

# SPECIFICATIONS

## WF152BD05/06 6" die cast, paper/glass fiber cone mid/woofers, 4/8 ohm



The 6" transducers WF152BD05 (4 ohm) and WF152BD06 (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
- Cone made of a new paper/glass fiber mix with improved consistency and stability
- 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 1 1/4" 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	WF152BD05		WF152BD06		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		3		[kHz]
1, 4	Sensitivity, 2.83V/1m (average SPL in range 300 - 1,000 Hz)	90		87		[dB]
2, 4	Power handling, short term, IEC 268-5, no additional filtering					[W]
2, 4	Power handling, long term, IEC 268-5, no additional filtering					[W]
2, 4	Power handling, continuous, IEC 268-5, no additional filtering	70		70		[W]
	Effective radiating area, Sd	93		93		[cm <sup>2</sup> ]
3, 4, 6	Resonance frequency (free air, no baffle), F <sub>s</sub>	50	44.5	51.5	46	[Hz]
	Moving mass, incl. air (free air, no baffle), M <sub>ms</sub>	13.5		12.8		[g]
3, 4	Force factor, Bxl	6.35		8.0		[N/A]
3, 4, 6	Suspension compliance, C <sub>ms</sub>	0.75	0.94	0.75	0.94	[mm/N]
3, 4, 6	Equivalent air volume, V <sub>as</sub>	9.2	11.5	9.2	11.5	[lit.]
3, 4, 6	Mechanical resistance, R <sub>ms</sub>	0.41	0.46	0.41	0.46	[Ns/m]
3, 4, 6	Mechanical Q, Q <sub>ms</sub>	10.3	8.2	10.1	8.0	[-]
3, 4, 6	Electrical Q, Q <sub>es</sub>	0.34	0.30	0.41	0.36	[-]
3, 4, 6	Total Q, Q <sub>ts</sub>	0.33	0.29	0.39	0.35	[-]
4	Voice coil resistance, R <sub>DC</sub>	3.2		6.3		[ohm]
5	Voice coil inductance, L <sub>e</sub> (measured at 10 kHz)	0.11		0.19		[mH]
	Voice coil inside diameter	32		32		[mm]
	Voice coil winding height	14		14		[mm]
	Air gap height	5		5		[mm]
	Theoretical linear motor stroke, X <sub>max</sub>	±4.5		±4.5		[mm]
	Magnet weight	550		550		[g]
	Total unit net weight excl. packaging	1.44		1.44		[kg]
3, 4, 5	K <sub>rm</sub>	51		74		[mohm]
3, 4, 5	E <sub>rm</sub>	0.40		0.41		[-]
3, 4, 5	K <sub>xm</sub>	114		195		[mH]
3, 4, 5	E <sub>xm</sub>	0.29		0.28		[-]

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.

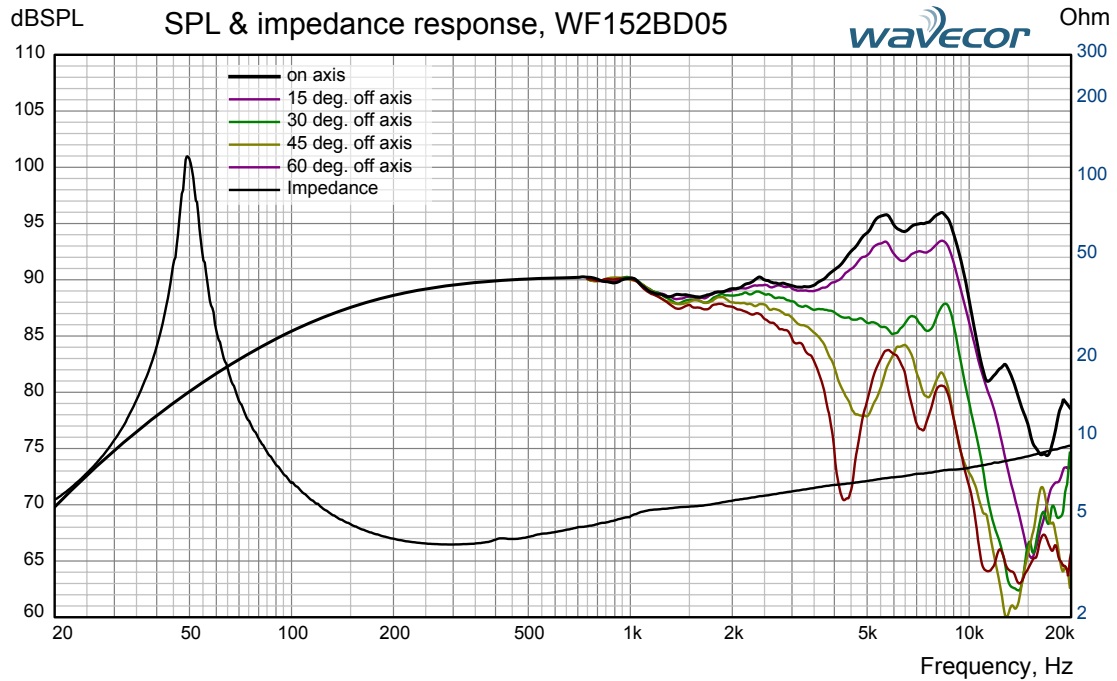
Note 4 Measured at 25 deg. C

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](http://www.linearx.com)), involving parameters K<sub>rm</sub>, E<sub>rm</sub>, K<sub>xm</sub>, and E<sub>xm</sub>. 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<sub>RMS</sub> (4/8 ohm version). The unit is not burned in before shipping.

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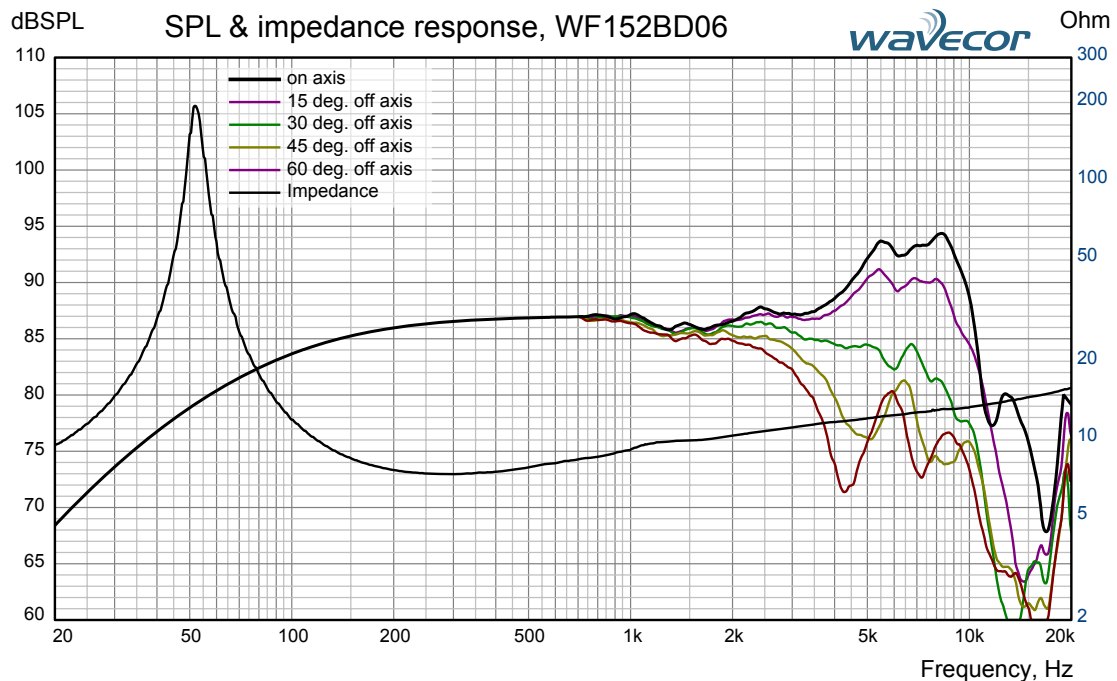


Measuring conditions, SPL

Driver mounting: Flush in infinite baffle, back side open (no cabinet)  
 Microphone distance: 1.0 m  
 Input level: 2.83 V<sub>RMS</sub>  
 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

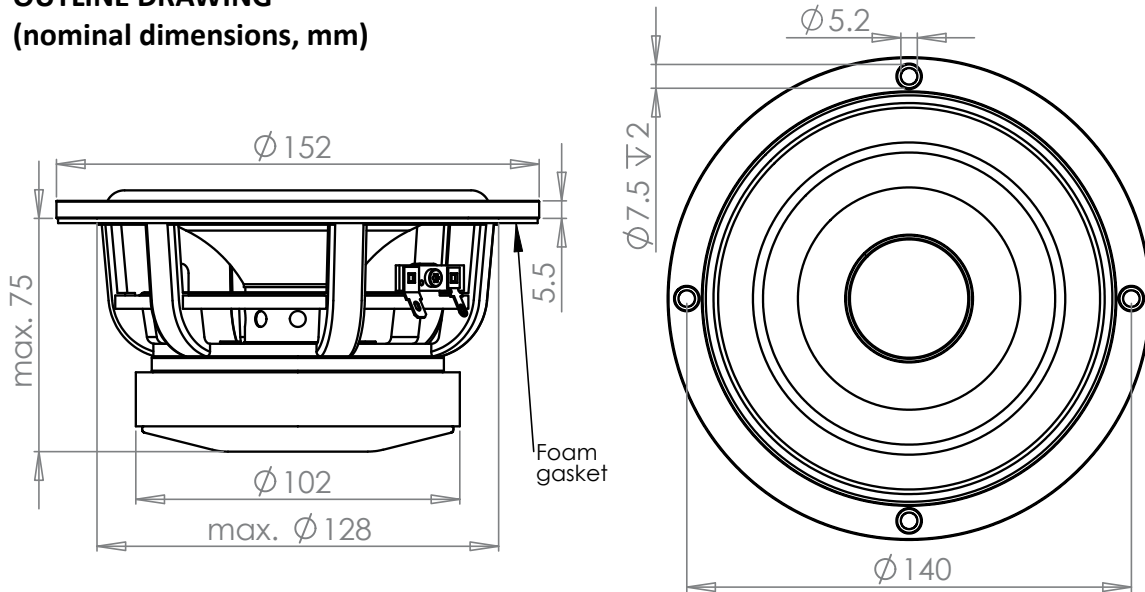


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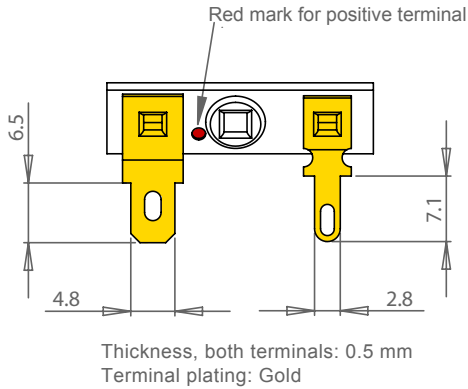
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## OUTLINE DRAWING (nominal dimensions, mm)



## CONNECTIONS



## PACKAGING AND ORDERING INFORMATION

Part no. WF152BD05-01	4 ohm version, individual packaging (one piece per box)
Part no. WF152BD05-02	4 ohm version, bulk packaging
Part no. WF152BD06-01	8 ohm version, individual packaging (one piece per box)
Part no. WF152BD06-02	8 ohm version, bulk packaging

Latest update: January 27, 2013