SPECIFICATIONS

SW270WA01 10½” subwoofer, air-dried paper cone, 4 ohm

The 10½” transducer SW270WA01 was designed specifically for high performance subwoofer applications where sound quality and low distortion are the priorities. It features the Wavecor Balanced Drive motor technology.

FEATURES

- Balanced Drive motor structure for optimal drive force symmetry resulting in largely reduced even order harmonic distortion
- Extremely large linear stroke, Xmax = ± 11 mm, ensuring low distortion at high output levels
- Very rigid air dried paper cone cone to ensure piston motion at high levels for reduced distortion
- 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
- Heavy-duty black fiber glass voice coil former to reduce mechanical losses resulting in better dynamic performance and low-level details
- Large motor with 2” voice coil diameter 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
- old plated terminals to ensure long-term trouble free connection

NOMINAL SPECIFICATIONS

Notes	Parameter	Value		Unit
		Before burn-in	After burn-in	
	Nominal size	10½		[inch.]
	Nominal impedance	4		[ohm]
	Recommended max. upper frequency limit	400		[Hz]
1, 3	Sensitivity, 2.83V/1m (calculated from T/S parameters)	88		[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	150		[W]
	Effective radiating area, S_d	312		[cm²]
3, 6	Resonance frequency (free air, no baffle), F_S	28		[Hz]
	Moving mass, incl. air (free air, no baffle), M_{ms}	88		[g]
3	Force factor, Bxl	9.7		[N/A]
3, 6	Suspension compliance, C_{ms}	0.37		[mm/N]
3, 6	Equivalent air volume, V_{as}	51		[lit.]
3, 6	Mechanical resistance, R_{ms}	1.9		[Ns/m]
3, 6	Mechanical Q, Q_{ms}	8.1		[-]
3, 6	Electrical Q, Q_{es}	0.53		[-]
3, 6	Total Q, Q_{ts}	0.49		[-]
4	Voice coil resistance, R_{DC}	3.2		[ohm]
5	Voice coil inductance, L_e (measured at 1 kHz)	1.4		[mH]
	Voice coil inside diameter	51		[mm]
	Voice coil winding height	28		[mm]
	Air gap height	6		[mm]
	Theoretical linear motor stroke, X_{max}	±11		[mm]
	Magnet weight			[g]
	Total unit net weight excl. packaging	3.6		[kg]
3, 5	K_{rm}	17		[mohm]
3, 5	E_{rm}	0.61		[-]
3, 5	K_{xm}	10.5		[mH]
3, 5	E_{xm}	0.75		[-]

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 *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 10 V_{RMS}. The unit is not burned in before shipping.

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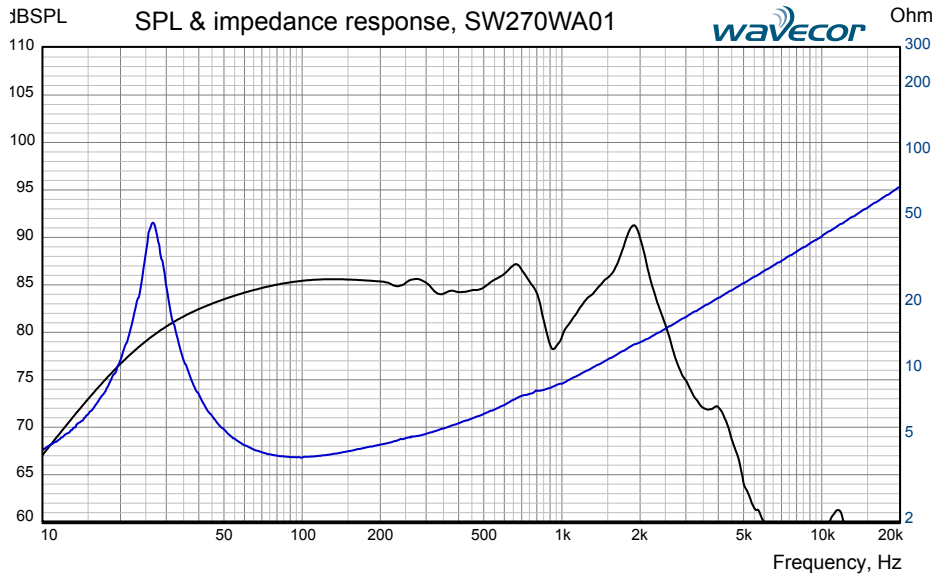


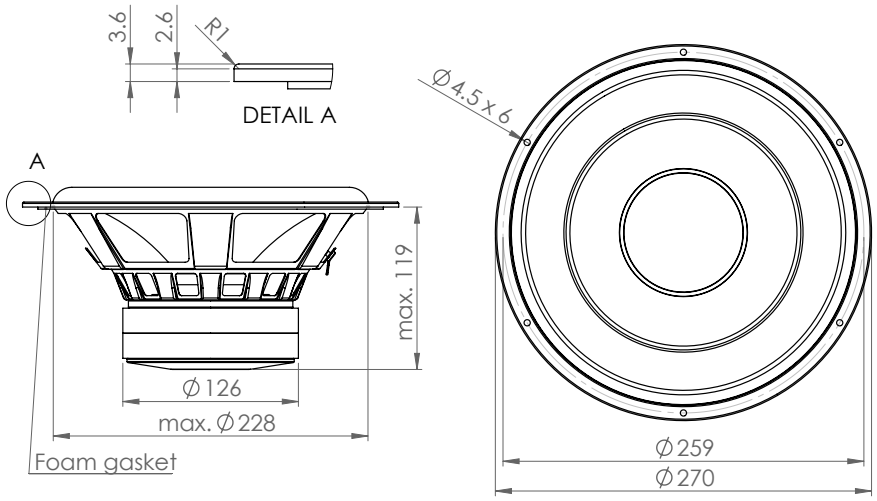
Measuring conditions, SPL
Driver mounting: Flush in infinite baffle, back side open (no cabinet)
Microphone distance: 1.0 m
Input signal: 2.83 VRMS stepped sine wave
Smoothing: 1/6 oct.

Download SW270WA01 on-axis SPL response as .txt file

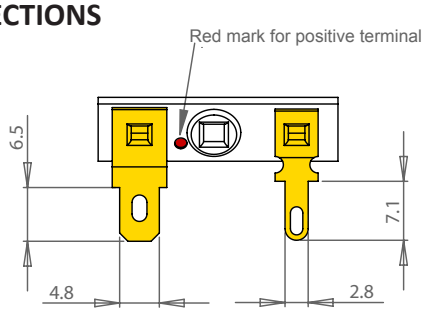
Measuring conditions, impedance
Driver mounting: Free air, no baffle, back side open (no cabinet)
Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA
Smoothing: None

Download SW270WA01 Impedance response as .txt file

OUTLINE DRAWING (nominal dimensions, mm)



CONNECTIONS



Thickness, both terminals: 0.5 mm
Terminal plating: Gold

PACKAGING AND ORDERING INFORMATION

Part no. SW270WA01-01	Individual packaging (one piece per box)

Latest update: August 27, 2021

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