

# SUB energy WOOFER

## ES 250 D 500 Watt

### Technical Specifications

<b>Component:</b>	Subwoofer	
<b>Size</b>	mm	250 (10")
<b>Power Handling (Watt)</b>	peak	500
	continuous program	250
<b>Impedance</b>	Ohm	4 + 4
<b>Frequency response</b>	Hz	28 - 300
<b>Sensitivity</b>	dB/SPL	91,5
<b>Outer diameter</b>	mm	264
<b>Mounting hole diameter</b>	mm	234
<b>Magnet size</b>	mm	120
<b>Total depth</b>	mm	136
<b>Mounting depth</b>	mm	119
<b>Total driver displacement</b>	lit	1,2
<b>Weight of one component</b>	Kg	3,930
<b>Voice coil diameter</b>	mm	50
<b>Magnet</b>	Double Coil, Double magnet, High density flux ferrite	
<b>Cone</b>	Water repellent, pressed paper cone	
<b>Xmech*</b>	mm	14,5

Xmech\* maximum mechanic excursion: it indicates the motion range in the speaker linear functioning area, in both ways.

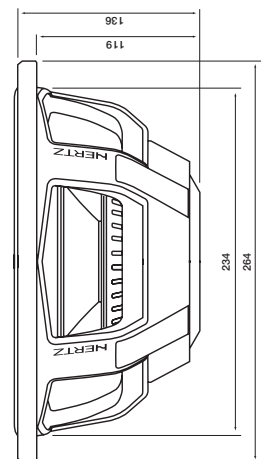
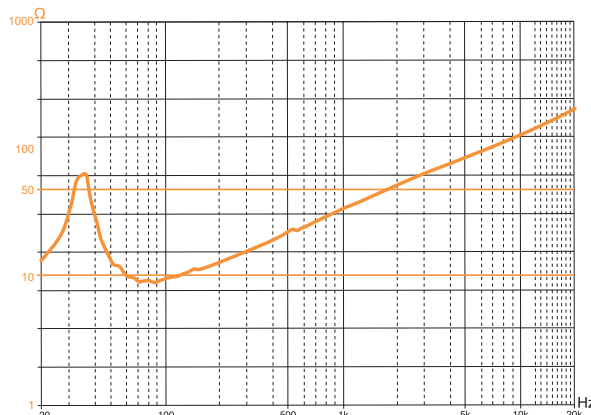
### Electro-Acoustic Parameters \*

<b>D</b>	mm	212
<b>Xmax</b>	mm	9
<b>Re</b>	Ohm	2,0
<b>Fs</b>	Hz	32
<b>Le</b>	mH@1kHz	1,38
<b>Le</b>	mH@10kHz	0,51
<b>Vas</b>	lit	46,70
<b>Mms</b>	gr	92,0
<b>Cms</b>	mm/N	0,27
<b>BL</b>	T-m	7,00
<b>Qts</b>		0,66
<b>Qes</b>		0,74
<b>Qms</b>		7,00
<b>Spl (1m/2,83V)</b>	dB	91,5

\*Coils in parallel



- 1 High thermal dissipation and magnetic permeability plates, providing constant, even flux.
- 2 Large double magnet, for perfect control under high power, high excursion conditions.
- 3 Copper voice coil, wound on aluminium former, for startling thermal and mechanical capacity.
- 4 Back plate vent holes, for very good thermal dissipation.
- 5 Back Vented Spider support, for perfect symmetry under high excursion and thermal dissipation.
- 6 Butyl rubber gasket provides ideal coupling to the mounting surface damping basket resonance.
- 7 Butyl rubber magnet ring provides protection against abrasions.
- 8 Internally reinforced basket, protected from abrasions by high resistance paint.
- 9 High current, tin-plated terminals.
- 10 Silver plated silicone shielded lead wires for maximum reliability and conductivity.
- 11 Basket and motor coupled and damped through special epoxy glue.
- 12 Wide-wave, resin-bonded fibre spider for mechanical reliability and consistent parameters.
- 13 High density Foam surround, for linear movement even under high excursion conditions.
- 14 Water-repellent pressed paper cone.



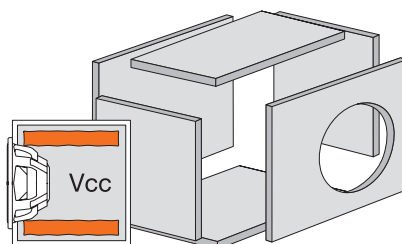
## design

### ES 250 D

The speaker overall volume must be taken into account when designing a box: if the driver is mounted with its magnet facing the box inner part, add the volume indicated in the **Technical Specifications (Total driver displacement)** to total volume calculation. The volumes of Reflex projects include tubes and ports overall dimensions.

#### Sealed Box - Dimension

The box is deliberately small in order to optimize the overall bulk at most; this is the right solution for those who have a narrow space but nevertheless do not renounce a powerful bass.

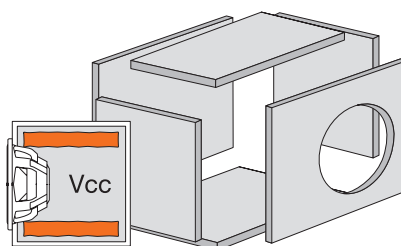


<b>Sealed Box</b>	
<b>Vcc</b> =	17 Lit
<b>Fc</b> =	57 Hz

**Damping material:**  
 FONOFORM on all the inside walls except for the speaker's

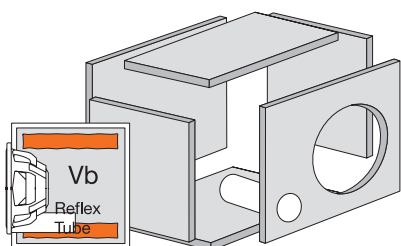
#### Sealed Box - Performance

Bigger, both in dimensions and sound, it responds with a full bodily bass and excellent dynamics.



<b>Sealed Box</b>	
<b>Vcc</b> =	22,7 Lit
<b>Fc</b> =	54 Hz

**Damping material:**  
 FONOFORM on all the inside walls except for the speaker's

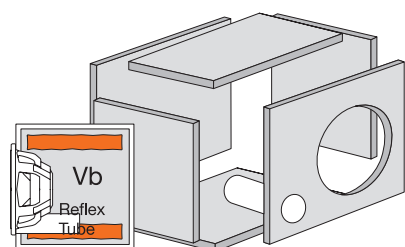


#### Reflex Box - Dimension

Almost the same dimensions as the Sealed Box Performance, yet offering a wider extension, with a strong sound and an excellent articulation.

<b>Reflex Box</b>	
<b>Vb</b> =	20 Lit
<b>Fb</b> =	46 Hz
<b>Reflex Tube</b>	
<b>Ø</b> =	AR65V
<b>L</b> =	105 mm

**Damping material:**  
 FONOFORM on all the inside walls except for the speaker's



#### Reflex Box - Performance

Great power handling, high sensitivity values and great impact; this is the biggest sub for a powerful bass with every kind of music.

<b>Reflex Box</b>	
<b>Vb</b> =	28 Lit
<b>Fb</b> =	35 Hz
<b>Reflex Tube</b>	
<b>Ø</b> =	AR65V
<b>L</b> =	155 mm

**Damping material:**  
 FONOFORM on all the inside walls except for the speaker's