SPECIFICATION

Nominal Basket Diameter	12”, 304.80mm
Nominal Impedance*	4 ohms
Power Rating**	
Watts	500W
Music Program	1000W
Resonance	22.85Hz
Usable Frequency Range***	25Hz-0.12kHz
Sensitivity	88.90
Magnet Weight	160 oz.
Gap Height	0.37”, 9.53mm
Voice Coil Diameter	2.50”, 63.50mm

THIELE & SMALL PARAMETERS

Resonant Frequency (fs)	22.85Hz
DC Resistance (Re)	3.11
Coil Inductance (Le)	1.09mH
Mechanical Q (Qms)	11.70
Electromagnetic Q (Qes)	0.34
Total Q (Qts)	0.33
Compliance Equivalent Volume (Vas)	128.31 liters / 4.53 cu.ft.
Peak Diaphragm Displacement Volume (Vd)	659.00cc
Mechanical Compliance of Suspension (Cms)	0.36mm/N
BL Product (BL)	13.36 T-M
Diaphragm Mass inc. Airload (Mms)	135.63 grams
Efficiency Bandwidth Product (EBP)	67.29
Maximum Linear Excursion (Xmax)	13mm
Surface Area of Cone (Sd)	506.70 cm2
Maximum Mechanical Limit (Xlim)	22mm

MOUNTING INFORMATION

Recommended Enclosure Volume	
Sealed	28.32-118.93 liters/0.80-1.00cu.ft.
Vented	39.64-141.59 liters/1.40-5.00 cu.ft.
Overall Diameter	12.32”, 312.93mm
Baffle Hole Diameter	10.98”, 278.90mm
Front Sealing Gasket	Fitted as standard
Rear Sealing Gasket	Fitted as standard
Mounting Holes Diameter	0.26”, 6.60mm
Mounting Holes B.C.D.	11.77”, 299mm
Depth	6.44”, 164mm
Net Weight	22.00 lbs., 10 kg
Shipping Weight	23.80 lbs., 10.80 kg

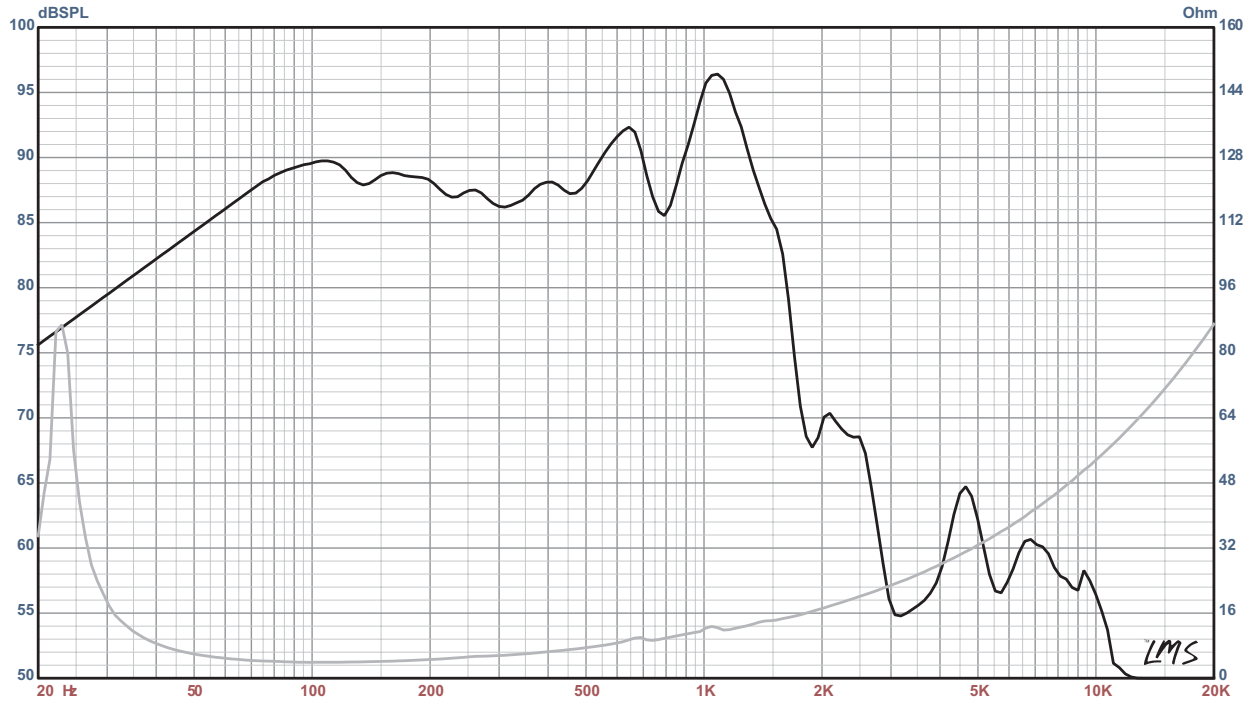
MATERIALS OF CONSTRUCTION

Copper voice coil
Polyimide former
Double stacked 80 oz. ferrite magnets
Vented and extended core
12-spoke die-cast aluminum basket
Kevlar-reinforced paper cone
Foam cone edge
Dual inverted dust caps

EMINENCE®
The Art and Science of Sound

LAB12C PROFESSIONAL SERIES

Recommended for vented, sealed, and horn loaded, professional audio enclosures as a subwoofer. Also great as an automotive sub.



* Please inquire about alternative impedances.

** Multiple units exceed published rating evaluated under EIA 426A noise source and test standard while in a free-air, non-temperature controlled environment.

*** The average output across the usable frequency range when applying 1W/1M into the nominal impedance. Ie: 2.83V/8ohms, 4V/16ohms.

Eminence response curves are measured under the following conditions: All speakers are tested at 1w/1m using a variety of test set-ups for the appropriate impedance | LMS using 0.25” supplied microphone (software calibrated) mounted 1m from wall/baffle | 2ft. X 2ft. baffle is built into the wall with the speaker mounted flush against a steel ring for minimum diffraction | Hafler P1500 Trans-Nova amplifier | 2700 cu.ft. chamber with fiberglass on all six surfaces (three with custom-made wedges)

LAB12C Small Sealed Subwoofer

By Jerry McNutt, Eminence Speaker LLC
Limit to 450 Watts; F3 at 54 Hz. Use a steep high pass at 25 Hz.
This Design Is More for Automotive Use

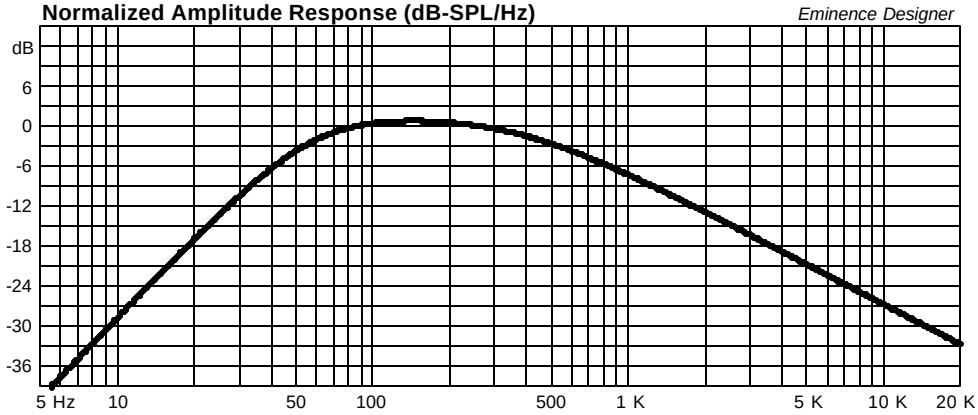
Box Properties

--Description--
Name:
Type: Closed Box
Shape: Prism, square
--Box Parameters--
Vb = 1 cu.ft
V(total) = 1.101 cu.ft
Qtc = 0.676
QL = 20
F3 = 54.38 Hz
Fill = normal

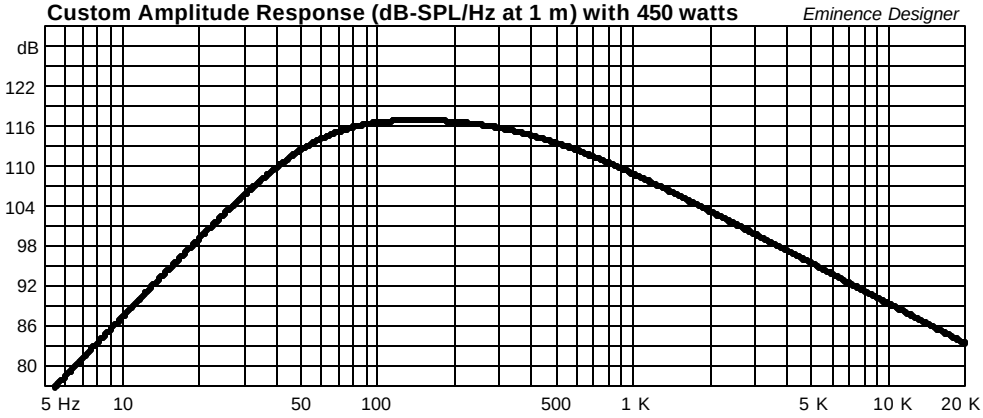
Driver Properties

--Description--
Name: LAB12C
Type: Standard one-way driver
Company: Eminence Speaker LLC
Comment: Four Ohm LAB12 Subwoofer
--Configuration--
No. of Drivers = 1
--Mechanical Parameters--
Fs = 22.85 Hz
Qms = 11.7
Vas = 128.3 liters
Cms = 0.36 mm/N
Mms = 135.6 g
Rms = 1.66 kg/s
Xmax = 13 mm
Xmech = 22 mm
P-Dia = 252.6 mm
Sd = 506.7 sq.cm
P-Vd = 0.651 liters
--Electrical Parameters--
Qes = 0.34
Re = 3.11 ohms
Le = 1.09 mH
Z = 4 ohms
BL = 13.36 Tm
Pe = 500 watts
--Electromech. Parameters--
Qts = 0.33
no = 0.434 %
1-W SPL = 88.52 dB
2.83-V SPL = 92.63 dB

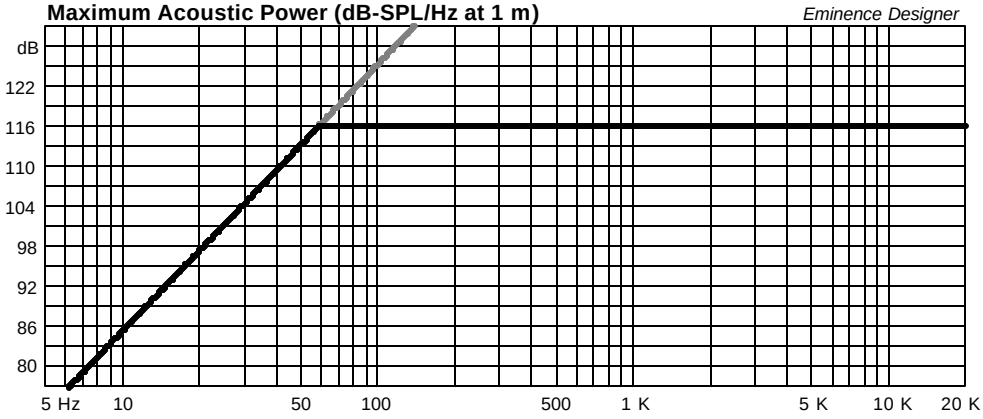
Normalized Amplitude Response (dB-SPL/Hz) *Eminence Designer*



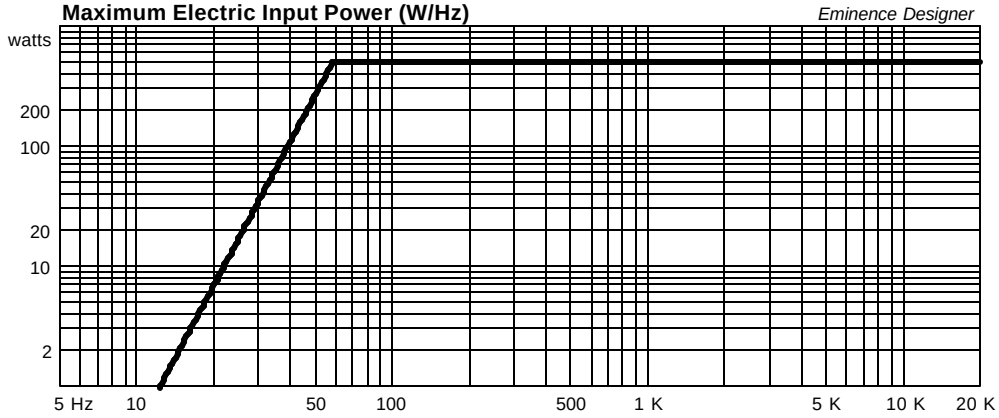
Custom Amplitude Response (dB-SPL/Hz at 1 m) with 450 watts *Eminence Designer*



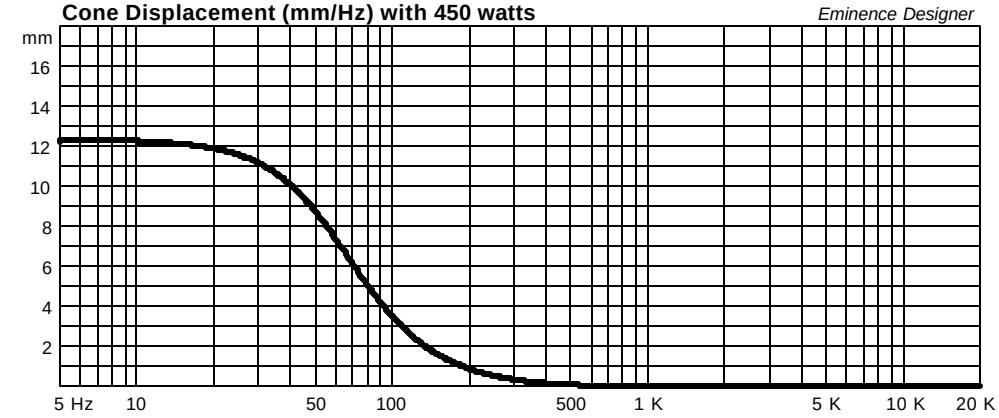
Maximum Acoustic Power (dB-SPL/Hz at 1 m) *Eminence Designer*



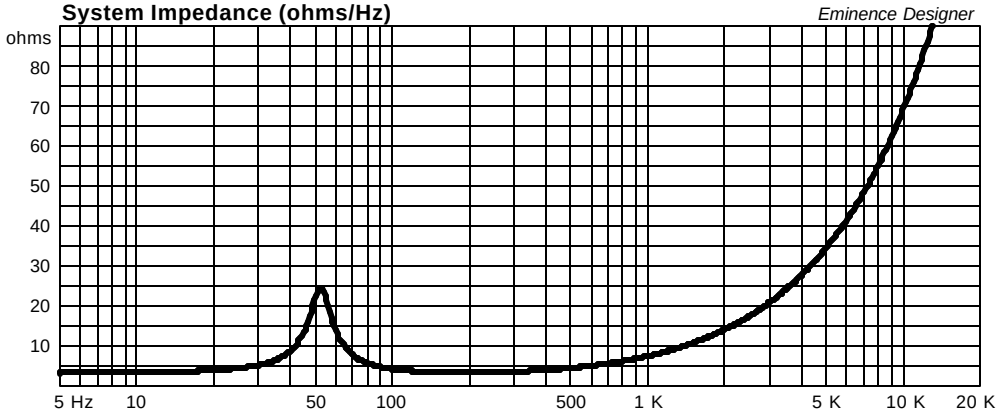
Maximum Electric Input Power (W/Hz) *Eminence Designer*

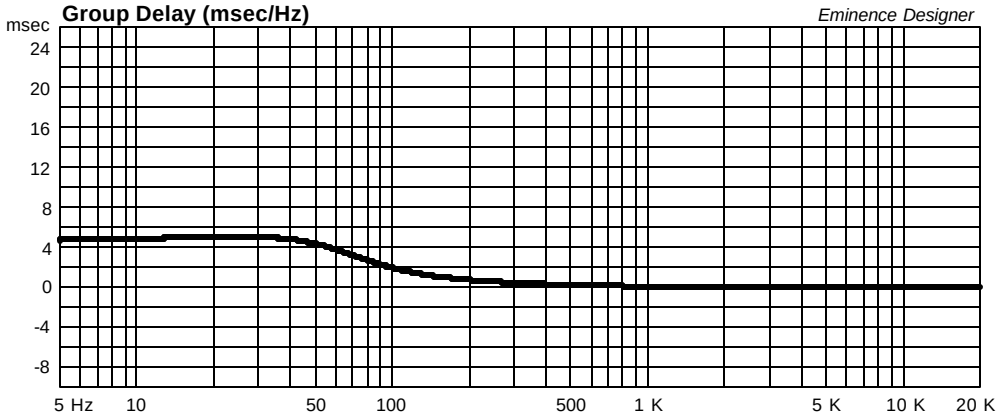


Cone Displacement (mm/Hz) with 450 watts *Eminence Designer*



System Impedance (ohms/Hz) *Eminence Designer*




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

LAB12C Small Vented Subwoofer Design

By Jerry McNutt, Eminence Speaker LLC

500 Watts; F3 at 42 Hz. Use a steep high pass at 32 Hz.

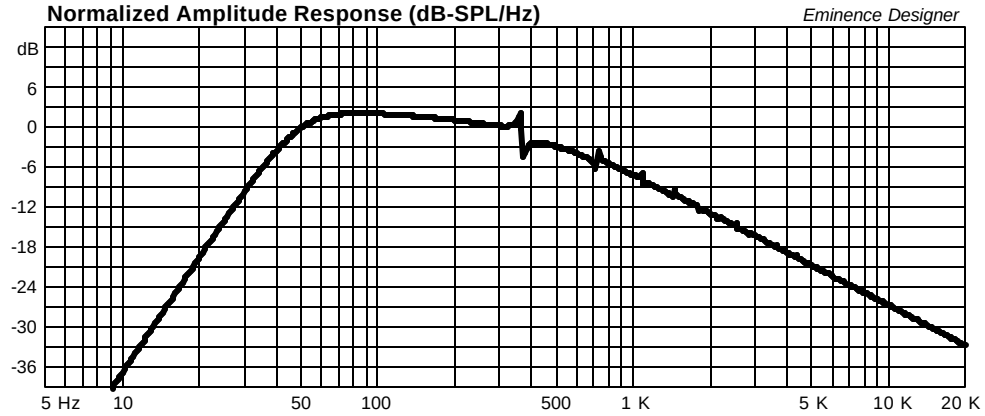
EMINENCE

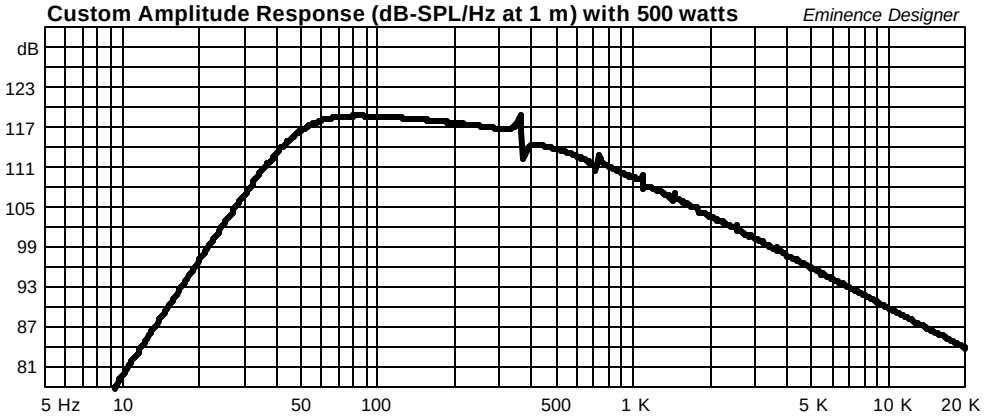
Box Properties

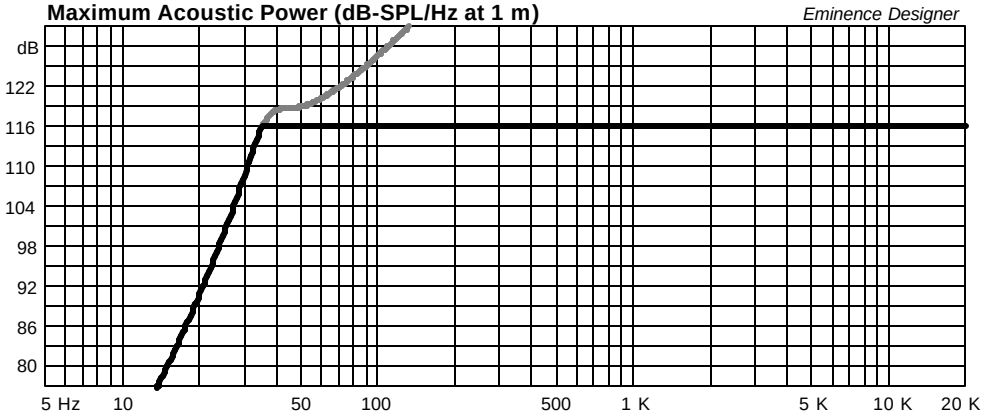
--Description--
Name:
Type: Vented Box
Shape: Prism, square
--Box Parameters--
Vb = 1.25 cu.ft
V(total) = 1.466 cu.ft
Fb = 38 Hz
QL = 7
F3 = 41.5 Hz
Fill = normal
--Vents--
No. of Vents = 1
Vent shape = round
Vent ends = one flush
Dv = 4 in
Lv = 14.79 in

Driver Properties

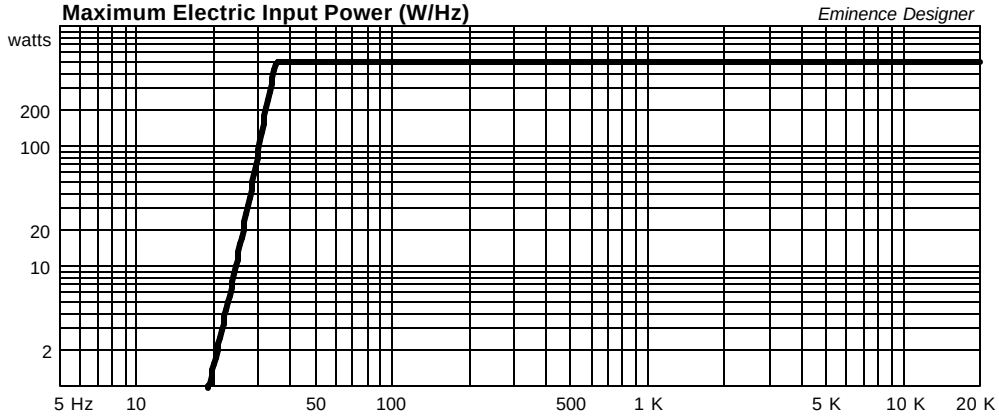
--Description--
Name: LAB12C
Type: Standard one-way driver
Company: Eminence Speaker LLC
Comment: Four Ohm LAB12 Subwoofer
--Configuration--
No. of Drivers = 1
--Mechanical Parameters--
Fs = 22.85 Hz
Qms = 11.7
Vas = 128.3 liters
Cms = 0.36 mm/N
Mms = 135.6 g
Rms = 1.66 kg/s
Xmax = 13 mm
Xmech = 22 mm
P-Dia = 252.6 mm
Sd = 506.7 sq.cm
P-Vd = 0.651 liters
--Electrical Parameters--
Qes = 0.34
Re = 3.11 ohms
Le = 1.09 mH
Z = 4 ohms
BL = 13.36 Tm
Pe = 500 watts
--Electromech. Parameters--
Qts = 0.33
no = 0.434 %
1-W SPL = 88.52 dB
2.83-V SPL = 92.63 dB



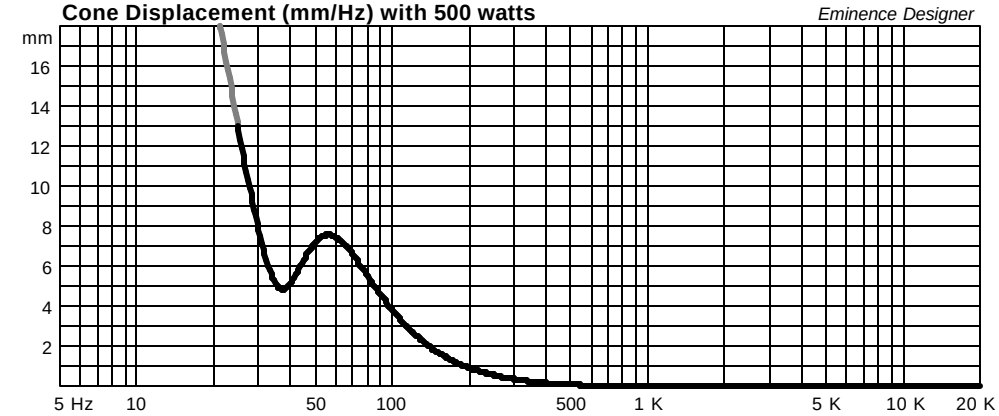




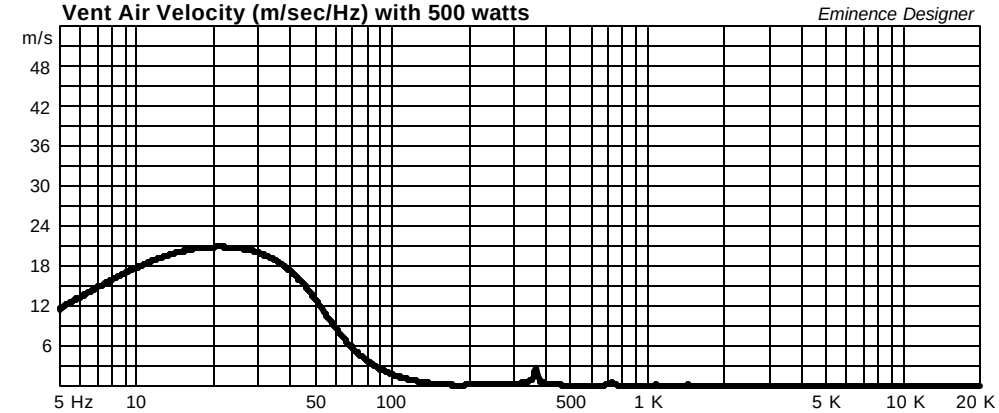
Maximum Electric Input Power (W/Hz) *Eminence Designer*

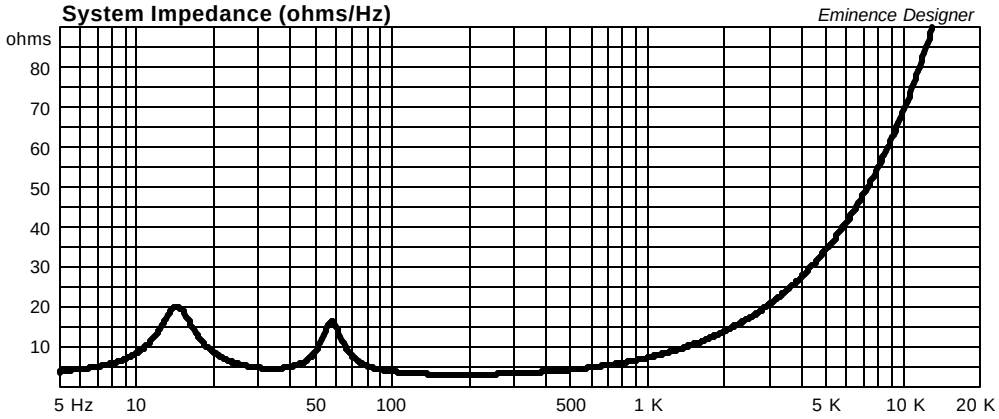


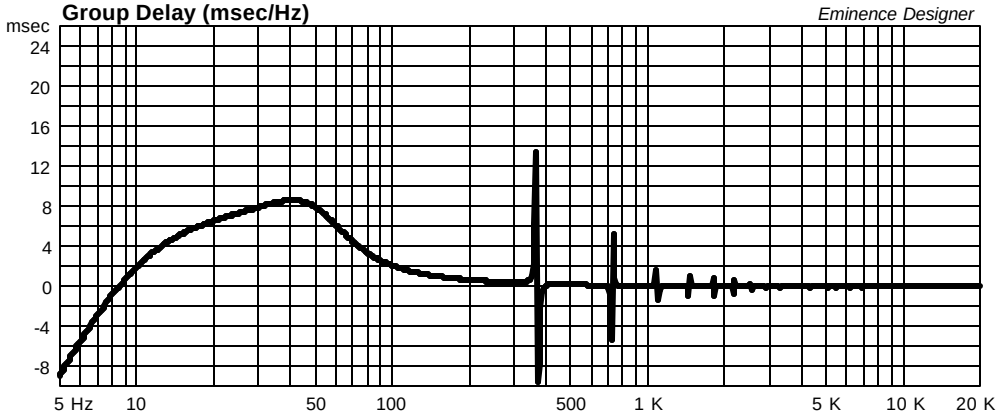
Cone Displacement (mm/Hz) with 500 watts *Eminence Designer*



Vent Air Velocity (m/sec/Hz) with 500 watts *Eminence Designer*




System Impedance (ohms/Hz)
Eminence Designer
ohms
80
70
60
50
40
30
20
10
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

LAB12C Medium Sealed Subwoofer

By Jerry McNutt, Eminence Speaker LLC
Limit to 450 Watts; F3 at 54 Hz. Use a steep high pass at 35 Hz.
This Design Is More for Automotive Use

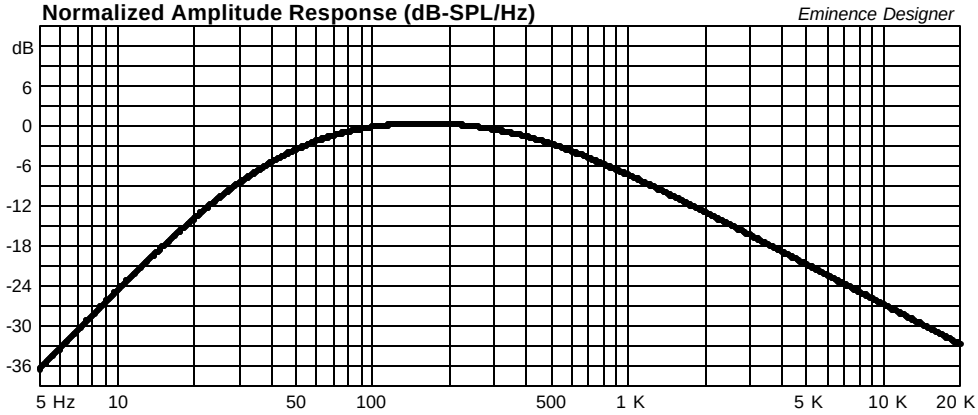
Box Properties

--Description--
Name:
Type: Closed Box
Shape: Prism, square
--Box Parameters--
Vb = 2 cu.ft
V(total) = 2.101 cu.ft
Qtc = 0.534
QL = 20
F3 = 54.29 Hz
Fill = normal

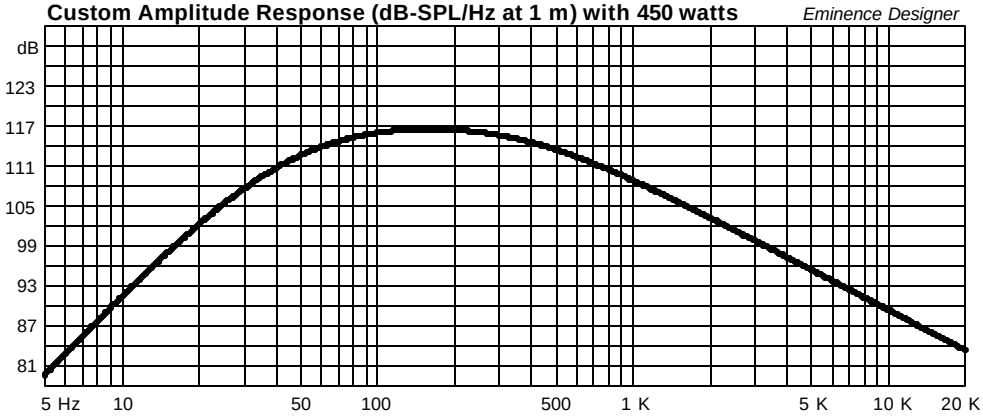
Driver Properties

--Description--
Name: LAB12C
Type: Standard one-way driver
Company: Eminence Speaker LLC
Comment: Four Ohm LAB12 Subwoofer
--Configuration--
No. of Drivers = 1
--Mechanical Parameters--
Fs = 22.85 Hz
Qms = 11.7
Vas = 128.3 liters
Cms = 0.36 mm/N
Mms = 135.6 g
Rms = 1.66 kg/s
Xmax = 13 mm
Xmech = 22 mm
P-Dia = 252.6 mm
Sd = 506.7 sq.cm
P-Vd = 0.651 liters
--Electrical Parameters--
Qes = 0.34
Re = 3.11 ohms
Le = 1.09 mH
Z = 4 ohms
BL = 13.36 Tm
Pe = 500 watts
--Electromech. Parameters--
Qts = 0.33
no = 0.434 %
1-W SPL = 88.52 dB
2.83-V SPL = 92.63 dB

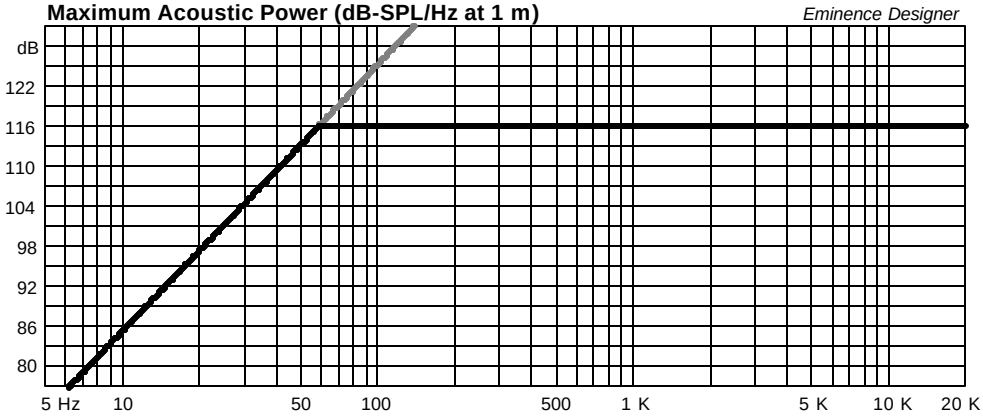
Normalized Amplitude Response (dB-SPL/Hz) *Eminence Designer*



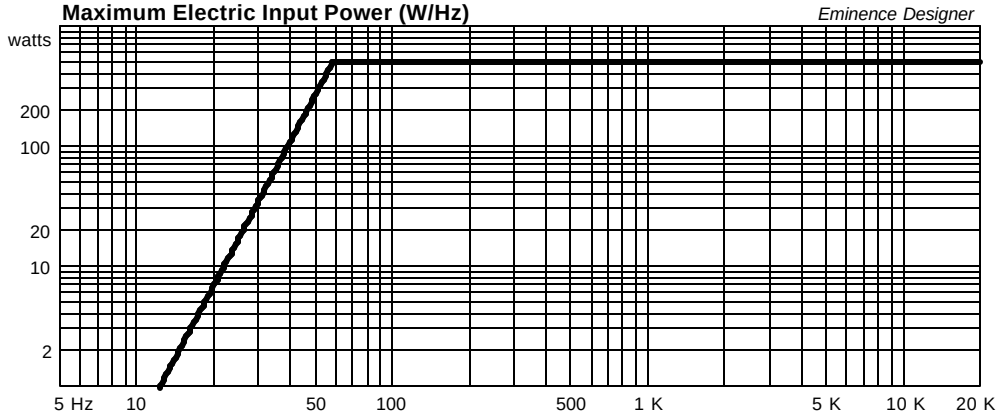
Custom Amplitude Response (dB-SPL/Hz at 1 m) with 450 watts *Eminence Designer*



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

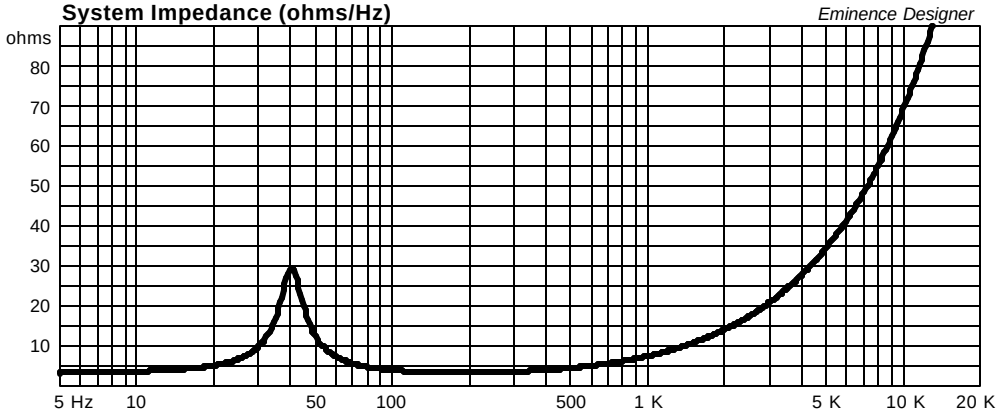


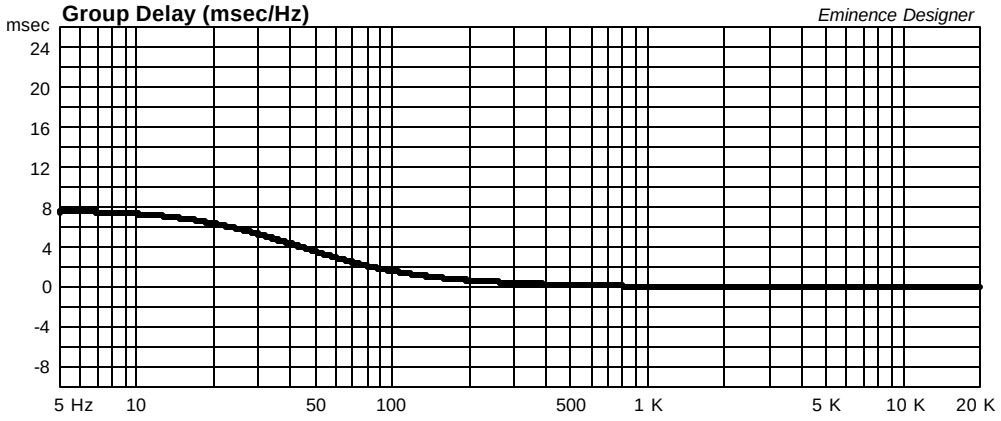
Maximum Electric Input Power (W/Hz) *Eminence Designer*



Cone Displacement (mm/Hz) with 450 watts *Eminence Designer*

System Impedance (ohms/Hz) *Eminence Designer*




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

LAB12C Medium Vented Subwoofer Design

By Jerry McNutt, Eminence Speaker LLC

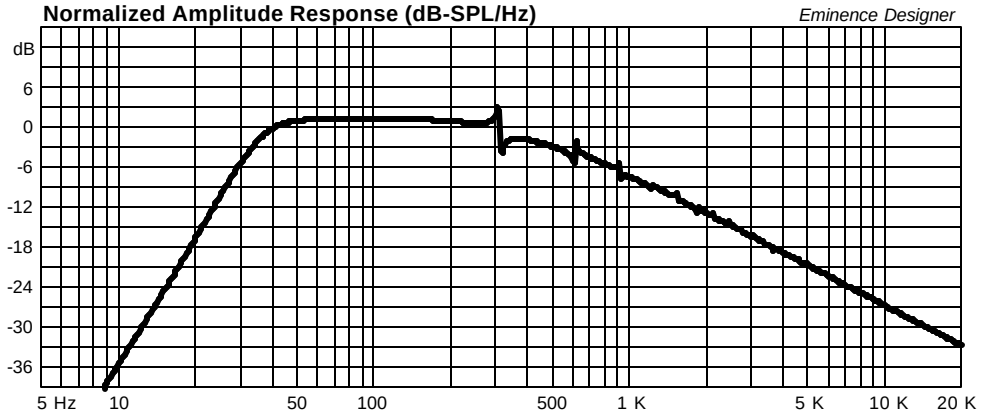
500 Watts; F3 at 36 Hz. Use a very steep high pass filter at 28 Hz.

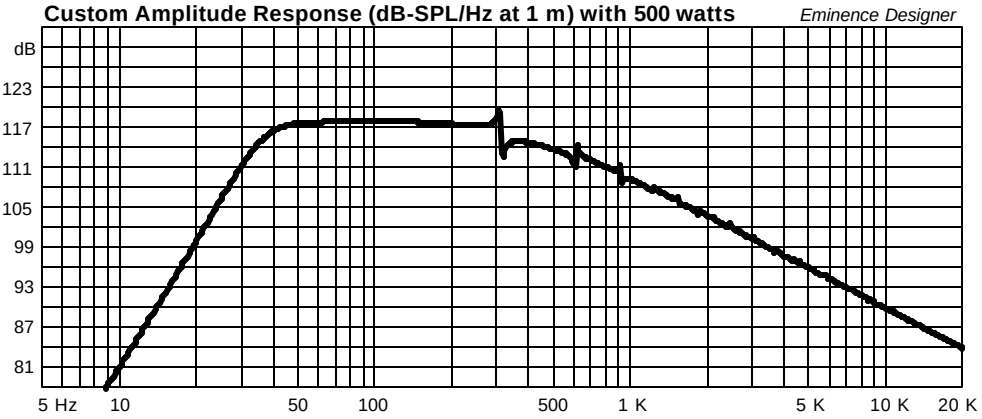
Box Properties

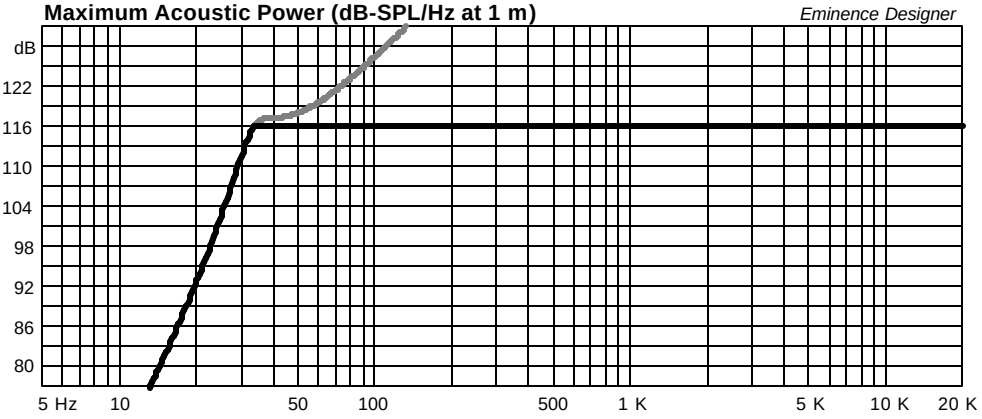
--Description--
Name:
Type: Vented Box
Shape: Prism, square
--Box Parameters--
Vb = 2.5 cu.ft
V(total) = 2.874 cu.ft
Fb = 35 Hz
QL = 7
F3 = 36.24 Hz
Fill = normal
--Vents--
No. of Vents = 2
Vent shape = round
Vent ends = one flush
Dv = 4 in
Lv = 17.39 in

Driver Properties

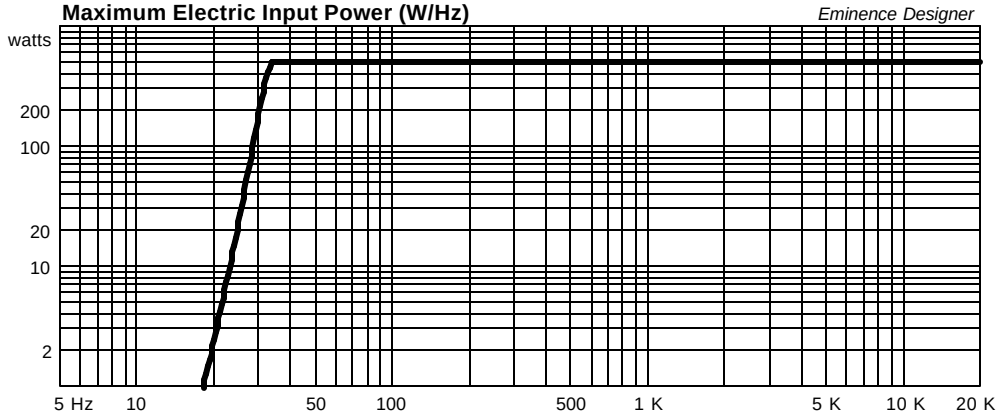
--Description--
Name: LAB12C
Type: Standard one-way driver
Company: Eminence Speaker LLC
Comment: Four Ohm LAB12 Subwoofer
--Configuration--
No. of Drivers = 1
--Mechanical Parameters--
Fs = 22.85 Hz
Qms = 11.7
Vas = 128.3 liters
Cms = 0.36 mm/N
Mms = 135.6 g
Rms = 1.66 kg/s
Xmax = 13 mm
Xmech = 22 mm
P-Dia = 252.6 mm
Sd = 506.7 sq.cm
P-Vd = 0.651 liters
--Electrical Parameters--
Qes = 0.34
Re = 3.11 ohms
Le = 1.09 mH
Z = 4 ohms
BL = 13.36 Tm
Pe = 500 watts
--Electromech. Parameters--
Qts = 0.33
no = 0.434 %
1-W SPL = 88.52 dB
2.83-V SPL = 92.63 dB



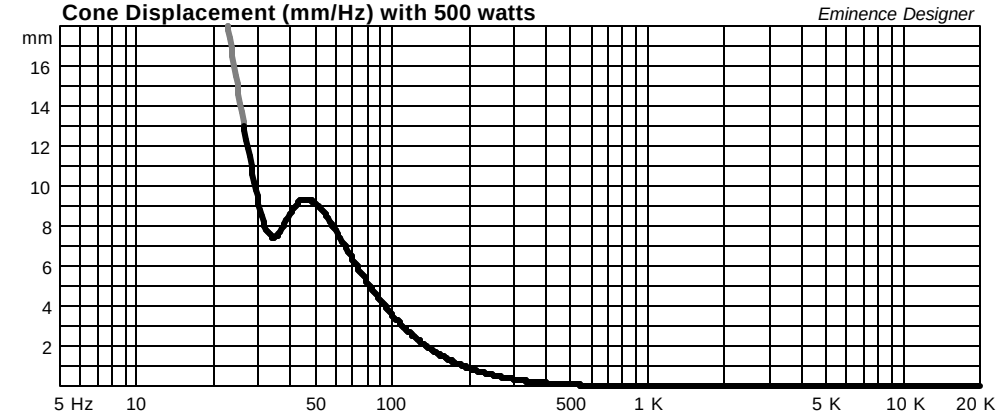




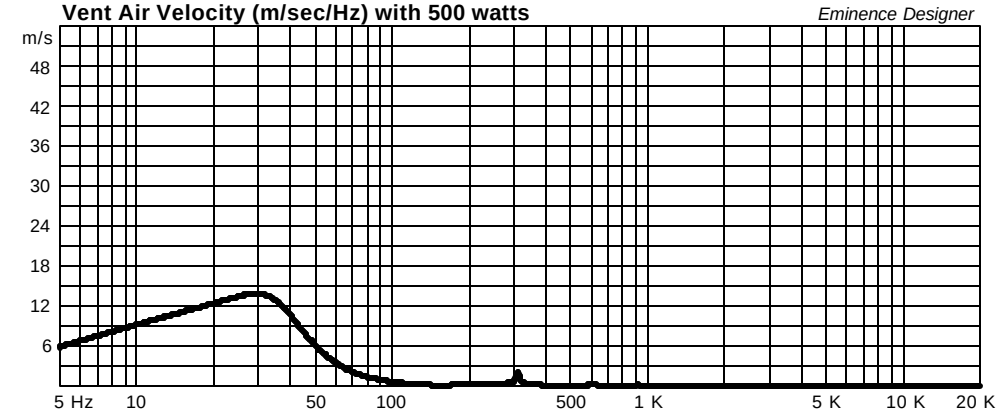
Maximum Electric Input Power (W/Hz) *Eminence Designer*

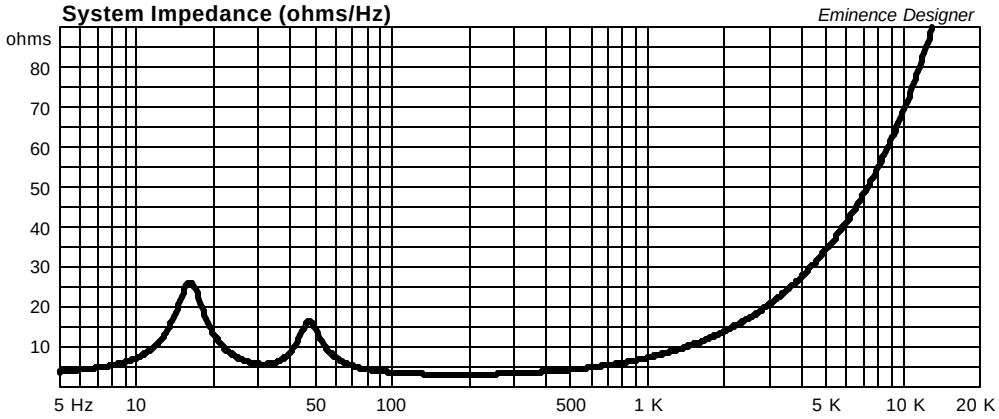


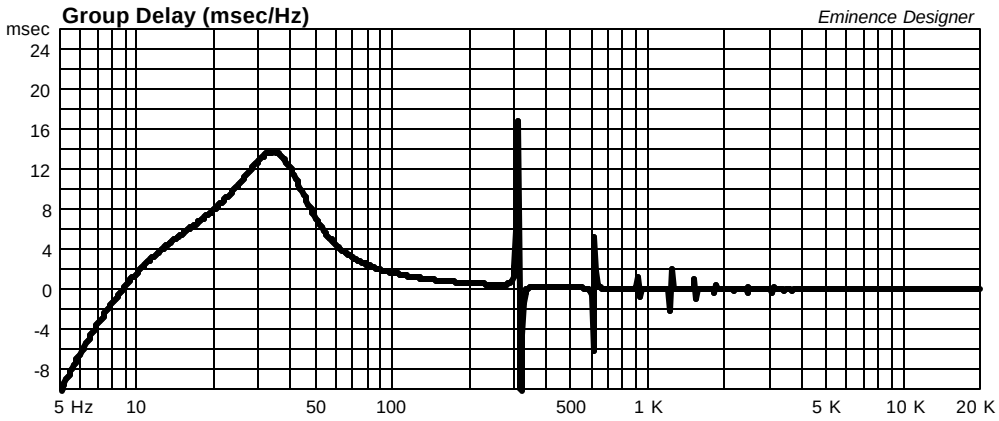
Cone Displacement (mm/Hz) with 500 watts *Eminence Designer*



Vent Air Velocity (m/sec/Hz) with 500 watts *Eminence Designer*




System Impedance (ohms/Hz)
Eminence Designer
ohms
80
70
60
50
40
30
20
10
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

LAB12C Large Sealed Subwoofer

By Jerry McNutt, Eminence Speaker LLC
Limit to 400 Watts; F3 at 56 Hz. Use a steep high pass at 38 Hz.
This Design Is More for Automotive Use

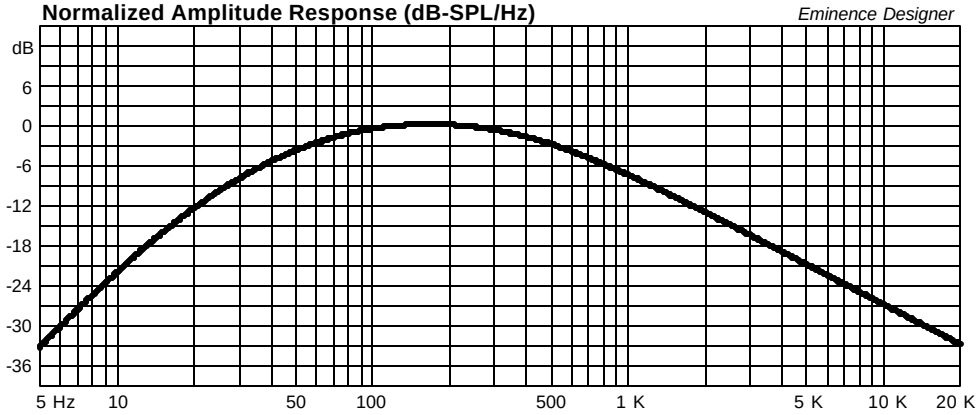
Box Properties

--Description--
Name:
Type: Closed Box
Shape: Prism, square
--Box Parameters--
Vb = 3.9 cu.ft
V(total) = 4.001 cu.ft
Qtc = 0.444
QL = 20
F3 = 56.02 Hz
Fill = normal

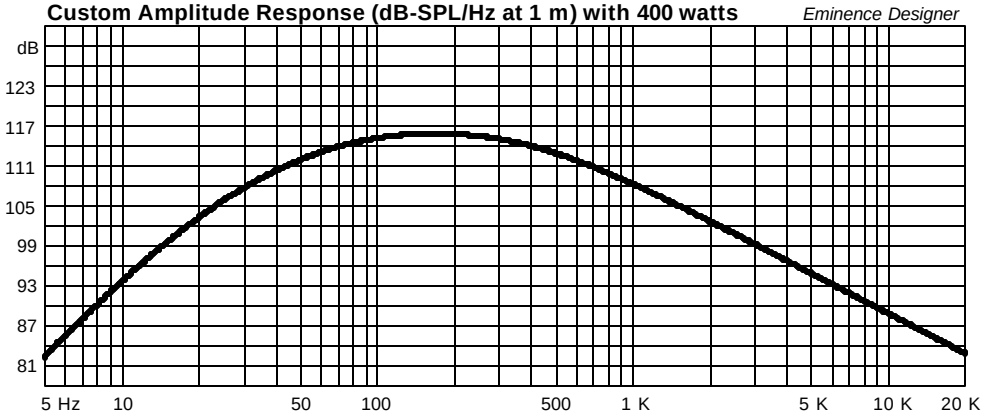
Driver Properties

--Description--
Name: LAB12C
Type: Standard one-way driver
Company: Eminence Speaker LLC
Comment: Four Ohm LAB12 Subwoofer
--Configuration--
No. of Drivers = 1
--Mechanical Parameters--
Fs = 22.85 Hz
Qms = 11.7
Vas = 128.3 liters
Cms = 0.36 mm/N
Mms = 135.6 g
Rms = 1.66 kg/s
Xmax = 13 mm
Xmech = 22 mm
P-Dia = 252.6 mm
Sd = 506.7 sq.cm
P-Vd = 0.651 liters
--Electrical Parameters--
Qes = 0.34
Re = 3.11 ohms
Le = 1.09 mH
Z = 4 ohms
BL = 13.36 Tm
Pe = 500 watts
--Electromech. Parameters--
Qts = 0.33
no = 0.434 %
1-W SPL = 88.52 dB
2.83-V SPL = 92.63 dB

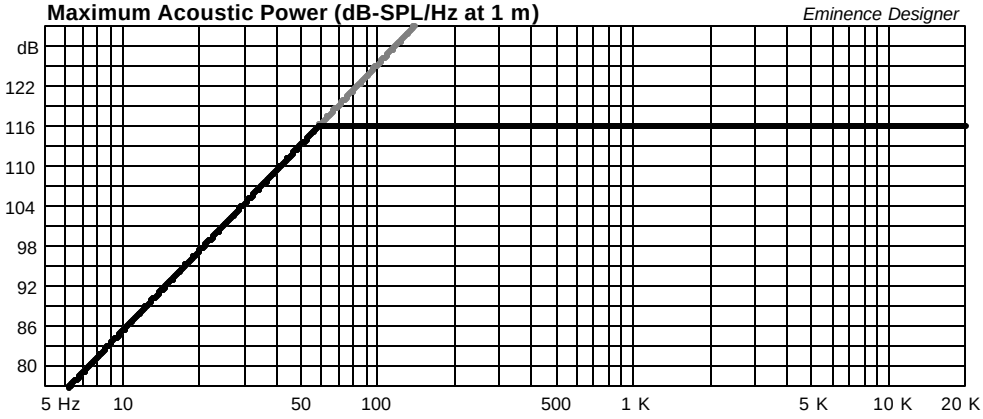
Normalized Amplitude Response (dB-SPL/Hz) *Eminence Designer*



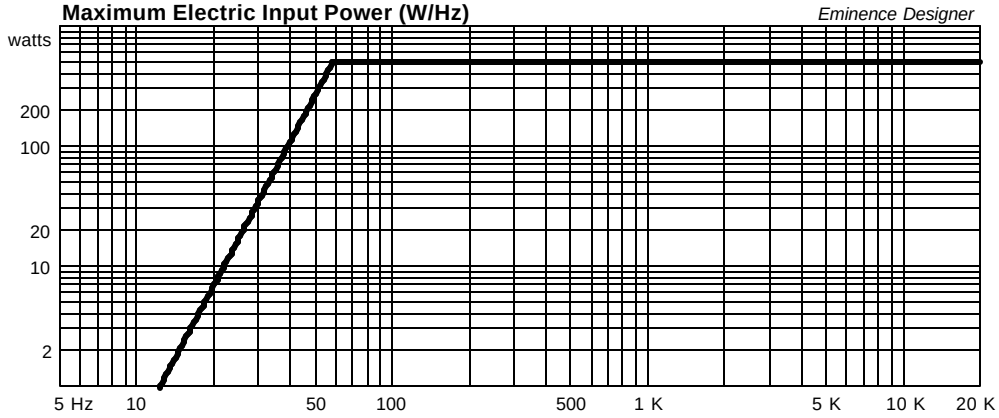
Custom Amplitude Response (dB-SPL/Hz at 1 m) with 400 watts *Eminence Designer*



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

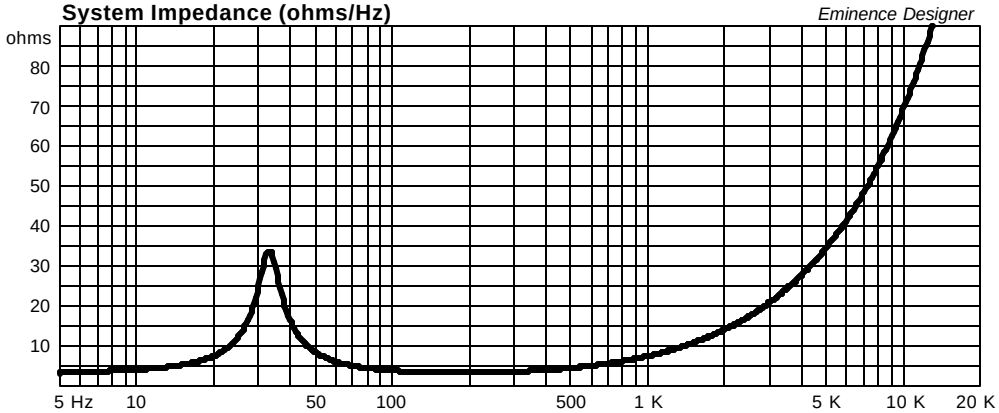


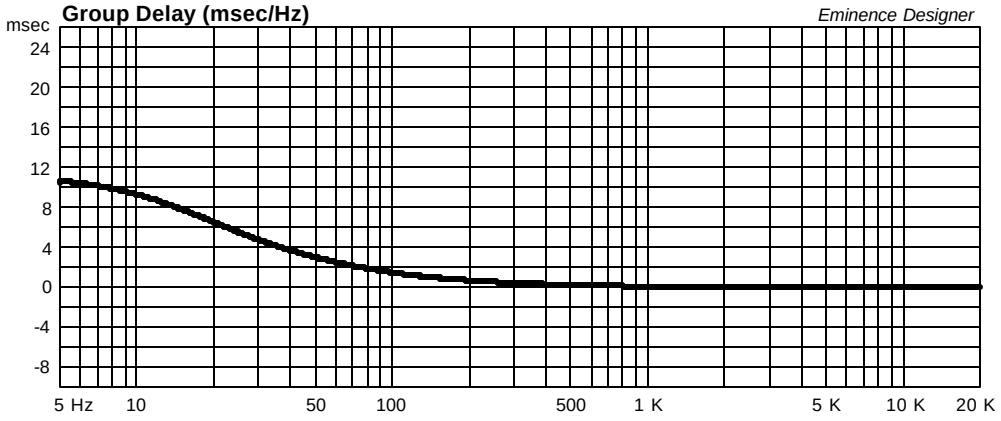
Maximum Electric Input Power (W/Hz) *Eminence Designer*



Cone Displacement (mm/Hz) with 400 watts *Eminence Designer*

System Impedance (ohms/Hz) *Eminence Designer*




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

LAB12C Large Vented Subwoofer Design

By Jerry McNutt, Eminence Speaker LLC

400 Watts; F3 at 29 Hz. Use a very steep high pass filter at 25 Hz.

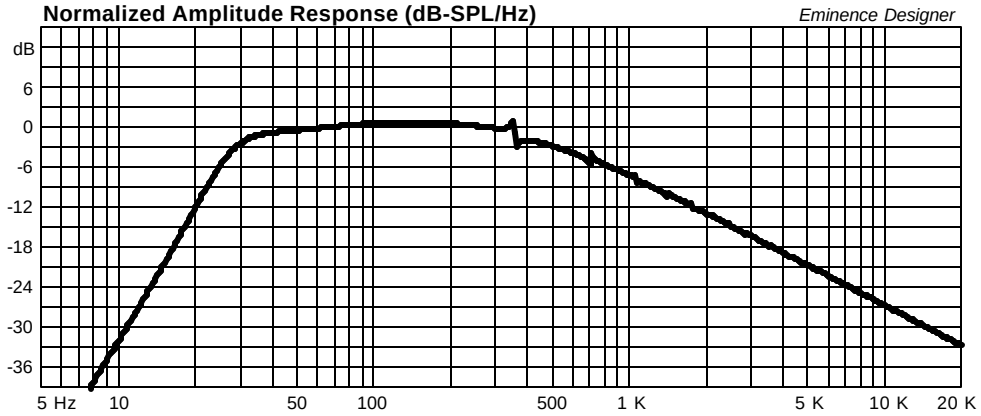
EMINENCE

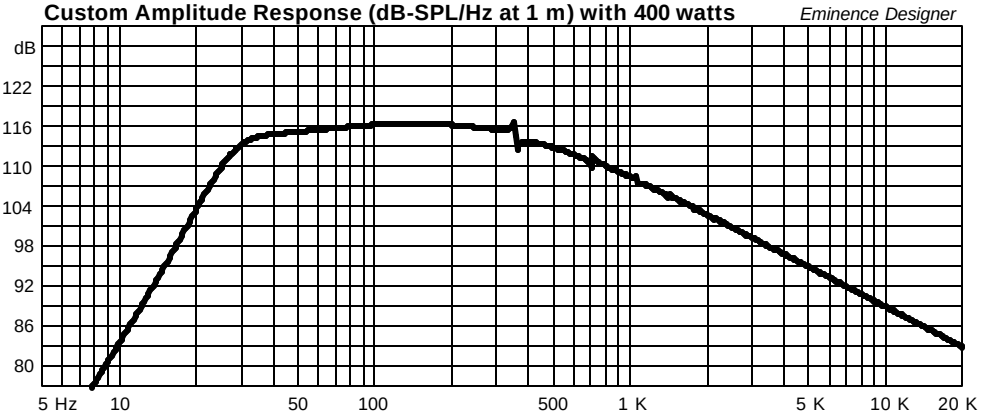
Box Properties

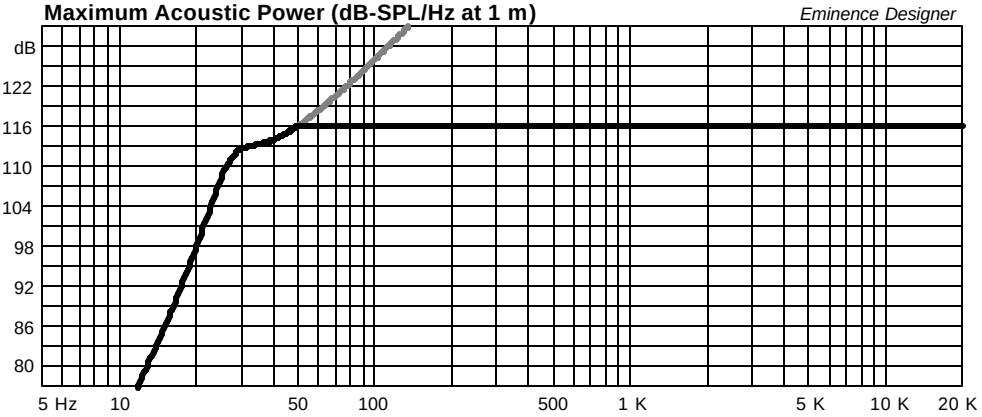
--Description--
Name:
Type: Vented Box
Shape: Prism, square
--Box Parameters--
Vb = 4.5 cu.ft
V(total) = 4.826 cu.ft
Fb = 28 Hz
QL = 7
F3 = 28.99 Hz
Fill = normal
--Vents--
No. of Vents = 2
Vent shape = round
Vent ends = one flush
Dv = 4 in
Lv = 14.47 in

Driver Properties

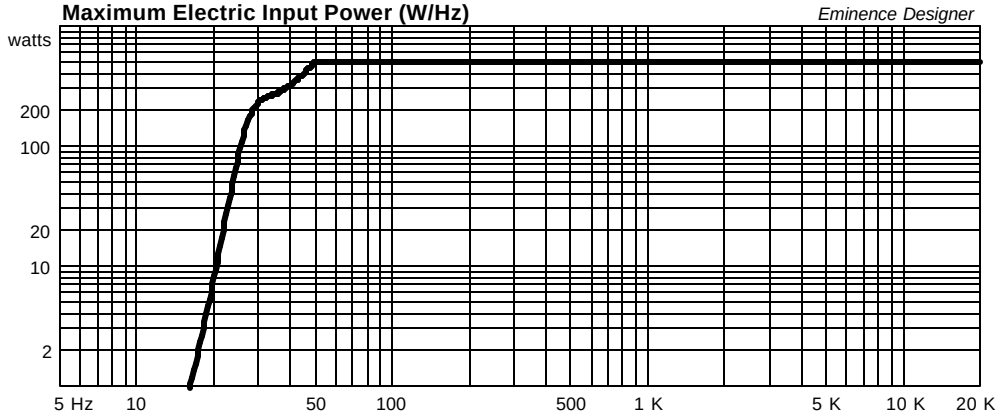
--Description--
Name: LAB12C
Type: Standard one-way driver
Company: Eminence Speaker LLC
Comment: Four Ohm LAB12 Subwoofer
--Configuration--
No. of Drivers = 1
--Mechanical Parameters--
Fs = 22.85 Hz
Qms = 11.7
Vas = 128.3 liters
Cms = 0.36 mm/N
Mms = 135.6 g
Rms = 1.66 kg/s
Xmax = 13 mm
Xmech = 22 mm
P-Dia = 252.6 mm
Sd = 506.7 sq.cm
P-Vd = 0.651 liters
--Electrical Parameters--
Qes = 0.34
Re = 3.11 ohms
Le = 1.09 mH
Z = 4 ohms
BL = 13.36 Tm
Pe = 500 watts
--Electromech. Parameters--
Qts = 0.33
no = 0.434 %
1-W SPL = 88.52 dB
2.83-V SPL = 92.63 dB





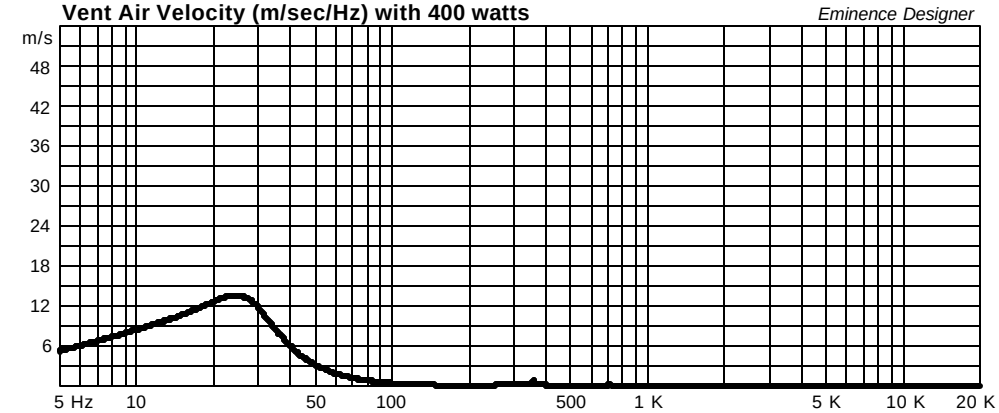


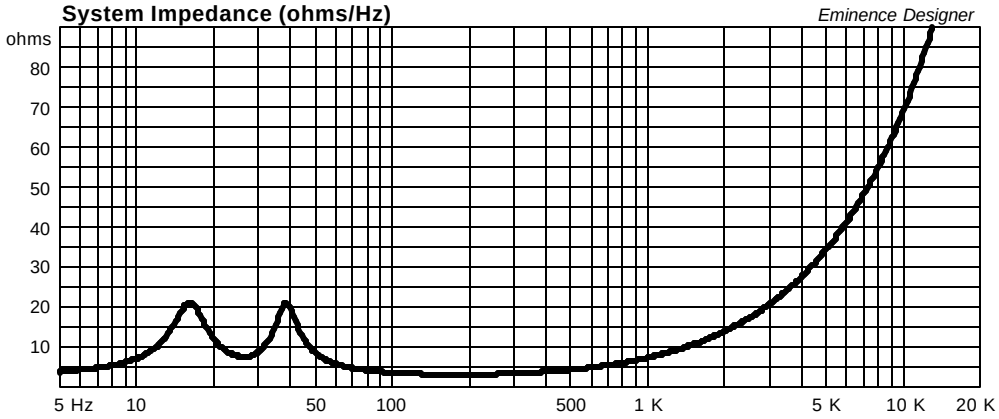
Maximum Electric Input Power (W/Hz) *Eminence Designer*

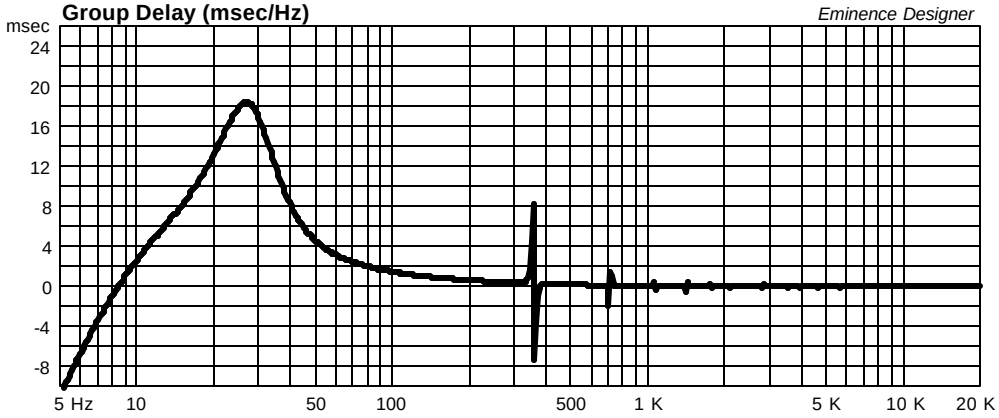


Cone Displacement (mm/Hz) with 400 watts *Eminence Designer*

Vent Air Velocity (m/sec/Hz) with 400 watts *Eminence Designer*




System Impedance (ohms/Hz)
Eminence Designer
ohms
80
70
60
50
40
30
20
10
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