

AMERICAN STANDARD SERIES

BETA-10B

Recommended for professional audio, bass guitar, midbass or floor monitor applications in sealed enclosures. Also works well as a midbass or woofer in vented enclosures.

- 500 W Program Power
- 10" Nominal Diameter
- 16 Ω

APPLICATION		ENCLOSURE	
Midrange	<input type="checkbox"/>	Sealed Box	<input checked="" type="checkbox"/>
Midbass	<input checked="" type="checkbox"/>	Vented Box	<input checked="" type="checkbox"/>
Woofer	<input checked="" type="checkbox"/>	Scoop Loading	<input type="checkbox"/>
Subwoofer	<input type="checkbox"/>	Horn Loading	<input checked="" type="checkbox"/>
Bass Guitar	<input checked="" type="checkbox"/>		

SPECIFICATION

Nominal Basket Diameter	10", 254 mm
Nominal Impedance*	16 Ω
Power Rating*	
Program Power	500 W
Nominal Power	250 W
Resonance	51.6 Hz
Usable Frequency Range	50 Hz – 3.5 kHz
Sensitivity*	94.1 dB
Magnet Weight	34 oz.
Gap Height	0.312", 7.9 mm
Voice Coil Diameter	2", 51 mm

MATERIALS OF CONSTRUCTION

Aluminum voice coil
Polyimide former
Ferrite magnet
Vented core
Pressed steel basket
Paper cone
Cloth cone edge
Solid composition paper dust cap



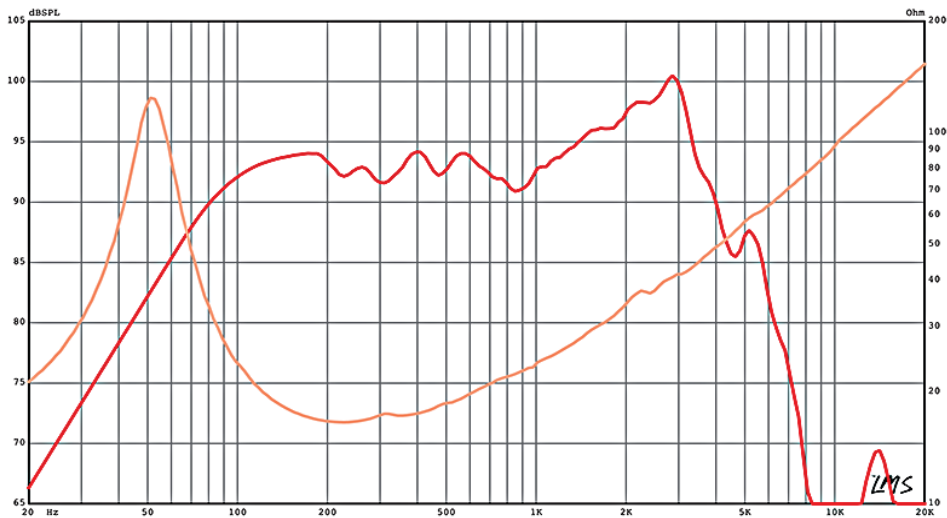
THIELE & SMALL PARAMETERS

Fs	53 Hz
Re	15.1 Ω
Le	1.33 mH
Qms	4.33
Qes	0.58
Qts	0.51
Vas	2.17 cu.ft., 61.37 liters
Vd	106.6 cc
Cms	0.35 mm/N
BL	15.4 T-M
Mms	27.05 grams
EBP	89.26
Xmax	3 mm
Sd	355.4 cm ²
Xlim	8.6 mm

MOUNTING INFORMATION

Recommended Enclosure Volume	Sealed	14.72–42.48 liters, 0.52–1.5 cu.ft.
	Vented	28.32–84.95 liters, 1–3 cu.ft.
Driver Volume Displaced		0.04 cu.ft., 1.13 liters
Overall Diameter		10.11", 256.8 mm
Baffle Hole Diameter		9.13", 231.9 mm
Front Sealing Gasket		Yes
Rear Sealing Gasket		Yes
Mounting Holes Diameter		0.23", 5.8 mm
Mounting Holes B.C.D.		9.6", 243.8 mm
Depth		3.98", 101.1 mm
Net Weight		6.8 lbs , 3.08 kg
Shipping Weight		7.8 lbs , 3.54 kg

FREQUENCY RESPONSE & IMPEDANCE CURVE*



Beta 10B Large Sealed Design

By Jerry McNutt, Eminence Speaker LLC
Limit to 200 Watts. Use above 145 Hz.



Box Properties

--Description--

Name:

Type: Closed Box

Shape: Prism, square

--Box Parameters--

Vb = 1.252 cu.ft

V(total) = 1.332 cu.ft

Qtc = 0.666

QL = 20

F3 = 85.98 Hz

Fill = heavy

Driver Properties

--Description--

Name: Beta 10B

Type: Standard one-way driver

Company: Eminence Speaker LLC

Comment: 16 Ohm Beta 10

--Configuration--

No. of Drivers = 1

--Mechanical Parameters--

Fs = 51.6 Hz

Qms = 4.33

Vas = 61.37 liters

Cms = 0.35 mm/N

Mms = 27.05 g

Rms = 2.03 kg/s

Xmax = 3 mm

Xmech = 8.6 mm

P-Dia = 211.5 mm

Sd = 355.4 sq.cm

P-Vd = 0.105 liters

--Electrical Parameters--

Qes = 0.58

Re = 15.1 ohms

Le = 1.33 mH

Z = 16 ohms

BL = 15.14 Tm

Pe = 250 watts

--Electromech. Parameters--

Qts = 0.511

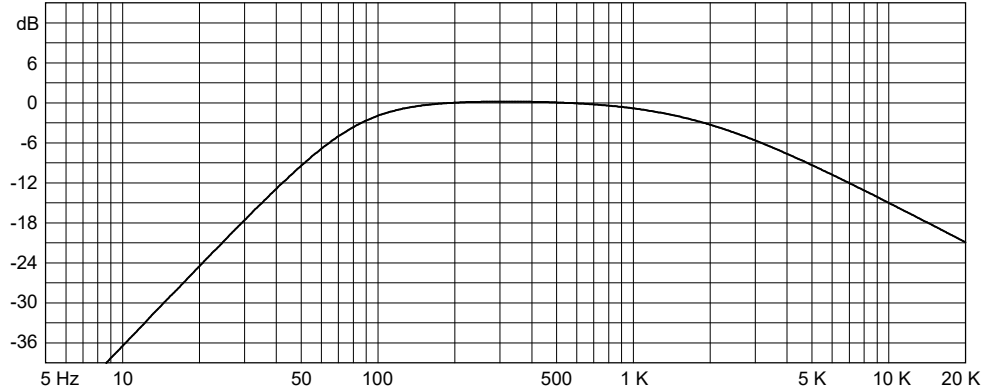
no = 1.402 %

1-W SPL = 93.61 dB

2.83-V SPL = 90.85 dB

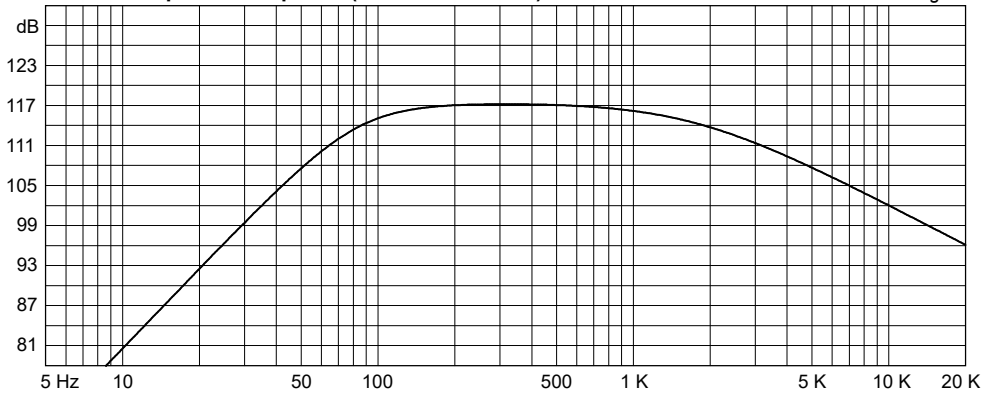
Normalized Amplitude Response (dB-SPL/Hz)

Eminence Designer



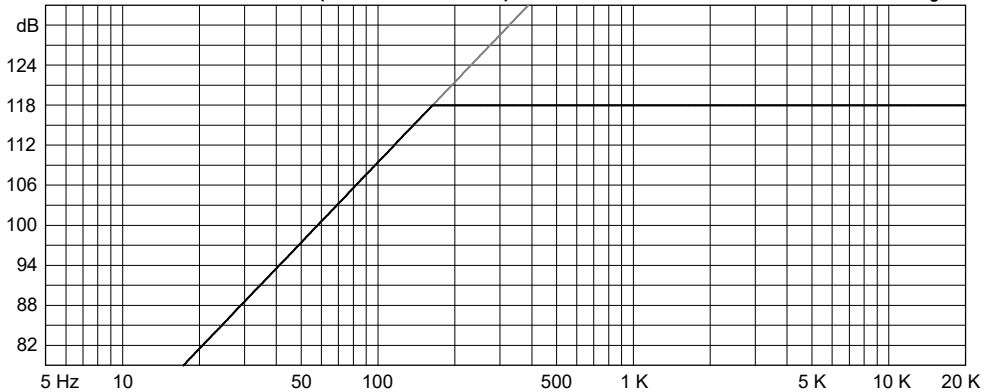
Custom Amplitude Response (dB-SPL/Hz at 1 m) with 200 watts

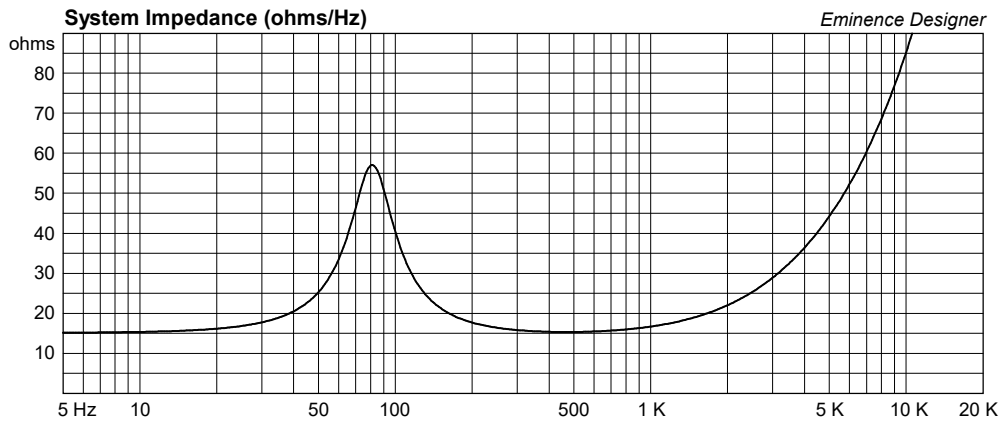
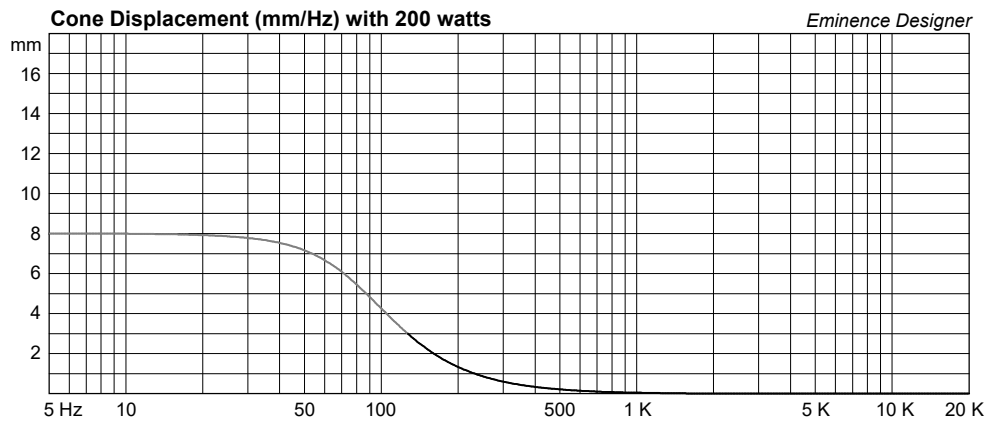
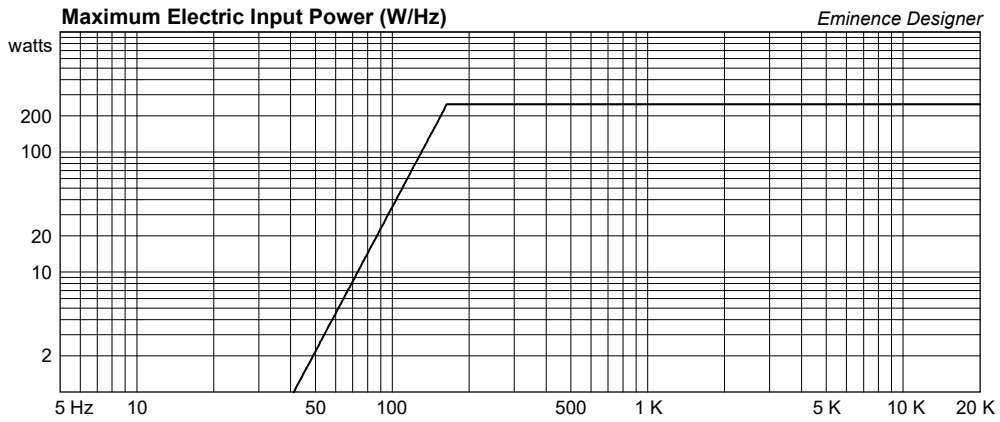
Eminence Designer



Maximum Acoustic Power (dB-SPL/Hz at 1 m)

Eminence Designer





Beta 10B Large Vented Box

By Jerry McNutt, Eminence Speaker LLC
Limit to 60 Watts Use above 70 Hz
Limit to 150 Watts Use above 125 Hz



Box Properties

--Description--

Name:

Type: Vented Box

Shape: Prism, square (optimum)

--Box Parameters--

Vb = 2.75 cu.ft

V(total) = 2.843 cu.ft

Fb = 65 Hz

QL = 7

F3 = 53.35 Hz

Fill = minimal

--Vents--

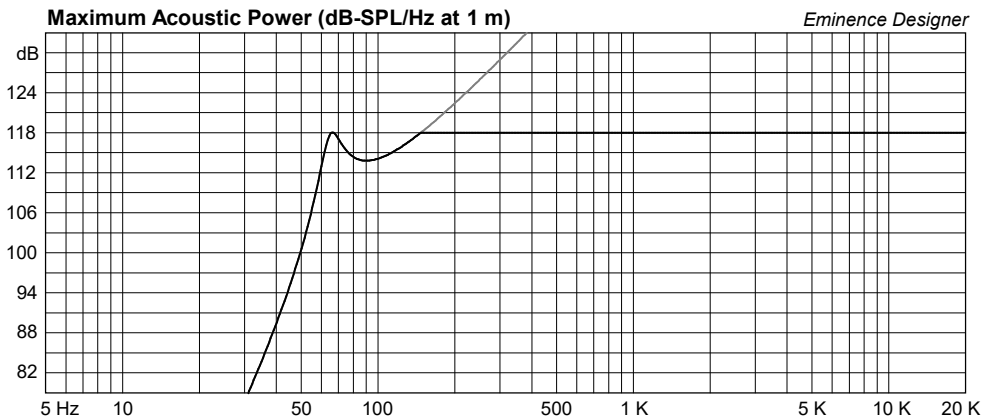
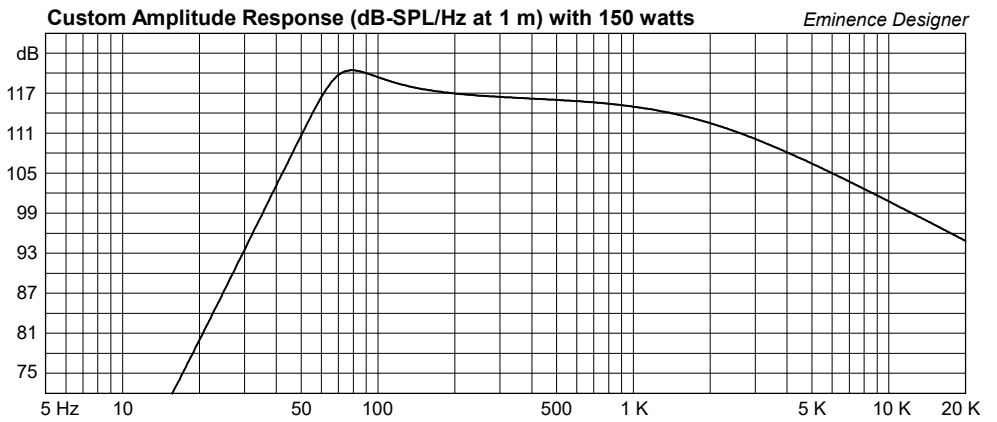
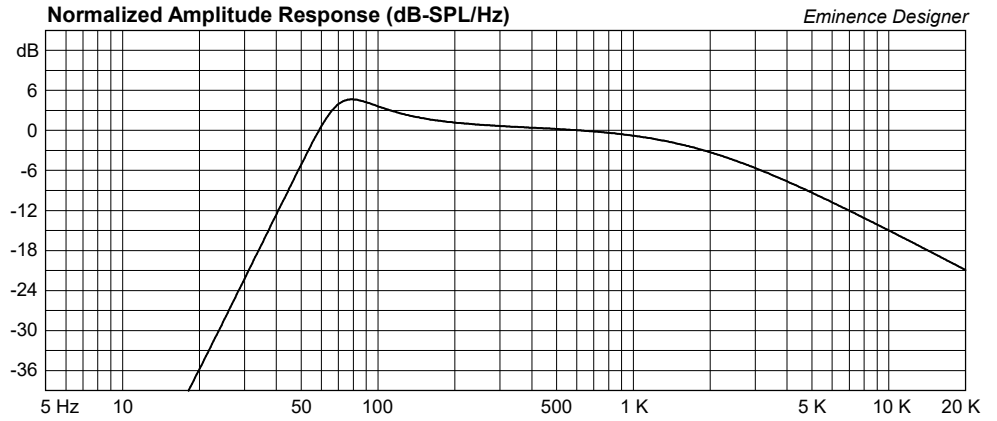
No. of Vents = 1

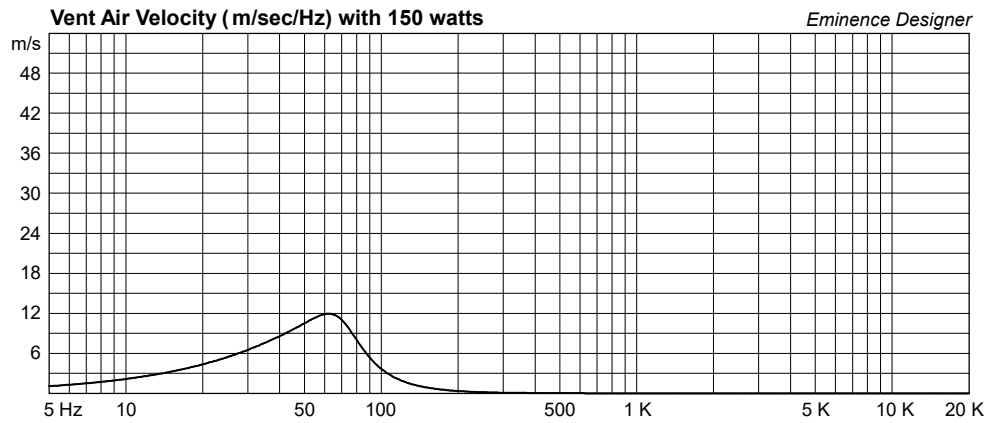
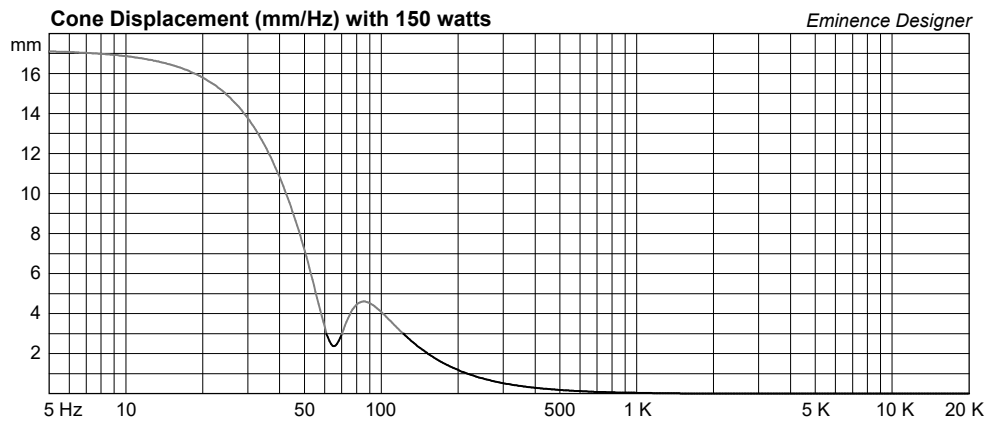
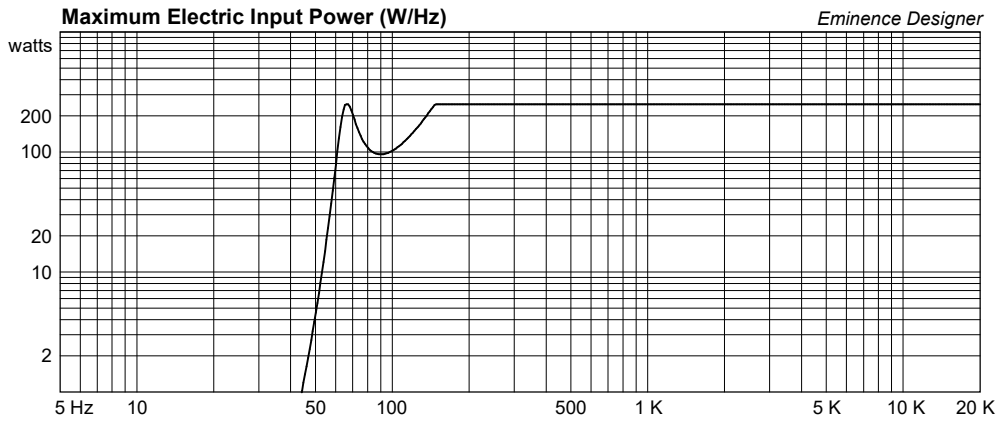
Vent shape = round

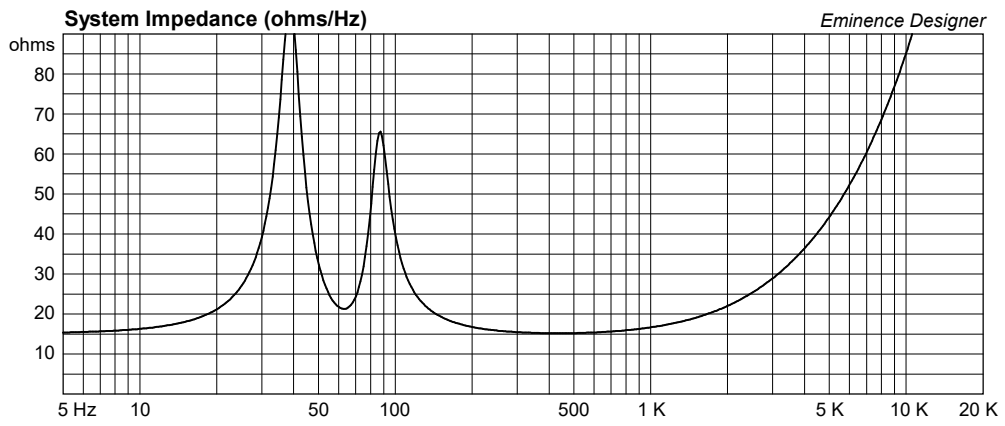
Vent ends = one flush

Dv = 5.944 in

Lv = 0.75 in







Beta 10B Sealed Midrange Design

By Jerry McNutt, Eminence Speaker LLC
Limit to 100 Watts. Use above 165 Hz.



Box Properties

--Description--

Name:

Type: Closed Box

Shape: Prism, square

--Box Parameters--

Vb = 0.524 cu.ft

V(total) = 0.524 cu.ft

Qtc = 0.849

QL = 20

F3 = 94.74 Hz

Fill = heavy

Driver Properties

--Description--

Name: Beta 10B

Type: Standard one-way driver

Company: Eminence Speaker LLC

Comment: 16 Ohm Beta 10

--Configuration--

No. of Drivers = 1

--Mechanical Parameters--

Fs = 51.6 Hz

Qms = 4.33

Vas = 61.37 liters

Cms = 0.35 mm/N

Mms = 27.05 g

Rms = 2.03 kg/s

Xmax = 3 mm

Xmech = 8.6 mm

P-Dia = 211.5 mm

Sd = 355.4 sq.cm

P-Vd = 0.105 liters

--Electrical Parameters--

Qes = 0.58

Re = 15.1 ohms

Le = 1.33 mH

Z = 16 ohms

BL = 15.14 Tm

Pe = 250 watts

--Electromech. Parameters--

Qts = 0.511

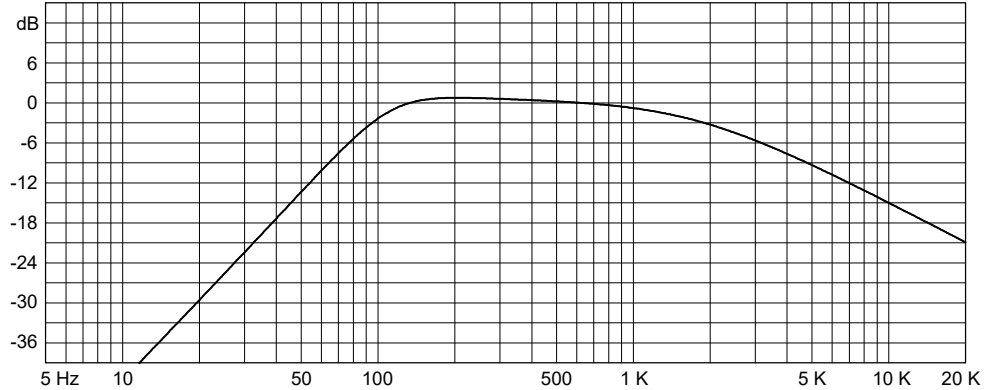
no = 1.402 %

1-W SPL = 93.61 dB

2.83-V SPL = 90.85 dB

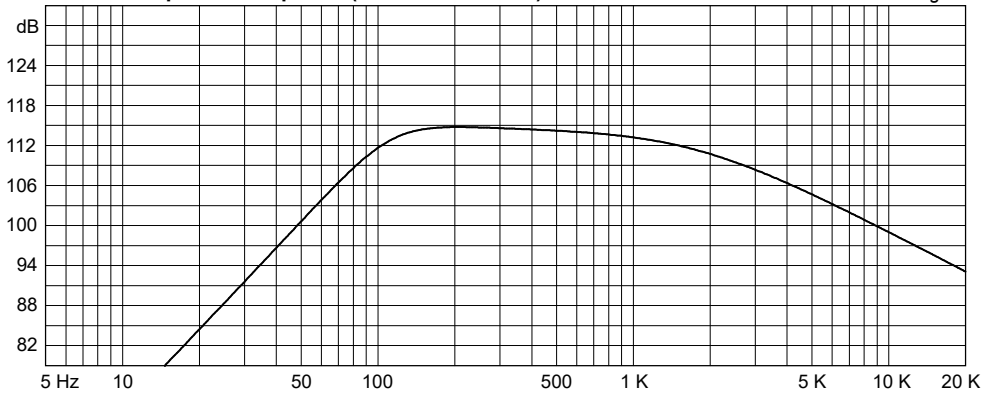
Normalized Amplitude Response (dB-SPL/Hz)

Eminence Designer



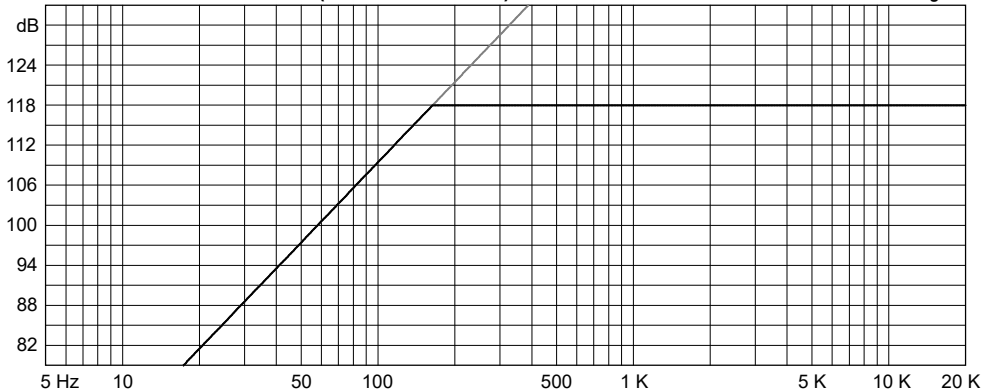
Custom Amplitude Response (dB-SPL/Hz at 1 m) with 100 watts

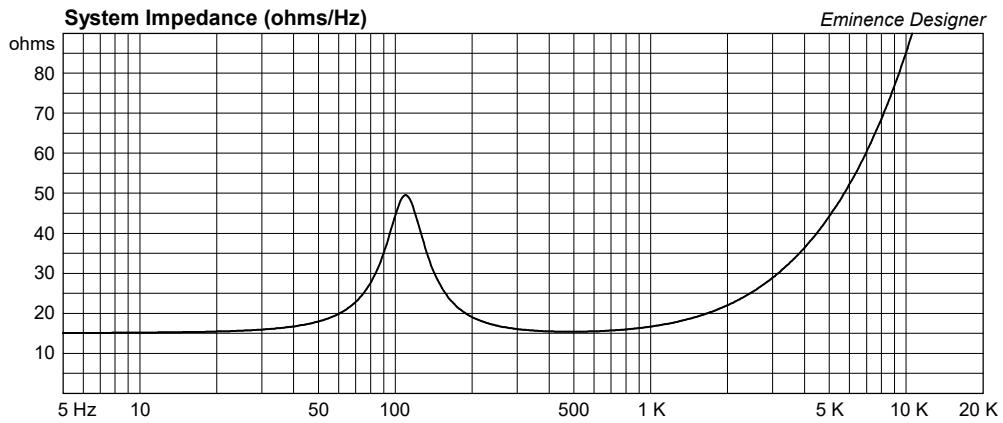
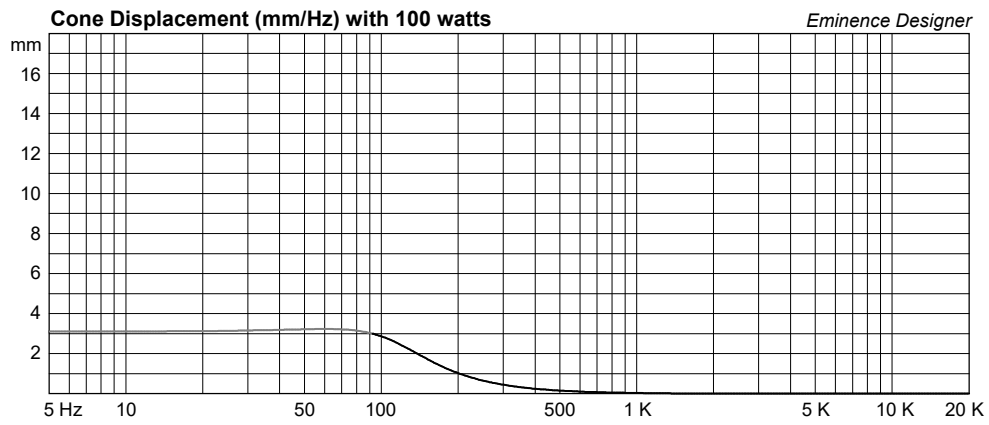
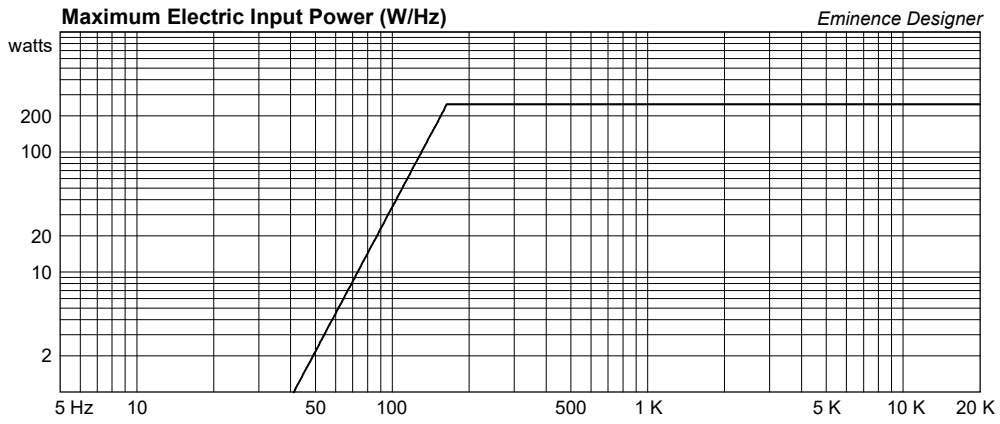
Eminence Designer



Maximum Acoustic Power (dB-SPL/Hz at 1 m)

Eminence Designer





Beta 10B Small Midbass Vented Design

By Jerry McNutt, Eminence Speaker LLC
Limit to 100 Watts Use above 100Hz



Box Properties

--Description--

Name:

Type: Vented Box

Shape: Prism, square

--Box Parameters--

Vb = 0.933 cu.ft

V(total) = 1.016 cu.ft

Fb = 75.26 Hz

QL = 7

F3 = 72.55 Hz

Fill = minimal

--Vents--

No. of Vents = 1

Vent shape = round

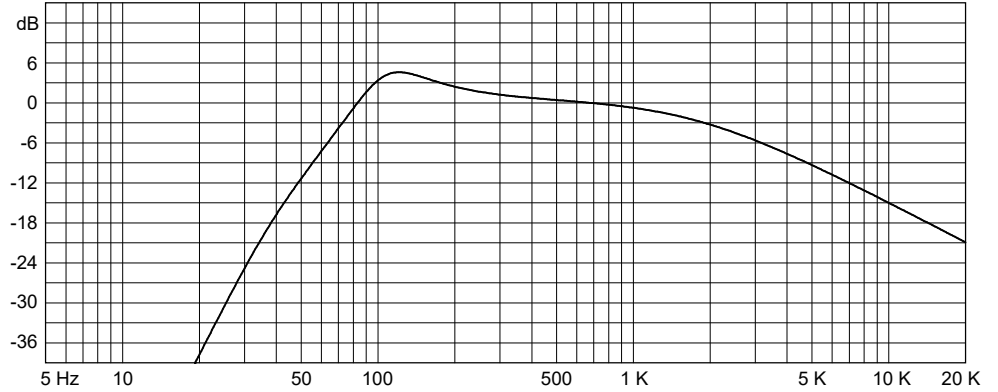
Vent ends = one flush

Dv = 3 in

Lv = 0.75 in

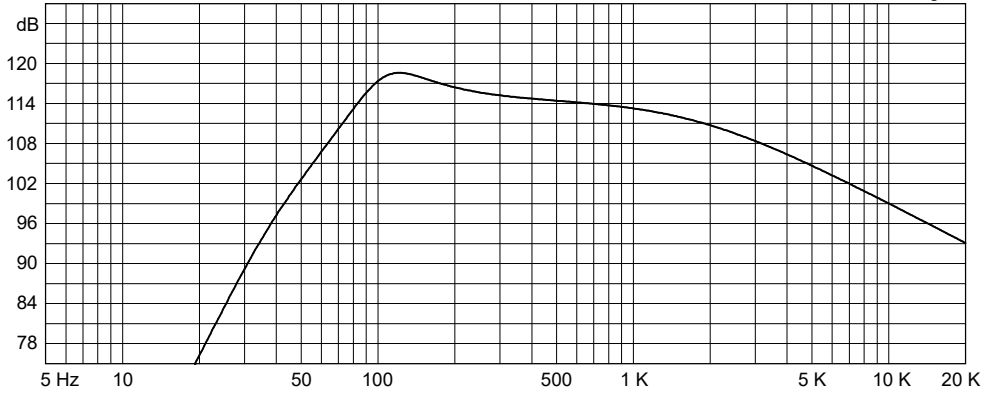
Normalized Amplitude Response (dB-SPL/Hz)

Eminence Designer



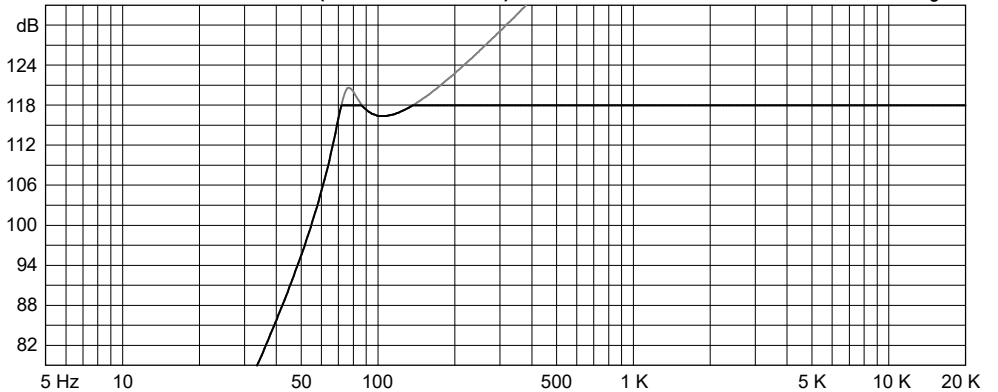
Custom Amplitude Response (dB-SPL/Hz at 1 m) with 100 watts

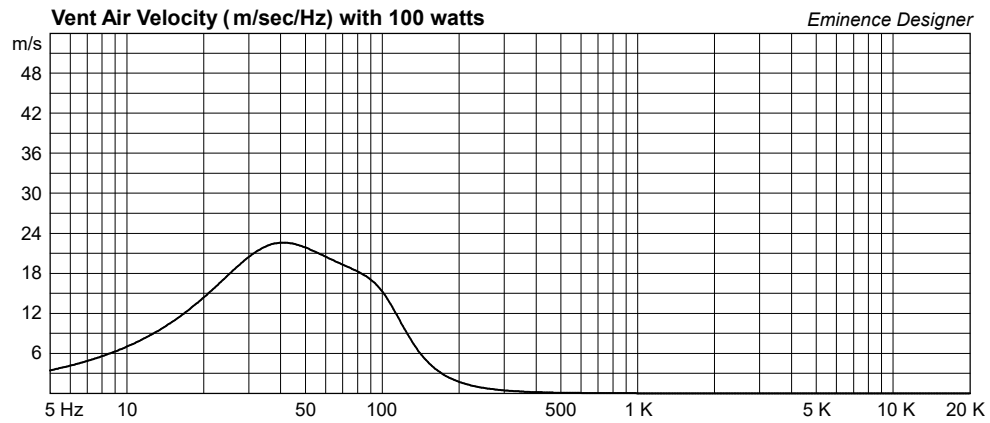
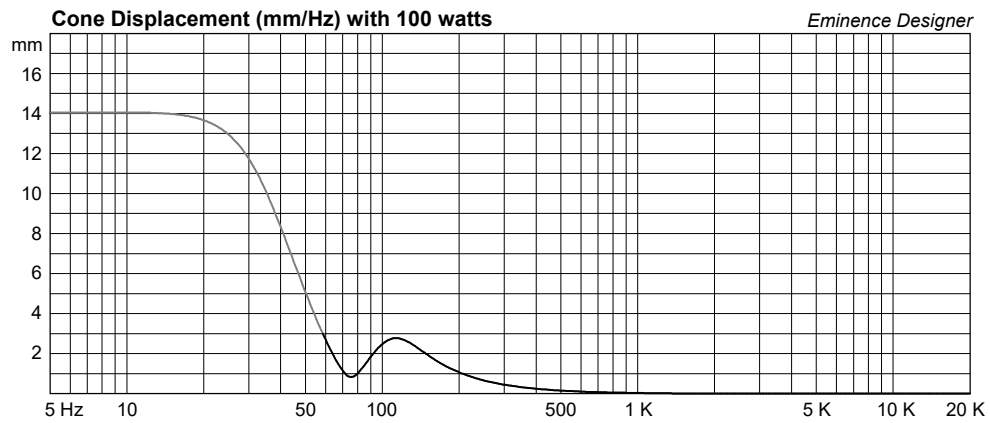
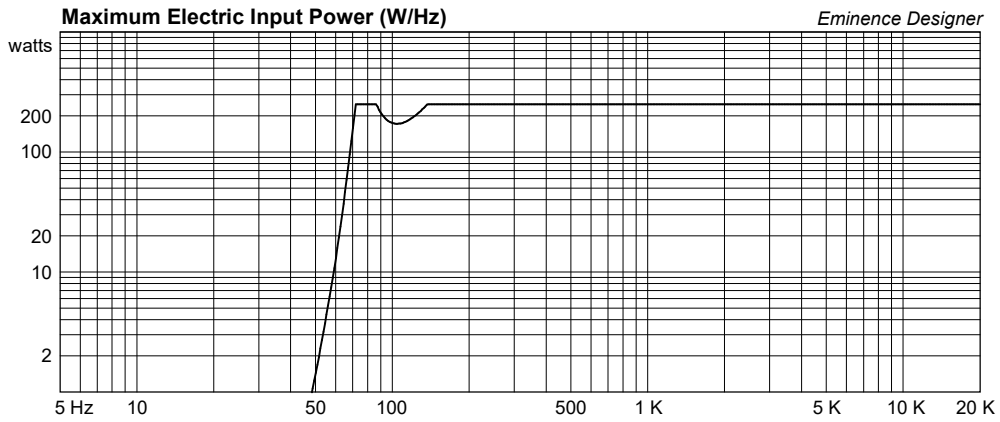
Eminence Designer

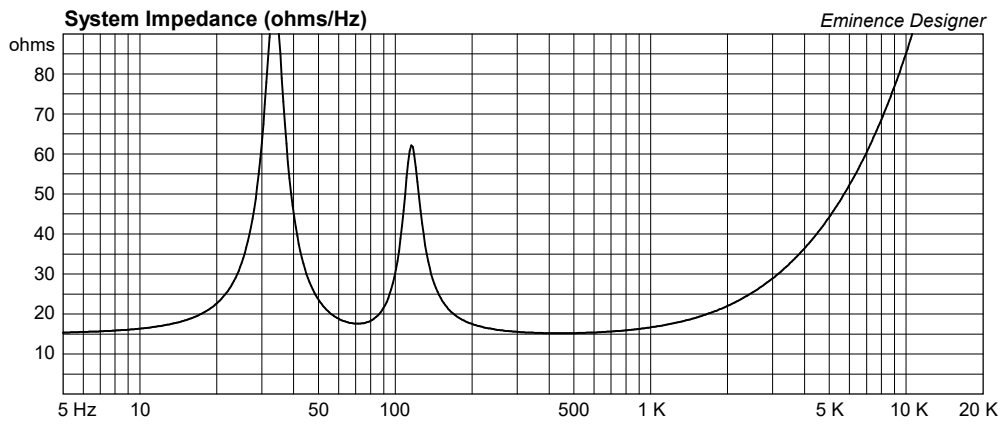


Maximum Acoustic Power (dB-SPL/Hz at 1 m)

Eminence Designer







Beta 10B 2x10 Bass Guitar

By Jerry McNutt, Eminence Speaker LLC
150 Watts, 300 Watts Peak
8 Ohm when wired in parallel.



Box Properties

--Description--

Name:

Type: Vented Box

Shape: Prism, square (optimum)

--Box Parameters--

Vb = 3.55 cu.ft

V(total) = 3.726 cu.ft

Fb = 65 Hz

QL = 7

F3 = 57.16 Hz

Fill = minimal

--Vents--

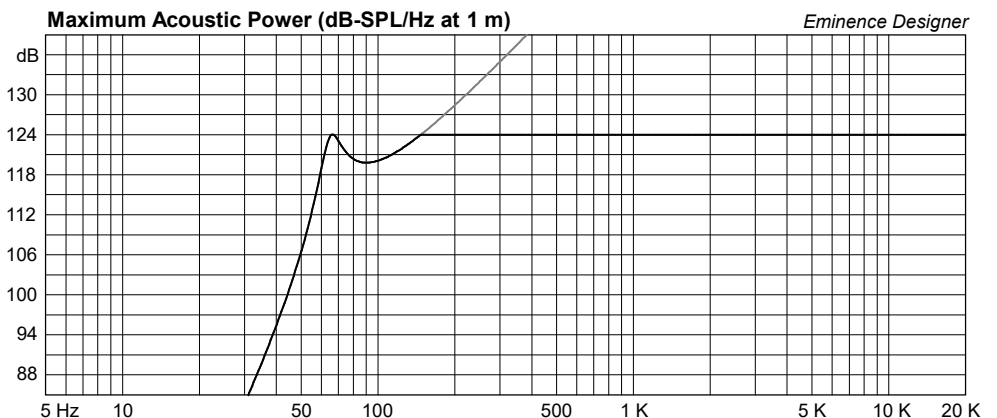
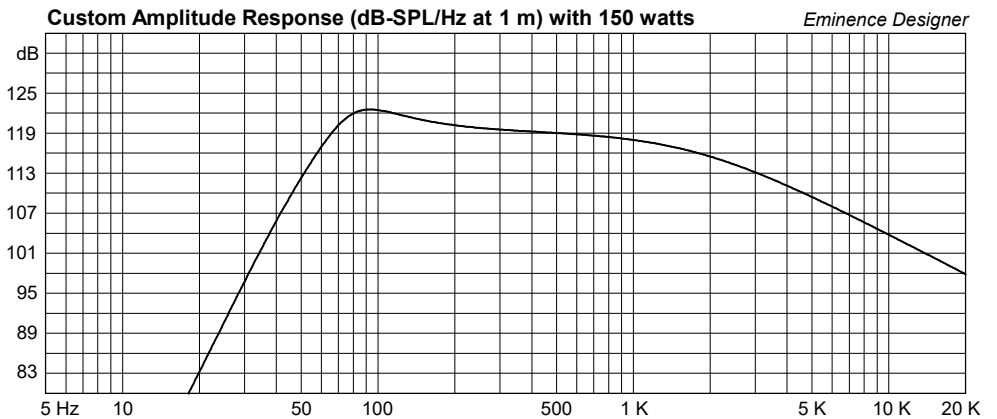
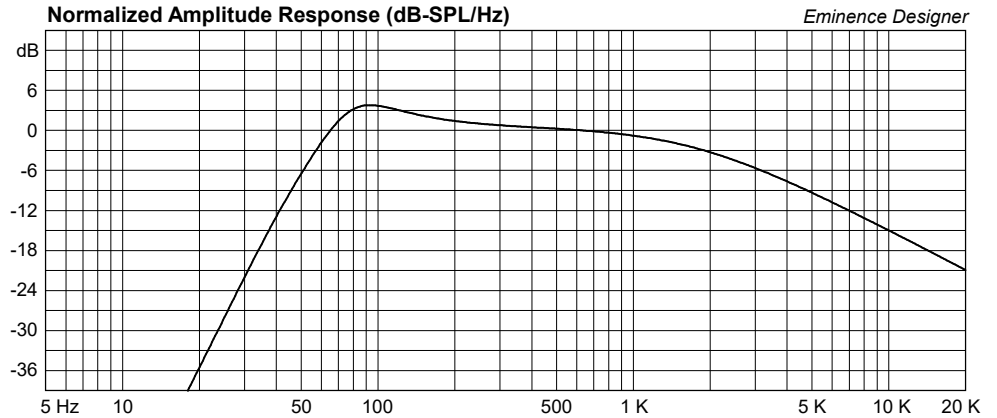
No. of Vents = 2

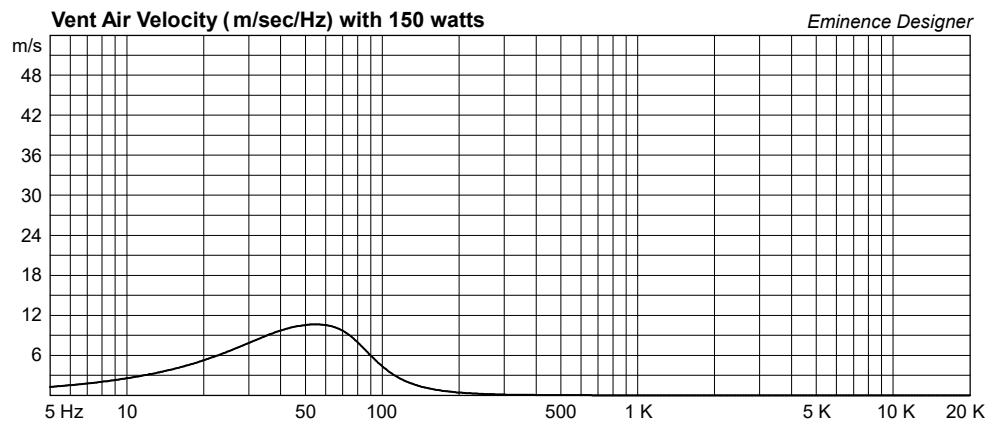
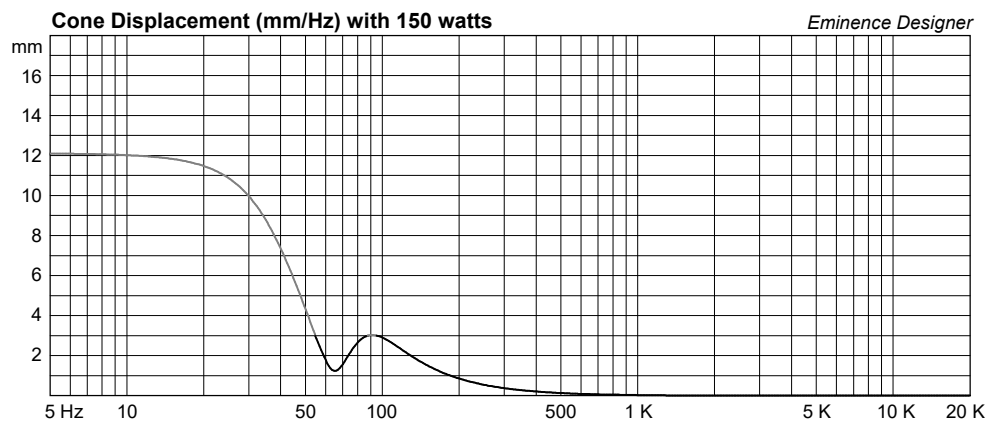
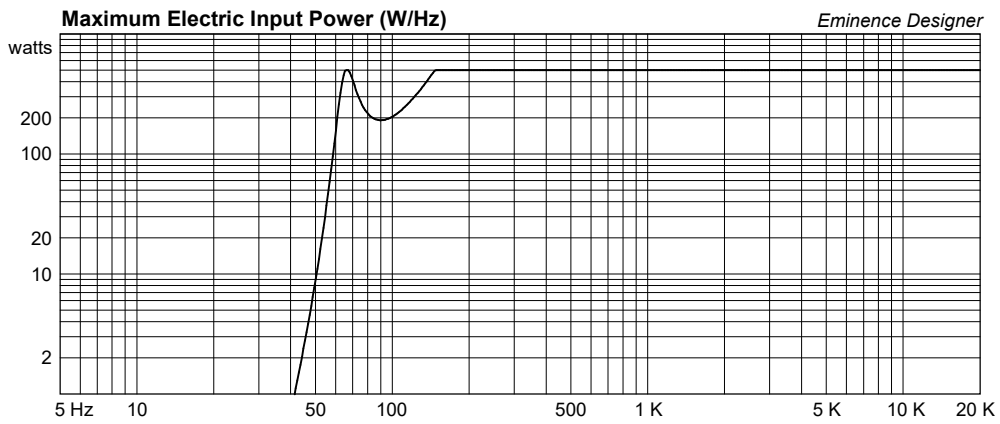
Vent shape = round

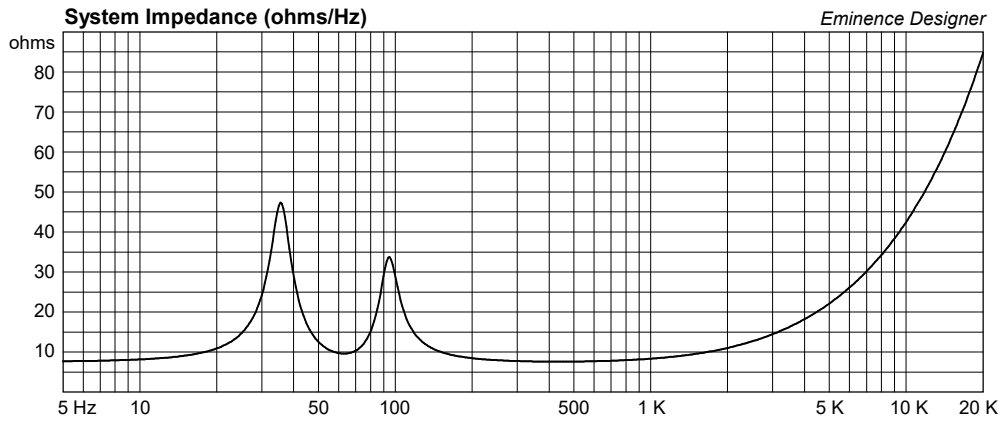
Vent ends = one flush

Dv = 4.606 in

Lv = 0.75 in







Beta 10B 4x10 Bass Rig

By Jerry McNutt, Eminence Speaker LLC
300 Watts, 600 Watts Peak
4 Ohm when wired in parallel.



Box Properties

--Description--

Name:

Type: Vented Box

Shape: Prism, square (optimum)

--Box Parameters--

Vb = 5.8 cu.ft

V(total) = 6.143 cu.ft

Fb = 60 Hz

QL = 7

F3 = 58.79 Hz

Fill = minimal

--Vents--

No. of Vents = 4

Vent shape = round

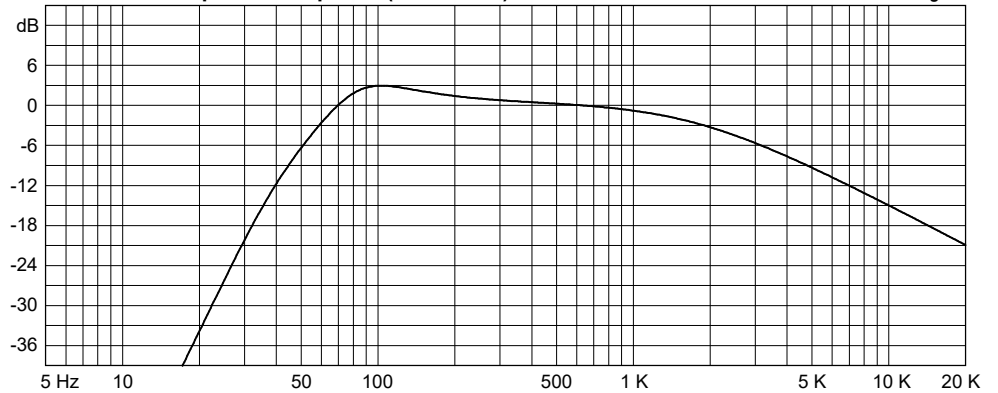
Vent ends = one flush

Dv = 3.819 in

Lv = 0.75 in

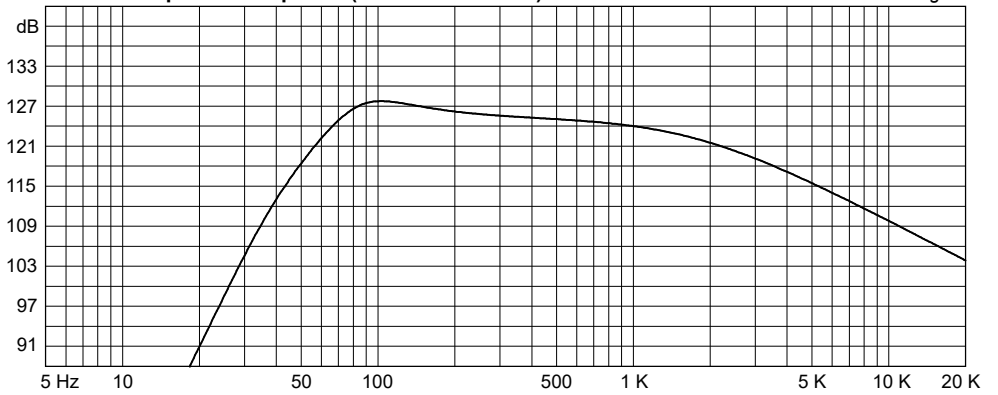
Normalized Amplitude Response (dB-SPL/Hz)

Eminence Designer



Custom Amplitude Response (dB-SPL/Hz at 1 m) with 300 watts

Eminence Designer



Maximum Acoustic Power (dB-SPL/Hz at 1 m)

Eminence Designer

