

### KEY FEATURES

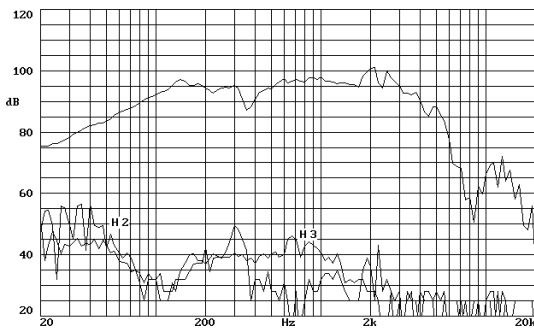
- High power handling (400 w AES)
- 3" (77 mm) copper voice coil with apical former
- Optimum winding length for increased linear excursion
- Extended response in the medium frequency range
- Designed for high power woofer applications



### GENERAL DESCRIPTION

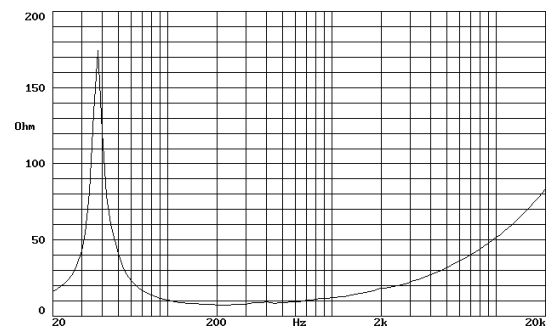
The design concept of this low frequency transducer arises from the need of achieve a more resistant loudspeaker that matches the more and more power given by ultimate amplification systems. In order to accomplish that, almost every component of the speaker has been reconsidered. The SM-112/N incorporates a 3" voice coil made with high quality materials: copper round wire with high temperature bonding strength and apical former. Moreover, it features a powerful magnet system with rear air ventilation. All these facts result in a 12" driver with extended and smooth low-mid frequency response, reduced harmonic distortion, good efficiency and excellent power handling (400 w AES). The SM-112/N is specially recommended for woofer applications.

### FREQUENCY RESPONSE AND DISTORTION CURVES

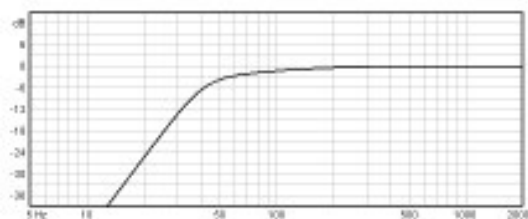


Note: on axis frequency response measured with loudspeaker standing on infinite baffle in anechoic chamber, 1w @ 1m.

### FREE AIR IMPEDANCE CURVE

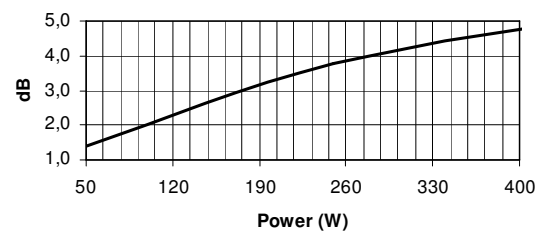


### PREDICTED LOW FREQUENCY RESPONSE



Note: Bass-reflex cabinet,  $V_b=70$  l,  $f_b=40$  Hz

### POWER COMPRESSION LOSSES



Note: These losses are calculated from a five minutes AES power test applying band limited pink noise (25-1200 Hz). The loudspeaker is free-air standing.

### TECHNICAL SPECIFICATIONS

Nominal diameter	300 mm. 12 in.
Rated impedance	8 ohms.
Minimum impedance	7.4 ohms.
Power capacity *	400 w AES
Program power	800 w
Sensitivity	97 dB 2.83v @ 1m @ 2π
Frequency range	35 - 4000 Hz
Recom. enclosure vol.	30 / 100 l 1.06 / 3.53 ft. <sup>3</sup>
Voice coil diameter	77 mm. 3 in.
Magnetic assembly weight	4.9 kg. 10.8 lb.
BL factor	17.2 N / A
Moving mass	0.052 kg.
Voice coil length	18 mm.
Air gap height	7 mm.
X damage (peak to peak)	30 mm.

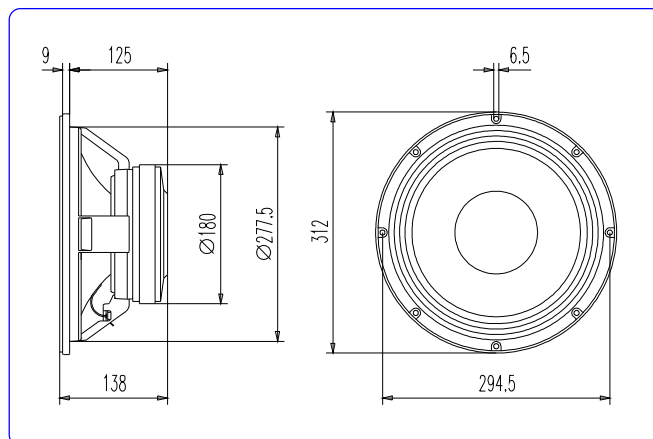
### MOUNTING INFORMATION

Overall diameter	312 mm. 12.3 in.
Bolt circle diameter	294.5 mm. 11.6 in.
Baffle cutout diameter:	
- Front mount	277.5 mm. 10.9 in.
- Rear mount	280 mm. 11 in.
Depth	138 mm. 5.43 in.
Volume displaced by driver	4.5 l 0.16 ft. <sup>3</sup>
Net weight	5.65 kg. 12.45 lb.
Shipping weight	6 kg. 13.23 lb.

### THIELE-SMALL PARAMETERS \*\*

Resonant frequency, fs	38 Hz
D.C. Voice coil resistance, Re	6.5 ohms.
Mechanical Quality Factor, Qms	7.2
Electrical Quality Factor, Qes	0.28
Total Quality Factor, Qts	0.27
Equivalent Air Volume to Cms, Vas	138 l
Mechanical Compliance, Cms	327 μm / N
Mechanical Resistance, Rms	1.8 kg / s
Efficiency, ηo (%)	2.6
Effective Surface Area, Sd (m <sup>2</sup> )	0.0550 m <sup>2</sup>
Maximum Displacement, Xmax	5.5 mm.
Displacement Volume, Vd	300 cm <sup>3</sup>
Voice Coil Inductance, Le @ 1 kHz	1.1 mH

### DIMENSION DRAWINGS



### MATERIALS

- **Voice coil:** copper round wire with high temperature bonding strength. Apical former able to withstand high temperatures.
- **Cone:** high stiffness paper cone.
- **Surround:** specially treated cloth surround.
- **Spider:** cotton spider.
- **Metal parts:** effective protection against corrosion.
- **Basket:** specially designed die cast aluminium basket to avoid disturbing resonances.
- **Magnet:** high Curie temperature ferrite.

#### Notes:

\*The power capacity is determined according to AES2-1984 (r2003) standard. Program power is defined as the transducer's ability to handle normal music program material.

\*\*T-S parameters are measured after an exercise period using a preconditioning power test. The measurements are carried out with a velocity-current laser transducer and will reflect the long term parameters (once the loudspeaker has been working for a short period of time).



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