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wavecor
The new wave in speaker innovations

WF182BD03/04 7" die cast, paper cone mid/woofer, 4/8 ohm

BALANCED DRIVE

The 7" transducers WF182BD03 (4 ohm) and WF182BD04 (8 ohm) were designed as high performance bass and midrange units for monitors and high-end hi-fi speakers. They offer outstanding deep bass performance and dynamic and detailed midrange.

Frequency resp.
Specifications
Dimensions
Ordering info

FEATURES

MORE INFO

PDF data sheet (XXXKB)

Balanced **D**rive technical paper (2.34MB)

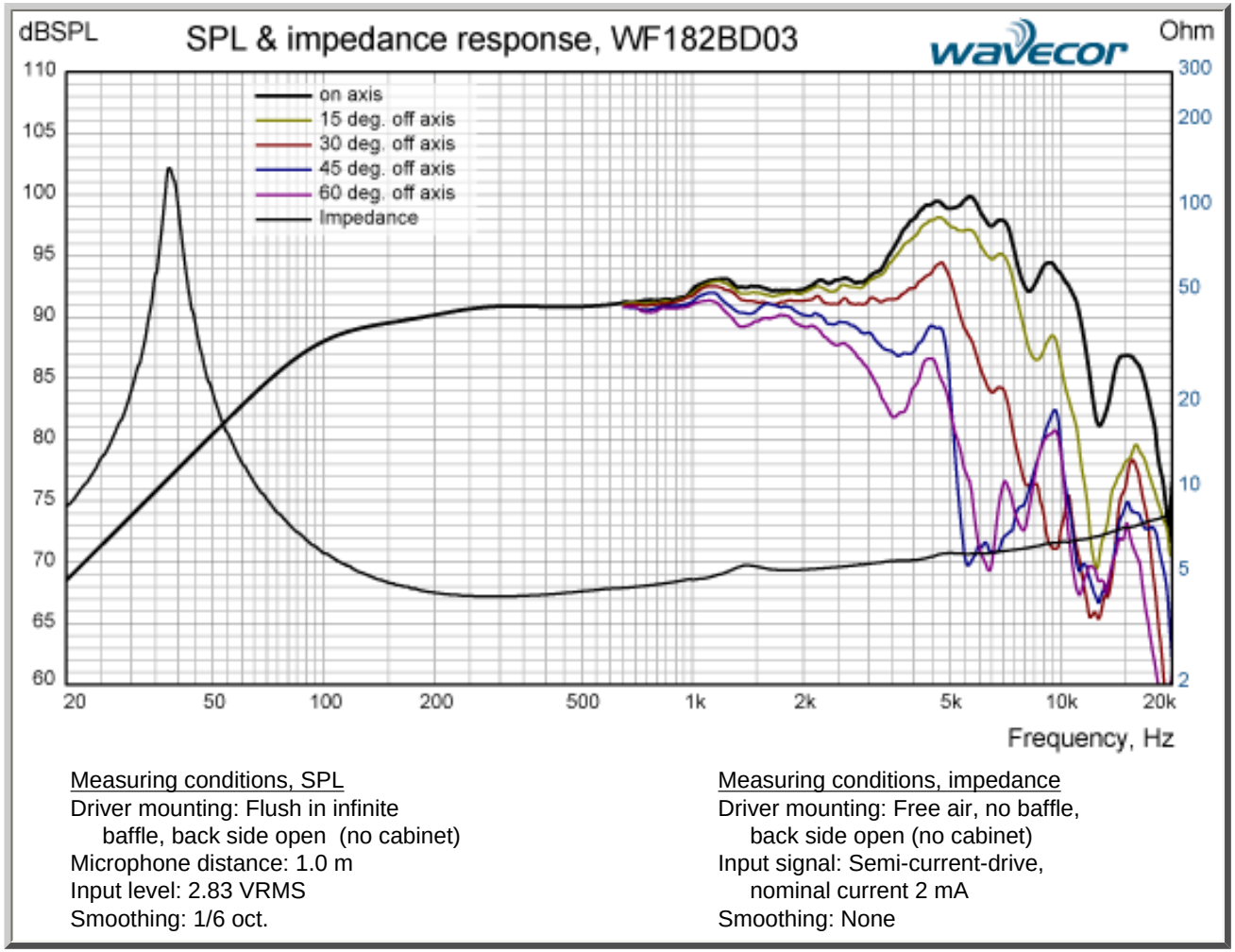
List of all mid/woofers

All Wavecor drive units

Technical pages

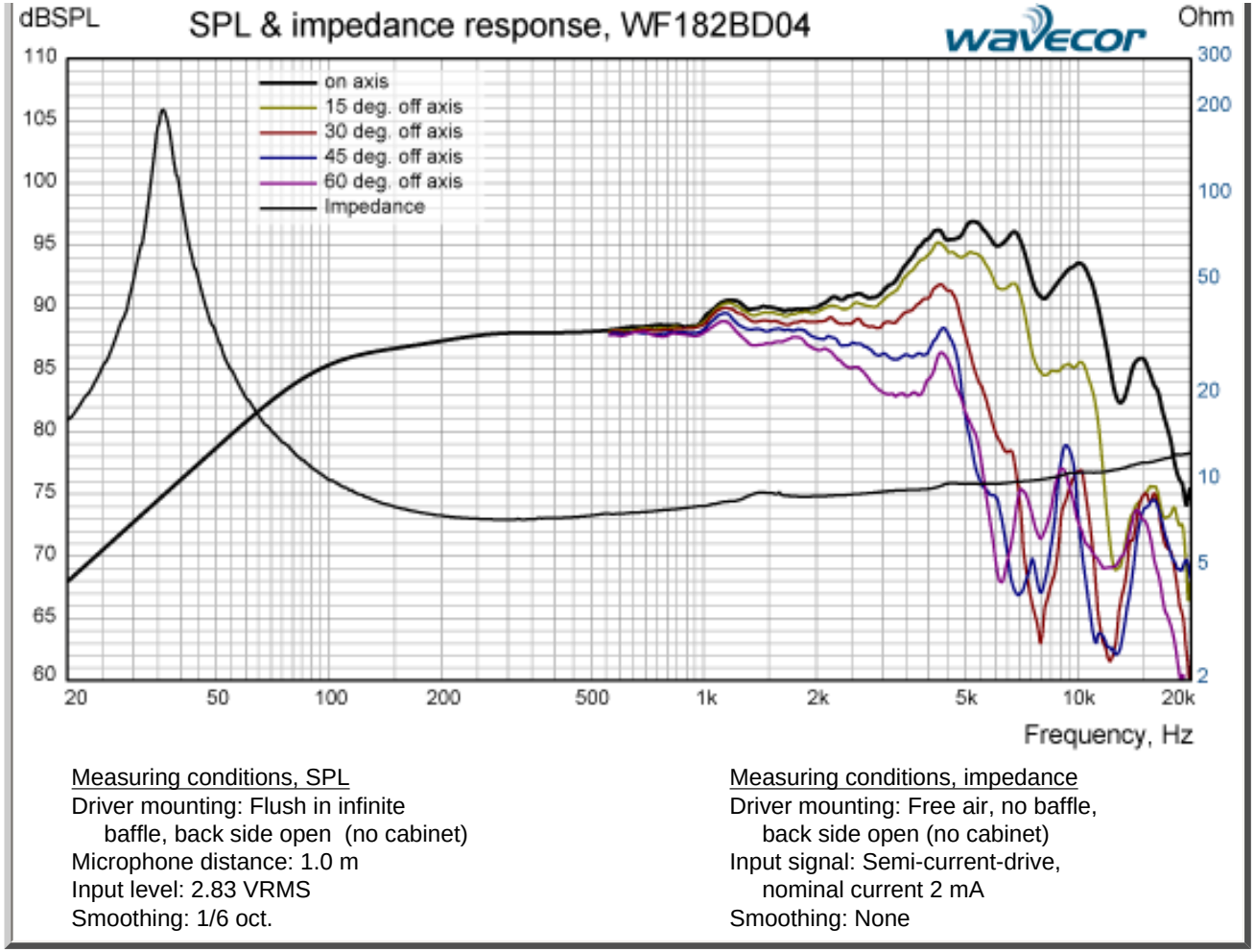
- Balanced Drive motor structure for optimal drive force symmetry resulting in largely reduced 2nd order harmonic distortion
- Copper cap on center pole to reduce voice coil inductance and to minimize variations in voice coil inductance as a function of voice coil position
- Black coated semi-air-dried 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

FREQUENCY RESPONSE



Measuring conditions, SPL
Driver mounting: Flush in infinite baffle, back side open (no cabinet)
Microphone distance: 1.0 m
Input level: 2.83 VRMS
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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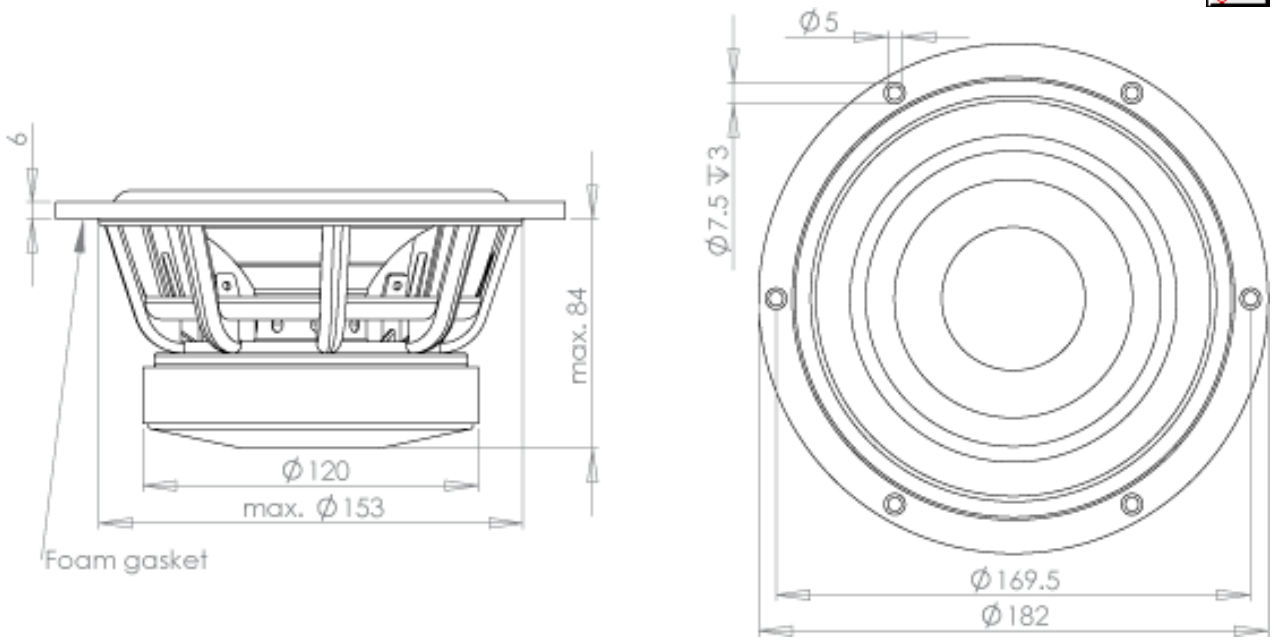
PRELIMINARY NOMINAL SPECIFICATIONS

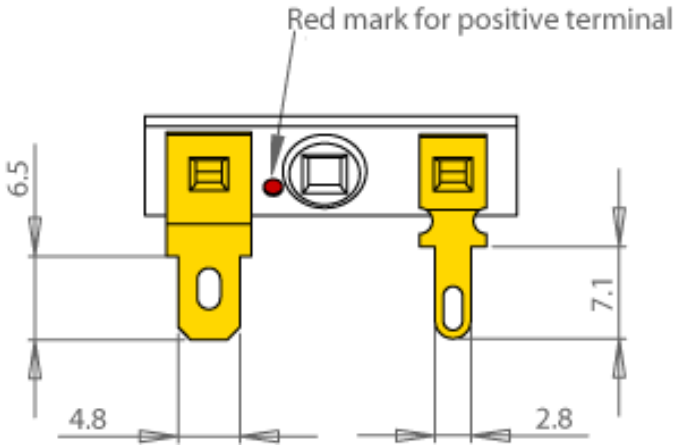
Notes	Parameter	WF182BD03		WF182BD04		Unit
		Before burn-in	After burn-in	Before burn-in	After burn-in	
	Nominal size	7		7		[inch.]
	Nominal impedance	4		8		[ohm]
	Recommended max. upper frequency limit	3		3		[kHz]
1, 3	Sensitivity, 2.83V/1m (average SPL in range 200 - 1,000 Hz)	91		88		[dB]
2	Power 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	100		100		[W]
	Effective radiating area, S_d	131		131		[sq.cm]
3, 6	Resonance frequency (free air, no baffle), F_s	35		36		[Hz]
	Moving mass, incl. air (free air, no baffle), M_{ms}	17		16		[g]
3	Force factor, Bxl	6.5		8.6		[N/A]
3, 6	Suspension compliance, C_{ms}	1.2		1.2		[mm/N]
3, 6	Equivalent air volume, V_{as}	29		29		[lit.]
3, 6	Mechanical Q, Q_{ms}	11.6		10		[-]
3, 6	Electrical Q, Q_{es}	0.29		0.31		[-]
3, 6	Total Q, Q_{ts}	0.28		0.30		[-]
4	Voice coil resistance, R_{DC}	3.2		6.3		[ohm]
5	Voice coil inductance, L_e (measured at 10 kHz)	0.091		0.14		[mH]
	Voice coil inside diameter	39		39		[mm]
	Voice coil winding height	15		16		[mm]
	Air gap height	5		5		[mm]
	Magnet weight					[g]
	Total unit net weight excl. packaging					[kg]
3, 5	K_{rm}	43.2		72		[mohm]
3, 5	E_{rm}	0.39		0.37		[-]
3, 5	K_{xm}	101		210		[mH]
3, 5	E_{xm}	0.25		0.21		[-]

Note 1Measured in infinite baffle.
Note 2Tested in free air (no cabinet).
Note 3Measured using a semi-constant current source, nominal level 2 mA.
Note 4Measured at 20 deg. C
Note 5It 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 Krm, Erm, Kxm, and Exm. This more accurate transducer model is described in a technical paper (PDF) here.
Note 6After 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 VRMS (4/8 ohm version). The unit is not burned in before shipping.

OUTLINE DRAWING AND NOMINAL DIMENSIONS (mm)



TERMINAL NOMINAL DIMENSIONS (mm)



Thickness, both terminals: 0.5mm
Terminal plating: Gold

PACKAGING AND ORDERING INFORMATION

Part no. WF182BD03-01	4 ohm version, individual packaging (one piece per box)
Part no. WF182BD03-02	4 ohm version, bulk packaging
Part no. WF182BD04-01	8 ohm version, individual packaging (one piece per box)
Part no. WF182BD04-02	8 ohm version, bulk packaging

Latest update: Jan. 25, 2010