

The 2 1/4" transducers FR070WA03 (4 ohm) and FR070WA04 (8 ohm) were designed especially for high quality multimedia and lifestyle speakers, where sound reproduction without compromises is required.

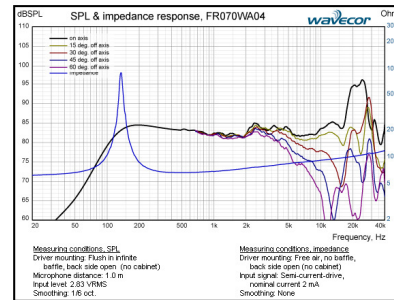
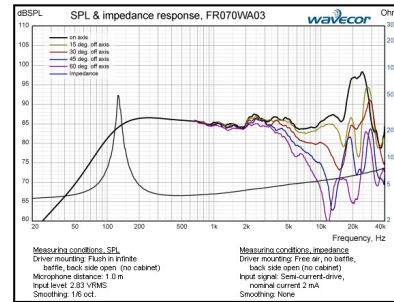
Exceptional
Specifications
Dimension
Performance



FEATURES

- True full-range design with on-axis output to beyond 25kHz
- Copper cap on center pole to reduce voice coil inductance and to minimize variations in voice coil impedance as a function of voice coil position
- Black anodized aluminum cone for better heat transfer
- Optimized off-axis response
- 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
- Cone spider for better durability under extreme conditions
- Gold plated terminals to ensure long-term trouble free connection

FREQUENCY RESPONSE

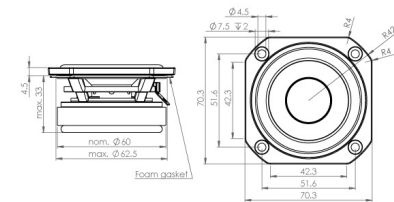


NOMINAL SPECIFICATIONS

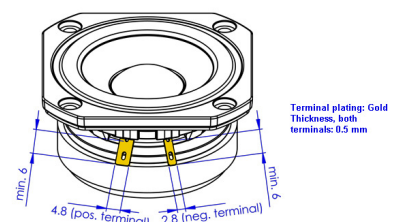
Notes	Parameter	FR070WA03		FR070WA04		Unit
		Before burn-in	After burn-in	Before burn-in	After burn-in	
	Nominal size	2 1/4"	2 1/4"	2 1/4"	2 1/4"	[inch]
	Nominal impedance	4	4	8	8	[ohm]
1, 5	Recommended max. upper frequency limit	full range	full range	full range	full range	[kHz]
1, 5	Sensitivity, 2.83V/m (average SPL in range 400 - 1,000 Hz)	86	86	83	83	[dB]
2	Power handling, short term, EC 268-5, no additional filtering					[W]
2	Power handling, long term, EC 268-5, no additional filtering					[W]
2	Power handling, continuous, EC 268-5, no additional filtering	10	10	10	10	[W]
	Effective radiating area, S _d	21	21	21	21	[sq cm]
3, 5, 7	Resonance frequency (free air, no baffle), F _s	121	114	124	117	[Hz]
	Moving mass, incl. air (free air, no baffle), M _{ms}	2.0		1.9		[g]
3	Force factor, B _{td}	2.3	2.3	2.9	2.9	[N/A]
3, 5, 7	Suspension compliance, r _{ms}	0.87	0.97	0.87	0.97	[cm/N]
3, 5, 7	Equivalent air volume, V _{as}	0.54	0.61	0.54	0.61	[lit]
3, 5, 7	Mechanical resistance, R _{ms}	0.11	0.11	0.11	0.11	[N/m/s]
3, 5, 7	Mechanical Q, Q _{ms}	13.8	13.1	13.4	12.7	[-]
3, 5, 7	Electrical Q, Q _{es}	0.99	0.94	1.13	1.07	[-]
3, 5, 7	TOTAL Q, Q _{ts}	0.92	0.87	1.04	0.98	[-]
4	Voice coil resistance, R _{vc}	3.45		6.4		[ohm]
6	Voice coil inductance, L _w (measured at 10 kHz)	71		110		[µH]
	Voice coil inside diameter	22		22		[mm]
	Voice coil winding height	7		7		[mm]
	Air gap height	3		3		[mm]
	Magnet weight	115		115		[g]
	Total unit net weight excl. packaging	0.29		0.29		[kg]
3, 6	R _{ym}					[N/cm]
3, 6	E _{rm}					[-]
3, 6	R _{im}					[N/m]
3, 6	E _{im}					[-]

- 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: Measured at 25 deg. C.
 Note 6: 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 LSP4 as the "EM" model (www.lvsinc.com), involving parameters R_{im}, E_{rm}, K_{im}, and E_{im}. This more accurate transducer model is described in a technical paper (PDF) here.
 Note 7: After burn-in specifications are measured at least 12 hours after cycling the transducer by a 20 Hz sine wave for 2 hours at level 2.834 0 V RMS (40% 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. FR070WA03-01	4 ohm version, individual packaging (one pair per box)
Part no. FR070WA03-02	4 ohm version, bulk packaging
Part no. FR070WA04-01	8 ohm version, individual packaging (one pair per box)
Part no. FR070WA04-02	8 ohm version, bulk packaging