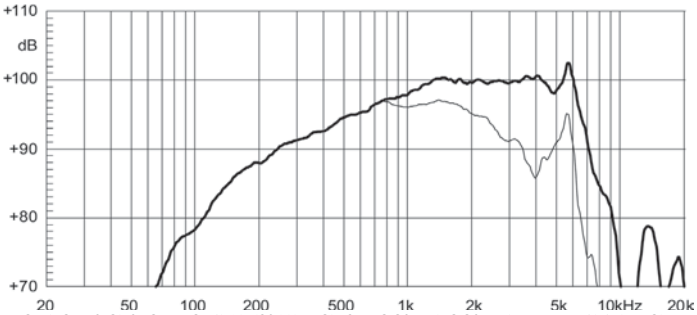
THIELE SMALL PARAMETERS (5)

Fs	110 Hz
Re	5,3 Ohm
Sd	0,013 sq.mt. (20,15 sq.in.)
Qms	2,7
Qes	0,38
Qts	0,33
Vas	6,1 lt. (0,22 cuft)
Mms	8,5 gr. (18,76 lb)
BL	9 Tm
Linear Mathematical Xmax (6)	± 3 mm (±0,12 in)
Le (1kHz)	0,1 mH
Ref. Efficiency 1W@1m (half space)	95,1 dB

MOUNTING INFORMATION

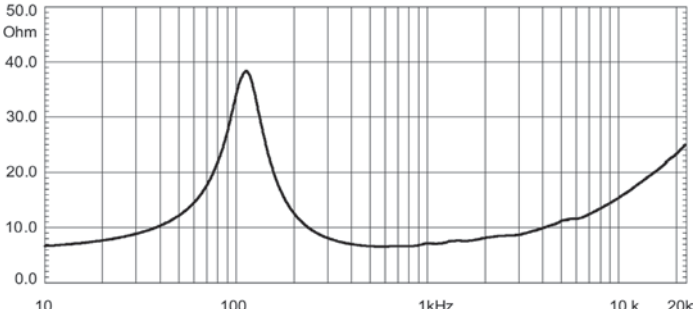
Overall diameter	162 mm (6,38 in)
N. of mounting holes	4
Mounting holes diameter	5,5 mm (0,22 in)
Bolt circle diameter	170 mm (6,69 in)
Front mount baffle cutout Ø	148 mm (5,38 in)
Rear mount baffle cutout Ø	148 mm (5,38 in)
Total depth	73 mm (2,87 in)
Flange and gasket thickness	11,5 mm (0,45 in)
Net weight	1,25 kg (2,76 lb)
Shipping weight	1,8 kg (3,97 lb)
CardBoard Packaging dimensions	170 x 170 x 80 mm (6,69 x 6,69 x 3,15 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 6NMB420 MADE ON 2 LIT. CLOSED ENCLOSURE IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 2 lit closed enclosure using a 300 -3000Hz band limited pink noise test signalwith 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted inthe same enclosure as given for #2 above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 180 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

6ND410

Very High Output Neodymium MF Transducer

102 dB SPL 1W / 1m average sensitivity
45 mm (1,77 in) edgewound aluminum voice coil
180 W AES power handling
Neodymium motor assembly
Extremely high sound quality
Very shallow profile, 58 mm (2,3 in)
Suitable for horn and direct radiation midrange applications

GENERAL SPECIFICATIONS

Nominal Diameter	152mm (6 in)
Rated Impedance	8 Ohm
AES Power (1)	180 W
Program Power (2)	240 W
Peak Power	480 W
Sensitivity (3)	102 dB
Frequency Range (4)	200 - 8000 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	1,2 dB
Power Compression @Full Power	1,6 dB
Max Recomm. Frequency	5000 Hz
Recomm. Enclosure Volume	1 - 5 lt. (0,04 - 0,18 cuft)
Minimum Impedance	8,2 Ohm at 25°C
Max Peak To Peak Excursion	8 mm (0,31 in)

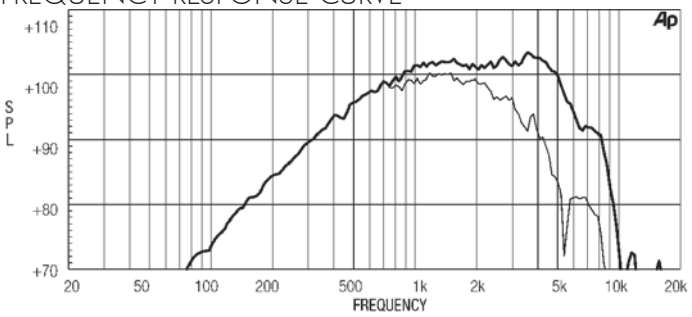
THIELE SMALL PARAMETERS (5)

Fs	120 Hz
Re	5,9 Ohm
Sd	0,0143 sq.mt. (20,6 sq.in.)
Qms	2,2
Qes	0,27
Qts	0,24
Vas	6,2 lt. (0,22 cuft)
Mms	8,2 gr. (0,02 lb)
BL	11,6 Tm
Linear Mathematical Xmax (6)	± 2 mm (±0,08 in)
Le (1kHz)	0,67 mH
Ref. Efficiency 1W@1m (half space)	97,9 dB

MOUNTING INFORMATION

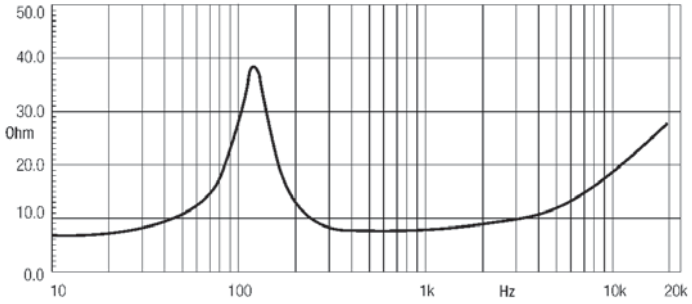
Overall diameter	162 mm (6,38 in)
N. of mounting holes	4
Mounting holes diameter	5,5 mm (0,22 in)
Bolt circle diameter	170 mm (6,69 in)
Front mount baffle cutout Ø	148 mm (5,38 in)
Rear mount baffle cutout Ø	148 mm (5,38 in)
Total depth	60 mm (2,3 in)
Flange and gasket thickness	9,5 mm (0,37 in)
Net weight	1,25 kg (2,76 lb)
Shipping weight	1,8 kg (3,97 lb)
CardBoard Packaging dimensions	170 x 170 x 80 mm (6,69 x 6,69 x 3,15 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 6ND410 MADE ON 2 LIT. CLOSED ENCLOSURE IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 2 lit closed enclosure using a 300 -3000Hz band limited pink noise test signalwith 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted inthe same enclosure as given for #2 above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 180 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

LF TRANSDUCERS - FERRITE

21LW2500

NEW

Extended LF Ferrite Transducer

95 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
3200 Watt program power handling
Composite reinforced straight ribbed cone
Optimized high grade ferrite magnet assembly
Recommended for subwoofer usage in compact vented or bandpass enclosures

GENERAL SPECIFICATIONS

Nominal Diameter	533 mm (21 in)
Rated Impedance	8 Ohm
AES Power (1)	1600 W
Program Power (2)	3200 W
Peak Power	7200 W
Sensitivity (3)	95 dB
Frequency Range (4)	30-1000Hz
Power Compression @-10dB	TBD
Power Compression @-3dB	TBD
Power Compression @Full Power	TBD
Max Recomm. Frequency	200 Hz
Recomm. Enclosure Volume	130 - 500 lt (4.59-17.7 cuft)
Minimum Impedance	6,1 Ohm @ 25°
Max Peak To Peak Excursion	70 mm (2,76 in)

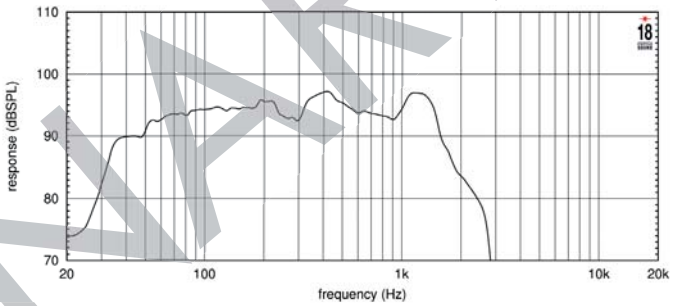
THIELE SMALL PARAMETERS (5)

Fs	30 Hz
Re	4,8 Ohm
Sd	0,166 sq.m (175,15 sq.in)
Qms	9,35
Qes	0,37
Qts	0,35
Vas	290 lt. (10,24 cu.ft)
Mms	368 gr. (0,80 lb)
BL	30,5 Tm
Linear Mathematical Xmax (6)	±14,5 mm (±0,57 in)
Le (1kHz)	2,58 mH
Ref. Efficiency 1W@1m (half space)	95,4 dB

MOUNTING INFORMATION

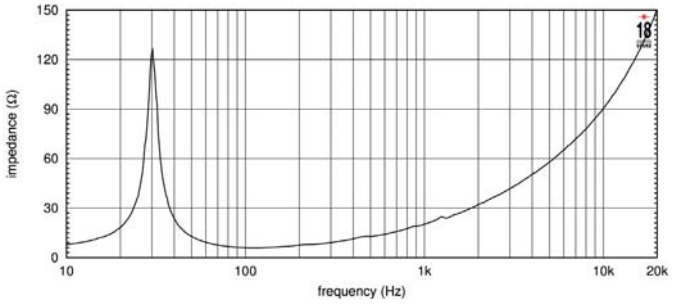
Overall diameter	545 mm (21,46 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	520 mm (20,47 in)
Front mount baffle cutout Ø	492 mm (19,37 in)
Rear mount baffle cutout Ø	490 mm (19,29 in)
Total depth	252 mm (9,92 in)
Flange and gasket thickness	18 mm (0,7 in)
Net weight	17,9 kg (39,4 lb)
Shipping weight	19,4 kg (42,7 lb)
CardBoard Packaging dimensions	570x570x290 mm (22,4x22,4x11,4 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 21LW1400 MADE ON 250 LIT. ENCLOSURE TUNED 28HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 250 lit enclosure tuned 28Hz using a 40 - 400Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 1500 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

21LW1400

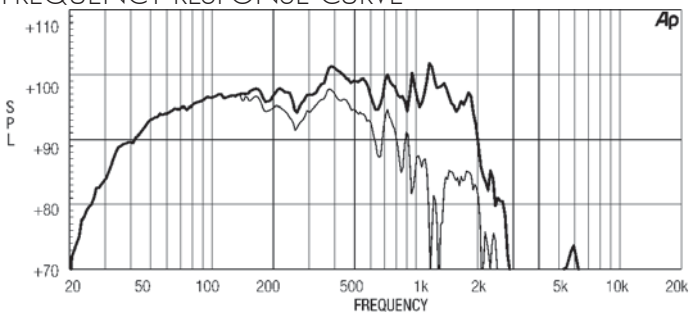
Extended LF Ferrite Transducer

99 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
1400W AES power handling
Carbon fiber reinforced straight-ribbed cone
Double Silicon Spider (DSS) for improved excursion control and linearity
Double Demodulating Rings (DDR) for lower distortion
Improved heat dissipation via unique basket design
Weather protected cone and plates for outdoor usage
Suitable for ultra low frequency systems

GENERAL SPECIFICATIONS

Nominal Diameter	533 mm (21 in)
Rated Impedance	8 Ohm
AES Power (1)	1400 W
Program Power (2)	1600 W
Peak Power	7000 W
Sensitivity (3)	99 dB
Frequency Range (4)	24 - 2000 Hz
Power Compression @-10dB	0,6 dB
Power Compression @-3dB	1,5 dB
Power Compression @Full Power	2,2 dB
Max Recomm. Frequency	250 Hz
Recomm. Enclosure Volume	120 - 500 lt. (4,24 - 17,7 cuft)
Minimum Impedance	6,4 Ohm at 25°C
Max Peak To Peak Excursion	52 mm (2,05 in)

FREQUENCY RESPONSE CURVE

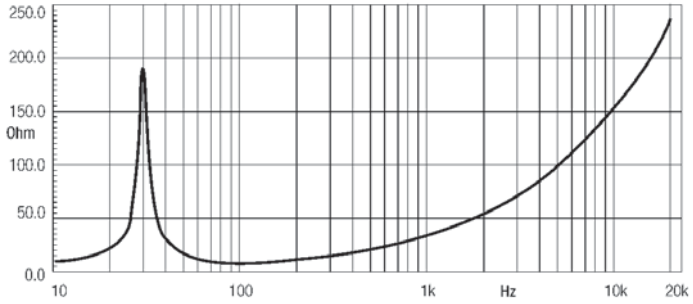


FREQUENCY RESPONSE CURVE OF 21LW1400 MADE ON 250 LIT. ENCLOSURE TUNED 28HZ IN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER. THE THIN LINE REPRESENTS 45 DEG. OFF AXIS FREQUENCY RESPONSE

THIELE SMALL PARAMETERS (5)

Fs	28 Hz
Re	5 Ohm
Sd	0,1662 sq.mt. (257,6 sq.in.)
Qms	9,32
Qes	0,242
Qts	0.235
Vas	385 lt. (13,6 cuft)
Mms	296 gr. (0,65 lb)
BL	33,5 Tm
Linear Mathematical Xmax (6)	± 9,5 mm (± 0,37 in)
Le (1kHz)	2,85 mH
Ref. Efficiency 1W@1m (half space)	98,0 dB

FREE AIR IMPEDANCE MAGNITUDE CURVE



MOUNTING INFORMATION

Overall diameter	545 mm (21,46 in)
N. of mounting holes	8
Mounting holes diameter	10 mm (0,39 in)
Bolt circle diameter	520 mm (20,47 in
Front mount baffle cutout Ø	492 mm (19,37 in)
Rear mount baffle cutout Ø	490 mm (19,29 in)
Total depth	256,3 mm (10,1 in)
Flange and gasket thickness	14 mm (0,55 in)
Net weight	19,2 kg (42,38 lb)
Shipping weight	20,6 kg (45,47 lb)
CardBoard Packaging dimensions	550 x 550 x 300 mm (21,65 x 21,65 x 11,8 in)

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) 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.
(4) 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.
(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 Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

18TLW3000

Extended LF Ferrite Transducer

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

GENERAL SPECIFICATIONS

Nominal Diameter	460 mm (18 in)
Rated Impedance	8 Ohm
AES Power (1)	1800 W
Program Power (2)	3600 W
Peak Power	10000 W
Sensitivity (3)	95 dB
Frequency Range (4)	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)

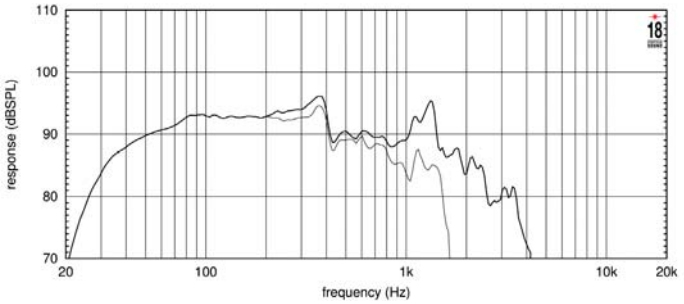
THIELE SMALL PARAMETERS (5)

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 (6)	± 12 mm (± 0,47 in)
Le (1kHz)	1,80 mH
Ref. Efficiency 1W@1m (half space)	94,0 dB

MOUNTING INFORMATION

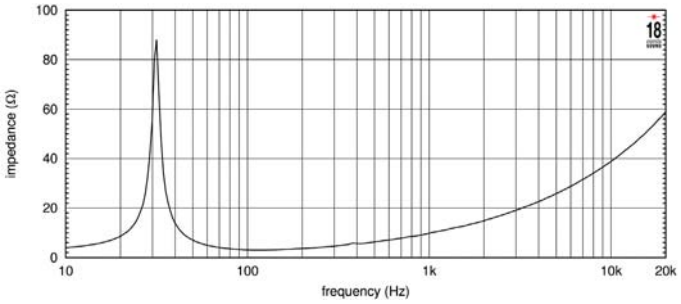
Overall diameter	462 mm (18,18 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	438-440 mm (17,24-17,32 in)
Front mount baffle cutout Ø	425 mm (16.73 in)
Rear mount baffle cutout Ø	414 mm (16,30 in)
Total depth	275 mm (10,83 in)
Flange and gasket thickness	24 mm (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 CURVE



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) 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.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 1200 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

18LW2500

NEW

Extended LF Ferrite Transducer

95 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
3200 Watt program power handling
Composite reinforced straight ribbed cone
Optimized high grade ferrite magnet assembly
Recommended for subwoofer usage in compact vented or bandpass enclosures

GENERAL SPECIFICATIONS

Nominal Diameter	462 mm (18 in)
Rated Impedance	8 Ohm
AES Power (1)	1600
Program Power (2)	3200 W
Peak Power	7200
Sensitivity (3)	95 dB
Frequency Range (4)	30 Hz - 1000 Hz
Power Compression @-10dB	TBD
Power Compression @-3dB	TBD
Power Compression @Full Power	TBD
Max Recomm. Frequency	250Hz
Recomm. Enclosure Volume	160-350 lt (4.59 - 12.37 cuft)
Minimum Impedance	6,1 @ 25°
Max Peak To Peak Excursion	70 mm (2,76 in)

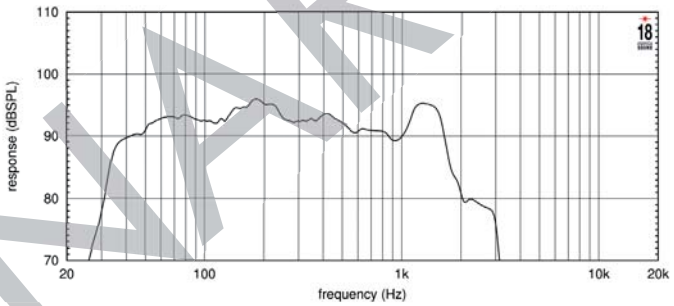
THIELE SMALL PARAMETERS (5)

Fs	34 Hz
Re	5,1 Ohm
Sd	0,113 sq.m (175,15 sq.in)
Qms	6.00
Qes	0,34
Qts	0,33
Vas	134 lt. (4.7 cu.ft)
Mms	290 gr. (0,64 lb)
BL	30,5 Tm
Linear Mathematical Xmax (6)	±14.5 mm (±0,57 in)
Le (1kHz)	2,87 mH
Ref. Efficiency 1W@1m (half space)	93,8 dB

MOUNTING INFORMATION

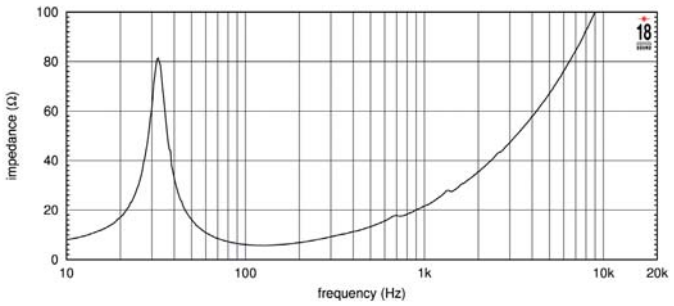
Overall diameter	462 mm (18,18 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	440 mm (17,32 in)
Front mount baffle cutout Ø	416 mm (16,38 in)
Rear mount baffle cutout Ø	422 mm (16,61 in)
Total depth	234 mm (9,21 in)
Flange and gasket thickness	26 mm (1,02 in)
Net weight	16,7 kg (36,8 lb)
Shipping weight	18,2 kg (40,1 lb)
CardBoard Packaging dimensions	482x482x257 mm (18,98x18,98x10,12 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 18LW1400 MADE ON 180 LIT. ENCLOSURE TUNED 35HZ IN 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 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) 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.
(4) 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.
(5) 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.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

18LW2400

Extended LF Ferrite Transducer

98 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
2400 W program power handling
Fiberglass reinforced cone
Double Silicon Spider (DSS) for superior excursion control and linearity
Double Demodulating Rings (DDR) for lower distortion
Improved heat dissipation via multi-cell air diffractor and multiple backplate vents
Weather protected cone and plates for outdoor usage
Ideal for high SPL subwoofer designs

GENERAL SPECIFICATIONS

Nominal Diameter	460 mm (18 in)
Rated Impedance	8 Ohm
AES Power (1)	1200 W
Program Power (2)	2400 W
Peak Power	7000 W
Sensitivity (3)	98 dB
Frequency Range (4)	31 - 2500 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	130 - 350 lt. (4,59 - 12,36 cuft)
Minimum Impedance	6,3 Ohm at 25°C
Max Peak To Peak Excursion	50 mm (1,97 in)

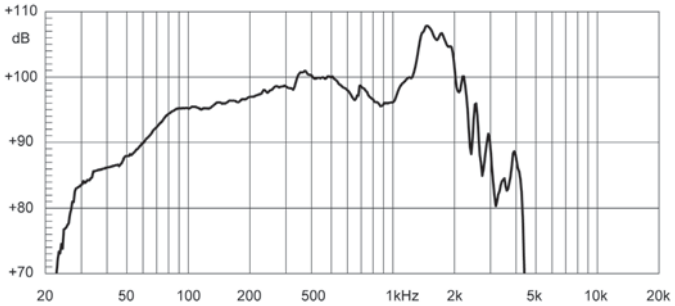
THIELE SMALL PARAMETERS (5)

Fs	35 Hz
Re	5 Ohm
Sd	0,1225 sq. mt. (189,88 sq. in.)
Qms	7,2
Qes	0,32
Qts	0,31
Vas	230 lt. (8.12 cuft)
Mms	192 gr. (0,42 lb)
BL	25,6 Tm
Linear Mathematical Xmax (6)	± 9,5 mm (± 0,38 in)
Le (1kHz)	1,35 mH
Ref. Efficiency 1W@1m (half space)	96,7 dB

MOUNTING INFORMATION

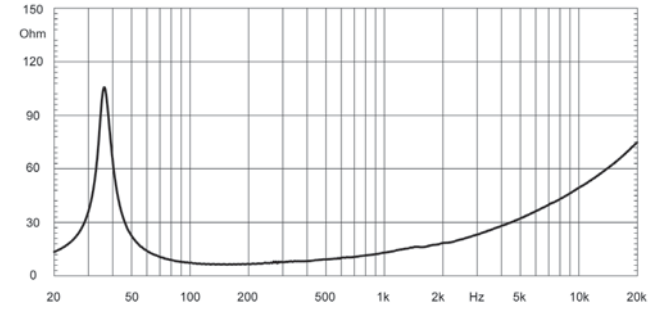
Overall diameter	462 mm (18,18 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	438-440 mm (17,24-17,32 in)
Front mount baffle cutout Ø	416 mm (16,38 in)
Rear mount baffle cutout Ø	422 mm (16,61 in)
Total depth	214,4 mm (8,44 in)
Flange and gasket thickness	24.5 mm (0.96 in)
Net weight	11,9 kg (26,18 lb)
Shipping weight	13,5 kg (29,7 lb)
CardBoard Packaging dimensions	482 x 482 x 257 mm (19 x 19 x 10,1 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 18LW2400 MADE ON 180 LIT. ENCLOSURE TUNED 35HZ IN 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 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) 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.
(4) 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.
(5) 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.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

18LW1400

Extended LF Ferrite Transducer

98 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
1000W AES power handling
Carbon fiber reinforced straight ribbed cone
Double Silicon Spider (DSS) for improved excursion control and linearity
Double Demodulating Rings (DDR) for lower distortion
Improved heat dissipation via unique basket design and multiple backplate vents
Weather protected cone and plates for outdoor usage
Ideal for high SPL subwoofer designs

GENERAL SPECIFICATIONS

Nominal Diameter	460 mm (18 in)
Rated Impedance	8 Ohm
AES Power (1)	1000 W
Program Power (2)	1400 W
Peak Power	7000 W
Sensitivity (3)	98 dB
Frequency Range (4)	28 - 2500 Hz
Power Compression @-10dB	0,8 dB
Power Compression @-3dB	2,1 dB
Power Compression @Full Power	3,0 dB
Max Recomm. Frequency	500 Hz
Recomm. Enclosure Volume	130 - 350 lt. (4,59 - 12,36 cuft)
Minimum Impedance	6,4 Ohm at 25°C
Max Peak To Peak Excursion	50 mm (1,97 in)

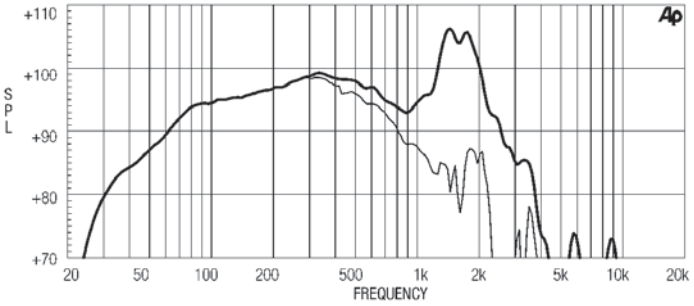
THIELE SMALL PARAMETERS (5)

Fs	31 Hz
Re	5 Ohm
Sd	0,1225 sq. mt. (189,88 sq. in.)
Qms	7,2
Qes	0,31
Qts	0,29
Vas	297 lt. (10,49 cuft)
Mms	190 gr. (0,42 lb)
BL	24,7 Tm
Linear Mathematical Xmax (6)	± 9 mm (± 0,35 in)
Le (1kHz)	2,3 mH
Ref. Efficiency 1W@1m (half space)	96,5 dB

MOUNTING INFORMATION

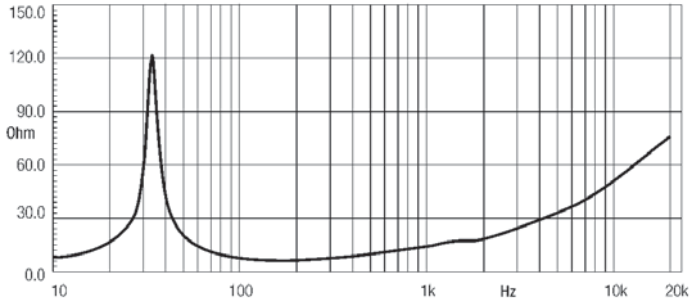
Overall diameter	462 mm (18,18 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	438-440 mm (17,24-17,32 in)
Front mount baffle cutout Ø	416 mm (16,38 in)
Rear mount baffle cutout Ø	422 mm (16,61 in)
Total depth	215,4 mm (8,48 in)
Flange and gasket thickness	26 mm (1,02 in)
Net weight	13,3 kg (29,36 lb)
Shipping weight	14,9 kg (32,9 lb)
CardBoard Packaging dimensions	482 x 482 x 257 mm (19 x 19 x 10,1 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 18LW1400 MADE ON 180 LIT. ENCLOSURE TUNED 35HZ IN 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 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) 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.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hgis the gap depth.

18LW1250

Extended LF Ferrite Transducer

98 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
1000 W AES power handling
Double Silicon Spider (DSS) for improved excursion control and linearity
Weather protected cone and plates for outdoor usage
Improved heat dissipation via unique basket design and backplate vents
Suitable for high SPL subwoofer design

GENERAL SPECIFICATIONS

Nominal Diameter	460 mm (18 in)
Rated Impedance	8 Ohm
AES Power (1)	1000 W
Program Power (2)	1400 W
Peak Power	7000 W
Sensitivity (3)	98 dB
Frequency Range (4)	35 - 3500 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	1,6 dB
Power Compression @Full Power	2,6 dB
Max Recomm. Frequency	500 Hz
Recomm. Enclosure Volume	120 - 350 lt. (4,24 - 12,36 cuft)
Minimum Impedance	6,4 Ohm at 25°C
Max Peak To Peak Excursion	36 mm (1,42 in

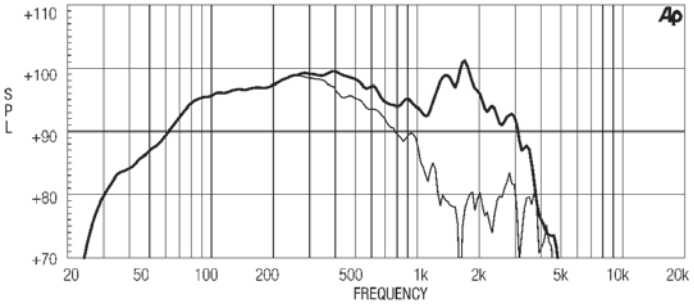
THIELE SMALL PARAMETERS (5)

Fs	35 Hz
Re	5 Ohm
Sd	0,1134 sq.mt. (175,7 sq.in.)
Qms	8
Qes	0,28
Qts	0,27
Vas	268 lt. (9,47 cuft)
Mms	142 gr. (0,31 lb)
BL	23,6 Tm
Linear Mathematical Xmax (6)	± 9 mm (±0,35 in)
Le (1kHz)	2,73 mH
Ref. Efficiency 1W@1m (half space)	98 dB

MOUNTING INFORMATION

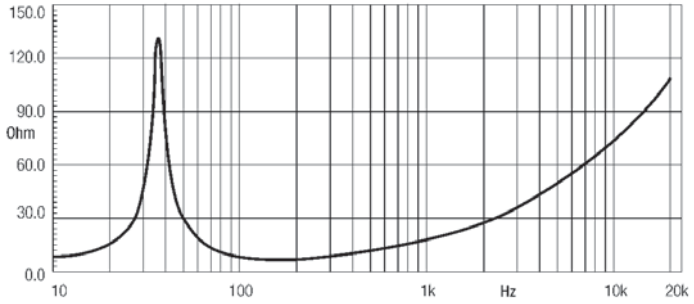
Overall diameter	462 mm (18,18 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	438-440 mm (17,24-17,32 in)
Front mount baffle cutout Ø	416 mm (16,38 in)
Rear mount baffle cutout Ø	412 mm (16,22 in)
Total depth	207,9 mm (8,18 in)
Flange and gasket thickness	19 mm (0,75 in)
Net weight	13 kg (28,7 lb)
Shipping weight	14,7 kg (32,45 lb)
CardBoard Packaging dimensions	482 x 482 x 257 mm (19 x 19 x 10,1 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 18LW1250 MADE ON 180 LIT. ENCLOSURE TUNED 35HZ IN 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 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) 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.
(4) 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.
(5) 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.
(6) Linear Mat. Xmax is calculated as; (Hvc-Hg)/2 Hg/4 where Hvc is the coil depth and Hgis the gap depth.

18W2000

High Output LF Ferrite Transducer

99 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich ISV copper voice coil
1200 W AES power handling
Double Silicon Spider (DSS) for improved excursion control and linearity
Improved heat dissipation via unique basket design and multi-cell air diffractor
Weather protected cone and plates for outdoor usage
Suitable for high SPL subwoofer designs

GENERAL SPECIFICATIONS

Nominal Diameter	460 mm (18 in)
Rated Impedance	8 Ohm
AES Power (1)	1200 W
Program Power (2)	2400 W
Peak Power	7000 W
Sensitivity (3)	99 dB
Frequency Range (4)	37 - 3000 Hz
Power Compression @-10dB	0,5 dB
Power Compression @-3dB	1,5 dB
Power Compression @Full Power	2,2 dB
Max Recomm. Frequency	500 Hz
Recomm. Enclosure Volume	120 - 300 lt. (4,24 - 10,60 cuft)
Minimum Impedance	7,3 Ohm at 25°C
Max Peak To Peak Excursion	36 mm (1,42 in)

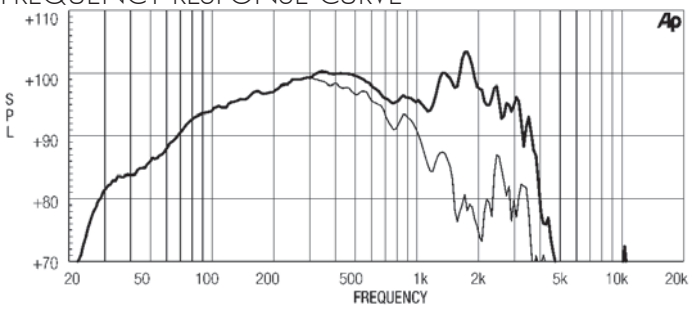
THIELE SMALL PARAMETERS (5)

Fs	37 Hz
Re	5,8 Ohm
Sd	0,1134 sq.mt. (175,7 sq.in.)
Qms	7,29
Qes	0,26
Qts	0,25
Vas	230 lt. (8,12 cuft)
Mms	143 gr. (0,32 lb)
BL	27,1 Tm
Linear Mathematical Xmax (6)	± 7 mm (±0,28 in)
Le (1kHz)	1,90 mH
Ref. Efficiency 1W@1m (half space)	98,6 dB

MOUNTING INFORMATION

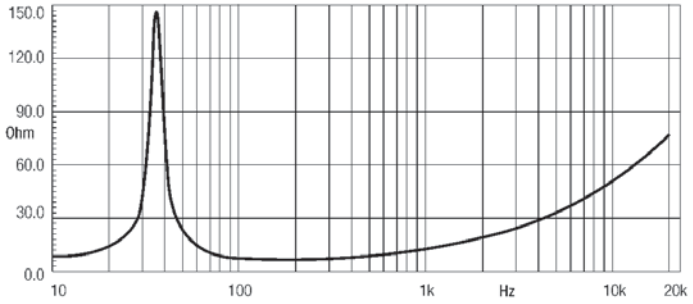
Overall diameter	462 mm (18,18 in)
N. of mounting holes	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	438-440 mm (17,24-17,32 in)
Front mount baffle cutout Ø	416 mm (16,38 in)
Rear mount baffle cutout Ø	412 mm (16,22 in)
Total depth	205,9 mm (8,1 in)
Flange and gasket thickness	19 mm (0,75 in)
Net weight	11,5 kg (26,35 lb)
Shipping weight	13 kg (28,66 lb)
CardBoard Packaging dimensions	482 x 482 x 257 mm (19 x 19 x 10,1 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 18W2000 MADE ON 180 LIT. ENCLOSURE TUNED 35HZ IN 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 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) 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.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 850 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

15LW2400

Extended LF Ferrite Transducer

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
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

GENERAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	1200 W
Program Power (2)	2400 W
Peak Power	7000 W
Sensitivity (3)	97 dB
Frequency Range (4)	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)
Max Peak To Peak Excursion	38 mm (1,53 in)
Voice Coil Diameter	100 mm (4 in)

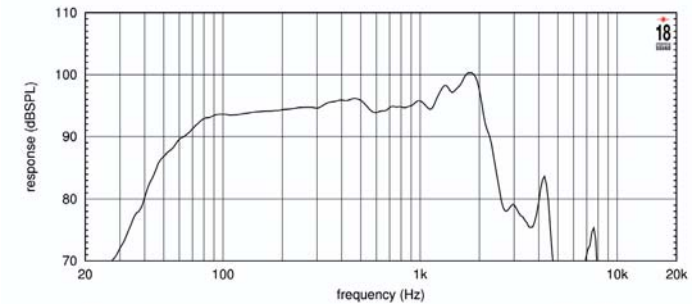
THIELE SMALL PARAMETERS (5)

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 (6)	± 10 mm (±0,39 in)
Le (1kHz)	1,25 mH
Ref. Efficiency 1W@1m (half space)	96,4 dB

MOUNTING INFORMATION

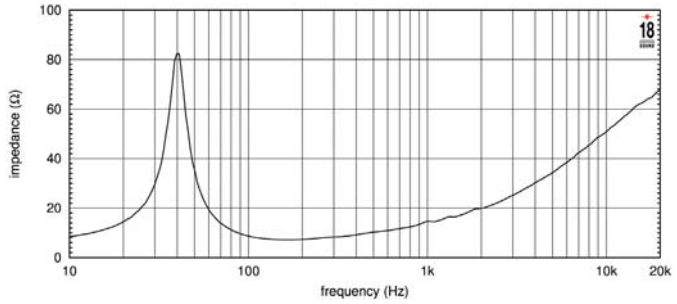
Overall diameter	393 mm (15.47 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	371 mm (14.6 in)
Front mount baffle cutout Ø	354mm (13.93 in)
Rear mount baffle cutout Ø	360 mm (14.17 in)
Total depth	181 mm (7.13 in)
Flange and gasket thickness	12,5 mm (0,49 in)
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)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 15LW2400 MADE ON 125 LIT. ENCLOSURE TUNED 50HZ IN 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 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) 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.
(4) 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.
(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 Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

15LW1401

Extended LF Ferrite Transducer

98 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
1000 W AES power handling
Carbon fiber reinforced cellulose cone
Double Silicon Spider (DSS) for improved excursion control and linearity
Improved heat dissipation via unique basket design
Weather protected cone and plates for outdoor usage
Suitable for low bass or subwoofer applications

GENERAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	1000 W
Program Power (2)	1400 W
Peak Power	7000 W
Sensitivity (3)	98 dB
Frequency Range (4)	40 - 2400 Hz
Power Compression @-10dB	0,8 dB
Power Compression @-3dB	2,1 dB
Power Compression @Full Power	3,0 dB
Max Recomm. Frequency	800 Hz
Recomm. Enclosure Volume	70 - 150 lt. (2,47 - 5,30 cuft)
Minimum Impedance	6,7 Ohm at 25°C
Max Peak To Peak Excursion	38 mm (1,53 in)

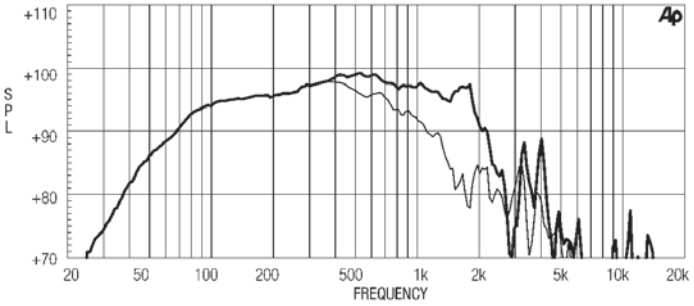
THIELE SMALL PARAMETERS (5)

Fs	42 Hz
Re	5 Ohm
Sd	0,090 sq.mt. (139,5 sq.in.)
Qms	5,36
Qes	0,28
Qts	0,27
Vas	131 lt. (4,63 cuft)
Mms	125 gr. (0,28 lb)
BL	24,2 Tm
Linear Mathematical Xmax (6)	± 9 mm (±0,35 in)
Le (1kHz)	2,15 mH
Ref. Efficiency 1W@1m (half space)	97,4 dB

MOUNTING INFORMATION

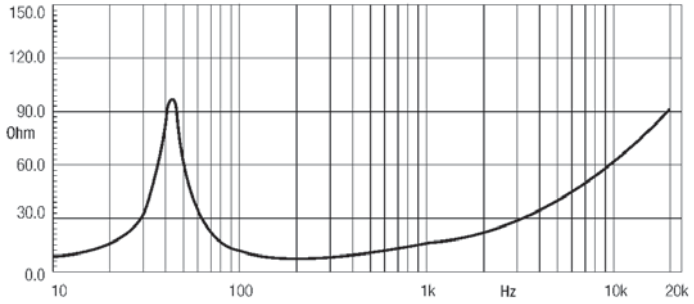
Overall diameter	387 mm (15,23 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	370 - 371 mm (14,55 - 14,6 in)
Front mount baffle cutout Ø	353 mm (13,90 in)
Rear mount baffle cutout Ø	357 mm (14,06 in)
Total depth	163,4 mm (6,43 in)
Flange and gasket thickness	19,5 mm (0,76 in)
Net weight	12,4 kg (27,37 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



FREQUENCY RESPONSE CURVE OF 15LW1401 MADE ON 125 LIT. ENCLOSURE TUNED 50HZ IN 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 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) 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.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

15MB1000

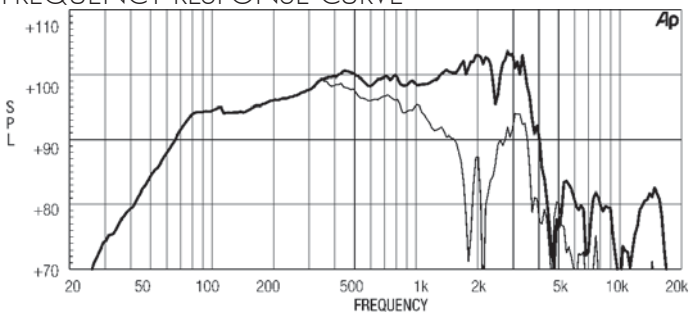
High Output MB Ferrite Transducer

98 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
850 W AES power handling
Carbon fiber reinforced cellulose cone
Copper shorting ring for linear impedance and reduced distortion figure
Improved heat dissipation via unique basket design
Weather protected cone and plates for outdoor usage
Ideal for compact reflex enclosures, two-way systems and stage monitoring applications

GENERAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	850 W
Program Power (2)	1200 W
Peak Power	3000 W
Sensitivity (3)	98 dB
Frequency Range (4)	45 - 5100 Hz
Power Compression @-10dB	0,9 dB
Power Compression @-3dB	2,1 dB
Power Compression @Full Power	3,8 dB
Max Recomm. Frequency	1200 Hz
Recomm. Enclosure Volume	70 - 150 lt. (2,47 - 5,3 cuft)
Minimum Impedance	6 Ohm at 25°C
Max Peak To Peak Excursion	39 mm (1,53 in)

FREQUENCY RESPONSE CURVE

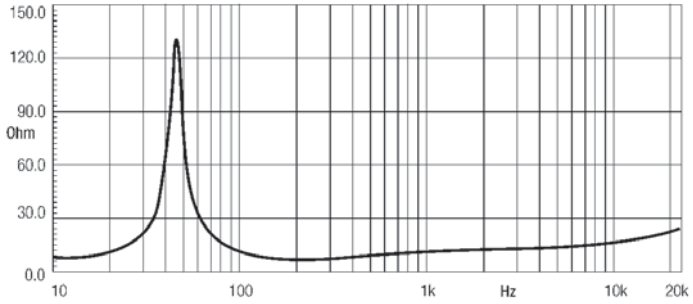


FREQUENCY RESPONSE CURVE OF 15MB1000 MADE ON 125 LIT. ENCLOSURE TUNED 50HZ IN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER. THE THIN LINE REPRESENTS 45 DEG. OFF AXIS FREQUENCY RESPONSE

THIELE SMALL PARAMETERS (5)

Fs	48 Hz
Re	5,5 Ohm
Sd	0,0855 sq.mt. (132,5 sq.in.)
Qms	6
Qes	0,32
Qts	0,31
Vas	132,5 lt. (4,66 cuft)
Mms	85 gr. (0,19 lb)
BL	21 Tm
Linear Mathematical Xmax (6)	± 6 mm (±0,24 in)
Le (1kHz)	1,5 mH
Ref. Efficiency 1W@1m (half space)	98,4 dB

FREE AIR IMPEDANCE MAGNITUDE CURVE



MOUNTING INFORMATION

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	156,4 mm (6,16 in)
Flange and gasket thickness	19,5 mm (0,76 in)
Net weight	12,4 kg (27,37 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)

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) 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.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 450 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

15W930

Extended LF Ferrite Transducer

98 dB SPL 1W / 1m average sensitivity
75 mm (3 in) edgewound copper voice coil
800 W program power handling
Aluminum demodulating ring (SDR)
Long excursion, linear travel suspension design
Humidity resistant cone and treated plates for outdoor usage
Ideal for high loading compact subwoofer applications and two way systems

GENERAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	500 W
Program Power (2)	800 W
Peak Power	1600 W
Sensitivity (3)	98 dB
Frequency Range (4)	50 - 3600 Hz
Power Compression @-10dB	0,6 dB
Power Compression @-3dB	1,9 dB
Power Compression @Full Power	2,8 dB
Max Recomm. Frequency	1700 Hz
Recomm. Enclosure Volume	60 - 140 lt. (2,12 - 4,95 cuft)
Minimum Impedance	7,2 ohm at 25°C
Max Peak To Peak Excursion	33 mm (1,30 in)

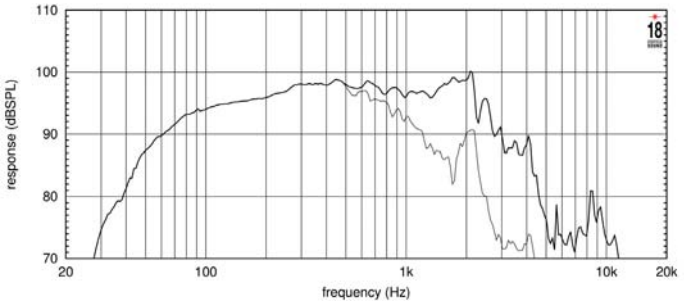
THIELE SMALL PARAMETERS (5)

Fs	33 Hz
Re	5,5 Ohm
Sd	0,086 sq.mt. (132.53 sq.in.)
Qms	8,78
Qes	0,23
Qts	0,22
Vas	240 lt. (8,46 cuft)
Mms	97 gr. (0,21 lb)
BL	22,1 Tm
Linear Mathematical Xmax (6)	± 7,5 mm (± 0,30 in)
Le (1kHz)	1,47 mH
Ref. Efficiency 1W@1m (half space)	97,9 dB

MOUNTING INFORMATION

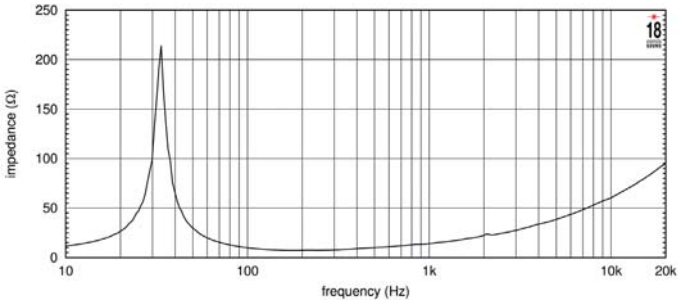
Overall diameter	393 mm (15,47 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	371 mm (14,6 in)
Front mount baffle cutout Ø	360 mm (14,17 in)
Rear mount baffle cutout Ø	354 mm (13,94 in)
Total depth	185 mm (7,28 in)
Flange and gasket thickness	14 mm (0,55 in)
Net weight	7,6 kg (16,7 lb)
Shipping weight	8,5 kg (18,7 lb)
CardBoard Packaging dimensions	405 x 405 x 252 mm (15,94 x 15,94 x 9.92 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. THE THIN LINE REPRESENTS 45 DEG. 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 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 50-500 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.

15W750

LF Ferrite Transducer

97 dB SPL 1W / 1m average sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
1200 W program power handling
Long excursion, linear travel suspension design
Weather protected cone and plates for outdoor usage
Generous low frequency output make it suitable for 2-way systems and subwoofer applications

GENERAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	600 W
Program Power (2)	1200 W
Peak Power	2500 W
Sensitivity (3)	97 dB
Frequency Range (4)	50 - 4300 Hz
Power Compression @-10dB	1,0 dB
Power Compression @-3dB	2,8 dB
Power Compression @Full Power	4,0 dB
Max Recomm. Frequency	1800 Hz
Recomm. Enclosure Volume	80 - 140 lt. (2,82 - 4,95 cuft)
Minimum Impedance	6,1 Ohm at 25°C
Max Peak To Peak Excursion	38 mm (1,50 in)

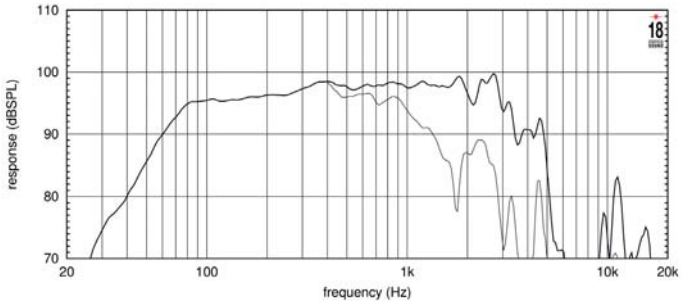
THIELE SMALL PARAMETERS (5)

Fs	39 Hz
Re	5,1 Ohm
Sd	0,091 sq.mt. (141,05 sq.in.)
Qms	9,34
Qes	0,39
Qts	0,37
Vas	218 lt. (7,70 cuft)
Mms	88 gr. (0,19 lb)
BL	17,6 Tm
Linear Mathematical Xmax (6)	± 8 mm (± 0,31 in)
Le (1kHz)	1,10 mH
Ref. Efficiency 1W@1m (half space)	97,2 dB

MOUNTING INFORMATION

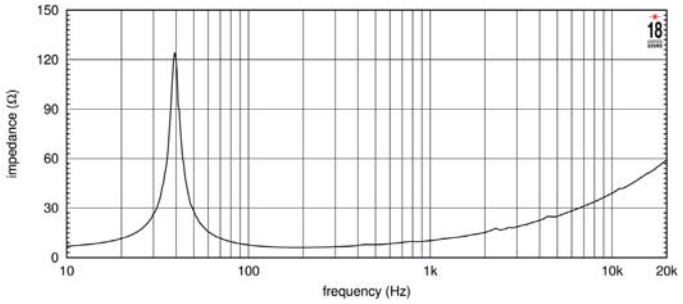
Overall diameter	393 mm (15,47 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	371 mm (14,6 in)
Front mount baffle cutout Ø	354 mm (13,94 in)
Rear mount baffle cutout Ø	357 mm (14,06 in)
Total depth	184,5 mm (7,26 in)
Flange and gasket thickness	13,5 mm (0,53 in)
Net weight	7,6 kg (16,7 lb)
Shipping weight	8,5 kg (18,7 lb)
CardBoard Packaging dimensions	405 x 405 x 252 mm (15,94 x 15,94 x 9.92 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 15W750 MADE ON 125 LIT. ENCLOSURE TUNED 50HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 125 lit enclosure tuned 50Hz using a 50 -2000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 400 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

15W700

LF Ferrite Transducer

99 dB SPL 1W / 1m average sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
450 W AES power handling
Weather protected cone and plates for outdoor usage
Excellent transient response
Improved heat dissipation via unique basket design
Ideal for compact reflex subwoofers and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	450 W
Program Power (2)	700 W
Peak Power	1500 W
Sensitivity (3)	99 dB
Frequency Range (4)	38 - 5000 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	2,3 dB
Power Compression @Full Power	3,4 dB
Max Recomm. Frequency	2000 Hz
Recomm. Enclosure Volume	80 - 140 lt. (2,82 - 4,95 cuft)
Minimum Impedance	6,8 Ohm at 25°C
Max Peak To Peak Excursion	35 mm (1,38 in)

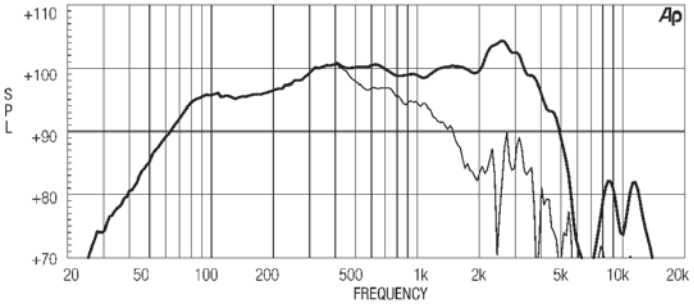
THIELE SMALL PARAMETERS (5)

Fs	38 Hz
Re	5,7 Ohm
Sd	0,085 sq.mt. (131,75 sq.in.)
Qms	3,8
Qes	0,33
Qts	0,3
Vas	217 lt. (7,67 cuft)
Mms	80 gr. (0,18 lb)
BL	18,4 Tm
Linear Mathematical Xmax (6)	± 6,5 mm (± 0,26 in)
Le (1kHz)	1,57 mH
Ref. Efficiency 1W@1m (half space)	97,8 dB

MOUNTING INFORMATION

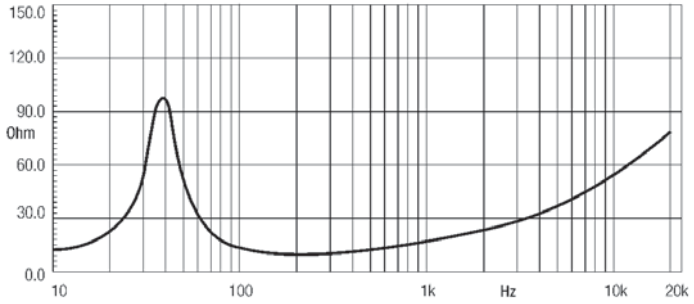
Overall diameter	387 mm (15,23 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	370 - 371 mm (14,55 - 14,6 in)
Front mount baffle cutout Ø	353 mm (13,90 in)
Rear mount baffle cutout Ø	357 mm (14,06 in)
Total depth	168,5 mm (6,63 in)
Flange and gasket thickness	19,5 mm (0,76 in)
Net weight	8,6 kg (18,98 lb)
Shipping weight	9,7 kg (21,41 lb)
CardBoard Packaging dimensions	405 x 405 x 214 mm (15,94 x 15,94 x 8,43 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 15W700 MADE ON 125 LIT. ENCLOSURE TUNED 50HZ IN 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 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) 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 2,83 V sinewave test signal swept between 100Hz and 500Hz with the test specimen mounted in thesame enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 350W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 Hg/4 where Hvc is the coil depth and Hg is the gap depth.

15MB700

Very High Output MB Ferrite Transducer

103 dB SPL 1W / 1m average sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
400 W AES power handling
Excellent transient response
Additional cone damping treatment
Improved heat dissipation via unique basket design
Suitable for compact two way, multiway and horn loaded midbass applications

GENERAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	400 W
Program Power (2)	600 W
Peak Power	1200 W
Sensitivity (3)	103 dB
Frequency Range (4)	45 - 4300 Hz
Power Compression @-10dB	0,6 dB
Power Compression @-3dB	2,0 dB
Power Compression @Full Power	3,3 dB
Max Recomm. Frequency	3000 Hz
Recomm. Enclosure Volume	75 - 130 lt. (2,65 - 4,6 cuft)
Minimum Impedance	5,9 Ohm at 25°C
Max Peak To Peak Excursion	23 mm (0,88 in)

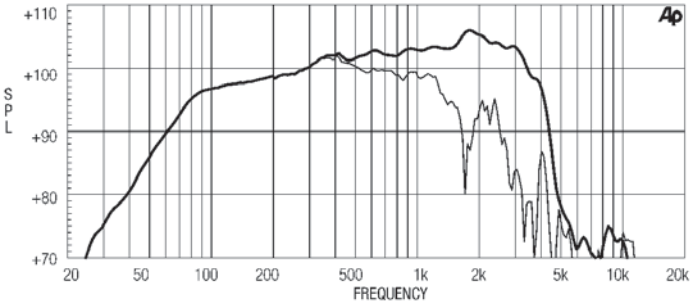
THIELE SMALL PARAMETERS (5)

Fs	42 Hz
Re	5 Ohm
Sd	0,085 sq.mt. (131,75 sq.in.)
Qms	4,6
Qes	0,31
Qts	0,29
Vas	202 lt. (7,14 cuft)
Mms	73 gr. (0,16 lb)
BL	17,6 Tm
Linear Mathematical Xmax (6)	± 5,5 mm (± 0,22 in)
Le (1kHz)	1,2 mH
Ref. Efficiency 1W@1m (half space)	98,9 dB

MOUNTING INFORMATION

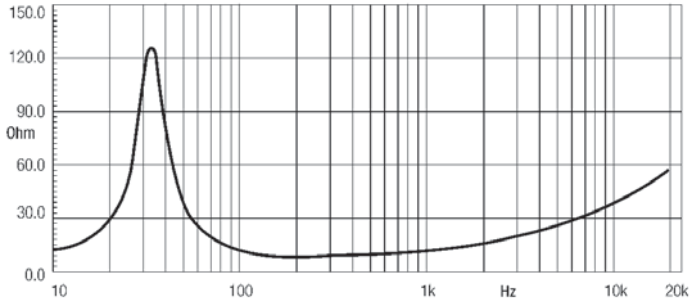
Overall diameter	387 mm (15,23 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	370 - 371 mm (14,55 - 14,6 in)
Front mount baffle cutout Ø	353 mm (13,90 in)
Rear mount baffle cutout Ø	357 mm (14,06 in)
Total depth	167,5 mm (6,59 in)
Flange and gasket thickness	19,5 mm (0,76 in)
Net weight	8,3 kg (18,3 lb)
Shipping weight	9,4 kg (20,75 lb)
CardBoard Packaging dimensions	405 x 405 x 214 mm (15,94 x 15,94 x 8,43 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 15MB700 MADE ON 125 LIT. ENCLOSURE TUNED 50HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 50 lit enclosure tuned 60Hz using a 40 - 400Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 2,83 V sine wave test signal swept between 100Hz and 500Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) Frequency range is given as the band of frequencies delineated by the lower and upperlimits where the output level drops by 10 dB below the rated sensitivity in half spaceenvironment.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 900 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2Hg/4 where Hvc is the coil depth and Hg is the gap depth.

15MB606

Very High Output MB Ferrite Transducer

101 dB SPL 1W / 1m average sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
400 W AES power handling
Excellent transient response and cone damping
Improved heat dissipation via unique basket design
Ideal for compact two way and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	400 W
Program Power (2)	600 W
Peak Power	1200 W
Sensitivity (3)	101 dB
Frequency Range (4)	45 - 4800 Hz
Power Compression @-10dB	0,6 dB
Power Compression @-3dB	2,0 dB
Power Compression @Full Power	3,6 dB
Max Recomm. Frequency	2000 Hz
Recomm. Enclosure Volume	80 - 140 lt. (2,85 - 5 cuft)
Minimum Impedance	5,8 Ohm at 25°C
Max Peak To Peak Excursion	23 mm (0,88 in)

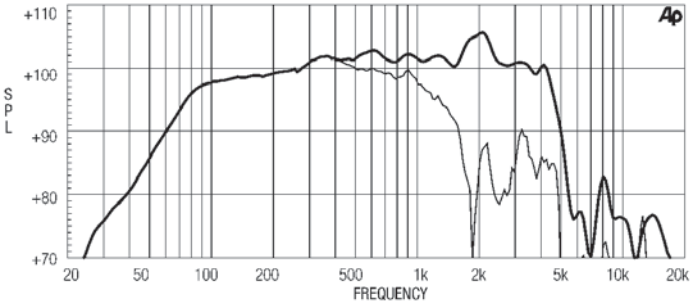
THIELE SMALL PARAMETERS (5)

Fs	43 Hz
Re	5 Ohm
Sd	0,085 sq.mt. (131,75 sq.in.)
Qms	6,2
Qes	0,37
Qts	0,35
Vas	223 lt. (7,88 cuft)
Mms	63 gr. (0,14 lb)
BL	15,1 Tm
Linear Mathematical Xmax (6)	± 4,5 mm (± 0,18 in)
Le (1kHz)	1,3 mH
Ref. Efficiency 1W@1m (half space)	98,8 dB

MOUNTING INFORMATION

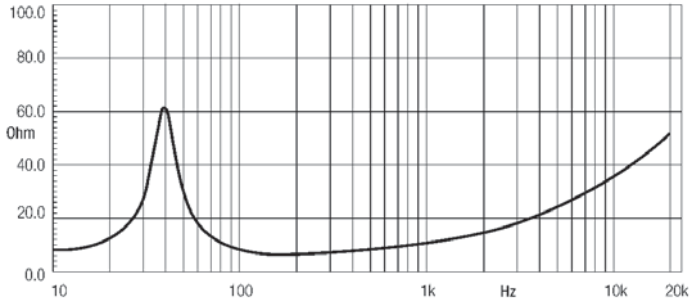
Overall diameter	387 mm (15,23 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	370 - 371 mm (14,55 - 14,6 in)
Front mount baffle cutout Ø	353 mm (13,90 in)
Rear mount baffle cutout Ø	357 mm (14,06 in)
Total depth	171,5 mm (6,75 in)
Flange and gasket thickness	19,5 mm (0,76 in)
Net weight	6,9 kg (15,23 lb)
Shipping weight	8 kg (17,66 lb)
CardBoard Packaging dimensions	405 x 405 x 214 mm (15,94 x 15,94 x 8,43 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 15MB606 MADE ON 125 LIT. ENCLOSURE TUNED 50HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Continuous power rating is measured in 50 lit closed box using a 60 - 2000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 600 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

15W500

LF Ferrite Transducer

100,5dB SPL 1W / 1m average sensitivity
65 mm (2,5 in) Interleaved Sandwich Voice coil (ISV)
350 W AES power handling
Excellent transient response and cone damping
Improved heat dissipation via unique basket design
Ideal for compact two way and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	350 W
Program Power (2)	500 W
Peak Power	1000 W
Sensitivity (3)	100,5 dB
Frequency Range (4)	50 - 4500 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	2,5 dB
Power Compression @Full power	4,0 dB
Max Recomm. Frequency	3000 Hz
Recomm. Enclosure Volume	80 - 200 lt. (2,47 - 5,3 cuft)
Minimum Impedance	6 Ohm at 25°C
Max Peak To Peak Excursion	23 mm (0,88 in)

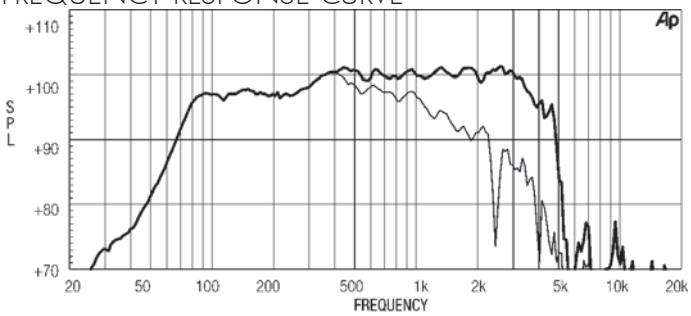
THIELE SMALL PARAMETERS (5)

Fs	50 Hz
Re	5,2 Ohm
Sd	0,085 sq.mt. (131,75 sq.in.)
Qms	9,64
Qes	0,55
Qts	0,52
Vas	189 lt. (6,68 cuft)
Mms	55 gr. (0,12 lb)
BL	12,6 Tm
Linear Mathematical Xmax (6)	± 4 mm (±0,16 in)
Le (1kHz)	1,04 mH
Ref. Efficiency 1W@1m (half space)	98,2 dB

MOUNTING INFORMATION

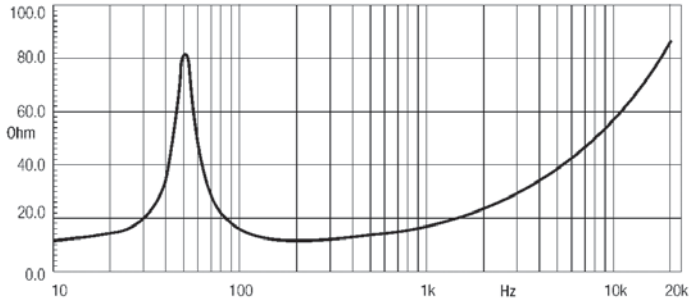
Overall diameter	387 mm (15,23 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	370 - 371 mm (14,55 - 14,6 in)
Front mount baffle cutout Ø	353 mm (13,90 in)
Rear mount baffle cutout Ø	357 mm (14,06 in)
Total depth	161 mm (6,33 in)
Flange and gasket thickness	11,5 mm (0,45 in)
Net weight	4,3 kg (9,4 lb)
Shipping weight	5,1 kg (11,2 lb)
CardBoard Packaging dimensions	405 x 405 x 214 mm (15,94 x 15,94 x 8,43 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 15W500 MADE ON 125 LIT. ENCLOSURE TUNED 50HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 50 lit enclosure tuned 60Hz using a 40 - 400Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

12LW1400

Extended LF Ferrite Transducer

96 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
900 W AES power handling
Double Silicon Spider (DSS) for improved excursion control and linearity
Double Demodulating Ring (DDR) for lower distortion
Improved heat dissipation via unique basket design
Weather protected cone and plates for outdoor usage
Specially designed for high loading compact subwoofers

GENERAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	900W
Program Power (2)	1400 W
Peak Power	6000 W
Sensitivity (3)	96 dB
Frequency Range (4)	51 - 4000 Hz
Power Compression @-10dB	0,5 dB
Power Compression @-3dB	2,2 dB
Power Compression @Full power	3 dB
Max Recomm. Frequency	1000 Hz
Recomm. Enclosure Volume	30 - 60 lt. (1,06 - 2,12 cuft)
Minimum Impedance	6,8 Ohm at 25°C
Max Peak To Peak Excursion	36 mm (1,4 in)

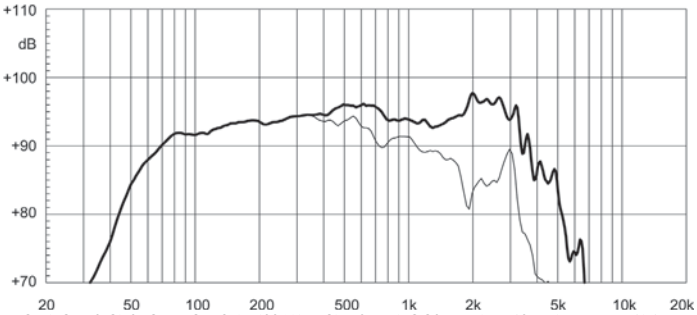
THIELE SMALL PARAMETERS (5)

Fs	45 Hz
Re	5,2 Ohm
Sd	0,053 sq.mt. (82,15 sq.in.)
Qms	5
Qes	0,32
Qts	0,3
Vas	55 lt. (1,94 cuft)
Mms	88 gr. (0,19 lb)
BL	20 Tm
Linear Mathematical Xmax (6)	± 8,25 mm (± 0,32 in)
Le (1kHz)	1,5 mH
Ref. Efficiency 1W@1m (half space)	1,5% (94 dB)

MOUNTING INFORMATION

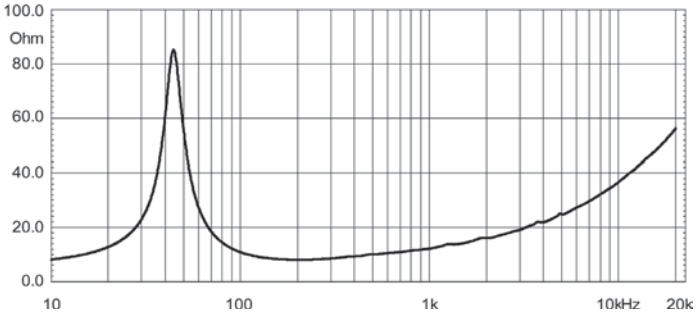
Overall diameter	315 mm (12,4 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	296 - 300 mm (11,65 - 11,8 in)
Front mount baffle cutout Ø	282 mm (11,1 in)
Rear mount baffle cutout Ø	282 mm (11,1 in)
Total depth	141 mm (5,55 in)
Flange and gasket thickness	17,5 mm (0,69 in)
Net weight	10,9 kg (26,5 lb)
Shipping weight	11,5 kg (27,8 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 12LW1400 MADE ON 50 LIT. ENCLOSURE TUNED 60 HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Continuous power rating is measured in 50 lit enclosure tuned 60Hz using a 40 - 400Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 450 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

12MB1000

High Output MB Ferrite Transducer

102 dB SPL 1W / 1m average sensitivity
100 mm (4 in) Interleaved Sandwich ISV copper voice coil
600 W AES power handling
Excellent transient response
Very low power compression
Improved heat dissipation via unique basket design
Ideal for direct radiating or horn loaded midbass systems

GENERAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	600 W
Program Power (2)	800 W
Peak Power	1600 W
Sensitivity (3)	102 dB
Frequency Range (4)	80 - 3500 Hz
Power Compression @-10dB	0,5 dB
Power Compression @-3dB	1,5 dB
Power Compression @Full Power	2,1 dB
Max Recomm. Frequency	2500 Hz
Recomm. Enclosure Volume	8 - 60 lt. (0,28 - 2,12 cuft)
Minimum Impedance	7,2 Ohm at 25°C
Max Peak To Peak Excursion	20 mm (0,79 in)

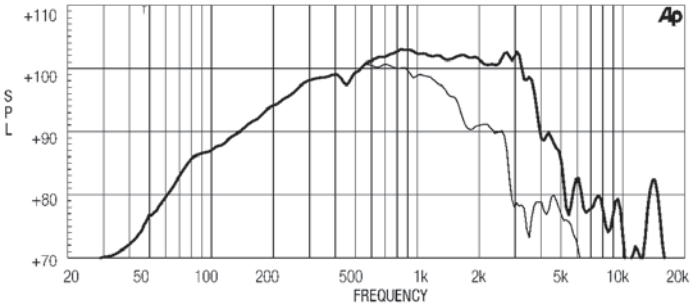
THIELE SMALL PARAMETERS (5)

Fs	54 Hz
Re	5,8 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	6
Qes	0,2
Qts	0,18
Vas	60 lt. (2,12 cuft)
Mms	55,5 gr. (0,12 lb)
BL	23,5 Tm
Linear Mathematical Xmax (6)	± 2,5mm (±0,10 in)
Le (1kHz)	1,46 mH
Ref. Efficiency 1W@1m (half space)	99 dB

MOUNTING INFORMATION

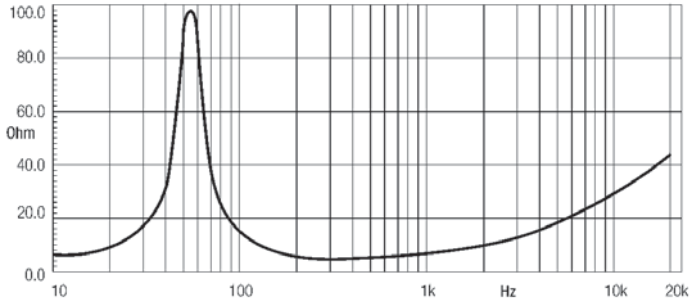
Overall diameter	315 mm (12,4 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	296 - 300 mm (11,65 - 11,8 in)
Front mount baffle cutout Ø	282 mm (11,1 in)
Rear mount baffle cutout Ø	282 mm (11,1 in)
Total depth	118,4 mm (4,66 in)
Flange and gasket thickness	16,5 mm (0,65 in)
Net weight	9,6 kg (21,19 lb)
Shipping weight	10,3 kg (22,74 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 12MB1000 MADE ON 50 LIT. CLOSED BOX ENCLOSURE IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Continuous power rating is measured in 50 lit enclosure tuned 60Hz using a 60 - 2000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 450 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2+Hg/4 where Hvc is the coil depth and Hg is the gap depth.

12W750

LF Ferrite Transducer

97 dB SPL 1W / 1m average sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
1200 W program power handling
Long excursion, linear travel suspension design
Weather protected cone and plates for outdoor use
Generous low frequency output make it suitable for 2-way systems and subwoofer applications

GENERAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	600 W
Program Power (2)	1200 W
Peak Power	2500 W
Sensitivity (3)	97 dB
Frequency Range (4)	50 - 4600 Hz
Power Compression @-10dB	0,9 dB
Power Compression @-3dB	2,8 dB
Power Compression @Full Power	3,8 dB
Max Recomm. Frequency	1800 Hz
Recomm. Enclosure Volume	40 - 90 lt. (1,41 - 3,18 cuft)
Minimum Impedance	6,4 Ohm at 25°C
Max Peak To Peak Excursion	38 mm (1,50 in)

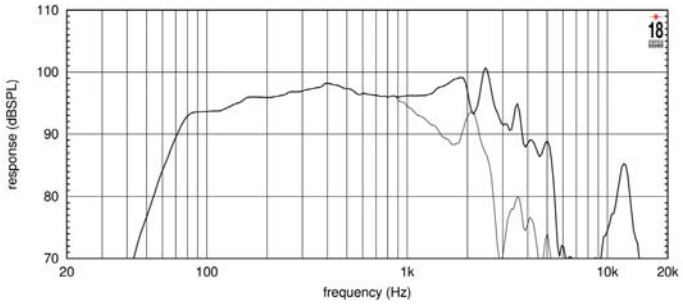
THIELE SMALL PARAMETERS (5)

Fs	49 Hz
Re	5,2 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	7,00
Qes	0,30
Qts	0,28
Vas	73 lt. (2,58 cuft)
Mms	57 gr. (0,13 lb)
BL	18 Tm
Linear Mathematical Xmax (6)	± 8 mm (± 0,31 in)
Le (1kHz)	0,95 mH
Ref. Efficiency 1W@1m (half space)	96,6 dB

MOUNTING INFORMATION

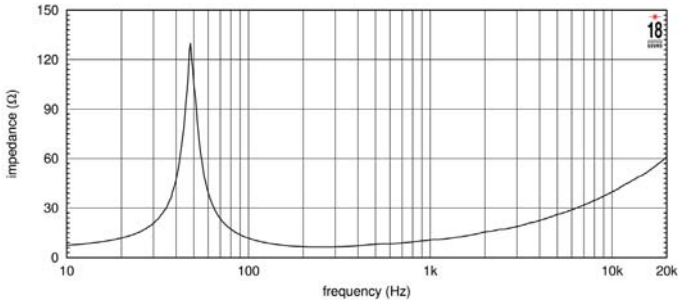
Overall diameter	310 mm (12,2 in)
N. of mounting holes	8
Mounting holes diameter	5,90 mm (0,23 in)
Bolt circle diameter	295 mm (11,61 in)
Front mount baffle cutout Ø	280 mm (11,02 in)
Rear mount baffle cutout Ø	280 mm (11,02 in)
Total depth	148 mm (5,83 in)
Flange and gasket thickness	13,5 mm (0,53 in)
Net weight	7,5 kg (16,5 lb)
Shipping weight	8,3 kg (18,26 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 12W750 MADE ON 50 LIT. ENCLOSURE TUNED 60HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 50 lit enclosure tuned 60Hz using a 60 - 2000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 450 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

12W700

LF Ferrite Transducer

98 dB SPL 1W / 1m average sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
450 W AES power handling
Excellent transient response
Weather protected cone and plates for outdoor usage
Improved heat dissipation via unique basket design
Ideal for compact two way, multiway systems and subwoofer applications

GENERAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	450 W
Program Power (2)	700 W
Peak Power	1500 W
Sensitivity (3)	98 dB
Frequency Range (4)	55 - 4200 Hz
Power Compression @-10dB	0,8 dB
Power Compression @-3dB	2,3 dB
Max Recomm. Frequency	1700 Hz
Recomm. Enclosure Volume	40 - 90 lt. (1,41 - 3,18 cuft)
Minimum Impedance	7 Ohm at 25°C
Max Peak To Peak Excursion	34 mm (1,34 in)
Voice Coil Diameter	75 mm (3 in)

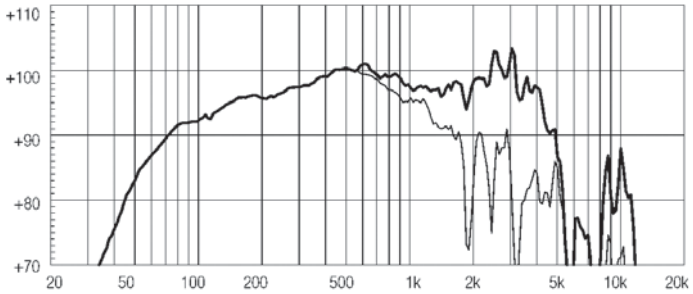
THIELE SMALL PARAMETERS (5)

Fs	58 Hz
Re	5,7 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	3,93
Qes	0,37
Qts	0,36
Vas	55 lt. (1,94 cuft)
Mms	51 gr. (0,11 lb)
BL	17,7 Tm
Linear Mathematical Xmax (6)	± 6,5 mm (± 0,26 in)
Le (1kHz)	1,48 mH
Ref. Efficiency 1W@1m (half space)	97,2 dB

MOUNTING INFORMATION

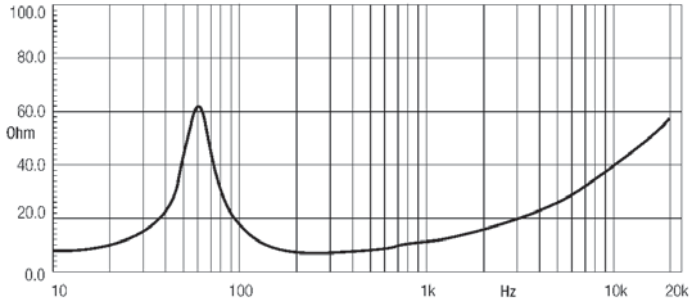
Overall diameter	315 mm (12,4 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	296 - 300 mm (11,65 - 11,8 in)
Front mount baffle cutout Ø	282 mm (11,1 in)
Rear mount baffle cutout Ø	282 mm (11,1 in)
Total depth	147,5 mm (5,80 in)
Flange and gasket thickness	16,5 mm (0,65 in)
Net weight	8,2 kg (18,1 lb)
Shipping weight	9 kg (19,87 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 12W700 MADE ON 50 LIT. ENCLOSURE TUNED 60HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 250 lit. enclosure tuned at 28 Hz using a 30-300 band limited pink noise test signal applied for 2 hours and with 50% duty cycle
(3) 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 500Hz and 2500Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 450 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2+Hg/4 where Hvc is the coil depth and Hg is the gap depth.

12MB700

Very High Output MB Ferrite Transducer

101,5 dB SPL 1W / 1m sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
450 W AES power handling
Double Demodulating Rings (DDR) for lower distortion
Improved heat dissipation via unique basket design
Weather protected cone and plates for outdoor usage
Ideal for compact two way and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	450 W
Program Power (2)	600 W
Peak Power	1200 W
Sensitivity (3)	101,5 dB
Frequency Range (4)	60 - 5000 Hz
Power Compression @-10dB	0,4 dB
Power Compression @-3dB	1,5 dB
Power Compression @Full Power	2,8 dB
Max Recomm. Frequency	4000 Hz
Recomm. Enclosure Volume	10 - 80 lt. (0,3 - 2,83 cuft)
Minimum Impedance	5,7 Ohm at 25°C
Max Peak To Peak Excursion	22 mm (0,87 in)

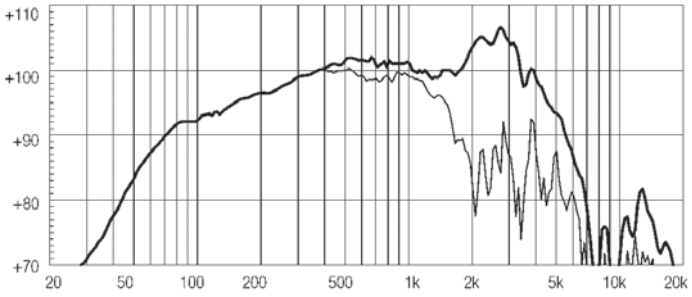
THIELE SMALL PARAMETERS (5)

Fs	49 Hz
Re	5 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	4,7
Qes	0,2
Qts	0,19
Vas	101 lt. (3,57 cuft)
Mms	41 gr. (0,09 lb)101 lt. (3,57 cuft)
BL	17,8 Tm
Linear Mathematical Xmax (6)	± 4,5 mm (± 0,18 in)
Le (1kHz)	0,9 mH
Ref. Efficiency 1W@1m (half space)	99,6 dB

MOUNTING INFORMATION

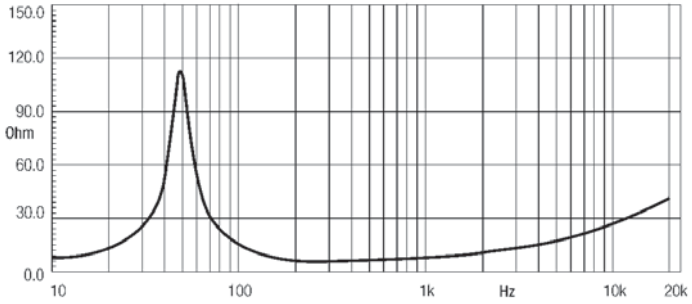
Overall diameter	315 mm (12,4 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	296 - 300 mm (11,65 - 11,8 in)
Front mount baffle cutout Ø	282 mm (11,1 in)
Rear mount baffle cutout Ø	282 mm (11,1 in)
Total depth	147,5 mm (5,82 in)
Flange and gasket thickness	16,5 mm (0,65 in)
Net weight	8,0 kg (17,66 lb)
Shipping weight	8,8 kg (19,43 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 12MB700 MADE ON 50 LIT. ENCLOSURE TUNED 60HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 50 lit enclosure tuned 60Hz using a 55 - 2500Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 350 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2+Hg/4 where Hvc is the coil depth and Hg is the gap depth.

12MB600

High Output MB Ferrite Transducer

101 dB SPL 1W / 1m average sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
450 W AES power handling
Weather protected cone and plates for outdoor usage
Excellent transient response
Improved heat dissipation via unique basket design
Ideal for compact two way and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	450 W
Program Power (2)	600 W
Peak Power	1200 W
Sensitivity (3)	101 dB
Frequency Range (4)	58 - 5000 Hz
Power Compression @-10dB	0,5 dB
Power Compression @-3dB	1,6 dB
Power Compression @Full Power	3,0 dB
Max Recomm. Frequency	2200 Hz
Recomm. Enclosure Volume	30 - 80 lt. (1,06 - 2,83 cuft)
Minimum Impedance	6,5 Ohm at 25°C
Max Peak To Peak Excursion	22 mm (0,87 in)

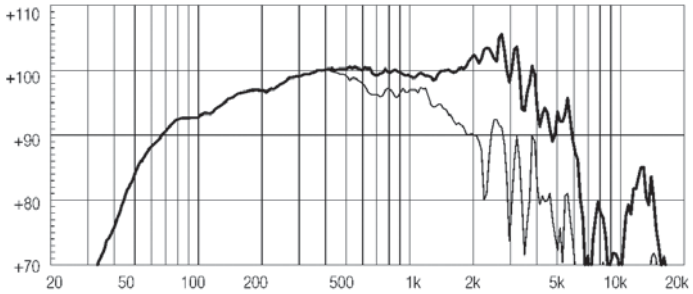
THIELE SMALL PARAMETERS (5)

Fs	44 Hz
Re	5 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	3,9
Qes	0,19
Qts	0,18
Vas	115 lt. (4,06 cuft)
Mms	43 gr. (0,09 lb)
BL	18 Tm
Linear Mathematical Xmax (6)	± 4,5 mm (± 0,18 in)
Le (1kHz)	1,32 mH
Ref. Efficiency 1W@1m (half space)	99,2 dB

MOUNTING INFORMATION

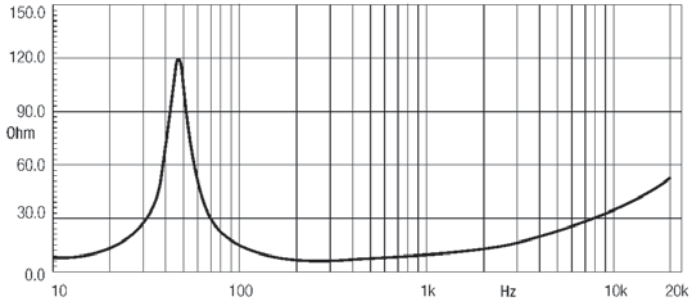
Overall diameter	315 mm (12,4 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	296 - 300 mm (11,65 - 11,8 in)
Front mount baffle cutout Ø	282 mm (11,1 in)
Rear mount baffle cutout Ø	282 mm (11,1 in)
Total depth	147,5 mm (5,82 in)
Flange and gasket thickness	16,5 mm (0,65 in)
Net weight	8,0 kg (17,66 lb)
Shipping weight	8,8 kg (19,43 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 12MB600 MADE ON 50 LIT. ENCLOSURE TUNED 60HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 30 lit enclosure tuned 55Hz using a 70 - 2000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 450 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

12MB650

High Output MB Ferrite Transducer

98 dB SPL 1W / 1m sensitivity
65 mm (2.5 in) Edgewound Aluminum Voice coil (EWAL)
800W program power handling
Improved heat dissipation via proprietary basket design
Weather protected cone and plates for outdoor usage
Ideal for high quality two way and stage monitor applications

GENERAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	400 W
Program Power (2)	800 W
Peak Power	1600 W
Sensitivity (3)	98 dB
Frequency Range (4)	45 - 5000 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	1,5 dB
Power Compression @Full Power	2,2 dB
Max Recomm. Frequency	2000 Hz
Recomm. Enclosure Volume	70 - 150 lt. (2.47 - 5.30 cuft)
Minimum Impedance	7,2 Ohm at 25°C
Max Peak To Peak Excursion	24 mm (0,95 in)

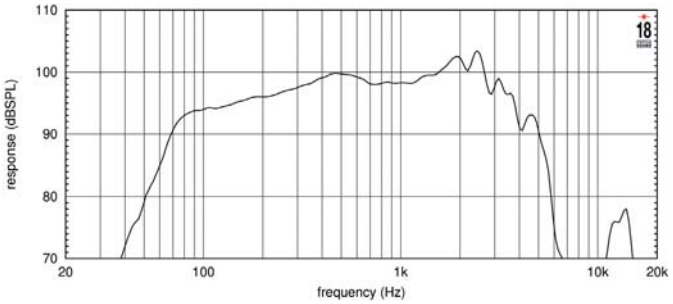
THIELE SMALL PARAMETERS (5)

Fs	48 Hz
Re	6,0 Ohm
Sd	0,053 sq.mt. (82,15 sq.in.)
Qms	3,2
Qes	0,24
Qts	0,23
Vas	90 lt. (3.18 cuft)
Mms	48 gr. (0.11 lb)
BL	19 Tm
Linear Mathematical Xmax (6)	± 5,5 mm (± 0.22 in)
Le (1kHz)	0,83 mH
Ref. Efficiency 1W@1m (half space)	98,1 dB

MOUNTING INFORMATION

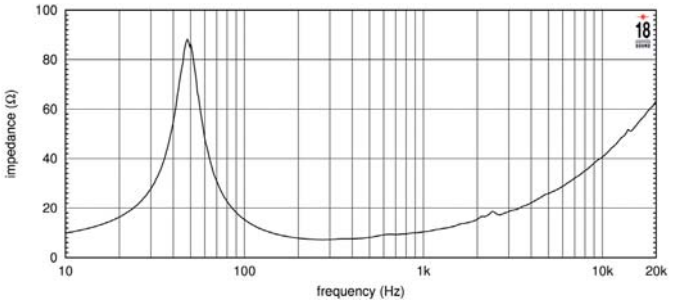
Overall diameter	310 mm (12,2 in)
N. of mounting holes	8
Mounting holes diameter	5,9 mm (0,23 in)
Bolt circle diameter	295 mm (11.61 - 11,8 in)
Front mount baffle cutout Ø	280 mm (11,02 in)
Rear mount baffle cutout Ø	280 mm (11,02 in)
Total depth	143 mm (5.63 in)
Flange and gasket thickness	14 mm (0.55 in)
Net weight	6,8 kg (14.95 lb)
Shipping weight	7,5 kg (16.53 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE MADE ON 50 LIT. ENCLOSURE TUNED 60HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 30 lit closed enclosure using a 70 - 2000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 400 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

12W500

LF Ferrite Transducer

99,5 dB SPL 1W / 1m average sensitivity
65 mm (2,5 in) Interleaved Sandwich Voice coil (ISV)
350 W AES power handling
Excellent transient response
Improved heat dissipation via unique basket design
Ideal for compact two way systems

GENERAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	350 W
Program Power (2)	500 W
Peak Power	1000 W
Sensitivity (3)	99,5 dB
Frequency Range (4)	50 - 6000 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	2,5 dB
Power Compression @Full Power	4,1 dB
Max Recomm. Frequency	2500 Hz
Recomm. Enclosure Volume	50 - 100 lt. (1,77 - 3,53 cuft)
Minimum Impedance	6,4 Ohm at 25°C
Max Peak To Peak Excursion	22 mm (0,87 in)

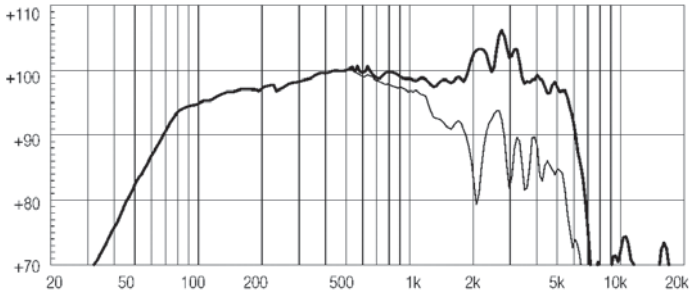
THIELE SMALL PARAMETERS (5)

Fs	46 Hz
Re	5,2 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	6,02
Qes	0,38
Qts	0,36
Vas	123 lt. (4,34 cuft)
Mms	36,5 gr. (0,08 lb)
BL	12,1 Tm
Linear Mathematical Xmax (6)	± 4 mm (±0,16 in)
Le (1kHz)	1,12 mH
Ref. Efficiency 1W@1m (half space)	97,2 dB

MOUNTING INFORMATION

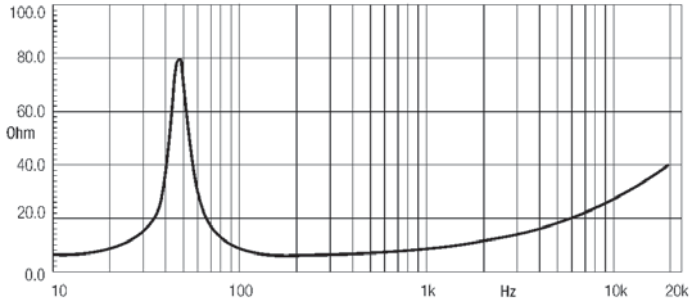
Overall diameter	315 mm (12,4 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	296 - 300 mm (11,65 - 11,8 in)
Front mount baffle cutout Ø	282 mm (11,1 in)
Rear mount baffle cutout Ø	282 mm (11,1 in)
Total depth	141 mm (5,55 in)
Flange and gasket thickness	16,5 mm (0,65 in)
Net weight	4,5 kg (9,93 lb)
Shipping weight	5,3 kg (11,7 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 12W500 MADE ON 50 LIT. ENCLOSURE TUNED 60HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 30 lit enclosure tuned 55Hz using a 70 - 2000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 280 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

10MB600

High Output MB Ferrite Transducer

98 dB SPL 1W / 1m average sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
450 W AES power handling
Weather protected cone and plates for outdoor usage
Excellent transient response
Improved heat dissipation via unique basket design
Ideal for compact two way and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	260 mm (10 in)
Rated Impedance	8 Ohm
AES Power (1)	450 W
Program Power (2)	700 W
Peak Power	1500 W
Sensitivity (3)	98 dB
Frequency Range (4)	55 - 4500 Hz
Power Compression @-10dB	0,4 dB
Power Compression @-3dB	1,6 dB
Power Compression @Full Power	2,2 dB
Max Recomm. Frequency	2500 Hz
Recomm. Enclosure Volume	10 - 40 lt. (0,9 - 1,41 cuft)
Max Recomm. Frequency	2500 Hz
Max Peak To Peak Excursion	24 mm (0,94 in)

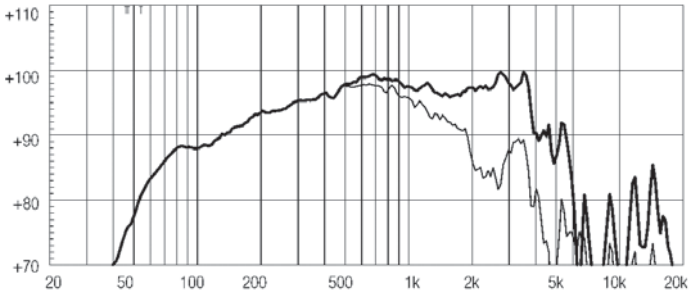
THIELE SMALL PARAMETERS (5)

Fs	58 Hz
Re	5,7 Ohm
Sd	0,035 sq.mt. (54,25 sq.in.)
Qms	5,5
Qes	0,23
Qts	0,22
Vas	33,4 lt. (1,18 cuft)
Mms	38 gr. (0,08 lb)
BL	18,6 Tm
Linear Mathematical Xmax (6)	± 6,5 mm (± 0,26 in)
Le (1kHz)	1,6 mH
Ref. Efficiency 1W@1m (half space)	96,5 dB

MOUNTING INFORMATION

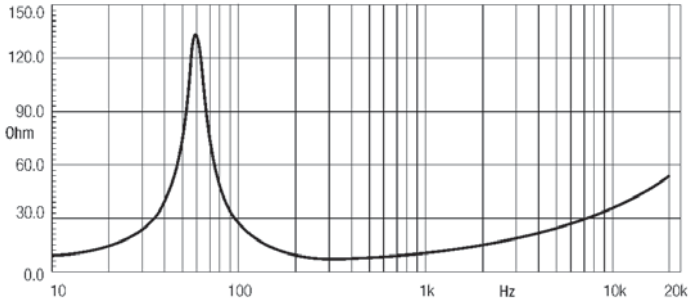
Overall diameter	260 mm (10,24 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	244,5 mm (9,63 in)
Front mount baffle cutout Ø	232 mm (9,13 in)
Rear mount baffle cutout Ø	232 mm (9,13 in)
Total depth	127 mm (5 in)
Flange and gasket thickness	14,5 mm (0,57 in)
Flange and gasket thickness	14,5 mm (0,57 in)
Net weight	7,35 kg (16,23 lb)
Shipping weight	7,9 kg (17,44 lb)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 10MB600 MADE ON 30 LIT. ENCLOSURE TUNED AT 55HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 25 lit enclosure tuned 65Hz using a 60 - 2000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

10M600

Very High Output MF Ferrite Transducer

102 dB SPL 1W / 1m average sensitivity
75 mm (3 in) Interleaved Sandwich Voice coil (ISV)
400 W AES power handling
Excellent transient response
Improved heat dissipation via unique basket design
Ideal for direct radiating or horn loaded midrange systems

GENERAL SPECIFICATIONS

Nominal Diameter	260 mm (10 in)
Rated Impedance	8 Ohm
AES Power (1)	400 W
Program Power (2)	500 W
Peak Power	1200 W
Sensitivity (3)	102 dB
Frequency Range (4)	80 - 5200 Hz
Power Compression @-10dB	0,5 dB
Power Compression @-3dB	1,6 dB
Power Compression @Full Power	2,3 dB
Max Recomm. Frequency	3000 Hz
Recomm. Enclosure Volume	5 - 30 lt. (0,18 - 1,09 cuft)
Minimum Impedance	6,4 Ohm at 25°C
Max Peak To Peak Excursion	16 mm (0,63 in)

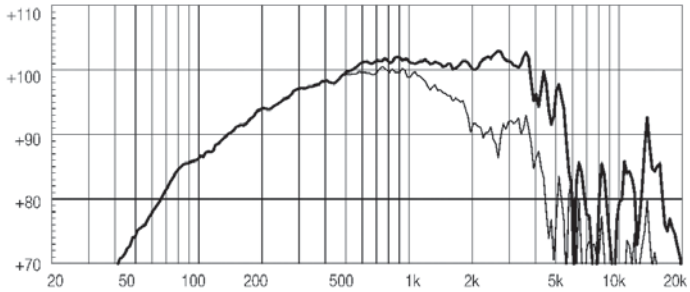
THIELE SMALL PARAMETERS (5)

Fs	70 Hz
Re	5,2 Ohm
Sd	0,035 sq.mt. (54,25 sq.in.)
Qms	4,5
Qes	0,25
Qts	0,23
Vas	25,6 lt. (0,9 cuft)
Mms	32 gr. (0,07 lb)
BL	17,6 Tm
Linear Mathematical Xmax (6)	± 4 mm (±0,16 in)
Le (1kHz)	1,28 mH
Ref. Efficiency 1W@1m (half space)	97,7 dB

MOUNTING INFORMATION

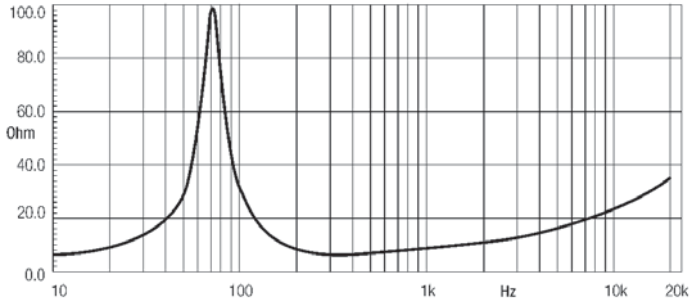
Overall diameter	260 mm (10,24 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	244,5 mm (9,63 in)
Front mount baffle cutout Ø	232 mm (9,13 in)
Rear mount baffle cutout Ø	232 mm (9,13 in)
Total depth	126 mm (4,95 in)
Flange and gasket thickness	14,5 mm (0,57 in)
Net weight	7,35 kg (16,23 lb)
Shipping weight	7,8 kg (17,22 lb)
CardBoard Packaging dimensions	275 x 275 x 164 mm (10,83 x 10,83 x 6,46 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 10M600 MADE ON 30 LIT. CLOSED ENCLOSURE IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 3 lit closed enclosure using a 100 - 2500Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 500Hz and 2500Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by 250 W AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

10W500

LF Ferrite Transducer

98 dB SPL 1W / 1m average sensitivity
51 mm (2 in) Interleaved Sandwich copper Voice coil (ISV)
280 W AES power handling
Improved heat dissipation via unique basket design
Ideal for compact two way and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	260 mm (10 in)
Rated Impedance	8 Ohm
AES Power (1)	280 W
Program Power (2)	400 W
Peak Power	800 W
Sensitivity (3)	98 dB
Frequency Range (4)	55 - 4500 Hz
Power Compression @-10dB	0,7 dB
Power Compression @-3dB	1,3 dB
Power Compression @Full Power	2,8 dB
Max Recomm. Frequency	2000 Hz
Recomm. Enclosure Volume	20 - 50 lt. (0,71 - 1,77 cuft)
Minimum Impedance	7 Ohm at 25°C
Max Peak To Peak Excursion	24 mm (0,94 in)

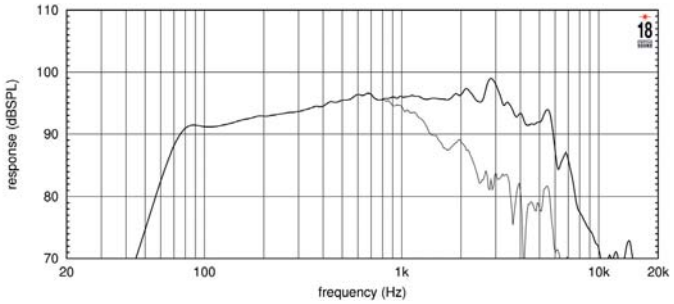
THIELE SMALL PARAMETERS (5)

Fs	53 Hz
Re	6,0 Ohm
Sd	0,035 sq.mt. (54,25 sq.in.)
Qms	4,22
Qes	0,31
Qts	0,29
Vas	45,2 lt. (1,60 cuft)
Mms	33 gr. (0,07 lb)
BL	14,6 Tm
Linear Mathematical Xmax (6)	± 5,5 mm (± 0,22 in)
Le (1kHz)	0,72 mH
Ref. Efficiency 1W@1m (half space)	96 dB

MOUNTING INFORMATION

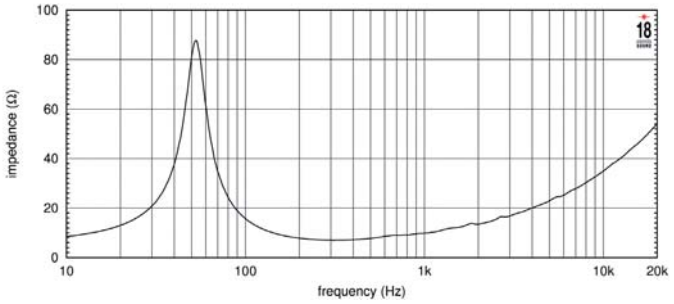
Overall diameter	260 mm (10,24 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	244,5 mm (9,63 in)
Front mount baffle cutout Ø	232 mm (9,13 in)
Rear mount baffle cutout Ø	232 mm (9,13 in)
Total depth	121,5 mm (4,78 in)
Flange and gasket thickness	14,5 mm (0,57 in)
Flange and gasket thickness	14,5 mm (0,57 in)
Net weight	4,7 kg (10,38 lb)
Shipping weight	5,10 kg (11,26 lb)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 10W500 MADE ON 30 LIT. ENCLOSURE TUNED 55HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 10 lit enclosure tuned at 75 Hz using a 100 - 1000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 1000Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

8MB500

MB Ferrite Transducer

95 dB SPL 1W / 1m average sensitivity
51 mm (2 in) Interleaved Sandwich Voice coil (ISV)
400 Watt program power handling
Triple roll suspension for increased motion control
Weather protected tretaed cellulose cone
Lightweight diecast aluminum basket design
Suitable for compact two way and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	200 mm (8 in)
Rated Impedance	8 Ohm
AES Power (1)	280 W
Program Power (2)	400 W
Peak Power	800 W
Sensitivity (3)	95 dB
Frequency Range (4)	60 - 4500 Hz
Power Compression @-10dB	0,5 dB
Power Compression @-3dB	1,4 dB
Power Compression @Full Power	2,3 dB
Max Recomm. Frequency	3000 Hz
Recomm. Enclosure Volume	10 - 40 lt. (0,35 - 1,41 cuft)
Minimum Impedance	5,8 Ohm at 25°C
Max Peak To Peak Excursion	19 mm (0,75 in)

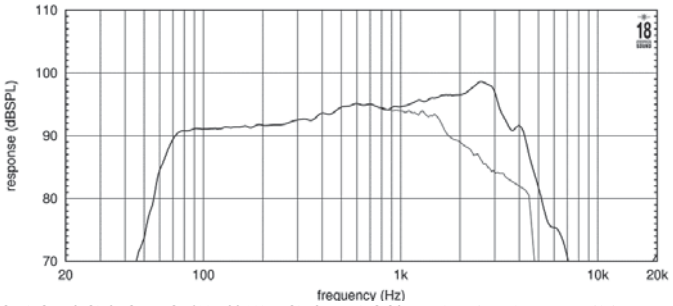
THIELE SMALL PARAMETERS (5)

Fs	74 Hz
Re	5,1 Ohm
Sd	0,023 sq.mt. (35,65 sq.in.)
Qms	2,66
Qes	0,51
Qts	0,43
Vas	21,5 lt. (0,76 cuft)
Mms	17 gr. (0,04 lb)
BL	9,0 Tm
Linear Mathematical Xmax (6)	± 6 mm (± 0,24 in)
Le (1kHz)	0,60 mH
Ref. Efficiency 1W@1m (half space)	94,4 dB

MOUNTING INFORMATION

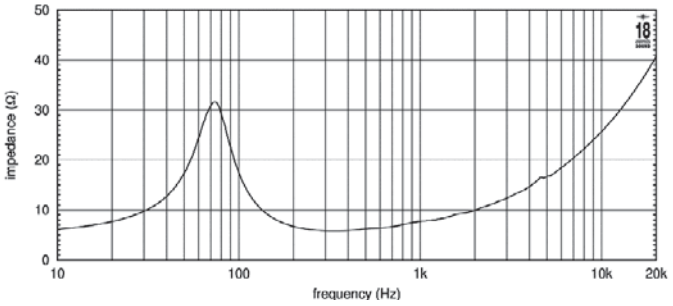
Overall diameter	210 mm (8,27 in)
N. of mounting holes	6
Mounting holes diameter	6 mm (0,23 in)
Bolt circle diameter	195 - 198 mm (7,68 - 7,80 in)
Front mount baffle cutout Ø	186 mm (7,32 in)
Rear mount baffle cutout Ø	184 mm (7,24 in)
Total depth	99,5 mm (3,92 in)
Flange and gasket thickness	14,5 mm (0,57 in)
Net weight	3,4 kg (7,5 lb)
Shipping weight	3,72 kg (8,22 lb)
CardBoard Packaging dimensions	235 x 235 x 150 mm (9,25 x 9,25 x 5,91 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 8MB500 MADE ON 25 LIT. ENCLOSURE TUNED 65HZ IN 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 10 lit enclosure tuned at 75 Hz using a 100 - 1000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 1000Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

8M400

High Output MF Ferrite Transducer

100,5 dB SPL 1W / 1m average sensitivity
51 mm (2 in) Interleaved Sandwich Voice coil (ISV)
250 Watt AES power handling
Improved heat dissipation via unique basket design
Copper ring to linearize impedance curve
Suitable for high quality midrange applications

GENERAL SPECIFICATIONS

Nominal Diameter	200 mm (8 in)
Rated Impedance	8 Ohm
AES Power (1)	250 W
Program Power (2)	320 W
Peak Power	650 W
Sensitivity (3)	100,5 dB
Frequency Range (4)	120 - 6100 Hz
Power Compression @-10dB	0,5 dB
Power Compression @-3dB	1,6 dB
Power Compression @Full Power	2,7 dB
Max Recomm. Frequency	4000 Hz
Recomm. Enclosure Volume	2 - 10 lt. (0,07 - 0,35 cuft)
Minimum Impedance	6,5 Ohm at 25°C
Max Peak To Peak Excursion	13 mm (0,51 in)

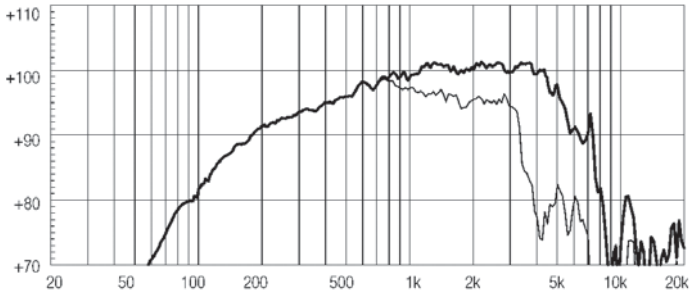
THIELE SMALL PARAMETERS (5)

Fs	90 Hz
Re	5,2 Ohm
Sd	0,0227 sq.mt. (35,19 sq.in.)
Qms	6,2
Qes	0,28
Qts	0,27
Vas	16,2 lt. (0,57 cuft)
Mms	14 gr. (0,03 lb)
BL	12,2 Tm
Linear Mathematical Xmax (6)	± 3 mm (±0,12 in)
Le (1kHz)	0,95 mH
Ref. Efficiency 1W@1m (half space)	98,1 dB

MOUNTING INFORMATION

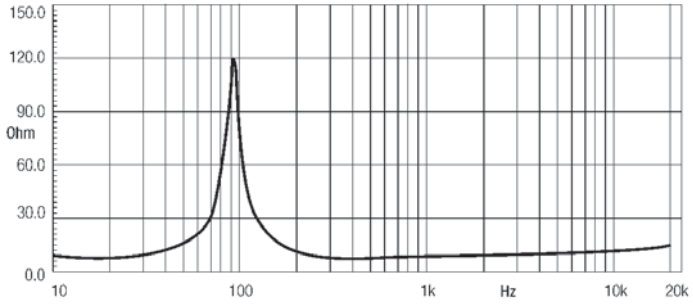
Overall diameter	210 mm (8,27 in)
N. of mounting holes	6
Mounting holes diameter	6 mm (0,23 in)
Bolt circle diameter	195 - 198 mm (7,68 - 7,80 in)
Front mount baffle cutout Ø	186 mm (7,32 in)
Rear mount baffle cutout Ø	184 mm (7,24 in)
Total depth	105,5 mm (4,15 in)
Flange and gasket thickness	14,5 mm (0,57 in)
Net weight	4,5 kg (9,93 lb)
Shipping weight	4,8 kg (10,6 lb)
CardBoard Packaging dimensions	235 x 235 x 150 mm (9,25 x 9,25 x 5,91 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 8M400 MADE ON 3 LIT. CLOSED ENCLOSURE IN FREE FIELD (4PI). 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 power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 10 lit enclosure tuned at 75 Hz using a 100 - 1000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 1000Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

5W430

LF Ferrite Transducer

89 dB SPL 1W / 1m average sensitivity
25,4 mm (1 in) copper voice coil
120W program power handling
Weather protected cone
Ideal for compact two way and multiway systems

GENERAL SPECIFICATIONS

Nominal Diameter	125mm (5 in)
Rated Impedance	8 Ohm
AES Power (1)	80 W
Program Power (2)	120 W
Peak Power	250 W
Sensitivity (3)	89 dB
Frequency Range (4)	60 - 8000 Hz
Power Compression @-10dB	0,8 dB
Power Compression @-3dB	2,0 dB
Power Compression @Full Power	3,3 dB
Max Recomm. Frequency	4000 Hz
Recomm. Enclosure Volume	8 - 20 lt. (0.28 - 0.71 cuft)
Max Peak To Peak Excursion	16 mm (0,63in)
Voice Coil Diameter	25 mm (1 in)

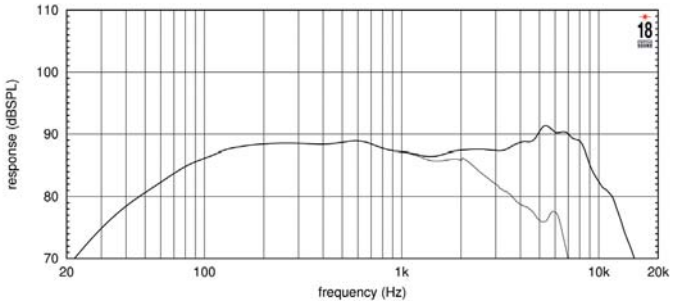
THIELE SMALL PARAMETERS (5)

Fs	52 Hz
Re	5.4 Ohm
Sd	0,009 sq.mt. (13.95 sq.in.)
Qms	2.77
Qes	0.36
Qts	0.32
Vas	15 lt
Mms	8,2 gr
BL	6.3 Tm
Linear Mathematical Xmax (6)	± 6 mm (±0,24 in)
Le (1kHz)	0.49 mH
Ref. Efficiency 1W@1m (half space)	89.6 dB

MOUNTING INFORMATION

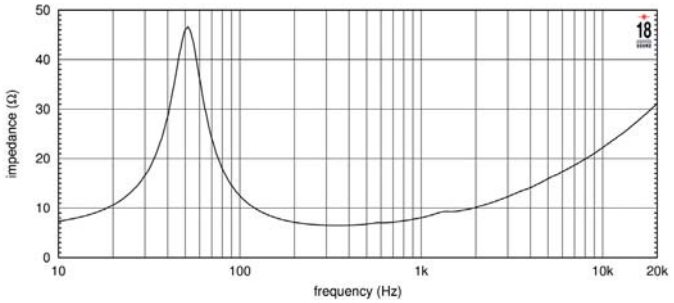
Overall diameter	134 mm (5.28 in)
N. of mounting holes	4
Mounting holes diameter	4,5 mm (0,18 in)
Bolt circle diameter	140 mm (5.51 in)
Front mount baffle cutout Ø	124 mm (4.88 in)
Rear mount baffle cutout Ø	123 mm (4.84 in)
Total depth	72 mm (2,83 in)
Flange and gasket thickness	4,5 mm (0,18 in)
Net weight	1,24 kg (2,73 lb)
Shipping weight	1,8 kg (3,97 lb)
CardBoard Packaging dimensions	12 pieces pack

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE MEASURED WITH 2.83V AT 1MT DISTANCE ON CENTRAL FORWARD AXIS FROM THE MOUTH OF XR1564 HORN. THIN LINE REPRESENTS IMPEDANCE MEASURED IN SAME CONDITIONS.

FREE AIR IMPEDANCE MAGNITUDE CURVE



FREQUENCY RESPONSE MEASURED WITH 1W INPUT ON RATED IMPEDANCE ON CENTRAL FORWARD AXIS IN A PLANE WAVE TUBE. THIN LINE REPRESENTS IMPEDANCE MEASURED IN SAME CONDITIONS.

NOTES

(1) AES power is determined according to AES2-1984 (r2003) standard
(2) Program power rating is measured in 10 lit enclosure tuned at 75 Hz using a 100 - 1000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
(3) 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 1000Hz with the test specimen mounted in the same enclosure as given for (1) above.
(4) 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.
(5) Thiele - Small parameters are measured after the test specimen has been conditioned by AES power and represent the expected long term parameters after a short period of use.
(6) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is the gap depth.

HF DRIVERS - NEODYMIUM

ND4015BE

HF Neodymium Driver - Pure Beryllium Diaphragm

113 dB 1W / 1m average sensitivity
1,5 inch exit throat
4 inch edgewound aluminium voice coil
280W max. program power handling
4 inch pure Beryllium dome - polymer surround diaphragm
Copper plated pole piece reduces inductance modulation distortion and increases HF output
Ultra high precision diaphragm centering system for improved performances and lifespan
BEM optimized 4 slot phaseplug design
Extreme sound clarity even at very high SPL

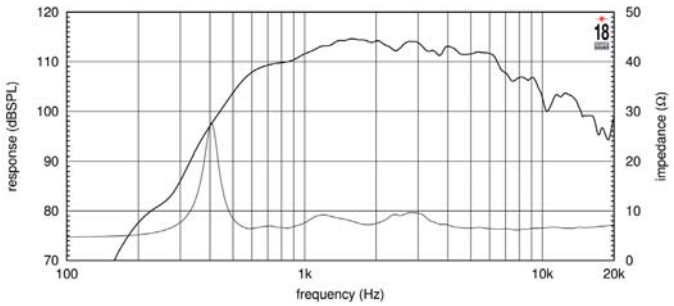
GENERAL SPECIFICATIONS

Throat Diameter	39 mm (1,5 in)
Rated Impedance	8 Ohm
DC Resistance	4,2 Ohm
Minimum Impedance	6,4 Ohm
Le (at 1kHz)	N/A
Sensitivity (3)	113 dB
Frequency Range	900 Hz - 20 kHz
Diaphragm Material	Pure beryllium dome on polymer surround
Voice Coil Diameter	100 mm (4 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium
Flux Density	2 T
BL Factor	13,4 Tm
Polarity	Positive voltage on red terminal gives positive pressure in the throat

MOUNTING INFORMATION

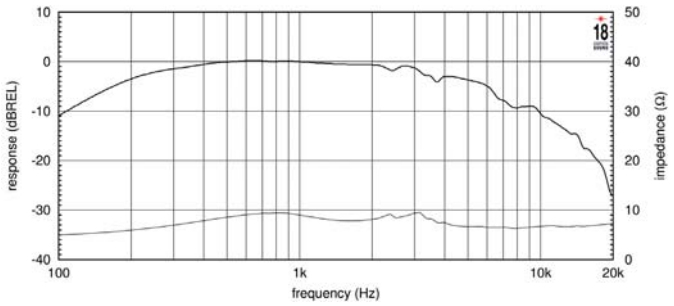
Overall diameter	150 mm (6 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102 - 114,7 mm(4 - 4.52 in)
Total depth	57 mm (2,2 in)
Net weight	3.2 Kg (7 lb)
Shipping weight	3.7 Kg (8.14 lb)
CardBoard Packaging dimensions	170 x 170 x 80 mm (6,69 x 6,69 x 3,15 in)

FREE AIR FREQUENCY RESPONSE CURVE AND IMPEDANCE MAGNITUDE CURVE



FREQUENCY RESPONSE MEASURED WITH 2.83V AT 1MT DISTANCE ON CENTRAL FORWARD AXIS FROM THE MOUTH OF XR1564 HORN. THIN LINE REPRESENTS IMPEDANCE MEASURED IN SAME CONDITIONS.

FREQUENCY RESPONSE CURVE AND IMPEDANCE MAGNITUDE CURVE ON PLAIN WAVE TUBE



FREQUENCY RESPONSE MEASURED WITH 1W INPUT ON RATED IMPEDANCE ON CENTRAL FORWARD AXIS IN A PLANE WAVE TUBE. THIN LINE REPRESENTS IMPEDANCE MEASURED IN SAME CONDITIONS.

NOTES

1) Continuous Power is defined as 3 dB greater than the one measured with the new AES2-2012 standard, using continous pink noise having 12 dB crest factor for 2 hours, mounted on XR1564 horn, from 1.2kHz to 12kHz.
2) Max. program power rating is defined as 3 dB greater than continuous power rating and is a conservative expression of the transducer ability to handle music program material
3) Sensitivity represent the averaged value of acoustic ouput as measured at 1 mt distance on axis from the mouth of XR1564 horn, when connected to 2,83V sine wave swept betwwen 1000 and 4000 Hz.

NSD4015N

HF Neodymium Driver - Nitrogen Coated Diaphragm

111 dB 1W / 1m average sensitivity
1,5 inch exit throat
4 inch edgewound aluminium voice coil
320W max. program power rating
True Piston Motion TiN coated titanium diaphragm
Copper ring reduces inductance modulation distortion and increases high frequency output
Ultra high precision diaphragm centering system for improved performances and lifespan
BEM optimized 4-slot metal alloy phase-plug
Available also in 1.4" and 2" exit versions

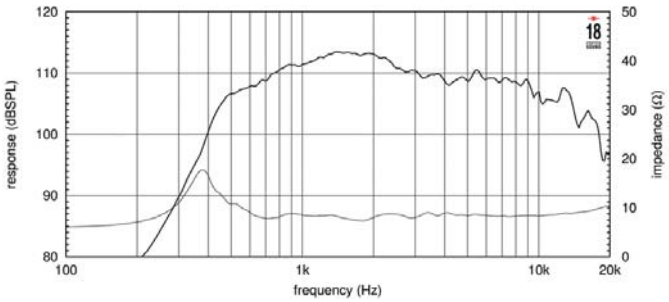
GENERAL SPECIFICATIONS

Throat Diameter	39 mm (1,5 in)
Rated Impedance	8 Ohm
DC Resistance	6,0 Ohm
Minimum Impedance	9,2 Ohm
Le (at 1kHz)	N/A
Sensitivity (3)	111 dB
Frequency Range	800 Hz - 20 kHz
Diaphragm Material	Nitride Coated Titanium
Voice Coil Diameter	100 mm (4 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium
Flux Density	2 T
BL Factor	17 Tm
Polarity	Positive voltage on red terminal gives positive pressure in the throat

MOUNTING INFORMATION

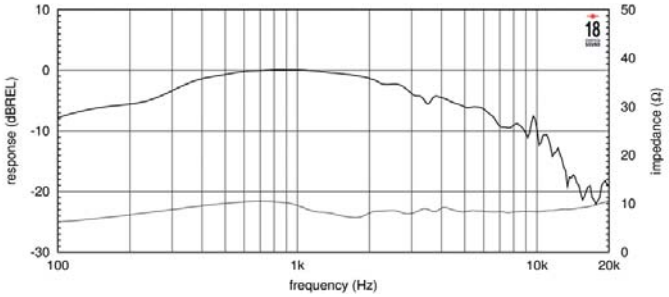
Overall diameter	150 mm (6 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102 - 114,7 mm(4 - 4.52 in)
Total depth	57 mm (2,2 in)
Net weight	3.2 Kg (7 lb)
Shipping weight	3.6 Kg (8.1 lb)
CardBoard Packaging dimensions	170 x 170 x 80 mm (6,69 x 6,69 x 3,15 in)

FREE AIR FREQUENCY RESPONSE CURVE AND IMPEDANCE MAGNITUDE CURVE



FREQUENCY RESPONSE MEASURED WITH 2.83 V INPUT AT 1 METER DISTANCE ON CENTRAL FORWARD AXIS FROM THE MOUTH OF XR1564 HORN. THIN LINE REPRESENTS IMPEDANCE MEASURED IN SAME CONDITIONS.

FREQUENCY RESPONSE CURVE AND IMPEDANCE MAGNITUDE CURVE ON PLAIN WAVE TUBE



FREQUENCY RESPONSE MEASURED WITH 77,5 mV INPUT ON CENTRAL FORWARD AXIS IN A PLANE WAVE TUBE. THIN LINE REPRESENTS IMPEDANCE MEASURED IN SAME CONDITIONS.

NOTES

1) Sensitivity represent the averaged value of acoustic output as measured on the central forward axis of a XR1564 horn, at a distance 1 m from horn mouth, when connected to 2,83 V sine wave swept between 1000-4000 Hz
2) Sensitivity represent the averaged value of acoustic output as measured on the central forward axis of a XR1564 horn, at a distance 1 m from horn mouth, when connected to 2,83 V sine wave swept between 1000-4000 Hz
3) Minimum Crossover frequency requires at least 12 dB oct slope high pass filter

ND4015Ti2

HF Neodymium Driver - Pure Titanium Diaphragm

Next Gen Titanium diaphragm for higher sensitivity and extended high frequency
113 dB 1W / 1m average sensitivity
1.5 inch throat exit
4 inch edgewound aluminium voice coil
320W max. program power handling
HF copper sleeve for reduced distortion and increased output
BEM optimized 4-slot metal alloy phase plug
Available also in 1.4" and 2" exit versions

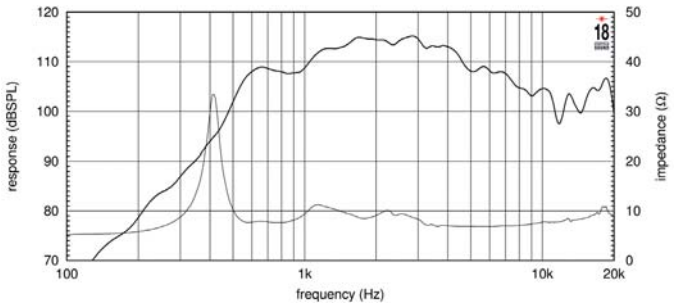
GENERAL SPECIFICATIONS

Throat Diameter	38 mm (1,5 in)
Rated Impedance	8 Ohm
DC Resistance	4.7 Ohm
Minimum Impedance	6.9 Ohm @ 5500 Hz
Le (at 1kHz)	N/A
Continuous Power	160 W
Max program power	320 W
Sensitivity (3) (1W@1m)	113 dB
Frequency Range	800 Hz - 20 kHz
Minimum Xover Frequency	800 Hz with 24 dB/oct LR
Diaphragm Material	Pure Titanium
Voice Coil Diameter	100 mm (4 in)
Voice Coil Winding Material	Edge-wound CCAW
Magnet Material	Neodymium
Flux Density	2 T
BL Factor	17 Tm

MOUNTING INFORMATION

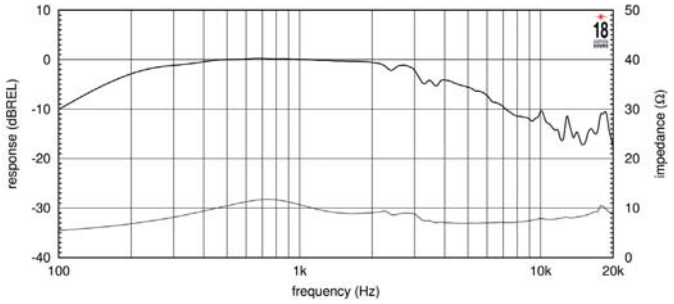
Overall diameter	150 mm (6 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102 mm (4 in)
Total depth	57 mm (2,2 in)
Net weight	3.2 Kg (7 lb)
Shipping weight	3.6 Kg (7.94 lb)
CardBoard Packaging dimensions	170 x 170 x 80 mm (6,69 x 6,69 x 3,15 in)

FREE AIR FREQUENCY RESPONSE CURVE AND IMPEDANCE MAGNITUDE CURVE



FREQUENCY RESPONSE MEASURED WITH 2,83 V INPUT ON AXIS AT 1 METER DISTANCE FROM THROAT OF XR1564 HORN. IMPEDANCE MEASURED ON SAME HORN.

FREQUENCY RESPONSE CURVE AND IMPEDANCE MAGNITUDE CURVE ON PLAIN WAVE TUBE



FREQUENCY RESPONSE MEASURED WITH 77,5 mV INPUT ON 1,5 in PLANE WAVE TUBE. IMPEDANCE MEASURED ON SAME PLANE WAVE TUBE.

NOTES

1) Continous Power is defined as a level that is 3 dB greater than the one measured with the new AES2-2012 standard, using continous pink noise having 12 dB crest factor for 2 hours, mounted on XR1564 horn, from 1kHz up to 10kHz.
2) Program power rating is defined as 3 dB greater than continuous power rating and is a conservative expression of the transducer ability to handle music program material
3) Sensitivity represent the averaged value of acoustic output as measured on the central forward axis of a XR1564 horn, at a distance 1 m from horn mouth, when connected to 2,83 V sine wave swept between 1000-4000 Hz.

ND2080

HF Neodymium Driver

110 dB SPL 1W / 1m average sensitivity
2 inch exit throat
3 inch edgewound aluminum voice coil
200 W program power handling
Pure Titanium diaphragm assembly
Neodymium ring magnetic structure
Excellent thermal exchange

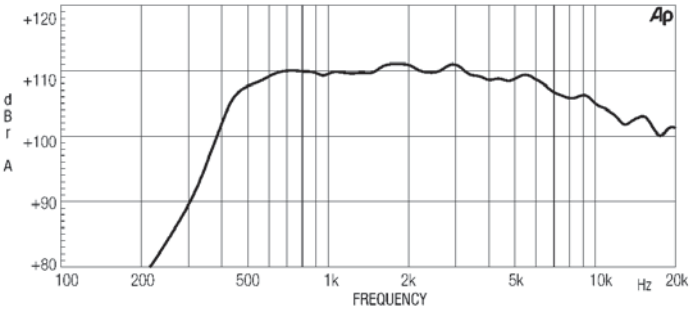
GENERAL SPECIFICATIONS

Throat Diameter	50 mm (2 in)
Rated Impedance	8 Ohm
DC Resistance	6,2 Ohm
Minimum Impedance	8 Ohm at 3500 Hz
Le (at 1kHz)	124 μH
AES Power (1)	100 W above 1,2 kHz
Program Power (2)	200 W above 1,2 kHz
Frequency Range	500 Hz - 20 kHz
Recomm. Xover Frequency	800Hz 12 dB/octave
Diaphragm Material	Titanium
Voice Coil Diameter	75 mm (3 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium
Flux Density	2,2 T

MOUNTING INFORMATION

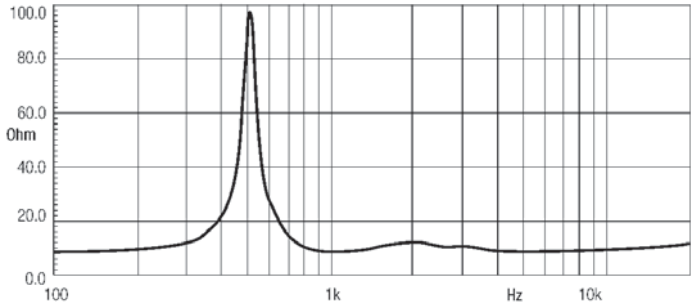
Overall diameter	131 mm (5,1 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102mm (4 in)
Total depth	99 mm (3,9 in)
Net weight	3,6 kg (7,9 lb)
Shipping weight	4 kg (8,8 lb)
CardBoard Packaging dimensions	132x132x103 mm(5,2x5,2x4,1 in)

FREQUENCY RESPONSE CURVE



ND 2080 MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE FROM THE MOUTH OF XR2064 HORN

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured on 1 W input on rated inpedance at 1 m on axis from the mouth of XR2064 horn, averaged between 1 kHz and 4 kHz.

ND2060A

HF Neodymium Driver

110 dB 1W/1m average sensitivity
2 inch exit throat
3 inch edgewound aluminum voice coil
160 W program power handling
Aluminum PEN diaphragm
Neodymium magnetic structure
Excellent thermal exchange

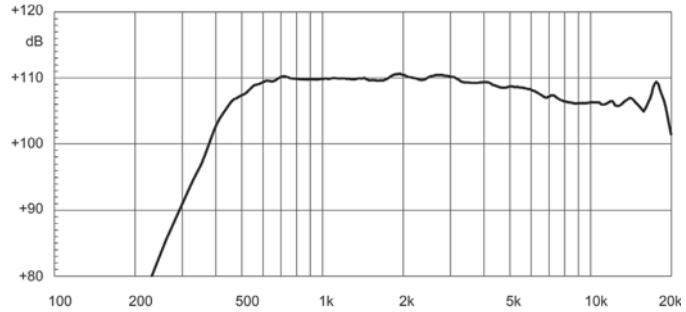
GENERAL SPECIFICATIONS

Throat Diameter	50 mm (2 in)
Rated Impedance	8 Ohm
DC Resistance	6,2 Ohm
Minimum Impedance	8 Ohm at 3500 Hz
Le (at 1kHz)	124 μH
AES Power (1)	80 W above 1,2 kHz
Program Power (2)	160 W above 1,2 kHz
Sensitivity (3) (1W@1m)	110 dB
Frequency Range	500 Hz - 20 kHz
Recomm. Xover Frequency	Above 800Hz (12 dB/oct slope)
Diaphragm Material	Aluminum - Polyethylene
Voice Coil Diameter	75 mm (3 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium

MOUNTING INFORMATION

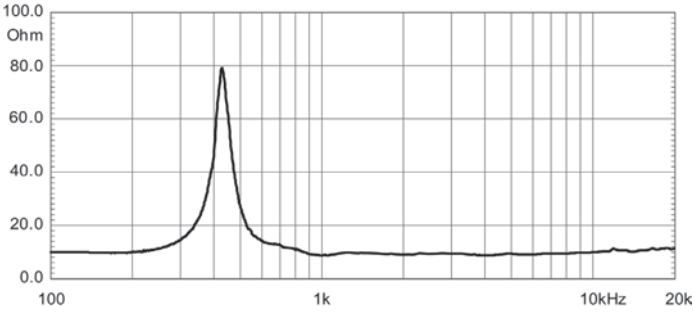
Overall diameter	132,5 mm (5,22 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102mm (4 in)
Total depth	99 mm (3,9 in)
Net weight	3,6 kg (7,9 lb)
Shipping weight	4 kg (8,8 lb)
CardBoard Packaging dimensions	132x132x103 mm(5,2x5,2x4,1 in)

FREQUENCY RESPONSE CURVE



ND2060A MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1 M DISTANCE FROM THE MOUTH OF XR2064 HORN

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured on 1 W input on rated inpedance at 1 m on axis from the mouth of XR2064 horn, averaged between 1 kHz and 4 kHz.

ND2060

HF Neodymium Driver

109 dB SPL 1W / 1m average sensitivity
2 inch exit throat
3 inch aluminum edgewound voice coil
200 W program power handling
Neodymium magnetic structure
Pure Titanium diaphragm assembly
Excellent thermal exchange

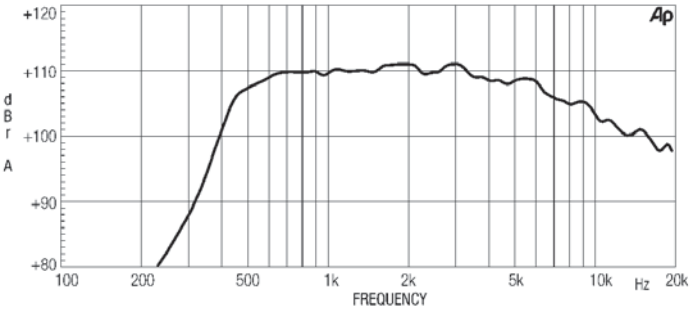
GENERAL SPECIFICATIONS

Throat Diameter	50 mm (2 in)
Rated Impedance	8 Ohm
DC Resistance	6,2 Ohm
Minimum Impedance	8 Ohm at 3500 Hz
Le (at 1kHz)	124 μH
AES Power (1)	100 W above 1,2 kHz
Program Power (2)	200 W above 1,2 kHz
Frequency Range	500 Hz - 20 kHz
Recomm. Xover Frequency	800Hz (12 dB/oct slope)
Diaphragm Material	Titanium
Voice Coil Diameter	75 mm (3 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium
Flux Density	1,9 T

MOUNTING INFORMATION

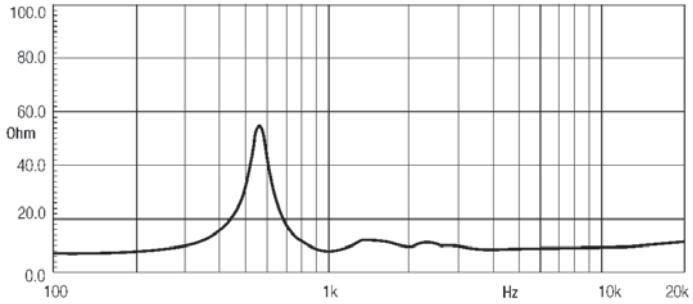
Overall diameter	132,5 mm (5,22 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102mm (4 in)
Total depth	99 mm (3,9 in)
Net weight	3,6 kg (7,9 lb)
Shipping weight	4 kg (8,8 lb)
CardBoard Packaging dimensions	132x132x103 mm(5,2x5,2x4,1 in)

FREQUENCY RESPONSE CURVE



ND2060 MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1 M DISTANCE FROM THE MOUTH OF XR2064 HORN

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured on 1 W input on rated inpedance at 1 m on axis from the mouth of XR2064 horn, averaged between 1 kHz and 4 kHz.

NSD1480N

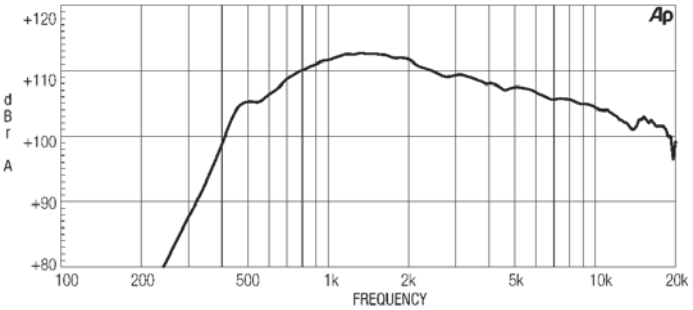
HF Neodymium Driver

111 dB 1W / 1m average sensitivity
1,4 inch exit throat
3 inch voice coil diameter
200W program power handling
Titanium Nitride Coated Dome
True Piston Motion TiN coated titanium diaphragm
High grade neodymium magnetic structure
Excellent thermal exchange

GENERAL SPECIFICATIONS

Throat Diameter	35,5 mm (1,4 in)
Rated Impedance	8 Ohm
DC Resistance	6,2 Ohm
Minimum Impedance	8 Ohm at 3500 Hz
Le (at 1kHz)	124 μH
AES Power (1)	100 W above 1,2 kHz
Program Power (2)	200 W above 1,2 kHz
Sensitivity (3)	111 dB
Frequency Range	500 Hz - 20 kHz
Recomm. Xover Frequency	above 800 Hz (12 dB/octave)
Diaphragm Material	TiN coated Titanium
Voice Coil Diameter	75 mm (3 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium

FREQUENCY RESPONSE CURVE

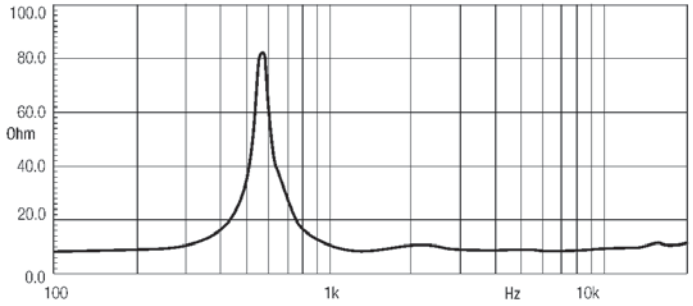


NSD1480N MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1 M DISTANCE ON AXIS FROM THE MOUTH OF XT1464 HORN

MOUNTING INFORMATION

Overall diameter	131 mm (5,1 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102mm (4 in)
Total depth	62 mm (2,5 in)
Net weight	3,1 Kg (6,98 lb)
Shipping weight	3,3 Kg (7,25 lb)
CardBoard Packaging dimensions	132x132x68 mm (5,2x5,2x2,7 in)

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured on 1 W input on rated impedance at 1 m on axis from the mouth of XT1464 horn averaged between 1 kHz and 4 kHz.

ND1480A

HF Neodymium Driver

111 dB 1W/1m average sensitivity
1,4 inch exit throat
3 inch edgewound aluminum voice coil
160 W program power handling
Aluminum PEN sandwich diaphragm
Neodymium magnetic structure
Ideal for line array applications

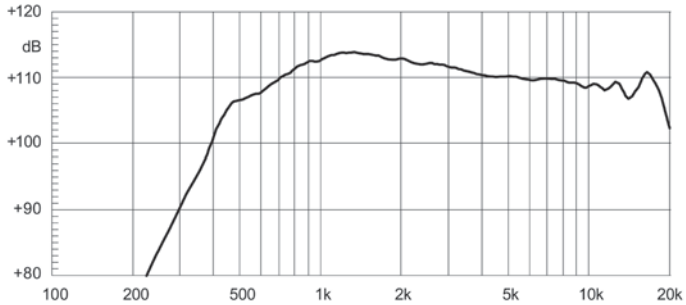
GENERAL SPECIFICATIONS

Throat Diameter	35,5 mm (1,4 in)
Rated Impedance	8 Ohm
DC Resistance	6,2 Ohm
Minimum Impedance	8 Ohm at 3500 Hz
Le (at 1kHz)	124 μH
AES Power (1)	80 W above 1,2 kHz
Program Power (2)	160 W above 1,2 kHz
Sensitivity (3) (1W@1M)	111 dB
Frequency Range	500 Hz - 20 kHz
Recomm. Xover Frequency	above 800 Hz (12 dB/octave)
Diaphragm Material	Polyethylene-Aluminum
Voice Coil Diameter	74,4 mm (2,93 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium

MOUNTING INFORMATION

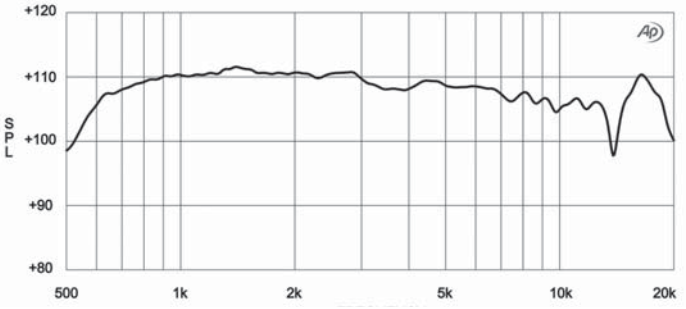
Overall diameter	131 mm (5,1 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102mm (4 in)
Total depth	62 mm (2,5 in)
Net weight	3,1 Kg (7 lb)
Shipping weight	3,3 Kg (7,3 lb)
CardBoard Packaging dimensions	132x132x68 mm (5,2x5,2x2,7 in)

FREQUENCY RESPONSE CURVE



ND1480A MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1 M DISTANCE ON AXIS FROM THE MOUTH OF XT1464 HORN

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1 mt distance on axis from the mouth of the horn, averaged between 1kHz and 4 kHz.

ND1480

HF Neodymium Driver

110 dB 1W / 1m average sensitivity
1,4 inch exit throat
3 inch edgewound aluminum voice coil
200 W program power handling
Pure Titanium diaphragm assembly
Excellent thermal exchange
Neodymium ring magnetic structure

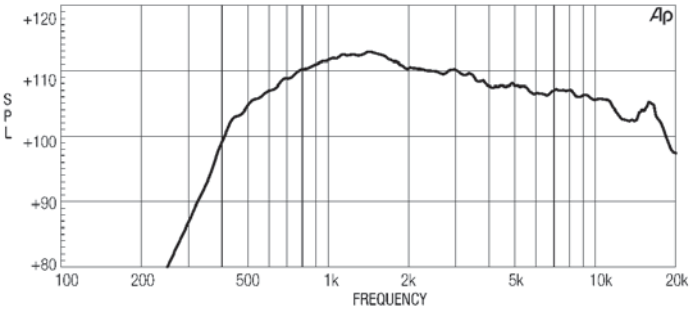
GENERAL SPECIFICATIONS

Throat Diameter	35,5 mm (1,4 in)
Rated Impedance	8 Ohm
DC Resistance	6,2 Ohm
Minimum Impedance	8 Ohm at 3500 Hz
Le (at 1kHz)	124 µH
AES Power (1)	100 W above 1,2 kHz
Program Power (2)	200 W above 1,2 kHz
Sensitivity (3)	110 dB
Frequency Range	500 Hz - 20 kHz
Recomm. Xover Frequency	above 800 Hz (12 dB/octave)
Diaphragm Material	Titanium
Voice Coil Diameter	75 mm (3 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium

MOUNTING INFORMATION

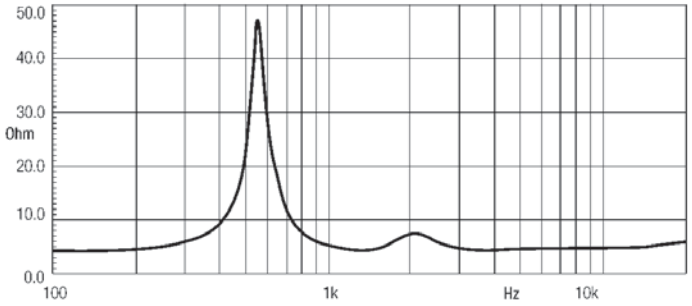
Overall diameter	131 mm (5,1 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102mm (4 in)
Total depth	62 mm (2,5 in)
Net weight	3,1 Kg (6,98 lb)
Shipping weight	3,3 Kg (7,25 lb)
CardBoard Packaging dimensions	132x132x68 mm (5,2x5,2x2,7 in)

FREQUENCY RESPONSE CURVE



ND1480 MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1 M DISTANCE ON AXIS FROM THE MOUTH OF XT1464 HORN

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is measured with a pink noise input having a 6 dB crest factor for two hours duration, per AES standard. Power calculated on minimum impedance.
2) Program power is defined as 3 dB greater than AES power rating and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured on 1 W input on rated impedance at 1 m on axis from the mouth of XT1464 horn, averaged between 1 kHz and 4 kHz.

ND1460A

HF Neodymium Driver

110 dB 1W/1m average sensitivity
1,4 inch exit throat
3 inch edgewound aluminum voice coil
160W program power handling
Aluminum PEN diaphragm
High grade neodymium magnetic structure
Excellent thermal exchange

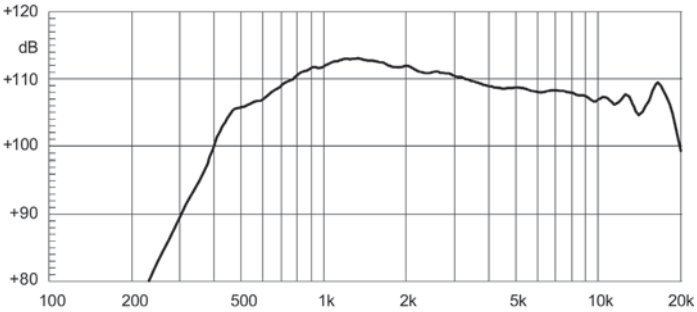
GENERAL SPECIFICATIONS

Throat Diameter	35,5 mm (1,4 in)
Rated Impedance	8 Ohm
DC Resistance	6,2 Ohm
Minimum Impedance	8 Ohm at 3500 Hz
Le (at 1kHz)	124 μH
AES Power (1)	80 W above 1,2 kHz
Program Power (2)	160 W above 1,2 kHz
Sensitivity (3) (1W@1M)	110 dB
Frequency Range	500 Hz - 20 kHz
Recomm. Xover Frequency	above 800 Hz (12 dB/octave)
Diaphragm Material	Aluminum - Polyethylene
Voice Coil Diameter	75 mm (3 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium

MOUNTING INFORMATION

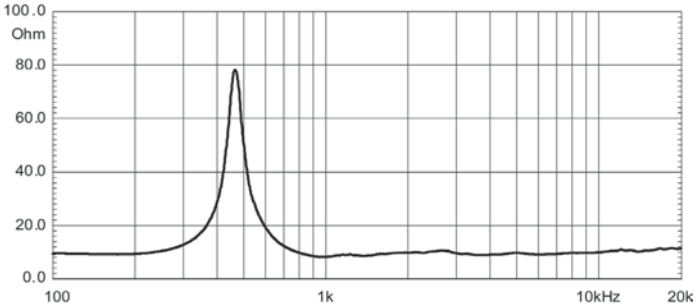
Overall diameter	132,5 mm (5,22 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102mm (4 in)
Total depth	62 mm (2,5 in)
Net weight	3,2 Kg (7,1 lb)
Shipping weight	3,4 Kg (7,5 lb)
CardBoard Packaging dimensions	132x132x68 mm (5,2x5,2x2,7 in)

FREQUENCY RESPONSE CURVE



ND1460A MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1 M DISTANCE ON AXIS FROM THE MOUTH OF XT1464 HORN

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1464 horn, averaged between 1kHz and 4 kHz.

ND1460

HF Neodymium Driver

109 dB 1W / 1m average sensitivity
1,4 inch exit throat
3 inch edgewound aluminum voice coil
200 W continuous program power handling
Pure Titanium diaphragm assembly
Neodymium magnetic structure
Excellent thermal exchange

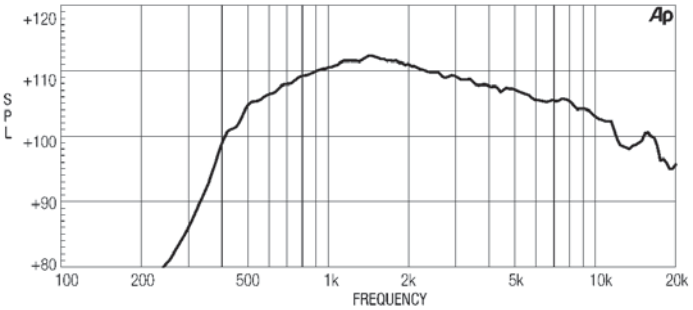
GENERAL SPECIFICATIONS

Throat Diameter	35,5 mm (1,4 in)
Rated Impedance	8 Ohm
DC Resistance	6,2 Ohm
Minimum Impedance	8 Ohm at 3500 Hz
Le (at 1kHz)	124 μH
AES Power (1)	100 W above 1,2 kHz
Program Power (2)	200 W above 1,2 kHz
Sensitivity (3)	109 dB
Frequency Range	500 Hz - 20 kHz
Recomm. Xover Frequency	above 800 Hz (12 dB/octave)
Diaphragm Material	Titanium
Voice Coil Diameter	75 mm (3 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium

MOUNTING INFORMATION

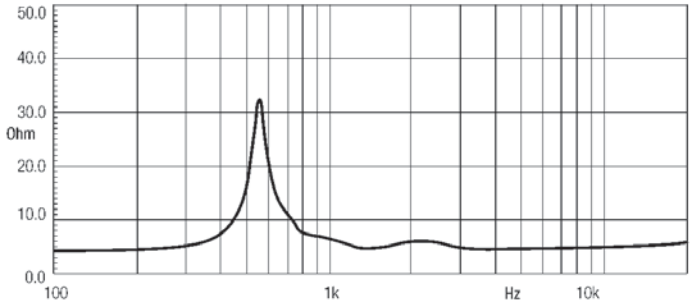
Overall diameter	132,5 mm (5,22 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102mm (4 in)
Total depth	62 mm (2,5 in)
Net weight	3,2 Kg (7,1 lb)
Shipping weight	3,4 Kg (7,5 lb)
CardBoard Packaging dimensions	132x132x68 mm (5,2x5,2x2,7 in)

FREQUENCY RESPONSE CURVE



ND1460 MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1 M DISTANCE ON AXIS FROM THE MOUTH OF XT1464 HORN

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.

Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.

Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1464 horn, averaged between 1kHz and 4 kHz.

NSD1424BTN

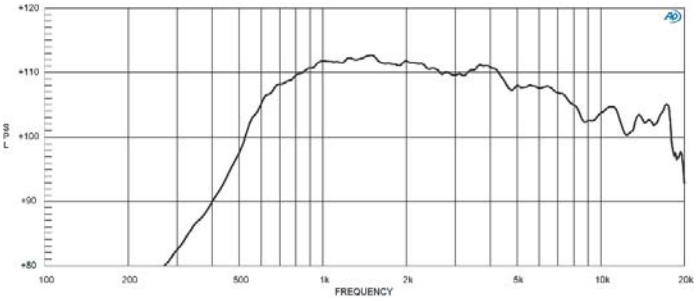
HF Neodymium Driver

110 dB 1W / 1m average sensitivity
140 W program power handling
1,4 inches exit throat
64mm (2,4 in) edgewound aluminum voice coil
True Piston Motion TiN coated titanium diaphragm
Proprietary phase plug design
High grade neodymium magnetic structure
Excellent thermal exchange

GENERAL SPECIFICATIONS

Throat Diameter	35,5 mm (1,4 in)
Rated Impedance	8 Ohm
DC Resistance	6 Ohm
Minimum Impedance	8 Ohm at 3000 Hz
AES Power (1)	70 W above 1,2 kHz
Program Power (2)	140 W above 1,2 kHz
Sensitivity (3)	110 dB
Frequency Range	800 Hz - 20 kHz
Recomm. Xover Frequency	above 1200 Hz (12 dB/octave)
Diaphragm Material	TiN coated Titanium
Voice Coil Diameter	60 mm (2,4 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium
Flux Density	1,9 T

FREQUENCY RESPONSE CURVE

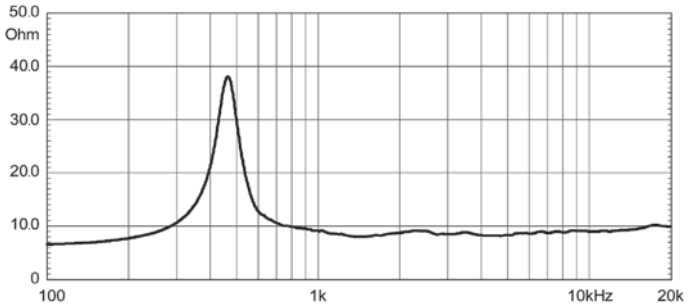


NSD1424BTN MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1 M DISTANCE ON AXIS FROM THE MOUTH OF XT1464 HORN

MOUNTING INFORMATION

Overall diameter	116,6 mm (4,59 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102mm (4 in)
Total depth	54,5 mm (2,15 in)
Net weight	1,7 Kg (3,70 lb)
Shipping weight	1,9 Kg (4,20 lb)
CardBoard Packaging dimensions	132x132x68 mm (5,2x5,2x2,7 in)

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1464 horn, averaged between 1kHz and 4 kHz.

ND1424BT

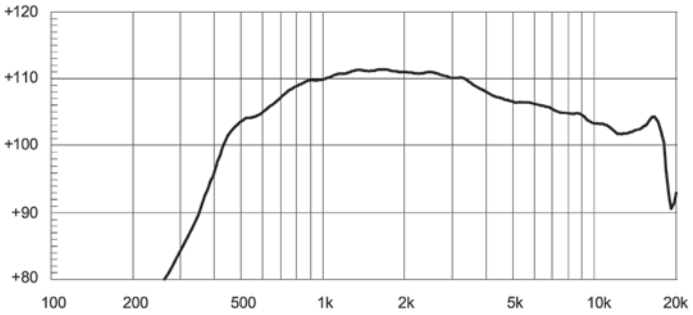
HF Neodymium Driver

109 dB 1W / 1m average sensitivity
1,4 inch exit throat
2,4 inch edgewound aluminum voice coil
140 W program power handling
Pure Titanium diaphragm assembly
Proprietary phase plug design
Excellent thermal exchange
Neodymium magnetic structure

GENERAL SPECIFICATIONS

Throat Diameter	35,5 mm (1,4 in)
Rated Impedance	8 Ohm
DC Resistance	6 Ohm
Minimum Impedance	8 Ohm at 3000 Hz
AES Power (1)	70 W above 1,2 kHz
Program Power (2)	140 W above 1,2 kHz
Sensitivity (3)	109 dB
Frequency Range	800 Hz - 20 kHz
Recomm. Xover Frequency	above 1200 Hz (12 dB/octave)
Diaphragm Material	Titanium
Voice Coil Diameter	60 mm (2,4 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium
Flux Density	1,9 T

FREQUENCY RESPONSE CURVE

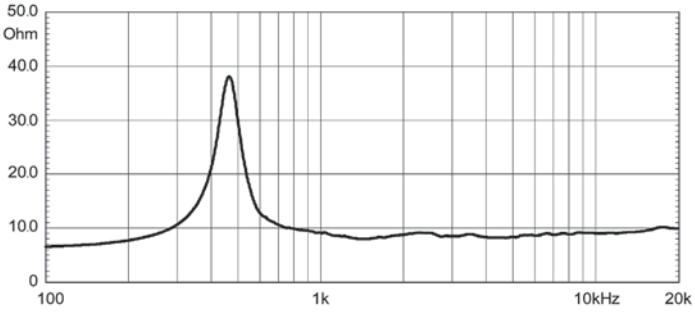


ND1424BT MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1 M DISTANCE ON AXIS FROM THE MOUTH OF XT1464 HORN

MOUNTING INFORMATION

Overall diameter	116,6 mm (4,59 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102mm (4 in)
Total depth	54,5 mm (2,15 in)
Net weight	1,7 Kg (3,70 lb)
Shipping weight	1,9 Kg (4,20 lb)
CardBoard Packaging dimensions	132x132x68 mm (5,2x5,2x2,7 in)

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1464 horn, averaged between 1kHz and 4 kHz.

NSD1095N

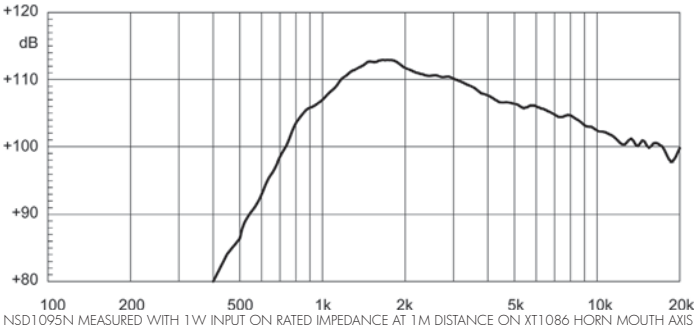
HF Neodymium Driver

110 dB SPL 1W / 1m average sensitivity
1 inch exit throat
1,75 inch voice coil diameter
100W program power handling
True Piston Motion TiN coated titanium diaphragm
Neodymium ring magnetic structure
Proprietary phase plug design
Excellent thermal exchange

GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Rated Impedance	8 Ohm
DC Resistance	5,3 Ohm
Minimum Impedance	7 Ohm at 4000Hz
Le (at 1kHz)	67 μH
AES Power (1)	50 W above 1,6 kHz
Program Power (2)	100 W above 1,6 kHz
Sensitivity (3)	110 dB
Frequency Range	1600Hz - 20kHz
Recomm. Xover Frequency	1600Hz (12dB/oct slope)
Diaphragm Material	TiN coated Titanium
Voice Coil Diameter	44,4 mm (1 3/4 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium

FREQUENCY RESPONSE CURVE

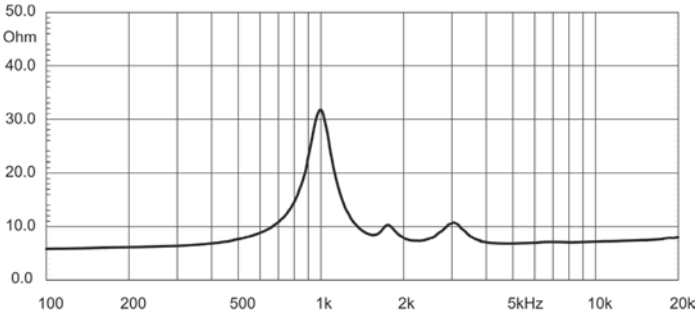


NSD1095N MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE ON XT1086 HORN MOUTH AXIS

MOUNTING INFORMATION

Overall diameter	93 mm (3,7 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø 76 mm (3 in)
Bolt circle diameter	76 mm (3 in)
Total depth	53 mm (2,1 in)
Net weight	1,2 Kg (2,6 lb)
Shipping weight	1,3 Kg (2,9 lb)
CardBoard Packaging dimensions	97x97x58 mm (3,8x3,8x2,3 in)

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1086 horn averaged between 1 kHz and 4 kHz.

ND1090

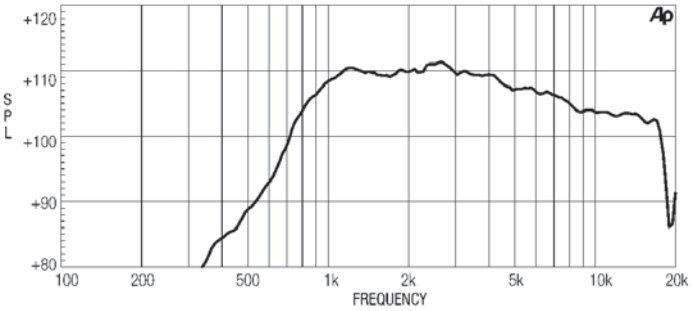
HF Neodymium Driver

110 dB 1W / 1m average sensitivity
1 inch exit throat
44 mm (1 3/4 in) edgewound aluminum voice coil
100 Watt program power handling
Titanium dome over PEN suspension
Proprietary phase plug design
Neodymium ring magnetic structure
Excellent thermal exchange

GENERAL SPECIFICATIONS

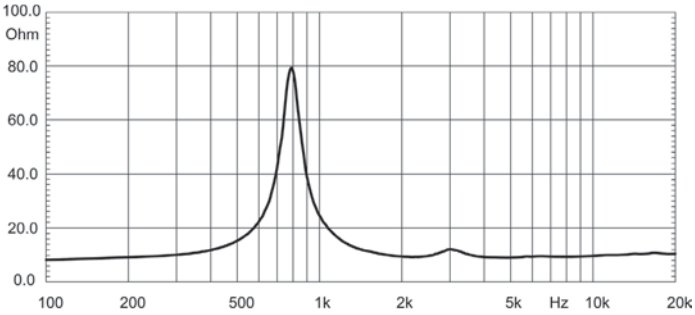
Throat Diameter	25,4 mm (1 in)
Rated Impedance	8 Ohm
DC Resistance	5,3 Ohm
Minimum Impedance	7 Ohm at 4000Hz
Le (at 1kHz)	120 μH
AES Power (1)	50 W above 1,6 kHz
Program Power (2)	100 W above 1,6 kHz
Sensitivity (3)	110 dB
Frequency Range	1600Hz - 20kHz
Recomm. Xover Frequency	1600Hz (12dB/oct slope)
Diaphragm Material	Titanium - PEN
Voice Coil Diameter	44,4 mm (1 3/4 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium

FREQUENCY RESPONSE CURVE



ND1090 MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE ON XT1086 HORN MOUTH AXIS

FREE AIR IMPEDANCE MAGNITUDE CURVE



MOUNTING INFORMATION

Overall diameter	93 mm (3,7 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø 76 mm (3 in)
Bolt circle diameter	76 mm (3 in)
Total depth	53 mm (2,1 in)
Net weight	1,2 Kg (2,6 lb)
Shipping weight	1,3 Kg (2,9 lb)
CardBoard Packaging dimensions	97x97x58 mm (3,8x3,8x2,3 in)

NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1086 horn, averaged between 1 kHz and 4 kHz.

ND1085

HF Neodymium Driver

1 inch exit throat
109 dB 1W / 1m average sensitivity
80 Watt program power handling
44 mm (1 3/4 in) edgewound aluminum voice coil
PEN diaphragm for extended frequency response
Proprietary phase plug design
Neodymium ring magnet for excellent transient response
Excellent thermal exchange

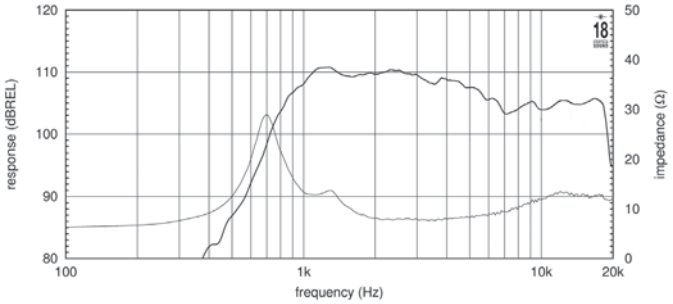
GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Rated Impedance	8 Ohm
DC Resistance	5,2 Ohm
Minimum Impedance	7,8 Ohm at 4000Hz
Le (at 1kHz)	66 μH
AES Power (1)	40 W above 1,6 kHz
Program Power (2)	80 W above 1,6 kHz
Sensitivity (3)	109 dB
Frequency Range	1600Hz - 20kHz
Recomm. Xover Frequency	1600Hz (12dB/oct slope)
Diaphragm Material	Titanium - PEN
Voice Coil Diameter	44,4 mm (1 3/4 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium

MOUNTING INFORMATION

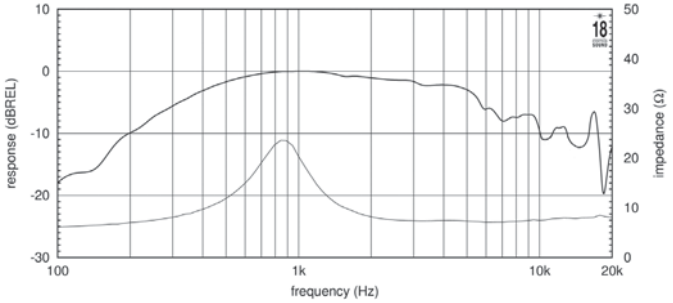
Overall diameter	92 mm (3,6 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø 76 mm (3 in)
Bolt circle diameter	76 mm (3 in)
Total depth	53 mm (2,1 in)
Net weight	1,1 Kg (2,4 lb)
Shipping weight	1,3 Kg (2,9 lb)
CardBoard Packaging dimensions	140x121x64 mm (5.5 x 4.8 x 2.5 in)

FREE AIR FREQUENCY RESPONSE CURVE AND IMPEDANCE MAGNITUDE CURVE



ND1085 FREQUENCY RESPONSE MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE ON CENTRAL FORWARD AXIS FROM THE MOUTH OF REFERENCE HORN. THIN LINE REPRESENTS IMPEDANCE MEASURED IN SAME CONDITIONS.

FREQUENCY RESPONSE CURVE AND IMPEDANCE MAGNITUDE CURVE ON PLAIN WAVE TUBE



ND1085 FREQUENCY RESPONSE MEASURED WITH 1W INPUT ON RATED IMPEDANCE ON CENTRAL FORWARD AXIS IN A REFLECTION FREE ENVIRONMENT. THIN LINE REPRESENTS IMPEDANCE MEASURED IN SAME CONDITIONS

NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1086 horn, averaged between 1 kHz and 4 kHz.

ND1070

HF Neodymium Driver

109 dB SPL 1W / 1m average sensitivity
1 inch exit throat
44 mm (1 3/4 inch) edgewound aluminum voice coil
100 Watt program power handling
Titanium dome over polyester suspension
Proprietary phase plug design
Neodymium magnetic structure
Excellent thermal exchange

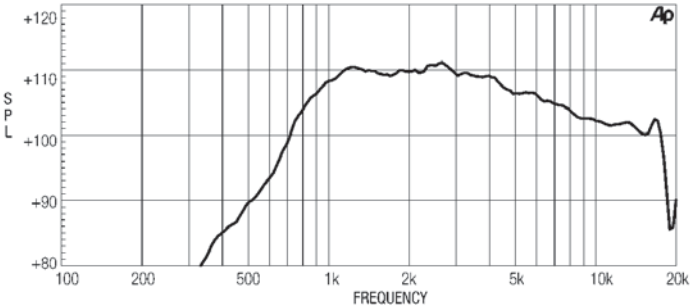
GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Rated Impedance	8 Ohm
DC Resistance	5,3 Ohm
Minimum Impedance	7 Ohm at 4000Hz
Le (at 1kHz)	67 μH
AES Power (1)	50 W above 1,6 kHz
Program Power (2)	100 W above 1,6 kHz
Sensitivity (3)	109 dB
Frequency Range	1600Hz - 20kHz
Recomm. Xover Frequency	1600Hz (12dB/oct slope)
Diaphragm Material	Titanium - Polyethilene
Voice Coil Diameter	44,4 mm (1 3/4 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium

MOUNTING INFORMATION

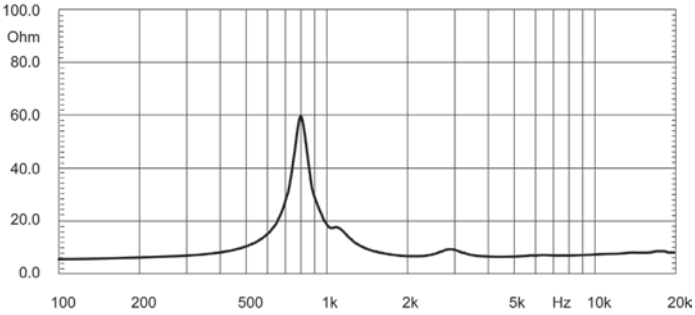
Overall diameter	98 mm (3,9 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø 76 mm (3 in)
Bolt circle diameter	76 mm (3 in)
Total depth	53 mm (2,1 in)
Net weight	1,1 Kg (2,4 lb)
Shipping weight	1,2 Kg (2,6 lb)
CardBoard Packaging dimensions	97x97x58 mm (3,8x3,8x2,3 in)

FREQUENCY RESPONSE CURVE



ND1070 MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE ON XT1086 HORN MOUTH AXIS

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1086 horn averaged between 1kHz and 4kHz.

ND1018BT

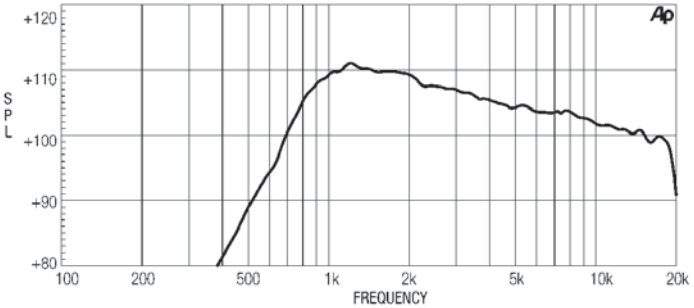
HF Neodymium Transducer

1 inch exit throat
108 dB SPL 1W / 1m average sensitivity
44 mm (1 3/4 inch) voice coil
100 Watt program power handling
Titanium diaphragm
Neodymium magnet structure
Proprietary Phase Plug design

GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Rated Impedance	8 Ohm
DC Resistance	5,3 Ohm
Minimum Impedance	7 Ohm at 4000 Hz
Le (at 1kHz)	67 μH
AES Power (1)	50 W above 1,6 kHz
Program Power (2)	100 W above 1,6 kHz
Sensitivity (3)	108 dB
Frequency Range	1600Hz - 20kHz
Recomm. Xover Frequency	1600Hz (12dB/oct slope)
Diaphragm Material	Titanium
Voice Coil Diameter	44,4 mm (1 3/4 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium

FREQUENCY RESPONSE CURVE

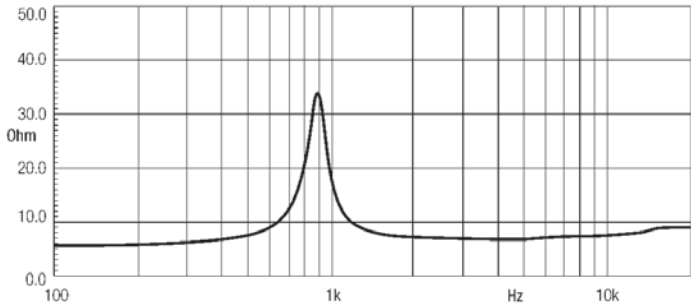


ND1018BT MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE ON XT1086 HORN MOUTH AXIS

MOUNTING INFORMATION

Overall diameter	98 mm (3,9 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø 76 mm (3 in)
Bolt circle diameter	76 mm (3 in)
Total depth	50 mm (2 in)
Net weight	1 Kg (2,2 lb)
Shipping weight	1,2 Kg (2,6 lb)
CardBoard Packaging dimensions	97x97x58 mm (3,8x3,8x2,3 in)

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1086 horn averaged between 1kHz and 4kHz.

ND1050

HF Neodymium Transducer

110 dB SPL 1W / 1m average sensitivity
1 inch exit throat
44mm (1 3/4 inch) voice coil diameter
100 Watt program power handling
Neodymium magnet structure
Titanium dome over PEN suspension
Ultra compact size - 75mm external diameter
Proprietary phase plug design
Ideal for multiple HF line arrays

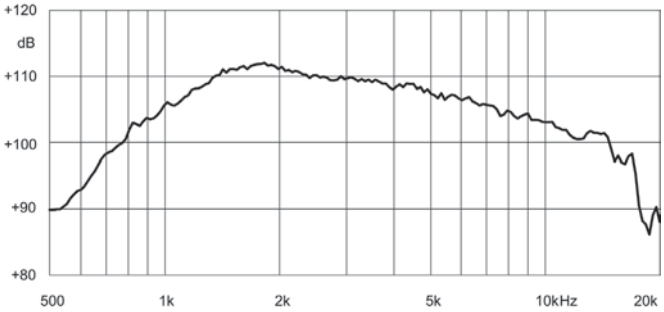
GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Rated Impedance	8 Ohm
DC Resistance	5,3 Ohm
Minimum Impedance	6,9 Ohm at 2000Hz
Le (at 1kHz)	67 µH
AES Power (1)	50 W above 1,6 kHz
Program Power (2)	100 W above 1,6 kHz
Sensitivity (3)	110 dB
Frequency Range	1600Hz - 20kHz
Recomm. Xover Frequency	1600Hz (12dB/oct slope)
Diaphragm Material	Titanium - PEN
Voice Coil Diameter	44,4 mm (1 3/4 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium

MOUNTING INFORMATION

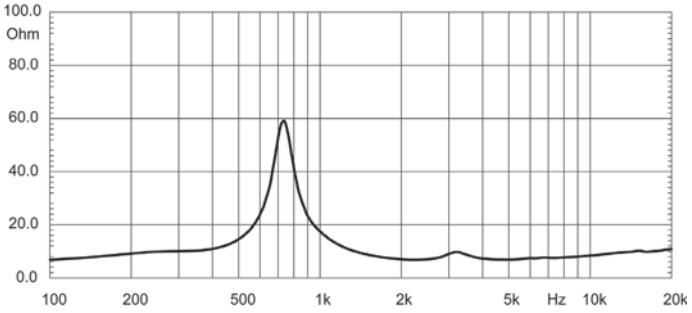
Overall diameter	75 mm (3 in)
N. of mounting holes and bolt	3 M5 holes 120°
Bolt circle diameter	57 mm (2.2 in)
Total depth	41 mm (1.6 in)
Net weight	0,65 kg (1.45 lb)
Shipping weight	0,8 Kg (1,75 lb)
CardBoard Packaging dimensions	97x97x58 mm (3,8x3,8x2,3 in)

FREQUENCY RESPONSE CURVE



ND1050 MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE ON XT1086 HORN MOUTH AXIS.

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1086 horn averaged between 1kHz and 4kHz.

ND1030

HF Neodymium Driver

107 dB SPL 1W / 1m average sensitivity
1 inch exit throat
34,4 mm (1 1/3 inch) voice coil diameter
60 Watt program power handling
Pure Titanium diaphragm
Proprietary phase plug design
Neodymium magnetic structure

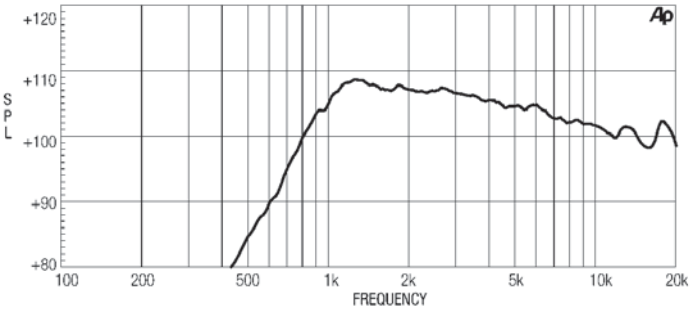
GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Rated Impedance	8 Ohm
DC Resistance	5,8 Ohm
Minimum Impedance	6,5 Ohm at 5000Hz
Le (at 1kHz)	54 μH
AES Power (1)	30 W above 2 kHz
Program Power (2)	60 W above 2 kHz
Sensitivity (3)	107 dB
Frequency Range	1800Hz - 20kHz
Recomm. Xover Frequency	1800Hz 12dB/oct slope
Diaphragm Material	Titanium
Voice Coil Diameter	34,4 mm (1 1/3 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Neodymium

MOUNTING INFORMATION

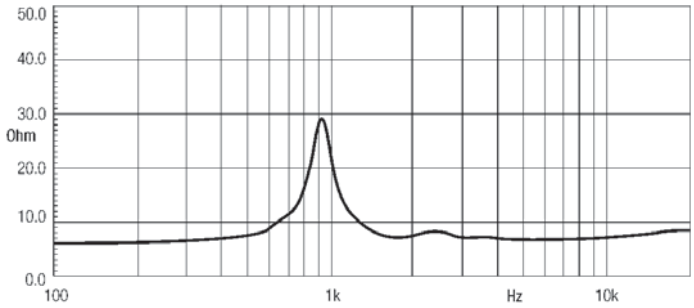
Overall diameter	85 mm (3,3 in)
N. of mounting holes and bolt	2 M5 holes on Ø 76 mm (3 in)
Bolt circle diameter	58 mm (2,3 in
Total depth	40,5 mm (1,6 in)
Net weight	0,8 kg (1,75 lb)
Shipping weight	0,9 Kg (1,97 lb)
CardBoard Packaging dimensions	97x97x58 mm (3,8x3,8x2,3 in)

FREQUENCY RESPONSE CURVE



ND1030 MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE ON XT1086 HORN MOUTH AXIS.

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1086 horn, averaged between 1kHz and 4 kHz.

HF DRIVERS - FERRITE

HD2080T

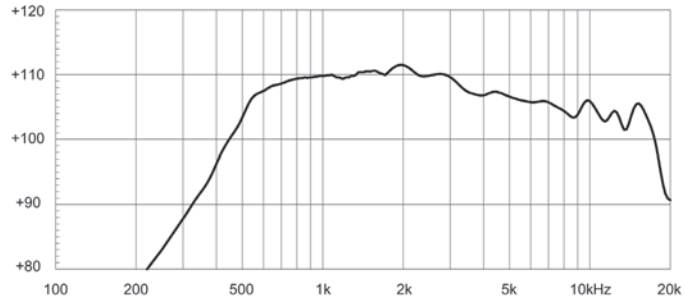
HF Compression Driver

109 dB SPL 1W / 1m average sensitivity
2 inch exit throat
3 inch edgewound aluminum voice coil
200W program power handling
Polyethilene - Titanium diaphragm assembly
Copper shorting ring on pole pieces

GENERAL SPECIFICATIONS

Throat Diameter	50 mm (2 in)
Rated Impedance	8 Ohm
DC Resistance	6,2 Ohm
Minimum Impedance	8 Ohm at 3500Hz
AES Power (1)	100W above 1,2 kHz
Program Power (2)	200W above 1,2 kHz
Sensitivity (3)	109 dB
Frequency Range	500Hz - 20kHz
Recomm. Xover Frequency	above 800Hz (12dB/oct slope)
Diaphragm Material	Titanium - Polyethilene
Voice Coil Diameter	75 mm (3 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Ferrite
Flux Density	1,8 T
BL Factor	12,8 N/A
Polarity	Positive voltage on + terminal gives positive pressure in the throat

FREQUENCY RESPONSE CURVE

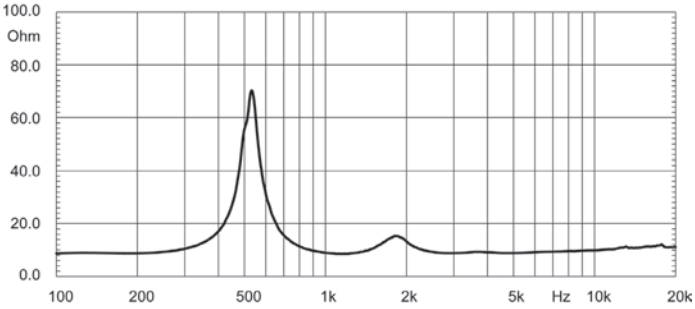


HD2080T MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE ON XR2064 HORN MOUTH AXIS

MOUNTING INFORMATION

Overall diameter	169 mm (6,65 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø 102 mm (4 in)
Bolt circle diameter	102 mm (4 in)
Total depth	75,4 mm (3 in)
Net weight	5,3 Kg (11,60 lb)
Shipping weight	5,5 Kg (12,10 lb)
CardBoard Packaging dimensions	170x170x80 mm (6,7x6,7x3,2 in)

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XR2064 horn, averaged between 1kHz and 4 kHz.

HD1480T

HF Compression Driver

109 dB SPL 1W / 1m average sensitivity
1.4 inch exit throat
3 inch edgewound aluminum voice coil
200W program power handling
Polyethilene - Titanium diaphragm assembly
Copper shorting ring on pole pieces
Available also in 2" exit version

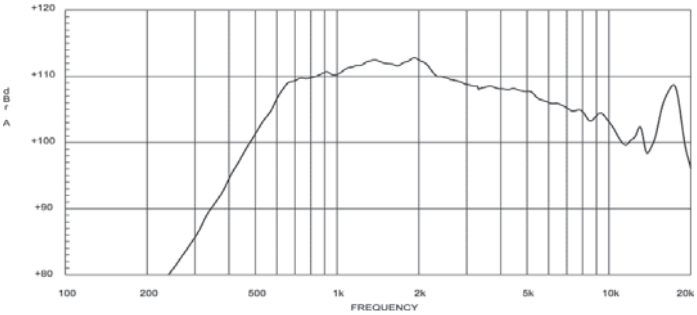
GENERAL SPECIFICATIONS

Throat Diameter	35.5 mm (1.4 in)
Rated Impedance	8 Ohm
DC Resistance	6,2 Ohm
Minimum Impedance	8 Ohm at 3500Hz
AES Power (1)	100W above 1,2 kHz
Program Power (2)	200W above 1,2 kHz
Sensitivity (3)	109 dB
Frequency Range	500Hz - 20kHz
Recomm. Xover Frequency	above 800Hz (12 dB/oct slope)
Diaphragm Material	Titanium - Polyethilene
Voice Coil Diameter	75 mm (3 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Ferrite
Flux Density	1,8 T
BL Factor	12,8 N/A
Polarity	Positive voltage on + terminal gives positive pressure in the throat

MOUNTING INFORMATION

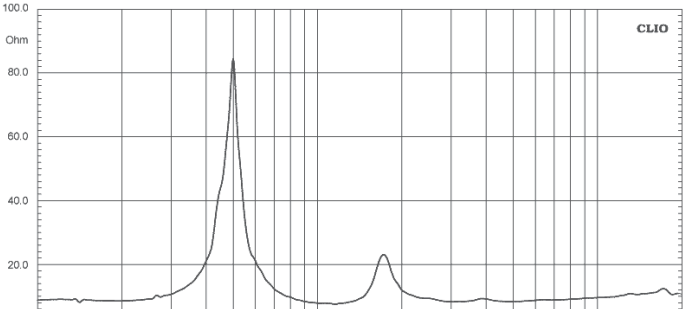
Overall diameter	169 mm (6,65 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø 102 mm (4 in)
Bolt circle diameter	102 mm (4 in)
Total depth	75,4 mm (3 in)
Net weight	5,3 Kg (11,60 lb)
Shipping weight	5,5 Kg (12,10 lb)
CardBoard Packaging dimensions	170x170x80 mm (6,7x6,7x3,2 in)

FREQUENCY RESPONSE CURVE



HD1480T MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE ON XR1464 HORN MOUTH AXIS

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of the horn, averaged between 1kHz and 4 kHz.

HD2000

HIGH FREQUENCY DRIVER

Best performance to price 1.4" exit driver on the market
108 dB 1W / 1m average sensitivity
1.4 inch throat exit
2.4 inch edgewound aluminum voice coil
140 W program power handling
Pure Titanium diaphragm assembly
Proprietary phase plug design
HF copper sleeve for reduced distortion and increased output
Available also in 2" exit version

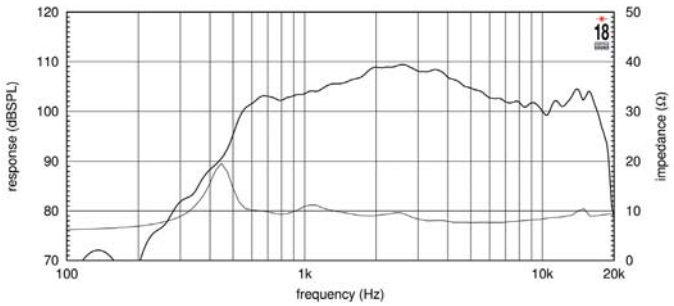
GENERAL SPECIFICATIONS

Throat Diameter	35,5 mm (1,4 in)
Rated Impedance	8 Ohm
DC Resistance	5,9 Ohm
Minimum Impedance	7,6 Ohm at 5100 Hz
Continuos Power (1)	70 W
Maximum Program Power (2)	140W
Sensitivity (3)	108 dB
Frequency Range	1000 Hz - 20 kHz
Minimum X-over Frequency	1100 Hz (24 dB/Oct High-Pass Filter)
Diaphragm Material	Titanium
Voice Coil Diameter	61mm (2,4 in)
Voice Coil Winding Material	Edge-wound aluminum Ribbon
Magnet Material	Ferrite
Flux Density	1,6 T

MOUNTING INFORMATION

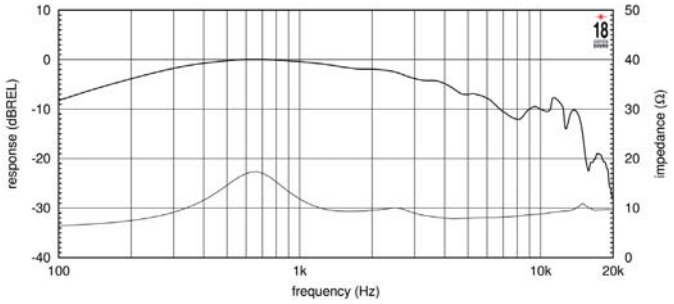
Overall diameter	145 mm (5,7 in)
N. of mounting holes and bolt	4xM6 holes at 90° Ø 102 mm (4 in)
Bolt circle diameter	102 mm (4,02 in)
Total depth	65 mm (2,56 in)
Net weight	3.4 Kg (7,50 lb)
Shipping weight	3.6 Kg (7,94 lb)
CardBoard Packaging dimensions	188x170x85 mm (7,40 x 6,69 x 3,34 in)

FREE AIR FREQUENCY RESPONSE CURVE AND IMPEDANCE MAGNITUDE CURVE



FREQUENCY RESPONSE MEASURED WITH 2,83 V INPUT ON AXIS AT 1 METER DISTANCE FROM THROAT OF XR1464 HORN. IMPEDANCE MEASURED ON SAME HORN

FREQUENCY RESPONSE CURVE AND IMPEDANCE MAGNITUDE CURVE ON PLAIN WAVE TUBE



NOTES

1) Continous Power is defined as a level that is 3 dB greater than the one measured with the new AES2-2012 standard, using continous pink noise having 12 dB crest factor for 2 hours, mounted on XR1464 horn.
2) Sensitivity represent the averaged value of acoustic output as measured on the central forward axis of a XR1464 horn, at a distance 1 m from horn mouth, when connected to 2,83 V sine wave swept between1000-4000 Hz.
3) Minimum crossover frequency suggested with 4 order high pass filter. By using a 2nd order filter (12 dB / oct) 1.5 kHz is minimum recommended crossover frequency.

HD1050

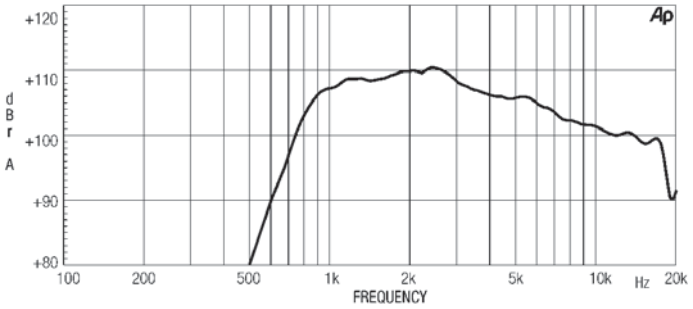
HF Compression Driver

107 dB SPL 1W / 1m average sensitivity
1 inch exit throat
44 mm (1 3/4 inch) voice coil diameter
100 Watt program power handling
Titanium dome over PEN suspension
Proprietary phase plug design

GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Rated Impedance	8 Ohm
DC Resistance	5,3 Ohm
Minimum Impedance	7 Ohm at 4000Hz
AES Power (1)	50 W above 1,6 kHz
Program Power (2)	100 W above 1,6 kHz
Sensitivity (3)	107 dB
Frequency Range	1600Hz - 20kHz
Recomm. Xover Frequency	1400Hz (12dB/oct slope)
Diaphragm Material	Titanium - PEN
Voice Coil Diameter	44,4 mm (1 3/4 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Ferrite
Flux Density	1,6 T
BL Factor	7,4 N/A
Polarity	Positive voltage on + terminal gives positive pressure in the throat

FREQUENCY RESPONSE CURVE

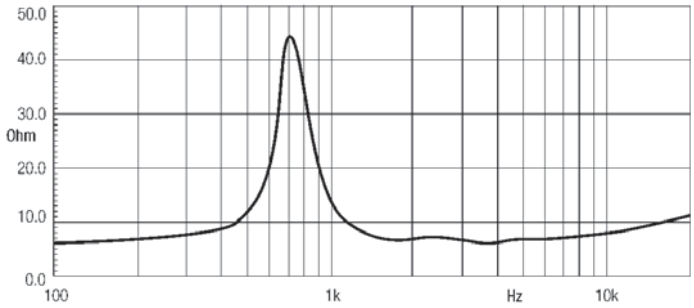


HD1050 MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE ON XT1086 HORN MOUTH AXIS

MOUNTING INFORMATION

Overall diameter	110 mm (4,3 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø 76 mm (3 in)
Bolt circle diameter	76 mm (3 in)
Total depth	60,5 mm (2,38 in)
Net weight	1,8 Kg (4 lb)
Shipping weight	1,9 Kg (4,22 lb)
CardBoard Packaging dimensions	110x110x63 mm (4,3x4,3x2,5 in)

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1086 horn, averaged between 1kHz and 4 kHz.

HD1040

HF Compression Driver

1 inch exit throat
107 dB SPL 1W / 1m average sensitivity
44mm (1 3/4 inch) voice coil diameter
80 W program power handling
Treated polyethylene diaphragm
Proprietary phase plug design

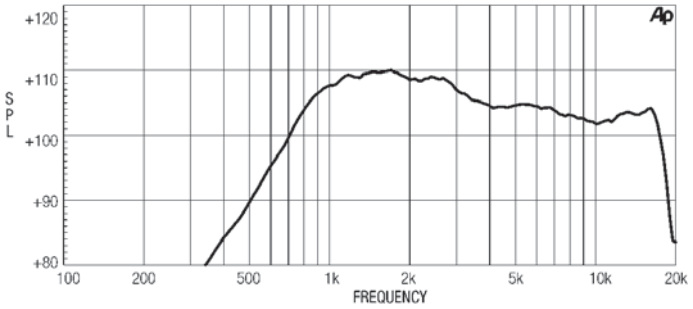
GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Rated Impedance	8 Ohm
DC Resistance	5,3 Ohm
Minimum Impedance	7 Ohm at 4000Hz
AES Power (1)	40 W above 1,6 kHz
Program Power (2)	80 W above 1,6 kHz
Sensitivity (3)	107 dB
Frequency Range	1600Hz - 20kHz
Recomm. Xover Frequency	1600Hz (12dB/oct slope)
Diaphragm Material	Treated polyethylene
Voice Coil Diameter	44,4 mm (1 3/4 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Ferrite
Flux Density	1,6 T
BL Factor	7,4 N/A
Polarity	Positive voltage on + terminal gives positive pressure in the throat

MOUNTING INFORMATION

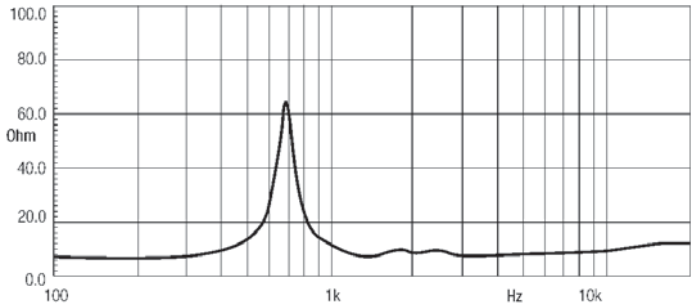
Overall diameter	110 mm (4,3 in)
N. of mounting holes and bolt	4 M6 holes 90° at Ø 76 mm (3 in)
Bolt circle diameter	76 mm (3 in)
Total depth	60,5 mm (2,38 in)
Net weight	1,8 Kg (4 lb)
Shipping weight	1,9 Kg (4,22 lb)
CardBoard Packaging dimensions	110x110x63 mm (4,3x4,3x2,5 in)

FREQUENCY RESPONSE CURVE



HD1040 MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE ON XT1086 HORN MOUTH AXIS

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1086 horn, averaged between 1kHz and 4 kHz.

HD1000

NEW

HIGH FREQUENCY DRIVER

Best performance to price 1" exit driver on the market
109 dB 1W / 1m average sensitivity
1 inch throat exit
44mm inch edgewound aluminum voice coil
100 W program power handling
Titanium-PEN diaphragm assembly
Proprietary phase plug design

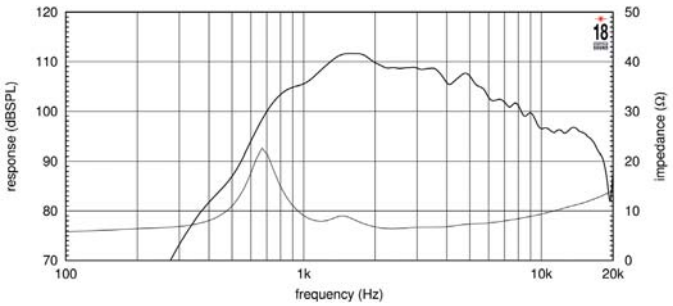
GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Rated Impedance	8 Ohm
DC Resistance	5,3 Ohm
Minimum Impedance	6,7 Ohm at 2400 Hz
Continuos Power (1)	50 W
Maximum Program Power (2)	100 W
Sensitivity (3) (2)	109 dB
Frequency Range	1600 - 20000 Hz
Minimum X-over Frequency	1600 Hz (24 dB/Oct High-Pass Filter)
Diaphragm Material	Titanium - PEN
Voice Coil Diameter	44,4 mm (1,7 in)
Voice Coil Winding Material	Edgewound Aluminum Ribbon
Magnet Material	Ferrite
Flux Density	1,4 T

MOUNTING INFORMATION

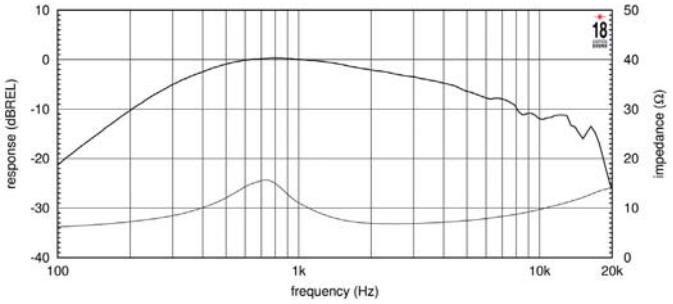
Overall diameter	100 mm (3,9 in)
N. of mounting holes and bolt	4xM6 holes at 90° Ø 102 mm (4 in)
Bolt circle diameter	76 mm (2,99 in)
Total depth	61 mm (2,40 in)
Net weight	1.5 kg (3.31 lb)
Shipping weight	1.6 kg (3.53 lb)
CardBoard Packaging dimensions	134x120x74 mm (5.28x4.72x2.91 in)

FREE AIR FREQUENCY RESPONSE CURVE AND IMPEDANCE MAGNITUDE CURVE



FREQUENCY RESPONSE MEASURED WITH 2,83 V INPUT ON AXIS AT 1 METER DISTANCE FROM THROAT OF XT1086 HORN. IMPEDANCE MEASURED ON SAME HORN

FREQUENCY RESPONSE CURVE AND IMPEDANCE MAGNITUDE CURVE ON PLAIN WAVE TUBE



NOTES

1) Continous Power is defined as a level that is 3 dB greater than the one measured with the new AES2-2012 standard, using continous pink noise having 12 dB crest factor for 2 hours, mounted on XT1086 horn.
2) Sensitivity represent the averaged value of acoustic output as measured on the central forward axis of a XT1086 horn, at a distance 1 m from horn mouth, when connected to 2,83 V sine wave swept between 1000-4000 Hz.
3) Minimum crossover frequency suggested with 4 order high pass filter. By using a 2nd order filter (12 dB / oct) 2.2 kHz is minimum recommended crossover frequency.

HD1030

HF Compression Driver

1 inch exit throat
106 dB SPL 1W / 1m average sensitivity
34,4 mm (1 1/3 inch) voice coil diameter
60 Watt program power handling
Titanium diaphragm
Proprietary phase plug design
Usable in two way or multiway systems

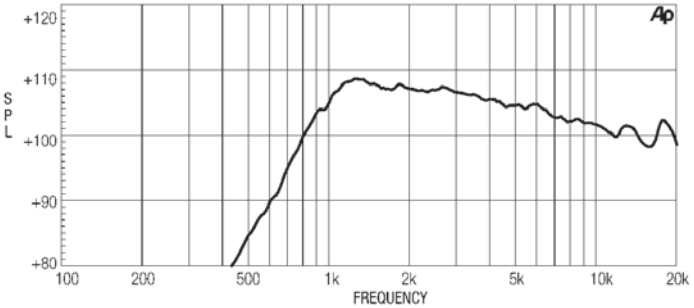
GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Rated Impedance	8 Ohm
DC Resistance	5,8 Ohm
Minimum Impedance	6,5 Ohm at 5000Hz
Le (at 1kHz)	54 μH
AES Power (1)	30 W above 2 kHz
Program Power (2)	60 W above 2 kHz
Sensitivity (3) (1W@1m)	106 dB
Frequency Range	1800Hz - 20kHz
Recomm. Xover Frequency	1800Hz 12dB/oct slope
Diaphragm Material	Titanium
Voice Coil Diameter	34,4 mm (1 1/3 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Ferrite
Flux Density	1,5 T
BL Factor	5 N/A

MOUNTING INFORMATION

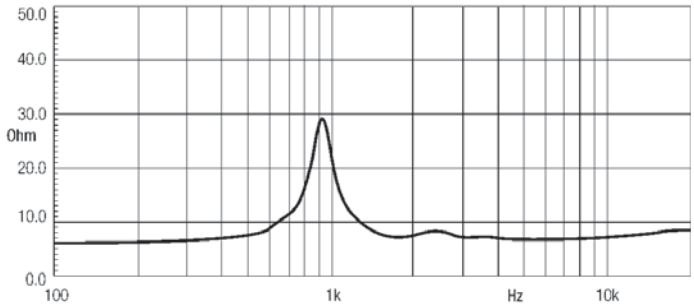
Overall diameter	91 mm (3.6 in)
N. of mounting holes and bolt	4 M5 holes on Ø 76 mm (3 in)
Bolt circle diameter	76 mm (3 in)
Total depth	51 mm (2 in)
Net weight	1 kg (2.18 lb)
Shipping weight	1.2 Kg (2.61 lb)
CardBoard Packaging dimensions	97x97x58 mm (3,8x3,8x2,3 in)

FREQUENCY RESPONSE CURVE



HD1030 MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE ON XT1086 HORN MOUTH AXIS

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1086 horn, averaged between 1kHz and 4 kHz.

HD125

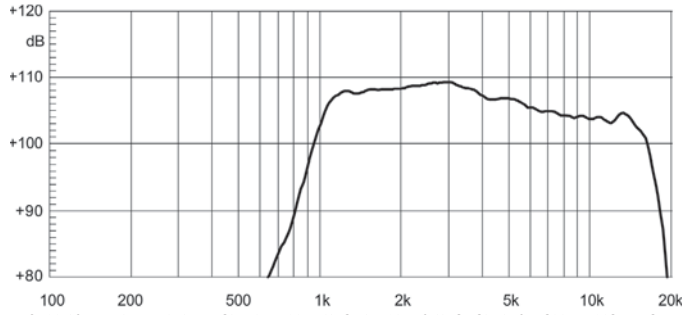
HF Compression Driver

1 inch exit throat
109 dB SPL 1W / 1m average sensitivity
25,4 mm (1 in) edgewound aluminum voice coil
50 Watt program power handling
Low weight, easy mounting and handling structure
Usable in two way or multiway systems

GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Rated Impedance	8 Ohm
DC Resistance	5,7 Ohm
Minimum Impedance	8 Ohm 5000Hz
AES Power (1)	25 W above 2,5 kHz
Program Power (2)	50 W above 2,5 kHz
Sensitivity (3)	109 dB
Frequency Range	2 kHz - 18 kHz
Recomm. Xover Frequency	2500 Hz (12dB/oct slope)
Diaphragm Material	Polyester
Voice Coil Diameter	25,4 mm (1 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Ferrite
Flux Density	1,65 T
BL Factor	3,5 N/A
Polarity	Positive voltage on + terminal gives positive pressure in the throat

FREQUENCY RESPONSE CURVE

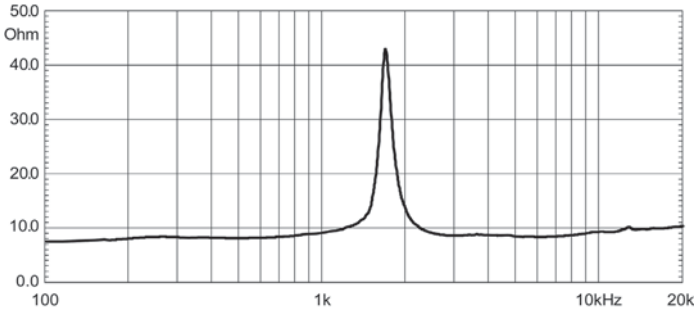


HD125 MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1MT DISTANCE ON AXIS FROM THE MOUTH OF HORN XT120

MOUNTING INFORMATION

Overall diameter	87 mm (3,4 in)
N. of mounting holes and bolt	2 M5 at 180 degrees
Bolt circle diameter	76 mm (3 in)
Total depth	46 mm (1,8 in)
Net weight	0,8 Kg (1,77 lb)
Shipping weight	0,9 Kg (1,99 lb)
CardBoard Packaging dimensions	90x90x70 mm(3,5x3,5x2,8 in)

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT120 horn, averaged between in the 3 kHz octave band

XD125

HF Compression Driver

1 inch exit throat
108 dB SPL 1W/1m average sensitivity
25,4 mm (1 in) edgewound aluminum voice coil
50 Watt program power handling
Low weight, easy mounting and handling structure
Usable in two way or multiway systems
90° x 60° coverage Constant directivity pattern
Unique Eighteen Sound elliptical shape

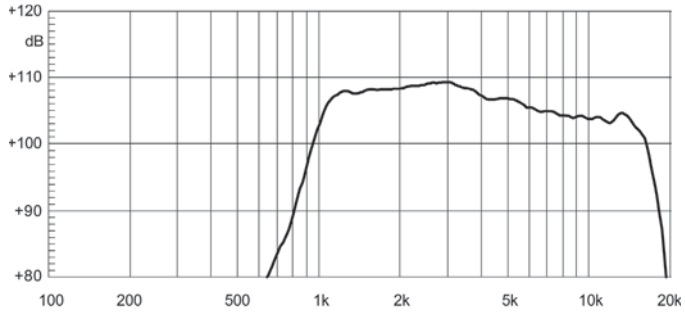
GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Rated Impedance	8 Ohm
DC Resistance	5,7 Ohm
Minimum Impedance	8 Ohm 5000Hz
AES Power (1)	25 W above 2,5 kHz
Program Power (2)	50 W above 2,5 kHz
Sensitivity	109 dB
Frequency Range	2 kHz - 18 kHz
Recomm. Xover Frequency	2500 Hz (12dB/oct slope)
Diaphragm Material	Polyester
Voice Coil Diameter	25,4 mm (1 in)
Voice Coil Winding Material	Edge-wound aluminum
Magnet Material	Ferrite
Flux Density	1,65 T
BL Factor	3,5 N/A
Polarity	Positive voltage on + terminal gives positive pressure in the throat

MOUNTING INFORMATION

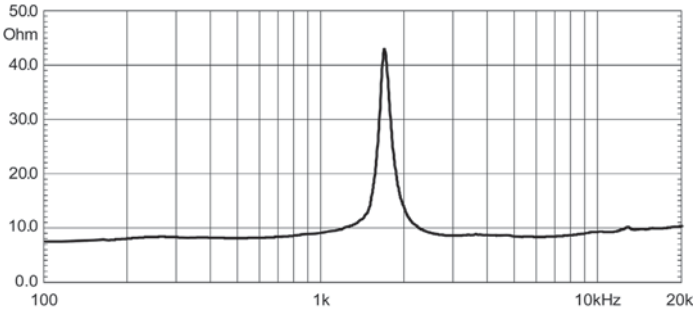
Overall diameter	87 mm (3,4 in)
N. of mounting holes and bolt	2 M5 at 180 degrees
Bolt circle diameter	76 mm (3 in)
Total depth	46 mm (1,8 in)
Net weight	0,8 Kg (1,77 lb)
Shipping weight	0,9 Kg (1,99 lb)
CardBoard Packaging dimensions	90x90x70 mm(3,5x3,5x2,8 in)

FREQUENCY RESPONSE CURVE



XD125 MEASURED ON AXIS WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.

COAXIALS

15NCX1000

Single motor dual magnet coaxial transducer

96dB LF - 109dB HF SPL 2.83v average sensitivity
Dual neodymium magnet single motor
800W LF - 130W HF maximum program power handling
Smooth on/off axis 90° response
100 mm (4") Interleaved Sandwich LF Voice coil (ISV)
Aluminum Demodulating Ring (SDR) for minimum LF distortion
100 mm (4") HF
Edge-wound Aluminum ribbon HF voice coil (EWAL)
HF copper sleeve for reduced distortion and higher output
Smooth on/off axis 90° response
Suitable for compact enclosures and stage monitors

LF SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	800 W
Program Power (2)	1600 W
Peak Power (3)	3200 W
Sensitivity (4)	96 dB
Frequency Range (5)	50 - 3200 Hz
Power Compression @-10dB (6)	TBD dB
Power Compression @-3dB	TBD dB
Power Compression @0dB	TBD dB
Max Recomm. Frequency	1200 Hz
Recomm. Enclosure Volume	65 - 125 lt. (2,30 - 4.42cuft)
Minimum Impedance	8,3 Ohm at 25°C
Max Peak To Peak Excursion	28 mm (1,02 in)
Voice Coil Diameter	100 mm (3,94 in)
Voice Coil Winding Material	CCAW
Suspension	Triple roll, polycotton
Cone	Curvilinear composite, Water repellent

HF SPECIFICATIONS

D.C. Resistance	4,7 Ohm
Continuous Power (7)	130 W
Max. program power (8)	260 W
Sensitivity (9)	109 dB
Frequency Range (4)	500 - 19300 Hz
Recomm. Xover Frequency (10)	1 kHz
Diaphragm material	Titanium
Voice Coil diameter	100 mm
Voice Coil winding material	Edge-wound CCAW
Magnet material	Neodymium

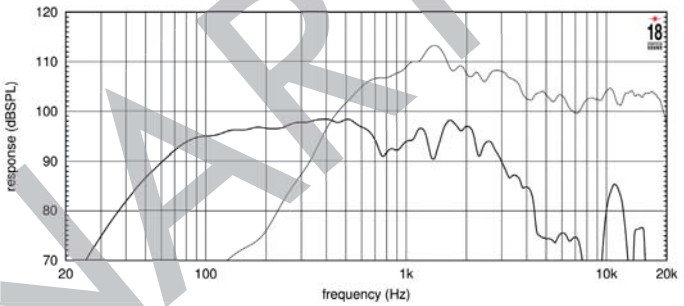
THIELE SMALL PARAMETERS (11)

Fs	53 Hz
Re	6.2 Ohm
Sd	0,088 sq.mt. (136,56 sq.in.)
Qms	8,60
Qes	0,27
Qts	0,26
Vas	90,3 lt. (3,19 cuft)
Mms	108 gr. (0,24 lb)
BL	27 Tm
Mathematical Xmax (12)	± 7,5 mm (±0,30 in)
Le (1kHz)	1,60 mH
Half space efficiency	5,1 %

MOUNTING INFORMATION

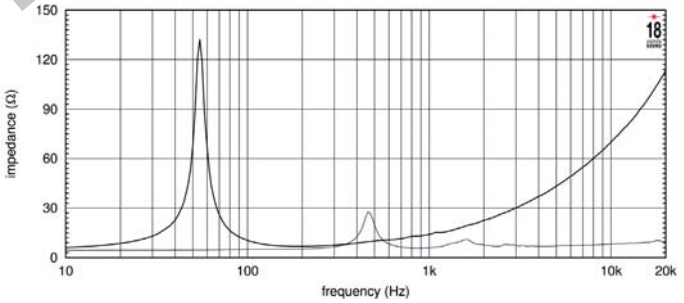
Overall diameter	393 mm (15,47 in)
N. of mounting holes and bolt	8
Mounting holes diameter	71,5 mm (2,81 in)
Bolt circle diameter	371 mm (14,61in)
Front mount baffle cutout Ø	354 mm (13,94 in)
Rear mount baffle cutout Ø	360 mm (14,17 in)
Total depth	197 mm (7,76 in)
Flange and gasket thickness	12,5 mm (0,49 in)
Net weight	7 Kg
Shipping weight	7,9 kg
CardBoard Packaging dimensions	405 x 405 x 260 mm (15,94 x 15,94 x 10,24 in)

FREQUENCY RESPONSE CURVE



MADE ON 125 LIT. ENCLOSURE TUNED AT 50HZ IN 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



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

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 represents the maximum permitted instantaneous peak power level over a maximum period of 10ms which can be withstood by the loudspeaker without damage.
4) Sensitivity represents the averaged value of acoustic output as measured on the forward central axis of the cone, at a distance 1m from the baffle panel, when connected to 2.83V sine wave test signal swept between 100Hz and 1000Hz with the test specimen mounted in the same enclosure as specified 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 a half-space environment.
6) Power compression represents the loss of sensitivity at 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 requires at least an 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 for 1 hour with a 20 Hz sine, and represents 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

15NCX750

High Output Neo Coaxial Transducer

98 dB LF / 107 dB HF SPL 1W/1m average sensitivity
Single magnet neodymium motor
800W LF - 240W HF maximum program power handling
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
80 degrees nominal conical dispersion
Suitable for very compact enclosures and stage monitors

AVAILABLE ALSO WITH HORN

CROSSOVER AVAILABLE FOR THIS MODEL

LF SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Rated Impedance	8 Ohm
AES Power (1)	400 W
Program Power (2)	800 W
Peak Power (3)	1600 W
Sensitivity (4)	98 dB
Frequency Range (5)	55 - 4500 Hz
Power Compression @-10dB (6)	0,9 dB
Power Compression @-3dB	2,8 dB
Power Compression @0dB	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 (3 in)
Voice Coil Winding Material	copper
Suspension	Triple roll, Polycotton
Cone	Curvilinear, Water repellent, High damping pulp

HF SPECIFICATIONS

D.C. Resistance	6,1 Ohm
Continuous Power (7)	120W above 1,1 kHz
Max. program power (8)	240W above 1,1 kHz
Sensitivity (9)	107 dB
Frequency Range (5)	0.8 - 18 kHz
Min Xover Frequency (10)	1.1 kHz
Voice Coil Diameter	60 mm (2.4 in)

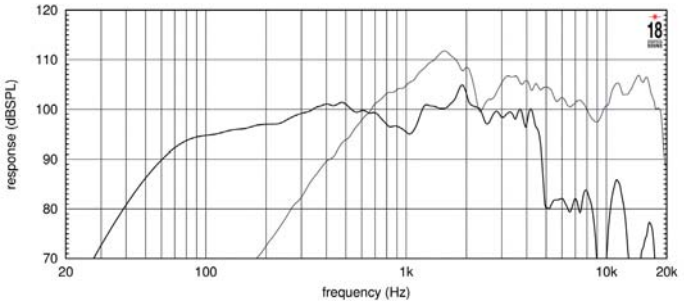
THIELE SMALL PARAMETERS (11)

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	81 gr. (0,18 lb)
BL	18,4 Tm
Mathematical Xmax (12)	± 5.5 mm (±0,22 in)
Le (1kHz)	0.66 mH
Half space efficiency	4.5%

MOUNTING INFORMATION

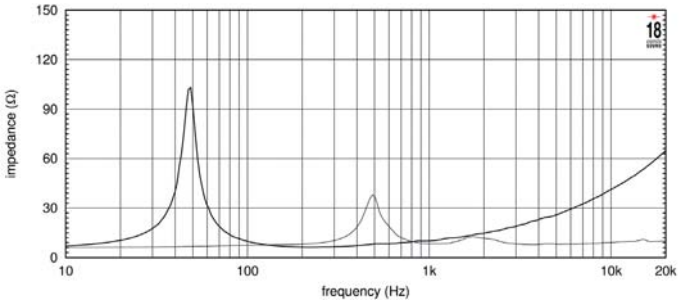
Overall diameter	393 mm (15,47 in)
N. of mounting holes and bolt	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	371 mm (14,6 in)
Front mount baffle cutout Ø	360 mm (14.17 in)
Rear mount baffle cutout Ø	354 mm (13.94 in)
Total depth	185 mm (7.28 in)
Flange and gasket thickness	14 mm (0,55 in)
Net weight	5,1 kg (11,24 lb)
Shipping weight	6 kg (13,23 lb)
CardBoard Packaging dimensions	405 x 405 x 260 mm (15,94 x 15,94 x 10.24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE MADE ON 125 LT ENCLOSURE TUNED 50HZ IN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER. 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 upperlimitswhere 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 thenew 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 (HvcHg)/2 + Hg/4 where Hvc is the coil depth and Hg is gap depth.

12NCX750

High Output Neo Coaxial Transducer

97dB LF / 107dB HF SPL 1W/1m average sensitivity
Single magnet neodymium motor
800W LF - 240W HF maximum program power handling
75 mm (3") LF Interleaved Sandwich Voice coil (ISV)
Aluminum demodulating ring (SDR) for minimum LF distortion
60 mm (2.4") HF Titanium diaphragm
Edge-wound Aluminum ribbon HF voice coil (EWAL)
HF copper sleeve for reduced distortion and higher output
80 degrees nominal conical dispersion
Suitable for very compact enclosures and stage monitor

AVAILABLE ALSO WITH HORN

CROSSOVER AVAILABLE FOR THIS MODEL

LF SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Rated Impedance	8 Ohm
AES Power (1)	400 W
Program Power	800 W
Peak Power (2)	1600 W
Sensitivity (3)	97 dB
Frequency Range (4)	60 - 5000 Hz
Power Compression @-10dB (5)	0,9 dB
Power Compression @-3dB	2,8 dB
Power Compression @0dB	4,2 dB
Max Recomm. Frequency	1800 Hz
Recomm. Enclosure Volume	40 - 90 lt. (1,41 - 3,18 cuft)
Minimum Impedance	6,4 Ohm at 25°C
Max Peak To Peak Excursion	27 mm (1.06 in)
Voice Coil Diameter	75 mm (3 in)
Voice Coil Winding Material	copper
Suspension	Triple roll, polycotton
Cone	Curvilinear, Water repellent, High damping pulp

HF SPECIFICATIONS

D.C. Resistance	6,1 Ohm
Continuous Power (6)	120W above 1,1 kHz
Max. program power (7)	240W above 1,1 kHz
Sensitivity (8)	107 dB
Frequency Range (4)	0.9 - 18 kHz
Min Xover Frequency (9)	1.1 kHz
Voice Coil Diameter	60 mm (2.4 in)

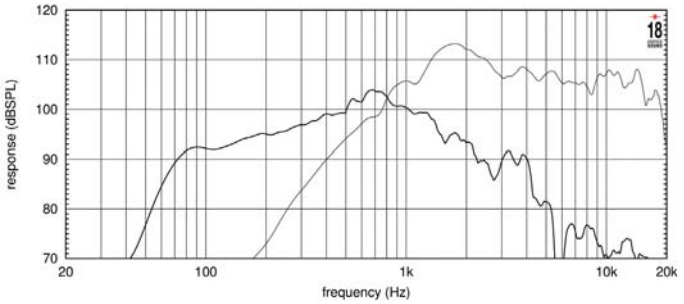
THIELE SMALL PARAMETERS (10)

Fs	58 Hz
Re	5,4 Ohm
Sd	0,0531 sq.mt. (82.31 sq.in.)
Qms	6.42
Qes	0,31
Qts	0,29
Vas	63 lt. (2.23 cuft)
Mms	48 gr. (0,10 lb)
BL	17,5 Tm
Mathematical Xmax (11)	± 5.5 mm (±0,22 in)
Le (1kHz)	0.62 mH
Half space efficiency	4.8%

MOUNTING INFORMATION

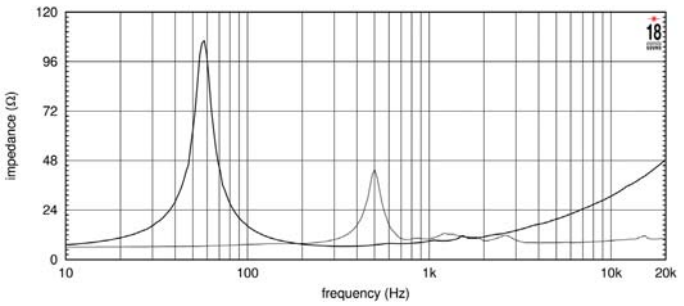
Overall diameter	310 mm (12.20 in)
N. of mounting holes and bolt	8
Mounting holes diameter	5.9 mm (0,23 in)
Bolt circle diameter	295 mm (11.61 in)
Front mount baffle cutout Ø	280 mm (11 in)
Rear mount baffle cutout Ø	280 mm (11 in)
Total depth	148 mm (5.85 in)
Flange and gasket thickness	14 mm (0,55 in)
Net weight	4,7 kg (10,36 lb)
Shipping weight	5,2 kg (11,46 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13.07 x 13.07 x 7.24 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE FOR THE SPEAKER LOADED IN A 50 LT ENCLOSURE TUNED 60 HZ IN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER. THIN LINE REPRESENTS HIGH FREQUENCY RESPONSE

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power is determined according to AES2-1984 (r2003) standard Program power rating is measured in 50 lit. enclosure tuned at 60 Hz using a 60-600Hz band limited pink noise test signal applied for 2 hours and with 50% duty cycle. Power measured on minimum impedance.
2) 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.
3) 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.
4) Frequency range is given as the band of frequencies delineated by the lower and upperlimits where the output level drops by 10 dB below the rated sensitivity in half space environment.
5) 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.
6) Continuous Power is defined as a level that is 3 dB greater than the one measured with the new AES2-2012 standard, using continous pink noise having 12 dB crest factor for 2 hours.
7) Program power is defined as 3 dB greater than continuous power rating.
8) Sensitivity represent the averaged value of acoustic output as measured on speaker axis at a distance 1 m distance, when connected to 2.83 V sine wave swept between 1000-4000 Hz.
9) Minimum crossover frequency requires at least 12 dB/oct slope high pass filter, preferred 24dB/oct slope high pass filter LR
10) 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
11) Linear Math. Xmax is calculated as (HvcHg)/2 + Hg/4 where Hvc is the coil depth and Hg is gap depth.

10CX650

Single Magnet Ferrite Coaxial Transducer

94 dB LF/106.5 dB HF SPL 1W/1m average sensitivity
Single magnet motor
400W LF - 140W HF maximum program power handling
65 mm (2.5") LF voice coil
44 mm (1.75") HF PEN diaphragm
Proprietary Phase Plug design
HF copper sleeve for reduced distortion and higher output
90 degrees nominal conical dispersion
Atmos™ ready*
Extended LF design
Suitable for very compact enclosures and stage monitors

LF SPECIFICATIONS

Nominal Diameter	260 mm (10 in)
Rated Impedance	8 Ohm
AES Power (1)	200 W
Program Power (2)	400 W
Peak Power (3)	800 W
Sensitivity (4)	94 dB
Frequency Range (5)	60 - 4800 Hz
Power Compression @-10dB (6)	(20W) 0.3 dB
Power Compression @-3dB	(100W) 1.3 dB
Power Compression @0dB	(200W) 2.3 dB
Max Recomm. Frequency	1500 Hz
Recomm. Enclosure Volume	25 - 45 lt. (0.88 - 1.59 cuft)
Minimum Impedance	6.1 Ohm at 25°C
Max Peak To Peak Excursion	26 mm (1 in)
Voice Coil Diameter	65 mm (2.56 in)
Voice Coil Winding Material	Edgewound copper
Suspension	Double roll, Polycotton
Cone	Curvilinear composite

HF SPECIFICATIONS

D.C. Resistance	5.3 Ohm
Continuous Power (7)	70W above 1,1 kHz
Max. program power (8)	140W above 1,1 kHz
Sensitivity (9)	106.5 dB
Frequency Range (5)	900 - 15000 Hz
Min Xover Frequency (10)	1.5 kHz
Diaphragm material	Pet
Voice Coil Diameter	44mm
Voice Coil winding material	Edge-wound coil

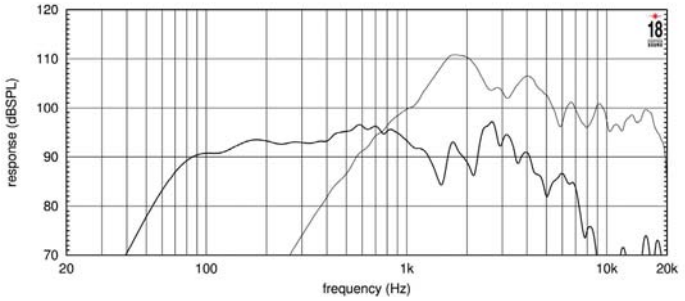
THIELE SMALL PARAMETERS (11)

Fs	54 Hz
Re	5.1 Ohm
Sd	0,0346 sq.mt. (53.63 sq.in.)
Qms	5.90
Qes	0,39
Qts	0,35
Vas	36.4 lt. (1.29 cu.ft)
Mms	39.5 gr. (0.09 lb)
BL	14 Tm
Mathematical Xmax (12)	± 6mm (±0,24 in)
Le (1kHz)	0.90 mH
Half space efficiency	1.5 %

MOUNTING INFORMATION

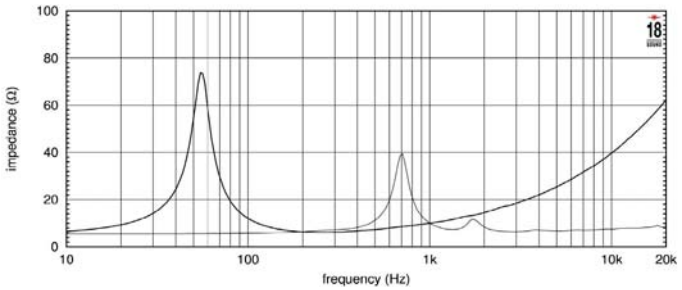
Overall diameter	260 mm (10.24 in)
N. of mounting holes	8
Mounting holes diameter	6.1 mm (0,24 in)
Bolt circle diameter	243.5 - 246.5 mm (9.59 - 9.70 in)
Front mount baffle cutout Ø	230 mm (9.06 in)
Rear mount baffle cutout Ø	231 mm (9.09 in)
Total depth	155 mm (6.10 in)
Flange and gasket thickness	8.9 mm (0,39 in)
Net weight	6.2 kg (13.67 lb)
Shipping weight	6.7 kg (14.77 lb)
CardBoard Packaging dimensions	275x275x195 mm (10.83x10.83x7.68 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE MADE IN 25 LT. ENCLOSURE TUNED AT 65 Hz IN FREE FIELD (4π) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER, THE THIN LINE REPRESENTS HIGH FREQUENCY

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power is determined according to AES2-1984 (r2003) standard
2) Program power rating is measured in 25 lit. enclosure tuned at 65 Hz using a 70-700 Hz 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 10 ms 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 100 Hz and 1000 Hz 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 70 to 700Hz 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 is defined as 3 dB greater than continuous power rating.
9) 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 1000 Hz and 4000 Hz with the test specimen mounted in the same enclosure as given for 2 above.
10) Minimum crossover frequency require at least 12 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 1 hour 20 Hz sine and represent the expected long term parameters after a short period of use.
12) Linear Mat. Xmax is calculated as; (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is gap depth.

8CX650

Single Magnet Ferrite Coaxial Transducer

91 dB LF/106 dB HF SPL 1W/1m average sensitivity
Single magnet motor
400W LF - 140W HF maximum program power Handling
65 mm (2.5") Edge wound Aluminum LF voice coil (EWAL)
44 mm (1.75") HF PEN diaphragm
Proprietary Phase Plug design
HF copper sleeve for reduced distortion and higher output
90 degrees nominal conical dispersion
Atmos™ ready
Extended LF design
Suitable for very compact enclosures and stage monitors

LF SPECIFICATIONS

Nominal Diameter	200 mm (8 in)
Rated Impedance	8 Ohm
AES Power (1)	200 W
Program Power (2)	400 W
Peak Power (3)	800 W
Sensitivity (4)	91 dB
Frequency Range (5)	60 - 4700 Hz
Power Compression @-10dB (6)	(20W) 0.7 dB
Power Compression @-3dB	(100W) 1.8 dB
Power Compression @0dB	(200W) 2.9 dB
Max Recomm. Frequency	1800 Hz
Recomm. Enclosure Volume	15 - 35 lt. (0.53 - 1.24 cuft)
Minimum Impedance	5.8 Ohm at 25°C
Max Peak To Peak Excursion	26 mm (1 in)
Voice Coil Diameter	65 mm (2.56 in)
Voice Coil Winding Material	Edgewound Aluminum
Suspension	Triple roll, Polycotton
Cone	Straight, water repellent composite

HF SPECIFICATIONS

D.C. Resistance	5.3 Ohm
Continuous Power (7)	70W above 1,1 kHz
Max. program power (8)	140W above 1,1 kHz
Sensitivity (9)	106 dB
Frequency Range (5)	900 - 15000 Hz
Min Xover Frequency (10)	1.5 kHz
Diaphragm material	Pen
Voice Coil Diameter	44mm
Voice Coil winding material	Edge-wound aluminum

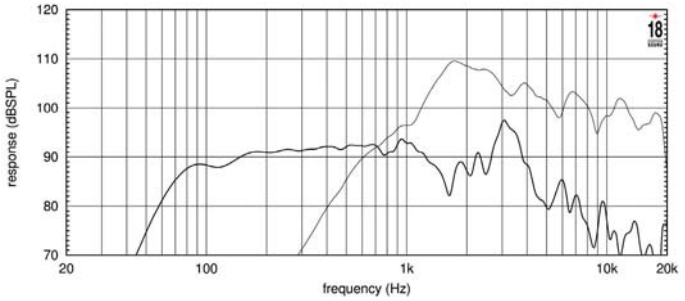
THIELE SMALL PARAMETERS (11)

Fs	65 Hz
Re	5 Ohm
Sd	0,0227sq.mt. (39.19 sq.in.)
Qms	6.40
Qes	0,37
Qts	0,35
Vas	16.6 lt. (0.59 cuft)
Mms	25.6 gr. (0,06 lb)
BL	12 Tm
Mathematical Xmax (12)	± 6 mm (±0,24 in)
Le (1kHz)	0.70 mH
Half space efficiency	1.2 %

MOUNTING INFORMATION

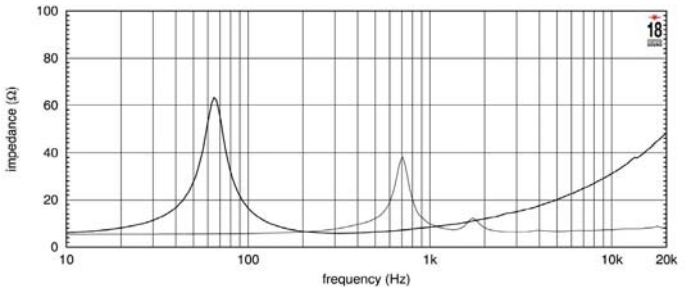
Overall diameter	210 mm (8.27 in)
N. of mounting holes and bolt	8
Mounting holes diameter	6.1 mm (0.24 in)
Bolt circle diameter	195 - 198 mm (7.68 - 7.80 in)
Front mount baffle cutout Ø	185 mm (7.28 in)
Rear mount baffle cutout Ø	185.5 mm (7.30 in)
Total depth	132 mm (5.20 in)
Flange and gasket thickness	8.8 mm (0.35 in)
Net weight	5.8 kg (12.79 lb)
Shipping weight	6.3 kg (13,89 lb)
CardBoard Packaging dimensions	235x235x165 mm (9.25x9.25x6.50 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE MADE IN 25 LT. ENCLOSURE TUNED AT 65 Hz IN FREE FIELD (4π) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER, THE THIN LINE REPRESENTS HIGH FREQUENCY

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power is determined according to AES2-1984 (r2003) standard
2) Program power rating is measured in 25 lit. enclosure tuned at 65 Hz using a 70-700 Hz 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 10 ms 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 100 Hz and 1000 Hz 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 70 to 700Hz 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 is defined as 3 dB greater than continuous power rating.
9) 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 1000 Hz and 4000 Hz with the test specimen mounted in the same enclosure as given for 2 above.
10) Minimum crossover frequency require at least 12 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 1 hour 20 Hz sine and represent the expected long term parameters after a short period of use.
12) Linear Mat. Xmax is calculated as; (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is gap depth.

8CX401F

High Output Coaxial Ferrite Transducer

95dB SPL 1W / 1m average sensitivity
280W LF - 50W HF power handling
51mm (2 inches) LF Interleaved Sandwich Voice coil (ISV)
25,4mm (1 inch) HF driver edgewound voice coil
90 degrees coverage pattern
Ideal for compact reflex applications

CROSSOVER AVAILABLE FOR THIS MODEL

LF SPECIFICATIONS

Nominal Diameter	260 mm (10 in)200 mm (8 in)
Rated Impedance	8 Ohm
AES Power (1)	280 W
Program Power (2)	400 W
Peak Power (3)	800 W
Sensitivity (4)	95 dB
Frequency Range (5)	65 - 6100 Hz
Power Compression @-10dB (6)	0,5 dB
Power Compression @-3dB	1,4 dB
Power Compression @0dB	2,3 dB
Max Recomm. Frequency	2800 Hz
Recomm. Enclosure Volume	10 - 40 lt. (0,35 - 1,41 cuft)
Minimum Impedance	6,1 Ohm at 25°C
Max Peak To Peak Excursion	19 mm (0,75 in)
Voice Coil Diameter	51 mm (2 in)
Voice Coil Winding Material	Edge-wound Aluminum
Suspension	M-roll, Polycotton
Cone	Curvilinear, Paper

HF SPECIFICATIONS

D.C. Resistance	8,3 Ohm
AES power (7)	25 W above 2,5 kHz
Program power (8)	50 W above 2,5 kHz
Sensitivity (9)	105 dB
Frequency Range (5)	2,5 kHz - 20 kHz
Recomm. Xover Frequency	3 kHz 12 dB/oct
Voice Coil Diameter	25,4 mm (1,0 in)

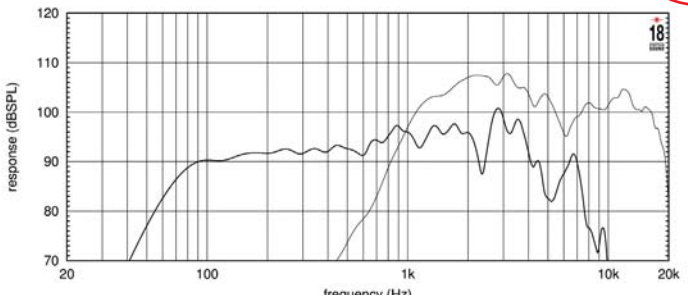
THIELE SMALL PARAMETERS (10)

Fs	56 Hz
Re	5 Ohm
Sd	0,0227 sq.mt. (35,2 sq.in.)
Qms	3,23
Qes	0,38
Qts	0,34
Vas	23,9 lt. (0,85 cuft)
Mms	18 gr. (0,04 lb)
BL	9,3 Tm
Mathematical Xmax (11)	± 5,8 mm (± 0,23 in)
Le (1kHz)	0,96 mH
Half space efficiency	93,7 dB

MOUNTING INFORMATION

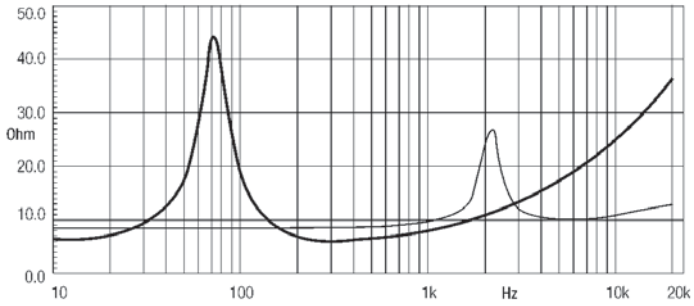
Overall diameter	210 mm (8,27 in)
N. of mounting holes and bolt	6
Mounting holes diameter	6,25 mm (0,25 in)
Bolt circle diameter	195 - 198 mm (7,68 - 7,80 in)
Front mount baffle cutout Ø	186 mm (7,32 in)
Rear mount baffle cutout Ø	184 mm (7,24 in)
Total depth	150,5 mm (5,93 in)
Flange and gasket thickness	14,5 mm (0,57 in)
Net weight	4,4 kg (9,76 lb)
Shipping weight	5,0 kg (11,1 lb)
CardBoard Packaging dimensions	235x235x165 mm (9,25x9,25x6,46 in)

FREQUENCY RESPONSE CURVE



FREQUENCY RESPONSE CURVE OF 8CX400 MADE ON 25LT ENCLOSURE TUNED AT 65HZ IN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER. THE THIN LINE REPRESENTS HIGH FREQUENCY RESPONSE

FREE AIR IMPEDANCE MAGNITUDE CURVE



NOTES

1) AES power is determined according to AES2-1984 (r2003) standard Program power rating is measured in 25lit enclosure tuned 65Hz using a 60 - 2000Hz band
2) 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 whituout 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 2,83 V sine wave test signal swept between 500Hz and 2500Hz 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 1/2 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) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration. Power calculated on minimum impedance.
8) Program power is defined as 3 dB greater than AES power rating, and is a conservative expression of the transducer ability to handle music program material.
9) Sensitivity is measured on 1W input on rated impedance at 1m on axis from the mouth of the transducer and averaged in 3kHz band.
10) Thiele - Small parameters are measured after the test specimen has been conditioned by 280 W AES power and represent the expected long term parameters after a short period of use.
11) Linear Mat. Xmax is calculated as (Hvc-Hg)/2 + Hg/4. Hvc is the coil depth and Hg is gap depth.

HORNS

XR2064C

Constant Coverage HF Horn

2 inch throat entry
Fiberglass construction for excellent heat transfer
Uniform on-axis and off-axis frequency response
60° x 40° horizontal and vertical constant coverage
Very low distortion at high sound pressure
Improved compression driver cooling
Rotatable structure

GENERAL SPECIFICATIONS

Throat Diameter	50 mm (2 in)
Horizontal Coverage (-6dB)	60° (10 - -6) average range (1,6kHz - 12,5kHz)
Vertical Coverage (-6 dB)	40° (30 - 0) average range (1,6kHz - 12,5kHz)
Directivity Index	11 dB (1.8 - - 2.6) average range (1,6kHz - 12,5kHz)
Usable Frequency Range	Above 800 Hz
Recomm. Cross.Frequency	800 Hz or more
Sensitivity (1)	110 dB
Frequency Range	800 Hz - 18KHz
Material	Fiberglass

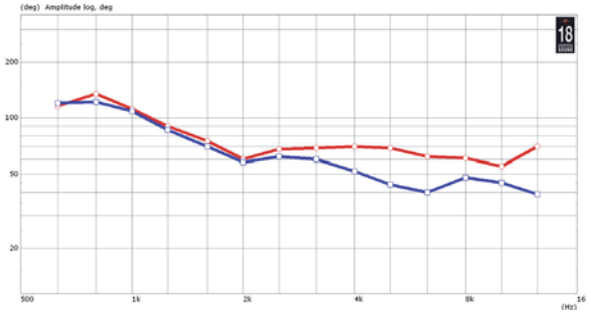
MOUNTING INFORMATION

Mouth Height	270 mm (10,6 in)
Mouth Width	270 mm (10,6 in)
Depth	200 mm (7,9 in)
Mouth Mounting Dimensions	8 Ø 6 holes
Net weight	1,8 Kg (3.9 lb)

NOTES

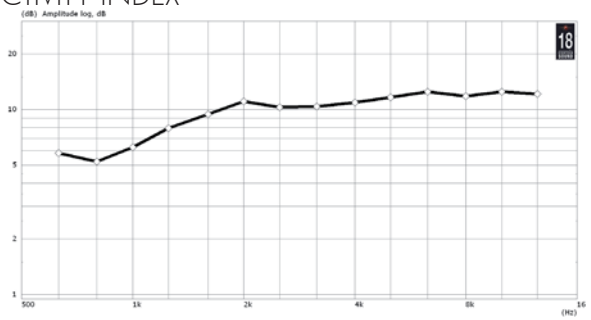
1) Sensitivity is measured at 1W input on ND2080 rated impedance at 1m on axis from the mouth of the horn, averaged between 1kHz and 4 kHz.

BEAMWIDTH

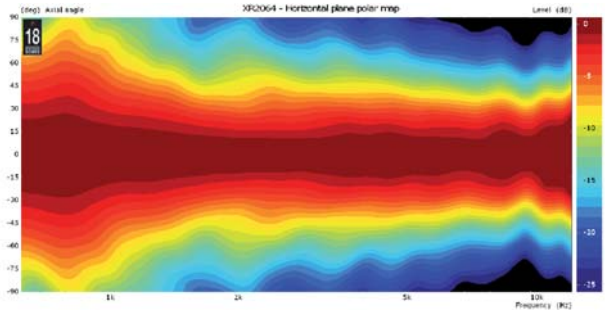


HORIZONTAL BEAMWIDTH - RED PLOT , VERTICAL BEAMWIDTH - BLUE PLOT

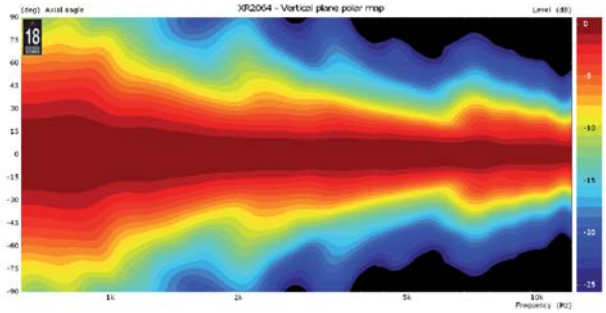
DIRECTIVITY INDEX



HORIZONTAL POLAR DIRECTIVITY MAP



VERTICAL POLAR DIRECTIVITY MAP



XR1496C

Constant Coverage HF Horn

1.4 throat inch entry
Fiberglass construction for excellent heat transfer
Uniform on-axis and off-axis frequency response
90° x 60° horizontal and vertical constant coverage
Very low distortion at high sound pressure
Improved compression driver cooling
Rotatable structure

GENERAL SPECIFICATIONS

Throat Diameter	35,5 mm (1,4 in)
Horizontal Coverage (-6dB)	90° (15 - -10) average range (1,25kHz - 12,5kHz)
Vertical Coverage (-6 dB)	60° (18 - -12) average range (1,25kHz - 12,5kHz)
Directivity Index	9dB (1.8 - -1,2) average range (1,25kHz - 12,5kHz)
Usable Frequency Range	Above 800 Hz
Recomm. Cross.Frequency	800 Hz or more
Sensitivity (1)	110 dB
Frequency Range	800 Hz - 18KHz
Material	Fiberglass

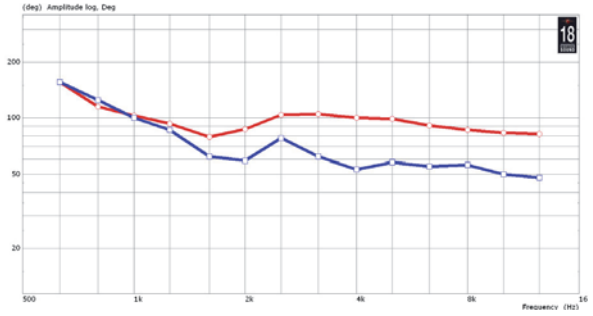
MOUNTING INFORMATION

Mouth Height	270 mm (10,6 in)
Mouth Width	270 mm (10,6 in)
Depth	180 mm (7,1 in)
Mouth Mounting Dimensions	8 Ø 6 holes
Net weight	1,7 Kg (3.7 lb)

NOTES

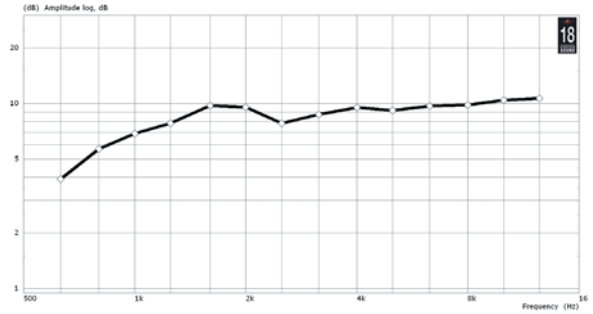
1) Sensitivity is measured at 1W input on ND1480 rated impedance at 1m on axis from the mouth of the horn, averaged between 1kHz and 4 kHz.

BEAMWIDTH

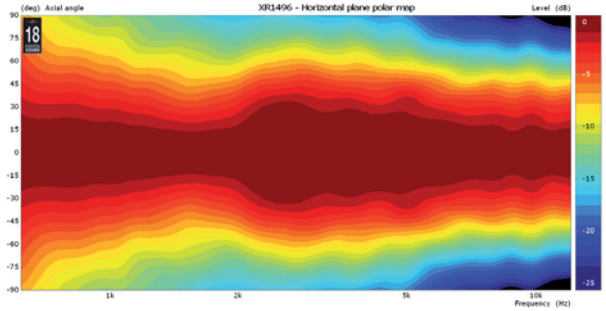


HORIZONTAL BEAMWIDTH - RED PLOT, VERTICAL BEAMWIDTH - BLUE PLOT

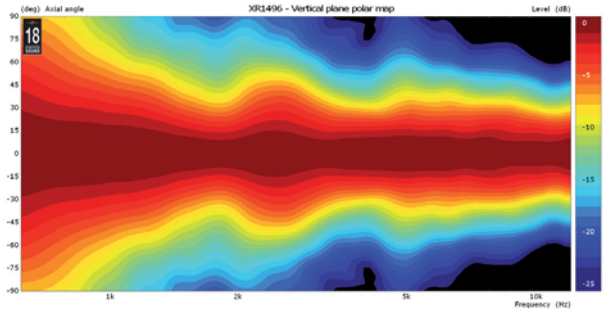
DIRECTIVITY INDEX



HORIZONTAL POLAR DIRECTIVITY MAP



VERTICAL POLAR DIRECTIVITY MAP



XR1464C

Constant Coverage HF Horn

1.4 inch throat entry
Fiberglass construction for excellent heat transfer
Uniform on-axis and off-axis frequency response
60° x 40° horizontal and vertical constant coverage
Very low distortion at high sound pressure
Improved compression driver cooling
Rotatable structure

GENERAL SPECIFICATIONS

Throat Diameter	35,5 mm (1,4 in)
Horizontal Coverage (-6dB)	60° (10 - -2) average range (1,25kHz - 12,5kHz)
Vertical Coverage (-6 dB)	40° (25 - 0) average range (1,25kHz - 12,5kHz)
Directivity Index	11 dB (2 - -1) average range (1,25kHz - 12,5kHz)
Usable Frequency Range	Above 800 Hz
Recomm. Cross.Frequency	800 Hz or more
Sensitivity (1)	110 dB
Frequency Range	800 Hz - 18KHz
Material	Fiberglass

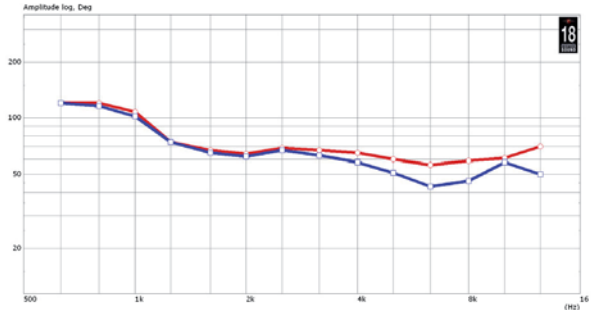
NOTES

1) Sensitivity is measured at 1W input on ND1480 rated impedance at 1m on axis from the mouth of the horn, averaged between 1kHz and 4 kHz.

MOUNTING INFORMATION

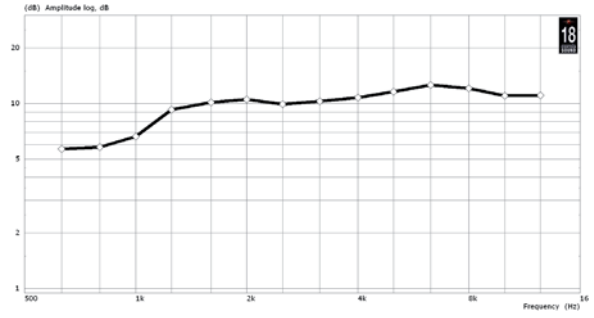
Mouth Height	270 mm (10,6 in)
Mouth Width	270 mm (10,6 in)
Depth	180 mm (7,1 in)
Mouth Mounting Dimensions	8 Ø 6 holes
Net weight	1,7 Kg (3.7 lb)

BEAMWIDTH

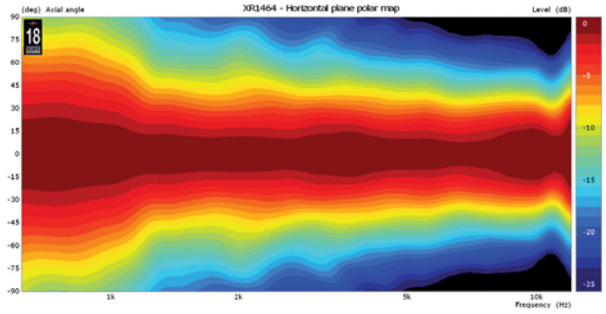


HORIZONTAL BEAMWIDTH - RED PLOT - VERTICAL BEAMWIDTH - BLUE PLOT

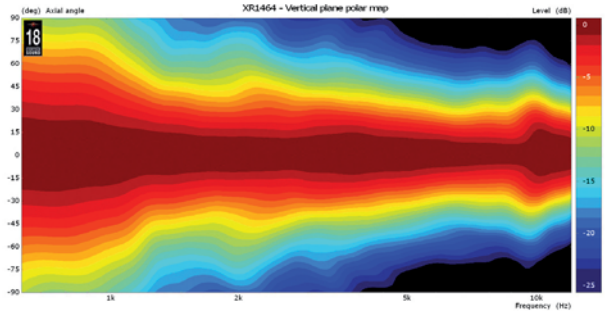
DIRECTIVITY INDEX



HORIZONTAL POLAR DIRECTIVITY MAP



VERTICAL POLAR DIRECTIVITY MAP



XR1064

Constant Coverage HF Horn

1 inch throat entry
Die-cast Aluminum construction for excellent heat transfer
Uniform on-axis and off-axis frequency response
60° x 40° horizontal and vertical constant coverage
Very low distortion at high sound pressure
Rotatable structure

GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Horizontal Coverage (-6dB)	60° (20 - -10) average range (1,6kHz - 12,5kHz)
Vertical Coverage (-6 dB)	40° (40 - 0) average range (1,6kHz - 12,5kHz)
Directivity Index	11dB (1.8 - -2,6) average range (1,6kHz - 12,5kHz)
Usable Frequency Range	Above 800 Hz
Recomm. Cross.Frequency	1200 Hz or more
Sensitivity(1)	110 dB
Frequency Range	800 Hz - 18KHz
Material	Die-cast Aluminum

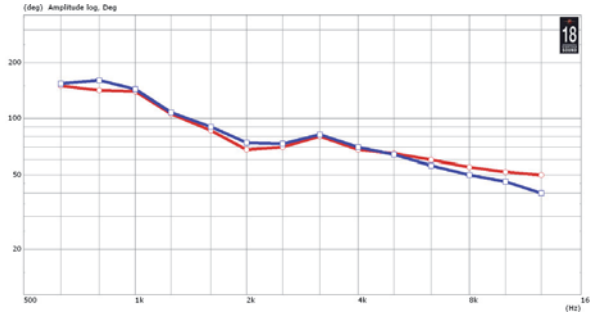
NOTES

1) Sensitivity is measured at 1W input on ND1090 rated impedance at 1m on axis from the mouth of the horn, averaged between 1kHz and 4 kHz.

MOUNTING INFORMATION

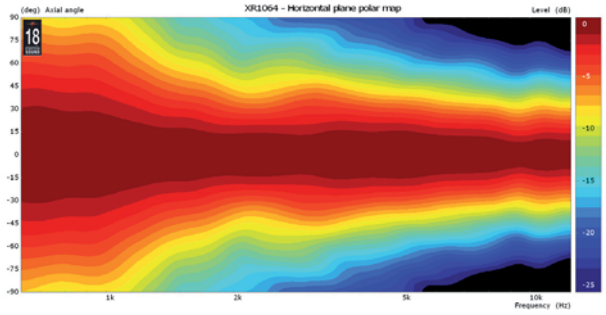
Mouth Height	210 mm (8,3 in)
Mouth Width	210 mm (8,3 in)
Depth	110 mm (4,3 in)
Mouth Mounting Dimensions	8 Ø 6 holes
Net weight	1.2 Kg (2.6 lb)

BEAMWIDTH

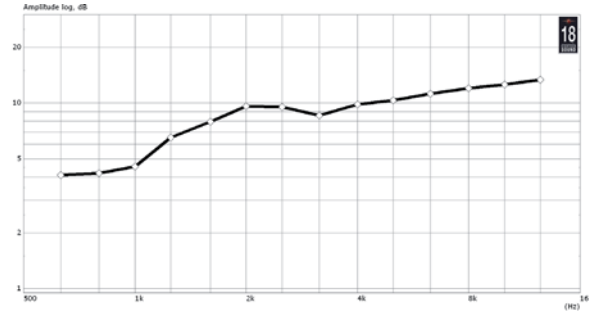


HORIZONTAL BEAMWIDTH - RED PLOT - VERTICAL BEAMWIDTH - BLUE PLOT

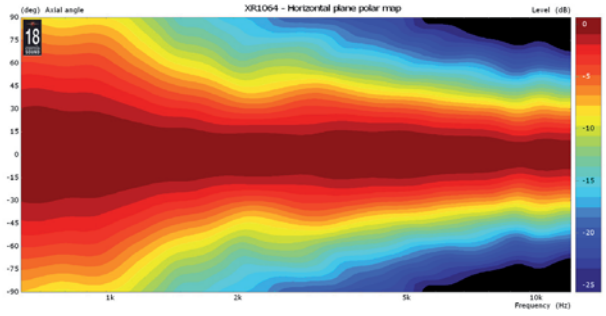
HORIZONTAL POLAR DIRECTIVITY MAP



DIRECTIVITY INDEX



VERTICAL POLAR DIRECTIVITY MAP



XT1464

Constant Coverage HF Horn

1.4 inch throat entry
Unique Eighteen Sound elliptical shape (ESS)
Injection moulded polyurethane construction
Uniform on-axis and off-axis frequency response
60° x 50° horizontal and vertical constant coverage
Very low distortion at high sound pressure levels

GENERAL SPECIFICATIONS

Throat Diameter	35,5 mm (1,4 in)
Horizontal Coverage (-6dB)	60° (8 - -12) average range (1,25KHz - 12,5KHz)
Vertical Coverage (-6 dB)	50° (15 - -10) average range (1,25KHz - 12,5KHz)
Directivity Index	18 dB (1,8 - 2,6) average range (1,25KHz - 12,5KHz)
Usable Frequency Range	Above 500 Hz
Recomm. Cross.Frequency	800 Hz or more
Sensitivity (1)	110 dB
Frequency Range	800 Hz - 18KHz
Material	Injection moulded polyurethane

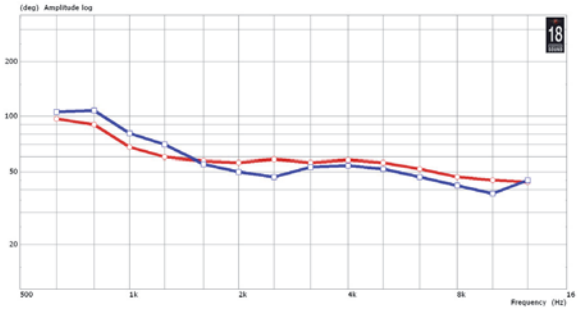
NOTES

1) Sensitivity is measured at 1W input on ND1480 rated impedance at 1m on axis from the mouth of the horn, averaged between 1kHz and 4 kHz.

MOUNTING INFORMATION

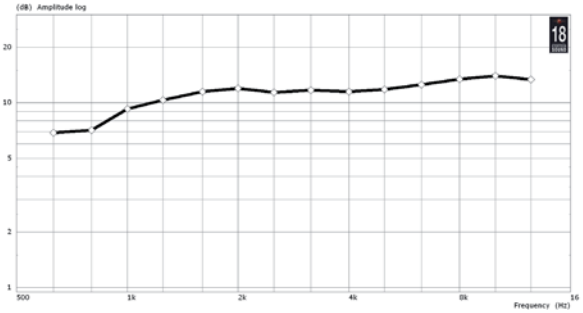
Mouth Height	304 mm (12 in)
Mouth Width	380 mm (15in)
Depth	257 mm (10,1 in)
Mouth Mounting Dimensions	8 Ø6 holes
Net weight	1,3 Kg (2,87 lb)

BEAMWIDTH

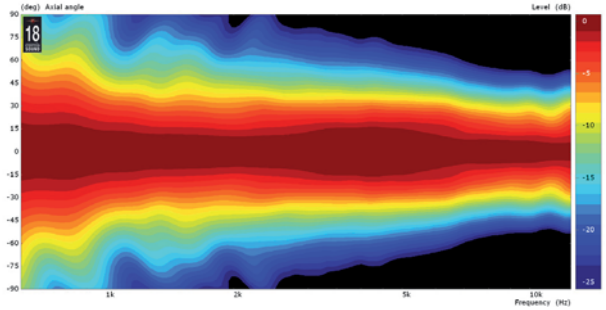


HORIZONTAL BEAMWIDTH - RED PLOT, VERTICAL BEAMWIDTH - BLUE PLOT

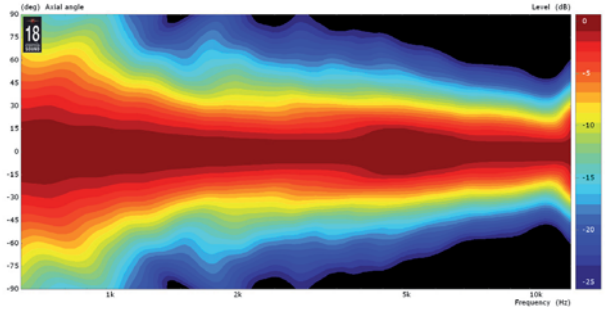
DIRECTIVITY INDEX



HORIZONTAL POLAR DIRECTIVITY MAP



VERTICAL POLAR DIRECTIVITY MAP



XT1086

Constant Coverage HF Horn

1 inch throat entry
Unique Eighteen Sound elliptical shape (ESS)
Flat front and compact size
Die-cast aluminum construction for best heat transfer
Uniform on-axis and off-axis frequency response
80° x 60° horizontal and vertical constant coverage
Improved structure strength by exclusive computer aided vibrational analysis

GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Horizontal Coverage (-6 dB)	80°(1 - -8) average range(1,6kHz - 12,5kHz) (1 in)
Vertical Coverage (-6 dB)	60° (18 - -7) average range(1,6kHz - 12,5kHz)
Directivity Index	10 dB (1.3 - -0,4) average range (1.6kHz - 12.5kHz)
Usable Frequency Range	Above 800 Hz
Recomm. Cross.Frequency	1200 Hz or more
Sensitivity (1)	110 dB
Frequency Range	1200 Hz - 20kHz
Material	Die-cast aluminum

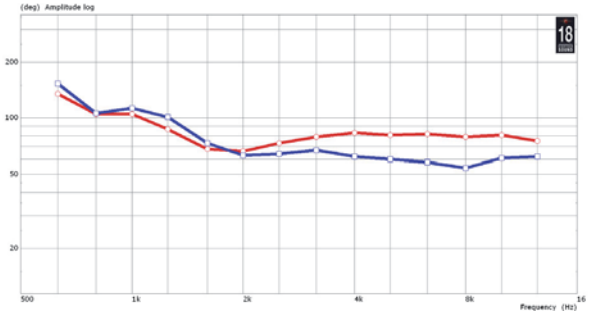
NOTES

1) Sensitivity is measured at 1W input on ND1090 compression driver rated impedance at 1m on axis from the mouth of the horn, averaged between 1kHz and 4 kHz.

MOUNTING INFORMATION

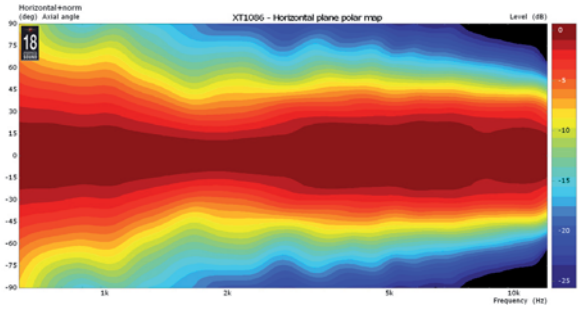
Mouth Height	215 mm (8,5 in)
Mouth Width	260 mm (10,2in)
Depth	126 mm (5 in)
Mouth Mounting Specs	4 M6 holes on the edge of rectangle with 214 mm x 169 mm (8,43 x 6,65 in) sides
Driver mounting specs	3 M5 holes on Ø 57mm (2.24in) - 4 M6 holes on Ø 76mm (3in)

BEAMWIDTH

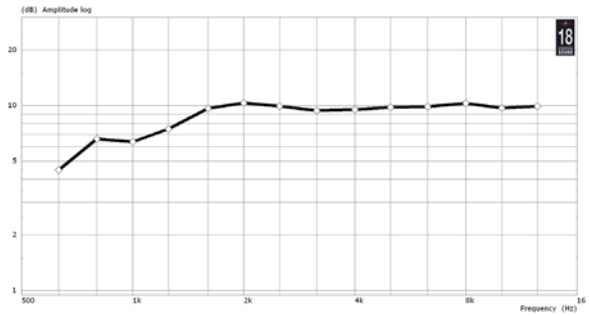


HORIZONTAL BEAMWIDTH - RED PLOT, VERTICAL BEAMWIDTH - BLUE PLOT

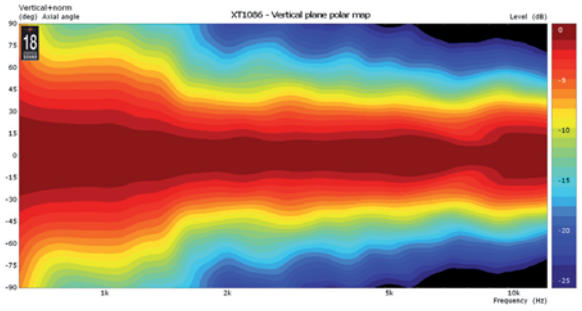
HORIZONTAL POLAR DIRECTIVITY MAP



DIRECTIVITY INDEX



VERTICAL POLAR DIRECTIVITY MAP



XT120

Constant Coverage HF Horn

1 inch entry
Unique Eighteen Sound elliptical shape (ESS)
Flat front and compact size
Injection moulded polyurethane construction
Uniform on-axis and off-axis frequency response
90° x 60° horizontal and vertical constant coverage

GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1 in)
Horizontal Coverage (-6dB)	90° (1 - -10) average range (2kHz - 12,5kHz)
Vertical Coverage (-6 dB)	60° (15 - -10) average range (2kHz - 12,5kHz)
Directivity Index	15 dB (2,5 - 1,5)
Usable Frequency Range	Above 1.5 kHz
Recomm. Cross.Frequency	2 kHz or more
Sensitivity (1)	108 dB
Frequency Range	2kHz - 18kHz
Material	Injection moulded Polyurethane

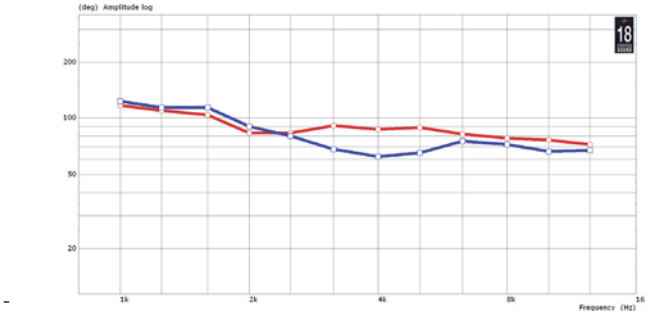
MOUNTING INFORMATION

Mouth Height	150 mm (5,9 in)
Mouth Width	200 mm (7,8 in)
Depth	103 mm (4,1 in)
Mouth Mounting Specs	4 6 mm Ø holes on the edge of rectangle with165 mm x 115 mm (6,5 x 4,53 in) sides
Driver mounting specs	3 5.25 mm Ø holes on Ø 57 mm (2.24 in) - 4 6.25mm Ø holes on Ø 76mm (3in)

NOTES

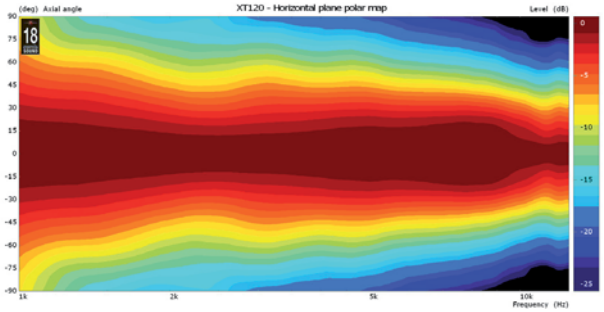
1) Sensitivity is measured at 1W input on HD125 rated impedance at 1m on axis from the mouth of the horn, averaged between 1KHz and 4 KHz.

BEAMWIDTH

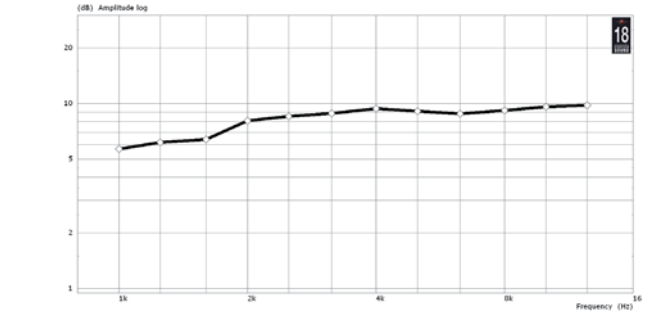


HORIZONTAL BEAMWIDTH - RED PLOT, VERTICAL BEAMWIDTH - BLUE PLOT

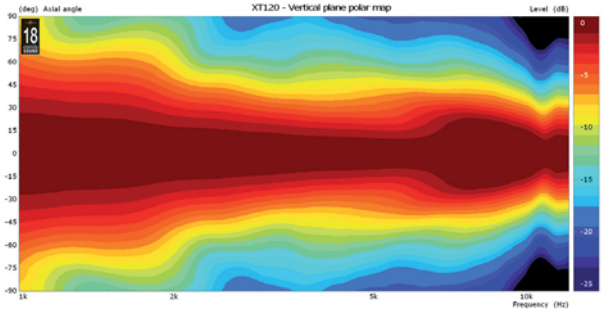
HORIZONTAL POLAR DIRECTIVITY MAP



DIRECTIVITY INDEX



VERTICAL POLAR DIRECTIVITY MAP



LINE ARRAY SOURCES

XG14

Line Array Waveguide

1.4" entry line-array source
10° vertical coverage angle
Transmission line acoustical design minimizes internal reflections and acoustical losses
Throat shape optimized for lowering air distortion
Compact size for high arrayability
Die-cast aluminum construction

GENERAL SPECIFICATIONS

Throat Diameter	35,5 mm (1,4 in)
Horizontal Coverage (-6dB)	100° nominal
Vertical Coverage (-6 dB)	10° nominal
Usable Frequency Range	Above 800 Hz
Sensitivity	111 dB
Frequency Range	500 Hz - 18KHz
Material (1)	Die-cast aluminum

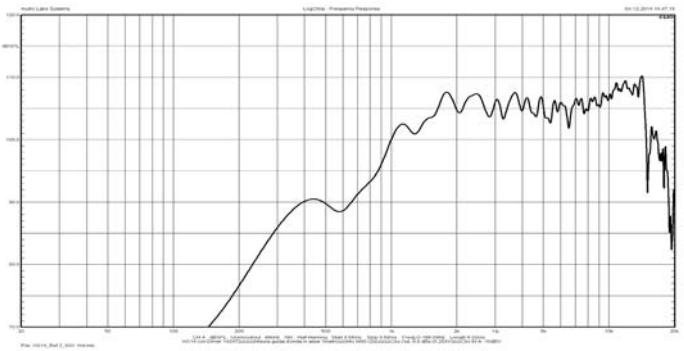
MOUNTING INFORMATION

Flange Height	126 mm (5 in)
Mouth Width	133 mm (5.25 in)
Depth	215 mm (8.45 in)
Flange Mounting	4 screws Ø 6
Net weight	1 Kg (2.10 lb)
Net weight	1 kg (2.10 lb)

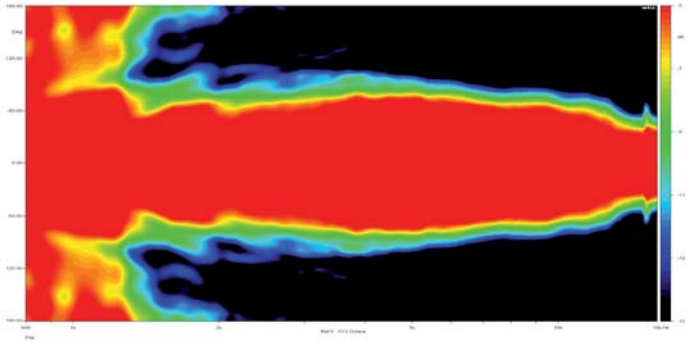
NOTES

1) Sensitivity is measured at 1W input on ND1480A rated impedance at 1m on axis from the mouth of the line array source, averaged between 1kHz and 4 kHz.

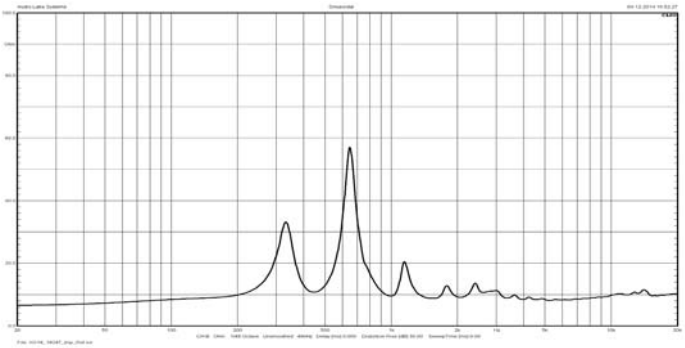
FREQUENCY RESPONSE



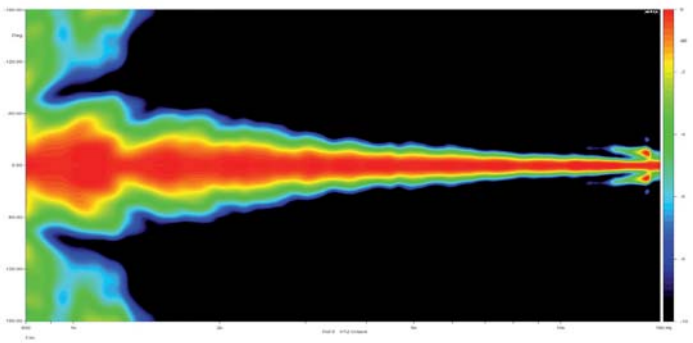
HORIZONTAL POLAR DIRECTIVITY MAP



IMPEDANCE



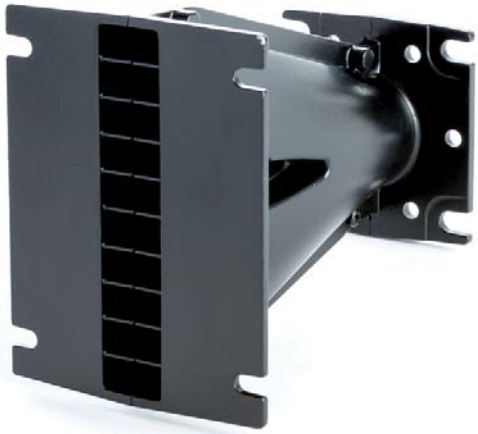
VERTICAL POLAR DIRECTIVITY MAP



XG10

Line Array Waveguide

1.0" entry line-array source
10° vertical coverage angle
Transmission line acoustical design minimizes internal reflections and acoustical losses
Throat shape optimized for lowering air distortion
Compact size for high arrayability
Die-cast aluminum construction



GENERAL SPECIFICATIONS

Throat Diameter	25,4 mm (1,0 in)
Horizontal Coverage (-6dB)	100° nominal
Vertical Coverage (-6 dB)	10° nominal
Usable Frequency Range	Above 1200 Hz
Sensitivity	111 dB
Frequency Range	1000 Hz - 18KHz
Material (1)	Die-cast aluminum

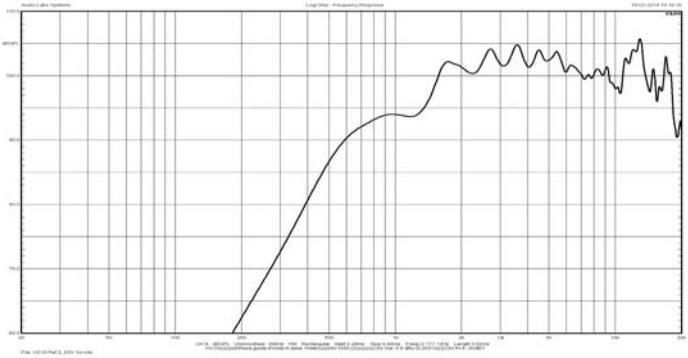
MOUNTING INFORMATION

Flange Height	101 mm (3.97 in)
Mouth Width	87 mm (3.42 in)
Depth	130 mm (5.11 in)
Flange Mounting	4 screws Ø M5
Gross weight	1,0 Kg (2.21 lb)
Net weight	0,4 kg (0.88 lb)

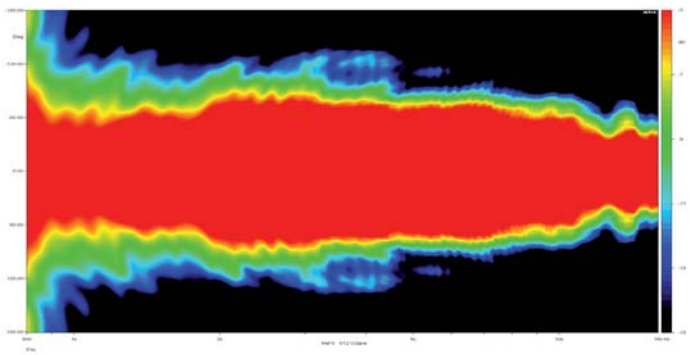
NOTES

1) Sensitivity is measured at 1W input on ND1085 rated impedance at 1mt on axis from the mouth of the line array source, averaged between 1kHz and 4 kHz.

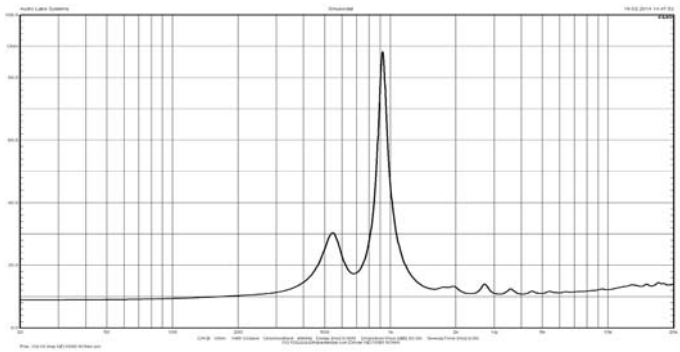
FREQUENCY RESPONSE



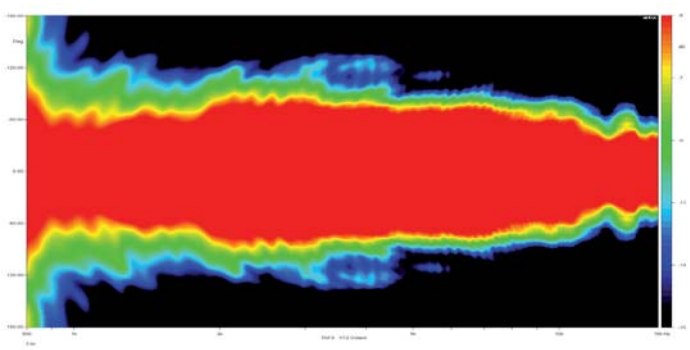
HORIZONTAL POLAR DIRECTIVITY MAP



IMPEDANCE



VERTICAL POLAR DIRECTIVITY MAP



Eighteen Sound engages in research and product improvement. New materials and design refinements can be introduced into existing products without notice.
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