

#### KEY FEATURES

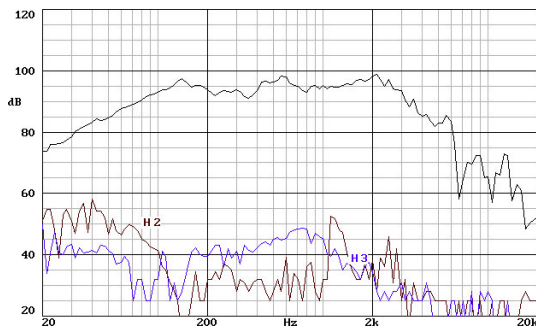
- High power handling (400 w AES)
- 3" (77 mm) copper voice coil
- Good sensitivity: 96 dB
- Optimum winding length for increased linear excursion
- Excellent performance/price ratio
- Designed for high power subwoofer applications



#### GENERAL DESCRIPTION

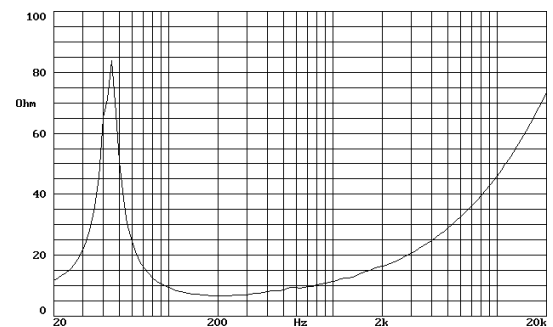
The SM-112/W is specially intended for compact subwoofer applications. Its main features are its 3" voice coil made with high quality materials, its powerful magnet system with rear air ventilation and its stiff cone combined with an special surround that allows longer displacements. All these facts result in a 12" driver with an smooth frequency response, reduced harmonic distortion, good efficiency and excellent power handling (400 w AES). Moreover, this loudspeaker offers an excellent performance/price ratio.

#### FREQUENCY RESPONSE AND DISTORTION CURVES

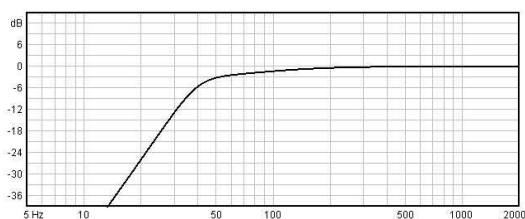


Note: on axis frequency response measured with loudspeaker standing on infinite baffle in anechoic chamber, 1w @ 1m.

#### FREE AIR IMPEDANCE CURVE

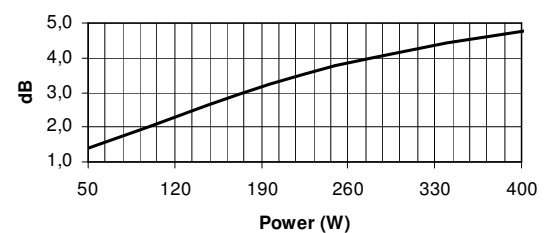


#### PREDICTED LOW FREQUENCY RESPONSE



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        | 6.7 ohms.                               |
| Power capacity *         | 400 w AES                               |
| Program power            | 800 w                                   |
| Sensitivity              | 96 dB 2.83v @ 1m @ 2 $\pi$              |
| 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                | 16.3 N / A                              |
| Moving mass              | 0.062 kg.                               |
| Voice coil length        | 18 mm.                                  |
| Air gap height           | 7 mm.                                   |
| X damage (peak to peak)  | 35 mm.                                  |

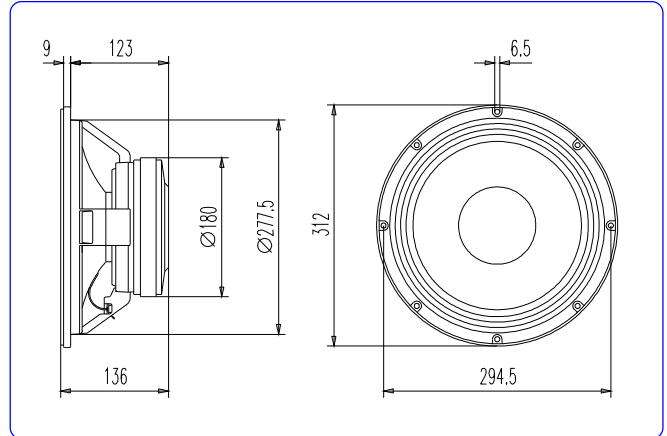
#### MOUNTING INFORMATION

|                            |                             |
|----------------------------|-----------------------------|
| 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                      | 136 mm. 5.35 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                       | 42 Hz                 |
| D.C. Voice coil resistance, Re               | 5.8 ohms.             |
| Mechanical Quality Factor, Qms               | 4.92                  |
| Electrical Quality Factor, Qes               | 0.36                  |
| Total Quality Factor, Qts                    | 0.33                  |
| Equivalent Air Volume to Cms, Vas            | 90 l                  |
| Mechanical Compliance, Cms                   | 225 $\mu$ m / N       |
| Mechanical Resistance, Rms                   | 3.4 kg / s            |
| Efficiency, $\eta_0$ (%)                     | 1.8                   |
| Effective Surface Area, Sd (m <sup>2</sup> ) | 0.0530 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.
- **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).