

SPECIFICATIONS

WF118WA07/08 4½" paper cone mid/woofer, 4/8 ohm

WF118WA07 (4 ohm) and WF118WA08 (8 ohm) are 4½" 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. With the new SLIM-line frame design and a new suspension optimized for high-level bass output, these units are perfectly suited for compact high performance speakers.

FEATURES

- FEA optimized suspension for perfect symmetry, reducing even order harmonic distortion
- Balanced Drive motor with perfect force factor symmetry for reduced distortion
- Alu field-stabilizing ring inside magnet assembly for reduced distortion at high levels
- 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
- Large motor system with 1¼" voice coil diameter and 80 mm magnet for better control and efficiency
- Progressive suspension with optimized compromise between linearity and soft clipping
- Suspension with CONEX damper (spider) for long durability under extreme operating conditions
- 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	WF118WA07		WF118WA08		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	3		3		[kHz]
1, 3	Sensitivity, 2.83V/1m	87		84		[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					[W]
	Effective radiating area, S _d	54		54		[cm ²]
3, 6	Resonance frequency (free air, no baffle), F _s	56		58		[Hz]
	Moving mass, incl. air (free air, no baffle), M _{MS}	6.9		6.5		[g]
3	Force factor, B _{xl}	4.5		5.8		[N/A]
3, 6	Suspension compliance, C _{MS}	1.18		1.18		[mm/N]
3, 6	Equivalent air volume, V _{AS}	4.9		4.9		[lit.]
3, 6	Mechanical resistance, R _{MS}	0.31		0.31		[Ns/m]
3, 6	Mechanical Q, Q _{MS}	7.8		7.6		[-]
3, 6	Electrical Q, Q _{ES}	0.38		0.45		[-]
3, 6	Total Q, Q _{TS}	0.36		0.42		[-]
4	Voice coil resistance, R _{DC}	3.2		6.4		[ohm]
5	Voice coil inductance, L _e (measured at 1 kHz)	0.22		0.36		[mH]
	Voice coil inside diameter	26		26		[mm]
	Voice coil winding height	12		12		[mm]
	Air gap height	4		4		[mm]
	Theoretical linear motor stroke, X _{max}	±4		±4		[mm]
	Magnet weight					[g]
	Total unit net weight excl. packaging					[kg]
3, 5	K _{rm}	0.81		1.34		[mohm]
3, 5	E _{rm}	0.79		0.79		[-]
3, 5	K _{xm}	3.6		5.5		[mH]
3, 5	E _{xm}	0.73		0.74		[-]

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.

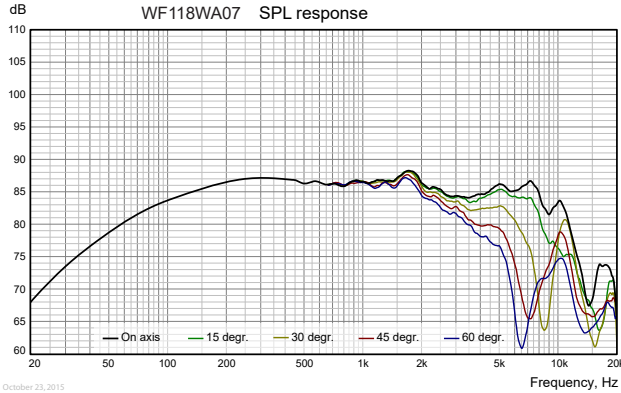
Note 4 Measured at 25 deg. C

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](#).

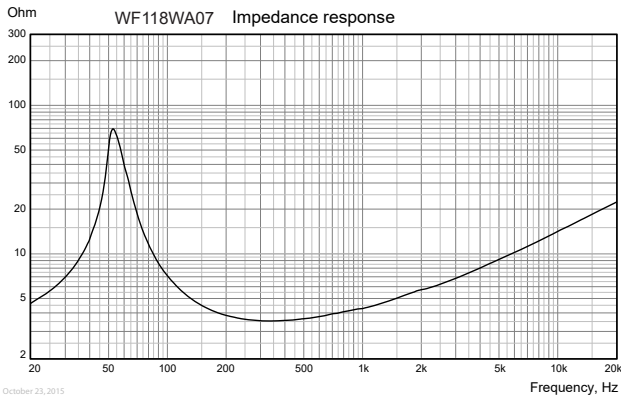
Note 6 After burn-in specifications are measured 12 hours after exiting the transducer by a 20 Hz sine wave for 2 hours at level 7.75/11 V_{RMS} (4/8 ohm version). The unit is not burned in before shipping.

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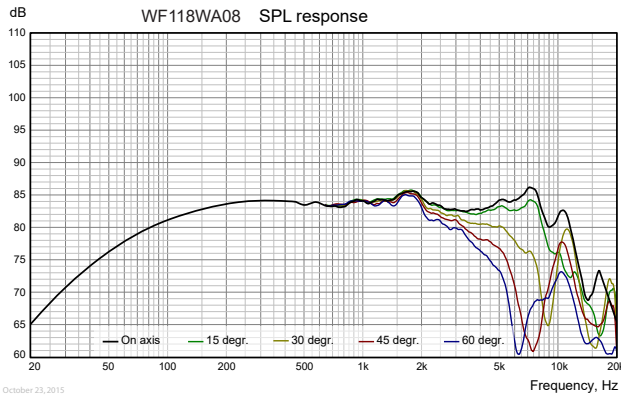
WF118WA07/08 4½" paper cone mid/woofer, 4/8 ohm



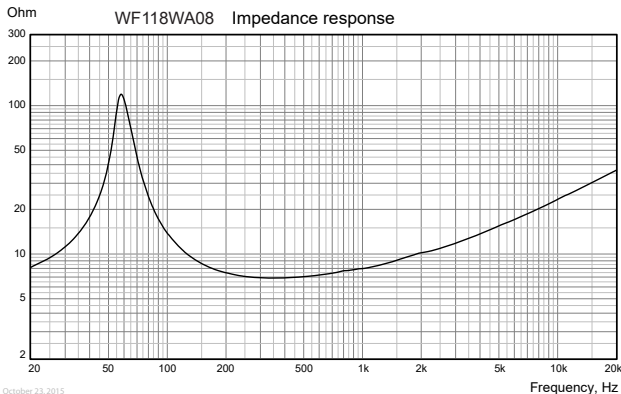
Measuring conditions, SPL
 Driver mounting: Flush in infinite baffle, back side open (no cabinet)
 Microphone distance: 1.0 m
 Input signal: 2.83 VRMS stepped sine wave
 Smoothing: 1/6 oct.



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.

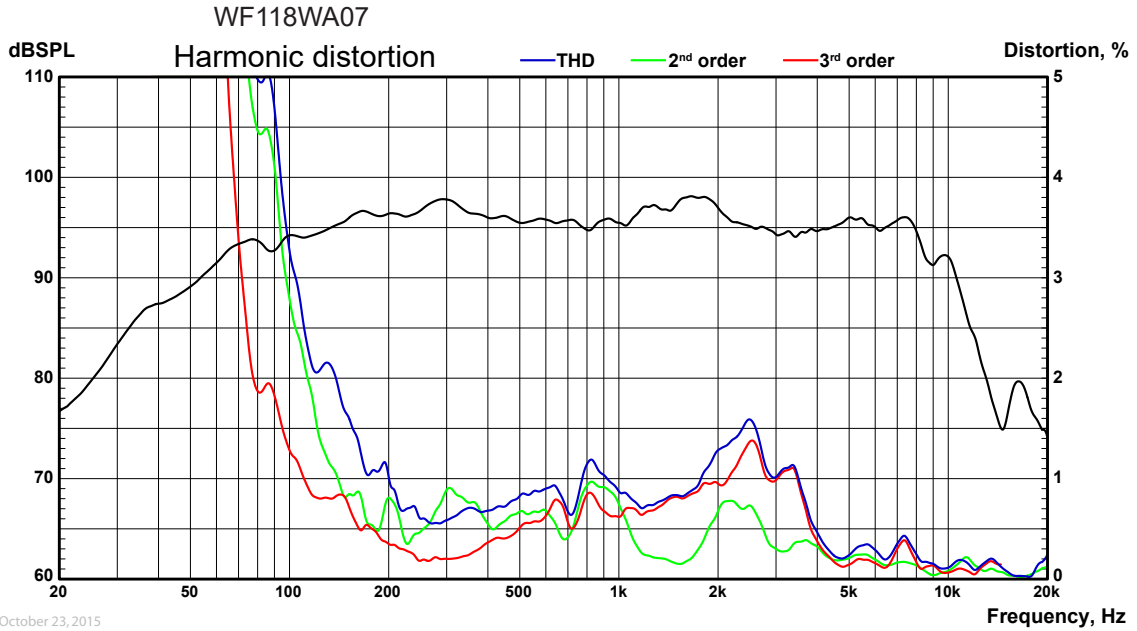


Measuring conditions, impedance
 Driver mounting: Free air, no baffle, back side open (no cabinet)
 Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA
 Smoothing: None

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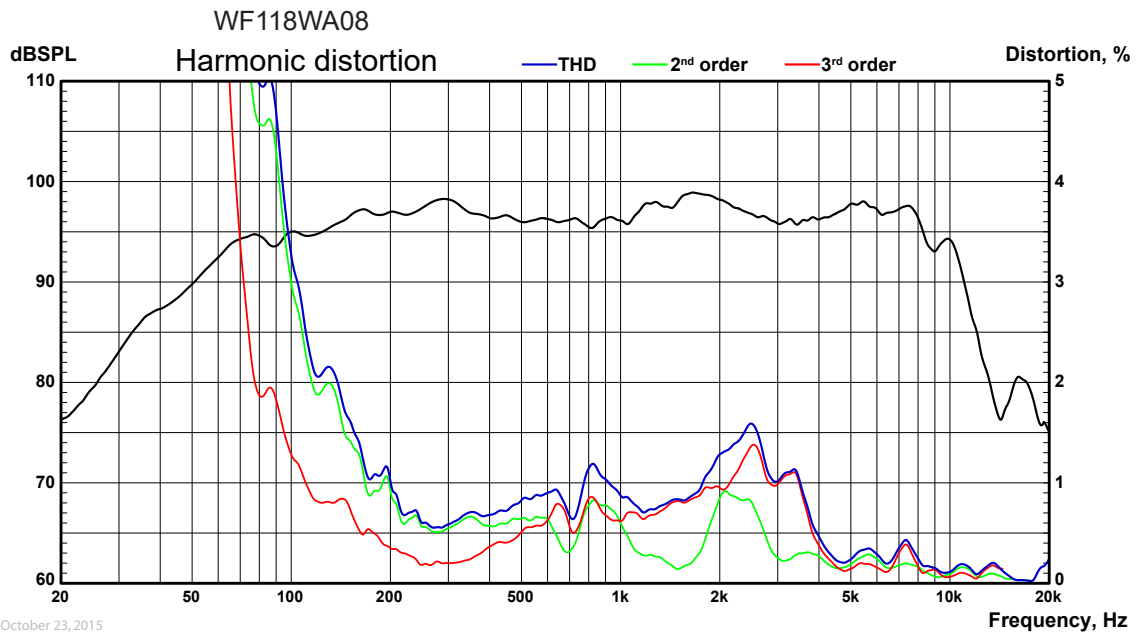


Measuring conditions, distortion

Driver mounting: Flush in infinite baffle, back side open (no cabinet)

Input voltage level for performing distortion measurements: 4.5 VRMS (WF118WA07), 6.3 VRMS (WF118WA08)

Smoothing: 1/6 oct.

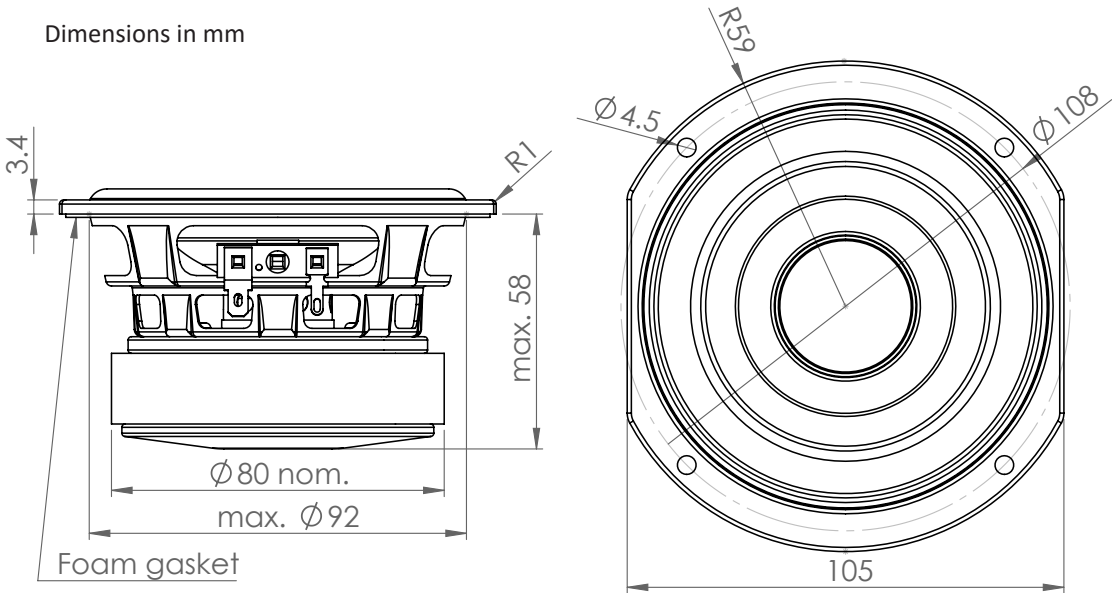


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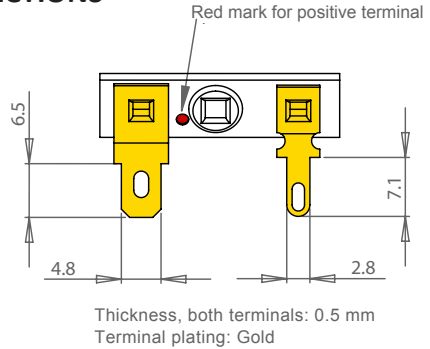
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OUTLINE DRAWING (nominal dimensions)

Dimensions in mm



CONNECTIONS



PACKAGING AND ORDERING INFORMATION

Part no. WF118WA07-01	4 ohm version, individual packaging (one piece per box)
Part no. WF118WA07-02	4 ohm version, industrial (bulk) packaging
Part no. WF118WA08-01	8 ohm version, individual packaging (one piece per box)
Part no. WF118WA08-02	8 ohm version, industrial (bulk) packaging

Latest update: February 19, 2016