

# 6NMB420

High Output MB Neodymium Transducer

## KeyFeatures

- 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

## Description

The 6NMB420 is a 44mm voice coil 6.5 inch neodymium midbass transducer designed for mid low frequency reproduction in system designs where high intelligibility is required. When compared to our 6ND410 state-of-the-art midrange transducer, 6NMB420 offers a lower frequency resonance and a longer linear Xmax value. As a result the speaker shows an increased output around 250Hz, with a consequent slightly reduced output above 700Hz.

It is suitable as mid-bass in line array systems or multiple way systems with high-pass crossover above 200 Hz and low-pass up to 3kHz; enclosure might be closed or vented with volume size starting from 2 lit.

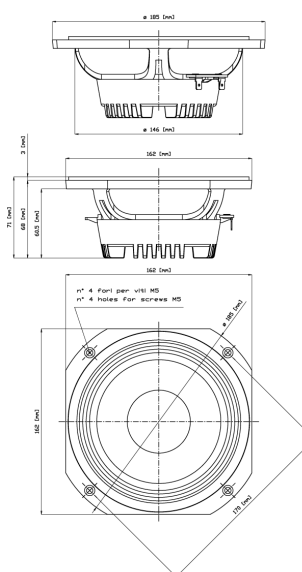
The speaker offers a superb linearity: distortion values are furtherly minimized by new enhanced design criterias, developed by Eighteen Sound engineers, taking the 6NMB420 to very high level of performance.

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. A consistent heat transfer is guaranteed by the encapsulation of the magnetic structure in the interior of the basket, offering a large contact space between the back plate and the dissipating structure.

Particular efforts were dedicated to the surround shape and material design in order to minimize the resonances on mid range frequencies. The triple roll design offers a consistent damping to typical bell modes.

The 44 mm voice coil is made of light-weight aluminum wire and assures linearity and high power handling.

The ability to perform in humid environments is a key feature of the 6NMB420: this is achieved through a proprietary humidity repellent cone treatment



## Models

| Model      | Code       | Info  |
|------------|------------|-------|
| 022068N440 | 022068N440 | 80hm  |
| 022066N440 | 022066N440 | 160hm |

## General Specifications

|                               |                              |
|-------------------------------|------------------------------|
| Nominal Diameter              | 152mm (6 in)                 |
| Rated Impedance               | 8 Ohm                        |
| AES Power                     | 200 W                        |
| Program Power                 | 260 W                        |
| Peak Power                    | 500 W                        |
| Sensitivity                   | 100 dB                       |
| Frequency Range               | 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)              |
| Voice Coil Diameter           | 44 mm (1,75 in)              |
| Voice Coil winding material   | aluminum                     |
| Suspension                    | Triple Roll, Polycotton      |
| Cone                          | Curvilinear, Paper           |

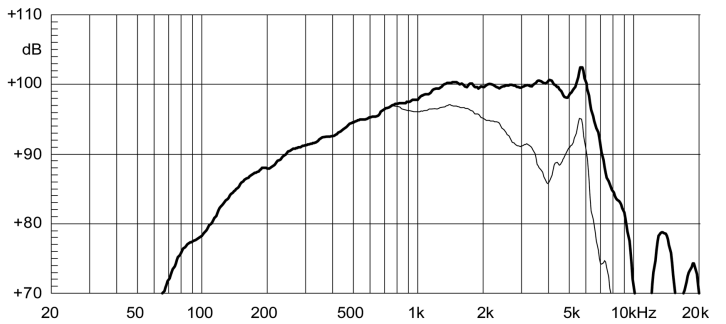
## Thiele Small Parameters

|                                    |                             |
|------------------------------------|-----------------------------|
| 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           | ± 3 mm (±0,12 in)           |
| Le (1kHz)                          | 0,1 mH                      |
| Ref. Efficiency 1W@1m (half space) | 95,1 dB                     |

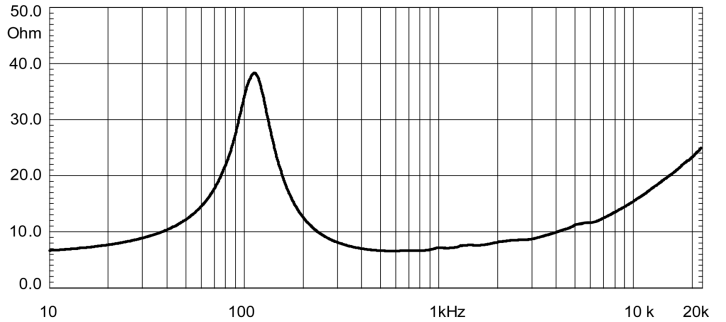
## Mounting information

|                               |                   |
|-------------------------------|-------------------|
| Overall diameter              | 162 mm (6,38 in)  |
| N. of mounting holes and bolt | 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 (2,75 lb) |
| Shipping weight               | 1,45 kg (3,19 lb) |
| Packaging Dimensions          | 1,45 kg (3,19 lb) |

## 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 150-3000Hz 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) 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.
- 8) Linear Math. Xmax is calculated as  $(Hvc-Hg)/2 + Hg/4$  where Hvc is the coil depth and Hg is the gap depth.