beyma

PROFESSIONAL LOUDSPEAKERS

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18LEX1600Fe

LOW FREQUENCY TRANSDUCER

LEX Series

KEY FEATURES

maltcross TECHNOLOGY

- High power handling and low distortion 18” subwoofer
- Exclusive Malt Cross® Technology Cooling System
- Low power compression losses
- High sensitivity: 97 dB (1W / 1m)
- FEA optimized ceramic magnetic circuit
- Aluminium demodulating ring
- Ultra low air noise
- Optimized linear behaviour
- Exclusive NCR membrane (Neck Coupling Reinforcement)
- Weatherproof cone with treatment for both sides
- Double silicone spider
- 4” DUO in/out copper voice coil
- Extended controlled displacement: X_{max} ± 13 mm
- 60 mm peak-to-peak excursion before damage
- Optimized for direct radiation and band-pass subwoofer applications





TECHNICAL SPECIFICATIONS

Nominal diameter	460 mm	18 in
Rated impedance		8 Ω
Minimum impedance		6,1 Ω
Power capacity [1]		1.600 W_{AES}
Program power [2]		3.200 W
Sensitivity	97 dB	1W / 1m @ Z_N
Frequency range		35 - 1.000 Hz
Recom. enclosure		V_b = 174 l
(Bass-reflex design)		F_b = 37 Hz
Voice coil diameter	101,6 mm	4 in
Bl factor		26,9 N/A
Moving mass		0,252 kg
Voice coil length		32 mm
Air gap height		15 mm
X_{damage} (peak to peak)		60 mm

THIELE-SMALL PARAMETERS [3]

Resonant frequency, f_s	34 Hz
D.C. Voice coil resistance, R_e	5,3 Ω
Mechanical Quality Factor, Q_{ms}	7,4
Electrical Quality Factor, Q_{es}	0,40
Total Quality Factor, Q_{ts}	0,38
Equivalent Air Volume to C_{ms}, V_{as}	188 l
Mechanical Compliance, C_{ms}	85 µm / N
Mechanical Resistance, R_{ms}	7,4 kg / s
Efficiency, η_0	1,9 %
Effective Surface Area, S_d	0,1255 m^2
Maximum Displacement, X_{max} [4]	13 mm
Displacement Volume, V_d	1631 cm^3
Voice Coil Inductance, L_e	1,7 mH

Notes:

[1] The power capaticty is determined according to AES2-1984 (r2003) standard.

[2] Program power is defined as power capacity + 3 dB.

[3] 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).

[4] 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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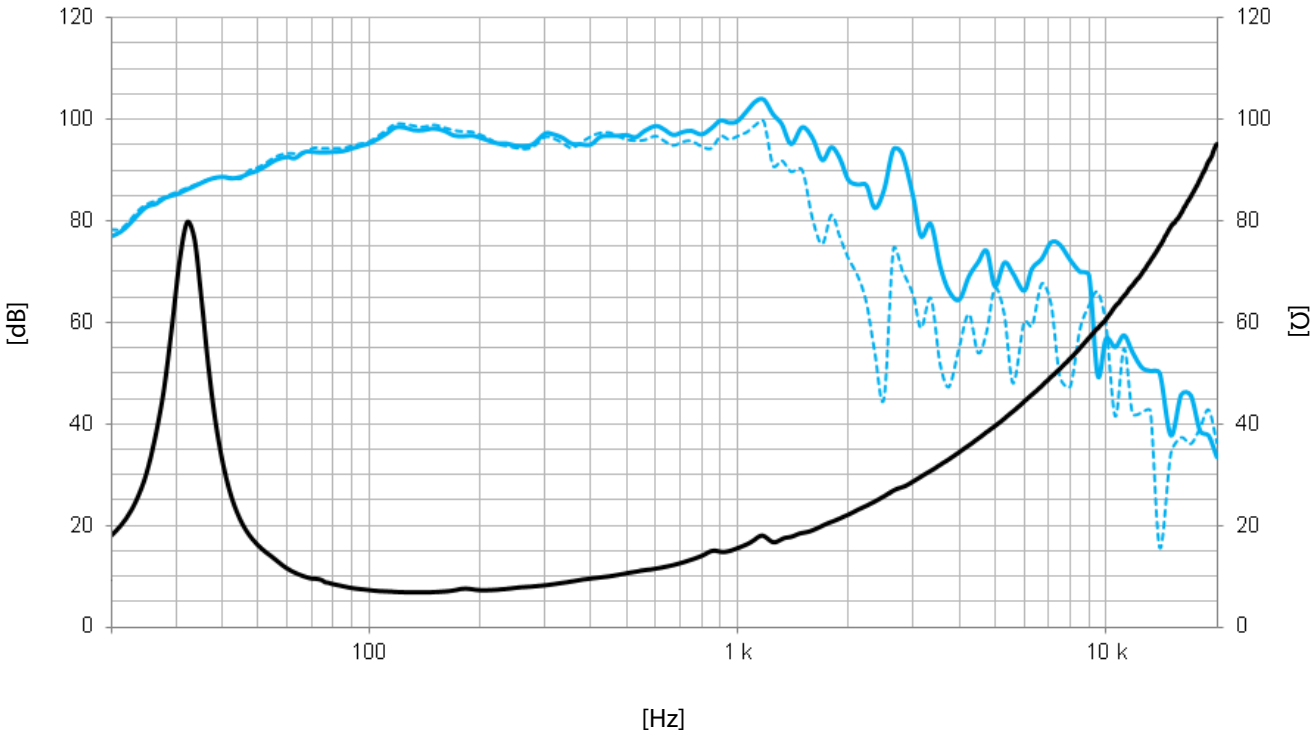
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Note: Frequency response measured with loudspeaker standing on infinite baffle in anechoic chamber, 1W @ 1m

Frequency response on axis
Frequency response 45º off axis

MOUNTING INFORMATION

Overall diameter	462 mm	18,2 in
Bolt circle diameter	440 mm	17,3 in
Baffle cutout diameter:		
- Front mount	415 mm	16,3 in
Depth	233 mm	9,2 in
Volume displaced by driver	8,0 l	0,28 ft³
Net weight	14,9 kg	32,8 lb
Shipping weight	16,2 kg	35,7 lb

DIMENSION DRAWING

