

Calculations

Sealed Enclosure calculations

v1.11

Driver Specifications	
Driver	JVC Parts Express
Vas	1.868
Qts	1.005
Qes	1.460
fs	122.5
Xmax	7.62
Dia.	10.00
PEMax	10

litres Equivalent air compliance
 Total driver Q at resonance
 Driver electrical Q at resonance
 Hz Driver resonance frequency
 mm Maximum linear excursion
 cm Effective diameter
 watts Thermal power rating

Constants	
Ro	1.18
c	345.00

kg/m³ Density of air at room temperature
 m/s Speed of sound in air

Enclosure Specifications	
Desired Qtc	1.00
Qr	1.00
Vr	-0.01
Vb	-188.20
Fb	121.9
F3	95.8

Total system Q at resonance
 litres Net box size
 Hz System resonance frequency
 Hz Cutoff frequency (-3dB)

Sd	7.85E-03
Vd	5.98E-05
n0	0.002
SPL	85.6
K1	0.335
K2	107.255
Amax	1.155
Par	0.252
Per	111
PeakSPL	96

m² Cone surface area
 m³ Volume displaced by cone at maxi
 Driver efficiency
 dB/1W/1m Driver efficiency (in dB)
 watts Maximum acoustic power output fr
 Input power required to produce P
 dB Maximum SPL

Factor 1.11

F	Fr	dBmag	SPLd
95.8	0.62	-3.0	103.1
10.0	0.01	-43.4	63.8
11.1	0.01	-41.6	65.6
12.3	0.01	-39.8	67.4
13.7	0.01	-37.9	69.3
15.2	0.02	-36.1	71.1
16.9	0.02	-34.3	72.9
18.7	0.02	-32.5	74.7
20.8	0.03	-30.6	76.5
23.0	0.04	-28.8	78.3
25.6	0.04	-26.9	80.1
28.4	0.05	-25.1	81.9
31.5	0.07	-23.2	83.8

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35.0	0.08	-21.3	85.6
38.8	0.10	-19.5	87.4
43.1	0.13	-17.6	89.2
47.8	0.15	-15.6	91.0
53.1	0.19	-13.7	92.8
59.0	0.23	-11.8	94.6
65.4	0.29	-9.8	96.4
72.6	0.36	-7.9	98.3
80.6	0.44	-6.0	100.1
89.5	0.54	-4.1	101.9
99.3	0.66	-2.5	103.7
110.3	0.82	-1.0	105.5
122.4	1.01	0.0	107.3
135.9	1.24	0.7	109.1
150.8	1.53	1.1	111.0
167.4	1.89	1.2	112.8
185.8	2.32	1.2	114.6
206.2	2.86	1.1	116.4
228.9	3.53	1.0	118.2
254.1	4.35	0.8	120.0
282.1	5.35	0.7	121.8
313.1	6.60	0.6	123.6
347.5	8.13	0.5	125.5
385.7	10.02	0.4	127.3
428.2	12.34	0.3	129.1
475.3	15.20	0.3	130.9
527.6	18.73	0.2	132.7
585.6	23.08	0.2	134.5
650.0	28.44	0.1	136.3
721.5	35.04	0.1	138.1
800.9	43.17	0.1	140.0
889.0	53.19	0.1	141.8
986.8	65.54	0.1	143.6
1095.3	80.75	0.1	145.4

Calculations

0.066 cu.ft.

0.30 in.
3.94 in.

;

-6.64 cu.ft.

imum linear excursion

or system
'ar

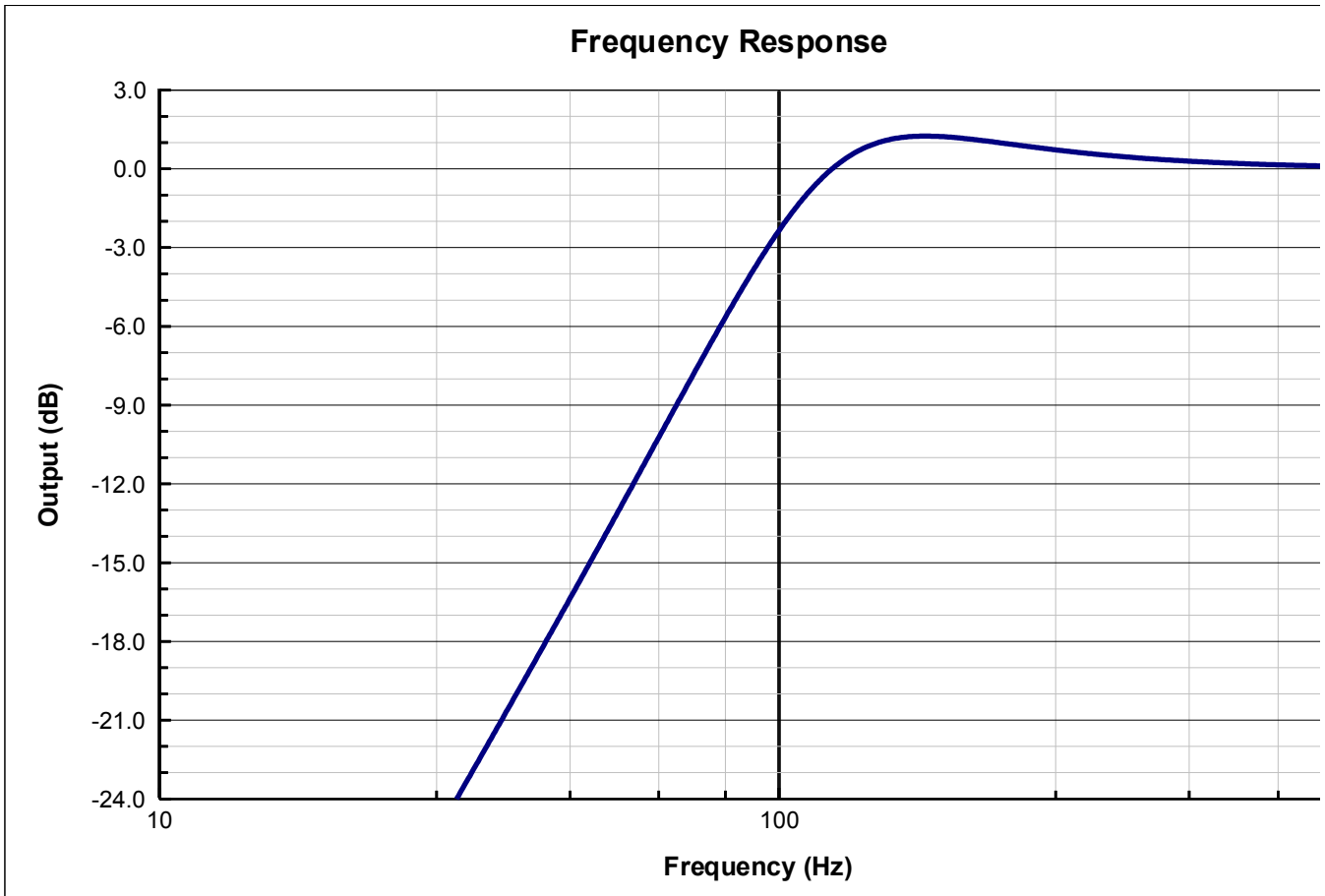
SPLt

- 92.5
- 52.1
- 54.0
- 55.8
- 57.6
- 59.4
- 61.3
- 63.1
- 64.9
- 66.8
- 68.6
- 70.5
- 72.3

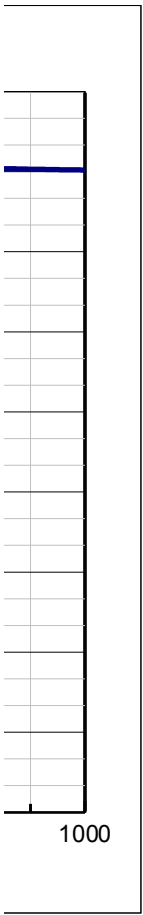
Calculations

74.2
76.1
78.0
79.9
81.8
83.8
85.7
87.7
89.6
91.4
93.1
94.5
95.6
96.3
96.7
96.8
96.8
96.7
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96.4
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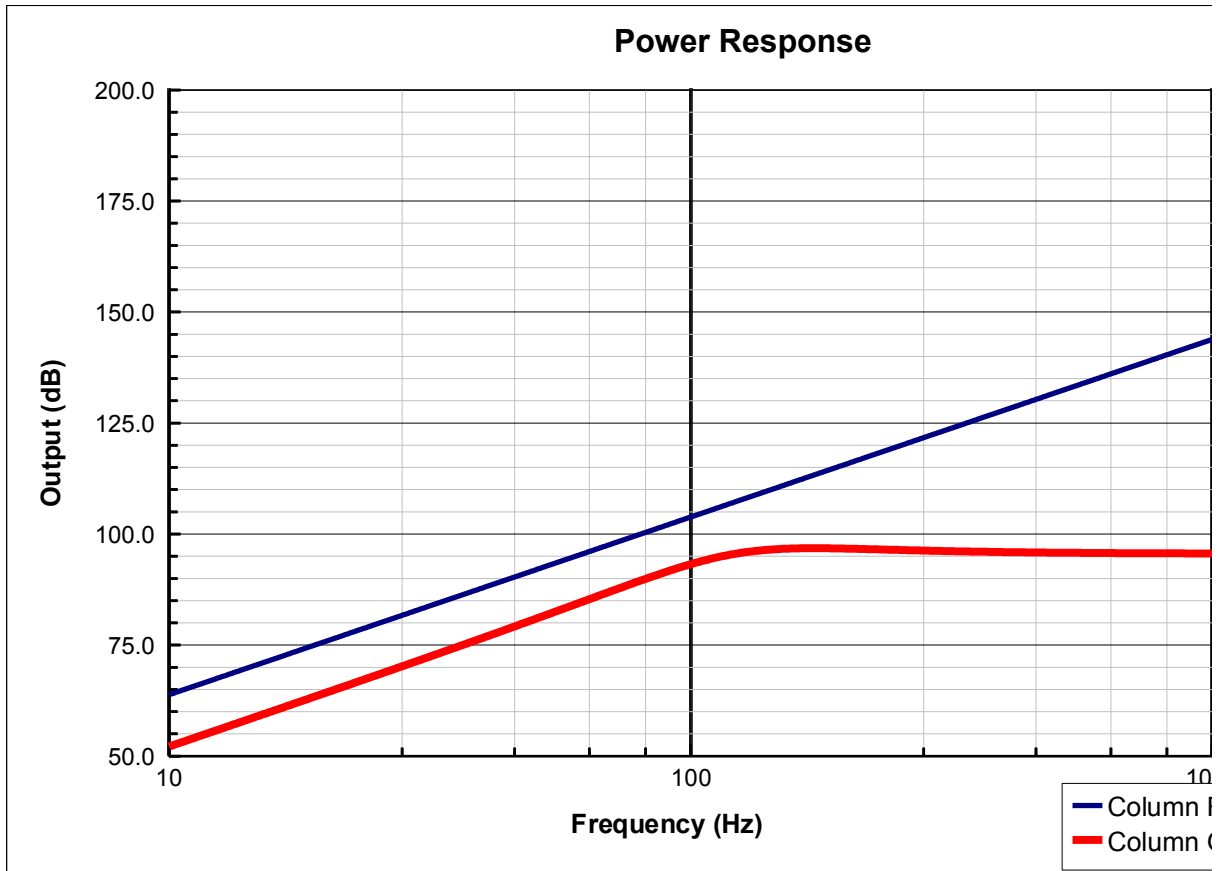
Frequency Response



Frequency Response



Power Response



Power Response

