

# 10NW650

## LF Neodymium Transducer

## KeyFeatures

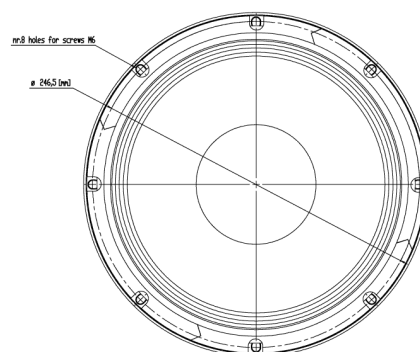
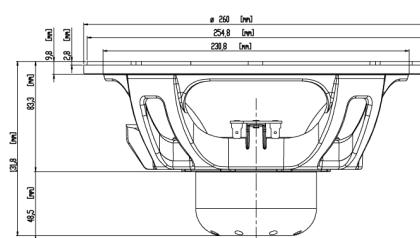
- 96 dB SPL 1W / 1m average sensitivity
- 65 mm (2.5 in) aluminum edgewound voice coil
- 600 W program power handling
- High excursion design for low frequency clarity and punch
- Weather protected cone and coated plates for outdoor usage
- Ultra lightweight design
- Suitable for line array applications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

### Description

The 10NW650 is a neodymium 10 inch size woofer. The transducer has been developed in response to a specific market requirement for a light weight design that combines excellent linearity with high power handling capabilities. The 10NW650 is primarily intended for use as a low frequency driver for 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 high grade neodymium magnet assembly assures high flux concentration and low power compression. 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, edgewound aluminum wire voice coil is wound on a high strength fiberglass former. The voice coil is cooled through airways placed between the chassis back plate and the magnet faceplate and carefully designed ventilation ducts made into the metal back plate. The curvilinear paper cone is formed using a special high strength wood pulp, designed to achieve the best possible rigidity and stiffness. Due to the increasing use during outdoor audio events, the ability to perform in humid environments is an extra key feature of the 10NW650. This is achieved through an exclusively developed cone treatment which renders the cone humidity repellent while does not increase the total moving speaker mass. In addition, a special epoxy treatment is applied to the top and back plates making the transducer far more resistant to the corrosive effects of salts and oxidation.

## Models

| Model      | Code       | Information |
|------------|------------|-------------|
| 022108N650 | 022108N650 | 8 Ohm       |
| 022106N650 | 022106N650 | 16 Ohm      |



# 10NW650

## LF Neodymium Transducer

### General Specifications

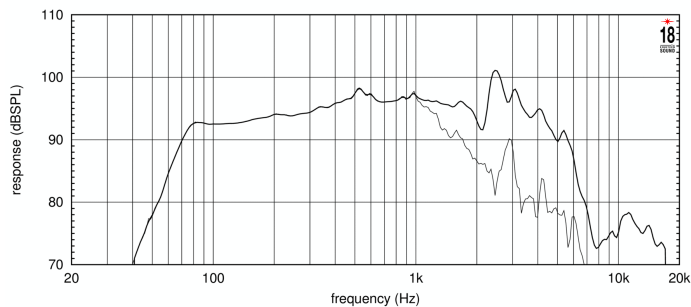
|                               |                                                         |
|-------------------------------|---------------------------------------------------------|
| Nominal Diameter              | 260 mm (10 in)                                          |
| Rated Impedance               | 8 Ohm                                                   |
| AES Power                     | 300 W                                                   |
| Program Power                 | 600 W                                                   |
| Peak Power                    | 1200 W                                                  |
| Sensitivity                   | 96 dB                                                   |
| Frequency Range               | 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)                                         |
| Voice Coil Diameter           | 65 mm (2,5 in)                                          |
| Voice Coil Winding Material   | Edgewound Aluminum                                      |
| Suspension                    | Double-roll, Polycotton                                 |
| Cone                          | Curvilinear profile, water resistant, high damping pulp |

### Thiele Small Parameters

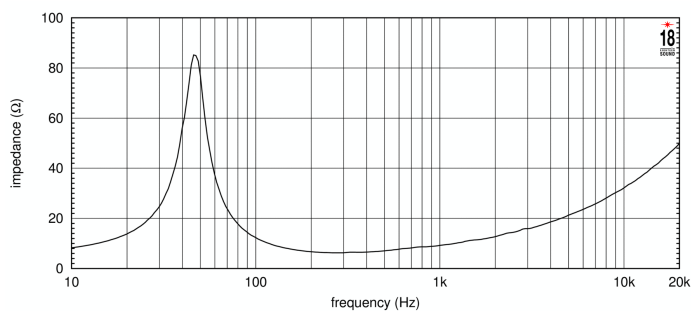
|                                    |                             |
|------------------------------------|-----------------------------|
| Fs                                 | 51 Hz                       |
| Re                                 | 5,0 Ohm                     |
| Sd                                 | 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           | ± 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 and bolt  | 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 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 25 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 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 70-2000 Hz, after a 5 min pink noise preconditioning test at the specified power.
- 7) Linear Math. Xmax is calculated as  $(H_{vc} - H_g)/2 + H_g/4$  where  $H_{vc}$  is the coil depth and  $H_g$  is the gap depth.