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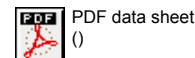
## FR084WA01/02 3¼" alu cone fullrange, 4/8 ohm

The 3¼" transducers FR084WA01 (4 ohm) and FR084WA02 (8 ohm) were designed especially for high quality multimedia and lifestyle speakers, where sound reproduction without compromises is required while still keeping size small.

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### MORE INFO



PDF data sheet  
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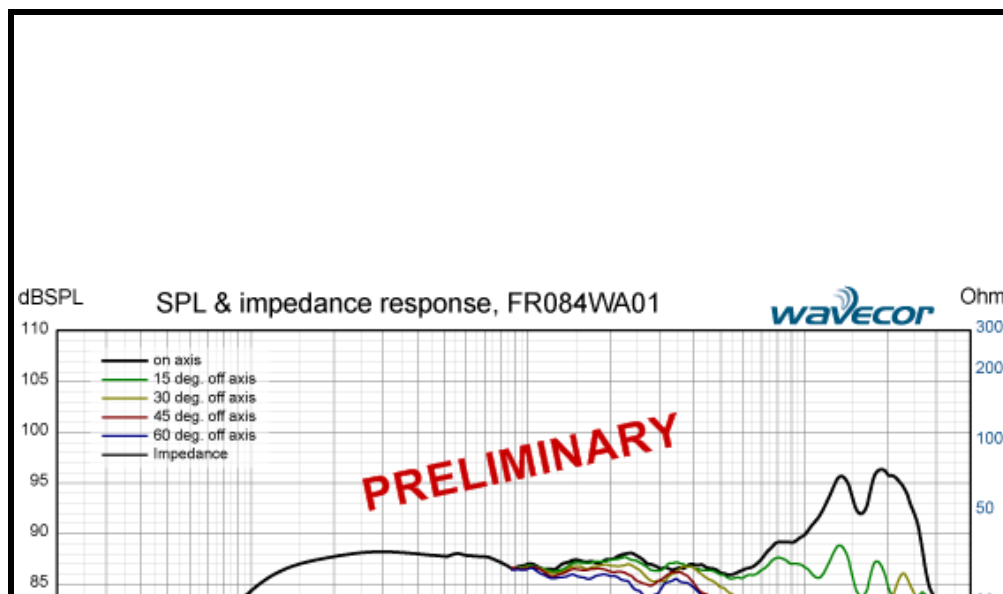
[All Wavecor drive units](#)

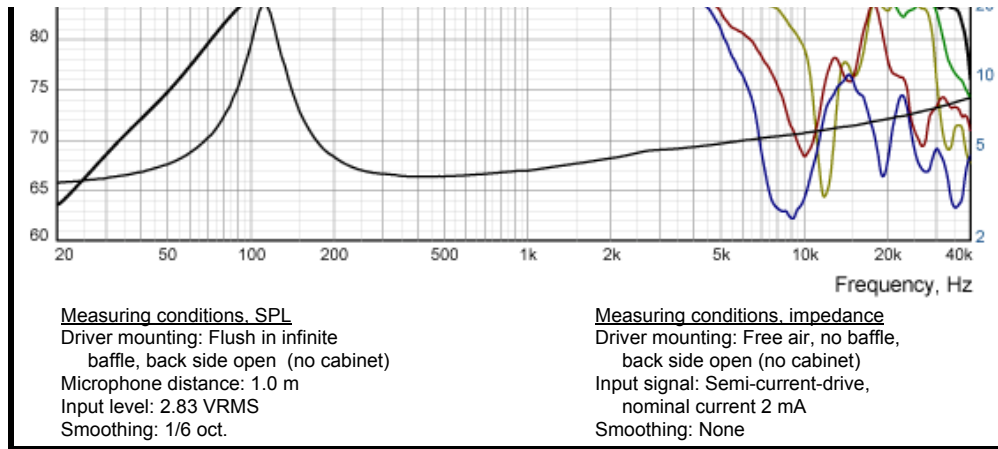
[Technical pages](#)

### FEATURES

- True full-range design with on-axis output to beyond 20 kHz
- 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 anodized alu cone for better heat transfer
- Vented polymer chassis for lower air flow speed reducing audible distortion
- Vented voice coil former for reduced distortion and compression
- Heavy-duty black fiber glass voice coil bobbin to reduce mechanical losses resulting in better dynamic performance and low-level details
- Large motor with 22 mm voice coil diameter for better control and power handling
- 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
- Delivered with foam gasket attached for hassle-free mounting and secure cabinet sealing

### FREQUENCY RESPONSE





## FR084WA02 (8 ohm version) on the way!

**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

## PRELIMINARY NOMINAL SPECIFICATIONS

Notes	Parameter	FR084WA01		FR084WA02		Unit
		Before burn-in	After burn-in	Before burn-in	After burn-in	
	Nominal size	3/4"		3/4"		[inch.]
	Nominal impedance	4		8		[ohm]
	Recommended max. upper frequency limit	full range		full range		[kHz]
1, 4	Sensitivity, 2.83V/1m (average SPL in range 200 - 8,000 Hz)	88		85		[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, $S_d$	36		36		[sq.cm]

3, 4, 6	Resonance frequency (free air, no baffle), $F_s$	110	114	[Hz]
	Moving mass, incl. air (free air, no baffle), $M_{ms}$	3.45	3.35	[g]
3	Force factor, $B\ell$	2.9	3.6	[N/A]
3, 4, 6	Suspension compliance, $C_{ms}$	0.6	0.57	[mm/N]
3, 4, 6	Equivalent air volume, $V_{as}$	1.1	1.0	[lit.]
3, 4, 6	Mechanical resistance, $R_{ms}$	0.45	0.43	[Ns/m]
3, 4, 6	Mechanical Q, $Q_{ms}$	5.3	5.7	[-]
3, 4, 6	Electrical Q, $Q_{es}$	0.91	1.12	[-]
3, 4, 6	Total Q, $Q_{ts}$	0.78	0.94	[-]
4	Voice coil resistance, $R_{DC}$	3.2	6.0	[ohm]
5	Voice coil inductance, $L_e$ (measured at 10 kHz)			[ $\mu$ H]
	Voice coil inside diameter	22	22	[mm]
	Voice coil winding height	7.5	7.5	[mm]
	Air gap height	3	3	[mm]
	Theoretical linear motor stroke, $X_{max}$	$\pm 2.25$	$\pm 2.25$	[mm]
	Magnet weight	160	160	[g]
	Total unit net weight excl. packaging			[kg]
3, 4, 5	$K_{rm}$			[mohm]
3, 4, 5	$E_{rm}$			[-]
3, 4, 5	$K_{xm}$			[mH]
3, 4, 5	$E_{xm}$			[-]

Note 1 Measured in infinite baffle.

Note 2 Tested in free air (no cabinet).

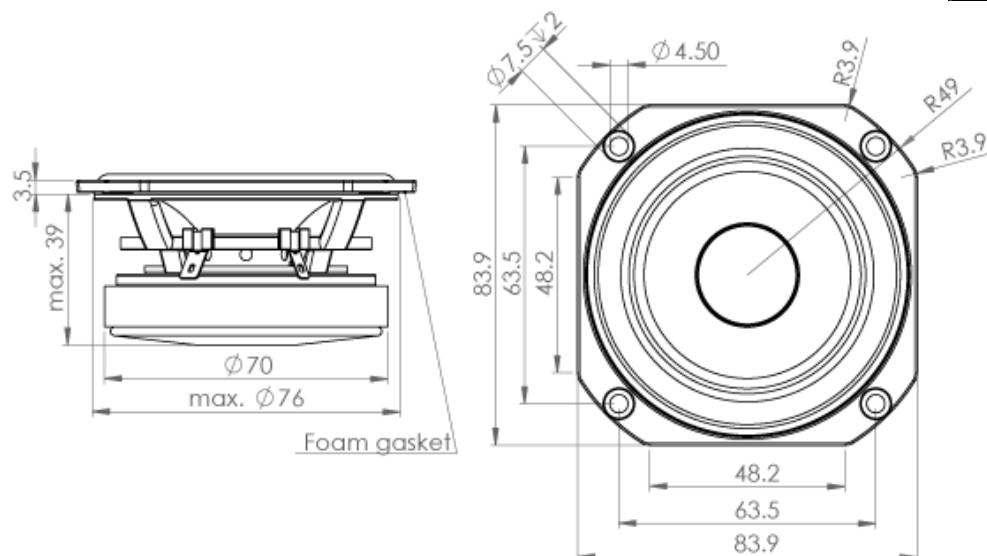
Note 3 Measured using a semi-constant current source, nominal level 2 mA.

Note 4 Measured at 25 deg. C

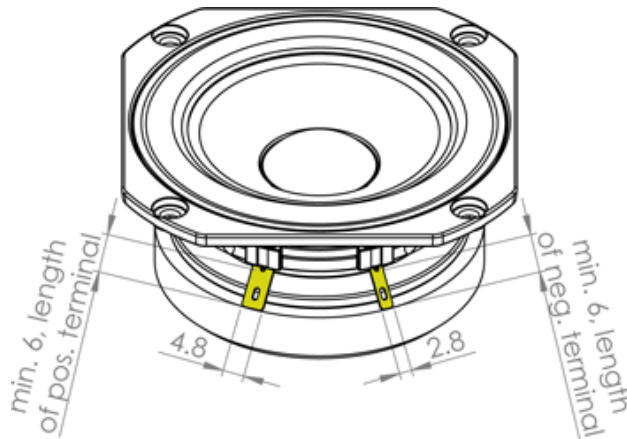
Note 5 It is generally a rough simplification to assume that loudspeaker transducer voice coils exhibit the characteristics of an inductor. Instead it is a far more accurate approach to use the more advanced model often referred to as the "Wright empirical model", also used in LEAP-4 as the TSL model ([www.linearx.com](http://www.linearx.com)), involving parameters  $K_{rm}$ ,  $E_{rm}$ ,  $K_{xm}$ , and  $E_{xm}$ . This more accurate transducer model is described in a technical paper (PDF) [here](#).

Note 6 After-burn-in specifications are measured at least 12 hours after exiting the transducer by a 20 Hz sine wave for 2 hours at level 2.83/4.0 VRMS (4/8 ohm version). Unit are not burned in before shipping.

## OUTLINE DRAWING AND NOMINAL DIMENSIONS (mm)



## TERMINAL NOMINAL DIMENSIONS (mm)



## PACKAGING AND ORDERING INFORMATION

Part no. FR084WA01-01	4 ohm version, individual packaging (one piece per box)
Part no. FR084WA01-02	4 ohm version, bulk packaging
Part no. FR084WA02-01	8 ohm version, individual packaging (one piece per box)
Part no. FR084WA02-02	8 ohm version, bulk packaging

Latest update: April 27, 2012

Specifications are subject to change without any further notice.  
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