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12MC500
LOW FREQUENCY TRANSDUCER
Preliminary Data Sheet

KEY FEATURES

- High power handling: 1.000 W program power
- 2,5" copper wire voice coil
- Malt Cross© Cooling System
- Low power compression looses
- High sensitiviy: 97,8 dB
- High efficiency
- FEA optimized magnetic circuit
- Designed with MMSS technology for high control, linearity and low harmonic distortion
- Waterproof cone with treatment for both sides of the cone
- Extended controlled displacement (X_{max}): 8 mm
- Massive mechanical displacement capability: X_{damage} ± 40 mm
- Weight 5,8 kg
- Optimized for 2 or 3 way PA systems and line array applications

TECHNICAL SPECIFICATIONS

Nominal diameter	300 mm	12 in
Rated impedance		8 Ω
Minimum impedance		5,8 Ω
Power capacity*		500 W$_{AES}$
Program power		1.000 W
Sensitivity	97,8 dB	@ 1W @ Z$_N$
Frequency range		50 - 5.500 Hz
Recom. enclosure vol.	30 / 100 l	1,06 / 3,53 ft^3
Voice coil diameter	63,5 mm	2,5 in
Bl factor		17,23 N/A
Moving mass		0,059 kg
Voice coil length		19,5 mm
Air gap height		10 mm
X_{damage} (peak to peak)		40 mm

THIELE-SMALL PARAMETERS**

Resonant frequency, f_s	57 Hz
D.C. Voice coil resistance, R_e	5,5 Ω
Mechanical Quality Factor, Q_{ms}	8,58
Electrical Quality Factor, Q_{es}	0,39
Total Quality Factor, Q_{ts}	0,38
Equivalent Air Volume to C_{ms}, V_{as}	54,9 l
Mechanical Compliance, C_{ms}	128 μm / N
Mechanical Resistance, R_{ms}	2,50 kg / s
Efficiency, η_0	2,53 %
Effective Surface Area, S_d	0,055 m^2
Maximum Displacement, X_{max} ***	8 mm
Voice Coil Inductance, L_e	0,7 mH

MOUNTING INFORMATION

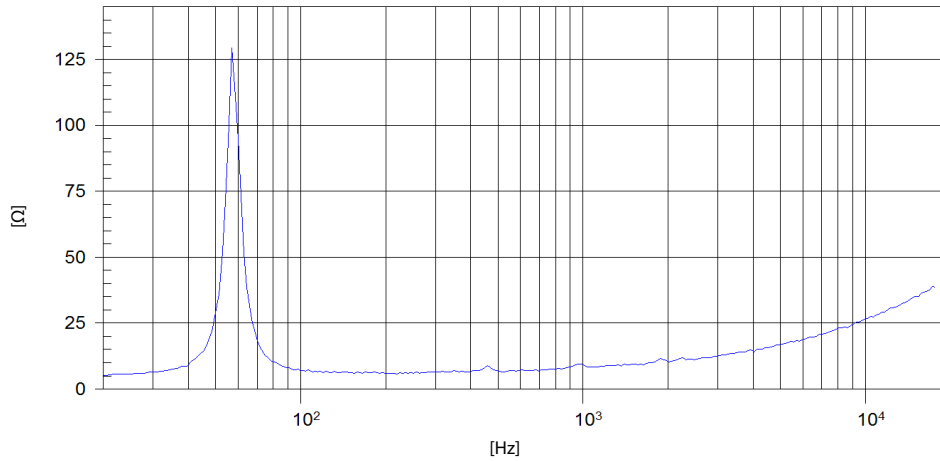|		
Overall diameter	312 mm	12,28 in
Bolt circle diameter	294,5 mm	11,59 in
Baffle cutout diameter:		
- Front mount	278 mm	10,94 in
- Rear mount	275 mm	10,83 in
Depth	140 mm	5,51 in
Net weight	5,86 kg	12,92 lb

Notes:

* The power capaticty is determined according to AES2-1984 (r2003) standard. Program power is defined as the transducer's ability to handle normal music program material.
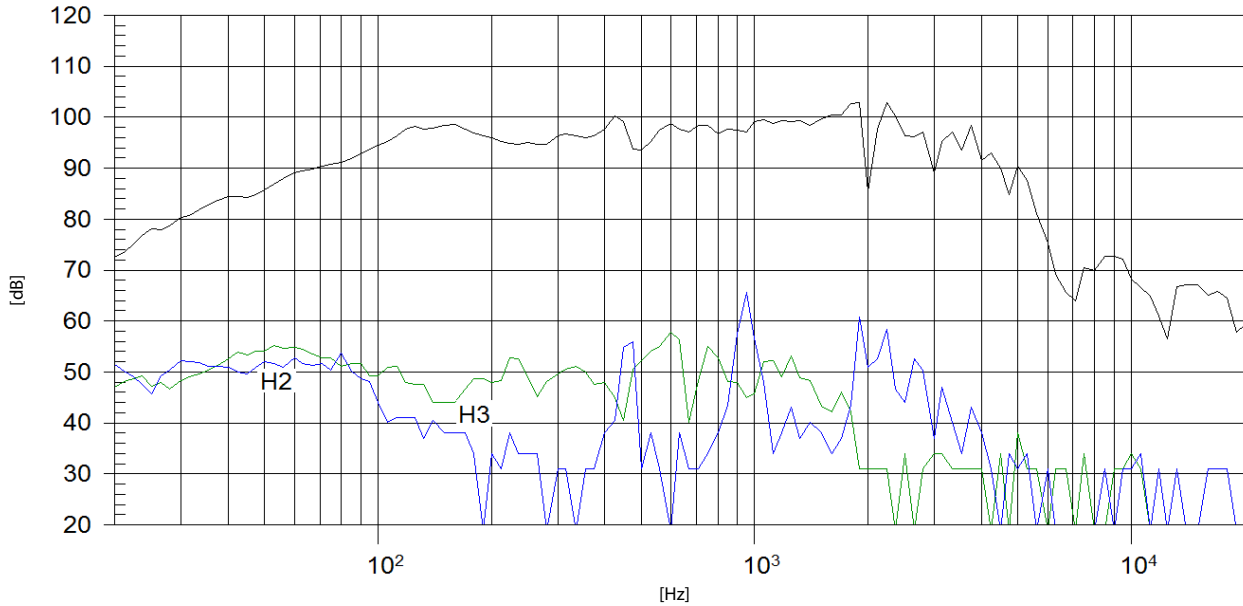
** T-S parameters are measured after an exercise period using a preconditioning power test. The measurements are carried out with a velocity-current laser transducer and will reflect the long term parameters (once the loudspeaker has been working for a short period of time).

*** The X_{max} is calculated as $(L_{vc} - H_{ag})/2 + (H_{ag}/3,5)$, where L_{vc} is the voice coil length and H_{ag} is the air gap height.

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TECHNOLOGY

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PROFESSIONAL LOUDSPEAKERS
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FREE AIR IMPEDANCE CURVE

FREQUENCY RESPONSE AND DISTORTION

Note: On axis frequency response measured with loudspeaker standing on infinite baffle in anechoic chamber, 2,83V @ 1m

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