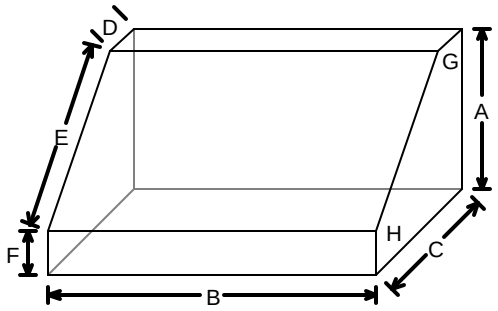
KappaLite 3010LF Small Vented Floor Wedge Or Sat

By Jerry McNutt, Eminence Speaker LLC
450 Watts Power Handling, F3 of 72 Hz, High Pass Suggested at 60 Hz.

EMINENCE

Box Properties

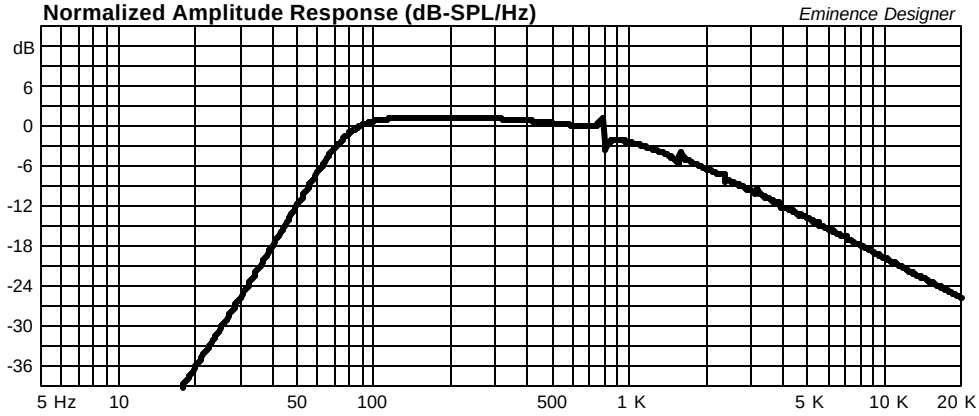
--Description--
Name:
Type: Vented Box
Shape: Prism, truncated edge
--Box Parameters--
Vb = 0.65 cu.ft
V(total) = 0.746 cu.ft
Fb = 70 Hz
QL = 7
F3 = 71.81 Hz
Fill = minimal
--Vents--
No. of Vents = 2
Vent shape = round
Vent ends = one flush
Dv = 2.5 in
Lv = 5.667 in

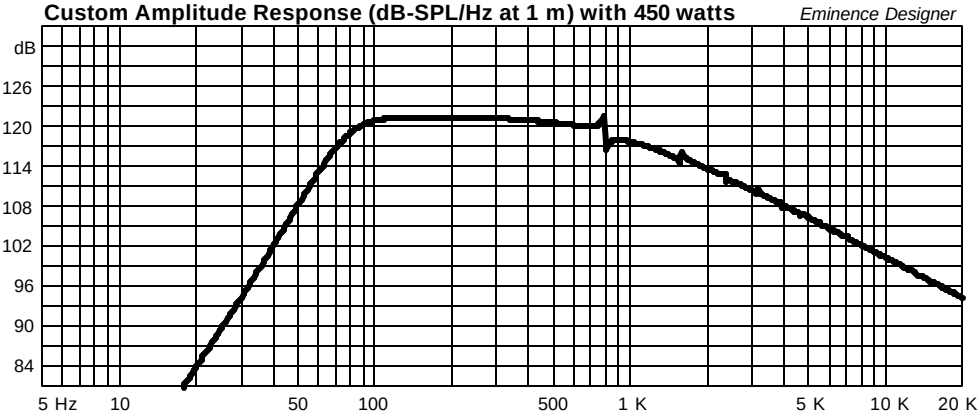


--External Dimensions--
A = 11 in
B = 22.41 in
C = 11 in
D = 3 in
E = 11.31 in
F = 3 in
--Internal Dimensions--
A = 9.5 in
B = 20.91 in
C = 9.5 in
D = 1.939 in
E = 10.69 in
F = 1.939 in
--Wall Thickness--
Wall = 0.75 in
--Angles--
G = 135°
H = 135°

Driver Properties

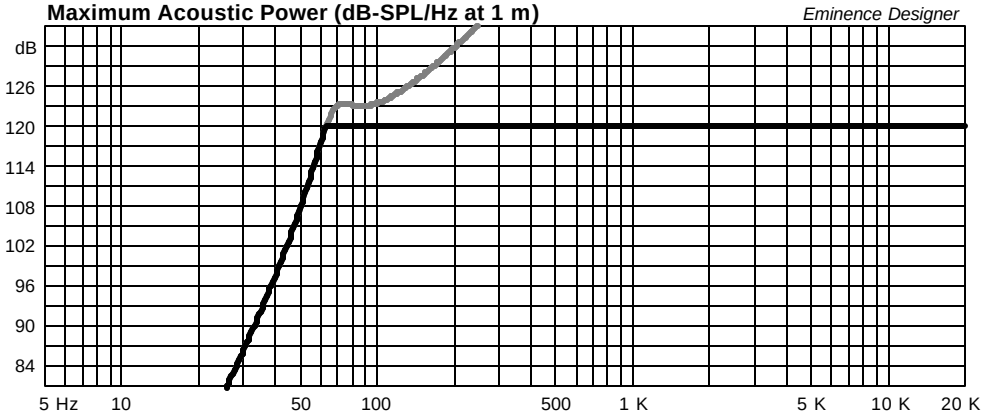
--Description--
Name: KappaLite 3010LF
Type: Standard one-way driver
Company: Eminence Speaker LLC
Comment: 10" Cast Neo Subwoofer
--Configuration--
No. of Drivers = 1
--Mechanical Parameters--
Fs = 38.67 Hz
Qms = 11.75
Vas = 62.41 liters
Cms = 0.35 mm/N
Mms = 48.72 g
Rms = 1.01 kg/s
Xmax = 8.52 mm
Xmech = 15.7 mm
P-Dia = 212.4 mm
Sd = 358.4 sq.cm
P-Vd = 0.302 liters
--Electrical Parameters--
Qes = 0.28
Re = 7.2 ohms
Le = 1.13 mH
Z = 8 ohms
BL = 17.45 Tm
Pe = 450 watts
--Electromech. Parameters--
Qts = 0.273
no = 1.243 %
1-W SPL = 93.09 dB
2.83-V SPL = 93.55 dB



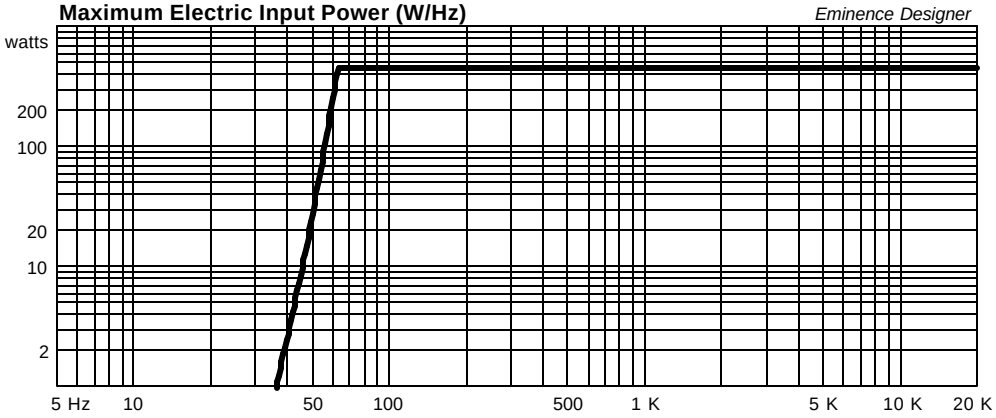


File: KappaLite3010LFSmallVented450Watts.bb6

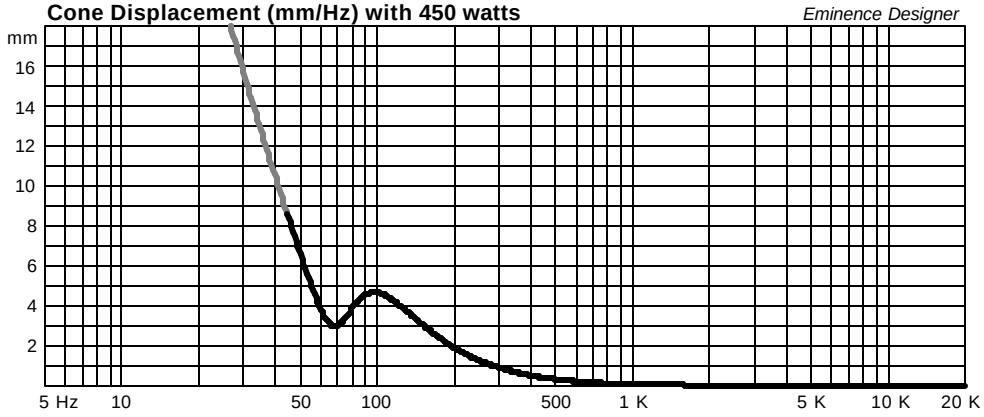
Maximum Acoustic Power (dB-SPL/Hz at 1 m) *Eminence Designer*

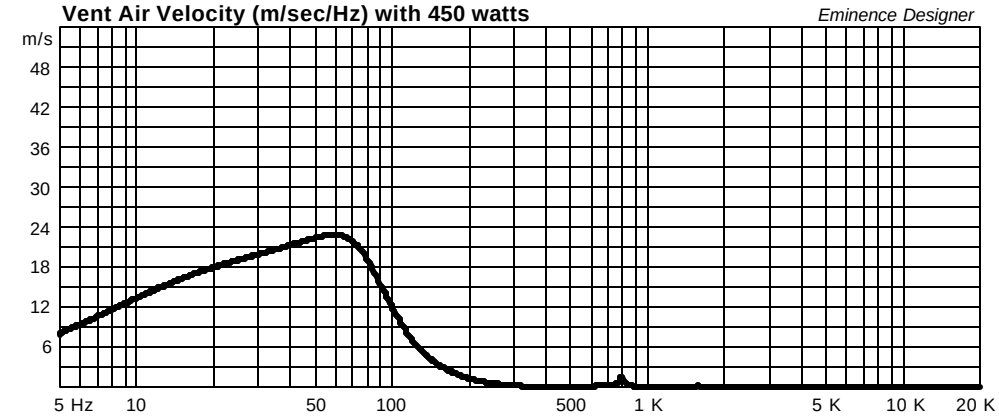


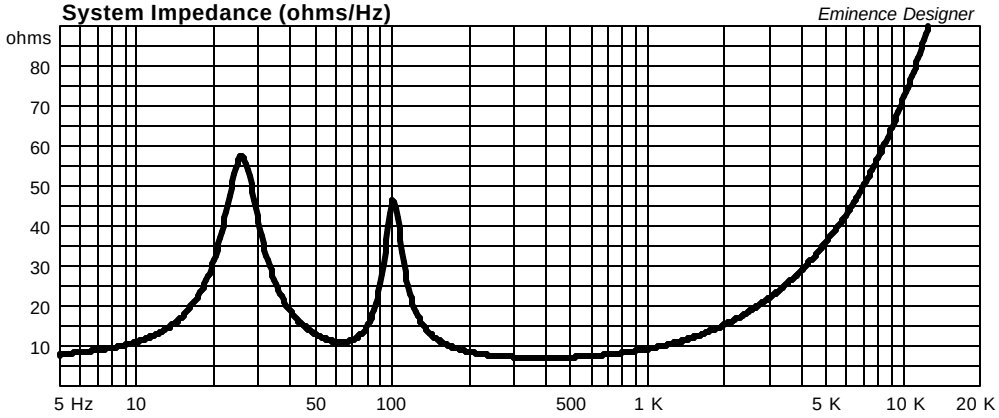
Maximum Electric Input Power (W/Hz) *Eminence Designer*

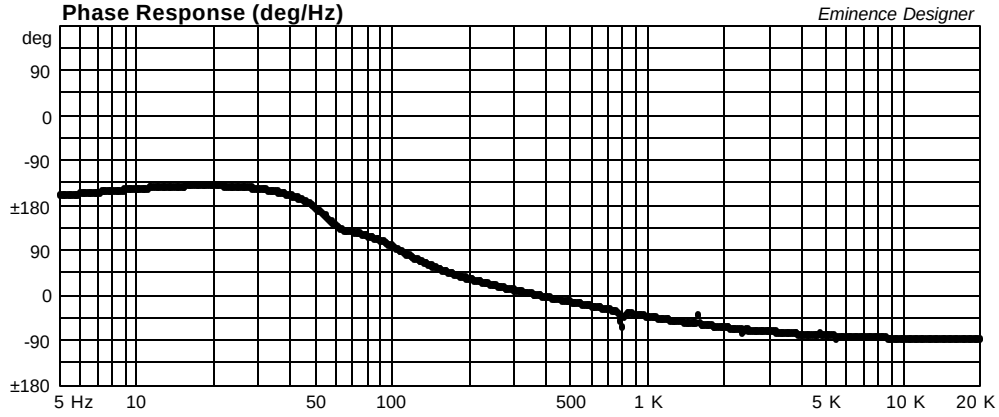


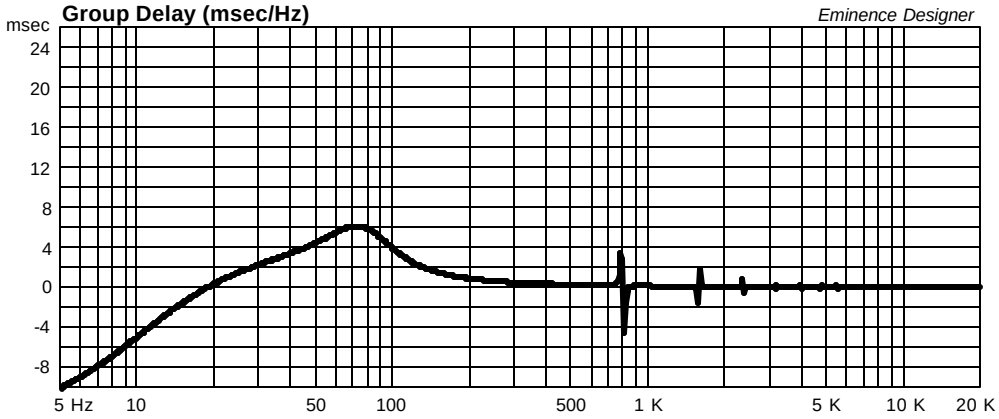
Cone Displacement (mm/Hz) with 450 watts *Eminence Designer*




Vent Air Velocity (m/sec/Hz) with 450 watts
Eminence Designer
m/s
48
42
36
30
24
18
12
6
5 Hz
10
50
100
500
1 K
5 K
10 K
20 K


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


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

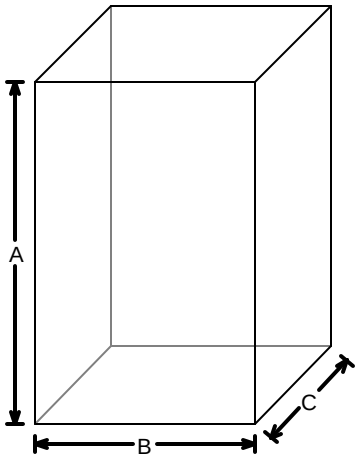
KappaLite 3010LF Med Vented Box, Bass Guitar

By Jerry McNutt, Eminence Speaker LLC
450 Watts Power Handling, F3 of 52Hz, High Pass Suggested at 40 Hz.

EMINENCE

Box Properties

--Description--
Name:
Type: Vented Box
Shape: Prism, square (optimum)
--Box Parameters--
Vb = 1.2 cu.ft
V(total) = 1.361 cu.ft
Fb = 52 Hz
QL = 7
F3 = 57.45 Hz
Fill = minimal
--Vents--
No. of Vents = 1
Vent shape = rectangle
Vent ends = one flush
Hv = 1.1 in
Wv = 13.14 in
Lv = 10.18 in

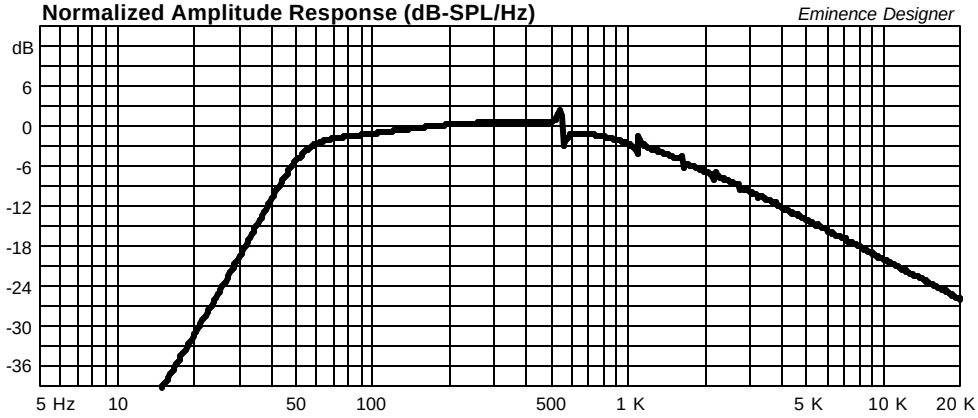


--External Dimensions--
A = 23.02 in
B = 14.8 in
C = 9.719 in
--Internal Dimensions--
A = 21.52 in
B = 13.3 in
C = 8.219 in
--Wall Thickness--
Front = 0.75 in
Side = 0.75 in

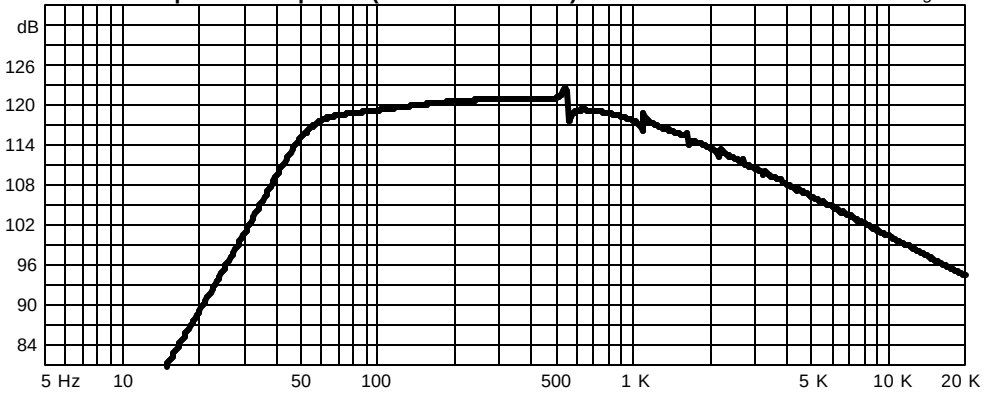
Driver Properties

--Description--
Name: KappaLite 3010LF
Type: Standard one-way driver
Company: Eminence Speaker LLC
Comment: 10" Cast Neo Subwoofer
--Configuration--
No. of Drivers = 1
--Mechanical Parameters--
Fs = 38.67 Hz
Qms = 11.75
Vas = 62.41 liters
Cms = 0.35 mm/N
Mms = 48.72 g
Rms = 1.01 kg/s
Xmax = 8.52 mm
Xmech = 15.7 mm
P-Dia = 212.4 mm
Sd = 358.4 sq.cm
P-Vd = 0.302 liters
--Electrical Parameters--
Qes = 0.28
Re = 7.2 ohms
Le = 1.13 mH
Z = 8 ohms
BL = 17.45 Tm
Pe = 450 watts
--Electromech. Parameters--
Qts = 0.273
no = 1.243 %
1-W SPL = 93.09 dB
2.83-V SPL = 93.55 dB

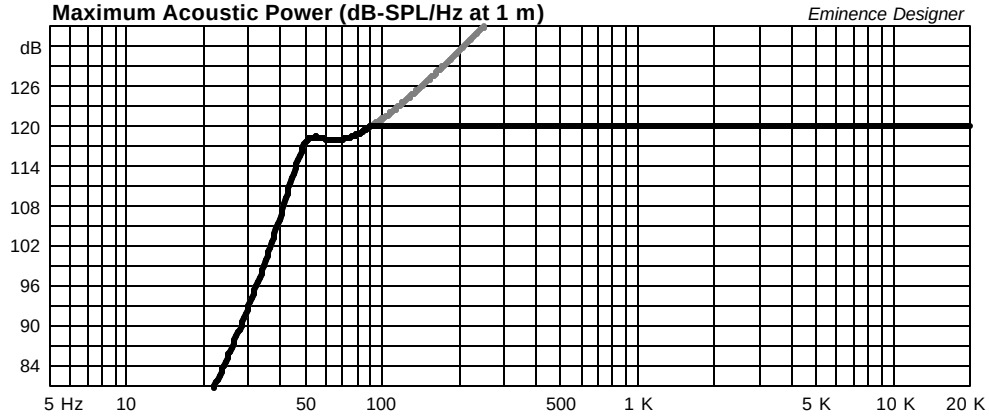
Normalized Amplitude Response (dB-SPL/Hz) *Eminence Designer*



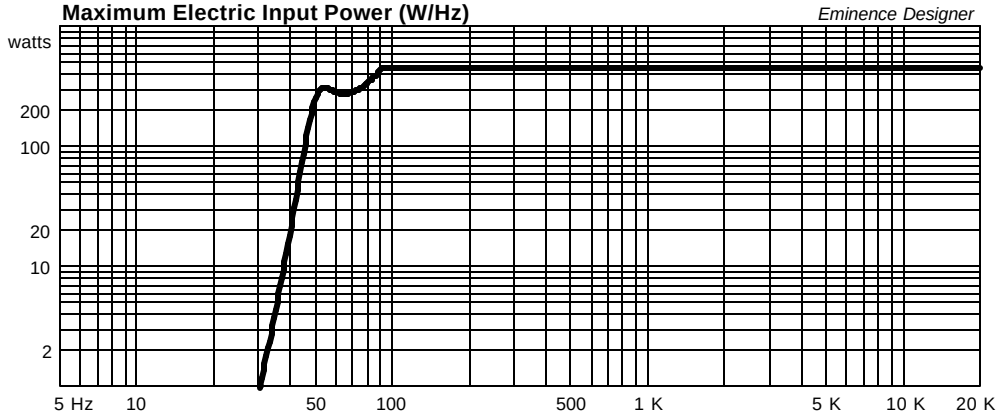
Custom Amplitude Response (dB-SPL/Hz at 1 m) with 450 watts *Eminence Designer*



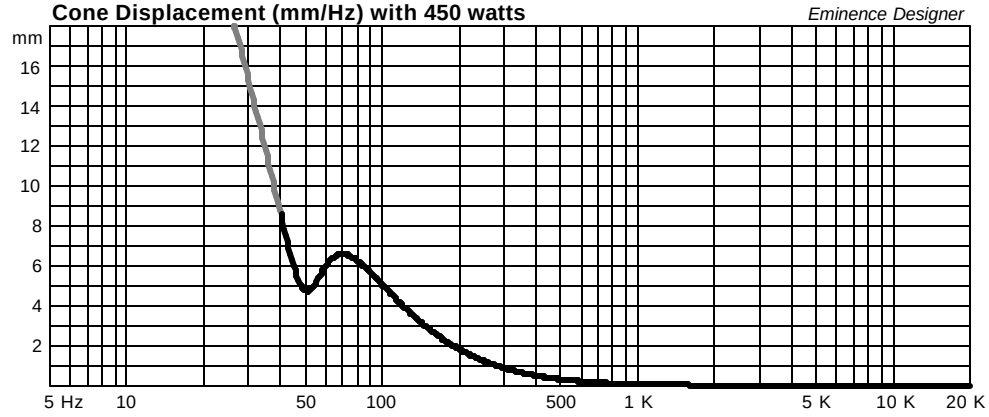
Maximum Acoustic Power (dB-SPL/Hz at 1 m) *Eminence Designer*



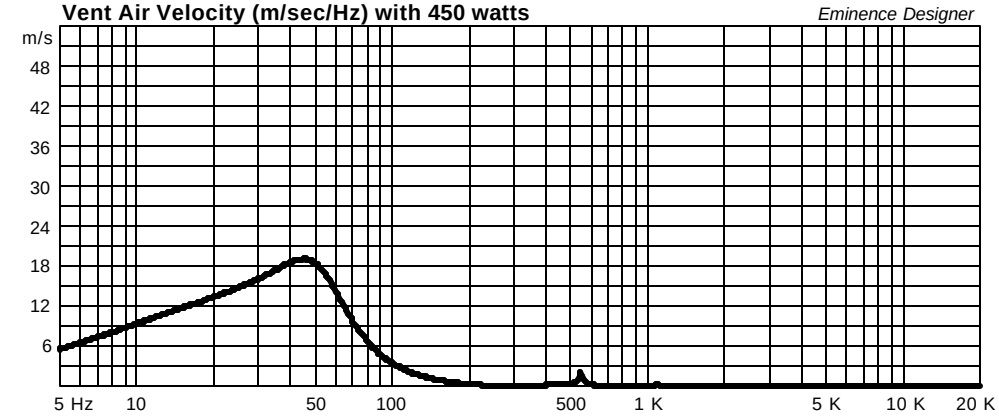
Maximum Electric Input Power (W/Hz) *Eminence Designer*



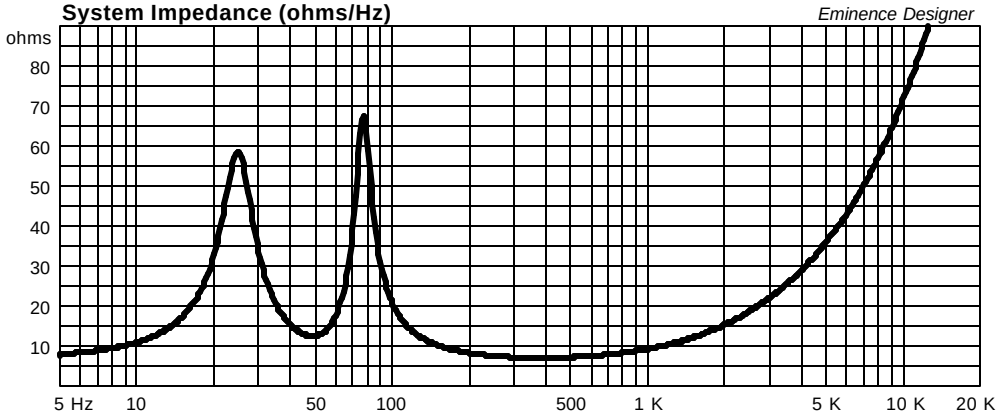
Cone Displacement (mm/Hz) with 450 watts *Eminence Designer*



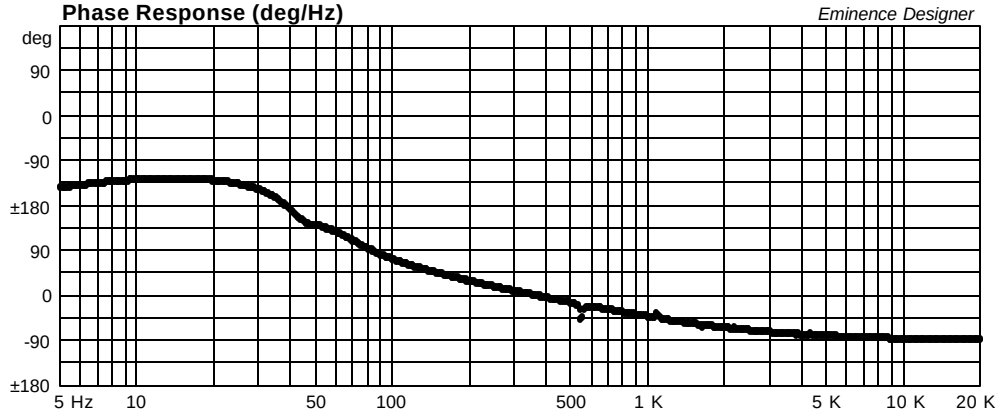
Vent Air Velocity (m/sec/Hz) with 450 watts

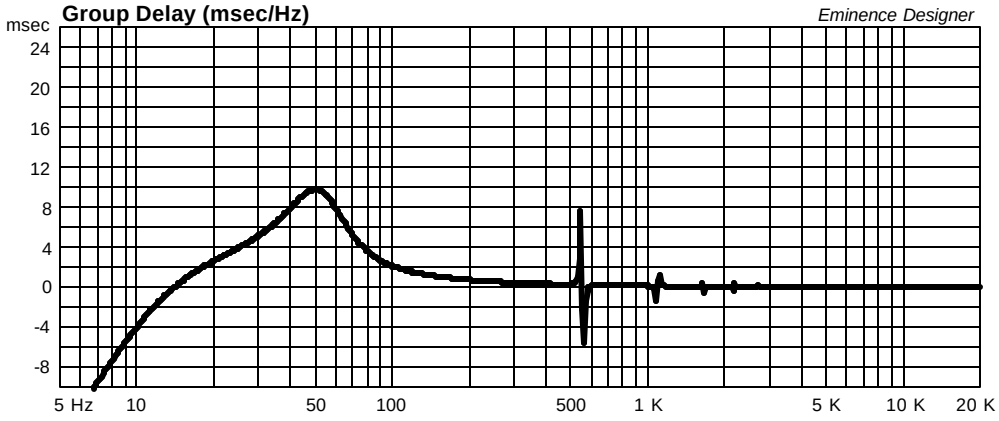


System Impedance (ohms/Hz)



Phase Response (deg/Hz)




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

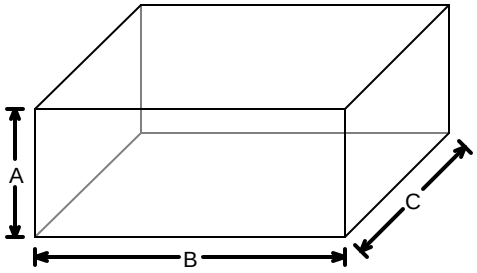
KappaLite 3010LF Large Vented Box Design

By Jerry McNutt, Eminence Speaker LLC
450 Watts Power Handling, F3 of 44 Hz, High Pass Suggested at 38 Hz.

EMINENCE

Box Properties

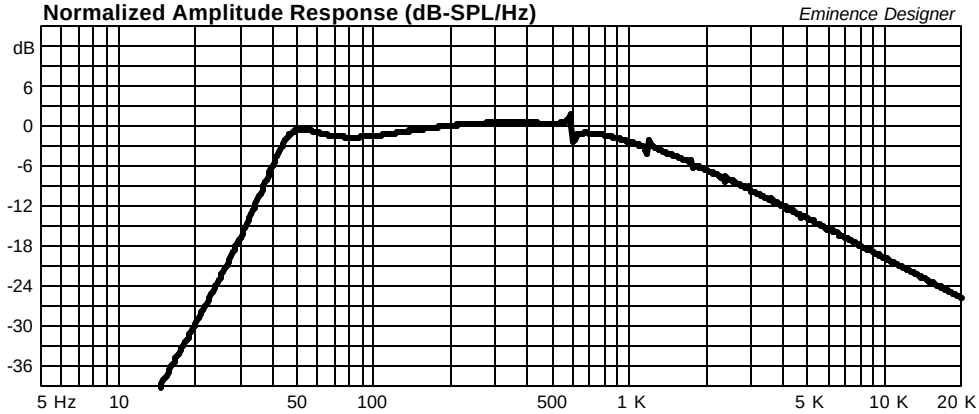
--Description--
Name:
Type: Vented Box
Shape: Prism, square (optimum)
--Box Parameters--
Vb = 2.66 cu.ft
V(total) = 2.821 cu.ft
Fb = 48 Hz
QL = 20
F3 = 43.85 Hz
Fill = minimal
--Vents--
No. of Vents = 2
Vent shape = round
Vent ends = one flush
Dv = 4 in
Lv = 6.738 in

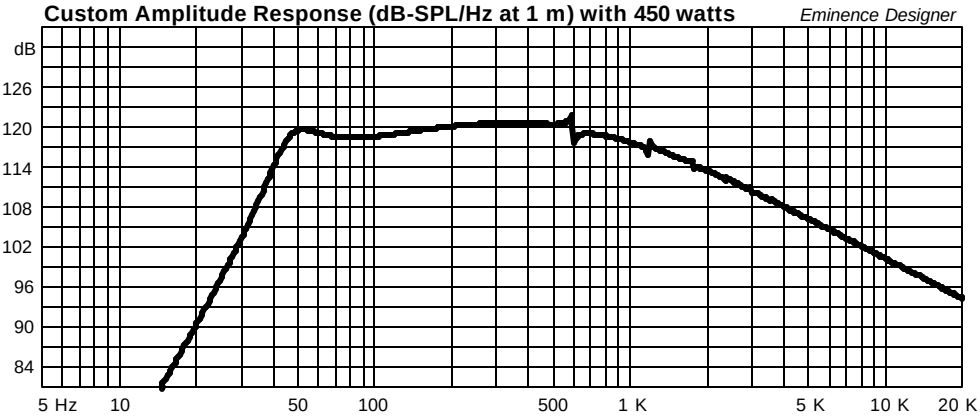


--External Dimensions--
A = 11.98 in
B = 28.93 in
C = 18.46 in
--Internal Dimensions--
A = 10.48 in
B = 27.43 in
C = 16.96 in
--Wall Thickness--
Front = 0.75 in
Side = 0.75 in

Driver Properties

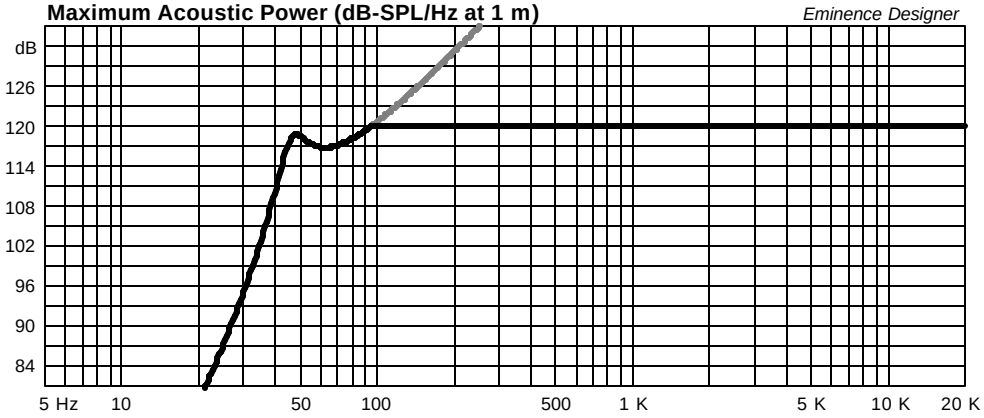
--Description--
Name: KappaLite 3010LF
Type: Standard one-way driver
Company: Eminence Speaker LLC
Comment: 10" Cast Neo Subwoofer
--Configuration--
No. of Drivers = 1
--Mechanical Parameters--
Fs = 38.67 Hz
Qms = 11.75
Vas = 62.41 liters
Cms = 0.35 mm/N
Mms = 48.72 g
Rms = 1.01 kg/s
Xmax = 8.52 mm
Xmech = 15.7 mm
P-Dia = 212.4 mm
Sd = 358.4 sq.cm
P-Vd = 0.302 liters
--Electrical Parameters--
Qes = 0.28
Re = 7.2 ohms
Le = 1.13 mH
Z = 8 ohms
BL = 17.45 Tm
Pe = 450 watts
--Electromech. Parameters--
Qts = 0.273
no = 1.243 %
1-W SPL = 93.09 dB
2.83-V SPL = 93.55 dB



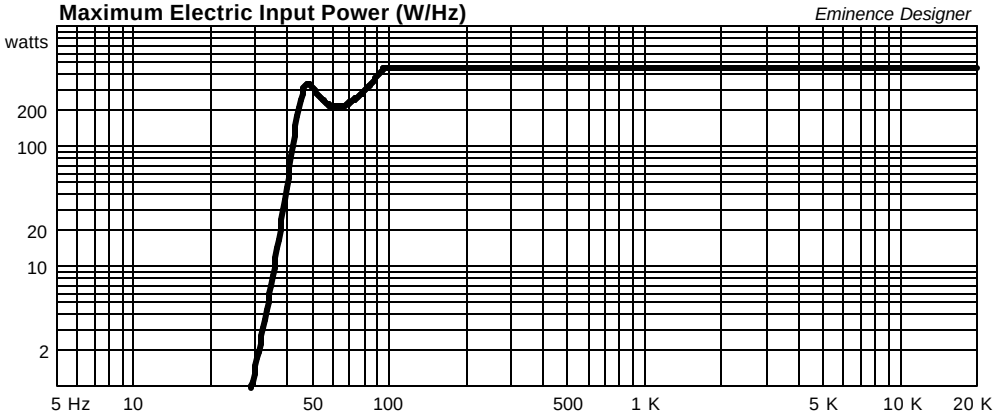


File: KappaLite3010LFLargeVented450Watts.bb6

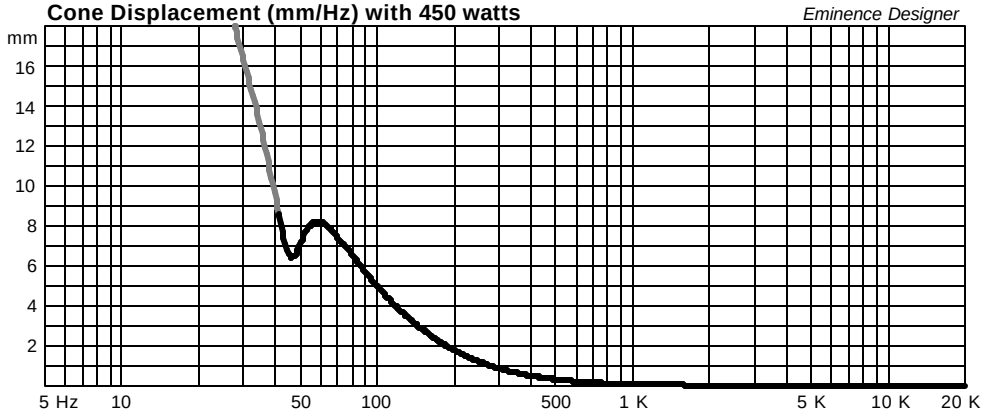
Maximum Acoustic Power (dB-SPL/Hz at 1 m) *Eminence Designer*

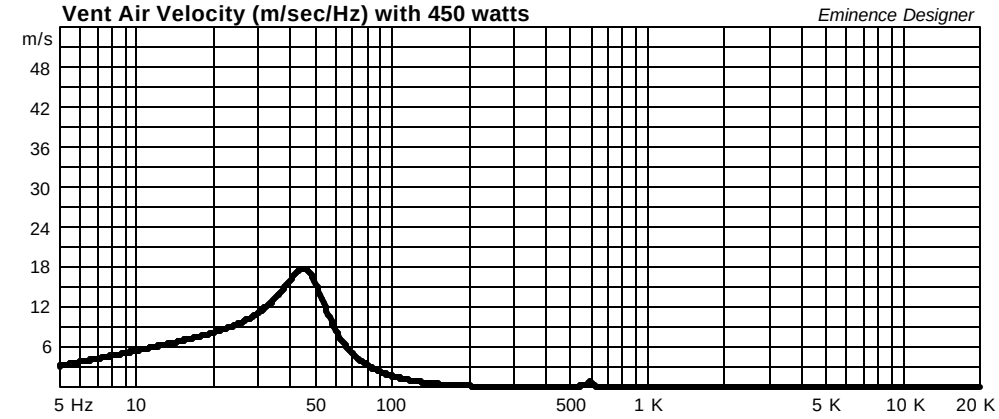


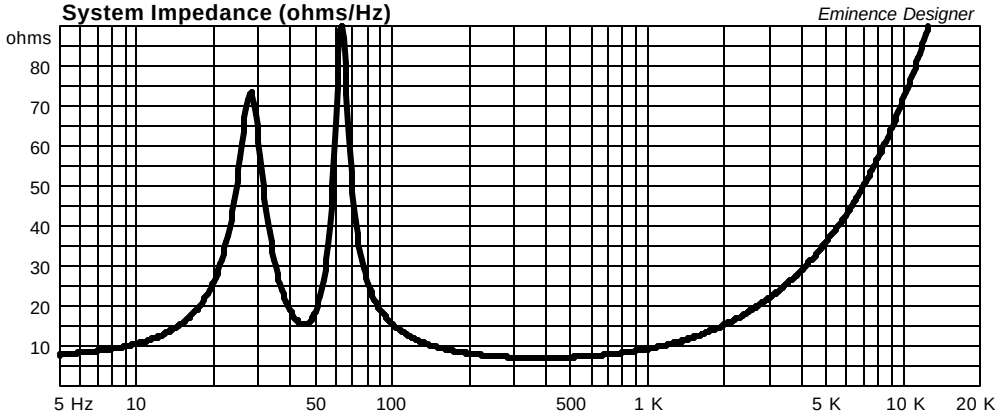
Maximum Electric Input Power (W/Hz) *Eminence Designer*

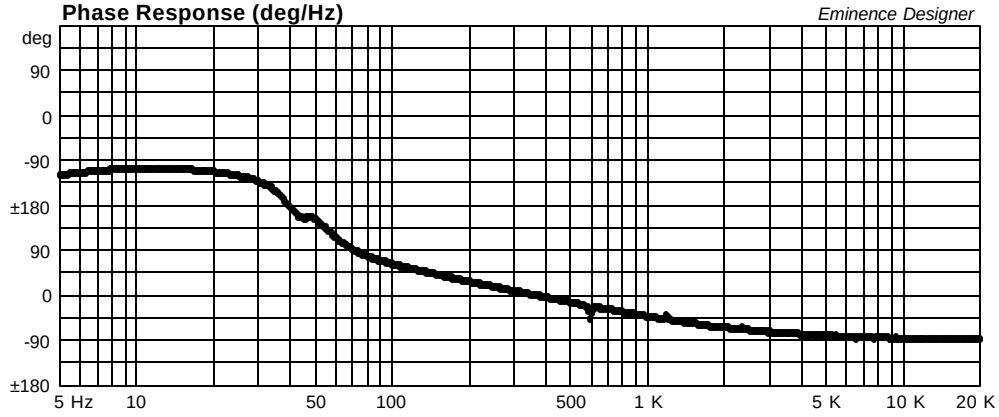


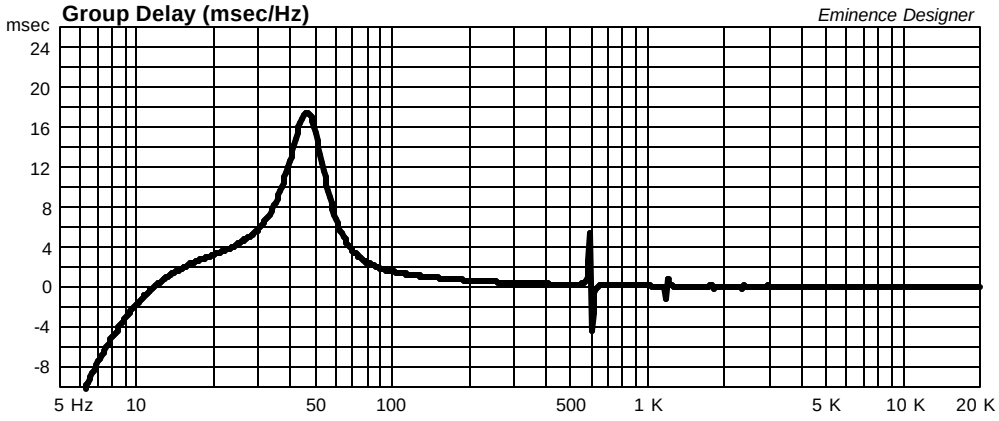
Cone Displacement (mm/Hz) with 450 watts *Eminence Designer*




Vent Air Velocity (m/sec/Hz) with 450 watts
Eminence Designer
m/s
48
42
36
30
24
18
12
6
5 Hz
10
50
100
500
1 K
5 K
10 K
20 K


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


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

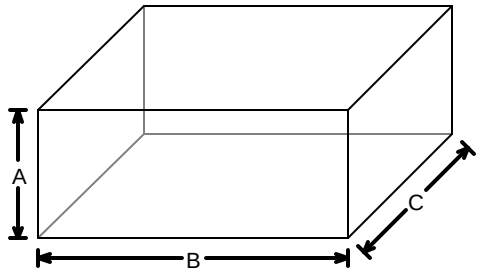
KappaLite 3010LF x2,MicroSub, Advanced Design

By Jerry McNutt, Eminence Speaker LLC
600 Watts Power Handling, F3 of 47 Hz. Not For First Time Builders.
Fx at 48 Hx and Qx at 1.4 or other types of EQ to play this low.

EMINENCE

Box Properties

--Description--
Name:
Type: Vented Box w/ Active HP Filter
Shape: Prism, square (optimum)
--Box Parameters--
Vb = 2.8 cu.ft
V(total) = 3.019 cu.ft
Fb = 48 Hz
QL = 7
F3 = 46.93 Hz
Fill = minimal
--Vents--
No. of Vents = 2
Vent shape = round
Vent ends = one flush
Dv = 4 in
Lv = 6.163 in
--Active 12 dB/oct. HP Filter--
Fx = 48 Hz
Qx = 1.4



--External Dimensions--
A = 12.22 in
B = 29.56 in
C = 18.84 in
--Internal Dimensions--
A = 10.72 in
B = 28.06 in
C = 17.34 in
--Wall Thickness--
Front = 0.75 in
Side = 0.75 in

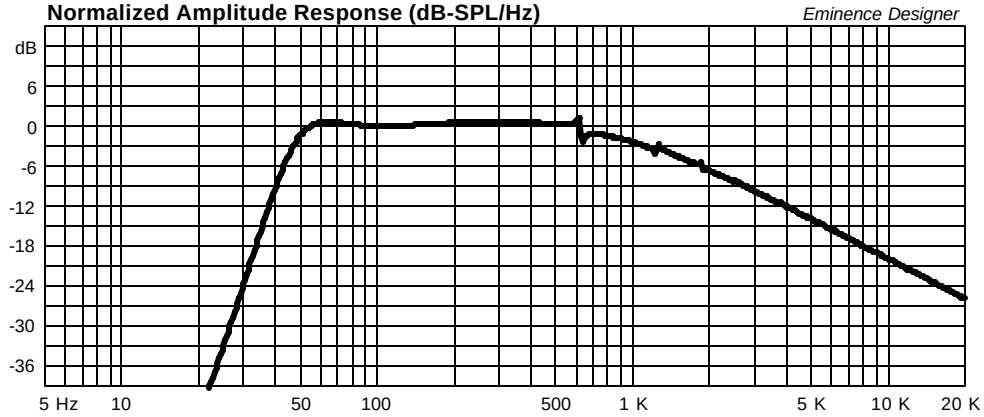
Driver Properties

--Description--
Name: KappaLite 3010LF
Type: Standard one-way driver
Company: Eminence Speaker LLC
Comment: 10" Cast Neo Subwoofer
--Configuration--
No. of Drivers = 2
Mounting = Standard
Wiring = Parallel
Drivers sum coherently = Yes

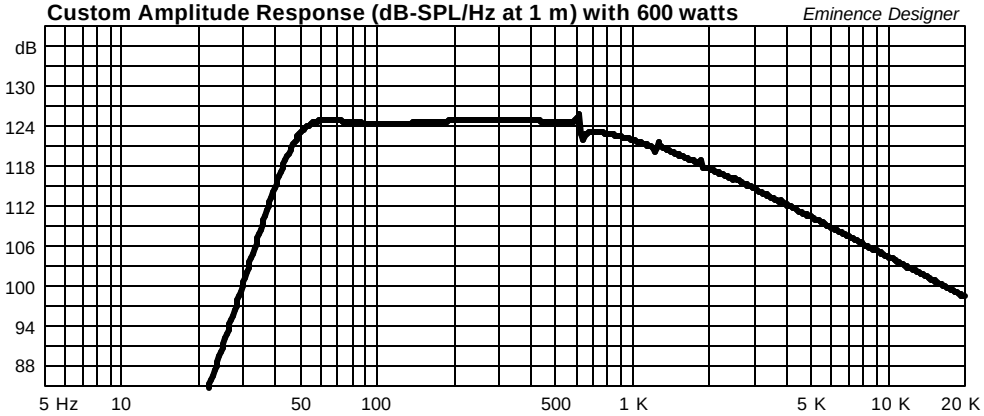
--Mechanical Parameters--
Fs = 38.67 Hz
Qms = 11.75
Vas = 62.41 liters [124.8]
Cms = 0.35 mm/N [0.175]
Mms = 48.72 g [97.44]
Rms = 1.01 kg/s [2.02]
Xmax = 8.52 mm
Xmech = 15.7 mm
P-Dia = 212.4 mm [300.4]
Sd = 358.4 sq.cm [716.8]
P-Vd = 0.302 liters [0.604]

--Electrical Parameters--
Qes = 0.28
Re = 7.2 ohms [3.6]
Le = 1.13 mH [0.565]
Z = 8 ohms [4]
BL = 17.45 Tm [17.45]
Pe = 450 watts [900]
--Electromech. Parameters--
Qts = 0.273
no = 1.243 % [2.485]
1-W SPL = 93.09 dB [96.1]
2.83-V SPL = 93.55 dB [99.57]

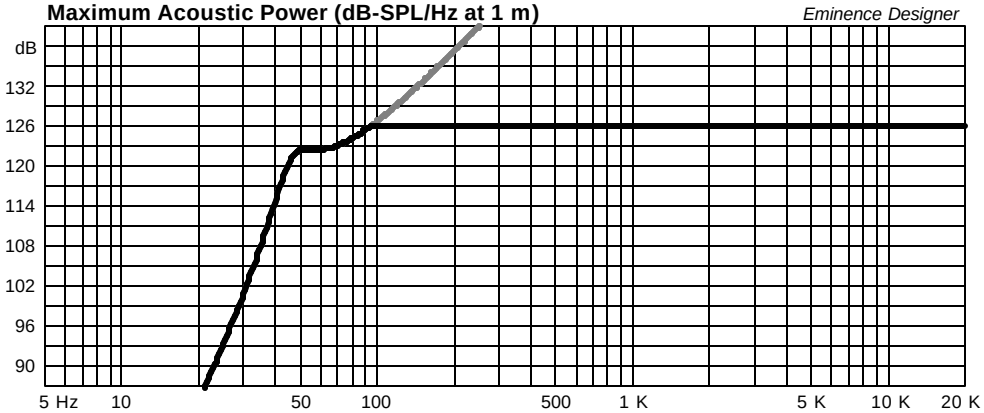
Normalized Amplitude Response (dB-SPL/Hz) *Eminence Designer*



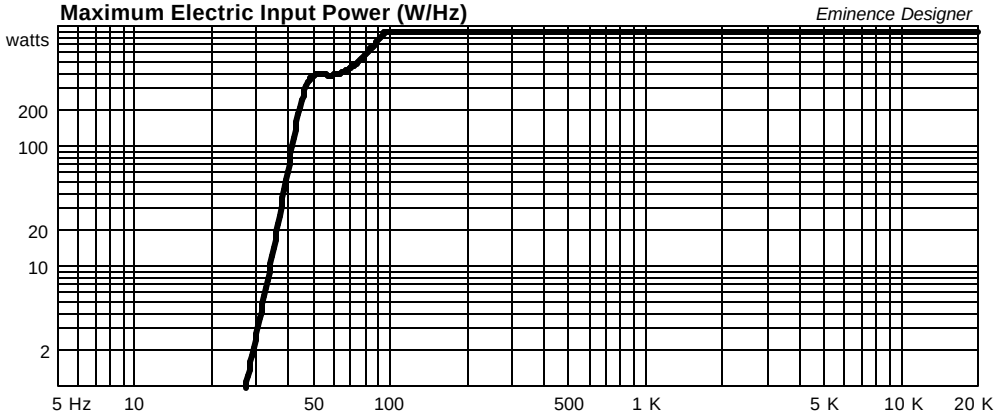
Custom Amplitude Response (dB-SPL/Hz at 1 m) with 600 watts *Eminence Designer*



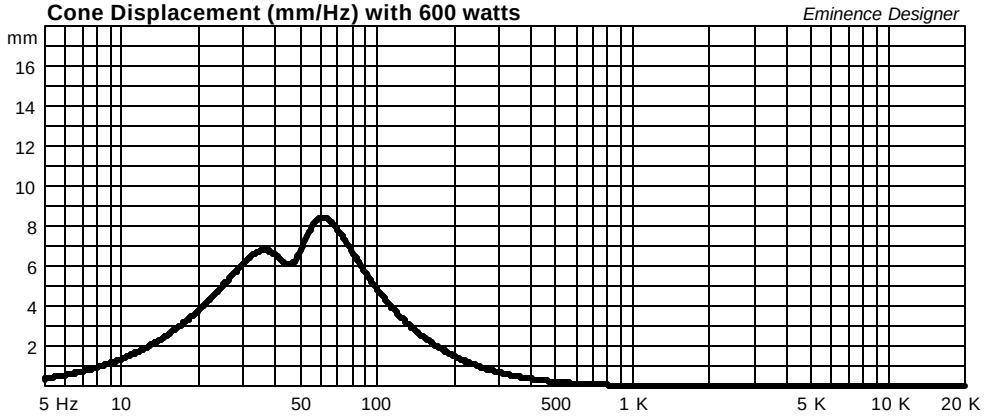
Maximum Acoustic Power (dB-SPL/Hz at 1 m) *Eminence Designer*



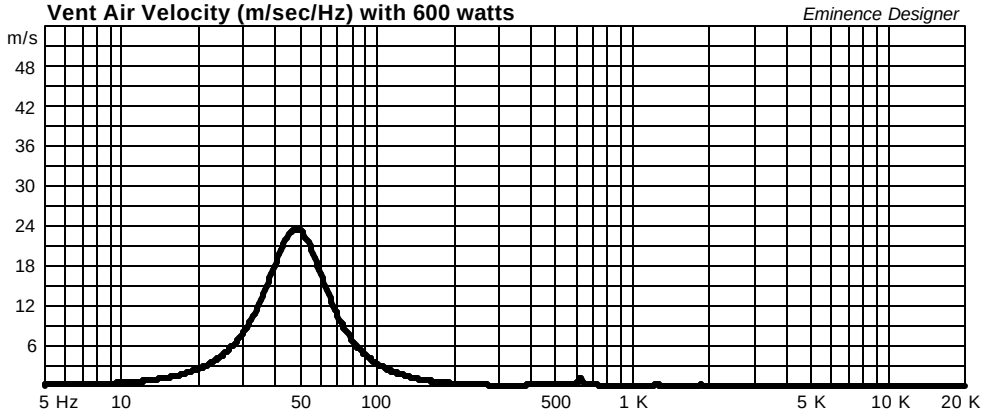
Maximum Electric Input Power (W/Hz) *Eminence Designer*

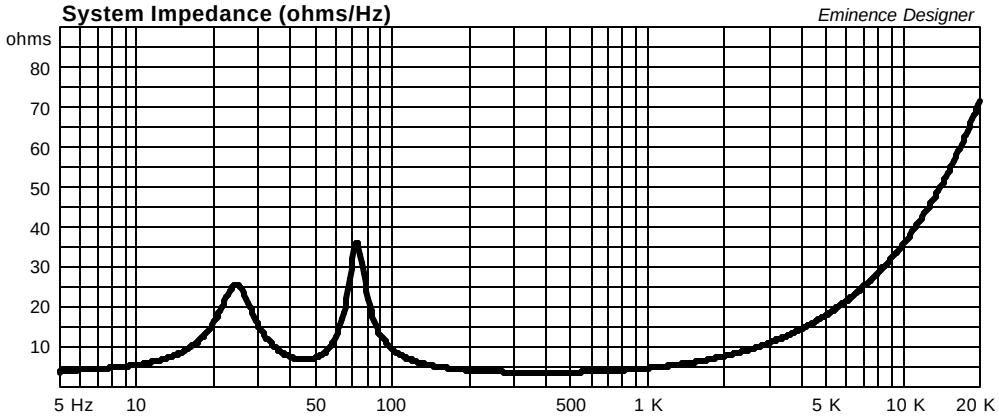


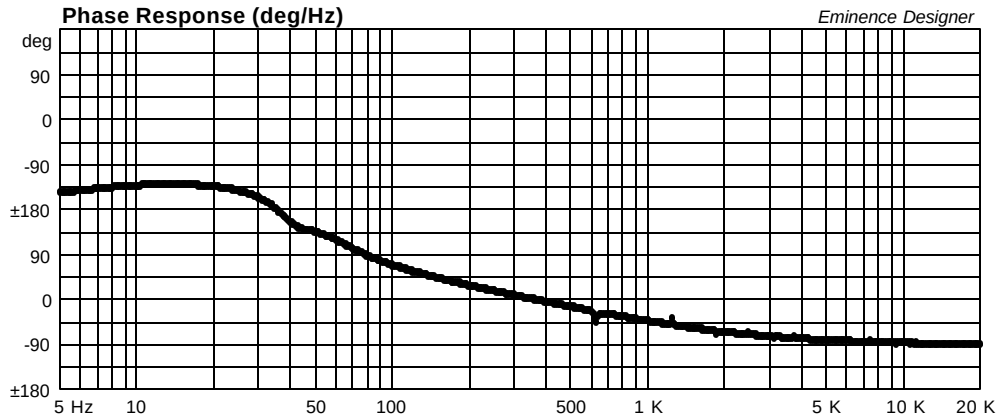
Cone Displacement (mm/Hz) with 600 watts *Eminence Designer*

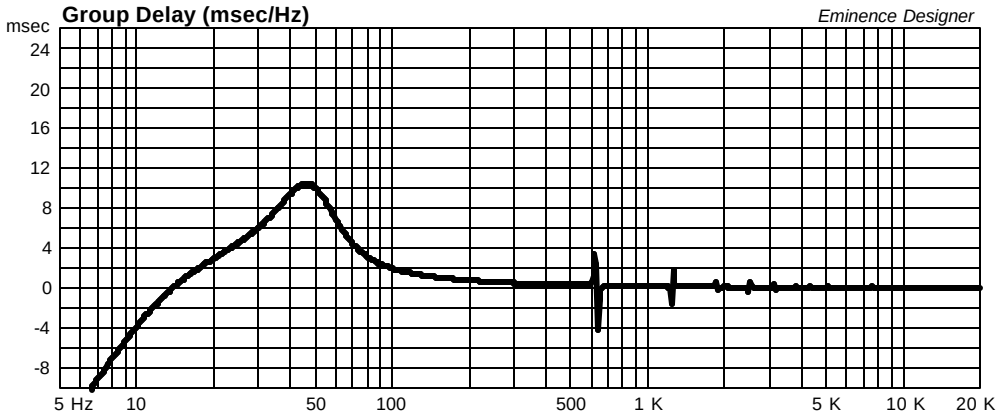


Vent Air Velocity (m/sec/Hz) with 600 watts *Eminence Designer*




System Impedance (ohms/Hz)
Eminence Designer
ohms
80
70
60
50
40
30
20
10
5 Hz
10
50
100
500
1 K
5 K
10 K
20 K


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