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| |  |  |  | | --- | --- | --- | | The 2¾” 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. | | | |  | | | | | |  | [Frequency resp.](http://www.wavecor.com/html/fr070wa03_04.html#Freq.resp) [Specifications](http://www.wavecor.com/html/fr070wa03_04.html#Specs) [Dimensions](http://www.wavecor.com/html/fr070wa03_04.html#Dims) [Ordering info](http://www.wavecor.com/html/fr070wa03_04.html) | |  | | |  | | | | | |  | | **FEATURES** | |  | | |  |  | | --- | --- | | http://www.wavecor.com/assets/images/autogen/clearpixel.gif |  | |  | Wavecor FR070WA03 | |

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| http://www.wavecor.com/assets/images/autogen/clearpixel.gif | http://www.wavecor.com/assets/images/autogen/clearpixel.gif |
|  | * 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 inductance as a function of voice coil position * Black anodized alu 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 * Conex spider for better durability under extreme conditions * Gold plated terminals to ensure long-term trouble free connection |

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|  | **FREQUENCY RESPONSE** |

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|  | |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | FR070WA03-SPL-&-IMP-respons |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | http://www.wavecor.com/assets/images/autogen/clearpixel.gif | http://www.wavecor.com/assets/images/autogen/clearpixel.gif | |  | 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. | | |  |  | | --- | --- | | http://www.wavecor.com/assets/images/autogen/clearpixel.gif | http://www.wavecor.com/assets/images/autogen/clearpixel.gif | |  | 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 | | | |

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| http://www.wavecor.com/assets/images/autogen/clearpixel.gif | http://www.wavecor.com/assets/images/autogen/clearpixel.gif |
|  | |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | FR070WA04-SPL-&-IMP-respons |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | http://www.wavecor.com/assets/images/autogen/clearpixel.gif | http://www.wavecor.com/assets/images/autogen/clearpixel.gif | |  | 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. | | |  |  | | --- | --- | | http://www.wavecor.com/assets/images/autogen/clearpixel.gif | http://www.wavecor.com/assets/images/autogen/clearpixel.gif | |  | 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 | | | |

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|  | **NOMINAL SPECIFICATIONS** |

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|  | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Notes** | **Parameter** | **FR070WA03** | | **FR070WA04** | | **Unit** | | **Before burn-in** | **After burn-in** | **Before burn-in** | **After burn-in** | |  | Nominal size | 2¾ | | 2¾ | | [inch.] | |  | Nominal impedance | 4 | | 8 | | [ohm] | |  | Recommended max. upper frequency limit | full range | | full range | | [kHz] | | *1, 5* | Sensitivity, 2.83V/1m (average SPL in range 400 - 1,000 Hz) | 86 | | 83 | | [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 | 10 | | 10 | | [W] | |  | Effective radiating area, Sd | 21 | | 21 | | [sq.cm] | | *3, 5, 7* | Resonance frequency (free air, no baffle), Fs | 121 | 114 | 124 | 117 | [Hz] | |  | Moving mass, incl. air (free air, no baffle), Mms | 2.0 | | 1.9 | | [g] | | *3* | Force factor, Bxl | 2.3 | | 2.9 | | [N/A] | | *3, 5, 7* | Suspension compliance, Cms | 0.87 | 0.97 | 0.87 | 0.97 | [mm/N] | | *3, 5, 7* | Equivalent air volume, Vas | 0.54 | 0.61 | 0.54 | 0.61 | [lit.] | | *3, 5, 7* | Mechanical resistance, Rms | 0.11 | 0.11 | 0.11 | 0.11 | [Ns/m] | | *3, 5, 7* | Mechanical Q, Qms | 13.8 | 13.1 | 13.4 | 12.7 | [-] | | *3, 5, 7* | Electrical Q, Qes | 0.99 | 0.94 | 1.13 | 1.07 | [-] | | *3, 5, 7* | Total Q, Qts | 0.92 | 0.87 | 1.04 | 0.98 | [-] | | *4* | Voice coil resistance, RDC | 3.45 | | 6.4 | | [ohm] | | *6* | Voice coil inductance, Le (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* | Krm |  | |  | | [mohm] | | *3, 6* | Erm |  | |  | | [-] | | *3, 6* | Kxm |  | |  | | [mH] | | *3, 6* | Exm |  | |  | | [-] | |

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| http://www.wavecor.com/assets/images/autogen/clearpixel.gif |  |
|  | |  |  | | --- | --- | | *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 20 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 LEAP-4 as the TSL model (www.linearx.com), involving parameters Krm, Erm, Kxm, and Exm. This more accurate transducer model is described in a technical paper (PDF)* [*here*](http://www.wavecor.com/Transducer_equivalent_circuit.pdf)*.* | | *Note 7* | *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.* | |

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| |  |  | | --- | --- | | http://www.wavecor.com/assets/images/autogen/clearpixel.gif | http://www.wavecor.com/assets/images/autogen/clearpixel.gif | |  | **OUTLINE DRAWING AND NOMINAL DIMENSIONS (mm)** | | |  |  | | --- | --- | | http://www.wavecor.com/assets/images/autogen/clearpixel.gif |  | |  | [FR070WA01/02 outline drawing](http://www.wavecor.com/FR070WA03_04_outline_drawing_PDF.pdf) | |

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