

15LEX1600Fe

LOW FREQUENCY TRANSDUCER Preliminary Data Sheet



- High power handling and low distortion 15" subwoofer
- Exclusive Malt Cross® Technology Cooling System
- Low power compression losses
- High sensitivity: 96 dB (1W / 1m)
- · FEA optimized ceramic magnetic circuit
- · Aluminium demodulating ring
- Ultra low air noise
- Optimized linear behaviour

- Exclusive NCR membrane (Neck Coupling Reinforcement)
- Waterproof 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

Minimum impedance $6,1 \Omega$ Power capacity 1 1.600 W_{AES} Program power 2 3.200 W Sensitivity 96 dB $1\text{W} / 1\text{m} @ Z_N$ Frequency range $40 - 1.500 \text{ Hz}$ Recom. enclosure $V_b = 94 \text{ Hz}$ (Bass-reflex design) $F_b = 40 \text{ Hz}$ Voice coil diameter $101,6 \text{ mm}$ 4 inBI factor $25,8 \text{ N/A}$ Moving mass $0,179 \text{ kg}$ Voice coil length 32 mm Air gap height 15 mm	Nominal diameter	380 mm	15 in
Power capacity 1 1.600 W_{AES} Program power 2 3.200 W Sensitivity 96 dB $1 \text{W} / 1 \text{m}$ @ Z_N Frequency range $40 - 1.500 \text{ Hz}$ Recom. enclosure $V_b = 94 \text{ Hz}$ (Bass-reflex design) $F_b = 40 \text{ Hz}$ Voice coil diameter $101,6 \text{ mm}$ 4 in BI factor $25,8 \text{ N/A}$ Moving mass $0,179 \text{ kg}$ Voice coil length 32 mm Air gap height 15 mm	Rated impedance		8 Ω
Program power 2 3.200 W Sensitivity 96 dB 1W / 1m @ Z_N Frequency range $40 - 1.500 \text{ Hz}$ Recom. enclosure $V_b = 94 \text{ Hz}$ (Bass-reflex design) $F_b = 40 \text{ Hz}$ Voice coil diameter $101,6 \text{ mm}$ 4 inBI factor $25,8 \text{ N/A}$ Moving mass $0,179 \text{ kg}$ Voice coil length 32 mm Air gap height 15 mm	Minimum impedance		6,1 Ω
Sensitivity96 dB $1W / 1m @ Z_N$ Frequency range $40 - 1.500 \text{ Hz}$ Recom. enclosure $V_b = 94 \text{ Hz}$ (Bass-reflex design) $F_b = 40 \text{ Hz}$ Voice coil diameter $101,6 \text{ mm}$ 4 in BI factor $25,8 \text{ N/A}$ Moving mass $0,179 \text{ kg}$ Voice coil length 32 mm Air gap height 15 mm	Power capacity ¹	1.0	600 W _{AES}
Frequency range $40 - 1.500 \text{Hz}$ Recom. enclosure $V_b = 94 \text{Hz}$ (Bass-reflex design) $F_b = 40 \text{Hz}$ Voice coil diameter $101,6 \text{mm}$ 4in BI factor $25,8 \text{N/A}$ Moving mass $0,179 \text{kg}$ Voice coil length 32mm Air gap height 15mm	Program power ²		3.200 W
Recom. enclosure $V_b = 94$ (Bass-reflex design) $F_b = 40 \text{ Hz}$ Voice coil diameter101,6 mm4 inBI factor25,8 N/AMoving mass0,179 kgVoice coil length32 mmAir gap height15 mm	Sensitivity	96 dB 1W /	1m @ Z _N
(Bass-reflex design) Voice coil diameter BI factor Moving mass Voice coil length Air gap height F _b = 40 Hz 101,6 mm 4 in 25,8 N/A 25,8 N/A 32 mm 15 mm	Frequency range	40 -	1.500 Hz
Voice coil diameter101,6 mm4 inBI factor25,8 N/AMoving mass0,179 kgVoice coil length32 mmAir gap height15 mm	Recom. enclosure		$V_{b} = 94 I$
BI factor 25,8 N/A Moving mass 0,179 kg Voice coil length 32 mm Air gap height 15 mm	(Bass-reflex design)	F	_b = 40 Hz
Moving mass0,179 kgVoice coil length32 mmAir gap height15 mm	Voice coil diameter	101,6 mm	4 in
Voice coil length 32 mm Air gap height 15 mm	BI factor		25,8 N/A
Air gap height 15 mm	Moving mass		0,179 kg
	Voice coil length		32 mm
X _{damage} (peak to peak) 60 mm	Air gap height		15 mm
•	X _{damage} (peak to peak)		60 mm

THIELE-SMALL PARAMETERS3

Resonant frequency, f _s	38 Hz
D.C. Voice coil resistance, R _e	5,3 Ω
Mechanical Quality Factor, Q _{ms}	6,9
Electrical Quality Factor, Q _{es}	0,34
Total Quality Factor, Q _{ts}	0,33
Equivalent Air Volume to C _{ms} , V _{as}	106 I
Mechanical Compliance, C _{ms}	$97~\mu m$ / N
Mechanical Resistance, R _{ms}	6,2 kg / s
Efficiency, η ₀	1,7 %
Effective Surface Area, S _d	$0,088 \text{ m}^2$
Maximum Displacement, X _{max} ⁴	13 mm
Displacement Volume, V _d	1144 cm ³
Voice Coil Inductance, L _e	1,7 mH

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

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

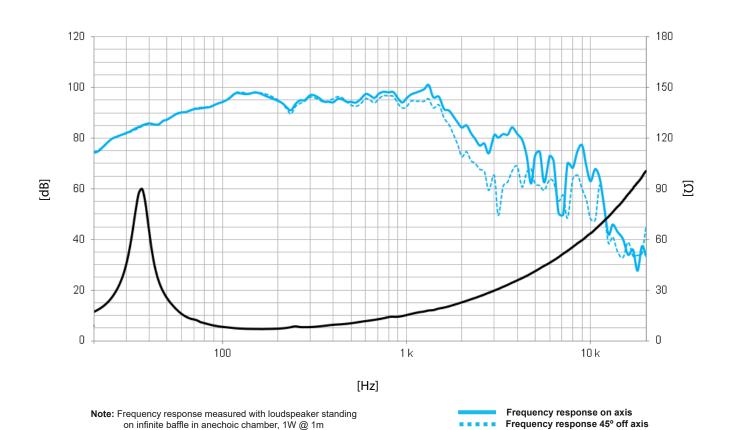
³ T-S parameters are measured after an exercise period using a preconditioning power test. The measurements are carried out with a velocity-current laser transducer and will reflect the long term parameters (once the loudspeaker has been working for a short period of time).

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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MOUNTING INFORMATION

Overall diameter	393 mm	15,5 in
Bolt circle diameter	373 mm	14,7 in
Baffle cutout diameter:		
- Front mount	352 mm	13,9 in
Depth	190 mm	7,5 in
Volume displaced by driver	5,5 I	0,19 ft ³
Net weight	13,9 kg	30,6 lb
Shipping weight	14,9 kg	32,8 lb

DIMENSION DRAWING

