

# SPECIFICATIONS

## WF146WA05/06 5¾" glass fibre cone mid/woofers, 4/8 ohm

WF146WA05/06 are mid/woofers designed for demanding bass and midrange applications. They work equally well for high-end hi-fi, high quality home theater systems, and top multimedia setups, etc.

Powered by a large 90 mm magnet structure that ensures good efficiency and optimal T/S parameters.

The large 32 mm voice coil ensures high power handling - thermally and mechanically.

The new optimized woven glass fibre cone ensures large bandwidth and low distortion. Distortion is further reduced by efficient venting and by adding an internal alu shorting ring to stabilize the magnetic field in the air gap.

### FEATURES

- New optimized glass fibre cone design
- Rigid steel chassis with extensive venting for lower air flow speed reducing audible distortion
- Vented center pole with dual flares for reduced noise level at large cone excursions
- Vented voice coil former
- Heavy-duty fiber glass voice coil former to reduce mechanical losses resulting in better dynamic performance and low-level details
- Large motor structure 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 plated 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
- Delivered with foam gasket attached for hassle-free mounting and secure cabinet sealing



Specifications updated August 2023

### NOMINAL SPECIFICATIONS

Notes	Parameter	WF146WA05		WF146WA06		Unit
		Before burn-in	After burn-in	Before burn-in	After burn-in	
	Nominal size	5¾		5¾		[inch.]
	Nominal impedance	4		8		[ohm]
	Recommended max. upper frequency limit	3.5		3.5		[kHz]
1, 3	Sensitivity, 2.83V/1m (average 400-3,500 Hz)	88.5		86		[dB]
2	Power handling, short term, IEC 268-5, no additional filtering	250		250		[W]
2	Power handling, long term, IEC 268-5, no additional filtering	140		140		[W]
2	Power handling, continuous, IEC 268-5, no additional filtering	65		65		[W]
	Effective radiating area, S <sub>d</sub>	93		93		[cm <sup>2</sup> ]
3, 6	Resonance frequency (free air, no baffle), F <sub>s</sub>	41	40	42	41	[Hz]
	Moving mass, incl. air (free air, no baffle), M <sub>ms</sub>	12.0		11.4		[g]
3	Force factor, B <sub>xl</sub>	5.0		6.3		[N/A]
3, 6	Suspension compliance, C <sub>ms</sub>	1.24	1.35	1.24	1.35	[mm/N]
3, 6	Equivalent air volume, V <sub>as</sub>	15.2	16.6	15.2	16.6	[lit.]
3, 6	Mechanical resistance, R <sub>ms</sub>	0.42	0.42	0.42	0.42	[Ns/m]
3, 6	Mechanical Q, Q <sub>ms</sub>	7.4	7.1	7.2	6.9	[-]
3, 6	Electrical Q, Q <sub>es</sub>	0.40	0.38	0.50	0.48	[-]
3, 6	Total Q, Q <sub>ts</sub>	0.38	0.36	0.47	0.45	[-]
4	Voice coil resistance, R <sub>DC</sub>	3.2		6.5		[ohm]
5	Voice coil inductance, L <sub>e</sub> (measured at 10 kHz)					[mH]
	Voice coil inside diameter	32		32		[mm]
	Voice coil winding height	11		11		[mm]
	Air gap height	5		5		[mm]
	Theoretical linear motor stroke, X <sub>max</sub>	±3		±3		[mm]
	Magnet weight	400		400		[g]
	Total unit net weight excl. packaging	1.03		1.03		[kg]
3, 5	K <sub>rm</sub>					[mohm]
3, 5	E <sub>rm</sub>					[-]
3, 5	K <sub>xm</sub>					[mH]
3, 5	E <sub>xm</sub>					[-]

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

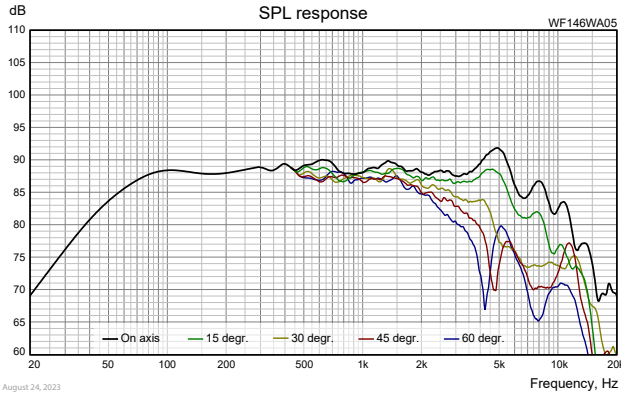
Note 5 It is generally a rough simplification to assume that loudspeaker transducer voice coils exhibit the characteristics of an inductor. Instead it is a far more accurate approach to use the more advanced model often referred to as the "Wright empirical model", also used in LEAP-4 as the TSL model ([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 7/8 V<sub>RMS</sub> (4/8 ohm version). The unit is not burned in before shipping.

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## WF146WA05/06 5 3/4" glass fibre cone mid/woofers, 4/8 ohm



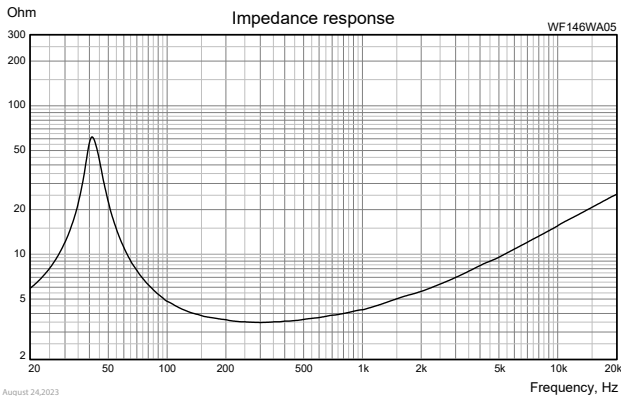
**Important!**  
Please observe that graphs on the left side of this page and the below text files for download are actual measurements of the drivers measured in infinite baffle and without any enclosure. Measuring the drivers in a finite baffle (like the baffle of most speaker cabinets) and in any size of enclosure will lead to different response curves.



Download WF146WA05 on-axis SPL response as .txt file

Measuring conditions, SPL

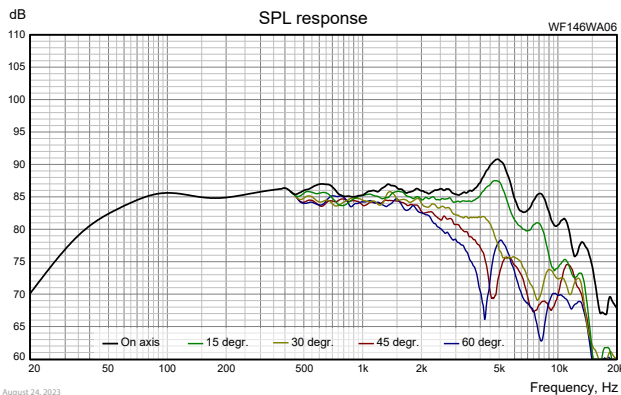
Driver mounting: Flush in infinite baffle, back side open (no cabinet)  
Microphone distance: 1.0 m  
Input signal: 2.83 VRMS stepped sine wave  
Smoothing: 1/6 oct.



Download WF146WA05 impedance response as .txt file

Measuring conditions, impedance

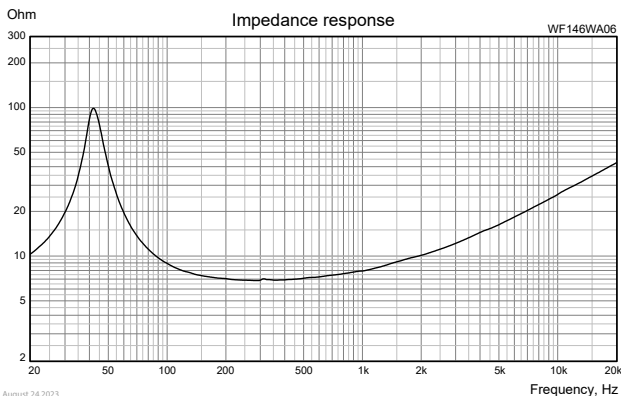
Driver mounting: Free air, no baffle, back side open (no cabinet)  
Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA  
Smoothing: None



Download WF146WA06 on-axis SPL response as .txt file

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.



Download WF146WA06 impedance response as .txt file

Measuring conditions, impedance

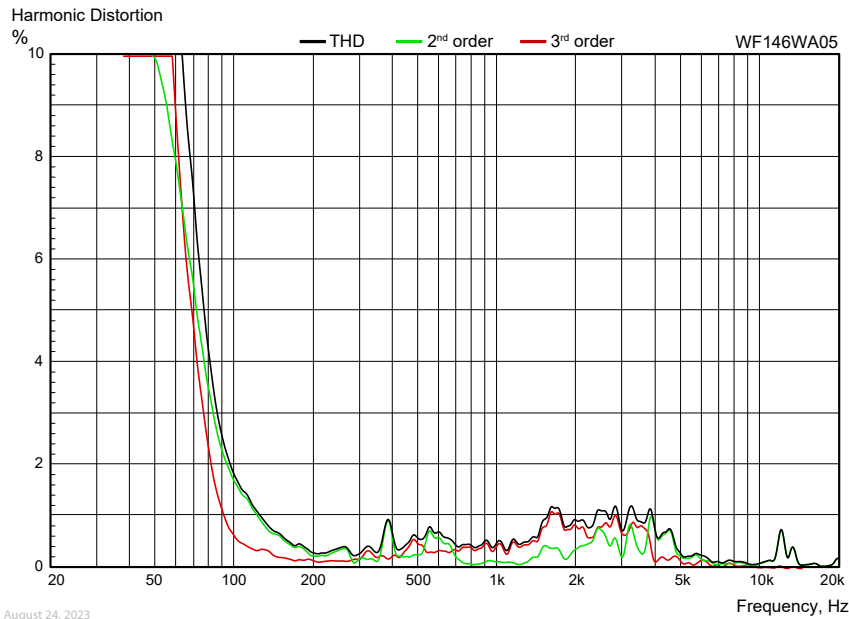
Driver mounting: Free air, no baffle, back side open (no cabinet)  
Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA  
Smoothing: None

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WF146WA05/06 5<sup>3/4</sup>" glass fibre cone mid/woofers, 4/8 ohm

## HARMONIC DISTORTION



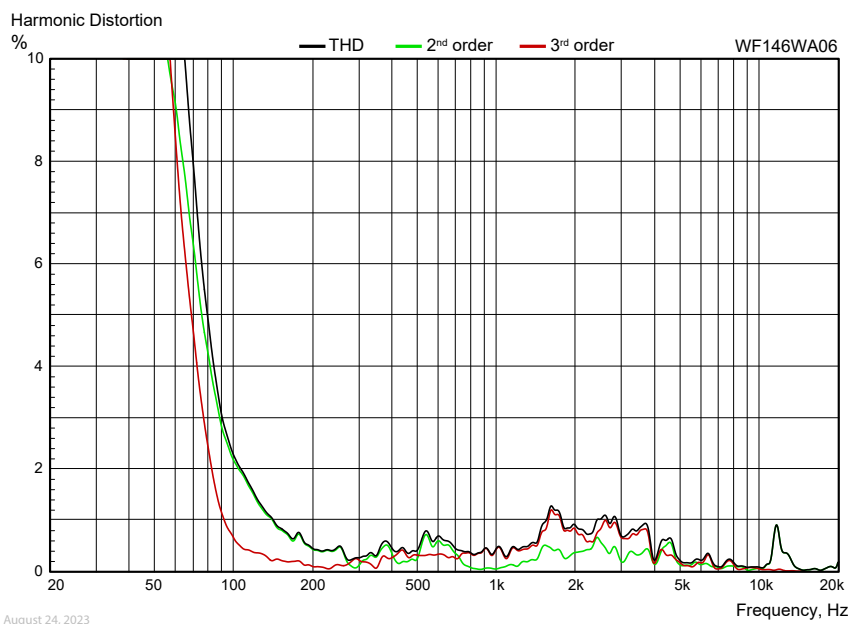
### Measuring conditions, Harmonic Distortion

Driver mounting: In sealed enclosure, internal volume 6 lit.

Microphone distance: 0.5 m

Input signal: Stepped sine wave, 4.7 VRMS (WF146WA05) / 6.6 VRMS (WF146WA06)

Smoothing: 1/6 oct.

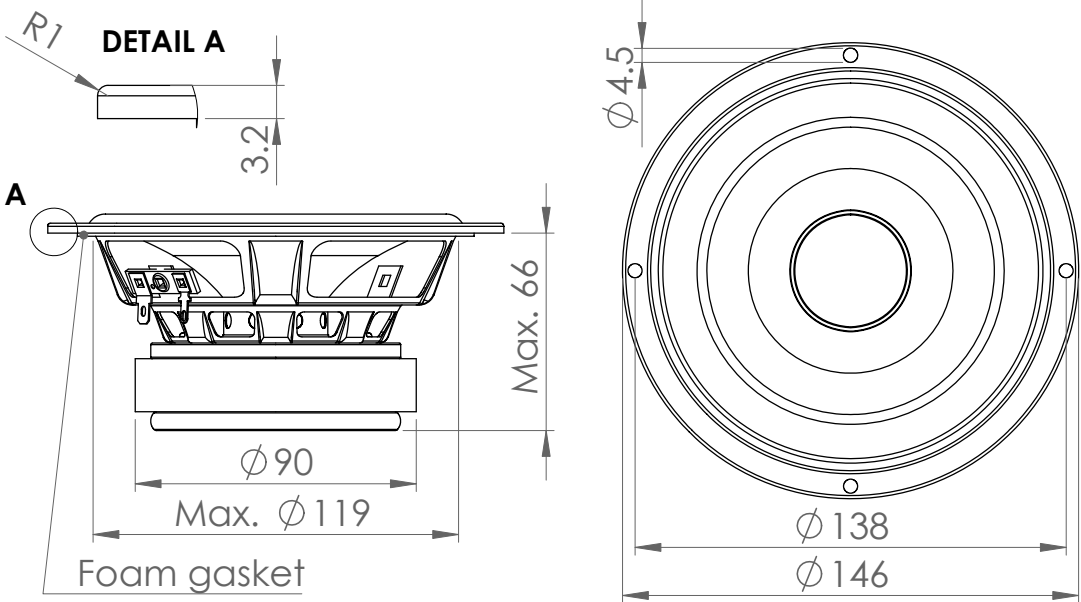


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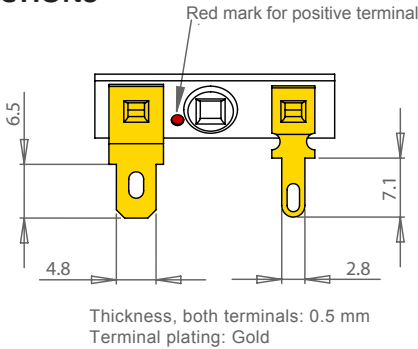
### OUTLINE DRAWING (nominal dimensions)

Dimensions in mm



May 4, 2014

### CONNECTIONS



### PACKAGING AND ORDERING INFORMATION

Part no. WF146WA05-01	4 ohm version, individual packaging (one piece per box)
Part no. WF146WA05-02	4 ohm version, bulk packaging
Part no. WF146WA06-01	8 ohm version, individual packaging (one piece per box)
Part no. WF146WA06-02	8 ohm version, bulk packaging

Latest update: March 26, 2024