LAB15 Large Sealed Box

By Jerry McNutt, Eminence Speaker LLC
Limit to 400 Watts; F3 at 65 Hz. Can be EQ'd much lower F3 point.
If used in a car, not much EQ will be needed.

EMINENCE

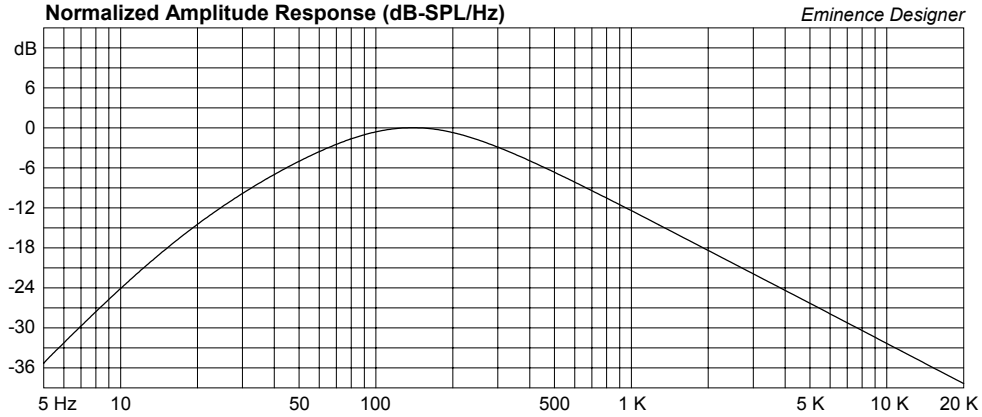
Box Properties

--Description--
Name:
Type: Closed Box
Shape: Cube
--Box Parameters--
Vb = 3.6 cu.ft
V(total) = 3.6 cu.ft
Qtc = 0.425
QL = 18.75
F3 = 64.71 Hz
Fill = heavy

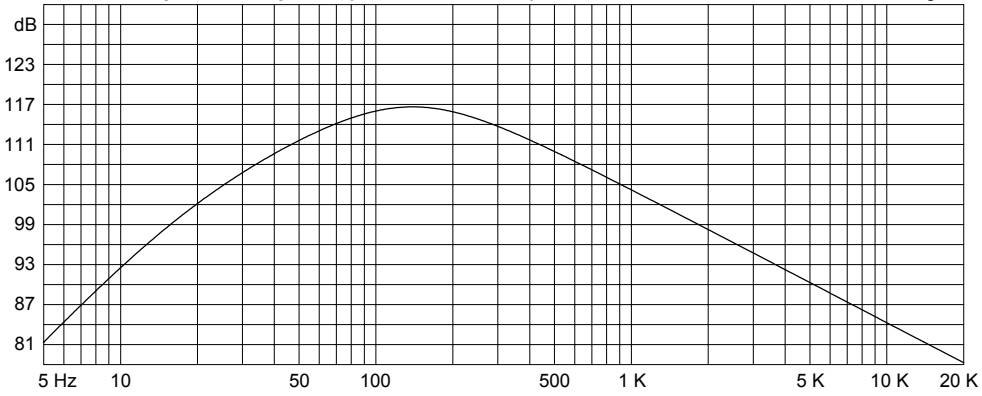
Driver Properties

--Description--
Name: LAB 15
Type: Standard one-way driver
Company: Eminence Speaker LLC
--Configuration--
No. of Drivers = 1
--Driver Parameters--
Fs = 27.82 Hz
Qms = 5.36
Vas = 3.659 cu.ft
Xmax = 0.463 in
Sd = 127.7 sq.in
Qes = 0.37
Re = 4.91 ohms
Le = 3.23 mH
Z = 6 ohms
Pe = 600 watts

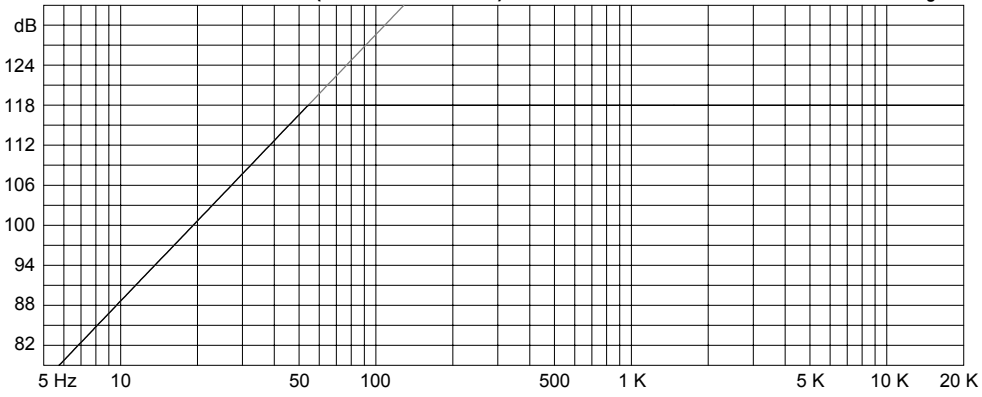
Normalized Amplitude Response (dB-SPL/Hz) *Eminence Designer*



Custom Amplitude Response (dB-SPL/Hz at 1 m) with 400 watts *Eminence Designer*

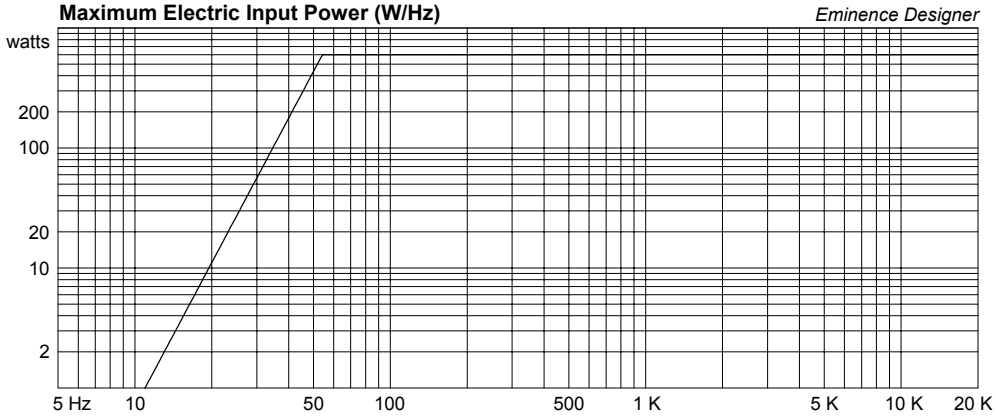


Maximum Acoustic Power (dB-SPL/Hz at 1 m) *Eminence Designer*



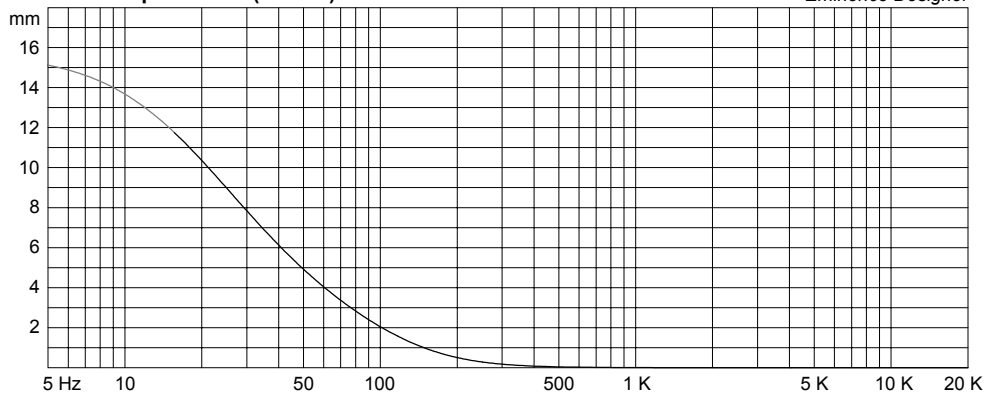
Maximum Electric Input Power (W/Hz)

Eminence Designer



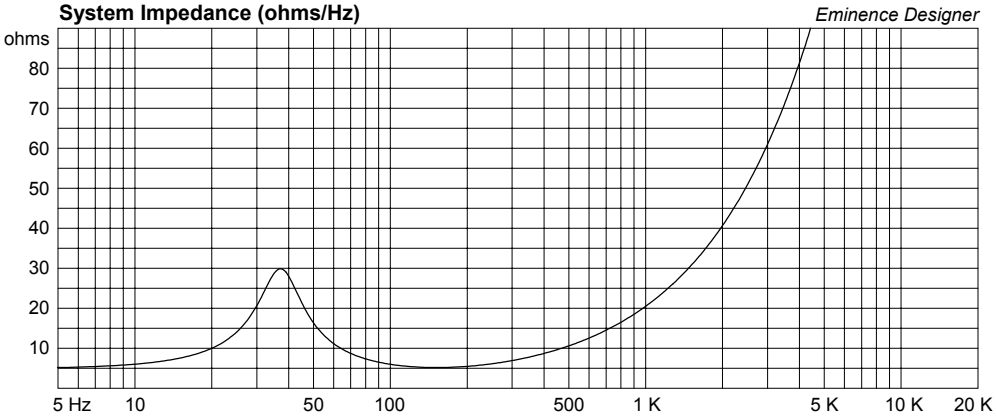
Cone Displacement (mm/Hz) with 400 watts

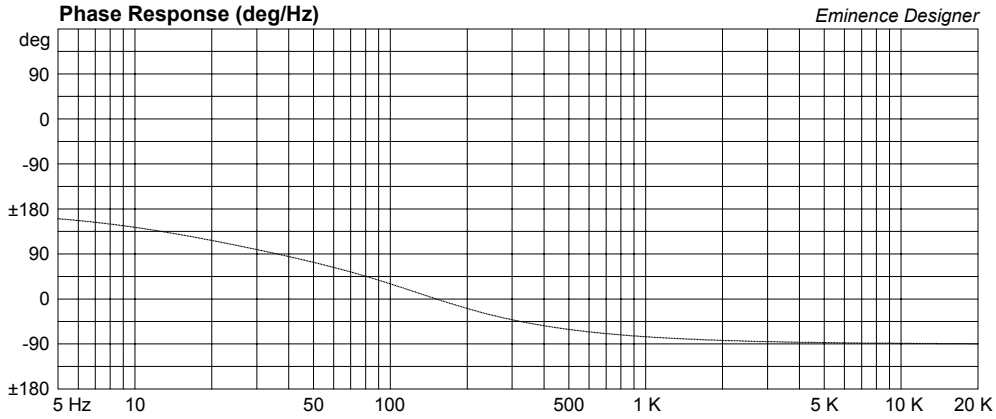
Eminence Designer

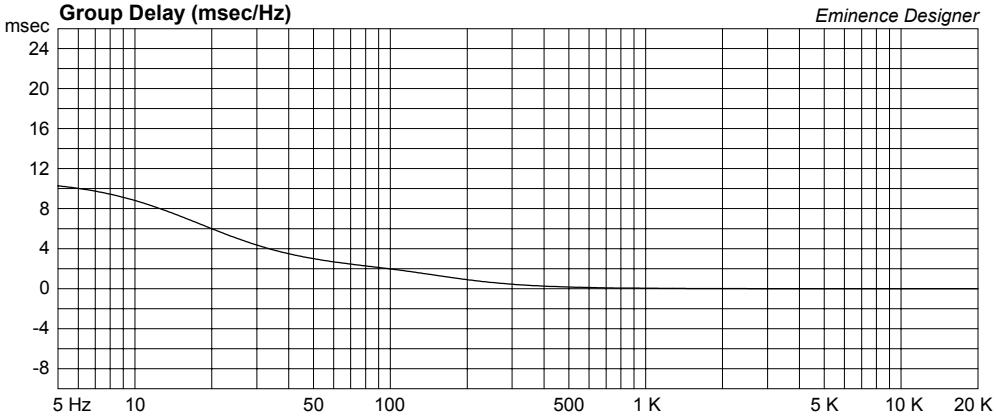


System Impedance (ohms/Hz)

Eminence Designer




Phase Response (deg/Hz)
Eminence Designer
deg
90
0
-90
±180
90
0
-90
±180
5 Hz
10
50
100
500
1 K
5 K
10 K
20 K


Group Delay (msec/Hz)
Eminence Designer
msec
24
20
16
12
8
4
0
-4
-8
5 Hz
10
50
100
500
1 K
5 K
10 K
20 K

LAB15 Small Sealed Car Sub Design

By Jerry McNutt, Eminence Speaker LLC
Limit to 500 Watts; F3 of 61 Hz. F3 will be MUCH lower in a car.
If you use two woofers, double the box volume and use a divider.

EMINENCE

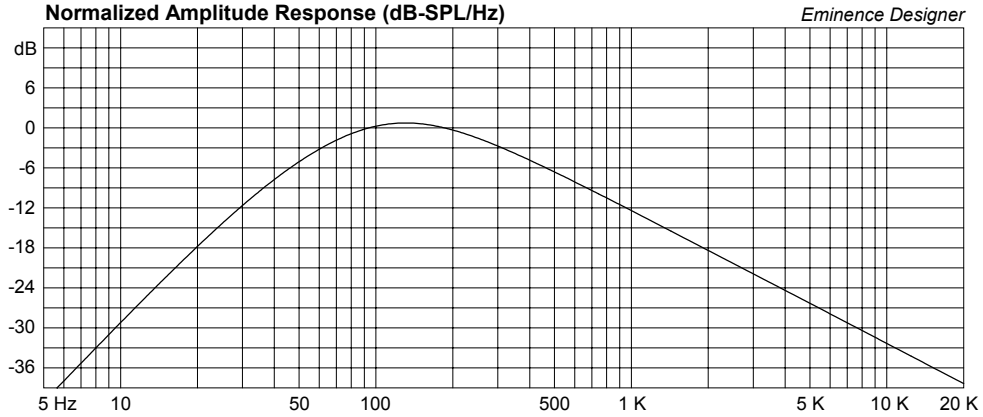
Box Properties

--Description--
Name:
Type: Closed Box
Shape: Prism, square
--Box Parameters--
Vb = 1.252 cu.ft
V(total) = 1.469 cu.ft
Qtc = 0.612
QL = 20
F3 = 61.23 Hz
Fill = normal

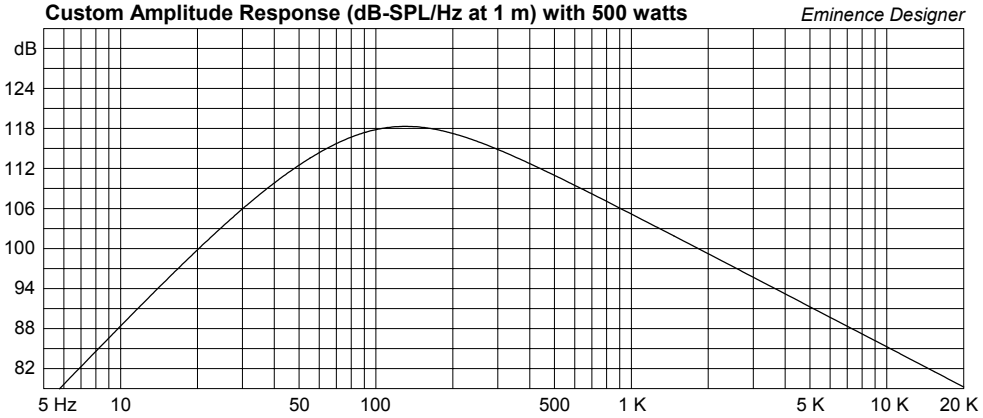
Driver Properties

--Description--
Name: LAB 15
Type: Standard one-way driver
Company: Eminence Speaker LLC
--Configuration--
No. of Drivers = 1
--Driver Parameters--
Fs = 27.82 Hz
Qms = 5.36
Vas = 3.659 cu.ft
Xmax = 0.463 in
Sd = 127.7 sq.in
Qes = 0.37
Re = 4.91 ohms
Le = 3.23 mH
Z = 6 ohms
Pe = 600 watts

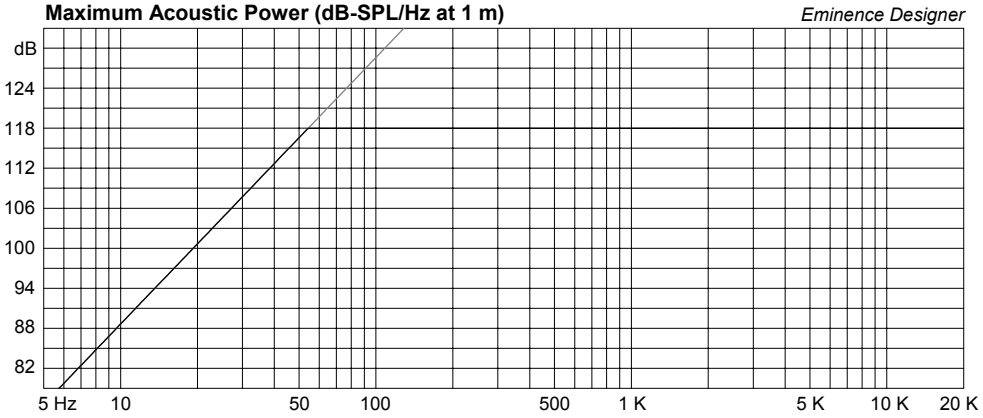
Normalized Amplitude Response (dB-SPL/Hz) *Eminence Designer*



Custom Amplitude Response (dB-SPL/Hz at 1 m) with 500 watts *Eminence Designer*

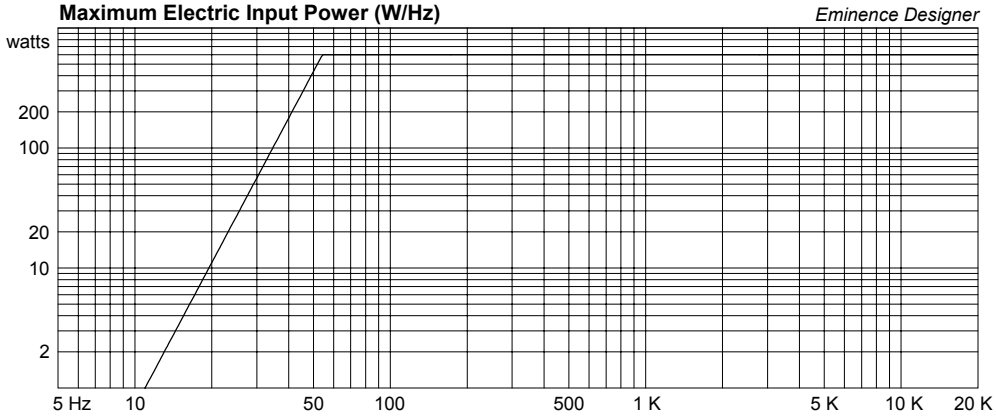


Maximum Acoustic Power (dB-SPL/Hz at 1 m) *Eminence Designer*



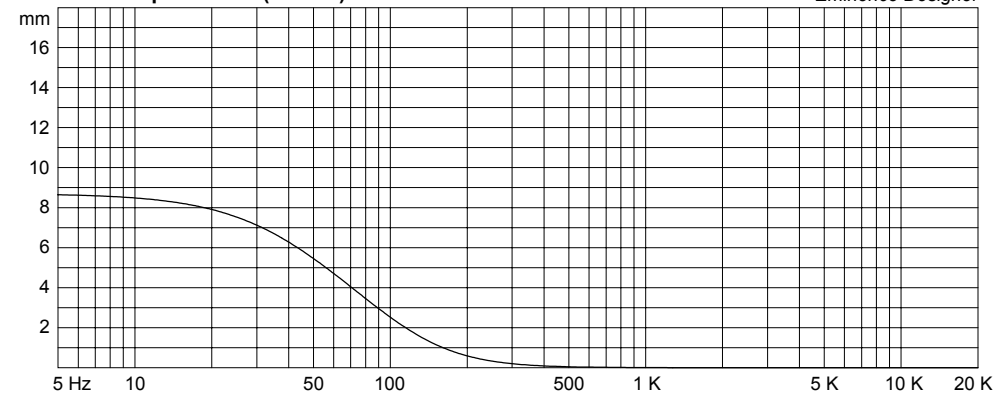
Maximum Electric Input Power (W/Hz)

Eminence Designer



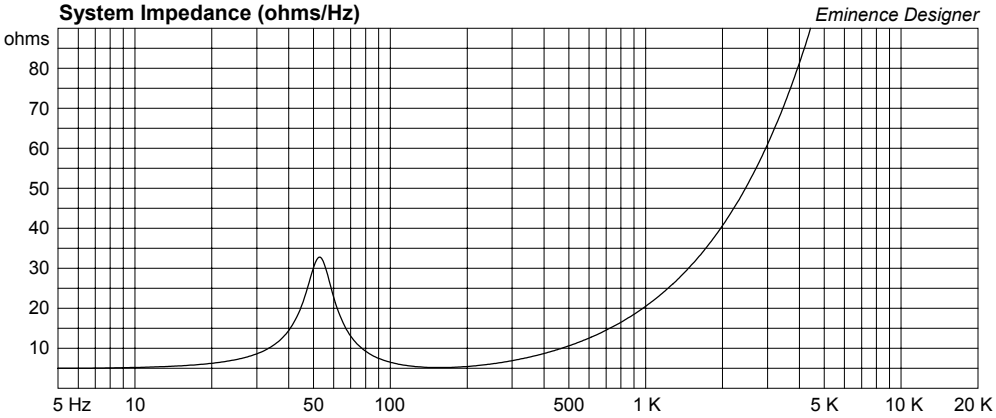
Cone Displacement (mm/Hz) with 500 watts

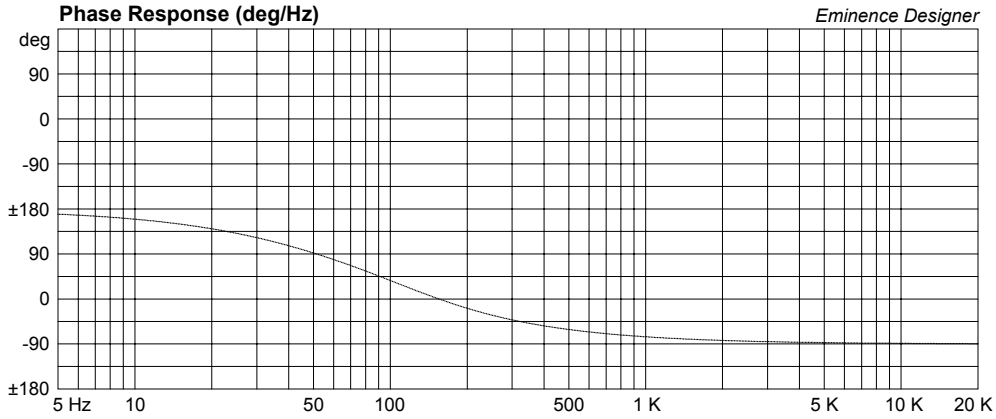
Eminence Designer

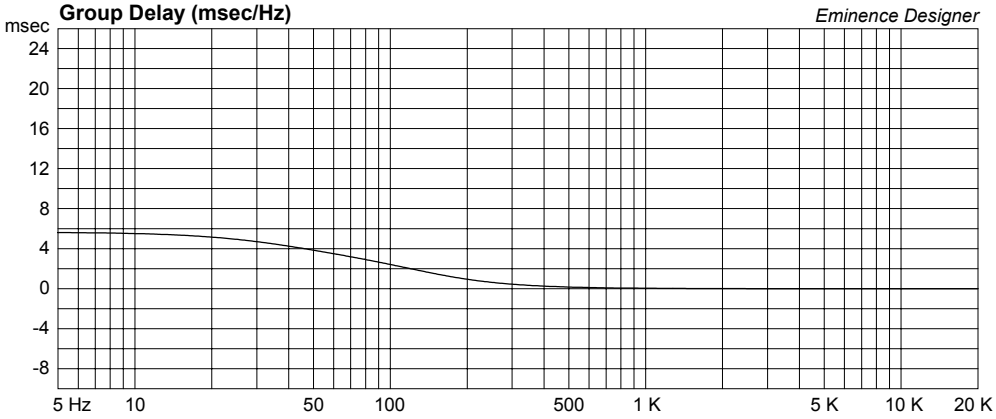


System Impedance (ohms/Hz)

Eminence Designer




Phase Response (deg/Hz)
Eminence Designer
deg
90
0
-90
±180
90
0
-90
±180
5 Hz
10
50
100
500
1 K
5 K
10 K
20 K


Group Delay (msec/Hz)
Eminence Designer
msec
24
20
16
12
8
4
0
-4
-8
5 Hz
10
50
100
500
1 K
5 K
10 K
20 K

LAB15 Med Sized Vented Club Sub

By Jerry McNutt, Eminence Speaker LLC
Limit to 600 Watts; F3 of 27 Hz.
Use a steep High Pass filter at 25 Hz to protect your investment.

EMINENCE

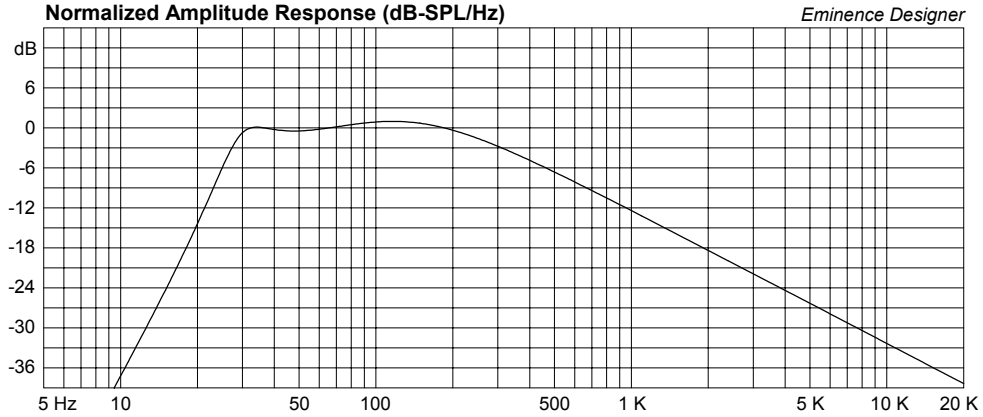
Box Properties

--Description--
Name:
Type: Vented Box
Shape: Prism, square (optimum)
--Box Parameters--
Vb = 4.5 cu.ft
V(total) = 5.294 cu.ft
Fb = 30 Hz
QL = 7
F3 = 27.27 Hz
Fill = minimal
--Vents--
No. of Vents = 1
Vent shape = rectangle
Vent ends = one flush
Hv = 6.5 in
Wv = 6.5 in
Lv = 21.9 in

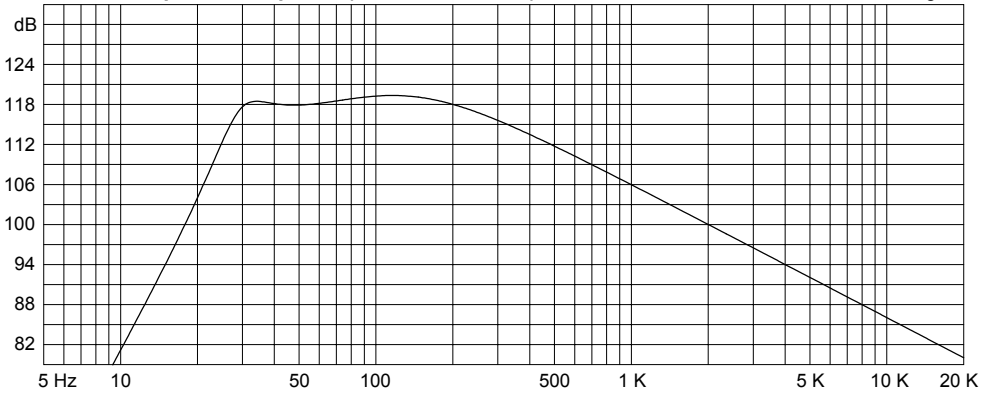
Driver Properties

--Description--
Name: LAB 15
Type: Standard one-way driver
Company: Eminence Speaker LLC
--Configuration--
No. of Drivers = 1
--Driver Parameters--
Fs = 27.82 Hz
Qms = 5.36
Vas = 3.659 cu.ft
Xmax = 0.463 in
Sd = 127.7 sq.in
Qes = 0.37
Re = 4.91 ohms
Le = 3.23 mH
Z = 6 ohms
Pe = 600 watts

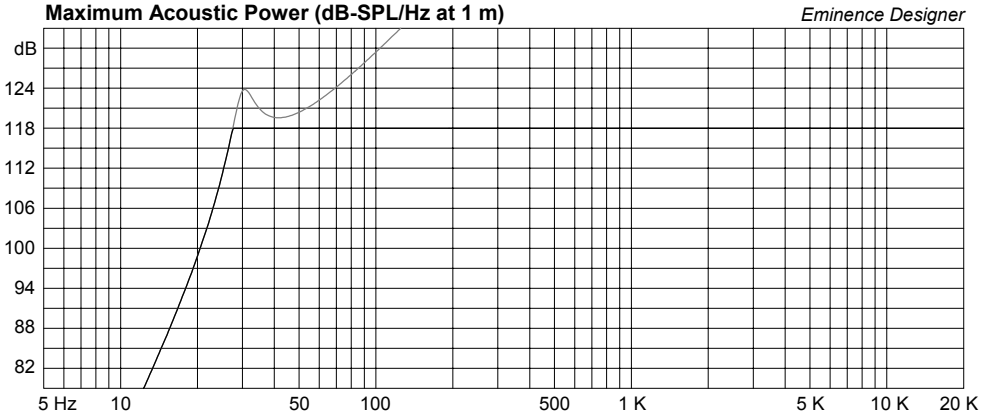
Normalized Amplitude Response (dB-SPL/Hz) *Eminence Designer*



Custom Amplitude Response (dB-SPL/Hz at 1 m) with 600 watts *Eminence Designer*

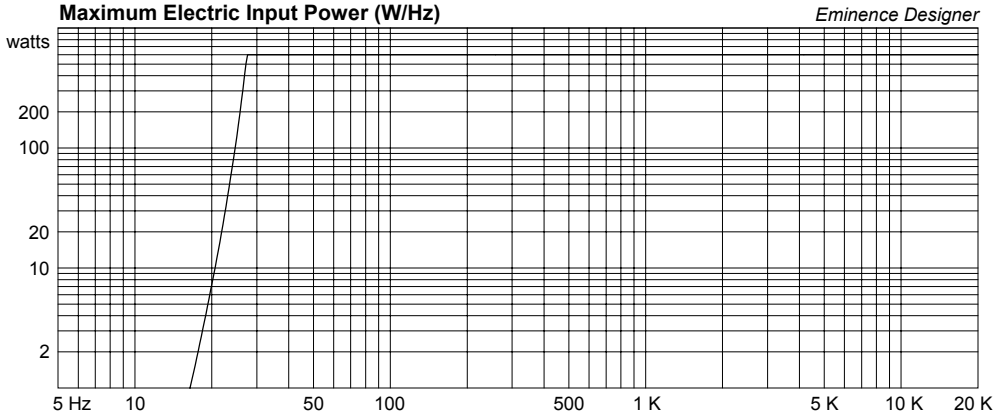


Maximum Acoustic Power (dB-SPL/Hz at 1 m) *Eminence Designer*



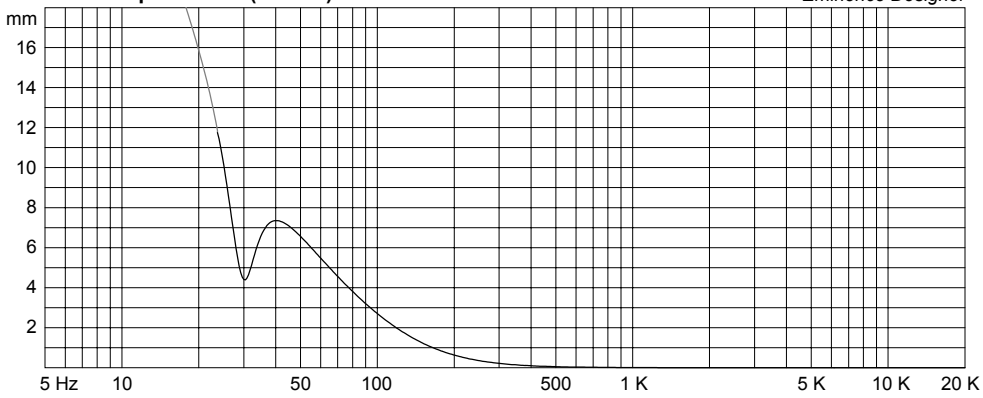
Maximum Electric Input Power (W/Hz)

Eminence Designer



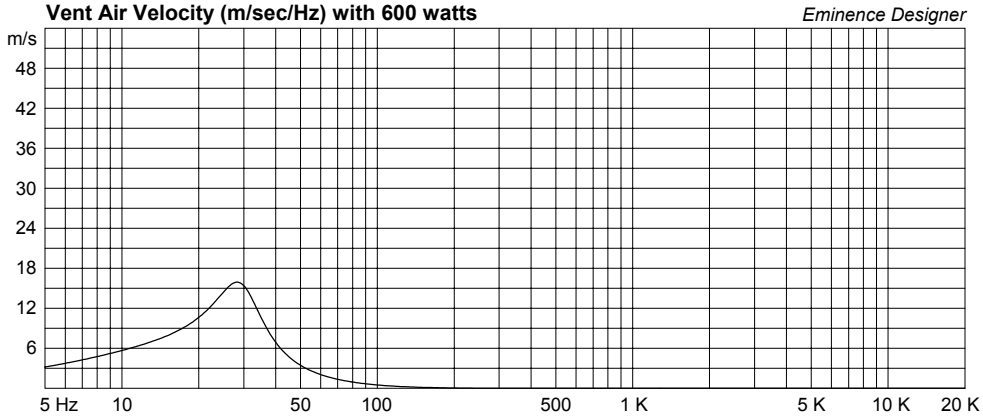
Cone Displacement (mm/Hz) with 600 watts

Eminence Designer



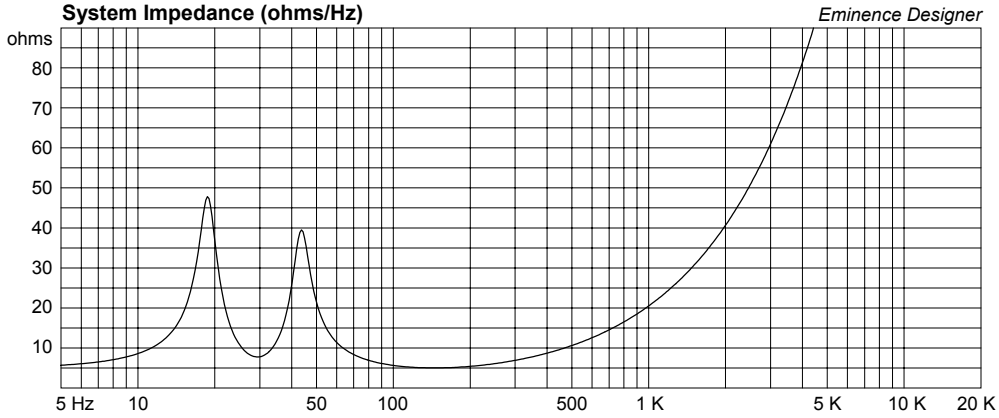
Vent Air Velocity (m/sec/Hz) with 600 watts

Eminence Designer



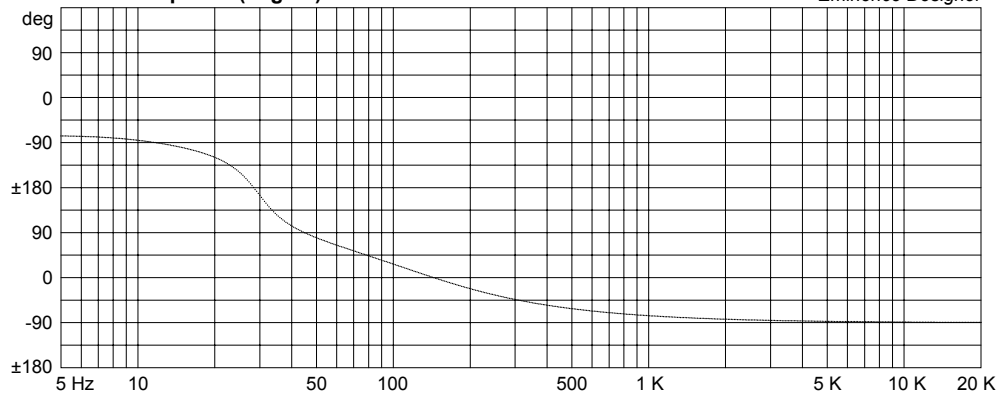
System Impedance (ohms/Hz)

Eminence Designer



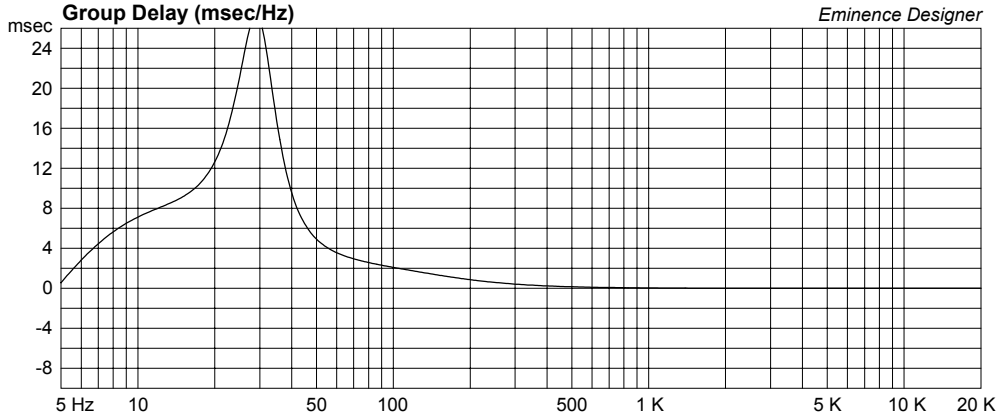
Phase Response (deg/Hz)

Eminence Designer



Group Delay (msec/Hz)

Eminence Designer



LAB15 Large Deep Bass Design

By Jerry McNutt, Eminence Speaker LLC
Thermally Limited to 600 Watts; F3 at 21Hz.
Use a steep high pass at 18 Hz to protect your investment.

EMINENCE

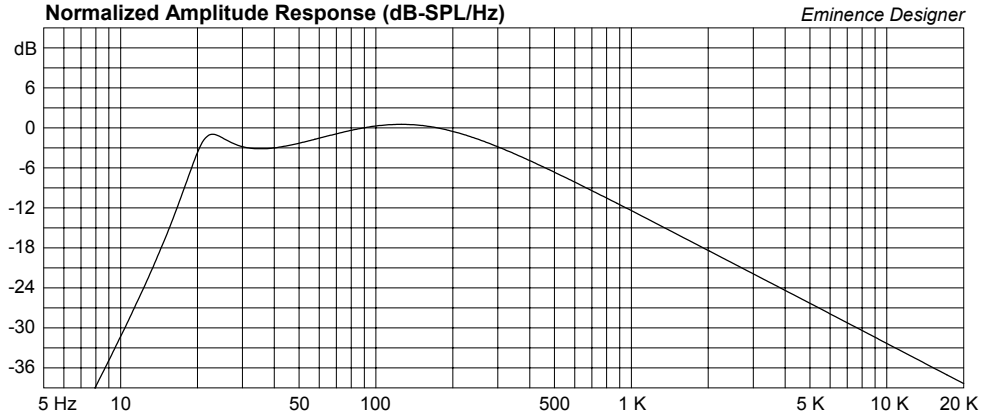
Box Properties

--Description--
Name:
Type: Vented Box
Shape: Prism, square (optimum)
--Box Parameters--
Vb = 10 cu.ft
V(total) = 10.67 cu.ft
Fb = 22 Hz
QL = 7
F3 = 20.37 Hz
Fill = minimal
--Vents--
No. of Vents = 1
Vent shape = rectangle
Vent ends = one flush
Hv = 6.5 in
Wv = 6.5 in
Lv = 17.12 in

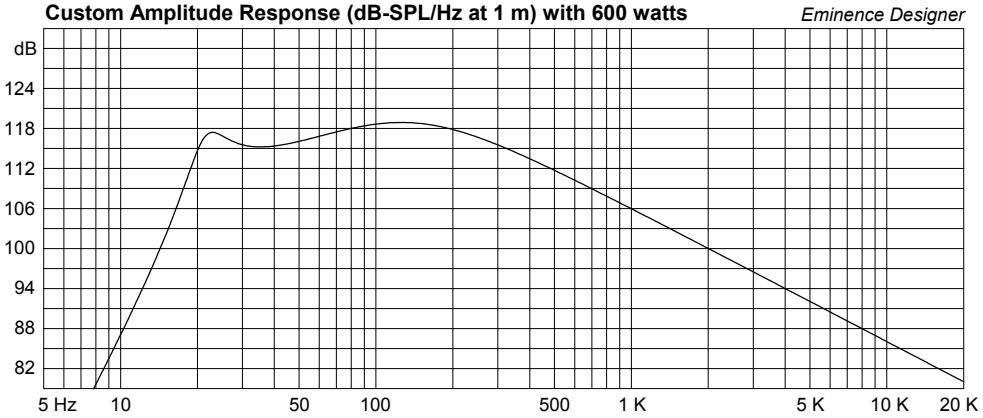
Driver Properties

--Description--
Name: LAB 15
Type: Standard one-way driver
Company: Eminence Speaker LLC
--Configuration--
No. of Drivers = 1
--Driver Parameters--
Fs = 27.82 Hz
Qms = 5.36
Vas = 3.659 cu.ft
Xmax = 0.463 in
Sd = 127.7 sq.in
Qes = 0.37
Re = 4.91 ohms
Le = 3.23 mH
Z = 6 ohms
Pe = 600 watts

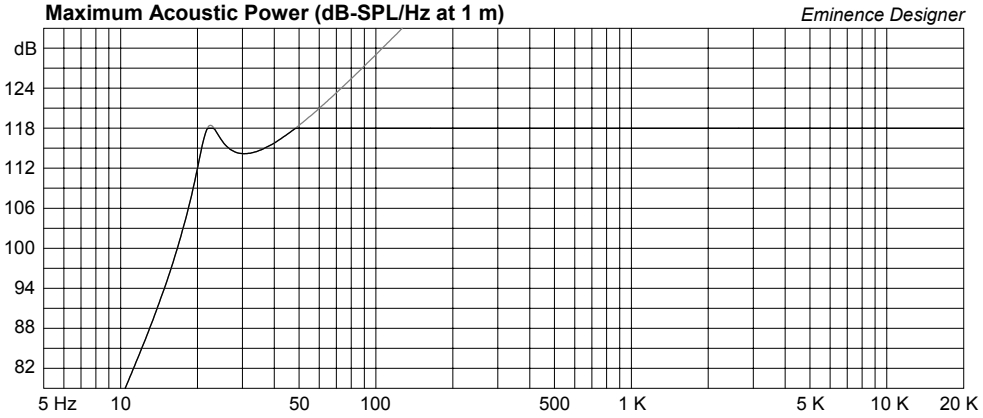
Normalized Amplitude Response (dB-SPL/Hz) *Eminence Designer*



Custom Amplitude Response (dB-SPL/Hz at 1 m) with 600 watts *Eminence Designer*

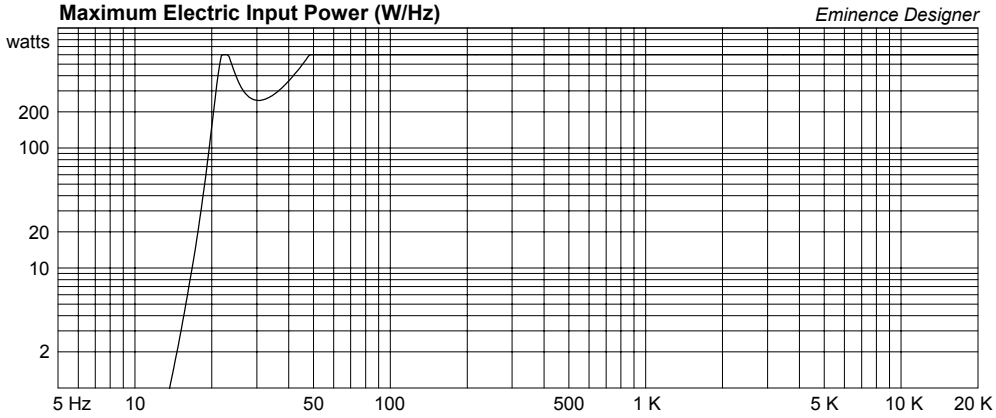


Maximum Acoustic Power (dB-SPL/Hz at 1 m) *Eminence Designer*



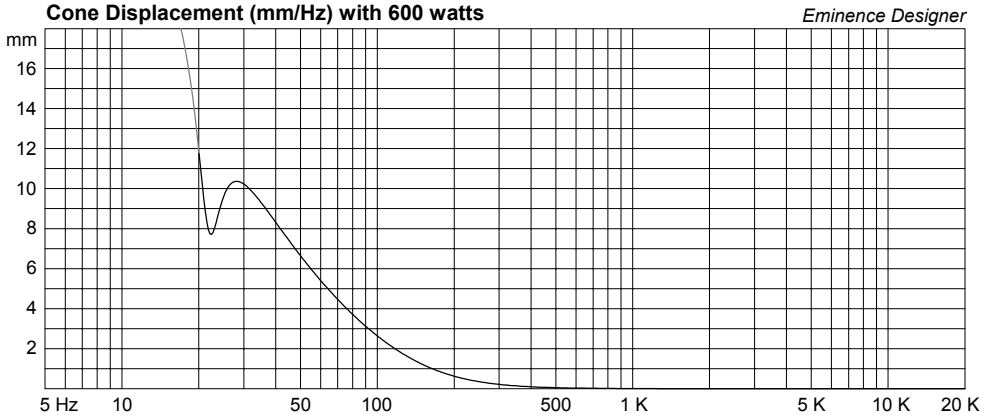
Maximum Electric Input Power (W/Hz)

Eminence Designer



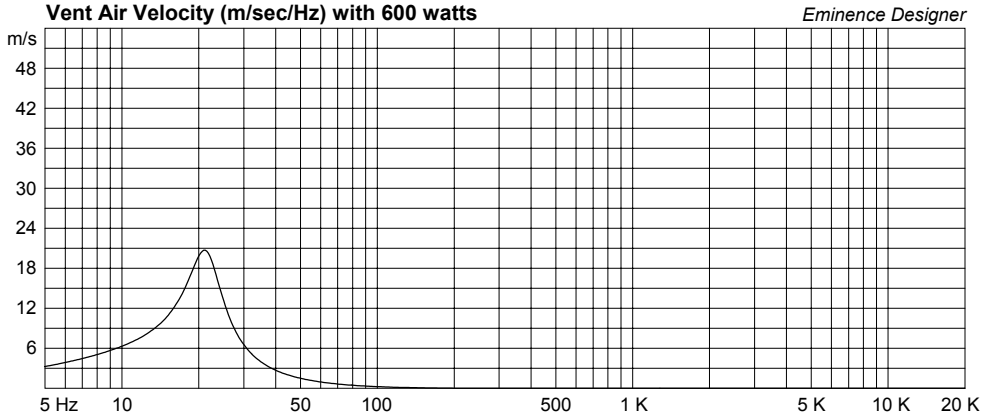
Cone Displacement (mm/Hz) with 600 watts

Eminence Designer



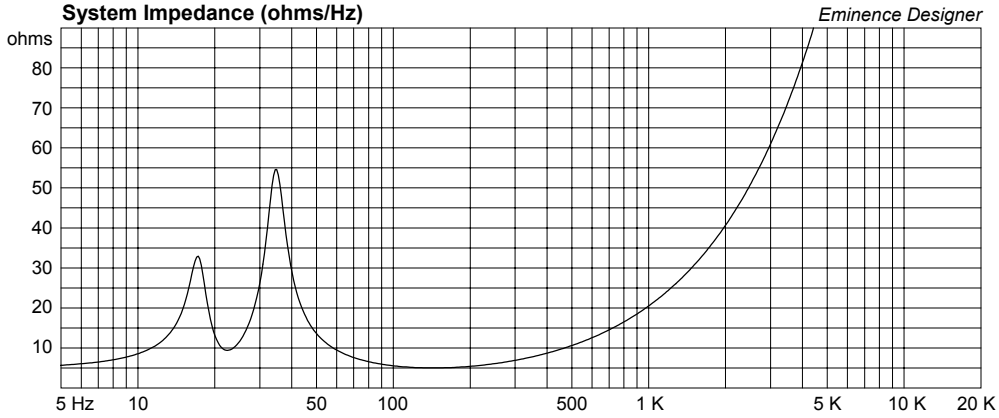
Vent Air Velocity (m/sec/Hz) with 600 watts

Eminence Designer



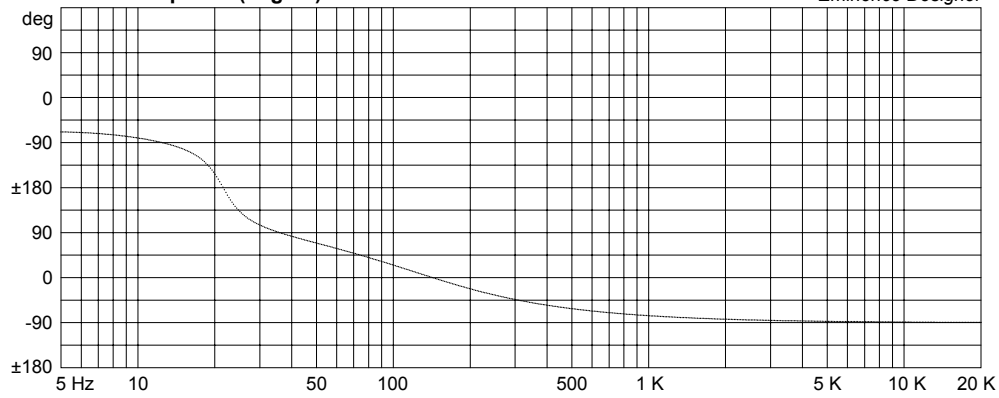
System Impedance (ohms/Hz)

Eminence Designer



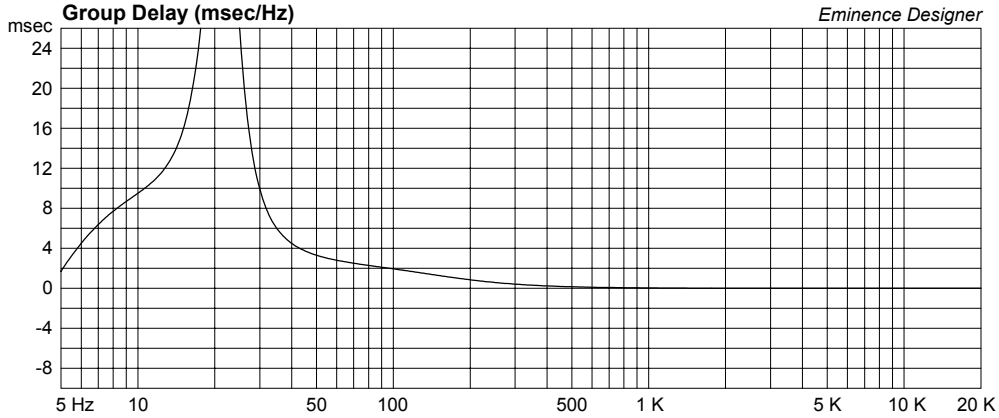
Phase Response (deg/Hz)

Eminence Designer



Group Delay (msec/Hz)

Eminence Designer



LAB15 Small Vented Sub Design

By Jerry McNutt, Eminence Speaker LLC
Limit to 600 Watts; F3 of 32 Hz.
Use a steep high pass filter set at 25 Hz to protect your investment.

EMINENCE

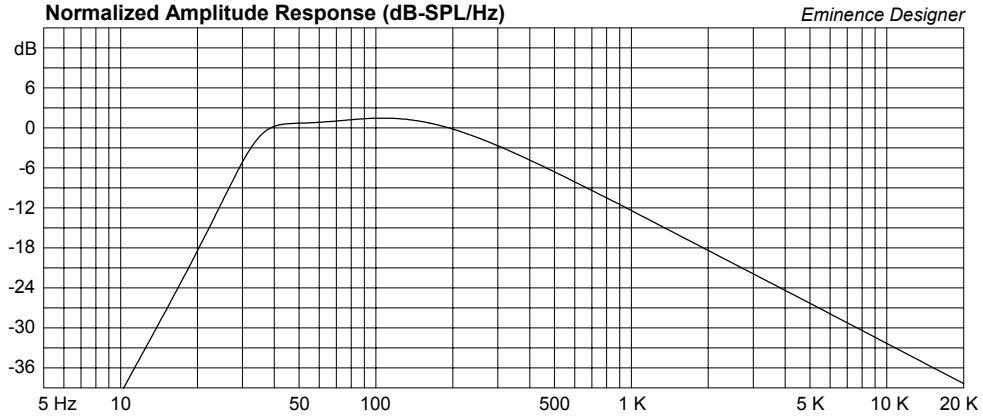
Box Properties

--Description--
Name:
Type: Vented Box
Shape: Prism, square
--Box Parameters--
Vb = 2.75 cu.ft
V(total) = 3.232 cu.ft
Fb = 35 Hz
QL = 7
F3 = 32.37 Hz
Fill = minimal
--Vents--
No. of Vents = 2
Vent shape = round
Vent ends = one flush
Dv = 4 in
Lv = 16.16 in

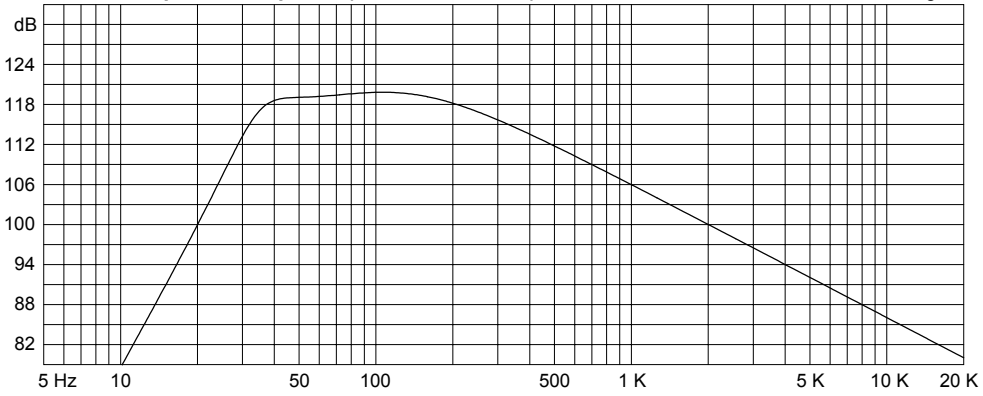
Driver Properties

--Description--
Name: LAB 15
Type: Standard one-way driver
Company: Eminence Speaker LLC
--Configuration--
No. of Drivers = 1
--Driver Parameters--
Fs = 27.82 Hz
Qms = 5.36
Vas = 3.659 cu.ft
Xmax = 0.463 in
Sd = 127.7 sq.in
Qes = 0.37
Re = 4.91 ohms
Le = 3.23 mH
Z = 6 ohms
Pe = 600 watts

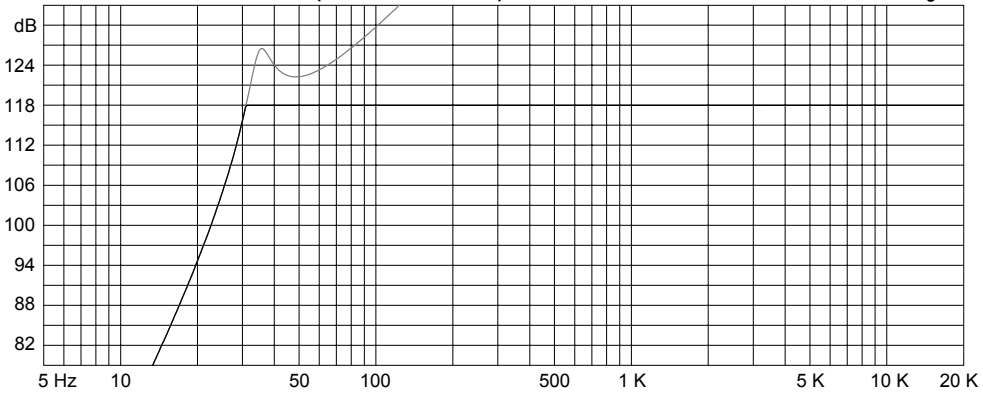
Normalized Amplitude Response (dB-SPL/Hz) *Eminence Designer*



Custom Amplitude Response (dB-SPL/Hz at 1 m) with 600 watts *Eminence Designer*



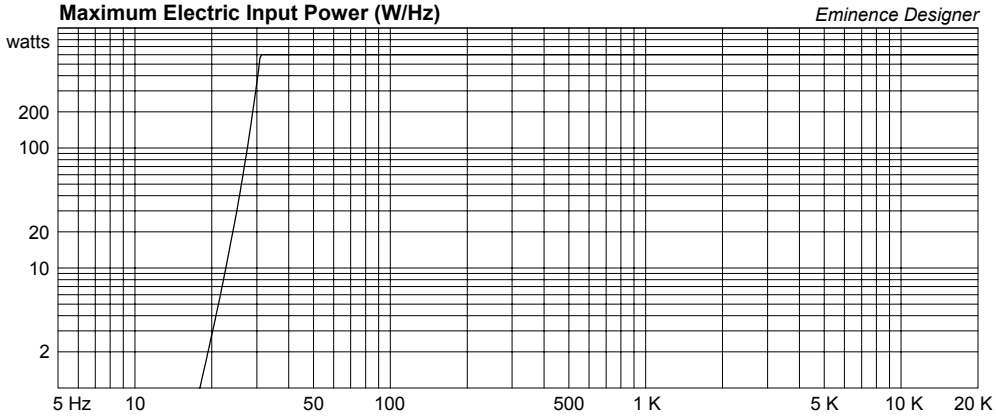
Maximum Acoustic Power (dB-SPL/Hz at 1 m) *Eminence Designer*



File: LAB15SmallVented600Watts.bb6

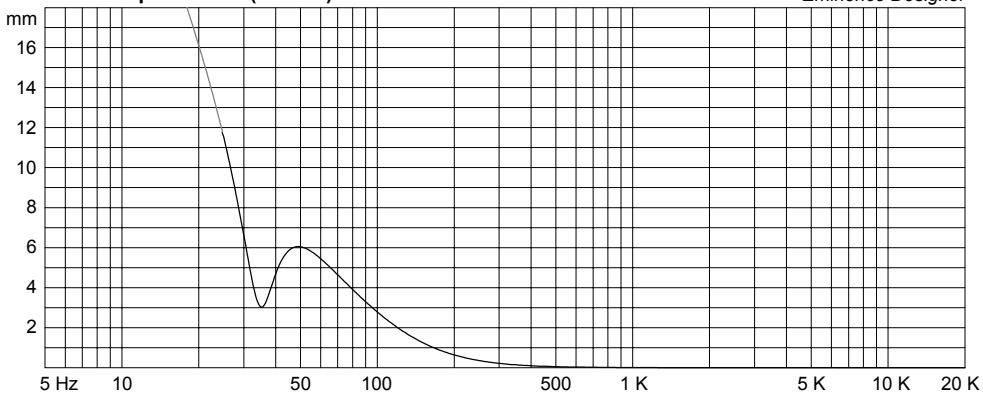
Maximum Electric Input Power (W/Hz)

Eminence Designer



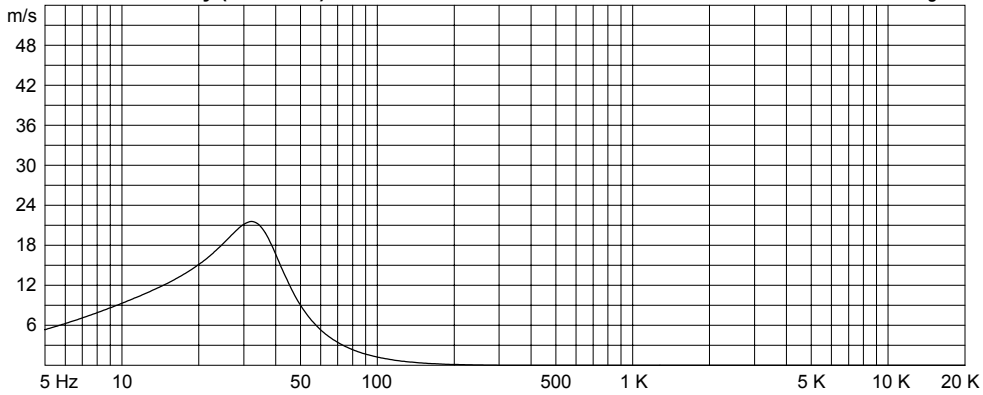
Cone Displacement (mm/Hz) with 600 watts

Eminence Designer



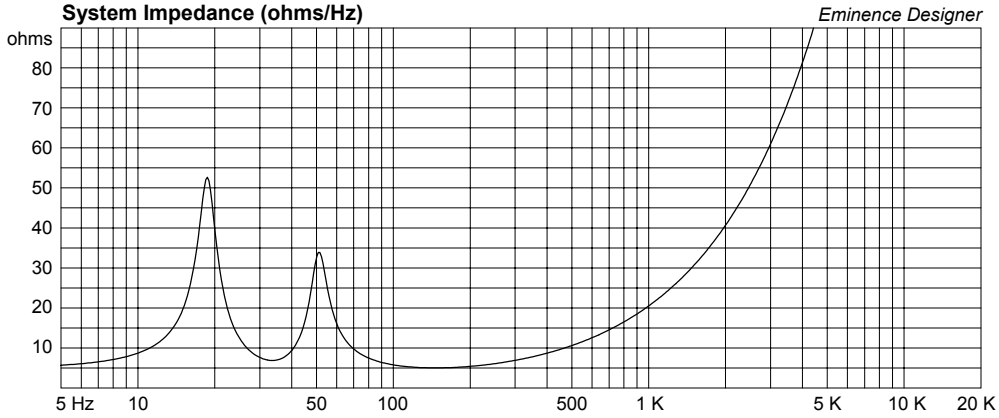
Vent Air Velocity (m/sec/Hz) with 600 watts

Eminence Designer



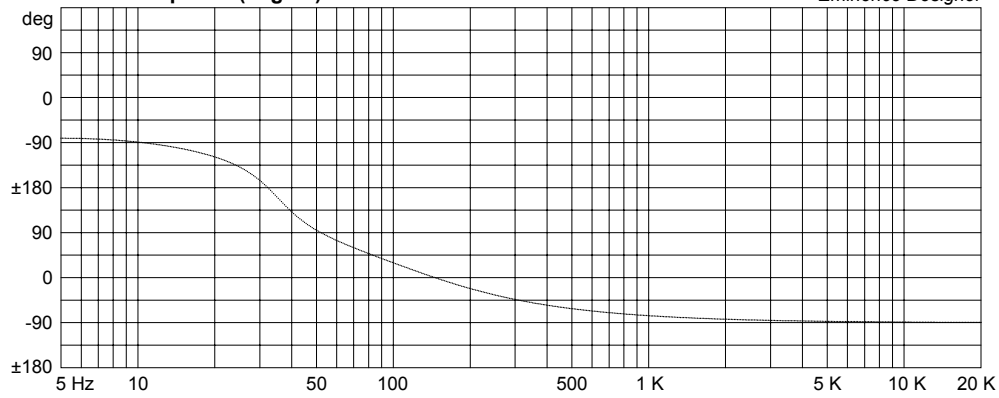
System Impedance (ohms/Hz)

Eminence Designer



Phase Response (deg/Hz)

Eminence Designer



Group Delay (msec/Hz)

Eminence Designer