

Model No.

8P100

8" 100W Coaxial Compression Driver

High output driver engineered for high energy, high ceiling applications is ideal for clubs, bars, hotel ballrooms, multi-purpose areas, convention and sporting facilities, transportation terminals, concourses and similar venues. It features a robust motor structure with 38oz. magnet and 2" voice coil wound on a Kapton former. The high frequency compression driver is coaxially mounted behind the woofer and provides increased power handling with greater efficiency than a conventional dome tweeter.

Features

- Built-in crossover network with second order high-pass and second order low-pass filter accomplishes proper frequency division between the two drivers.
- Frame is stamped 18-gauge steel with a corrosion-resistant black electrocoat finish.
- Power rating 100W
- Frequency response 46Hz-20kHz (+6dB), 40Hz-20kHz (+6.9dB)
- Dispersion angle 105 degrees @2000Hz octave (-6dB)
- Average sensitivity 93.8dB (SPL @ 1W/1M)
- Made in the USA to meet or exceed all applicable EIA standards.

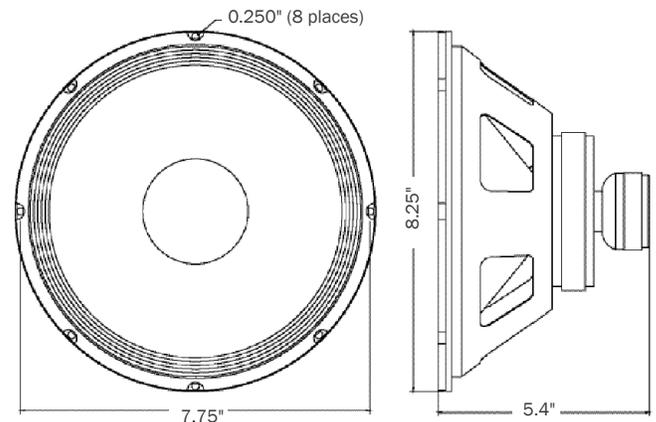
A&E Specifications

The coaxial 8" driver shall be AVLELEC Model No. 8P100 which shall be of the coaxial compression driver type having electrically independent high and low frequency transducers. The low frequency section shall have an 8" diameter cone and the high frequency section shall be a compression driver tweeter. A built-in electrical crossover network shall be employed to accomplish the proper frequency division between the two drivers. The crossover shall be at 2400Hz with a second order high-pass and a second order low-pass filter. The driver shall be capable of producing a uniform audible frequency response over the range of 46Hz-20kHz (+6dB), 40Hz-20kHz (+6.9dB) with a dispersion angle of 105 degrees @2000Hz octave (-6dB). Average sensitivity shall measure 93.8dB (SPL at 1W/1M). Power rating shall be 100W RMS. The low frequency voice coil shall have a diameter of 2" and shall operate in a magnetic field derived from a strontium ferrite (ceramic) magnet having a nominal weight of 38oz. The high frequency voice coil shall have a diameter of 1-inch and shall operate in a magnetic field derived from a ceramic magnet having a nominal weight of 7.7oz. The voice coil impedance shall be 8ohms. The driver shall have a round, structurally reinforced stamped 18-ga.



steel frame with an 8" overall diameter and eight holes equally spaced at 45 degrees on a 7.75" diameter mounting bolt circle. The overall depth of the driver shall not exceed 5.4". External metal woofer parts shall be black electrocoat to resist rust and corrosion.

Drawings



Driver Specifications

PERFORMANCE

Power Rating	100 watts RMS measured per EIA Standard RS-426B
Sensitivity	93.8dB Average SPL (measured 2.83V @ 1m)
	113.8dB Maximum SPL (calculated based on power rating and measured sensitivity) 8 ohms (nominal), minimum 4.7ohms @11504Hz
Impedance	
Frequency	46Hz-20kHz (+6dB), 40Hz-20kHz (+6.9dB)
Response	2400Hz, 2nd order high-pass filter, 2nd order low-pass filter
Crossover	105 degrees conical @ 2000Hz octave (-6dB)
Frequency	

Dispersion Angle	Treated paper with cloth surround
Cone Material	
Magnet Weight, Material	38oz. (1077g), strontium ferrite
Voice Coil Diameter, Material	ceramic 2" (51mm), copper wire over
Terminals	Kapton former Quick disconnect type - spade lugs

PHYSICAL - HIGH FREQUENCY

Type	Compression driver
Magnet Weight, Material	7.7oz. (217g), ferrite
Voice Coil Diameter,	ceramic 1" (26mm),
Material Ferrofluid	copper wire Yes
Diaphragm Material	Phenolic

MECHANICAL

Basket	18 gauge stamped steel with black electrocoat
Outside Diameter	8.25 inch (209mm)
Mounting Bolt Circle	7.75 inch (197mm) with 8 holes equally spaced at 45
Cutout Diameter	degrees. 7.13 inch (181mm)
Mounting Depth	5.4 inch (137mm)
Net Weight	8.7 lbs. (3.95kg)

THIELE-SMALL

Power Rating: 100 W	Qts.....0.29	BL9.3 Tm	Sd.....33.2 in ² , 214cm ²
Frequency: 49 Hz	Qes0.30	Efficiency, h1.7 %	Mms15 g
Xmax.....0.12 in.	Qms.....9.8	Vas.....45.7 liters, 2789 cu.in.	Cms0.7 uM/N
Re5.7 ohms			

Scope of Performance and Power Tests

AVLELEC drivers and loudspeaker systems are tested to provide specifiers and contractors with data that reflects the performance of production products. Testing equipment includes the GoldLine TEF-20 analyzer (for performance measurements) and the LinearX LMS measurement system (for Thiele-Small Parameters).

Power Rating is tested based on EIA Standard RS-426B.

Frequency Response data is provided which is the measured frequency response range (defined by ± 6 dB) which is useful in predictive engineering calculations.

Sensitivity (SPL) data is presented in two ways: Log Average SPL is a computer calculated log average of the SPL measured at 1 meter with 1 watt input over the stated frequency response range. Maximum SPL is calculated based on the measured log average SPL and the 8ohm power rating of the speaker.

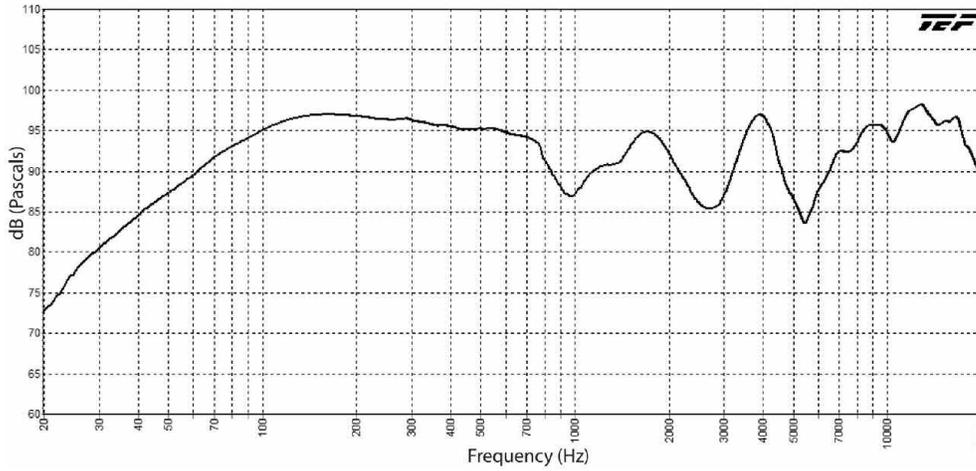
Dispersion Angle is defined as the angle of coverage that is no more than 6dB down from the on-axis value averaged over the 2000Hz octave band. Since speech intelligibility is very dependent upon the 2000Hz octave, this specification is quite useful in designing speech reinforcement systems that provide even coverage and speech intelligibility.

Thiele-Small Parameters for raw drivers are measured using the Lin-earX LMS measurement system. These parameters are useful in determining the optimum type and size of enclosure for a specific driver.

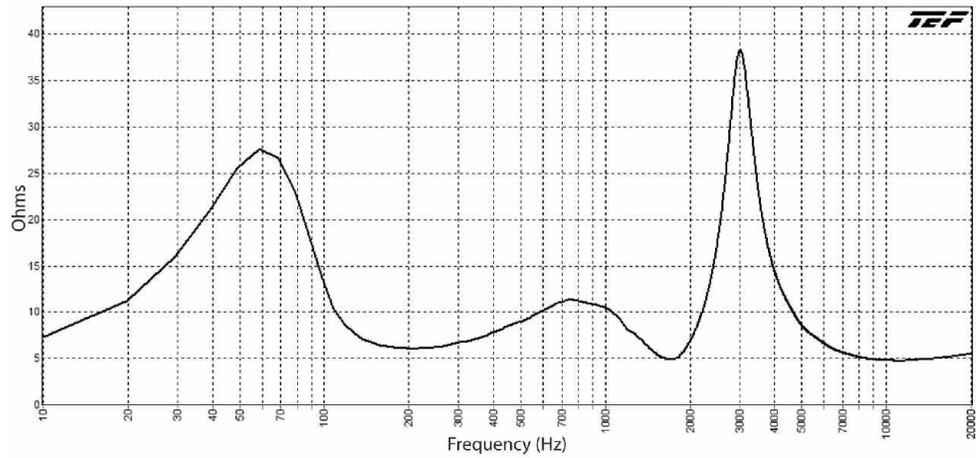
Impedance data is presented in three ways: Nominal Impedance is the generally accepted impedance for use in making comparisons with competitive products; the Impedance Curve is a graphical representation of the impedance that is measured in the lab and gives the impedance of the device over the audio frequency range; Minimum Impedance is the lowest impedance measurement at a frequency within the specified frequency response range of the speaker.

Polar data is presented for the averaged one octave band surrounding the center frequencies of 1000Hz, 2000Hz, 4000Hz, and 8000Hz. Radial polar response curves show the relative change in sound pressure level as one moves from directly on-axis to an increasingly off-axis listening position. Since coaxial speaker drivers are symmetrical in the vertical and horizontal directions, only one set of polar plots will be presented for coaxial drivers and speaker systems incorporating coaxial drivers.

SPL vs. Frequency 1W/1M (half space) On-axis



Impedance



Polar Data (half space)

