



Model No.

8P100: Coaxial Compression Driver

• 8" 100W

The 8P100 is a high output driver engineered for high energy, high ceiling applications. It's ideal for clubs and bars, hotel ballrooms, multi-purpose areas, convention centers, sporting facilities, concourses, transportation terminals and similar venues.

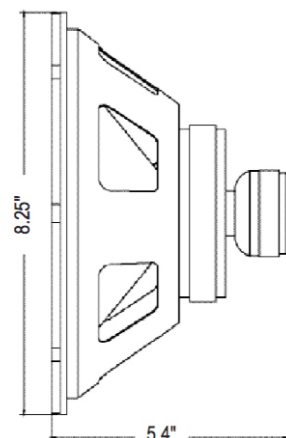
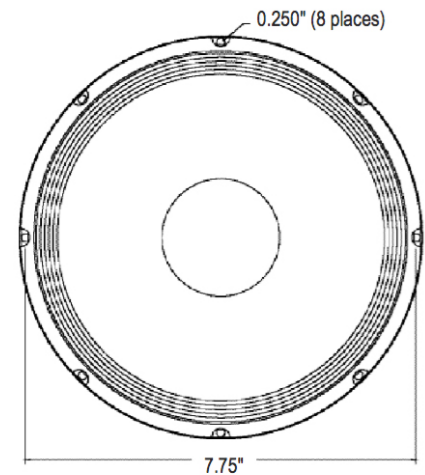
FEATURES

- **Description:** Robust motor structure with 38 oz. magnet and 2 in. 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. Built-in crossover network with second order high-pass and second order low-pass filter accomplishes proper frequency division between the two drivers.
- **Frame:** Stamped 18-gauge steel with corrosion-resistant black electrocoat finish.
- **Power Rating:** 100W
- **Frequency Response:** 45Hz–20kHz (± 6 dB)
- **Dispersion Angle:** 105 degrees @2kHz octave (-6dB)
- **Average Sensitivity:** 92.6dB (SPL@1W/1M)
- **Origin:** Made in the USA with global components to meet or exceed all applicable EIA standards.

A&E SPECIFICATIONS

The coaxial 8 inch driver shall be Lowell Model 8P100 which shall be of the coaxial compression type having electrically independent high and low frequency transducers. The low frequency section shall have an 8 inch 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 45Hz–20kHz (± 6 dB), with a dispersion angle of 105 degrees @2kHz octave (-6dB)

Average sensitivity shall measure 92.6dB (SPL at 1W/1M). Power rating shall be 100W RMS. The low frequency voice coil shall have a diameter of 2 inches and shall operate in a magnetic field derived from a strontium ferrite (ceramic) magnet having a nominal weight of 38 oz. 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 7.7 oz. Voice coil impedance shall be 8ohms. The driver shall have a round, structurally reinforced stamped 18-gauge steel frame with 8 inch overall diameter and eight holes equally spaced at 45 degrees on a 7.75 inch diameter mounting bolt circle. Overall depth of the driver shall not exceed 5.4 inches. External metal woofer parts shall be black electrocoat to resist rust and corrosion.



DRIVER SPECIFICATIONS

PERFORMANCE:

Power Rating	100 watts RMS measured per EIA Standard RS-426B
Sensitivity	92.6dB Average SPL (measured 2.83V @1m) 112.6dB Maximum SPL (calculated based on power rating and measured sensitivity)
Impedance	<u>Driver Nominal Impedance:</u> 8 ohms <u>Driver Minimum Impedance:</u> 5.3 ohms @1650Hz <u>Driver Measured Impedance:</u> 10.0 ohms @1kHz
Frequency Response	45Hz–20kHz (±6dB)
Crossover Frequency	2400Hz, second order high-pass filter, second order low-pass filter
Dispersion Angle	105 degrees conical @2kHz octave (-6dB)

PHYSICAL – WOOFER:

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

PHYSICAL – HIGH FREQUENCY DRIVER:

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

MECHANICAL:

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

THIELE-SMALL PARAMETERS:

Pe	100W	Qts	0.29	BL	9.3 Tm	Sd	33.2 in. ² (214cm ²)
Fs	49Hz	Qes.....	0.30	Efficiency, h	1.7%	Mms.....	15g
Xmax.....	0.12 in.	Qms	9.8	Vas.....	45.7 liters, 2789 cu.in.	Cms	0.7 uM/N
Re	5.7 ohms						

SCOPE of PERFORMANCE and POWER TESTS

Lowell 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 ±6dB) 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. Maximum SPL for speakers that do not include an 8ohm input, is calculated based on the measured log average SPL and the highest transformer power tap.

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 LinearX LMS measurement system. These parameters are useful in determining the optimum type and size of enclosure for a specific driver.

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.

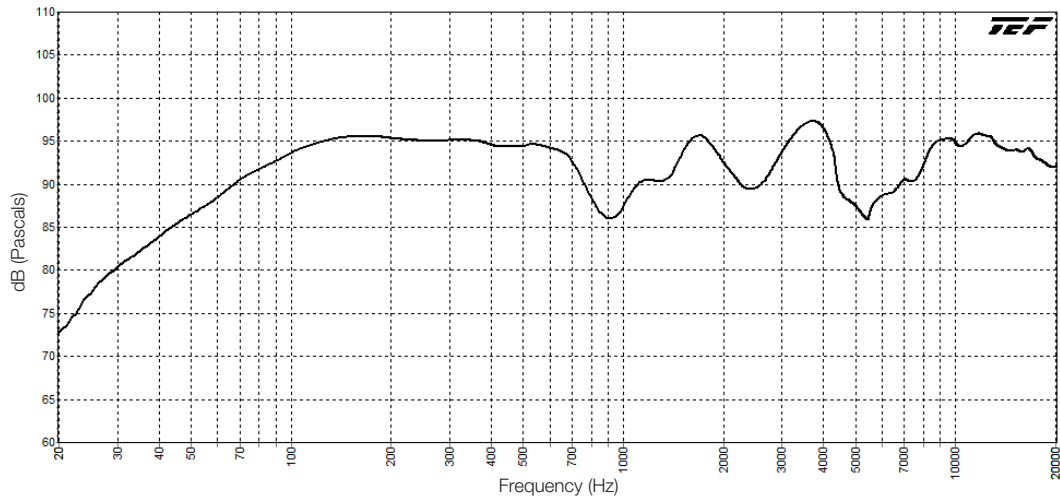
Impedance Data may be represented in four different ways depending on the particular model:

- Nominal Impedance** is the generally accepted impedance value for use in making comparisons with competitive products.
- Impedance Curve** is a graphical representation of the 8ohm driver impedance measured in the lab and gives the impedance of the device over the audio frequency range.
- Minimum Impedance** is the lowest impedance measurement of the 8ohm driver at a frequency within the specified frequency response range of the speaker.
- Impedance Measured at 1kHz** is the reading expected to be measured by a technician in the field using a typical industry 1kHz impedance meter.

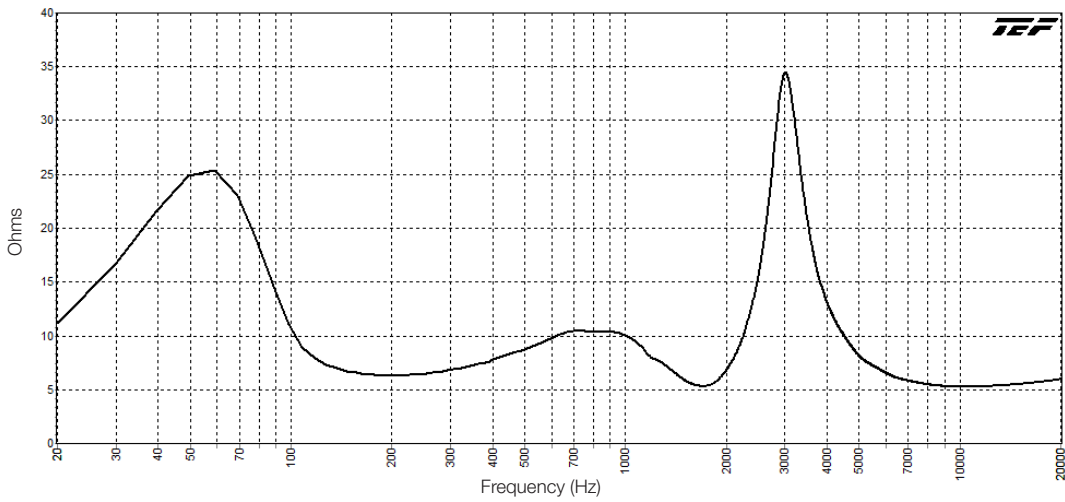
Lowell makes every effort to provide accurate information while reserving the right to change specifications and/or improve manufacturing methods without notification.

©2016 Lowell Manufacturing Company, 100 Ingram Dr., Pacific MO 63069 | 800.325.9660 | www.lowellmfg.com

SPL vs. FREQUENCY (1W/1M, full space, on-axis)



IMPEDANCE



POLAR DATA (full space)

