Impero 15C Small High Power Vented Design

By Jerry McNutt, Eminence Speaker LLC
1200 Watt Design; F3 at 63 Hz. Use a steep high pass filter at 50 Hz.
For High Power two or three way semi- full range boxes or high power Midbass boxes.

EMINENCE

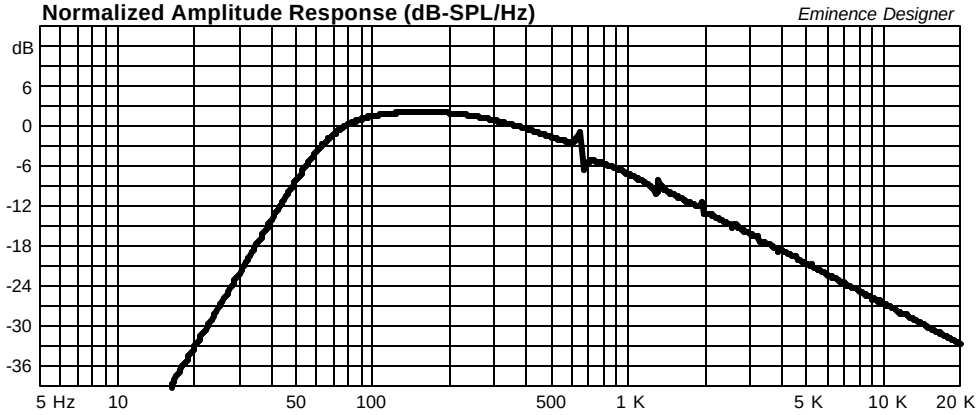
Box Properties

--Description--
Name:
Type: Vented Box
Shape: Prism, square
--Box Parameters--
Vb = 1.75 cu.ft
V(total) = 2.024 cu.ft
Fb = 62 Hz
QL = 7
F3 = 63.28 Hz
Fill = minimal
--Vents--
No. of Vents = 2
Vent shape = round
Vent ends = one flush
Dv = 4 in
Lv = 5.716 in

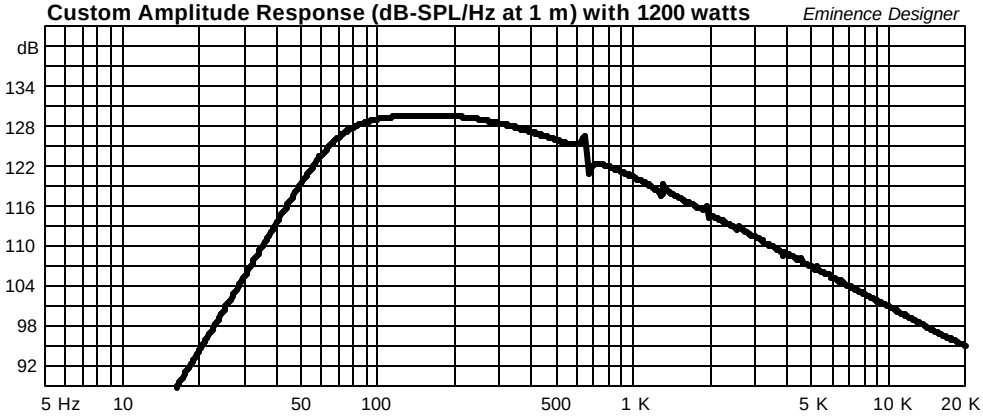
Driver Properties

--Description--
Name: Impero 15C
Type: Standard one-way driver
Company: Eminence Speaker LLC
Comment: Four Ohm Pro Woofer
--Configuration--
No. of Drivers = 1
--Mechanical Parameters--
Fs = 40.27 Hz
Qms = 10.96
Vas = 122.2 liters
Cms = 0.12 mm/N
Mms = 131 g
Rms = 3.02 kg/s
Xmax = 7.41 mm
Xmech = 15.4 mm
P-Dia = 328.3 mm
Sd = 856.3 sq.cm
P-Vd = 0.627 liters
--Electrical Parameters--
Qes = 0.34
Re = 3.11 ohms
Le = 1.08 mH
Z = 4 ohms
BL = 17.4 Tm
Pe = 1200 watts
--Electromech. Parameters--
Qts = 0.33
no = 2.262 %
1-W SPL = 95.69 dB
2.83-V SPL = 99.8 dB

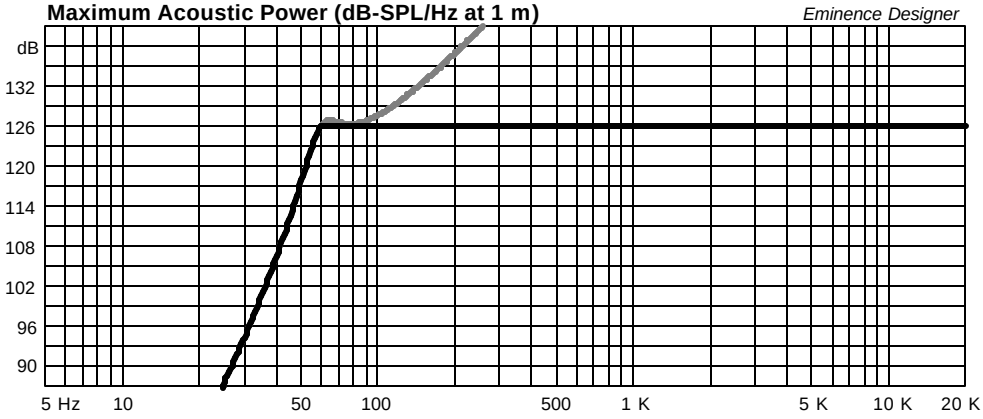
Normalized Amplitude Response (dB-SPL/Hz) *Eminence Designer*



Custom Amplitude Response (dB-SPL/Hz at 1 m) with 1200 watts *Eminence Designer*

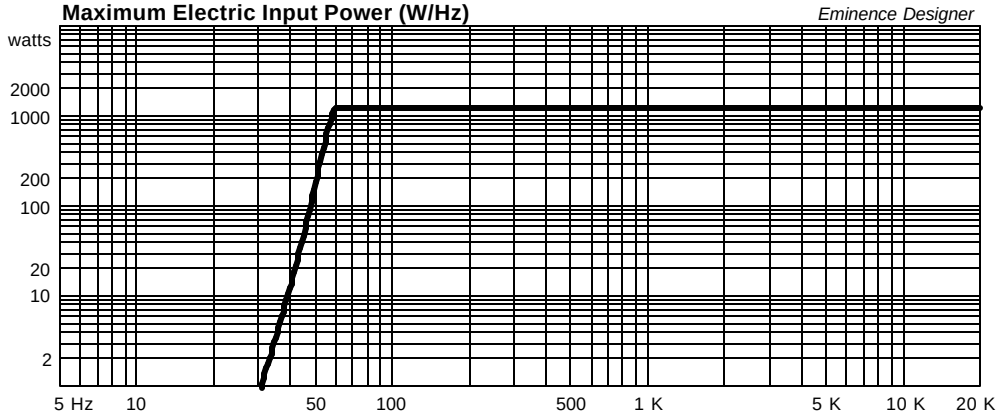


Maximum Acoustic Power (dB-SPL/Hz at 1 m) *Eminence Designer*

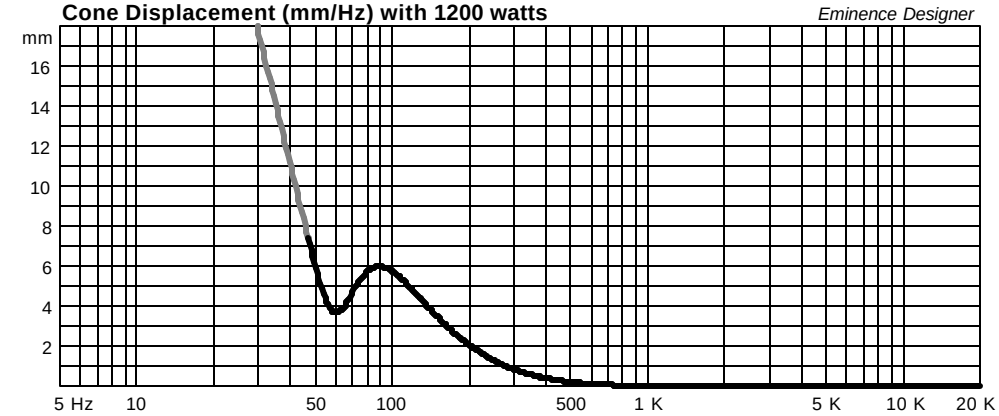


File: Impero15CSmallVented1200Watts.bb6

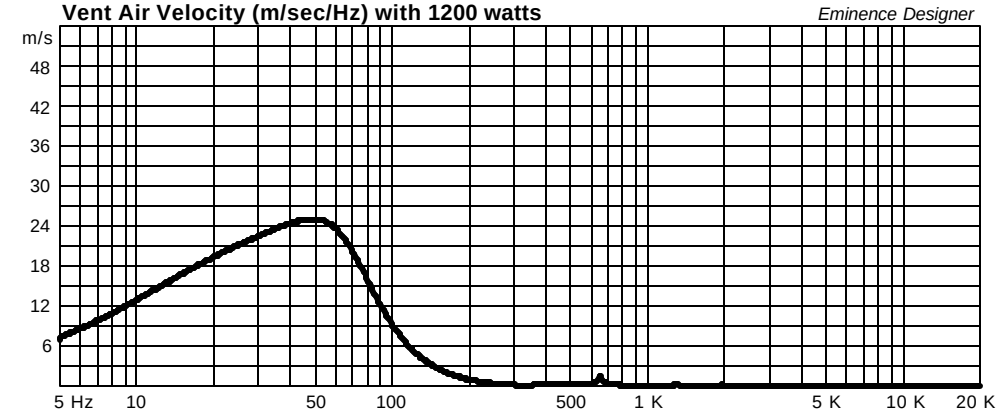
Maximum Electric Input Power (W/Hz) *Eminence Designer*

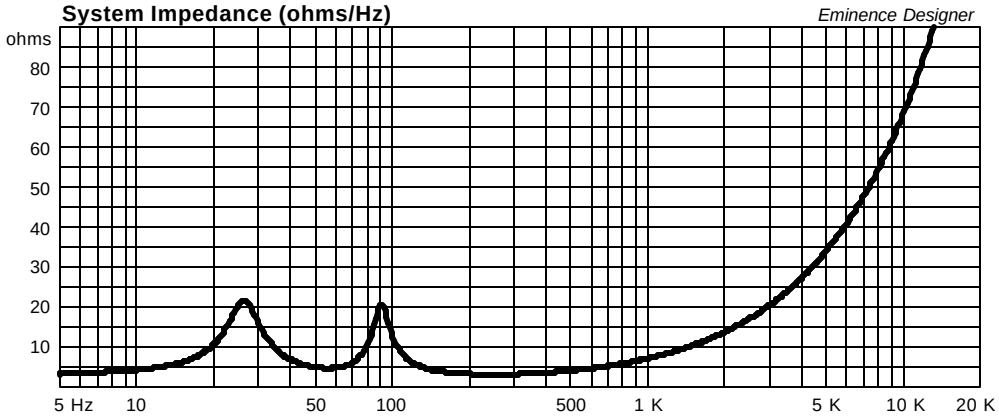


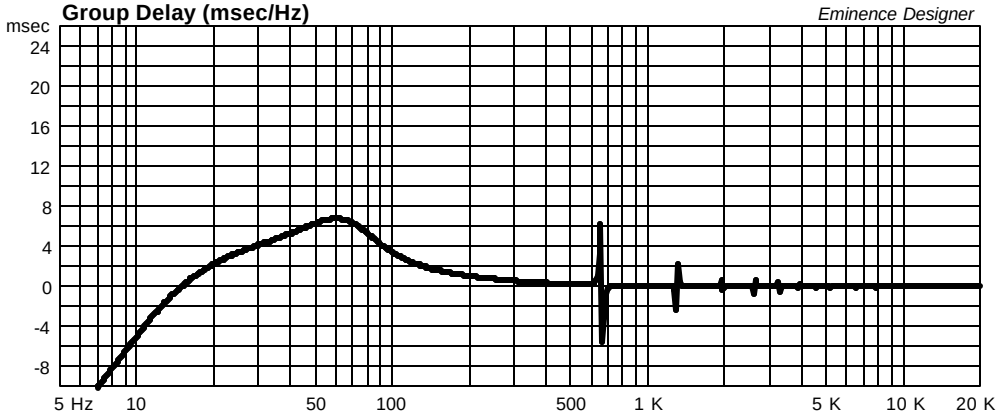
Cone Displacement (mm/Hz) with 1200 watts *Eminence Designer*



Vent Air Velocity (m/sec/Hz) with 1200 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

Impero 15C Med Vented Design

By Jerry McNutt, Eminence Speaker LLC
1000 Watt Design; F3 at 57 Hz. Use a steep high pass filter at 40 Hz.
For High Power two or three way full range boxes.

EMINENCE

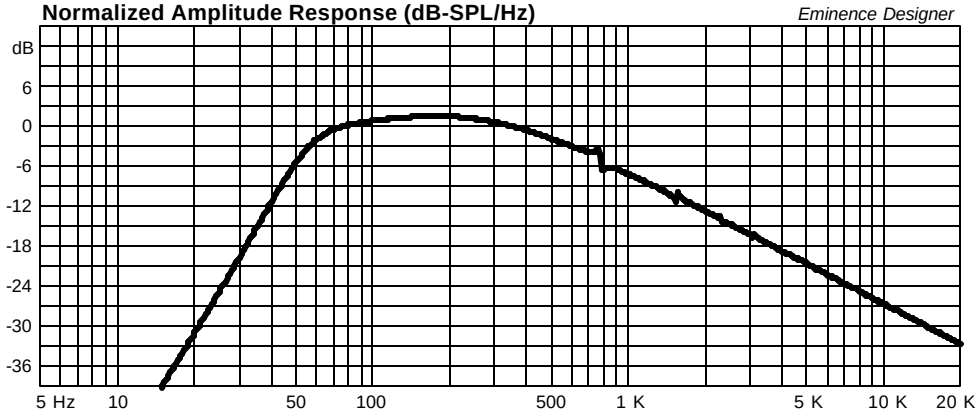
Box Properties

--Description--
Name:
Type: Vented Box
Shape: Prism, square
--Box Parameters--
Vb = 2.65 cu.ft
V(total) = 2.896 cu.ft
Fb = 55 Hz
QL = 7
F3 = 56.81 Hz
Fill = minimal
--Vents--
No. of Vents = 2
Vent shape = round
Vent ends = one flush
Dv = 4 in
Lv = 4.031 in

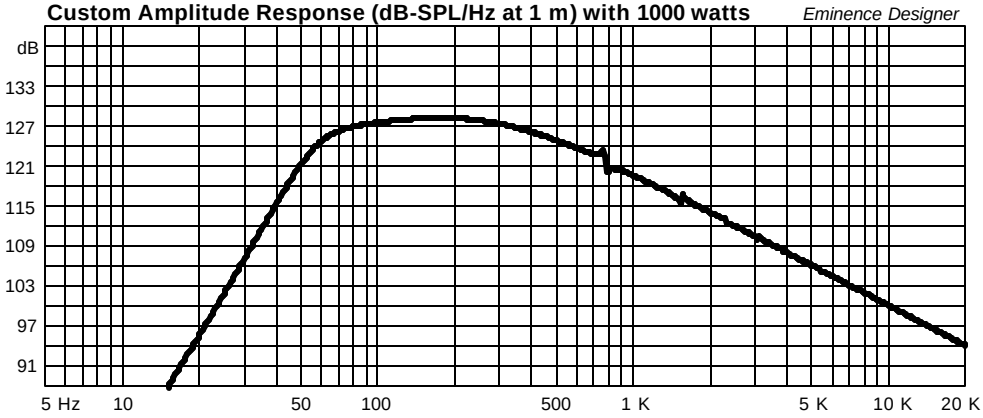
Driver Properties

--Description--
Name: Impero 15C
Type: Standard one-way driver
Company: Eminence Speaker LLC
Comment: Four Ohm Pro Woofer
--Configuration--
No. of Drivers = 1
--Mechanical Parameters--
Fs = 40.27 Hz
Qms = 10.96
Vas = 122.2 liters
Cms = 0.12 mm/N
Mms = 131 g
Rms = 3.02 kg/s
Xmax = 7.41 mm
Xmech = 15.4 mm
P-Dia = 328.3 mm
Sd = 856.3 sq.cm
P-Vd = 0.627 liters
--Electrical Parameters--
Qes = 0.34
Re = 3.11 ohms
Le = 1.08 mH
Z = 4 ohms
BL = 17.4 Tm
Pe = 1200 watts
--Electromech. Parameters--
Qts = 0.33
no = 2.262 %
1-W SPL = 95.69 dB
2.83-V SPL = 99.8 dB

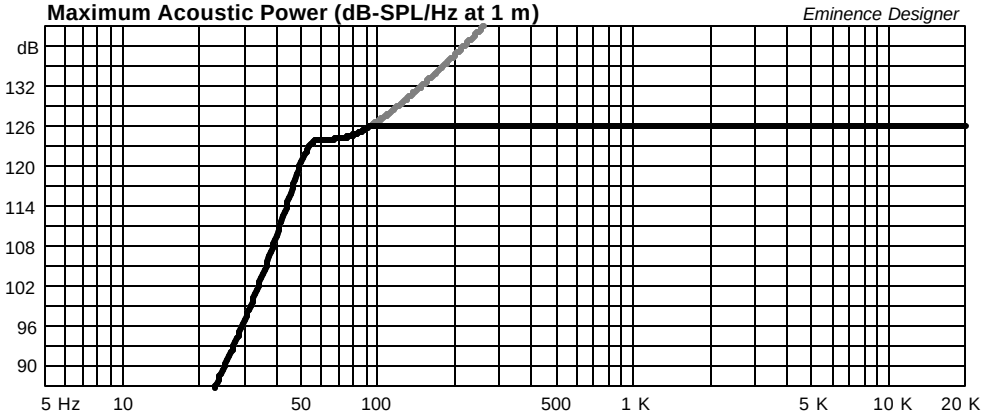
Normalized Amplitude Response (dB-SPL/Hz) *Eminence Designer*



Custom Amplitude Response (dB-SPL/Hz at 1 m) with 1000 watts *Eminence Designer*

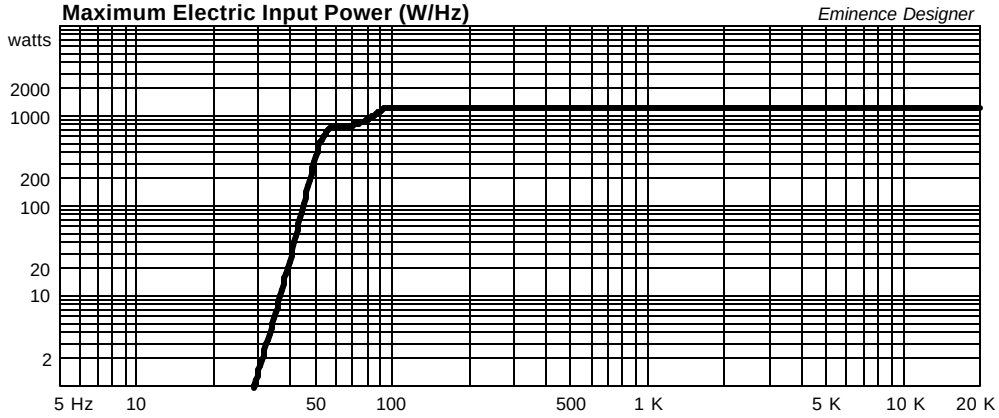


Maximum Acoustic Power (dB-SPL/Hz at 1 m) *Eminence Designer*

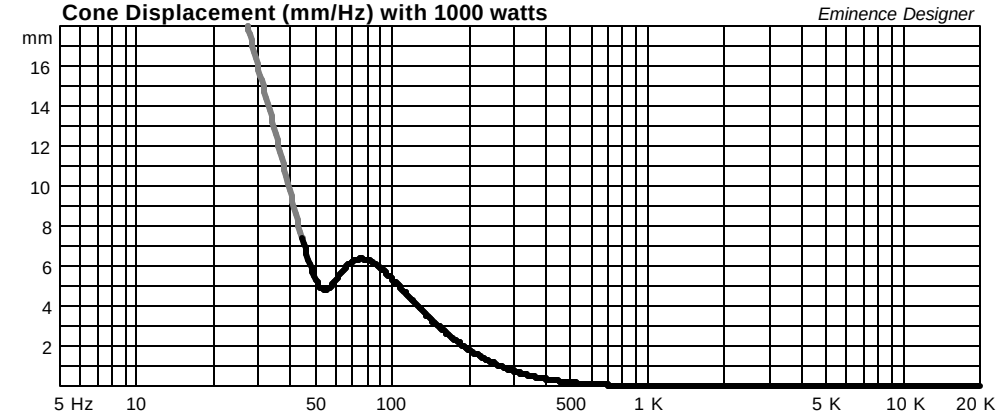


File: Impero15CMedVented1000Watts.bb6

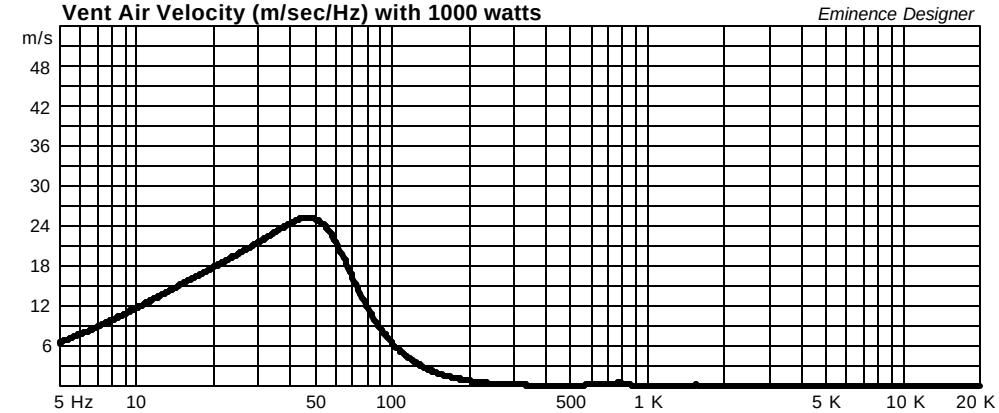
Maximum Electric Input Power (W/Hz) *Eminence Designer*

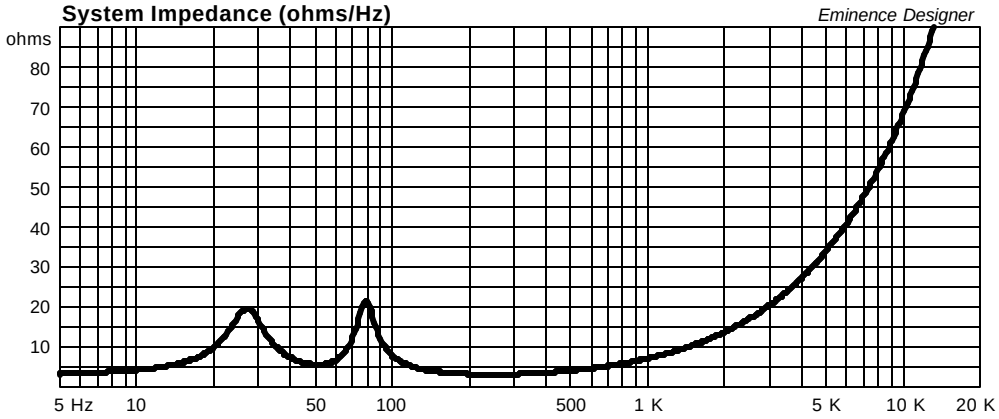


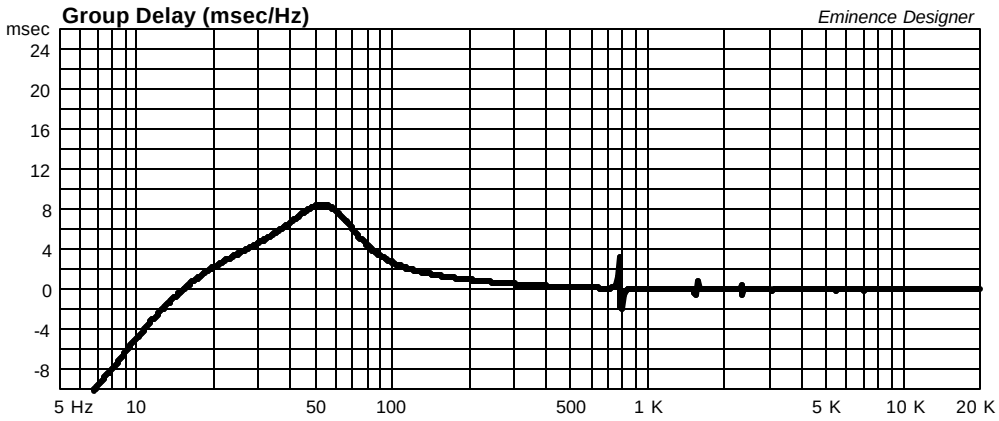
Cone Displacement (mm/Hz) with 1000 watts *Eminence Designer*



Vent Air Velocity (m/sec/Hz) with 1000 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

Impero 15C Large Vented Design

By Jerry McNutt, Eminence Speaker LLC
900 Watt Design; F3 at 53 Hz. Use a steep high pass filter at 35 Hz.
For High Power two or three way full range boxes or High Power Bass Guitar.

EMINENCE

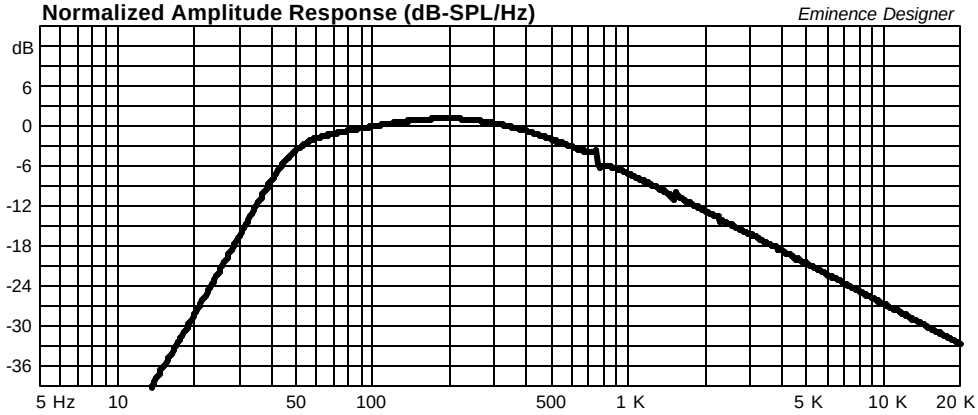
Box Properties

--Description--
Name:
Type: Vented Box
Shape: Prism, square
--Box Parameters--
Vb = 3.56 cu.ft
V(total) = 3.809 cu.ft
Fb = 47 Hz
QL = 7
F3 = 52.99 Hz
Fill = minimal
--Vents--
No. of Vents = 2
Vent shape = round
Vent ends = one flush
Dv = 4 in
Lv = 4.202 in

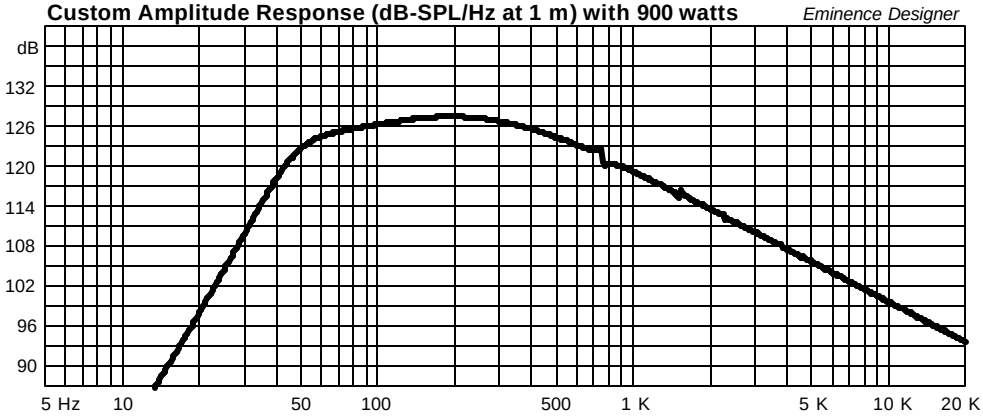
Driver Properties

--Description--
Name: Impero 15C
Type: Standard one-way driver
Company: Eminence Speaker LLC
Comment: Four Ohm Pro Woofer
--Configuration--
No. of Drivers = 1
--Mechanical Parameters--
Fs = 40.27 Hz
Qms = 10.96
Vas = 122.2 liters
Cms = 0.12 mm/N
Mms = 131 g
Rms = 3.02 kg/s
Xmax = 7.41 mm
Xmech = 15.4 mm
P-Dia = 328.3 mm
Sd = 856.3 sq.cm
P-Vd = 0.627 liters
--Electrical Parameters--
Qes = 0.34
Re = 3.11 ohms
Le = 1.08 mH
Z = 4 ohms
BL = 17.4 Tm
Pe = 1200 watts
--Electromech. Parameters--
Qts = 0.33
no = 2.262 %
1-W SPL = 95.69 dB
2.83-V SPL = 99.8 dB

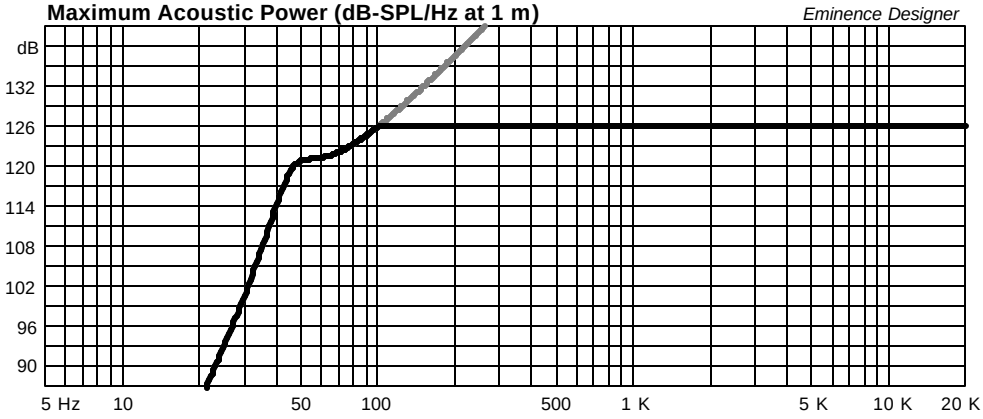
Normalized Amplitude Response (dB-SPL/Hz) *Eminence Designer*



Custom Amplitude Response (dB-SPL/Hz at 1 m) with 900 watts *Eminence Designer*

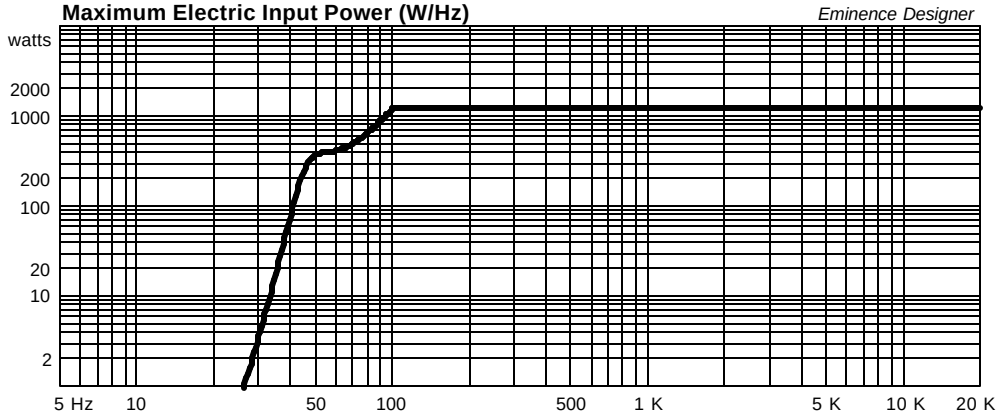


Maximum Acoustic Power (dB-SPL/Hz at 1 m) *Eminence Designer*

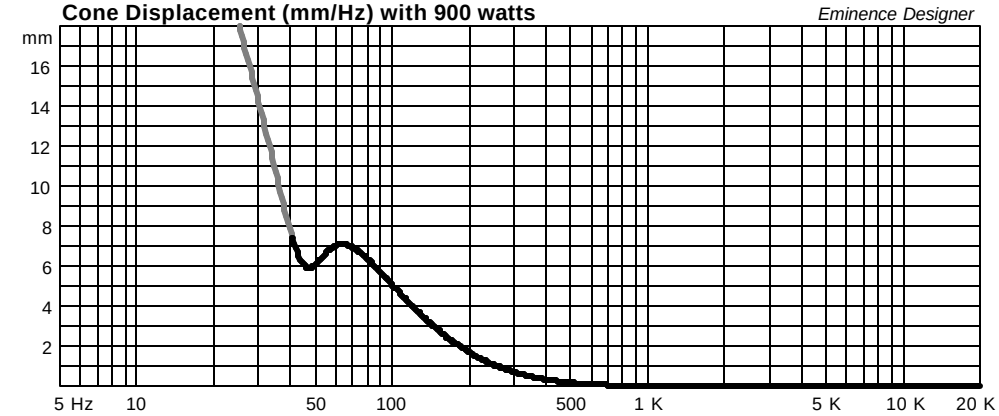


File: Impero15CLargeVented900Watts.bb6

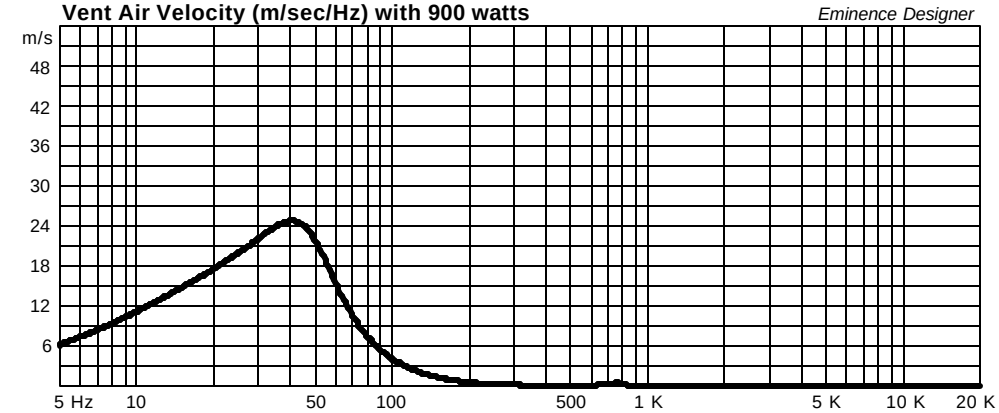
Maximum Electric Input Power (W/Hz) *Eminence Designer*

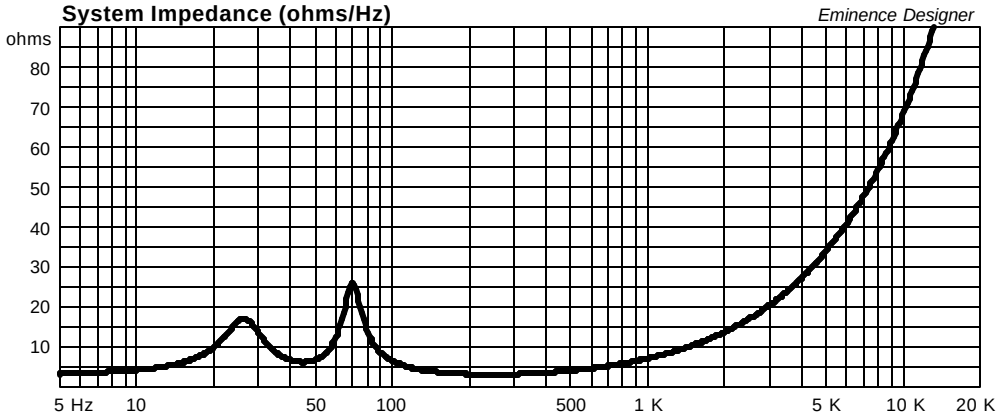


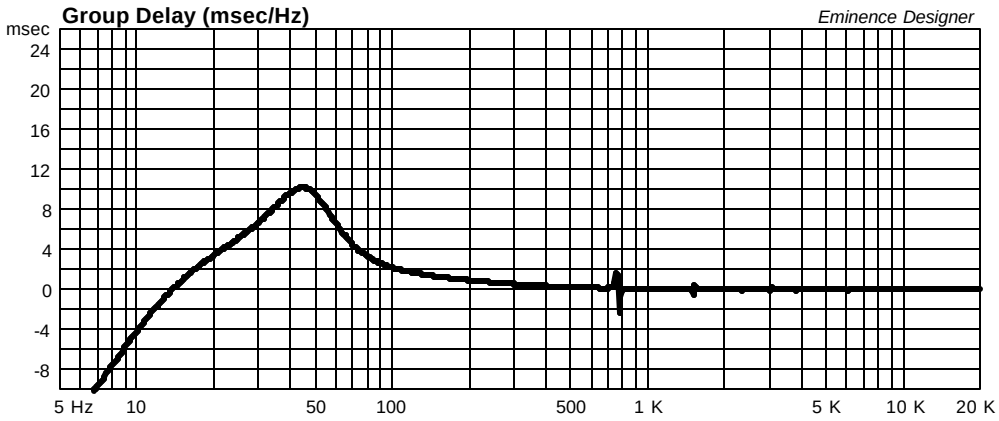
Cone Displacement (mm/Hz) with 900 watts *Eminence Designer*



Vent Air Velocity (m/sec/Hz) with 900 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