

From voice communications to medical devices to arcade and casino gaming, the 93011 has your needs covered. All the signature materials of a MISCO speaker – a high-energy neodymium magnet, polypropylene cone, and a polyurethane surround – come together here in a rugged steel frame built to last while outputting top-quality sound your listeners can trust. If you're looking for a versatile, rectangular driver to fill a variety of applications indoors and outdoors, then check out the 93011.

- Wide range speaker
- 1.6 x 2.8 inches (41 mm x 71 mm) basket diameter
- 3 watts, 4 ohms, 89 dB SPL
- 0.5" copper voice coil, paper former
- Neodymium magnet, stamped steel basket
- Polypropylene cone, polyurethane surround

*Oaktron by MISCO is a premium line of high-performance, ready-to-ship transducers and drivers for a wide variety of applications, including high fidelity, arcade and casino games, automotive, aerospace, and many more.* From elegantly simple to highly specialized designs for unique and demanding applications, there is an Oaktron loudspeaker perfectly suited for your needs.

MISCO engineers use the world's most sophisticated loudspeaker measurement systems, including the Klippel Analyzer, to maximize and confirm the speaker's design, as well as the Klippel QC module to ensure perfect unit-to-unit consistency and reliability.



#### Primary Specifications

<b>Size, Nominal (inch &amp; mm)</b>	1" Oval (25 mm)
<b>Rated Impedance (<math>\Omega</math>)</b>	4
<b>Continuous Power (W)</b>	3
<b>Sensitivity (dB SPL) <sup>1</sup></b>	89
<b>Frequency Range (Hz)</b>	223 - 18, 000
<b>Resonant Frequency (Fs) (Hz) +/- 15%</b>	223

### More Specifications

<b>Application</b>	Arcade Gaming, Outdoor , Voice Communications
<b>RoHS Compliant</b>	Yes
<b>DC Resistance (Re) (<math>\Omega</math>)</b>	3.7
<b>Program Power (W)</b>	5
<b>Continuous Power (W)</b>	3

### Small Signal Parameters

<b>Nominal Impedance (Z) (<math>\Omega</math>)</b>	4
<b>DC Resistance (Re) (<math>\Omega</math>)</b>	3.7
<b>Voice Coil Inductance (Le) (mH)</b>	0.06
<b>Resonant Frequency (Fs) (Hz) +/- 15%</b>	223
<b>Mechanical Q Factor (Qms)</b>	5.2
<b>Electrical Q Factor (Qes)</b>	3.26
<b>Total Q Factor (Qts)</b>	2.00
<b>Moving Mass (Mms) (gm)</b>	1.1
<b>Suspension Compliance (Cms) (mm/N)</b>	0.45
<b>Mechanical Resistance (Rms) (kg/s)</b>	0.31
<b>Surface Area of Diaphragm (Sd) (cm<sup>2</sup>)</b>	17.6
<b>Compliance Equivalent Volume (Vas) (L)</b>	0.20
<b>Maximum Linear Excursion (Xmax) (mm)</b>	0.7
<b>Coil Winding Height (mm)</b>	3.3
<b>Magnetic Gap Height (mm)</b>	2
<b>Motor Force Factor (BL) (T•M)</b>	1.3
<b>Efficiency (<math>\eta_0</math>) (%)</b>	0.06
<b>Efficiency Bandwidth Product (EBP) (Fs/Qes)</b>	68.5

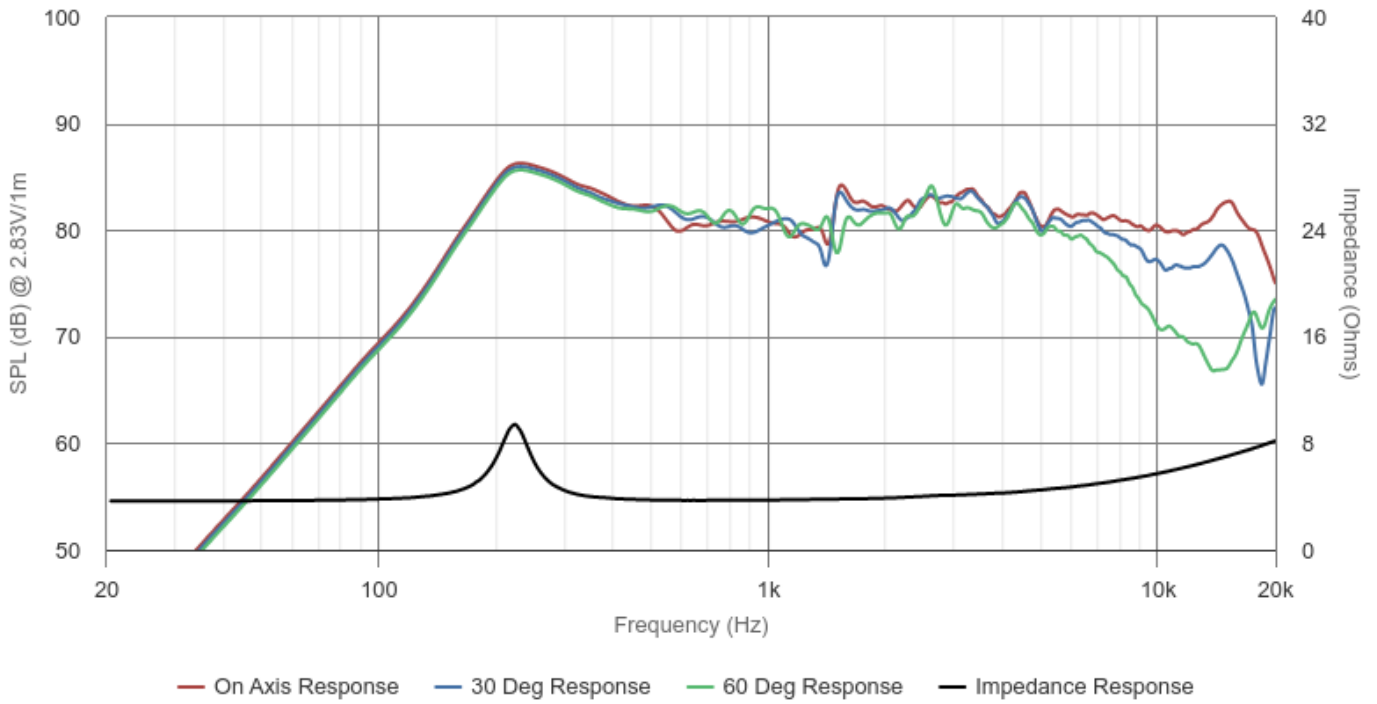
### Material Descriptions

<b>Basket Type</b>	Stamped Steel
<b>Terminal Size (mm)</b>	5.2 mm x 0.5 mm
<b>Voice Coil Diameter (mm)</b>	13.28
<b>Voice Coil Wire Material</b>	High temperature copper
<b>Voice Coil Former Material</b>	Paper
<b>Magnet Material</b>	Neodymium
<b>Magnet Weight (g)</b>	36.17
<b>Cone Body Material</b>	Polypropylene

<b>Cone Surround Material</b>	Polyurethane
<b>Spider Material</b>	Cotton
<b>Dust Cap Material</b>	Mylar (polyester)
<b>Net Weight (kg)</b>	0.01



## Frequency & Impedance Response



Highcharts.com

