

SPECIFICATIONS

WF152BD03/04 6" die cast, paper cone mid/woofers, 4/8 ohm



The 6" transducers WF152BD03 (4 ohm) and WF152BD04 (8 ohm) were designed as high performance bass and midrange units for compact monitors and high-end hi-fi speakers.

FEATURES

- Balanced Drive motor structure for optimal drive force symmetry resulting in largely reduced even order harmonic distortion
- Copper cap on center pole to reduce voice coil inductance and to minimize variations in voice coil inductance as a function of voice coil position
- Black coated semi-air-dried paper cone
- Rigid die cast alu chassis with extensive venting for lower air flow speed reducing audible distortion
- Vented voice coil former for reduced distortion and compression
- Vented center pole with dual flares for reduced noise level at large cone excursions
- Heavy-duty black fiber glass voice coil former to reduce mechanical losses resulting in better dynamic performance and low-level details
- Large motor with 1½" voice coil diameter for better control and power handling
- Built-in alu field-stabilizing ring for reduced distortion at high levels
- Low-loss suspension (high Qm) for better reproduction of details and dynamics
- Black motor parts for better heat transfer to the surrounding air
- Conex spider for better durability under extreme conditions
- Gold plated terminals to ensure long-term trouble free connection



NOMINAL SPECIFICATIONS

Notes	Parameter	WF152BD03		WF152BD04		Unit
		Before burn-in	After burn-in	Before burn-in	After burn-in	
	Nominal size	6		6		[inch.]
	Nominal impedance	4		8		[ohm]
	Recommended max. upper frequency limit	3.5		3.5		[kHz]
1	Sensitivity, 2.83V/1m (average SPL in range 300 - 1,000 Hz)	91		88.5		[dB]
2	Power handling, short term, IEC 268-5, no additional filtering					[W]
2	Power handling, long term, IEC 268-5, no additional filtering					[W]
2	Power handling, continuous, IEC 268-5, no additional filtering	70		70		[W]
	Effective radiating area, S _d	93		93		[cm ²]
3, 6	Resonance frequency (free air, no baffle), F _s	55.5	50	56.5	51	[Hz]
	Moving mass, incl. air (free air, no baffle), M _{ms}	11.0		10.5		[g]
3	Force factor, B _{xl}	5.8		7.3		[N/A]
3, 6	Suspension compliance, C _{ms}	0.75	0.93	0.75	0.93	[mm/N]
3, 6	Equivalent air volume, V _{as}	9.2	11.4	9.2	11.4	[lit.]
3, 6	Mechanical resistance, R _{ms}	0.43	0.46	0.43	0.46	[Ns/m]
3, 6	Mechanical Q, Q _{ms}	8.9	7.5	8.7	7.3	[-]
3, 6	Electrical Q, Q _{es}	0.36	0.33	0.44	0.40	[-]
3, 6	Total Q, Q _{ts}	0.35	0.31	0.42	0.38	[-]
4	Voice coil resistance, R _{DC}	3.2		6.3		[ohm]
5	Voice coil inductance, L _e (measured at 10 kHz)	0.096		0.15		[mH]
	Voice coil inside diameter	32		32		[mm]
	Voice coil winding height	14		14		[mm]
	Air gap height	5		5		[mm]
	Magnet weight	630		630		[g]
	Total unit net weight excl. packaging	1.46		1.46		[kg]
3, 5	K _{rm}	46		50		[mohm]
3, 5	E _{rm}	0.39		0.42		[-]
3, 5	K _{xm}	260		580		[mH]
3, 5	E _{xm}	0.16		0.12		[-]

Note 1 Measured in infinite baffle.

Note 2 Tested in free air (no cabinet).

Note 3 Measured using a semi-constant current source, nominal level 2 mA.

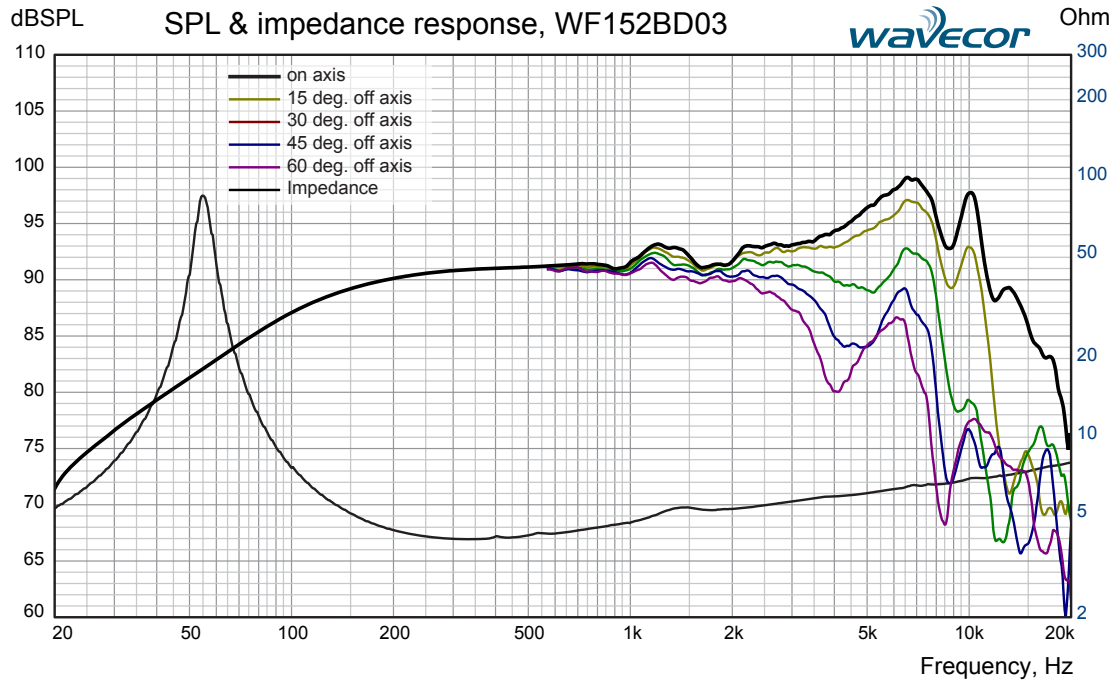
Note 4 Measured at 20 deg. C

Note 5 It is generally a rough simplification to assume that loudspeaker transducer voice coils exhibit the characteristics of an inductor. Instead it is a far more accurate approach to use the more advanced model often referred to as the "Wright empirical model", also used in LEAP-4 as the TSL model (www.linearx.com), involving parameters K_{rm}, E_{rm}, K_{xm}, and E_{xm}. This more accurate transducer model is described in a technical paper [here at our web site](#).

Note 6 After burn-in specifications are measured 12 hours after exiting the transducer by a 20 Hz sine wave for 2 hours at level 10/14.1 V_{RMS} (4/8 ohm version). The unit is not burned in before shipping.

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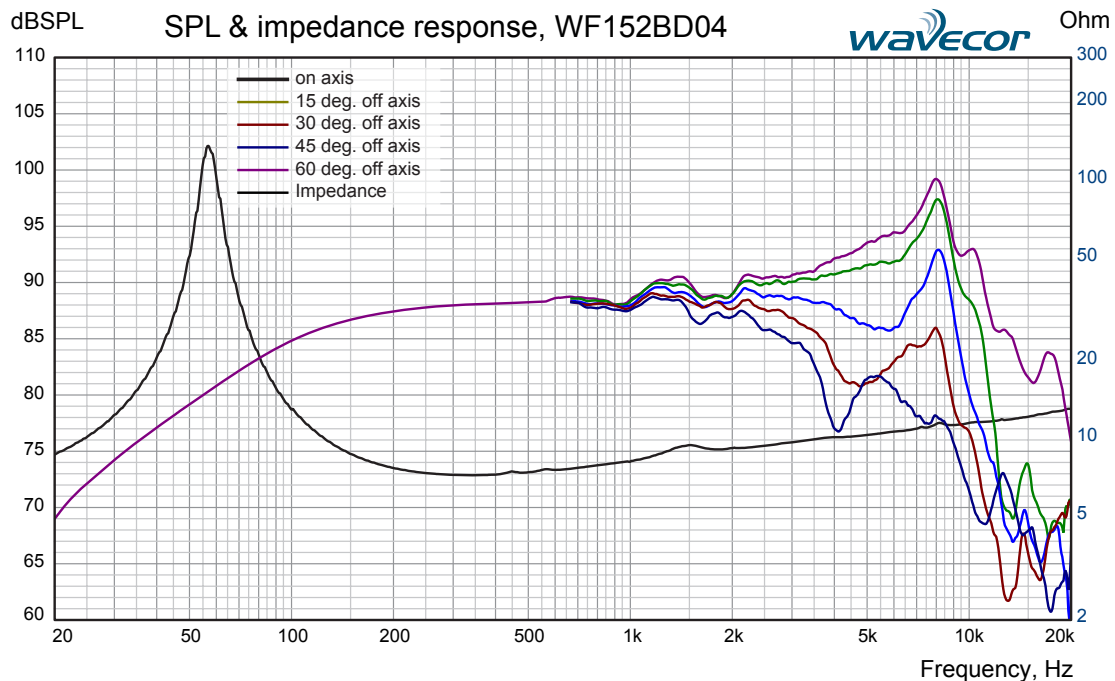


Measuring conditions, SPL

Driver mounting: Flush in infinite baffle, back side open (no cabinet)
Microphone distance: 1.0 m
Input level: 2.83 V_{RMS}
Smoothing: 1/6 oct.

Measuring conditions, impedance

Driver mounting: Free air, no baffle, back side open (no cabinet)
Input signal: Semi-current-drive, nominal current 2 mA
Smoothing: None

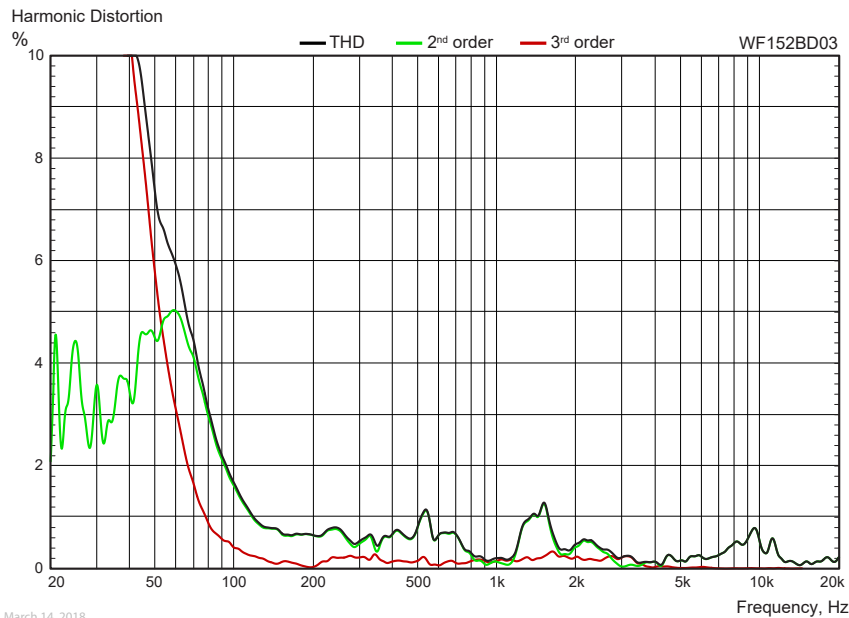


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HARMONIC DISTORTION



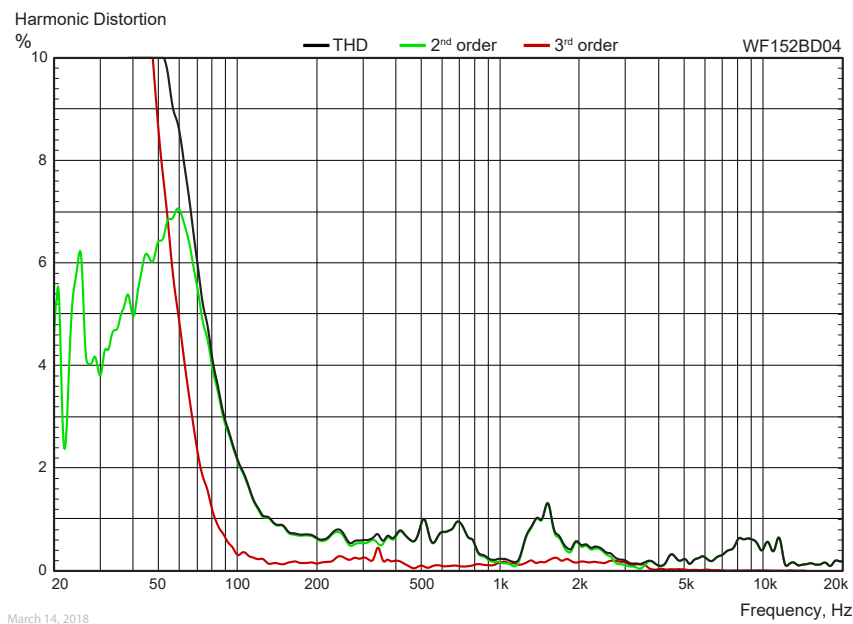
Measuring conditions, Harmonic Distortion

Driver mounting: In sealed, heavily stuffed enclosure, internal volume 7 lit.

Microphone distance: 0.5 m

Input signal: Stepped sine wave, 5.3 VRMS (WF152BD03) / 7.5 VRMS (WF152BD04)

Smoothing: 1/12 oct.

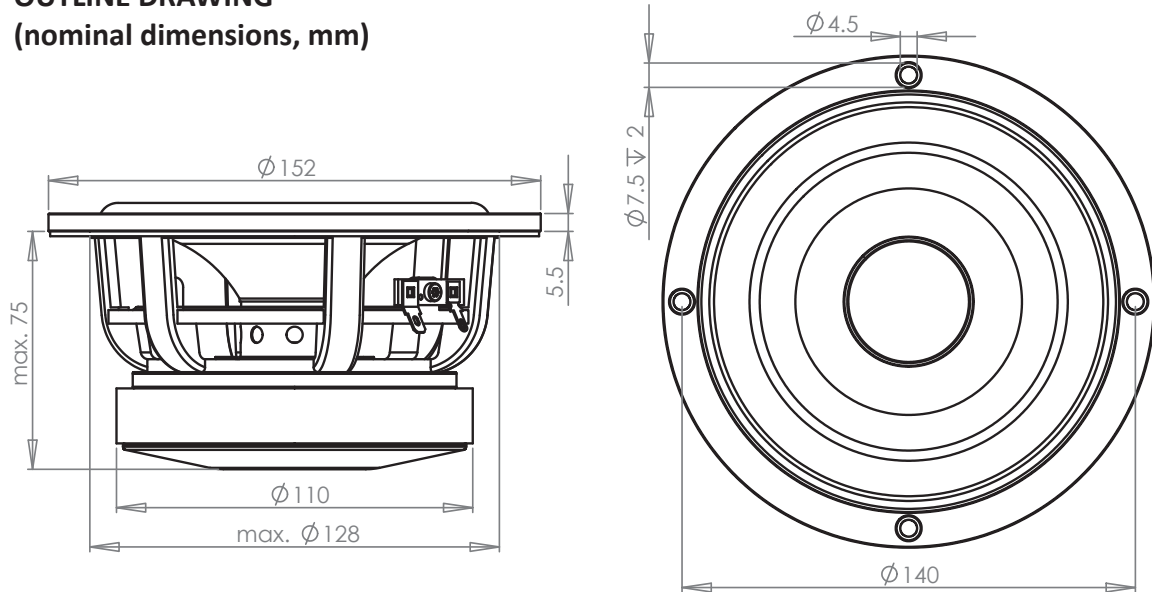


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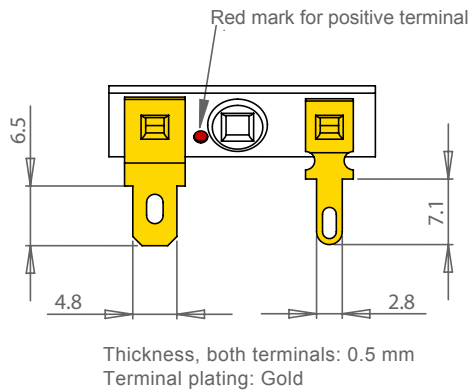
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OUTLINE DRAWING (nominal dimensions, mm)



CONNECTIONS



PACKAGING AND ORDERING INFORMATION

Part no. WF152BD03-01	4 ohm version, individual packaging (one piece per box)
Part no. WF152BD03-02	4 ohm version, bulk packaging
Part no. WF152BD04-01	8 ohm version, individual packaging (one piece per box)
Part no. WF152BD04-02	8 ohm version, bulk packaging

Latest update: Mar. 15, 2018