Vented Box Calculator

according to W.J.J. Hoge

This set-up provides the highest precision and a flat frequency response

A dimension ratio of 1 : 1.618 : 0.618 provides cancellation of resonating frequencies inside the enclosure,
this dimension ratio is used to calculate the cabinet dimensions.

If only Q_{ms} and Q_{es} are known, press "Calculate Q_{ts}" button to calculate **Q_{ts}**.

- Q_{ms} and Q_{es} are optional
- f_s, Q_{ts} and V_{as} must be entered

Dia :	4	cm	Diameter across the speaker cone including half of the cone-suspension
f_s :	134	Hz	Resonant frequency of the driver
Q_{ms} :	2.603		Q mechanical - **needed to calculate Q_{ts}**
Q_{es} :	.694		Q electrical - **needed to calculate Q_{ts}**
Q_{ts} :	.548		Total Q of the driver [Calculate Qts]
V_{as} :	.315	liters	Equivalent volume of compliance

[Calculate Vb]

- Volume and port dimensions are recommended for optimum performance
- Both (Volume and port dimensions) can be changed to calculate performance specifications for different size ports and enclosures

- Enter volume of internal driver and parts
- Calculate performance specifications before calculating port dimensions

V_{dr} :	.166	liters	Volume of internal driver and parts
V_b :	0.84	liters	Desired volume for the enclosure - **you may change the enclosure volume**

[Calculate Dimensions & Performance]

Calculated inside Dimensions

Width = 10.02 cm / 3.94 inches

Height = 16.21 cm / 6.38 inches

Depth = 6.19 cm / 2.44 inches

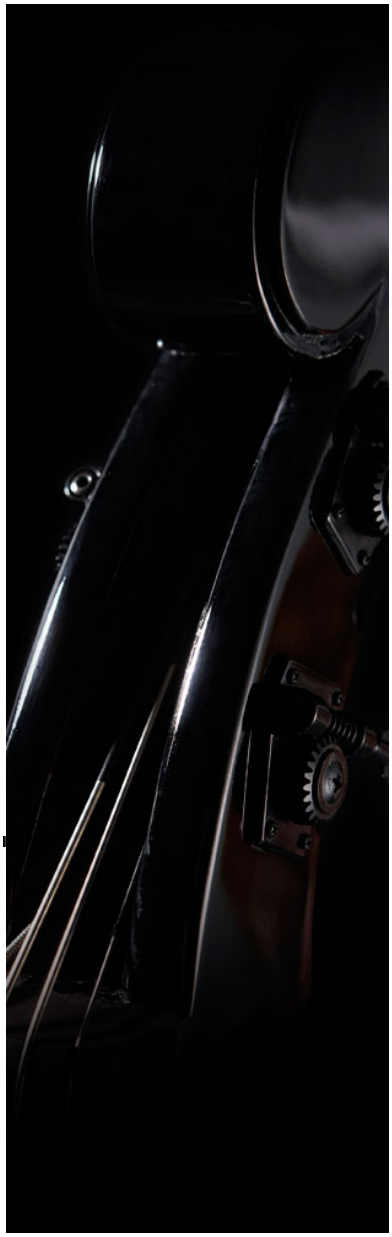
Volume V_b = 1.01 liters / 61.39 in^3

Calculated Performance Specifications

F_b = 97.9 Hz — Port alignment frequency

Peak = 0.093 db — Peak level

F_{-3} = 82.06 Hz — "Cut-off" frequency at -3db



The bass reflex port should have at least 1/3 of the driver's diameter!

D_p : 1.4 cm

Diameter of port(s) - **you may change the port diameter**

Calc. Single Port | Calc. Dual Port

Port area = 1.54 cm^2 / 0.24 in^2

Port length(s) = 4.72 cm / 1.86 inches

Plot Frequency Response Curve