

# 10NMB420

## High Output Midbass Neo Transducer

### Key Features

- 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 Description

The 10NMB420 neodymium transducer has been developed in response to a specific market requirement for a 10" midbass driver that combines excellent linearity with good efficiency and high power handling capabilities.

The 10NMB420 is primarily intended for use as a midbass driver in line-arrays as well as high quality 2-way or multiway reflex enclosures. The low pass filter might be positioned as high as 2000Hz.

The extremely powerful external neodymium magnet assembly assures high flux concentration, low power compression and excellent heat exchange. The levels of force factor and power handling are, as a consequence, at the upper professional level with best power to weight ratio.

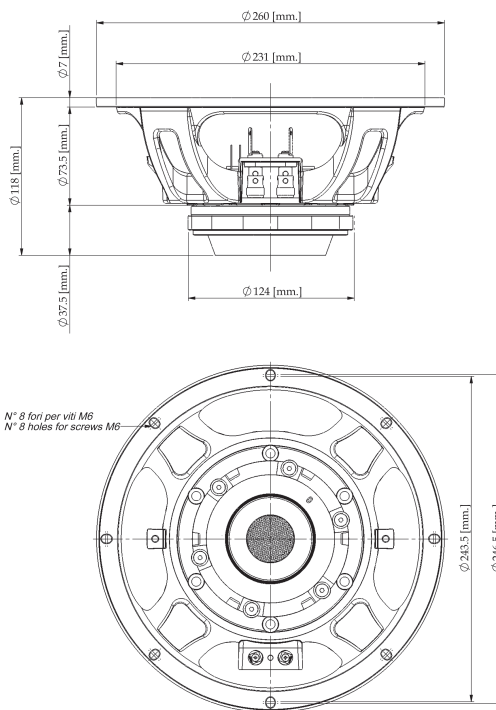
The 65mm Ø state-of-the-art, aluminum wire voice coil employs Interleaved Sandwich Voice coil (ISV) technology. It is composed by a high strength fibreglas former used to carry windings on both the outer and inner surfaces, in order to achieve a mass balanced coil. This results in an extremely linear motor assembly which, in conjunction with the highly advanced design of the magnetic structure, provides a high BL force factor.

The voice coil is cooled through airways placed between the chassis back plate and the magnet faceplate. In this way heated air is channeled away from the voice coil and the gap.

Another technology present into the 10NMB420 is the SDR (Single Demodulating Ring), used to reproduce instantaneous peak on mid frequencies, reducing intermodulation distortion.

Thanks to the increasing use during outdoor audio events, the ability to perform in humid environments is an extra key feature of the 10NMB420. This is achieved through an exclusively developed cone treatment which renders the cone humidity repellent while does not increasing the total moving speaker mass.

022108N400 8 ohm  
022106N400 16 ohm



NEODYMIUM LF-MB-MF TRANSDUCERS

# 10NMB420

High Output Midbass Neo Transducer

## GENERAL SPECIFICATIONS

NOMINAL DIAMETER	260mm (10 in)
RATED IMPEDANCE	16 Ohm
AES POWER	350 W
PROGRAM POWER (1)	500 W
PEAK POWER (2)	1000 W
SENSITIVITY (3)	99 dB
FREQUENCY RANGE (4)	65 ÷ 5000 Hz
POWER COMPRESSION @-10DB (5)	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	11,90hm at 25°C
MAX PEAK TO PEAK EXCURSION	25 mm (1 in)
VOICE COIL DIAMETER	65 mm (2,5 in)
VOICE COIL WINDING MATERIAL	aluminum
SUSPENSION	M-roll, Polycotton
CONE	Curvilinear, Treated paper

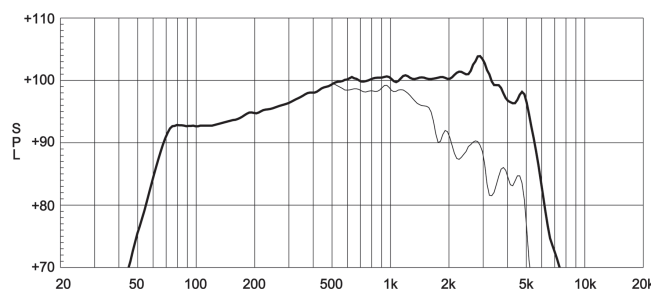
## THIELE SMALL PARAMETERS (6)

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 (7)	± 4 mm (±0,16 in)
Le (1kHz)	0,4 mH
Ref. Efficiency 1W@1m (half space)	96 dB

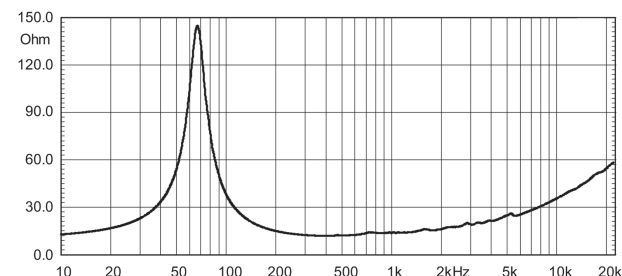
## MOUNTING INFORMATIONS

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 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) 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.
- (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 4V 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) 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.
- (6) 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.
- (7) Linear Math. Xmax is calculated as  $(Hvc-Hg)/2 + Hg/4$  where Hvc is the coil depth and Hg is the gap depth.

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