

12MCS500

LOW FREQUENCY TRANSDUCER Preliminary Data Sheet

KEY FEATURES

- High power handling: 1000 W program power
- 2,5" copper wire voice coil
- Beyma's Malt Cross[®] ultimate Cooling System
- Low power compression losses
- High sensitivity: 98 dB

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- Optimized pressed steel frame
- FEA optimized magnetic circuit
- Designed with MMSS technology for high control, linearity and low harmonic distortion. LSI optimized parameters
- Waterproof cone with treatment for both sides of the cone
- Optimized for 2 or 3 way PA systems and line arrays for ultimate professional applications

TECHNICAL SPECIFICATIONS

Nominal diameter	300 mm 12 in
Rated impedance	8 Ω
Minimum impedance	7,1 Ω
Power capacity*	500 W _{AES}
Program power	1.000 W
Sensitivity	97 dB 1W / 1m @ Z _N
Frequency range	65 - 5.000 Hz
Voice coil diameter	63,5 mm 2,5 in
BI factor	17,2 N/A
Moving mass	0,062 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	62 Hz
D.C. Voice coil resistance, Re	5,5 Ω
Mechanical Quality Factor, Q _{ms}	5,9
Electrical Quality Factor, Q _{es}	0,46
Total Quality Factor, Q _{ts}	0,43
Equivalent Air Volume to C _{ms} , V _{as}	44
Mechanical Compliance, C _{ms}	103 μm / N
Mechanical Resistance, R _{ms}	4,1 kg / s
Efficiency, η ₀	2,3 %
Effective Surface Area, S _d	0,055 m²
Maximum Displacement, X _{max} ***	8 mm
Displacement Volume, V _d	440 cm ³
Voice Coil Inductance, L _e @ 1 kHz	1 mH

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.

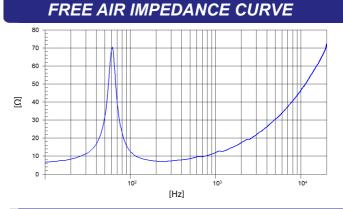
** T-S parameters are measured after an exercise period using a preconditioning power test. The measurements are carried out with a velocity-current laser transducer and will reflect the long term parameters (once the loudspeaker has been working for a short period of time).

*** 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.

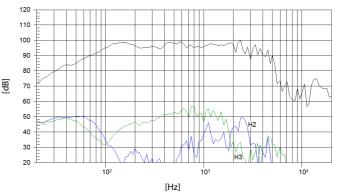


MOUNTING INFORMATION

Overall diameter	306 mm	12,05 in
Bolt circle diameter	292 mm	11,50 in
Baffle cutout diameter:		
- Front mount	280 mm	11,02 in
Depth	140 mm	5,51 in
Net weight	6 kg	13,22 lb
Shipping weight	6,7 kg	14,77 lb



FREQUENCY RESPONSE & DISTORTION



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