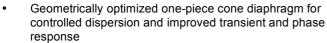


Woofer Esotar² 650

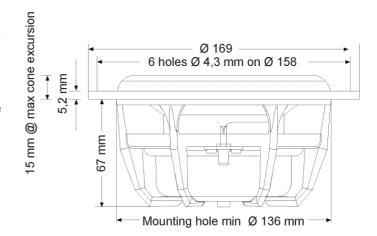
The Esotar² 650 is a medium sized reference grade mid/ woofer designed to be utilized in ultra-high performance 2-way or 3-way autosound systems.

The driver exhibits a very linear frequency response and excellent dispersion up to 3.5 kHz, even at 60 degrees off-axis. This, combined with the extremely low distortion and the linear impedance, makes it possible to achieve amazing results in a wide range of systems or applications. The driver may also integrate with a subwoofer.



- Large 75 mm voice coil ensures high power handling and superb dynamics
- Powerful internal double magnet system with neodymium magnet and vented pole piece
- Aluminium voice coil wire provides for a low moving mass and perfect control of the cone, and is wound on Kapton former
- Rigid die-cast frame with aerodynamically shaped ribs to reduce back-wave reflections
- Materials and parameters are optimized for the harsh environmental conditions in a car
- Smooth high-frequency roll-off
- Natural midrange reproduction
- Incredible midbass impact free of coloration or distortion

Thiolo Small Darameters



I niele Small Parameters					
Nominal impedance	Znom	4	Ω		
DC resistance	Re	3,4	Ω		
Voice coil inductance	Le	0,33	mΗ		
Resonance frequency	Fs	49,6	Hz		
Mechanical Q factor	Qms	6,2			
Electrical Q factor	Qes	0,47			
Total Q factor	Qts	0,44			
Mechanical resistance	Rms	1	kg/s		
Moving mass (incl. air load)	Mms	20,0	g		
Suspension compliance	Cms	0,52	mm/N		
Effective cone diameter	D	123	mm		
Effective piston area	Sd	120	cm ²		
Equivalent volume	Vas	10,5	1		
Force factor	BI	6,73	Tm		
Recommended frequency range	50-4000		Hz		
Recommended closed box volume	6,8-19 l		1		

All specifications s	subject to change	without notice
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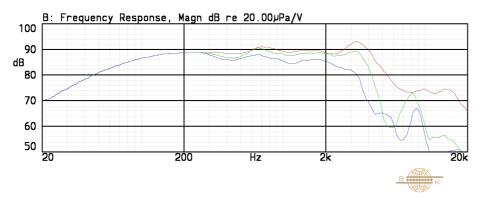
Magnet and Voice Coil Properties					
Voice coil diameter	dc	75 mm			
Voice coil height	hc	14 mm			
Voice coil layers	nc	2			
Magnetic gap height	hg	5 mm			
Linear excursion, peak to peak		9 mm			
Max. excursion, peak to peak		21 mm			
Magnet weight: Neodymium Ferrite	wm	0,1 kg 0,24 kg			

Power Handling				
Nominal long term IEC	200 W			
Transient (10 ms)	1000 W			

Mechanical Properties				
Net weight	1.25	kg		
Overall dimension	Ø169x78	mm		

Woofer Esotar² 650

Frequency response • on-axis, 30° and 60° off-axis

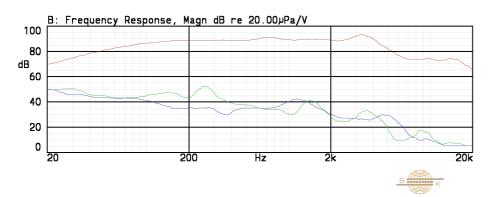


Red line: on-axis response Green line: 30° horizontal Blue line: 60° horizontal

Measurement conditions

Level: 2.83 V Distance: 1 m Box volume: 15.6 I

Frequency response • 2nd and 3rd harmonic distortion

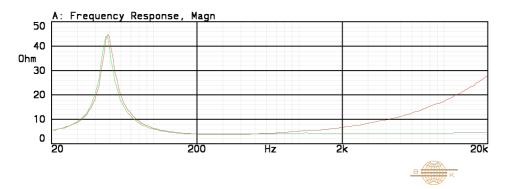


Red line: on-axis response Green line: 2nd harmonic Blue line: 3rd harmonic

Measurement conditions

Level: 2.83 V Distance: 1 m Box volume: 15.6 I

Impedance • with and without impedance correction circuit



Red line: impedance, free air green line: impedance, free air with compensation. See drawing below.

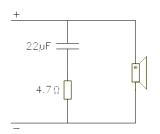
Measurement conditions

Level: 3,16 V, 50 ohm Driver in free air

The Esotar² 650 is a simple load for the amplifier and the use of an impedance correction circuit will make it an even easier load to drive.

The low suspension compliance makes the driver suitable for small enclosures as typical of automotive installations, while also allowing for free-air mounting without a dedicated enclosure, e.g. in a rear deck or in a door.

Impedance correction circuit



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