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Applications

The Vega Series subwoofers are designed to be used in bass-reflex (vented) enclosures for optimum performance and long term reliability. For best results with bass-reflex enclosures we recommend lining all inside box walls with fiberglass or Dacron™ fiberfill of 1-inch thickness. Always leave at least 4 inches of unobstructed clearance at both ends of the port tube, between the inside walls of the enclosure and port entrance, and between the port exit and the vehicle interior. For optimum performance, the port should “play” into the listening area.

** Important Note: In this manual you will note there are two box volumes and porting strategies for each model; one which is recommended for “moderate power,” and one which is recommended for “high power.”*

In automotive applications, space for the subwoofer enclosure may be limited. The “moderate power” designs are a smaller enclosure volume alternative. At high power, however, these enclosures may produce port noise due to the extraordinarily high output capability of the driver itself. Increasing the volume of the enclosure allows for a larger area (square inches) port which is of a manageable length and is free of port noise. **The use of port flares or rounding the inside edges of the port tube(s) is recommended as it also reduces the turbulence inside the port which can cause coloration due to port noise.** Whenever possible, the “high power” design is preferred as it will produce the highest overall output. When in doubt, contact your local authorized Cerwin-Vega dealer for a professional installation.

VEGA 84 Specifications

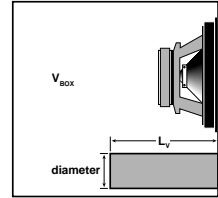
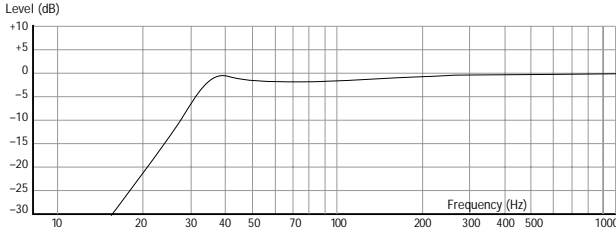
Diameter:	8"
No. of Voice Coils:	1
Sensitivity (1W @ 1m):	90 dB
Power Handling: (cont. unclipped power per EIA RS-426B)	250 Wrms
Frequency Response:	25-500 Hz
Nominal Impedance:	4 Ω
Voice Coil Diameter:	2.0"
Mounting Diameter:	7" (177.8 mm)
Mounting Depth:	4.375" (111.2 mm)

VEGA 84 Thiele-Small Parameters

Free-Air Resonance:	f_s	35 Hz
Total Q:	Q_{ts}	0.323
Mechanical Q:	Q_{ms}	4.56
Electrical Q:	Q_{es}	0.865
Compliance Volume:	V_{as}	0.7 ft ³
Maximum Excursion:	X_{max}	1.20" (± 0.60 ") 30.4 mm (± 15.20 mm)
Voice Coil DC Resistance:	R_{evc}	3.5 Ω
Volume Displacement:		0.04 ft ³

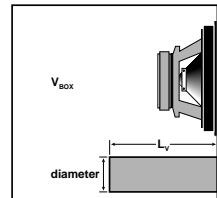
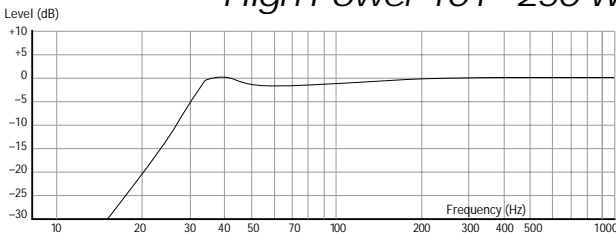
V E G A S U B W O O F E R S

VEGA 84 Vented (1.00 ft³) Frequency Response Moderate Power 1 - 100 Watts*



Enclosure Volume:	$V_{BOX} = 1.00 \text{ ft}^3 \text{ (net)} + 0.040 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	3.0" dia. (circular)	2.0" dia. (circular)	2.0 x 3.5" (rectangular)
Port Area:	7.07 in ²	6.28 in ²	7.00 in ²
Number of Ports:	1	2	1
Port Length:	13.38"	11.77"	13.24"
Port Displacement:	0.05 ft ³	0.04 ft ³	0.05 ft ³
Total Box Volume:	1.09 ft ³	1.08 ft ³	1.09 ft ³

VEGA 84 Vented (1.25 ft³) Frequency Response High Power 101 - 250 Watts



Enclosure Volume:	$V_{BOX} = 1.25 \text{ ft}^3 \text{ (net)} + 0.040 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	3.5" dia. (circular)	2.0" dia. (circular)	2.5 x 4.0" (rectangular)
Port Area:	9.62 in ²	9.42 in ²	10.00 in ²
Number of Ports:	1	3	1
Port Length:	14.40"	14.07"	15.02"
Port Displacement:	0.08 ft ³	0.08 ft ³	0.08 ft ³
Total Box Volume:	1.37 ft ³	1.37 ft ³	1.37 ft ³

* Please refer to "Important Note" on page 5

VEGA 8D4 Specifications

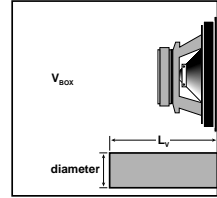
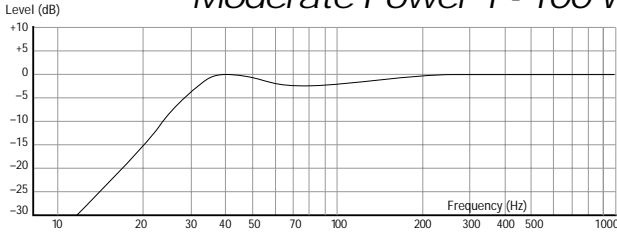
Diameter:	8"
No. of Voice Coils:	2
Sensitivity (1W @ 1m):	90 dB
Power Handling: (cont. unclipped power per EIA RS-426B)	250 Wrms
Frequency Response:	25-500 Hz
Nominal Impedance:	4 Ω (ea. coil)
Voice Coil Diameter:	2.0"
Mounting Diameter:	7" (177.8 mm)
Mounting Depth:	4.375" (111.2 mm)

VEGA 8D4 Thiele-Small Parameters

Free-Air Resonance:	f_s	36 Hz
Total Q:	Q_{ts}	0.342
Mechanical Q:	Q_{ms}	8.086
Electrical Q:	Q_{es}	0.359
Compliance Volume:	V_{as}	0.6 ft ³
Maximum Excursion:	X_{max}	1.20" (± 0.60 ") 30.4 mm (± 15.20 mm)
Voice Coil DC Resistance:	R_{eVC}	3.7 Ω (ea. coil)
Volume Displacement:		.04 ft ³

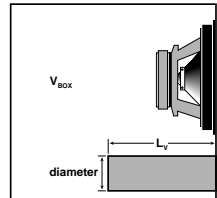
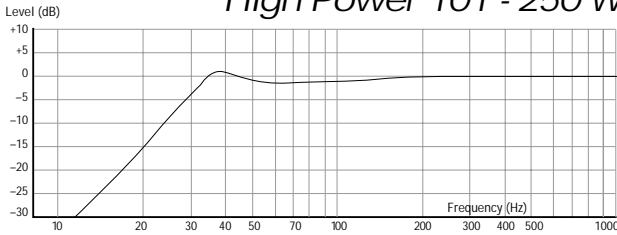
V E G A S U B W O O F E R S

VEGA 8D4 Vented (1.00 ft³) Frequency Response Moderate Power 1 - 100 Watts*



Enclosure Volume:	$V_{BOX} = 1.00 \text{ ft}^3 \text{ (net)} + 0.040 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	3.0" dia. (circular)	2.0" dia. (circular)	2.0 x 3.5" (rectangular)
Port Area:	7.07 in ²	6.28 in ²	7.00 in ²
Number of Ports:	1	2	1
Port Length:	13.38"	11.77"	13.24"
Port Displacement:	0.05 ft ³	0.04 ft ³	0.05 ft ³
Total Box Volume:	1.09 ft ³	1.08 ft ³	1.09 ft ³

VEGA 8D4 Vented (1.25 ft³) Frequency Response High Power 101 - 250 Watts



Enclosure Volume:	$V_{BOX} = 1.25 \text{ ft}^3 \text{ (net)} + 0.040 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	3.5" dia. (circular)	2.0" dia. (circular)	2.5 x 4.0" (rectangular)
Port Area:	9.62 in ²	9.42 in ²	10.00 in ²
Number of Ports:	1	3	1
Port Length:	14.40"	14.07"	15.02"
Port Displacement:	0.08 ft ³	0.08 ft ³	0.08 ft ³
Total Box Volume:	1.37 ft ³	1.37 ft ³	1.37 ft ³

* Please refer to "Important Note" on page 5

VEGA 104 Specifications

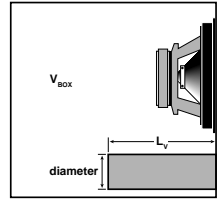
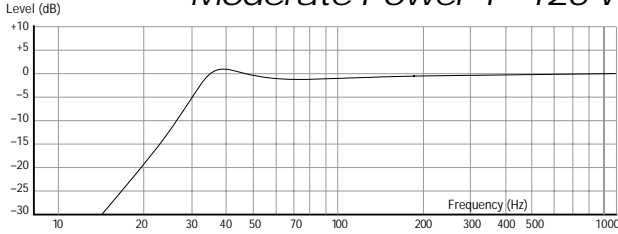
Diameter:	10"
No. of Voice Coils:	1
Sensitivity (1W @ 1m):	92 dB
Power Handling: (cont. unclipped power per EIA RS-426B)	300 Wrms
Frequency Response:	20-500 Hz
Nominal Impedance:	4 Ω
Voice Coil Diameter:	2.0"
Mounting Diameter:	9" (228.6 mm)
Mounting Depth:	5" (117.0 mm)

VEGA 104 Thiele-Small Parameters

Free-Air Resonance:	f_s	23 Hz
Total Q:	Q_{ts}	0.252
Mechanical Q:	Q_{ms}	6.26
Electrical Q:	Q_{es}	0.262
Compliance Volume:	V_{as}	1.78 ft ³
Maximum Excursion:	X_{max}	1.40" (±0.70") 35.6 mm (±17.8 mm)
Voice Coil DC Resistance:	R_{evc}	3.2 Ω
Volume Displacement:		.07 ft ³

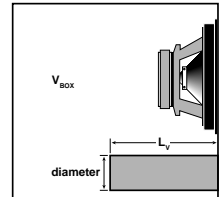
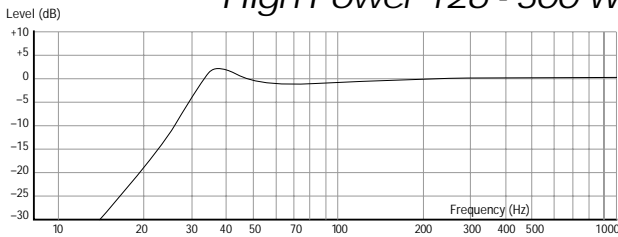
V E G A S U B W O O F E R S

VEGA 104 Vented (1.25 ft³) Frequency Response Moderate Power 1 - 125 Watts*



Enclosure Volume:	$V_{BOX} = 1.25 \text{ ft}^3 \text{ (net)} + 0.07 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	3.0" dia. (circular)	2.0" dia. (circular)	2.0 x 3.5" (rectangular)
Port Area:	7.07 in ²	6.28 in ²	7.00 in ²
Number of Ports:	1	2	1
Port Length:	10.27"	9.00"	10.16"
Port Displacement:	0.04 ft ³	0.03 ft ³	0.04 ft ³
Total Box Volume:	1.36 ft ³	1.35 ft ³	1.36 ft ³

VEGA 104 Vented (1.60 ft³) Frequency Response High Power 126 - 300 Watts



Enclosure Volume:	$V_{BOX} = 1.60 \text{ ft}^3 \text{ (net)} + 0.07 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	4.0" dia. (circular)	3.0" dia. (circular)	2.0 x 6.0" (rectangular)
Port Area:	12.57 in ²	14.13 in ²	12.00 in ²
Number of Ports:	1	2	1
Port Length:	13.25"	17.75"	13.67"
Port Displacement:	0.10 ft ³	0.07 ft ³	0.09 ft ³
Total Box Volume:	1.77 ft ³	1.74 ft ³	1.72 ft ³

* Please refer to "Important Note" on page 5

VEGA 10D4 Specifications

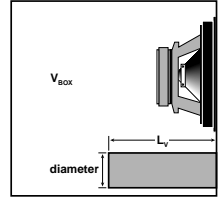
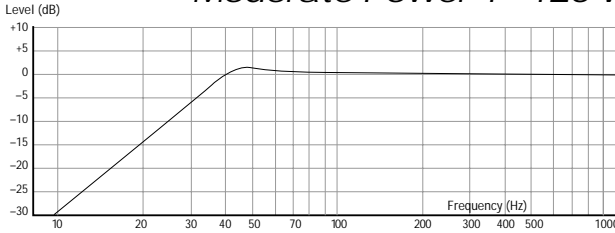
Diameter:	10"
No. of Voice Coils:	2
Sensitivity (1W @ 1m):	92 dB
Power Handling: (cont. unclipped power per EIA RS-426B)	300 Wrms
Frequency Response:	20-500 Hz
Nominal Impedance:	4 Ω (ea. coil)
Voice Coil Diameter:	2.0"
Mounting Diameter:	9" (228.6 mm)
Mounting Depth:	5" (127.0 mm)

VEGA 10D4 Thiele-Small Parameters

Free-Air Resonance:	f_s	21 Hz
Total Q:	Q_{ts}	0.315
Mechanical Q:	Q_{ms}	5.56
Electrical Q:	Q_{es}	0.334
Compliance Volume:	V_{as}	3.19 ft ³
Maximum Excursion:	X_{max}	1.40" (± 0.70 ") 35.6 mm (± 17.8 mm)
Voice Coil DC Resistance:	R_{evc}	3.4 Ω (ea. coil)
Volume Displacement:		.07 ft ³

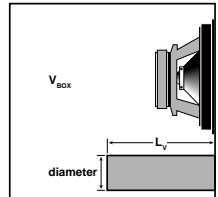
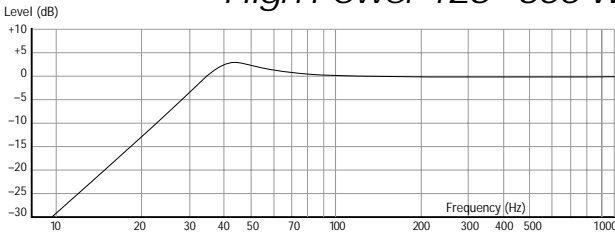
V E G A S U B W O O F E R S

VEGA 10D4 Vented (1.25 ft³) Frequency Response Moderate Power 1 - 125 Watts*



Enclosure Volume:	$V_{BOX} = 1.25 \text{ ft}^3 \text{ (net)} + 0.07 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	3.0" dia. (circular)	2.0" dia. (circular)	2.0 x 3.5" (rectangular)
Port Area:	7.07 in ²	6.28 in ²	7.00 in ²
Number of Ports:	1	2	1
Port Length:	10.27"	9.00"	10.16"
Port Displacement:	0.04 ft ³	0.03 ft ³	0.04 ft ³
Total Box Volume:	1.36 ft ³	1.35 ft ³	1.36 ft ³

VEGA 10D4 Vented (1.60 ft³) Frequency Response High Power 126 - 300 Watts



Enclosure Volume:	$V_{BOX} = 1.60 \text{ ft}^3 \text{ (net)} + 0.07 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	4.0" dia. (circular)	3.0" dia. (circular)	2.0 x 6.0" (rectangular)
Port Area:	12.57 in ²	14.13 in ²	12.00 in ²
Number of Ports:	1	2	1
Port Length:	13.25"	17.75"	13.67"
Port Displacement:	0.10 ft ³	0.07 ft ³	0.09 ft ³
Total Box Volume:	1.77 ft ³	1.74 ft ³	1.72 ft ³

* Please refer to "Important Note" on page 5

VEGA 124 Specifications

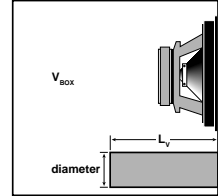
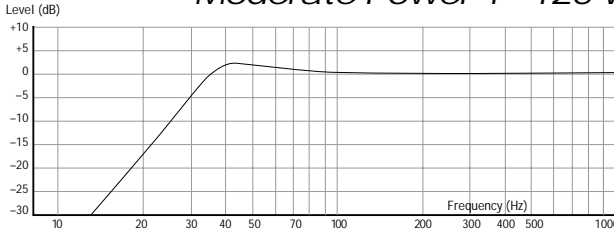
Diameter:	12"
No. of Voice Coils:	1
Sensitivity (1W @ 1m):	94 dB
Power Handling: (cont. unclipped power per EIA RS-426B)	400 Wrms
Frequency Response:	20-500 Hz
Nominal Impedance:	4 Ω
Voice Coil Diameter:	3.0"
Mounting Diameter:	11" (279.4 mm)
Mounting Depth:	5.625" (142.9 mm)

VEGA 124 Thiele-Small Parameters

Free-Air Resonance:	f_s	23 Hz
Total Q:	Q_{ts}	0.330
Mechanical Q:	Q_{ms}	4.31
Electrical Q:	Q_{es}	0.358
Compliance Volume:	V_{as}	2.85 ft ³
Maximum Excursion:	X_{max}	1.50" ($\pm 0.75"$) 38.0 mm (± 19.0 mm)
Voice Coil DC Resistance:	R_{evc}	3.3 Ω
Volume Displacement:		.13 ft ³

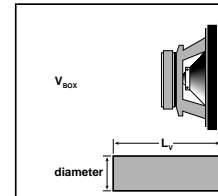
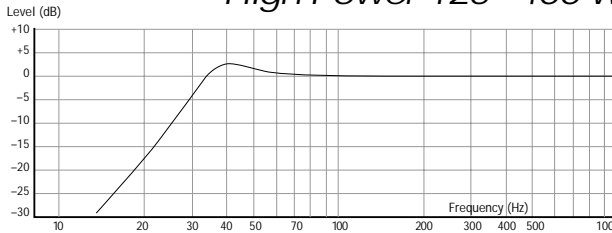
V E G A S U B W O O F E R S

VEGA 124 Vented (1.60 ft³) Frequency Response Moderate Power 1 - 125 Watts*



Enclosure Volume:	$V_{BOX} = 1.60 \text{ ft}^3 \text{ (net)} + 0.13 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	4.0" dia. (circular)	3.0" dia. (circular)	2.0 x 6.0" (rectangular)
Port Area:	12.57 in ²	14.13 in ²	12.00 in ²
Number of Ports:	1	2	1
Port Length:	13.25"	17.75"	13.67"
Port Displacement:	0.10 ft ³	0.07 ft ³	0.09 ft ³
Total Box Volume:	1.84 ft ³	1.81 ft ³	1.79 ft ³

VEGA 124 Vented (2.0 ft³) Frequency Response High Power 125 - 400 Watts



Enclosure Volume:	$V_{BOX} = 2.00 \text{ ft}^3 \text{ (net)} + 0.13 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	4.0" dia. (circular)	3.0" dia. (circular)	2.0 x 6.0" (rectangular)
Port Area:	12.57 in ²	14.13 in ²	12.00 in ²
Number of Ports:	1	2	1
Port Length:	10.75"	12.50"	10.50"
Port Displacement:	0.08 ft ³	0.05 ft ³	0.07 ft ³
Total Box Volume:	2.22 ft ³	2.23 ft ³	2.21 ft ³

* Please refer to "Important Note" on page 5

VEGA 12D4 Specifications

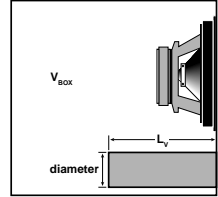
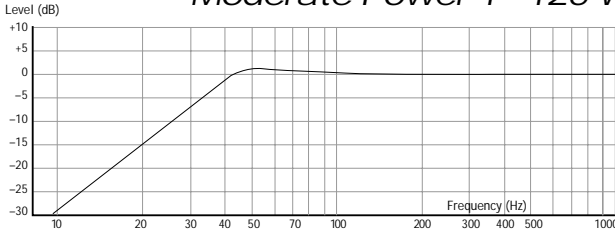
Diameter:	12"
No. of Voice Coils:	2
Sensitivity (1W @ 1m):	94 dB
Power Handling: (cont. unclipped power per EIA RS-426B)	400 Wrms
Frequency Response:	20-500 Hz
Nominal Impedance:	4 Ω (ea. coil)
Voice Coil Diameter:	3.0"
Mounting Diameter:	11" (279.4 mm)
Mounting Depth:	5.625 (142.9 mm)

VEGA 12D4 Thiele-Small Parameters

Free-Air Resonance:	f_s	21 Hz
Total Q:	Q_{ts}	0.27
Mechanical Q:	Q_{ms}	6.31
Electrical Q:	Q_{es}	0.283
Compliance Volume:	V_{as}	4.87 ft ³
Maximum Excursion:	X_{max}	1.50" (± 0.75 ") 38.0 mm (± 19.00 mm)
Voice Coil DC Resistance:	R_{eVC}	3.57 Ω (ea. coil)
Volume Displacement:		.13 ft ³

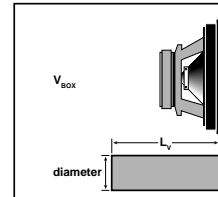
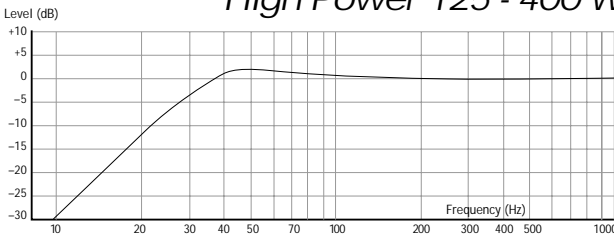
V E G A S U B W O O F E R S

VEGA 12D4 Vented (1.60 ft³) Frequency Response Moderate Power 1 - 125 Watts*



Enclosure Volume:	$V_{BOX} = 1.60 \text{ ft}^3 \text{ (net)} + 0.13 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	4.0" dia. (circular)	3.0" dia. (circular)	2.0 x 5.0" (rectangular)
Port Area:	12.57 in ²	14.13 in ²	10.00 in ²
Number of Ports:	1	2	1
Port Length:	13.25"	17.75"	12.25"
Port Displacement:	0.10 ft ³	0.07 ft ³	0.05 ft ³
Total Box Volume:	1.84 ft ³	1.81 ft ³	1.79 ft ³

VEGA 12D4 Vented (2.0 ft³) Frequency Response High Power 125 - 400 Watts



Enclosure Volume:	$V_{BOX} = 2.00 \text{ ft}^3 \text{ (net)} + 0.13 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	4.0" dia. (circular)	3.0" dia. (circular)	2.0 x 6.0" (rectangular)
Port Area:	12.57 in ²	14.13 in ²	12.00 in ²
Number of Ports:	1	2	1
Port Length:	10.75"	12.50"	10.50"
Port Displacement:	0.08 ft ³	0.05 ft ³	0.07 ft ³
Total Box Volume:	2.22 ft ³	2.23 ft ³	2.21 ft ³

* Please refer to "Important Note" on page 5

VEGA 154 Specifications

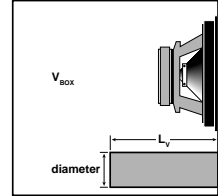
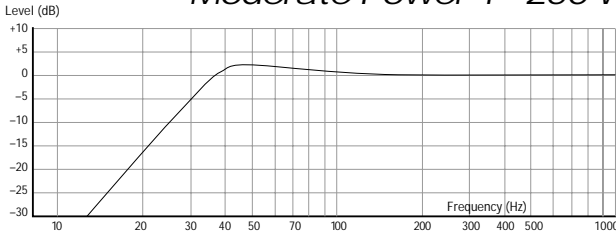
Diameter:	15"
No. of Voice Coils:	1
Sensitivity (1W @ 1m):	96 dB
Power Handling: (cont. unclipped power per EIA RS-426B)	500 Wrms
Frequency Response:	20-500 Hz
Nominal Impedance:	4 Ω
Voice Coil Diameter:	3.0"
Mounting Diameter:	13.75" (349.25 mm)
Mounting Depth:	6.5 (165.15 mm)

VEGA 154 Thiele-Small Parameters

Free-Air Resonance:	f_s	23 Hz
Total Q:	Q_{ts}	0.359
Mechanical Q:	Q_{ms}	4.42
Electrical Q:	Q_{es}	0.390
Compliance Volume:	V_{as}	6.40 ft ³
Maximum Excursion:	X_{max}	1.60" (± 0.80 ") 38.2 mm (± 19.10 mm)
Voice Coil DC Resistance:	R_{evc}	3.4 Ω
Volume Displacement:		.26 ft ³

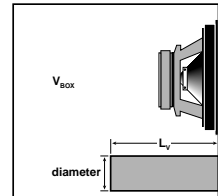
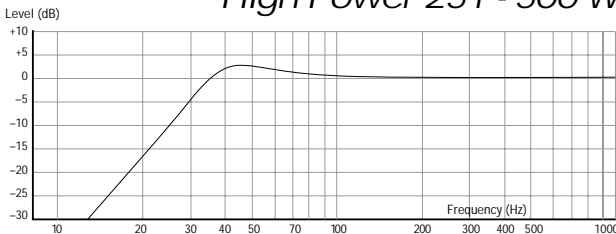
V E G A S U B W O O F E R S

VEGA 154 Vented (3.0 ft³) Frequency Response Moderate Power 1 - 250 Watts*



Enclosure Volume:	$V_{BOX} = 3.00 \text{ ft}^3 \text{ (net)} + 0.26 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	6.0" dia. (circular)	4.0" dia. (circular)	4.0 x 6.5" (rectangular)
Port Area:	28.28 in ²	25.13 in ²	26.00 in ²
Number of Ports:	1	2	1
Port Length:	16.38"	14.33"	14.89"
Port Displacement:	0.27 ft ³	0.21 ft ³	0.22 ft ³
Total Box Volume:	3.53 ft ³	3.47 ft ³	3.48 ft ³

VEGA 154 Vented (3.5 ft³) Frequency Response High Power 251 - 500 Watts



Enclosure Volume:	$V_{BOX} = 3.50 \text{ ft}^3 \text{ (net)} + 0.26 \text{ ft}^3 \text{ (driver displacement) + port displacement}$		
Tuning Frequency:	35 Hz		
Port Dimensions:	6.0" dia. (circular)	4.0" dia. (circular)	5.0 x 6.0" (rectangular)
Port Area:	28.27 in ²	25.13 in ²	30.00 in ²
Number of Ports:	1	2	1
Port Length:	13.42"	11.69"	14.37"
Port Displacement:	0.22 ft ³	0.17 ft ³	0.25 ft ³
Total Box Volume:	3.98 ft ³	3.93 ft ³	4.01 ft ³

* Please refer to "Important Note" on page 5

VEGA 15D4 Specifications

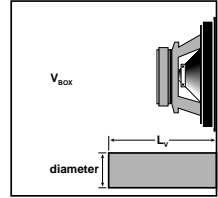
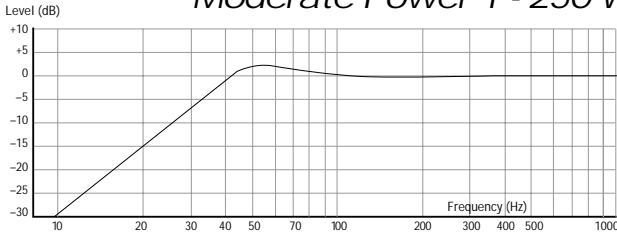
Diameter:	15"
No. of Voice Coils:	2
Sensitivity (1W @ 1m):	96 dB
Power Handling: (cont. unclipped power per EIA RS-426B)	500 Wrms
Frequency Response:	20-500 Hz
Nominal Impedance:	4 Ω (ea. coil)
Voice Coil Diameter:	3.0"
Mounting Diameter:	13.75" (349.25 mm)
Mounting Depth:	6.5" (165.15 mm)

VEGA 15D4 Thiele-Small Parameters

Free-Air Resonance:	f_s	21 Hz
Total Q:	Q_{ts}	0.332
Mechanical Q:	Q_{ms}	7.05
Electrical Q:	Q_{es}	0.348
Compliance Volume:	V_{as}	9.91 ft ³
Maximum Excursion:	X_{max}	1.60" (± 0.80 ") 38.2 mm (± 19.10 mm)
Voice Coil DC Resistance:	R_{eVC}	3.57 Ω (ea. coil)
Volume Displacement:		.26 ft ³

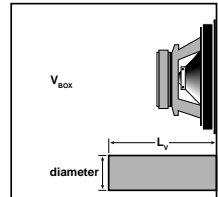
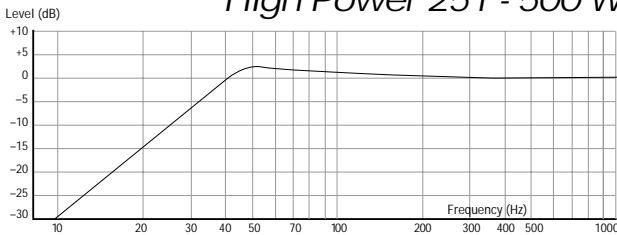
V E G A S U B W O O F E R S

VEGA 15D4 Vented (3.0 ft³) Frequency Response Moderate Power 1 - 250 Watts*



Enclosure Volume:	$V_{BOX} = 3.00 \text{ ft}^3 \text{ (net)} + 0.26 \text{ ft}^3$ (driver displacement) + port displacement		
Tuning Frequency:	35 Hz		
Port Dimensions:	6.0" dia. (circular)	4.0" dia. (circular)	4.0 x 6.5" (rectangular)
Port Area:	28.28 in ²	25.13 in ²	26.00 in ²
Number of Ports:	1	2	1
Port Length:	16.38"	14.33"	14.89"
Port Displacement:	0.27 ft ³	0.21 ft ³	0.22 ft ³
Total Box Volume:	3.53 ft ³	3.47 ft ³	3.48 ft ³

VEGA 15D4 Vented (3.5 ft³) Frequency Response High Power 251 - 500 Watts



Enclosure Volume:	$V_{BOX} = 3.50 \text{ ft}^3 \text{ (net)} + 0.26 \text{ ft}^3$ (driver displacement) + port displacement		
Tuning Frequency:	35 Hz		
Port Dimensions:	6.0" dia. (circular)	4.0" dia. (circular)	5.0 x 6.0" (rectangular)
Port Area:	28.27 in ²	25.13 in ²	30.00 in ²
Number of Ports:	1	2	1
Port Length:	13.42"	11.69"	14.37"
Port Displacement:	0.22 ft ³	0.17 ft ³	0.25 ft ³
Total Box Volume:	3.98 ft ³	3.93 ft ³	4.01 ft ³

* Please refer to "Important Note" on page 5