

SPECIFICATIONS



WF118OM01/02 4½" paper cone mid/woofers, 4/8 ohm

WF118OM01 (4 ohm) and WF118OM02 (8 ohm) are mid/woofers designed for demanding bass and midrange applications. They work equally well for hi-fi, high quality home theater systems, multimedia setups, or high quality personal audio systems.



FEATURES

- FEA optimized suspension for perfect symmetry, reducing even order harmonic distortion
- Balanced Drive motor with perfect force factor symmetry for reduced distortion
- Vented voice coil former for reduced distortion and compression
- Vented chassis for lower air flow speed reducing audible distortion
- Heavy-duty black fiber glass voice coil bobbin to increase power handling and reduce mechanical losses resulting in better dynamic performance and low-level details
- Progressive suspension with optimized compromise between linearity and soft clipping
- New damper (spider) woven of a mix of polymers and natural fibers for improved durability
- Gold plated terminals to prevent oxidation for long-term reliable connection
- Delivered with foam gasket attached to the frame for hassle-free mounting and secure enclosure sealing



NOMINAL SPECIFICATIONS

Notes	Parameter	WF118OM01		WF118OM02		Unit
		Before burn-in	After burn-in	Before burn-in	After burn-in	
	Nominal size	4½		4½		[inch.]
	Nominal impedance	4		8		[ohm]
	Recommended max. upper frequency limit	4		4		[kHz]
1, 3	Sensitivity, 2.83V/1m (average 400-4,000 Hz)	88		84.5		[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	40		40		[W]
	Effective radiating area, S _d	54		54		[cm ²]
3, 6	Resonance frequency (free air, no baffle), F _s	59		61		[Hz]
	Moving mass, incl. air (free air, no baffle), M _{ms}	5.4		5.1		[g]
3	Force factor, B _{xl}	3.4		4.2		[N/A]
3, 6	Suspension compliance, C _{ms}	1.33		1.33		[mm/N]
3, 6	Equivalent air volume, V _{as}	5.5		5.5		[lit.]
3, 6	Mechanical resistance, R _{ms}	0.21		0.21		[Ns/m]
3, 6	Mechanical Q, Q _{ms}	9.6		9.3		[-]
3, 6	Electrical Q, Q _{es}	0.56		0.70		[-]
3, 6	Total Q, Q _{ts}	0.53		0.65		[-]
4	Voice coil resistance, R _{DC}	3.2		6.3		[ohm]
5	Voice coil inductance, L _e (measured at 10 kHz)	0.19		0.28		[mH]
	Voice coil inside diameter	26		26		[mm]
	Voice coil winding height	6.8		6.8		[mm]
	Air gap height	3		3		[mm]
	Theoretical linear motor stroke, X _{max}	±1.9		±1.9		[mm]
	Magnet weight					[g]
	Total unit net weight excl. packaging					[kg]
3, 5	K _{rm}	0.093		0.175		[mohm]
3, 5	E _{rm}	1.00		0.98		[-]
3, 5	K _{xm}	5.9		10.8		[mH]
3, 5	E _{xm}	0.64		0.63		[-]

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.

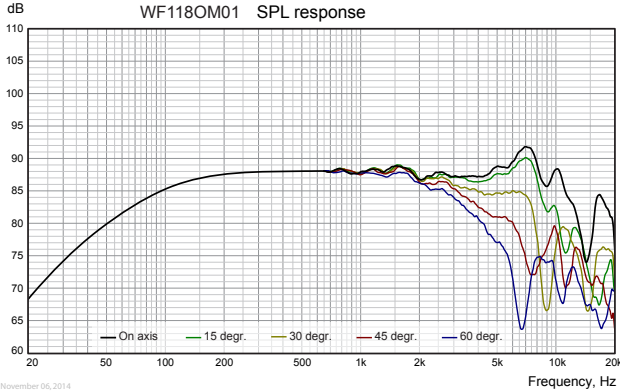
Note 4 Measured at 25 deg. C

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), 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](#).

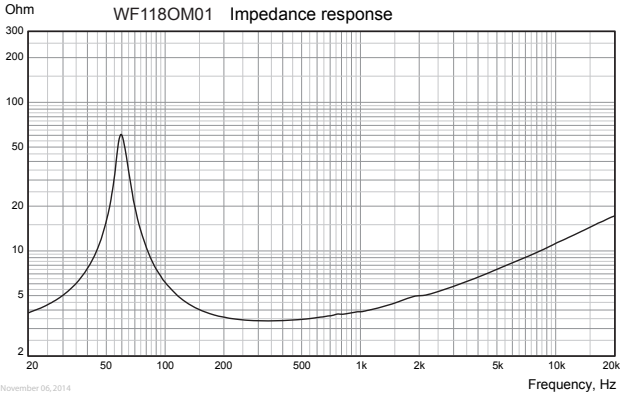
Note 6 After burn-in specifications are measured 12 hours after exiting the transducer by a 20 Hz sine wave for 2 hours at level 10/14.1 V_{RMS} (4/8 ohm version). The unit is not burned in before shipping.

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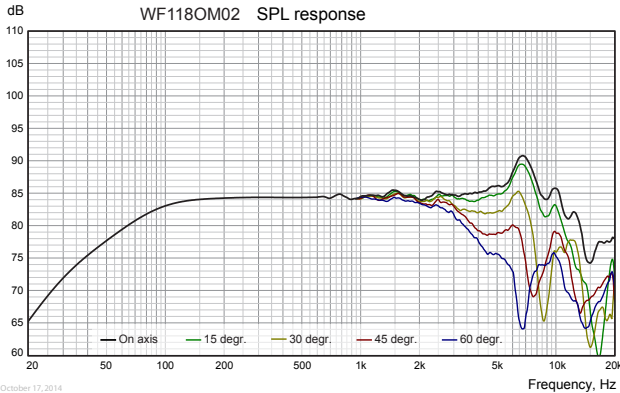
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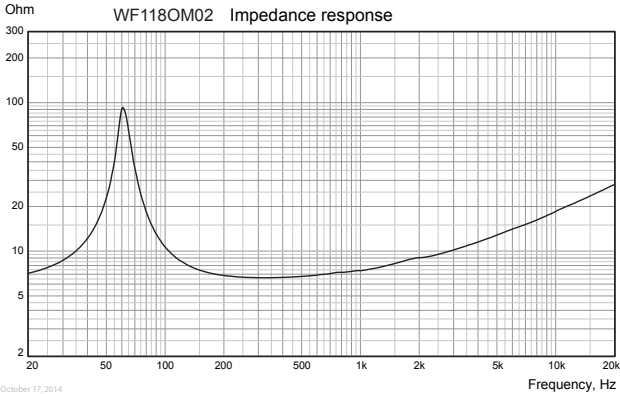
Measuring conditions, SPL
 Driver mounting: Flush in infinite baffle, back side open (no cabinet)
 Microphone distance: 1.0 m
 Input signal: 2.83 VRMS stepped sine wave
 Smoothing: 1/6 oct.



Measuring conditions, impedance
 Driver mounting: Free air, no baffle, back side open (no cabinet)
 Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA
 Smoothing: None



Measuring conditions, SPL
 Driver mounting: Flush in infinite baffle, back side open (no cabinet)
 Microphone distance: 1.0 m
 Input signal: 2.83 VRMS stepped sine wave
 Smoothing: 1/6 oct.



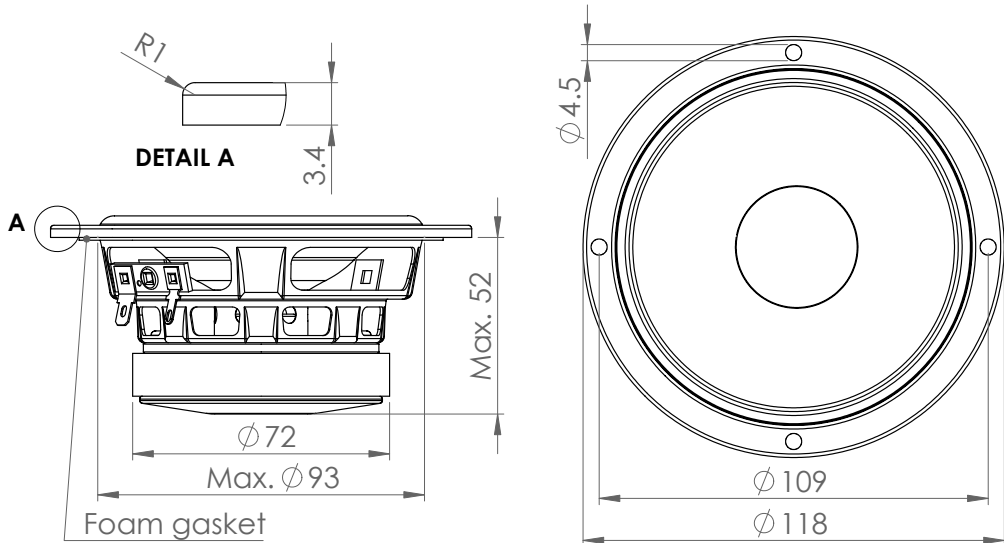
Measuring conditions, impedance
 Driver mounting: Free air, no baffle, back side open (no cabinet)
 Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA
 Smoothing: None

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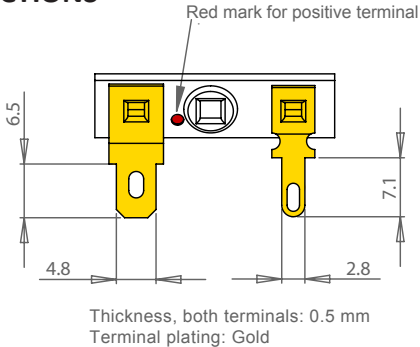
OUTLINE DRAWING (nominal dimensions)

Dimensions in mm



August 28, 2014

CONNECTIONS



PACKAGING AND ORDERING INFORMATION

Part no. WF118OM01-01	4 ohm version, bulk packaging
Part no. WF118OM02-01	8 ohm version, bulk packaging

Latest update: December 22, 2014